Final

Engineering Evaluation and Cost Analysis Munitions and Explosives of Concern Installation Restoration IR Site 24A

Former Pistol Range (UXO 0001A)

Former Naval Weapons Station Seal Beach Detachment Concord Concord, California

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EXECUTIVE SUMMARY

This engineering evaluation and cost analysis (EE/CA) addresses Installation Restoration (IR) Site 24A, the Former Pistol Range at Former Naval Weapons Station Seal Beach Detachment Concord, in Concord, California. The results will be used as the basis for the selection of a non-time critical removal action (NTCRA) to minimize potential risks to human health and the environment from contaminants and munitions in soil at IR Site 24. A NTCRA is appropriate for IR Site 24A because 1) the source of contamination can be removed quickly and effectively, 2) a removal action will limit exposure to human and ecological receptors, and 3) a removal action is the most expeditious way to remediate the site.

This EE/CA was prepared using the methodology outlined in the U.S. Environmental Protection Agency (USEPA) Guidance on Conducting Non-Time-Critical Removal Actions under CERCLA (USEPA 1993). This EE/CA presents the results of the human health risk assessment (HHRA) and ecological risk assessments (ERA), identifies the objective and scope of the removal action, identifies removal action objectives (RAOs), presents and evaluates potential alternatives based on effectiveness, implementability and cost, and recommends an alternative based on this evaluation.

The Former Pistol Range, designated as IR Site 24A, is located in the center of the Inland Area. The range was active from the early 1950s until 2005 and is currently inactive. The Former Pistol Range covers approximately 1.5 acres and features a target berm, a firing line (on an east to west axis), a classroom/office trailer, conex boxes, storage sheds, and an observation canopy. The range floor slopes upward to the northeast and is overgrown by brush and grasses and cluttered with target debris, small arms casings and other miscellaneous debris related to its former use. An earthen (target) berm constructed on the east side of the firing range serves as a protective backstop behind the target area and is supported by creosote-treated timbers to support the target berm. Debris from practice 40-millimeter rifle grenades has also been found at IR Site 24A.

Numerous investigations have been conducted at IR Site 24A including an Initial Assessment Study, the Inland Area Site Investigation, a Remedial Investigation, and a Munitions Response Program (MRP) Site Inspection (SI). During these investigations, metals associated with the

former use as a pistol range and polycyclic aromatic hydrocarbons (PAHs) associated with creosote-treated wood used to support the target berm were identified at concentrations exceeding applicable screening values. In addition, field crews found munitions debris (MD) from practice grenades, however, none of the debris found appeared to have an intact explosive component. The Final MRP SI report recommended performing a removal action at IR Site 24A and to further quantify the risks to human health and the environment associated with chemical contamination [Barajas and Associates, Inc. (BAI) 2010].

The HHRA and an ERA were conducted as part of this EE/CA to further quantify risks presented by metals and PAHs present in soil at IR Site 24A. The HHRA in this report is a "streamlined risk evaluation" (SRE) in accordance with USEPA guidance on non-time-critical removal actions (USEPA 1993) and constitutes a level-of-effort intermediate between a limited risk evaluation performed for an emergency removal action and a comprehensive baseline risk assessment. Individual Hazard Quotients (HQs) greater than 1 or total Hazard Index (sum of HQs) greater than 1 are considered to be the point of departure for development of removal action goals for non-carcinogens. Cancer risks greater than 1×10^{-6} are considered the point of departure for development of removal action goals for carcinogens. HQs greater than 1 for particular indicator species are considered to be the point of departure for ecological risks.

Using analytical data collected during the MRP SI, the HHRA evaluated risks to hypothetical future residents (unrestricted use) and future recreational users (under the assumption that land use at the site will be converted to recreational open space). The exposure medium is soil and the exposure pathways are incidental ingestion, dermal contact, and dust and vapor inhalation. Results from the HHRA indicated PAHs were detected at concentrations which present an unacceptable cancer risk to hypothetical future residents and recreational users. Antimony and lead were detected at concentrations which present unacceptable noncancer and blood lead concentration risks, respectively.

A baseline ecological risk assessment (BERA) was performed to determine if contaminants in soil at IR Site 24A present an unacceptable risk to ecological receptors. The BERA evaluated potential effects of contaminants in soil on indicator wildlife species. The BERA found that unsafe levels of lead, other metals, and lead pellets which are ingested as grit by birds and can

cause harm are present in soils at IR Site 24A. Cleanup goals were developed for ecological receptors based on the lowest cleanup value for any wildlife species or ambient concentrations, whichever was higher. These wildlife-based cleanup goals were then compared to the chemical levels in soil to define areas where soil removal was necessary. These areas were then integrated with the areas defined for soil removal based on protection of human health.

The NTCRA will be being conducted to remove impacted soil to minimize human health and ecological risks associated with concentrations of metals and PAHs in soil. Metals and PAHs are the chemicals of concern (COCs) identified for ecological and human receptors. A NTCRA to remove metal- and PAH-impacted soil and MD is recommended. The RAOs for the NTCRA are designed to prevent human and ecological receptor exposure to COCs and remove explosive risks from MD at IR Site 24A.

The cleanup goals developed for antimony, arsenic, cadmium, copper, lead, selenium, vanadium, zinc, benzo(a)anthracene, benzo(a)pyrene, and benzo(b)fluoranthene represent concentrations that will not pose unacceptable risks to human health or the environment. The majority of the areas recommended for excavation were based on analytical results of soil samples that exceed the cleanup goals protective of ecological receptors. An area adjacent to the target berm presents a potential unacceptable risk to human health due to elevated concentrations of benzo(a)anthracene, benzo(a)pyrene, and benzo(b)fluoranthene. The removal action alternatives selected in this section were developed to meet the RAOs and the applicable or relevant and appropriate requirements (ARARs) for IR Site 24A. The alternatives are based on the nature, extent, and analysis of documented occurrence and the potential for chemically impacted soil or MD, intended future land uses, and risk reduction goals. These alternatives demonstrate approaches which are consistent with best industry practices and have been proven to be accepted by stakeholders at other ordnance sites throughout the United States. The following alternatives were evaluated as part of this EE/CA:

- Alternative 1: No Action
- Alternative 2: Land Use Controls (LUCs)
- Alternative 3: Placement of Soil Cap over the Former Pistol Range, Munitions and Explosives of Concern (MEC) Screening, and LUCs

- Alternative 4: Soil Excavation within the Former Pistol Range with Off-Site Disposal and MEC Screening
- Alternative 5: Soil Excavation within the Former Pistol Range with Stabilization, Off-Site Disposal, MEC Screening, and Recycling of Metal

The above alternatives were evaluated based on the following criteria: effectiveness, implementability, and cost. Alternative 1 was assessed to provide a baseline for comparison of other risk-reduction alternatives; however, this option is inconsistent with the desired future land use. The other four alternatives were found to be technically feasible, administratively feasible, comply with ARARs, use standard construction services, equipment and materials, provide adequate protection of human health and the environment, and provide adequate short-term effectiveness.

Based on the detailed analysis presented in this EE/CA, the Navy's recommended alternative for the planned NTCRA is Alternative 5, Soil Excavation within the Former Pistol Range with Stabilization, Off-Site Disposal, MEC Screening, and Recycling of Metal. Alternative 5 protects human health and the environment, complies with ARARs, provides the best balance of long- and short-term effectiveness, is readily implemented, reduces toxicity and mobility through treatment, reduces contaminant volume through recycling, removes explosive risks from munitions debris, and is expected to be acceptable to stakeholders.

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ACRONYMS AND ABBREVIATIONS

°F	degrees Fahrenheit
AM	Action Memorandum
ARARs	applicable or relevant and appropriate requirements
BERA	baseline ecological risk assessment
bgs	below ground surface
BRAC	Base Realignment and Closure
Cal. Code Regs.	*California Code of Regulations*
CCRP	Concord Community Reuse Project
CDFG	California Department of Fish and Game
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
C.F.R.	*Code of Federal Regulations*
CHHSL	California Human Health Screening Level
COC	chemical of concern
COEC	chemical of ecological concern
COPC	chemical of potential concern
CRLF	California red-legged frog
CTE	central tendency exposure
CTS	California tiger salamander
DERP	Defense Environmental Restoration Program
DTSC	California Department of Toxic Substances Control
EC	engineering control
Eco-SSL	Ecological soil screening level
ECR	excess cancer risk
EE/CA	engineering evaluation/cost analysis
ERA	ecological risk assessment
Fed. Reg	Federal Register
FFA	Federal Facility Agreement
FS	feasibility study
HHRA	human health risk assessment
HI	hazard index
HQ	hazard quotient
IAS	initial assessment study
IR	Installation Restoration
LUC	land use control

MC	munitions constituents
MD	munitions debris
MEC	munitions and explosives of concern
mg/kg	milligram(s) per kilogram
mm	millimeter
MOA	Memorandum of Agreement
MRA	munitions response area
MRP	Munitions Response Program
MRS	munitions response site
NAVWPNSTA Concord	Former Naval Weapons Station Seal Beach Detachment Concord
Navy	Department of the Navy
NCP	National Oil and Hazardous Substance Contingency Plan
NTCRA	non-time-critical removal action
O&M	operation and maintenance
PAH	polycyclic aromatic hydrocarbon
PMO	Project Management Office
PRG	Preliminary remediation goal
RAO	remedial action objective
RDX	Royal Demolition Explosive
RI	remedial investigation
RME	reasonable maximum exposure
ROD	Record of Decision
RSL	regional screening level
SI	site inspection
SLERA	screening level ecological risk assessment
TRV	toxicity reference value
USEPA	United States Environmental Protection Agency
UXO	unexploded ordnance
Water Board	San Francisco Bay Regional Water Quality Control Board

1.0 INTRODUCTION

This engineering evaluation and cost analysis (EE/CA) addresses removal of chemical contamination and munitions debris (MD) at Installation Restoration (IR) Site 24A, the Former Pistol Range at Former Naval Weapons Station Seal Beach Detachment Concord (NAVWPNSTA Concord), in Concord, California (Figure 1-1). This EE/CA evaluates a range of removal action alternatives and identifies a proposed response for conducting a non-time-critical removal action (NTCRA).

IR Site 24A was included in numerous investigations including an Initial Assessment Study (IAS), the Inland Area Site Investigation, a Remedial Investigation (RI), and a site-specific Site Inspection (SI). These investigations are described further in Section 2.5. During these investigations, metals associated with the former use of the site as a pistol range were identified at concentrations exceeding applicable screening values. In addition, polycyclic aromatic hydrocarbons (PAHs) associated with creosote-treated wood used to support the target berm was also noted at elevated concentrations. During these investigations, field crews also noted the presence of munitions debris (MD) which were the result of practice grenades.

Based on the results of these investigations, the Final Site Inspection Report for Munitions and Explosives of Concern at IR Site 24A the Former Pistol Range (UXO 0001A). The SI [Barajas & Associates, Inc.(BAI) 2010] recommended further action at IR Site 24A to remove 1) MD observed on the surface, 2) target berm soils with bullet fragments, and 3) creosote-treated timbers at the base of the target berm. Further action was also recommended to determine if any metals or PAH in soil at IR Site 24A represent an unacceptable risk to human health or the environment. The human health risk assessment (HHRA) in this report is a “streamlined risk evaluation” in accordance with U.S. Environmental Protection Agency (USEPA) guidance on non-time-critical removal actions (USEPA 1993). A streamlined HHRA constitutes a level-of-effort intermediate between a limited risk evaluation performed for an emergency removal action and a comprehensive baseline risk assessment typically conducted during a RI and feasibility study (FS). This EE/CA presents the results of the HHRA and the ecological risk assessments (ERA), and presents alternatives for addressing the three recommendations listed above as well as any areas of concern identified in the risk assessments.

This EE/CA addresses the feasibility, effectiveness, and cost for conducting a NTCRA and addresses applicable regulatory requirements. It will be used as the basis for a future Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) response action and has been prepared according to the requirements for NTCRA under CERCLA. The EE/CA will evaluate available site information and appropriate remediation technologies to remove and reduce hazards associated with the site.

The Navy has conducted community relations activities, including regular Restoration Advisory Board meetings. The Navy contacts for this project are Mr. Scott Anderson, Base Realignment and Closure (BRAC) Project Management Office (PMO) West, BRAC Environmental Coordinator, 619-532-0931 and Ms. Melanie Ault, BRAC PMO Coordinator, 619-532-0768. The complete Administrative Record for IR Site 24A is located at 1220 Pacific Highway, San Diego, California, and is maintained by Ms. Diane Silva, 619-532-3676, at Naval Facilities Engineering Command, Southwest.

1.1 REGULATORY FRAMEWORK

The purpose of a NTCRA is to conduct a removal action that reduces a threat to human health or the environment. The purpose of this EE/CA is to develop, compare, and evaluate removal action alternatives for a NTCRA. The planned removal action is intended to address areas of the site impacted by its former use as a pistol range and to serve as an interim action and is expected to serve as the final remedy as the site progresses through the CERCLA process. Upon completion of the removal action, the primary risk to hypothetical future residents and ecological receptors will be decreased to acceptable levels for unrestricted re-use.

The final remedy to address any remaining risk will be selected through the CERCLA RI/FS process. CERCLA and the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) (Title 40 of the *Code of Federal Regulations* [40 C.F.R.] Part 300) define removal actions to include the following: “The cleanup or removal of released hazardous substances from the environment, such actions as may necessarily be taken in the event of the threat of release of hazardous substance into the environment, such action as may be necessary to monitor, assess, and evaluate the release or threat of release of hazardous substances, the disposal of removal material, or the taking of such other actions as may be necessary to prevent, minimize, or

mitigate damage to the public health or welfare or to the environment, which may otherwise result from a release or threat of release."

The USEPA has classified removal actions into three types, based on the circumstances surrounding the release or threat of release:

- An emergency removal action, where on-site cleanup activities are initiated within hours of the verification of a release or threat of a release and on-site cleanup activities are completed within 30 days.
- A time-critical removal action, where based on the site evaluation, a period of 6 months or less exists before on-site removal activities must be initiated.
- A NTCRA, where the on-site action will be taken more than 6 months after commencement of the planning period.

The removal action for IR Site 24A is determined to be a non-time critical removal action. The Draft IR Site 24A EE/CA evaluates proposed removal action alternatives that are intended to reduce the likelihood of human or ecological exposure to contaminated soil and MEC at the site This EE/CA addresses the required evaluation of each removal action alternative for implementability, effectiveness, and costs, along with applicable regulatory agency requirements. The Department of the Navy (Navy) is the lead federal agency for IR Site 24A removal actions. As the lead agency, the Navy will select the alternative, considering public and regulatory agency comments. The Navy is working in cooperation with USEPA, California Department of Toxic Substances Control (DTSC), and the San Francisco Bay Regional Water Quality Control Board (Water Board) to implement this removal action.

1.2 SCOPE OF THE ENGINEERING EVALUATION/COST ANALYSIS

This EE/CA addresses areas of the site identified during the SI and the ecological and human health risk assessments where MD or elevated concentrations of site chemicals indicated a potential elevated risk to human or ecological receptors. In addition, this EE/CA addresses the possibility of encountering MEC at the site, although it was not found during the SI.

To support the evaluations in the report the technical reports and supporting information have been appended to the report as follows:

- Appendix A: Human Health Risk Assessment
- Appendix B: Ecological Risk Assessment
- Appendix C: Applicable or Relevant and Appropriate Requirements
- Appendix D: Removal Action Alternatives Cost Estimates
- Appendix E: Site Inspection Report Figures
- Appendix F: Estimation of Background Metal Concentrations in the Inland Area Soils
- Appendix G: Responses to Agency Comments

1.3 PLANNED REMOVAL ACTION TO ACHIEVE HIGH LEVEL OF PROTECTION FOR HUMAN HEALTH AND THE ENVIRONMENT

CERCLA and the NCP define removal actions to include actions that may be necessary to prevent, minimize, or mitigate damage to the public health or welfare or to the environment, which may otherwise result from a release or threat of release. For IR Site 24A, the site history and soil investigation results show hazardous substances with quantities or levels of concern to ecological and hypothetical future human receptors. Because of this, the Navy has concluded that a NTCRA is necessary to reduce the risk of potential human and ecological exposure to hazardous substances within IR Site 24A.

Five removal action alternatives were developed and evaluated for the IR Site 24A. In accordance with CERCLA and the NCP, the Navy evaluated the overall effectiveness, implementability, and cost of each alternative.

2.0 SITE DESCRIPTION AND BACKGROUND

The following sections present an overview of the site location, operational history, geology, ecology, climate, and previous environmental investigations.

2.1 SITE LOCATION AND HISTORIC OPERATIONS

Former NAVWPNSTA Concord is located in north-central Contra Costa County, in Concord, California. Throughout its history and into the 1990s, former NAVWPNSTA Concord was a major port for naval munitions trans-shipment and storage. Historically, the former NAVWPNSTA Concord consisted of two primary areas separated by Los Medanos Hills: the Inland Area, which is approximately 5,038 acres; and the Tidal Area, which is approximately 7,700 acres. The Inland Area was used primarily for ammunition storage, but also included facilities for maintenance, administration, and housing. The Navy acquired the majority of the Inland Area in 1944, when the Navy's operations in the Tidal Area necessitated more storage and administration capacity.

Because past naval operations left hazardous substances on site, NAVWPNSTA Concord was included on the National Priorities List in 1994. In 1999, the Inland Area was placed in a reduced operational status, and in November 2005, the Defense Base Realignment and Closure Commission recommended that the Inland Area, with the exceptions noted below, be operationally closed and eventually transferred from federal ownership. Two existing housing areas, located on approximately 59 acres in the Inland Area, were transferred from the Navy to the U.S. Coast Guard in 2007. On September 30, 2008, the Tidal Area and approximately 115 acres of the Inland Area were transferred from the Navy to the Department of the Army to remain an active Army installation.

The Former Pistol Range, designated as IR Site 24A, is located in the center of the Inland Area (Figure 1-1). The range was active from the early 1950s until 2005 and is currently inactive. The Former Pistol Range covers approximately 1.5 acres and features a target berm, a firing line (on an east to west axis), a classroom/office trailer, conex boxes, storage sheds, and an observation canopy. The range floor slopes upward to the northeast and is lightly overgrown by brush and grasses and is cluttered with target debris, small arms casings, and other miscellaneous debris related to its former use.

An earthen berm constructed on the east side of the firing range serves as a protective backstop behind the target area (Figure 1-2). This berm is referred to as the target berm in this report. In the late 1970s or early 1980s, a project was undertaken to replace the original target berm. The removal of lead from the old berm was regarded as cost prohibitive, so the berm was capped with soil of unknown thickness to create the current target berm (TtEMI 1997).

Ammunition previously found at the site ranged from .22- to .50-caliber munitions, along with evidence of shotgun use (shell casings). The site was also used for training security personnel in the use of 40-millimeter (mm) grenade launchers. Practice grenades (40-mm M781 and M407A1) have been identified at the site in the past and are visible on the hill above the target berm. The 40-mm Grenade Impact area covers approximately 2 acres of sloping land extending to the northeast of the pistol range. The land rises abruptly approximately 300 feet above the range floor. There are five targets made of 1-foot by 1-foot heavy timber that stand approximately 7 feet high on a steep slope just above the pistol range target berm. A site reconnaissance was conducted in February 2007 to support the development of the SI work plan. At that time, the team did not find evidence of live 40-mm projectiles but did find evidence of 40-mm rifle practice grenades (e.g. the M407A1, which contains cyclonite a Royal Demolition Explosive [RDX] booster). M407A1 practice grenades are generally recognized to be able to travel a maximum distance 400 meters downrange. However, because of the 300-foot vertical land rise it is estimated they would only be able to travel a maximum of approximately 250 meters at IR Site 24A. The Munitions Response Area (MRA) includes both the Former Pistol Range Munitions Response Site (MRS) and the Grenade Impact MRS. The entire MRA is enclosed within a 3-strand barbed wire fence and an access road provides entry from a main road to the southwest through a gate. The conceptual site model, including the MRA and MRS boundaries is illustrated on Figure 1-3.

2.2 SITE GEOLOGY AND HYDROGEOLOGY

The two landforms (hills, valley) associated with Inland Area of the former NAVWPNSTA Concord are derived from the northwest-trending fault systems running through Contra Costa County. The hills are formed from up-thrown blocks, the valleys from down-thrown blocks with thick, unconsolidated, Pleistocene-age alluvial soils eroded from the up-thrown blocks, and the tidal zone wetlands from estuarine and fluvial deposits (TtEMI 2005). The Inland Area hills

consist of consolidated Tertiary-age rock formations that are exposed along the eastern edge of the Los Medanos Hills. The valleys consist of basement rocks covered by a veneer of younger Quaternary-age alluvium. A north-plunging anticline runs through the middle of the Inland Area and is composed of older alluvium deposits. The Clayton Fault is located near the southwestern base of Los Medanos Hills and has been classified as active or potentially active (TtEMI 2005).

2.2.1 Surface Water

The Inland Area lies within the Mount Diablo-Seal Creek hydrologic watershed (TtEMI 2005). The principal drainage for this watershed is Mount Diablo Creek, known as Seal Creek after it enters former NAVWPNSTA Concord. Flow in Seal Creek along the Inland Area is intermittent and occurs primarily during the winter rainy season. Historical records show that some flooding occurs during years of normal precipitation along portions of the creek near the Tidal Area. However, the section of the creek that runs through the Inland Area is not a source of severe overbank flooding because the channel is deeply incised. There are no surface water ponds, springs, or other water sources within, or streams running through IR Site 24A. A small unlined drainage channel begins at the firing berm and drains storm water from the site to the hillside (Figure 1-2). Runoff from IR Site 24A drains to the southwest, connecting to a section of the abandoned Clayton Canal and ultimately to Galindo Creek approximately 2 miles southwest of IR Site 24A.

2.2.2 Groundwater

Depth to groundwater at the site is unknown. Groundwater beneath the Inland Area commonly resides in the coarser sand and gravel units of unconsolidated alluvial deposits (TtEMI 2005). Typically, groundwater is first encountered at depths of approximately 25 to 50 feet below ground surface (bgs) under semi-confined to confined conditions. Based on the available information, the upper 30 to 80 feet of sediments is believed to consist of discontinuous sand and gravel layers surrounded by a silt and clay matrix. Depth to groundwater within these units is variable, and locally perched conditions appear to exist. A regionally continuous sand and gravel layer lies beneath the upper fine-grained sediments. Groundwater in this zone is under confined conditions, although it appears former NAVWPNSTA Concord is located within the Clayton Groundwater Basin, as identified in the Water Quality Control Plan for the San Francisco Bay Region developed by the San Francisco Bay Regional Water Quality Control Board (Water Board 1995) and associated amendments (Water Board 2000). This plan, referred to as the

"Basin Plan," identifies the Clayton Basin as a potentially significant groundwater basin in the San Francisco Bay Region.

Groundwater in the area meets the federal definition of a potential drinking water supply (Class II groundwater) based on several factors. The first of these factors is the presence of one or more operating drinking water wells within 2 miles of the site (known as the Classification Review Area). The second factor is that the concentrations of total dissolved solids in the groundwater are significantly lower than USEPA's 10,000-milligram-per-liter threshold. Third, although well yield has not been measured at the site itself, it likely exceeds the USEPA minimum threshold of 150 gallons per day. Because the groundwater meets these conditions, it is considered Class II groundwater according to the USEPA criteria (TtEMI 2005).

The Navy has not conducted a comprehensive assessment of residential drinking water or irrigation wells in the area. However, based upon a preliminary assessment of groundwater use in the Concord area and from discussions with State Department of Water Resources, Contra Costa County Health officials, and Contra Costa Water District representatives, an unknown number of residents in the Concord area might be using private groundwater wells as a source of drinking water. The Navy has not identified specific locations of residential drinking water wells; however, a few irrigation wells and production wells have been identified in the area (TtEMI 2005).

2.3 REGIONAL ECOLOGY

Most of former NAVWPNSTA Concord land lies along a broad valley plain and southwest-facing slope typified by rolling hills and oak woodland. Plant communities at former NAVWPNSTA Concord are classified into six communities: urban and industrial, anthropogenic, grassland, oak woodland, riparian, and marshland (Navy 2006). IR Site 24A is classified as a grassland habitat. There is approximately 46 acres of nontidal wetland acreage within former NAVWPNSTA Concord, which include marshlands associated with drainages, stock ponds, watering holes, and other seepage ponds (Navy 2006). A wetland area is located about 1,000 feet north of IR Site 24A (Tierra Data, Inc. 2008).

A study conducted by Downard et. al. (Downard 1999) from July 1998 until September 1999 showed that former NAVWPNSTA Concord supported a diverse array of plant and animal species. A total of 155 bird species, 23 mammal species, 7 amphibian species, and 15 reptile species were observed. The Navy, in coordination with U.S. Fish and Wildlife Services has identified threatened species in Contra Costa County that may inhabit the Inland Area. There is some potential that IR Site 24A provides upland habitat for the threatened California tiger salamander (CTS). Special status species with potential to occur at IR Site 24A, given its grassland habitat, include Swainson's hawk, golden eagle, loggerhead shrike, and California horned lark. However, no nests were identified within the site.

Two amphibian species that have a potential to occur at the site include the California red-legged frog (CRLF) (Rana aurora draytonii) and CTS (Ambystoma californiense). Both are federally or state listed as threatened. The CRLF is federally listed as threatened and state listed as a Species of Special Concern. CRLFs were observed at 10 of the 22 fixed amphibian and reptile survey locations sampled at NAVWPNSTA Concord. Abundance of CRLF was greatest at Indian Springs and Cistern Pond relative to other sampling areas. This species was observed only within the Inland Area and was associated with all known perennial ponds and springs excepting the freshwater marsh area of the Old Airport. This site contained crayfish, a known predator of red-legged frogs. Previous resource studies at NAVWPNSTA Concord documented CRLF at only 2 locations. The CRLF is associated with aquatic and riparian areas. The adults require dense, shrubby or emergent riparian vegetation closely associated with deep (greater than 2.33 feet deep) still or slow moving water. The largest densities of the CRLF are associated with deep-water pools with dense stands of overhanging willows (Salix spp.) and intermixed fringe of cattails (Typha latifolia). While it may inhabit areas of permanent freshwater, it may travel over 1,000 feet to seek shelter if none is available near the water source (Navy 2006)

CTSs were also observed within the Inland Area. This species is a federally- and state-listed threatened species at Concord. It inhabits valley and foothill grasslands and the grassy understory of open woodlands, usually within one mile of their breeding habitat. CTS are terrestrial as an adult and spend most of its time underground in subterranean refugia. Underground retreats usually consist of California ground squirrel burrows and occasional man-made structures. Adults emerge from underground to breed, but only for brief periods during the year during the

fall and winter. CTS breed and lay eggs primarily in vernal pools and other ephemeral ponds that fill in the winter and dry out in the summer. CTS habitat suitability is moderate at IR Site 24A with low burrow concentration densities (EDAW 2008). CTS were observed at 9 of the 22 fixed amphibian and reptile survey locations sampled within the Inland Area. Abundance of CTS was greatest at the Hilltop Ponds of the Inland Area relative to all other sites sampled. There is a seasonal drainage along the southern edge of IR Site 24A and state waters (wetland) within 1,000 feet of the site to the north (Tierra Data, Inc. 2008).

2.4 CLIMATE AND METEOROLOGY

The climate of former NAVWPNSTA Concord is characterized by cool moist winters and warm dry summers. The average daily temperature for November to March ranges from 46.2 degrees Fahrenheit (°F) to 63.1°F; the average daily temperature for April to September ranges from 53.8°F to 70.7°F. Prevailing winds come from the west through a gap formed by San Francisco Bay and the Carquinez Strait. These westerly winds are dominant in the summer with a mean wind speed of 12 miles per hour 9 percent of the time and is less influential from November through February. The installation receives a mean annual precipitation of 14 inches per year, with 84 percent occurring from November to March. Approximately 265 days of the year are frost-free as the average daily winter temperature is greater than 32°F and, therefore, frost-depth and frost-heave are not a concern.

2.5 PREVIOUS INVESTIGATIONS

Previous investigations conducted at IR Site 24A included an IAS (Ecology and Environment 1983), an Inland Area Site Investigation (PRC 1993), an RI of Inland Area Sites (TtEMI 1997), and a Munitions Response Program (MRP) Site Inspection (BAI 2010). Activities conducted and results are summarized below.

2.5.1 Initial Assessment Study

The 1983 IAS reported that although there was a significant amount of lead in the target berm, it was not a threat to groundwater because the berm was recapped and the lead was in an elemental metallic form. The IAS did not recommend any additional studies for IR Site 24A.

2.5.2 Site Investigation Report, Inland Area Sites

The Navy conducted a Site Investigation in 1992 (PRC 1993) to quantify metals concentrations in the soil. The Site Investigation identified three areas in the target berm associated with the expected concentration of metals from bullets entering the berm. Most projectiles were found low on the slope, directly behind the target areas. The other areas are located to the left of the target area and higher up on the slope from the target area. Evidence of shotgun and 40-mm grenade use was found in these two areas (TtEMI 1997). Soil samples were collected at a depth of 1, 2, and 3 feet bgs to determine the depth of ammunition-related chemicals that may have penetrated the berm. Projectiles (lead and copper) were not found in the soil borings deeper than the first foot into the target berm. Antimony, barium, cadmium, copper, lead, and zinc were detected at concentrations exceeding screening levels. The sampling indicated a possible correlation between ammunition fragments and detections of these metals.

2.5.3 Remedial Investigation Report; Inland Area Sites 13, 17, 22, 24A, and 27

RI soil sampling was conducted in 1995 to assess the nature and extent of metals present in the firing range berms and areas of runoff as a result of site activities. The drainage channel was sampled to evaluate whether metals in the target berm were transported off-site from stormwater runoff. Samples were also collected at depth within the target berm to assess whether metals were migrating down to the soil/bedrock interface. In addition, selected samples from the target berm were submitted for semivolatile organic compound analysis because an organic odor was noticed during surface sample collection (TtEMI 1997).

Background metal levels were determined by collecting soil samples from each site (IR Sites 13, 17, 22, 24A, and 27), in areas considered unaffected by Navy operations or other industrial activities (TtEMI 1997). This study was included as Appendix C of the RI and also included as Appendix F of this report. Methodology, sample locations, and results are presented in Appendix F. An unexploded ordnance (UXO) assessment, consisting of a visual inspection by a UXO subcontractor, was conducted during the RI in order to identify potential explosive hazards during the investigation. The UXO assessment identified five 40-mm grenades imbedded in the surface at the top of the target berm; however, the grenades were not located in the area of the berm sampling (TtEMI 1997).

Concentrations of metals at IR Site 24A were generally highest in the soil samples collected from the target berm and upgradient end of the site drainage channel. The RI concluded that site wide, antimony (maximum site concentration of 33.9 milligrams per kilogram [mg/kg]) and lead (maximum site concentration of 6,030 mg/kg) were detected at concentrations exceeding USEPA residential preliminary remediation goals (PRG) promulgated at the time of the investigation, and are likely present as a result of past site activities, as evidenced by their distribution at the site and use in ballistics. Soil results from the target berm and drainage channel study areas are discussed below.

Target Berm

Several PAHs were detected in samples collected from the surface of the target berm at concentrations exceeding PRGs for residential soil promulgated at the time of the investigation. The PAH concentrations decreased with depth below surface; however, several PAHs in the target berm sample collected at depth exceeded these PRGs. The presence of PAHs in the target berm soils is likely the result of creosote-treated timbers which were used to build retaining walls located in the area (TtEMI 1997).

Concentrations of metals in target berm samples collected at the soil/bedrock interface were substantially lower than those collected near the surface (TtEMI 1997).

Site Drainage Channel

Metals concentrations in the drainage channel at IT Site 24A exceeded PRGs for residential soil promulgated at the time of the investigation nearest the target berm, and generally decreased significantly with distance from the target berm. The soils in the two most downgradient sampling locations in the drainage channel do not appear to be affected by sediment carried from the range area; rather, because these samples were collected from an incised area of the channel that appears to be controlled by erosion rather than deposition, these sample concentrations reflect ambient soil conditions rather than anthropogenic conditions (TtEMI 1997).

2.5.4 Site Inspection Report IR Site 24A – Former Pistol Range (UXO 0001A)

A visual field inspection and detector-aided, non-intrusive survey were performed to identify munitions and explosives of concern (MEC)–related items at the site and select locations for soil sampling/analysis as part of this investigation (TtEMI 1997). In total, 269 MD items were

identified and mapped during the visual survey (Appendix E). No MEC or evidence of explosive soils was found. Most of the MD items were associated with 40-mm practice grenades and were located in the grenade impact area, below the grenade impact area, and in the target berm. Small-caliber to .50 caliber size bullet fragments were observed on the surface of the target berm and grenade impact area. Bullet casings were observed on the surface throughout the firing line and range floor.

Five test pits were excavated through the target berm to evaluate the depth of fill material reported to have been placed on the berm in the late 1970s or early 1980s. Observations of soil conditions in the test pits indicated that the soil profile in the target berm consists of recent colluvium and/or fill material underlain by older colluvium. The fill/recent colluvium has varying amounts of gravel and small-caliber bullet fragments and ranges from 1.1 to 2.3 feet thick, with the thickest portion observed near the base of the target berm. No bullet fragments were observed in the older colluvium. Soil samples collected from 40 locations at IR Site 24A were analyzed for explosives and metals. No concentrations of explosives exceeded applicable screening levels. The following metals were detected at concentrations exceeding human health and/or ecological screening levels.

- Antimony
- Arsenic
- Cadmium
- Chromium
- Cobalt
- Copper
- Lead
- Selenium
- Vanadium
- Zinc

All of these metals exceeded ecological screening levels and were considered as chemicals of potential concern (COPCs) in the ERA presented in Section 2.7.2 of this EE/CA. Antimony, arsenic, cobalt, copper, and lead exceeded human health screening levels and were considered as COPCs in the HHRA presented in Section 2.7.1 of this EE/CA.

Five additional soil samples were collected adjacent to creosote-treated timber at the base of the target berm and side wall and analyzed to further evaluate the PAHs previously reported in soil (BAI 2010). The following PAHs were reported at concentrations exceeding human health or

ecological screening levels in one or more samples collected during the 2009 MRP SI (BAI 2010) and/or the previous RI (TtEMI 1997):

- Anthracene
- Benz(a,h)anthracene
- Benzo(a)pyrene
- Benzo(b)fluoranthene
- Benzo(k)fluoranthene
- Chrysene
- Dibenz(a,h)anthracene
- Fluoranthene
- Indeno(1,2,3-cd)pyrene
- Phenanthrene

Results from the PAH screening analyses indicated leaching from creosote-treated wood timbers is the probable source of these PAHs (TtEMI 1997).

2.6 SITE CHARACTERIZATION

The conceptual site model for IR Site 24A identifies metals (antimony, arsenic, copper, lead, and zinc), explosives (RDX), and PAHs as contaminants that may have been released to the environment from site activities. Lead, antimony, arsenic, copper, and zinc are associated with bullets and, therefore, would be expected in the target berm. Explosives may have been released in the grenade impact areas if grenades did not properly function. Based on the analytical results of soil samples collected during this investigation and the previous RI (TtEMI 1997), COPCs identified at the site include PAHs, and the following metals:

- Antimony
- Arsenic
- Cadmium
- Chromium
- Cobalt
- Copper
- Lead
- Selenium
- Vanadium
- Zinc

Soil samples collected in all areas sampled during the SI (firing line, range floor, target berm, drainage channel, grenade impact area, and below the grenade impact area) were reported to contain one or more of these metals exceeding human health and/or ecological risk screening levels. Soil samples with metals concentrations exceeding both human-health and ecological risk screening levels were collected from the target berm and portions of the range floor and drainage

channel close to the target berm (Figure 1-2). Given this distribution and the types of metals, the RI concluded that bullets are likely the primary source of metals exceeding background concentrations at IR Site 24A.

PAHs were detected in all ten surface or near surface soil samples collected at the east and northeast ends of the range floor during this investigation. Five PAHs were reported in one or more samples at concentrations exceeding the USEPA Regional Screening Levels (RSLs) for residential soil [benz(a,h)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, dibenz(a,h)anthracene, and indeno(1,2,3-cd)pyrene]. No PAHs were reported at concentrations exceeding their respective ecological soil screening levels (Eco-SSLs). Based on the results of the extended PAH analysis, the reported PAH contamination is the result of the leaching of creosote from treated timber used to create a retaining wall at the bottom of the target berm. The amount of leaching may have been increased due to shards of the timbers being removed by stray bullets. The creosote-treated timbers could serve as a continuing source of PAH contamination at the site.

A total of 269 MD items were identified and mapped during the visual survey of IR Site 24A (BAI 2010). No MEC or evidence of explosives contaminated soils was found. The majority of the MD items was associated with 40-mm practice grenades and was located in the grenade impact area, below the grenade impact area, and in the target berm. Small-caliber to .50 caliber size bullet fragments were observed on the surface of the target berm and grenade impact area. Bullet casings were observed on the surface throughout the firing line and range floor.

2.7 RISK ASSESSMENT

To support the NTCRA, a HHRA and ERA for IR Site 24A were performed for this EE/CA using data collected during the MRP SI conducted in 2009 (BAI 2010). The purpose of the HHRA and ERA is to determine if contaminants at IR Site 24A pose acceptable risk levels based on current or future land use and current site conditions if no remediation or LUCs are applied at the site. The findings of the HHRA and ERA were used to develop risk-based cleanup goals to support this EE/CA. Sections 2.7.1 and 2.7.2 of this EE/CA present the findings of the HHRA and ERA respectively.

The methodologies and goals for the HHRA and ERA varied for IR Site 24A. While both risk assessments call for the development of a conceptual site model, selection of COCs, and ultimately cleanup goals, the receptor pathways of concern and toxicity criteria vary between the two types of receptors. The primary difference between the HHRA and the ERA originates from the different objectives of each evaluation. The goal of the HHRA is to protect individuals, including sensitive subpopulations such as children, and to perform a quantitative analysis on all types of humans potentially exposed to site chemicals. Both carcinogenic and noncarcinogenic effects are evaluated in the HHRA. The goal of the ERA is to protect populations of nonsensitive species or the individuals of sensitive and protected species through the selection and quantitative evaluation of indicator species. Only noncarcinogenic effects are evaluated in the ERA, and impacts to successful reproduction and development are of key interest for assessing risk to ecological receptors.

In the Final Environmental Impact Report for the Concord Community Reuse Project (CCRP) that was approved by the City of Concord in February 2010, the "Clustered Villages" alternative was selected as the preferred reuse and redevelopment plan for former NAVWPNSTA Concord. In this plan, IR Site 24A falls within the area designated as Open Space, located to the east of Mt. Diablo Creek (Figure 2-1 in CCRP 2010). According to the Environmental Impact Report, "Open Space uses include more passive recreation (hiking/biking) on overall unimproved terrain and land for habitat protection and restoration" (CCRP 2010). This future land use designation was considered during development of the HHRA and ERA described below.

2.7.1 Human Health Risk Assessment

The HHRA was performed using a "dual tracking" approach to address the different regulatory requirements of the USEPA (Method 1) and the DTSC (Method 2). Although both regulatory agencies use the same basic four steps for the HHRA process (i.e., data evaluation, exposure assessment, toxicity assessment, and risk characterization), minor variations are used to meet the different agency protocols. The primary methodological differences between USEPA Method 1 and DTSC Method 2 involve differences in the values for some exposure factors and differences in the selected toxicity studies. In addition, the sources of toxicity criteria differ, as well as the way those toxicity criteria are extrapolated to different routes of exposure.

The HHRA for IR Site 24A focuses on whether concentrations of contaminants pose an unacceptable risk to human health under current and likely reuse scenarios. In accordance with this approach, the receptors evaluated included adult and child residents (for unrestricted use) and recreational users. These receptors were selected because the current Concord Reuse Plan (CCRP 2010) includes the area of this site as future open space. Commercial/ industrial and construction worker receptors are not included because this area is not designated for redevelopment to accommodate this land use. In addition, protection of residents would also address risk to commercial/industrial workers.

Although cleanup activity at the site would likely involve some demolition and excavation, these activities would be addressed via a Site Safety and Health Plan and are not the focus of this HHRA. The results of the HHRA were used to derive separate cleanup goals for these two receptor groups for those COCs.

As discussed above and presented in Appendix A, the HHRA evaluated future residents (unrestricted use) and future recreational users (under the assumption that future land use at the site will be recreational open space) using two regulatory approaches (USEPA – Method 1 and DTSC – Method 2). Both Reasonable Maximum Exposure (RME) and Central Tendency Exposure (CTE) scenarios are presented. The chemicals included in the HHRA are inorganic constituents, explosives and related compounds, and PAHs. This includes all chemicals detected in samples collected for the MRP SI (BAI 2010) and there was no screening out of analytes based on comparison to naturally occurring background concentrations for inorganics or comparison to health-protective screening criteria (e.g. RSLs). Although inorganic compounds were not screened out during the selection of chemicals of COPCs, the RI results (TtEMI 1997), which included IR Site 24A, were used to assess the influence of naturally occurring background concentrations of inorganics to overall risk. Please refer to Appendix A, Section A2.3.3 for a discussion of background data and Appendix A Section A5.0 for the integration of risk assessment results and the influence of background concentrations of inorganic constituents. The exposure medium is soil and the exposure pathways are incidental ingestion, dermal contact, and dust and vapor inhalation. Because of the unlikelihood of intrusive activities, a supplemental 0 to 6 inch scenario, in addition to the 0 to 2 feet scenario, was evaluated for the recreational user. The 0 to 6 inch scenario was only completed under the DTSC Method 2 RME scenario because

that scenario assumes the highest exposure and is the most conservative. In accordance with Office of Environmental Health Hazard Assessment guidance (OEHHA 2005) and the USEPA RSL methodology (USEPA 2010), the food pathway (consumption of homegrown produce) was not included in evaluating soil-related exposure pathways.

The cumulative, multi-media excess cancer risk (ECR) and noncancer hazard index (HI) for each of the receptors under the different redevelopment and exposure scenarios are summarized below and presented in Table 2-1. USEPA guidance (USEPA 1989) generally recommends that ECR be reported to one significant digit, but they are reported here to two significant digits to reduce apparent discrepancies when comparing values between various tables of results.

For noncarcinogenic effects, if the total HI is less than or equal to 1, multiple-pathway exposures to COPCs at the site were considered unlikely to result in an adverse effect. If the total HI is greater than 1, further evaluation of exposure assumptions and toxicity, including consideration of specific affected target organs and the mechanisms of toxic actions of COPCs was conducted, as appropriate, to ascertain whether the cumulative exposure would, in fact, be likely to harm exposed individuals. Individual HQs greater than 1 or total HI greater than 1 are considered to be the point of departure for development of removal action goals for noncarcinogens. For carcinogenic effects, USEPA considers risk levels in the range of 1 x 10-6 to 1 x 10-4 as the risk management range (USEPA 1991). Cancer risks greater than 1 x 10-6 are considered the point of departure for development of removal action goals for carcinogens. Cumulative risk and HI results are provided in Table 2-1, followed by a discussion of the major findings of the HHRA for IR Site 24A.

TABLE 2-1: CUMULATIVE, MULTI-MEDIA ECR AND NON-CANCER HI
Engineering Evaluation and Cost Analysis, IR Site 24A, Former NAVWPNSTA Concord

		USEPA (Method 1)		DTSC (Method 2)	
		ECR	HI	ECR	HI
Future Resident (Unrestricted Use) Exposed to Soil (0 to 2 feet bgs)	RME	3.8×10^{-5}	4.6	4.5×10^{-5}	5.2
	CTE	8.6×10^{-6}	0.83	9.2×10^{-6}	0.91
Future Recreational User Exposed to Soil (0 to 2 feet bgs)	RME	1.6×10^{-6}	1.6	1.8×10^{-5}	1.6
	CTE	5.3×10^{-7}	0.057	5.6×10^{-7}	0.057
Future Recreational User Exposed to Soil (0 to 6 inches bgs)	RME	--	--	2.9×10^{-5}	4.1

Notes:
-- Pathway was not evaluated; see Appendix A Section A3.2.2.1
bgs = below ground surface
CTE = central tendency exposure
DTSC = California Department of Toxic Substances Control
ECR = excess cancer risk
HI = hazard index
RME = reasonable maximum exposure
USEPA = United States Environmental Protection Agency

General findings of the HHRA for IR Site 24A are:

2.7.1.1 Overall Risk and Hazard Estimates

Most of the ECRs (residential and recreational receptor) fell within the risk management range of between 10^{-4} and 10^{-6}, while HIs exceed a threshold value of 1 in all RME scenarios but were below 1 for all CTE scenarios. Risk estimates for the recreational receptor in the CTE scenario were below 10^{-6} which, along with HI values less than 1, are generally considered de minimis.

Cancer Risk Estimates

Approximately 60 to 90 percent of the cancer risk estimates are due to predicted exposures to arsenic. However, arsenic concentrations at naturally occurring background concentrations produce risk estimates in excess of 10^{-6} and only 3 of 80 arsenic concentrations were greater than the range of background concentrations for former NAVWPNSTA Concord. The discussion of the influence of background concentrations of arsenic is detailed within Appendix A Section A5.0. The primary additional contributors to the cancer risk estimates are PAHs detected in soil samples adjacent to creosote-treated timbers that were used as a retaining wall.

Noncancer Hazard Estimates

RME HI values greater than 1 are due primarily to estimated exposures to antimony, which was the only inorganic constituent that had a chemical-specific HI greater than 1. The additional

contributors to the HIs include the list of detected inorganic constituents, but no other individual metal had a chemical-specific HI greater than 1.

2.7.1.2 USEPA Method 1 versus DTSC Method 2:

Overall, the ECR and HI values when calculated by USEPA Method 1 or DTSC Method 2 are mathematically within 20 percent between methods, and the "risk driver" chemicals at IR Site 24A are similar among all receptors and exposure scenarios: the carcinogens arsenic, benzo[a]anthracene, benzo[b]pyrene, and benzo[k]fluoranthene; and the noncarcinogenic metal, antimony.

2.7.1.3 RME Scenario versus CTE Scenario

The combination of exposure-factor values and exposure-point concentrations created approximately 4- to 20-fold differences in risk and hazard estimates between the CTE and RME exposure scenarios. Ultimately, all the exposure estimates are linearly correlated to each other because the exposure parameters variables themselves are similar throughout all the exposure equations, because the values of those parameters are all algebraically related (simple decimal numbers), and the exposure mathematics are all linear (i.e., no factorials, differential equations, or integrals).

2.7.1.4 Lead

There are multiple locations where concentrations of lead exceeded the residential screening value, the California Human Health Screening Level (CHHSL) of 80 mg/kg or the USEPA commercial/industrial RSL of 800 mg/kg, which was used as a comparative value for screening the recreational user receptor. Use of the 800 mg/kg RSL as a screening value is consistent with agency recommendations for protection of adult exposures to lead (DTSC 2009; USEPA 2010) and is also protective for childhood exposures to lead, based on the recreational exposure assumptions for this site. Please refer to Appendix A, Section A4.1.1 for more information regarding the recreational child scenario. In addition to the lead hazards from lead intermixed with soil, incidental ingestion of the lead pellets themselves in the surface soils by young children is a potential, albeit unlikely, hazard.

2.7.1.5 Residential Scenario and Recreational Scenario

The future resident receptor represents an analysis that can be used to identify a site as suitable for unrestricted use, i.e., no land use controls to limit the kinds of activities that could occur on

the site. However, site risk estimates under RME and CTE scenarios are greater than 1×10^{-6} and the HI is greater than 1 for the RME scenarios. Consequently, the site is not currently suitable for unrestricted use. Additional assessment (or remediation) is necessary to demonstrate that in-place contaminants do not pose a threat to human health if an unrestricted-use designation is sought.

The recreational user scenarios generally represent an intermittent use of the site as a limited area of open space within a much larger overall expanse of open space. The RME scenario is probably unlikely (assuming site-specific presence at 2 hours per day for 21 years), but results in risk and hazard estimates in excess of *de minimis* values. However, as indicated previously, the risk estimate is primarily due to arsenic which itself is present primarily at background concentrations. Exposure point concentrations in surficial soil (0 to 0.5 feet bgs) are greater than exposure concentrations for the entire 0 to 2 feet bgs interval.

In summary, the potential threats to human health at IR Site 24A are associated primarily with arsenic (although predominantly present at background concentrations), lead, PAHs leached from a retaining wall, and antimony in soil.

Evaluation of removal options can include development of health-based cleanup standards to ensure protection of human health. Health-based cleanup goals are concentration-based goals for individual COCs in specific environmental media (e.g. soil) that are protective of human health under specified conditions of land use and human activity. As detailed within Appendix A, health-based cleanup goals to achieve a target cumulative cancer risk of 1×10^{-6} or a target noncancer HI of 1 were developed for estimated exposures of residential and recreational receptors to COCs; cleanup goals for lead are expressed relative to the residential CHHSL (80 mg/kg) and the USEPA's RSL for commercial/industrial land use (800 mg/kg). COCs identified for IR Site 24A are provided in Table 2-2.

TABLE 2-2: CHEMICALS OF CONCERN FOR IR SITE 24A
Engineering Evaluation and Cost Analysis, IR Site 24A, Former NAVWPNSTA Concord

Receptor	Exposure Scenario	Cancer Risk Driver (USEPA Method 1 and DTSC Method 2)	Noncancer Driver (USEPA Method 1 and DTSC Method 2)
Future Resident Exposed to Soil (0 to 2 feet bgs)	RME	Benzo[a]anthracene Benzo[a]pyrene Benzo[b]fluoranthene	Antimony Lead
	CTE	None	Lead
Future Recreational User Exposed to Soil (0 to 2 feet bgs)	RME	Benzo[a]anthracene Benzo[a]pyrene	Antimony Lead
	CTE	None	Lead
Future Recreational User Exposed to Soil (0 to 6 inches bgs)	RME	Benzo[a]pyrene	Antimony Lead

Notes:
BGS = below ground surface
CTE = central tendency exposure
DTSC = California Department of Toxic Substances Control
RME = reasonable maximum exposure
USEPA = United States Environmental Protection Agency

Health-based cleanup goals for one of the exposure scenarios (using DTSC Method 2 with RME exposure factors; this is the scenario with the most health-protective assumptions and results in the most-stringent cleanup goals) are presented in Table 2-3, and summarized in Section 2.7.1. Recommended areas of concern for cleanup to protect human receptors (residential and recreational scenarios) are presented along with the areas of concern to protect ecological receptors on Figures 2-1 and 2-2 are discussed in Section 2.7.2.

TABLE 2-3: HEALTH-BASED CLEANUP GOALS
Engineering Evaluation and Cost Analysis, IR Site 24A, Former NAVWPNSTA Concord

Chemical of Concern	Cleanup Goal Basis	Residential User Scenario Health-Based Cleanup Goals (mg/kg) (10^{-6} Risk or HI=1)	Recreational User Scenario Health-Based Cleanup Goals (mg/kg) (10^{-6} Risk or HI=1)
		DTSC Method 2 RME Scenario	DTSC Method 2 RME Scenario
Antimony	Noncancer hazard	24	75
Lead	Blood Lead Concentration	80	800[a]
Benz(a)anthracene	Carcinogenic risk	0.37	0.92
Benzo(a)pyrene	Carcinogenic risk	0.037	0.092
Benzo(b)fluoranthene	Carcinogenic risk	0.37	0.92

Notes:
[a] This value is based upon the US EPA industrial RSL for adult exposure but is also protective of recreational child exposure, based on the recreational exposure assumptions for this site. Please refer to Section A4.1.1 for more information regarding the recreational child scenario.
DTSC = Department of Toxic Substances Control
HI = hazard index
mg/kg = milligrams per kilogram
RME = reasonable maximum exposure
RSL = regional screening level

As initial information for the development of removal alternatives in this EE/CA, the locations that exceed these health-based cleanup goals were identified, based on DTSC Method 2 RME as the most health-protective approach. Areas encompassing these exceedance locations were delineated to provide a preliminary basis for the evaluation of alternatives and costs within the EE/CA to be protective of human health. These approximate areas are based on an assumption that removal (excavation) is the preferred action.

2.7.2 Ecological Risk Assessment

A two-tiered ERA for IR Site 24A was conducted in accordance with Navy policy (Navy 1999; 2004a; 2004b), DTSC guidance (DTSC 1996a; 1996b; 1998) as well as USEPA guidance (USEPA 1997; 1998; 2001). Both tiers of the ERA included four primary phases: 1) problem formulation; 2) estimates of exposure; 3) evaluation of ecological effects; and 4) risk characterization. Receptors were selected from all levels of the ecosystem, as described in Section 2.7.2.1. Cleanup goals were derived based on back-calculation of hazards (i.e., setting the dose equal to the selected toxicity level) for those chemicals of ecological concern (COECs) identified for each receptor of concern, as described in Section 2.7.2.2, and the final cleanup goal was selected as the lowest value for any receptor. In addition to impacts from COECs, impacts to birds from lead pellet ingestion were also considered.

As detailed in Appendix B, the ecological risk evaluation follows regulatory agency guidance to assess any impacts from chemical levels in the environment that may be harmful to wildlife and their food resources. The tiered ERA included four primary phases: 1) problem formulation; 2) estimates of exposure; 3) evaluation of ecological effects; and 4) risk characterization. In the first phase, the different types of chemicals are evaluated to see whether different types of plants, invertebrates, and various wildlife species can come in contact with these chemicals. For instance, if a chemical is only found in deep soil, then most wildlife and plant root systems will not be exposed to it and no harm will occur to the environment. If a chemical is found to be in a form where exposure can occur, then the chemical concentration (phase 2) is compared to safe

levels (phase 3). In some cases, mathematical calculations or dose levels are estimated to evaluate the potential for harm. In the final phase (risk characterization), the estimated amount of the chemical in the environment is divided by the safe level to estimate a "hazard quotient." If the level in the environment is less than the agency level deemed as safe (the HQ is less than 1), then no further action is needed. The Tier 1 Screening Level ERA (SLERA) focused on development of an ecological conceptual site model that included identification of ecological receptors at the site and selection of indicator species, identification of the relevant exposure pathways for the indicator species, and selection of measurement and assessment endpoints. Refined assumptions regarding exposure and ecological effects are applied in Tier 2 for chemicals that are shown to be a potential problem based on the more conservative assumptions applied in Tier 1.

2.7.2.1 Ecological Receptors

Two special-status species of amphibians **(**CRLF and CTS) and two special-status bird species (golden eagle and the ferruginous hawk) were identified as occurring within a one-mile radius of the site based on the California Department of Fish and Game's California Natural Diversity Database. Indicator species were selected for the Tier 1 SLERA for IR Site 24A to represent the following ecological receptor groups:

- Terrestrial plants
- Soil invertebrates
- Seasonal benthic invertebrates
- Amphibians and reptiles
- Avian omnivores (American robin)
- Avian carnivores (red-tailed hawk)
- Mammalian herbivores (California vole)
- Mammalian omnivores (western harvest mouse)
- Mammalian carnivores (grey fox)

2.7.2.2 Summary of Findings and Cleanup Goals

At the conclusion of the Tier 1 SLERA, the site was found to contain complete exposure pathways, and unacceptable risk was demonstrated for metal concentrations exceeding screening-level benchmarks or resulting in dose levels greater than toxicity reference values (TRVs) protective of birds and mammals. Therefore, a Tier 2 BERA, Step 3A was performed. Cleanup goals for ecological receptors are presented in Table 2-4 and the lowest of these values was selected as the final cleanup goal for ecological resources unless site background concentrations were higher.

TABLE 2-4: CLEANUP GOALS FOR ECOLOGICAL RECEPTORS
Engineering Evaluation and Cost Analysis, IR Site 24A, Former NAVWPNSTA Concord

Chemicals of Ecological Concern	Amphibian Cleanup Goal (mg/kg dry weight)	Robin Cleanup Goal (mg/kg dry weight)	Vole Cleanup Goal (mg/kg dry weight)	Mouse Cleanup Goal (mg/kg dry weight)
Antimony	--	--	55	**3.2**
Arsenic	--	--	--	**88**
Cadmium	--	--	--	**0.49**
Copper	200	**142**	9,397	629
Lead - Eco-SSL TRV	2,400	**59**	1,261	295
Selenium	--	--	2.79	**2.0**
Vanadium	--	--	161	**71.5**
Zinc	1,200	**667**	2,390	830

Notes:
Cleanup goals were set to be equal to a hazard quotient of one using the geometric mean of the low- and high-TRVs.
Eco-SLL = ecological soil screening level
Lowest cleanup goal is shown in **bold** font.
mg/kg = milligrams per kilogram
TRV = toxicity reference value

Recommended areas of concern for cleanup to protect ecological receptors are presented along with the areas of concern to protect human receptors (residential and recreational scenarios) on figures 2-1 and 2-2, as discussed in Section 2.7.2.

The major findings of the Tier 2 BERA indicated that localized plant effects and impacts to soil invertebrates are possible. However, because the plant and invertebrate benchmarks are generally considered to be highly uncertain, they were not considered in the derivation of cleanup goals. Likewise, the sediment benchmarks were not considered in the derivation of cleanup goals for the drainage channel, given that there are no known sensitive benthic species in the channel and

this channel is a man-made feature that likely only seasonally contains suitable habitat for benthic species. In addition, no significant risks were noted for the predatory bird and mammal species (hawk and fox) and cleanup goals were not derived for those species.

Risks to amphibians and lower trophic level bird and mammal species (e.g. herbivores and insectivores) were noted in the Tier 2 BERA and cleanup goals were derived as follows:

- Copper, lead and zinc were identified as COECs for amphibians and the no observed effect concentration sediment benchmarks were identified as cleanup goals for these receptors. Because lower cleanup goals were noted for other receptors, none of these amphibian benchmarks were retained as final cleanup goals.

- Cleanup goals for copper, lead, and zinc, were derived for omnivorous birds represented by the American robin and were the lowest values for any receptor using the Eco-SSL TRV.

- Cleanup goals for eight metals were derived for herbivorous burrowing mammals represented by the California vole. Molybdenum was originally retained as a COEC, but was dropped from the list because the maximum detected concentration was below the back-calculated cleanup goal.

- Cleanup goals for eight metals were derived for omnivorous rodents represented by the western harvest mouse. The cleanup goals for antimony, arsenic, cadmium and selenium were the lowest values for any receptor group.

- Lead pellets were presumed to pose a risk to songbirds. The cleanup goals based on lead shot density vary according to site conditions, but generally fall in the range of 3 to 13 shot pellets per square foot stated in the Massachusetts Department of Environmental Protection guidance that can be used as a target cleanup goal (MADEP 2009).

Because unsafe levels of lead, other metals, and lead pellets which are ingested as grit by birds and can cause harm are present in soils at IR Site 24A, cleanup goals were defined for ecological receptors based on the lowest cleanup value for any wildlife species. These wildlife-based cleanup goals were then compared to the chemical levels measured in soil and lines were drawn around the clustered samples to define areas where soil removal was necessary. These areas were then integrated with the areas defined for soil removal based on protection of human health.

3.0 IDENTIFICATION OF REMOVAL ACTION OBJECTIVES

This removal action is needed to reduce potential exposures of human and ecological receptors to metals- and PAH-impacted soil at IR Site 24A. In addition, the removal action will remove MD potentially presenting an explosive hazard.

3.1 STATUTORY FRAMEWORK

This removal action is performed pursuant to CERCLA and NCP under the authority delegated by the Office of the President of the United States through Executive Order 12580 as redelegated. This order provides the Navy with authorization to conduct removal actions. The Defense Environmental Restoration Program (DERP) provides funding to the Navy for removal actions conducted under CERCLA. This removal action is non-time critical because a 6-month planning period was available from the time a removal action was determined to be necessary to the time when the removal action would be initiated.

This EE/CA identifies the recommended removal action alternative for IR Site 24A by evaluating the potentially applicable removal alternatives for the site. This EE/CA complies with the requirements of CERCLA; the Superfund Amendments and Reauthorization Act (SARA); the NCP at 40 C.F.R.; the DERP at 10 *United States Code* Section (§) 2701, et seq.; and Executive Order 12580. This EE/CA is undertaken pursuant to 40 C.F.R., Part 300.415 (b)(4)(i) and (b)(4)(ii). The requirements for this EE/CA and its mandated public comment period provide an opportunity for public input with regard to the cleanup process.

The Navy is the lead agency for this NTCRA. As such, the Navy will choose the remedy after conducting all public participation activities. An Action Memorandum (AM) that provides a written decision on the selected remedy and takes regulatory and public comments into account will be prepared based on this EE/CA. A written response to questions and comments submitted on the EE/CA during the public comment period will be provided as part of the AM.

IR Site 24A is currently closed to range operations. A CERCLA response is being conducted to document and perform site closure in accordance with the NCP and USEPA guidance. The Navy performs cleanup of MEC and associated munitions constituents (MC) at other-than-operational ranges under the DERP Military Munitions Response Program using the CERCLA process.

3.2 DETERMINATION OF REMOVAL SCOPE

The removal action is being undertaken at IR Site 24A to reduce potential risk to human health and the environment posed by contaminants in soil. In addition, the removal action will remove the potential explosive hazard posed by the presence of debris from practice grenades used at IR Site 24A. The removal action is meant to be a final action for contaminated soil. The specific objectives of the removal action at IR Site 24A are as follows:

- Remove and properly dispose of soil with concentrations of COCs or lead pellets presenting an unacceptable risk to human health or the environment.
- Remove all debris that can be identified as coming for practice grenades or other MEC.
- Demilitarize all removed munitions debris.

3.3 DETERMINATION OF REMOVAL SCHEDULE

This EE/CA will be available for public review and comment for 30 days. The Navy will review the comments and, where appropriate, incorporate responses to public and regulatory agency comments into the AM and provide responses to all comments in a Responsiveness Summary in an appendix.

It is anticipated that the work plan, removal action, site restoration activities, and final completion report will be completed within 18 months after finalization of this EE/CA.

3.4 APPLICABLE OR RELEVANT AND APPROPRIATE REQUIREMENTS

The NCP states, "Removal Actions…shall to the extent practicable considering the exigencies of the situation, attain applicable or relevant and appropriate requirements under federal environmental or state or facility citing laws" [40 C.F.R. 300.415(j)]."

Appendix C of this EE/CA provides a detailed discussion and evaluation of potential federal applicable or relevant and appropriate requirements (ARARs). The Navy is responsible for identifying federal ARARs as the lead federal agency under CERCLA and the NCP. The final determination of federal ARARs will be made when the Navy issues the AM. The federal government implements a number of federal environmental statutes that are the source of potential federal ARARs, either in the form of the statutes or regulations promulgated thereunder. Examples include the Resource Conservation and Recovery Act (RCRA), the Clean

Water Act (CWA), the Safe Drinking Water Act (SDWA), the Toxic Substances Control Act (TSCA), and their implementing regulations. See NCP preamble at 55 *Federal Register* (Fed. Reg.) 8764–8765 (1990) for a more complete listing.

The Navy reviewed the proposed response action and alternatives against all potential federal ARARs, including but not limited to those set forth at 55 Fed. Reg. 8764–8765 (1990), in order to determine whether they were applicable or relevant and appropriate using the CERCLA and NCP criteria and procedures for ARARs identification by lead federal agencies.

USEPA guidance recommends that the lead federal agency consult with the state when identifying state ARARs for response actions (USEPA 1988b). In essence, the CERCLA/NCP requirements at 40 C.F.R. § 300.515 for response actions provide that the lead federal agency request that the state identify chemical- and location-specific state ARARs upon completion of site characterization. The requirements also provide that the lead federal agency request identification of all categories of state ARARs (chemical-, location-, and action-specific) upon completion of identification of alternatives for detailed analysis. The state must respond within 30 days of receipt of the lead federal agency requests. To satisfy this requirement, the Navy will formally request state chemical-, location-, and action-specific ARARs for IR Site 24A from the DTSC during the comment period of this document. A letter requesting ARARs identification will be sent to the DTSC based on preliminary removal action alternatives developed by the Navy.

3.5 REMOVAL ACTION OBJECTIVES

RAOs for soil at IR Site 24A at NAVWPNSTA Concord are as follows:

- Prevent human exposure to contaminated soil from IR Site 24A through removal, proper disposal, and institutional controls.
- Prevent exposure of ecological receptors to contaminated soil at IR Site 24A through removal.
- Remove potential explosive hazards from IR Site 24A.

3.6 IDENTIFICATION OF REMOVAL ACTION EXTENT

As presented in Section 2.7.1 and Section 2.7.2, the list of COCs for the HHRA includes antimony, lead, and three high-molecular-weight PAHs (benz(a)anthracene, benzo(a)pyrene, and benzo(b)fluoranthene). Antimony and lead were also selected as COECs for ecological receptors, as well as arsenic, cadmium, copper, selenium, vanadium, zinc and the lead pellets. For simplicity, throughout the remainder of this section all COCs and COECs will be referred to as COCs. Table 3-1 compares the final COCs and cleanup goals for the human and ecological receptors.

TABLE 3-1: FINAL CHEMICALS OF CONCERN AND CLEANUP GOALS FOR HUMAN AND ECOLOGICAL RECEPTORS

Engineering Evaluation and Cost Analysis, IR Site 24A, Former NAVWPNSTA Concord

Chemicals of Concern	Final Cleanup Goal for Residential Human Receptors (mg/kg dry weight)	Final Cleanup Goal for Recreational Human Receptors (mg/kg dry weight)	Final Cleanup Goal for Ecological Receptors (mg/kg dry weight)
Antimony	24	75	**3.2**
Arsenic*	7.3	7.3	**88**
Cadmium	NA	NA	**0.49**
Copper	NA	NA	**142**
Lead	80	800a	**59**
Lead pellets	NAb	NAb	3-13 pellets/ft2
Selenium	NA	NA	**2.0**
Vanadium	NA	NA	86c
Zinc	NA	NA	**667**
Benz(a)anthracene	**0.37**	0.92	NA
Benzo(a)pyrene	**0.037**	0.092	NA
Benzo(b)fluoranthene	**0.37**	0.92	NA

Notes:
Cleanup goals for human health were set to reflect an excess cancer risk of $1x10^{-6}$ or a hazard quotient of 1.
Cleanup goals for ecological receptors were set to be equal to a hazard quotient of 1 using the geometric mean of the low- and high-TRVs.
Lowest cleanup goal is shown in **bold** font.
NA = not applicable, not a COC for this receptor group.
* With the exception of three outlier locations, BAI-24A-021-00, BAI-24A-029-00, and BAI-24A-025-00, detected concentrations of arsenic were generally within the range of background. The 95% UCL of the arsenic concentrations, excluding the three outliers, is 5.6 mg/kg, which is below the background level of 7.3 mg/kg (TtEMI 1997). See Appendix A.
[a] This value is based upon the USEPA industrial RSL for adult exposure but is also protective of recreational child exposure, based on the recreational exposure assumptions for this site. Please refer to Section A4.1.1 for more information regarding the recreational child scenario.
[b] Incidental ingestion of lead pellets by children is a potential, but unlikely.
[c] Cleanup goal based on background concentration.
COC = chemical of concern
ft^2 = square foot
mg/kg = milligram per kilogram
RSL = regional screening level
TRV = toxicity reference value
UCL – upper confidence limit
USEPA = United State Environmental Protection Agency

Table 3-2 summarizes the number of locations with soil concentrations in exceedance of these recommended cleanup goals:

TABLE 3-2 LOCATIONS EXCEEDING CLEANUP GOALS
Engineering Evaluation and Cost Analysis, IR Site 24A, Former NAVWPNSTA Concord

Chemicals of Concern	Total Number of Locations	Number of Exceeded Locations of the Final Recommended Clean-up Goals for each Receptor Group		
		Residential	Recreational	Ecological
Antimony	40	6	3	22
Arsenic	40	3[a]	3[a]	2
Cadmium	40	NA	NA	4
Copper	40	NA	NA	4
Lead	40	17	9	19
Lead pellets	15	--	--	15
Selenium	40	NA	NA	3
Vanadium	40	NA	NA	3
Zinc	40	NA	NA	5
Benz(a)anthracene	5	1	1	NA
Benzo(a)pyrene	5	4	1	NA
Benzo(b)fluoranthene	5	1	1	NA

Notes:
[a] Refers to the three outlier locations for arsenic.
NA = not applicable, no exceedances for this receptor group.
-- = No numerical criterion for human ingestion of pellets was derived.

3.6.1.1 Lead – Primary Risk Driver

As demonstrated in the Tier 2 BERA, lead is the main risk-driver at the site and, therefore, the lowest of the final cleanup goals for lead of 59 mg/kg (derived for ecological receptors) was used a primary guide to identify areas that require risk management (e.g. soil removal). All locations where lead concentrations exceeded the cleanup goal are included within the boundary of excavation removal action area shown on Figures 2-1 and 2-2. Figure 2-1 presents the proposed excavation boundaries to protect ecological receptors and human residential receptors (i.e., unrestricted use). Figure 2-2 presents the proposed excavation boundaries to protect ecological receptors and human recreational receptors. Proposed excavation areas are denoted on these figures by either blue hatching (indicates surface removal, down to 0.5 feet bgs), pink hatching (indicates removal down to 2 feet bgs), or green hatching (indicates removal down to 2 feet in

the drainage channel). The boundaries of the proposed excavation areas on the figures are approximate due to the limitations of the existing dataset. Areas not shown in hatching on the figure, such as those in the eastern portion of the 40-mm grenade impact area, are not recommended for removal given the lack of elevated COC concentrations.

3.6.1.2 Lead Pellets

Another indicator used to identify areas that require risk management (e.g. soil removal) specifically for ecological receptors is the presence of lead pellets. These locations are designated with a red dot on Figure 2-2. Due to the potential for risk posed to birds (and other animals) from exposure to lead through ingestion of these pellets, it was assumed that all locations with lead pellets would require risk management (e.g. soil removal). Most locations with lead pellets are also co-located with elevated levels of lead, and other metals to a lesser extent. Red dots indicate sample locations with lead pellets and, most often, elevated lead concentrations, while orange dots indicate elevated lead concentrations (and potentially other metals) and the absence of lead pellets. Black dots represent sampling locations that lack exceedances of any cleanup goals and where lead pellets are absent. On Figures 2-1 and 2-2, the symbology indicates sampled locations with and without the presence of lead pellets and other COCs. As illustrated on Figures 2-1 and 2-2, the central area of the site has the highest density of locations with either elevated lead, lead pellets present, or both: retaining wall, target berm, western portion of range floor, below grenade impact area, and western portion of the drainage channel.

As a side note, location BAI-24A-33 was designated as a target berm sample in the IR Site 24A SI (BAI 2010). However, due to its close proximity to the drainage channel and because it is characterized by elevated lead and the presence of lead pellets, this location was included within the removal area boundary for the drainage channel shown in green hatching on Figures 2-1 and 2-2 (recommended removal down to 2 feet bgs).

3.6.1.3 Other Chemicals of Concern

Sample locations shown with a green dot on Figure 2-2 indicate the presence of non-lead COCs. Lead is not elevated above the cleanup goal at these locations and lead pellets are not present, but concentrations of 1 or more of the remaining 10 COCs are elevated above the respective cleanup

goals. Most of these locations occur in the western portion of the site: firing line, range floor, and western portion of the drainage channel.

3.6.1.4 Locations Not Recommended for Removal

The two locations with non-lead COCs present in the most western portion of the drainage channel are not recommended for removal: BAI-24A-10 and -11. The only exceedances of ecological cleanup goals at these two locations occur below the surface (2 feet bgs); no elevated metals above ecological cleanup goals are present in the 0 to 0.5 foot bgs samples. Selenium was elevated above the ecological cleanup goal at 2 feet bgs at both locations, and zinc was elevated at 2 feet bgs at BAI-24A-11. For selenium, the exceedances of the lowest ecological cleanup goal of 2.0 mg/kg are minor: 2.4 mg/kg at BAI-24A-10 and 2.1 mg/kg at BAI-24A-11. No other selenium cleanup goals were exceeded at these two locations.

The zinc concentration at BAI-24A-11 of 1,300 mg/kg is 1.9 times the lowest ecological cleanup goal of 667 mg/kg, which is protective of the American robin. It is unlikely that a robin would be exposed to soil at 2 feet bgs. The elevated zinc concentration at BAI-24A-11 is 1.6 times the cleanup goal for the western harvest mouse (830 mg/kg) and 1.1 times the cleanup goal for amphibians (1,200 mg/kg) (refer to Appendix B for a list of cleanup goals calculated for all ecological receptors). The cleanup goal for the California vole was not exceeded by the zinc concentration at BAI-24A-11. Based on these low exceedances of the cleanup goals for selenium and zinc and lack of elevated concentrations at the surface, no removal is recommended at BAI-24A-10 and -11.

3.6.1.5 General Differences between Health-Based and Ecological Removal Areas

Overall, most recommended excavation areas are driven by exceedances of the cleanup goals protective of ecological receptors, with the exception of a small cluster of samples near the retaining wall where the creosote-treated wood is present (BAI-24A-01, -02, -03, and -05). Human health cleanup goals protective of residential receptors for three high-molecular-weight PAHs are exceeded at these locations (Figure 2-1), and the cleanup goals for recreational receptors are only exceeded at the location with the highest levels of PAHs (BAI-24A-02) (Figure 2-2). With the exception of BAI-24A-02, which is included in the recommended

excavation boundary for removal down to 2 feet bgs on both figures, only surface removal (down to 0.5 feet bgs) is recommended at the remaining three locations to protect residential receptors.

The following bullets summarize the exceedances using the health-based cleanup goal (residential or recreational) and ecological cleanup goals:

- Locations BAI-24A-21 at 1.5 to 2.0 feet and BAI-24A-55 exceeded the ecological cleanup goal for lead, but are below the health-based cleanup goals protective of residential receptors. In addition to these two locations, BAI-24A-20, -31, -34, -35, -38, -39, -53, and -54 exceeded the ecological cleanup goal for lead, but are below health-based cleanup goals protective of recreational receptors.

- Human health-based and ecological cleanup goals for lead are not exceeded at the following three locations, BAI-24A-17, -49, and -52, but lead pellets are present and therefore, removal is recommended. . Of these three locations, other non-lead COCs for ecological receptors are present at BAI-24A-17 (i.e., antimony and vanadium).

- Locations BAI-24A-13 through -17, -19, -20, -22, -23, -27, -28, -31, 33, -35, -39, and -40 exceeded the ecological cleanup goal for antimony, but are below the health-based cleanup goals protective of residential receptors. In addition to these locations, BAI-24A-7, -25, and -32 exceeded the ecological cleanup goal for antimony, but are below health-based cleanup goals protective of recreational receptors.

4.0 IDENTIFICATION AND DETAILED ANALYSIS OF REMOVAL ACTION ALTERNATIVES

The alternatives were subjected to a detailed evaluation in terms of effectiveness, implementability, and cost. In this analysis, each alternative was evaluated individually. The comparative analysis of alternatives is presented in Section 5.

4.1 CRITERIA

The following sections provide descriptions of these criteria and their components.

4.1.1 Effectiveness

Effectiveness is a measure of an alternative's ability to reduce risk to the public and the environment from exposure to chemically contaminated soil or MEC hazards from both a long-term and short-term perspective and compliance with ARARs. The following criteria were taken into consideration:

- **Protection of Public Safety and the Environment.** This criterion is a measure of the effectiveness of the alternative to reduce the public's exposure to chemically contaminated soil or MEC and protect the environment. The following considerations were evaluated:
  - Elimination and reduction of chemically contaminated soil or MEC
  - Estimated quantity of residual chemically contaminated soil or MEC
  - Estimated depth of residual chemically contaminated soil or MEC
  - Potential exposure pathways between humans and chemically contaminated soil or MEC
  - Potential of human interaction with chemically contaminated soil or MEC during exposure
- **Compliance with ARARs:** This criterion is a measure of whether each alternative meets all the potential federal and state ARARs as defined in 40 C.F.R. 300.5 and identified in the EE/CA process.
- **Long-term Effectiveness:** This criterion is a measure of the effectiveness of the alternative to protect the public after the risk-reduction objectives have been implemented. The remaining potential for exposure to chemically contaminated soil or MEC and the adequacy and reliability of the controls and maintenance measures to manage the residual risk following implementation of the alternative are considered.

- **Short-term Effectiveness:** This criterion is a measure of the effectiveness of the alternative to protect the public during implementation of the risk-reduction objectives. The potential risk on humans, including those in the community, site visitors, and workers implementing the alternatives; potential adverse impact on the environment; and time required to implement the alternative are considered for each alternative.

- **Reduction of Toxicity, Mobility, or Volume through Treatment:** This criterion addresses the statutory preference for selection of alternatives that employ treatment technologies that permanently and significantly reduce toxicity, mobility, or volume through treatment of the hazardous substance as a principal element. As detailed above, the stated programmatic goal of the USEPA, as expressed in the NCP, is to select remedies that are protective over time and "minimize untreated waste", Section 300.430 (a)(1)(i). The NCP states that the USEPA will use "treatment to address the principal threats at a site, wherever practicable", Section 300.430 (a)(l)(iii)(A). This preference is satisfied when treatment is used to reduce the principal threats at a site through destruction of toxic contaminants, reduction of total mass of toxic contaminants, irreversible reduction in contaminant mobility, or reduction of total volume of contaminated media.

4.1.2 Implementability

Implementability is a measure of the physical, technical, and administrative feasibility of implementing an alternative and a measure of the availability of materials and services. Stakeholder acceptance of a given alternative must be considered.

- **Technical Feasibility:** This criterion is a measure of the ability to implement the alternative, reliability of the technology, ability to implement future actions (if the remedy does not remove all risk), and ability to monitor the effectiveness of the action relative to its practicality of completing the alternative.

- **Administrative Feasibility:** This criterion is a measure of the ease in which an alternative can be coordinated with multiple offices, agencies, and private property owners, and implemented in terms of permits and right-of-way or alignment agreements. Availability of funds and funding sources for specific types of actions are part of the administrative considerations.

- **Availability of Services and Materials:** This criterion is a measure of the availability of goods and services to implement the alternative. This is influenced by the availability of personnel and technology suitable to perform the action; adequacy and availability of off-site treatment, storage and disposal capacity; ability to procure services and materials; and the potential effectiveness of prospective technologies at the site (i.e. are bench-scale tests required prior to implementation).

4.1.3 Cost

The alternatives were identified and evaluated based on the evaluation criteria reflected above. The cost of each alternative includes the sum of capital costs and operation and maintenance (O&M) costs, including monitoring. Present value costs provide a common basis for comparison. The estimates are intended to provide an accuracy range of -30 to +50 percent of actual cost. The final project cost will depend on actual material and labor cost, productivity, competitive market conditions, final project scope and schedule, and other variable factors. The estimates for the alternatives provided in this evaluation are for relative comparison purposes only.

4.2 REMOVAL ACTION ALTERNATIVE ANALYSIS

The removal action alternatives selected in this section were developed to meet the RAOs identified in Section 3.5 and the ARARs identified in Appendix C. The alternatives are based on the nature, extent, and analysis of documented occurrence and the potential for chemically-impacted soil or MEC, intended future land uses, and risk reduction goals. These alternatives demonstrate approaches which are consistent with best industry practices and have been proven to be accepted by stakeholders at other ordnance sites throughout the United States. The alternatives which will be discussed are:

- Alternative 1: No Action
- Alternative 2: Land Use Controls (LUCs)
- Alternative 3: Placement of Soil Cap over the Former Pistol Range, MEC Screening, and LUCs
- Alternative 4: Soil Excavation within the Former Pistol Range with Off-Site Disposal and MEC Screening
- Alternative 5: Soil Excavation within the Former Pistol Range with Stabilization, Off-Site Disposal, MEC Screening, and Recycling of Metal

The implementation of the No Action alternative is assessed to provide a baseline for comparison of other risk-reduction alternatives. This alternative does not involve site-specific work and, as such, is considered a nonremoval alternative. Alternative 2, the implementation of LUCs, is also considered a nonremoval alternative. The other alternatives are considered removal by nature and involve site specific clearance processes to address the chemical and MEC hazards at the

site. These clearance alternatives include the implementation of technologies for efforts associated with the removal of surface and subsurface soil and MEC and the use of LUCs. A combination of LUCs and removal activities can also be implemented at IR Site 24A to address the future land use requirements and to assist with the management of residual risk that may remain after a clearance process has been completed. The evaluation and recommendation of one or more of these alternatives will be discussed in further detail in this section. Detailed descriptions of the tasks and costs involved with each of the alternatives are provided in Appendix D.

4.2.1 Alternative 1: No Action

The declaration of the No Action alternative on a property or project is a programmatic decision that indicates it has been determined that no further action is required to address unsafe conditions or hazardous substance or pollutants or contaminants (including MEC and MC) that may affect future land uses. As such, no surface or subsurface removal is undertaken and the implementation of LUCs is not considered, and no restriction will be placed on access to the site. If any evidence of munitions is discovered in the future at a site where No Action alternative was implemented, a review of the new information is conducted and the status of the property is reconsidered. This alternative leaves a project or property open for further and future review as additional information is received. The “No Action” alternative is assessed to provide a baseline for comparison of other risk-reduction alternatives. Under this alternative, the potential presence of the known hazards would continue to pose an unacceptable hazard to potential future receptors at the site.

4.2.2 Alternative 2: Land Use Controls

LUCs are any type of physical, legal, or administrative mechanism that restricts the use of, or limits access to, real property to prevent or reduce risks to human health and the environment. LUCs are required on a property where the selected removal action allows contamination to remain at the property above levels that allow for unlimited use and unrestricted exposure. LUCs would likely remain in place unless further response action is taken that would allow for unrestricted use of the property. Implementation of LUCs includes requirements for monitoring and inspections and reporting to ensure compliance.

Legal mechanisms include proprietary controls such as restrictive covenants, negative easements, equitable servitudes, lease restrictions, and deed notices. Administrative mechanisms include notices, adopted local land use plans and ordinances, construction permitting, or other existing land use management systems that are intended to ensure compliance with land use restrictions.

LUCs are more effective if they are layered or implemented in series. Layering means using several LUCs at the same time to enhance the protectiveness of the remedy. Implementation of LUCs in series may be applied to enhance both the short- and long-term effectiveness of the remedy. Monitoring and inspections would be conducted to ensure compliance.

LUCs would limit the exposure of users of the property to hazardous substances and protect and maintain the integrity of the removal action. The LUC objectives would be to prohibit residential or recreational use of the property; however, these restrictions would not prevent a future landowner or developer from conducting further cleanup or taking other actions to support less restricted future reuse of the property.

Institutional Controls

Conveyance to a Nonfederal Entity

In establishing LUCs, the Navy has determined that it would rely on proprietary controls in the form of environmental restrictive covenants as provided in the "Memorandum of Agreement [MOA] between the Department of the Navy and the California Department of Toxic Substances Control" and attached covenant models (Navy and DTSC 2000) ("Navy/DTSC MOA"). More specifically, land use restrictions would be incorporated into two separate legal instruments as provided in the Navy/DTSC MOA if the property is transferred to a nonfederal entity:

1. Restrictive covenants included in one or more Quitclaim Deeds from the Navy to the property recipient
2. Restrictive covenants included in one or more "Covenant to Restrict Use of Property" entered into by the Navy and DTSC as provided in the Navy/DTSC MOA and consistent with the substantive provisions of Cal. Code Regs. tit. 22, § 67391.1

The "Covenant to Restrict Use of Property" would incorporate the land use restrictions into environmental restrictive covenants that run with the land and that are enforceable by DTSC and the Navy against future transferees. The Quitclaim Deed would include the identical land use

restrictions in environmental restrictive covenants that run with the land and that would be enforceable by the Navy against future transferees.

According to the Department of Defense's "Principles and Procedures for Specifying, Monitoring and Enforcement of Land Use Controls and Other Post-ROD Actions" (DOD 2003b), the following issues relating to land use controls would be addressed in the Record of Decision (ROD) and LUC removal design for IR Site 24A:

1. A description of the risk or risks that necessitate the LUCs
2. Documentation of risk exposure assumptions and reasonably anticipated land uses
3. General description of the LUCs, the logic for their selection, and related deed restrictions and notifications
4. Statement of the LUC performance objectives
5. List of the parties responsible for monitoring, reporting on, and enforcing the LUCs
6. Description of the area or property covered by the LUCs
7. Expected duration of the LUCs.
8. Reference to a LUC removal design for implementation actions, because these details may be adjusted periodically on the basis of site conditions and other factors.

Conveyance to a Federal Entity

The LUC objectives set forth above would be incorporated into a memorandum of agreement or similar agreement if IR Site 24A is transferred by the Navy to a federal department or agency.

Implementation and Oversight

Monitoring and inspections would be conducted to assure that the LUCs were being followed. The Navy and Federal Facility Agreement (FFA) signatories and their authorized agents, employees, contractors, and subcontractors would have the right to enter IR Site 24A to conduct investigations, tests, or surveys; inspect field activities; or construct, operate, and maintain any response or removal action as required or necessary under the cleanup program. These access restrictions would be included in the deed and covenant for property conveyed to a nonfederal entity and in the MOA if the property is conveyed to a federal entity.

The Navy would address LUC implementation and maintenance actions, including periodic inspections, in the draft and final removal design reports to be developed and submitted to the FFA signatories for review and concurrence pursuant to the FFA. The draft and final removal design reports are primary documents under the FFA.

The preliminary and final removal design reports would include a section to describe required LUC implementation and actions, including:

- Requirements for CERCLA 5-year review
- Frequency and requirements for periodic monitoring or visual inspections and reporting results from monitoring and inspections
- Notification procedures to the regulators for planned property conveyance, changes, and corrective action required for the remedy
- Development of wording for LUCs and parties to be provided copies of the deed language once it has been executed
- Identification of responsibilities for Navy, USEPA, DTSC, Water Board, and other government agencies, and the new property owner for implementing, monitoring, reporting, and enforcing LUCs
- A list of LUCs with their expected duration
- Maps identifying where LUCs are to be implemented

The Navy would be responsible for implementing, inspecting, reporting on, maintaining, and enforcing the necessary LUCs described in the ROD in accordance with the final removal design report. The Navy would retain ultimate responsibility for the integrity of the remedy, although the Navy might later transfer these procedural responsibilities to another party by contract, property transfer agreement, or other means. Should any of the LUCs fail, the Navy would ensure that appropriate actions were taken to reestablish protectiveness of the remedy and might initiate legal action to either compel action by a third party or to recover the Navy's costs for mitigating any LUC violations discovered.

LUCs are highly effective in the short term and moderately effective in the long term, not through actively treating contaminants, but by preventing human exposure to contaminants through signs, fences, or legal restrictions (or a combination) to prevent exposure to chemicals.

LUCs are easily implemented (high implementability) at a low cost; therefore, access restrictions, land use restrictions, and covenants to restrict use of property are all retained as viable process options for COCs at IR Site 24A.

Engineering Controls

Engineering controls (ECs), such as an engineered cover, are used to reduce or eliminate the pathway for potential human exposure to contaminated material by providing a barrier to the contamination. The NCP indicates that "EPA expects to use ECs, such as containment, for waste that poses a relatively low risk or where treatment is impractical" (40 C.F.R. § 300.430). Alternatives 3, 4 and 5 include the engineering control technologies and process options screened for possible use at IR Site 24A.

In Alternative 2, the site would be surrounded by a perimeter fence and kept secured from unauthorized entry (Figure 4-1). Signage warning of the potential dangers would be posted on the perimeter fence at approximately 200 linear feet intervals. Monitoring and maintenance activities would be performed annually at the site.

The performance objective of this alternative is to limit access to the site to prevent or reduce the risks to human health, safety, and the environment.

4.2.2.1 Implementability

Alternative 3 would be feasible and easily implemented (high implementability) because the LUCs for this alternative are easily put in place. Procedures for implementing LUCs are already in place, and delays or difficulties in coordinating with other regulatory agencies are not likely. LUCs would affect the future use of IR Site 24A because they would prohibit residential use where removal goals are exceeded, unless remediation is conducted.

Technical Feasibility

Establishment of LUCs is the most technically feasible of the alternatives.

Administrative Feasibility

Establishment of LUCs is the easiest to administratively implement of all of the alternatives.

Availability of Services and Materials

Establishment of LUCs requires the fewest services and materials and these are the most readily available of the alternatives.

4.2.2.2 Effectiveness

Overall Protection of Public Health and the Environment

Alternative 2 would protect human health by prohibiting future residential use, thereby controlling exposure of future residents to COCs in surface soil. This alternative would be effective in achieving the RAO for the protection of human health. Alternative 2 is rated as protective for overall protection of human health and the environment.

Compliance with ARARs

There are no federal ARARs for LUCs. Alternative 2 would meet all identified chemical-location-, and action-specific ARARs (Appendix C).

Short-term Effectiveness

This alternative would be highly effective in the short term for protection of human health. The factors considered as part of the short-term effectiveness criteria are assessed below for Alternative 2:

- The off-site community would be protected because soils that present unacceptable risk would not be disturbed.
- No workers would be exposed to health risks during implementation of Alternative 2 because soil would not be disturbed.
- No adverse environmental effects would result from implementation of Alternative 2 because soils that may pose an unacceptable risk would not be disturbed. Additionally, there would be no potential impacts to the California tiger salamander or the California red legged frog.
- The estimated time required to implement Alternative 2 is 1 year or less to develop the LUC removal design, and the effects of implementing this alternative would be nearly immediate.

The rating for Alternative 2 for the short-term effectiveness is excellent.

Long-term Effectiveness

LUCs would effectively control risk to humans under a future residential use scenario. Long-term enforcement of the LUCs would be required to maintain the effectiveness of the land use restrictions, access restrictions, and covenants. A LUC removal design would be prepared to guide implementation of the LUCs and inspection for compliance, maintenance, reporting, and enforcement. In accordance with California law, the land use covenant would be recorded, and future owners would be notified through a title search of deed restrictions. Residential use would be prohibited by the LUCs. LUCs would not offer any long-term effectiveness or permanence related to existing contamination, but would limit contact by restricting land use options. Implementation of this alternative will not preclude further response actions or other soil management activities by future landowners or property developers to support less restricted uses of the property. The rating for Alternative 2 for long-term effectiveness and permanence is marginal.

Reduction of Toxicity, Mobility, or Volume through Treatment

Alternative 2 does not include treatment of contaminated surface soil. Therefore, this alternative would not reduce the overall toxicity, mobility, or volume of contamination through treatment and would not meet the statutory preference for treatment options. The rating for Alternative 2 for the reduction of toxicity, mobility, and volume through treatment is poor.

4.2.2.3 Cost

The estimated total present value cost for Alternative 2 is $1,090,830 (Table 5-3) and is detailed in Appendix D. The detailed cost analysis for Alternative 2 includes an estimate of capital, O&M, and periodic costs. Capital costs include preparation of the LUC removal design and other legal documents to implement the LUCs. Future value periodic costs include enforcement of the LUCs and 5-year reviews. The rating for Alternative 2 for cost is very good.

4.2.2.4 Summary of Evaluation of Alternative 2

The overall rating for Alternative 2 is very good, rating excellent in short-term effectiveness and implementability, very good for cost, marginal for long-term effectiveness and permanence, and poor for reduction of toxicity, mobility, or volume. LUCs would prevent exposure of future residents.

4.2.3 Alternative 3: Placement of Soil Cap over the Former Pistol Range, MEC Screening, and LUCs

In this alternative, the site would be cleared of existing structures. Approximately 1 foot of soil would be mechanically excavated from the grenade impact area and screened for MEC or MD. Screening would likely be conducted using an armored triple-tray vibrating screening unit to sort out any 40-mm grenade casings or debris. If unexploded grenade casings are found, they would be detonated on-site by UXO technicians and placed in 55-gallon drums. Inert grenade debris collected at the site would also be placed in 55-gallon drums. The 55-gallon drums would be disposed of at an appropriate treatment, storage, and disposal facility. A combination of manual test pits and a geophysical survey would be conducted on the resulting excavation surface of the grenade impact area to confirm the absence of MD.

Absence of COCs in the excavated soil would be confirmed via laboratory analysis. Once the absence of COCs was confirmed, the excavated soil would be used to cap the lead- and PAH-impacted area of the target berm. The soil cap would extend across the limits of the lead- and PAH-impacted area as depicted in Figure 4-2. The cap would be designed in such a manner as to convey surface water across the site while minimizing the potential for erosion. Once grading activities have been completed, the site would be reseeded with a native seed mix. LUCs would require that the soil cap be surrounded by a perimeter fence and kept secured from unauthorized entry. Signage warning of the potential dangers would be posted on the perimeter fence at approximately 200 linear feet intervals. Monitoring and maintenance activities would be performed annually at the site.

The performance objective of this alternative is to remove the MEC hazards in the grenade impact area and place LUCs (soil cap, perimeter fence, and monitoring and maintenance) in the lead- and PAH-impacted areas of the site.

4.2.3.1 Implementability

The rating for Alternative 3 for implementability is very good.

Technical Feasibility

This alternative is technically and administratively feasible because capping is considered a conventional and commonplace technology. However, implementing this alternative requires protective measures for the California tiger salamander and the California red legged frog.

Administrative Feasibility

Procedures are in place through the FFA to make Alternative 3 relatively easy to administratively implement.

Availability of Services and Materials

Vendors that specialize in this type of action are readily available.

4.2.3.2 Effectiveness

Overall Protection of Public Health and the Environment

Alternative 3 would protect human health because surface soil that may pose an unacceptable risk to humans would be covered with clean fill and access to the site would be limited by LUCs. However, this alternative would not permanently reduce risk at IR Site 24A.

Compliance with ARARs

The action-specific ARARs for Alternative 3 are summarized below and detailed in Appendix C. The Navy has identified the substantive provisions of the following requirements as potential federal ARARs for excavation and capping of contaminated soil and any waste, including investigation-derived waste, generated during implementation of the alternative for soil:

- 40 C.F.R. § 264.554 (d)(1)(i-ii) and (d)(2), (e), (f), (h), (i), (j), and (k) – which allows the temporary staging of RCRA hazardous waste in piles.
- RCRA waste pile requirements at Cal. Code Regs. tit. 22, § 66264.251 (except 251[j],251[e][11]), and § 66264.252(c) and (e) and (f).
- RCRA waste pile closure requirements Cal. Code Regs. tit. 22, § 66264.258(a) and (b), except references to procedural requirements.
- Clean Water Act stormwater requirements at 40 C.F.R. 122.44(k)(2) and (4) – which sets forth requirements to use best management practices to prevent construction pollutants from contacting stormwater.

Alternative 3 would meet all identified chemical-, location-, and action-specific ARARs.

Short-term Effectiveness

Alternative 3 would be marginally effective in the short term. The factors considered under the short-term effectiveness criteria are assessed below.

- The community would be protected during excavation and transportation by implementing containment controls, such as dust suppression during excavation and covers over the trucks transporting soil and excavation backfill. A traffic control plan would be prepared to address additional traffic during removal of the contaminated soil. The traffic control plan and temporary traffic controls would be implemented as necessary to prevent accidents, minimize congestion, and protect local residents.

- Workers would be protected during soil excavation by implementing containment controls, such as dust suppression during excavation, stockpiling, and loading; and following health and safety protocols, including personal protective equipment and decontamination procedures.

- Construction efforts for soil excavation would affect the majority of IR Site 24A. Best management practices for construction would minimize the effects on the local environment. Effects to the natural resources on-site are expected to be temporary, and vegetation is expected to recover. The short-term effects (estimated at 4 months) are considered to be nearly immediate after construction begins, and risk from exposure would be eliminated as soon as work is completed.

The rating for Alternative 3 for short-term effectiveness is marginal.

Long-term Effectiveness

The LUCs aspect of Alternative 3 would effectively control risk to humans under a future residential use scenario by excluding this scenario without future action. Long-term enforcement of the LUCs would be required to maintain the effectiveness of the land use restrictions, access restrictions, and covenants. A LUC remedial design would be prepared to guide implementation of the LUCs and inspection for compliance, maintenance, reporting, and enforcement. In accordance with California law, the land use covenant would be recorded, and future owners would be notified through a title search of deed restrictions. Residential use would be prohibited by the LUCs. LUCs would not offer any long-term effectiveness or permanence related to existing contamination, but would limit contact by restricting land use options. Implementation of this alternative will not preclude further response actions or other soil management activities by future landowners or property developers to support less restricted uses of the property. The rating for Alternative 3 for long-term effectiveness and permanence is marginal.

Reduction of Toxicity, Mobility, or Volume through Treatment

Alternative 3 does not include treatment of contaminated surface soil. Therefore, this alternative would not result in the destruction of COCs or reduce the overall toxicity, mobility, or volume of contamination through treatment and would not meet the statutory preference for treatment options. The rating for Alternative 3 for the reduction of toxicity, mobility, and volume through treatment is poor.

4.2.3.3 Cost

The estimated total present value cost for Alternative 3 is $1,803,539 (Table 5-3) and is detailed in Appendix D. The detailed cost analysis for Alternative 3 includes an estimate of capital, O&M, and periodic costs. Capital costs include those associated planning documents, MEC screening, capping, and preparation of the LUC remedial design and other legal documents to implement the LUCs. Future value periodic costs include enforcement of the LUCs and 5-year reviews. The rating for Alternative 3 for cost is very good.

4.2.3.4 Summary of Evaluation of Alternative 3

The overall rating for Alternative 3 is marginal, rating marginal in effectiveness and implementability, marginal for cost, marginal for long-term effectiveness and permanence, and poor for reduction of toxicity, mobility, or volume.

4.2.4 Alternative 4: Soil Excavation within the Former Pistol Range with Off-Site Disposal and MEC Screening

The mechanical excavation and screening operation described in this alternative is an effective field implementation of subsurface removal and is expected to remove the hazards to the maximum extent practicable in the safest manner possible. Initial site preparation and excavation and screening of the grenade impact area will be identical to that described in Section 4.2.3. This section describes additional work required to implement Alternative 4.

Soil will be mechanically excavated to appropriate depths to remove soil with contaminant concentrations in excess of site cleanup goals (Figure 4-3). Excavation will include removal of all loose soil on the target berm since it was noted to contain lead bullet fragments during the SI. After the loose soil is removed two cores will be excavated to a depth of 4 feet in the consolidated material to confirm it is not part of an older target berm. The excavated soil will be

placed in an armored triple-tray vibrating screening unit to sort out any 40-mm grenade casing or debris. The grenade impact area will be excavated to approximately 1 foot because it is not likely that the 40-mm grenades would have penetrated deeper since they are not a direct-fire weapon (Figure 4-3). However, the actual depth of excavation will be developed during the LUC removal design planning process. Areas outside the grenade impact area but within the estimated range of the M407 grenade will be cleared by walking transects with metal detectors. Although 40-mm grenades were reportedly launched only into the grenade impact area, all excavated soil will be screened for MEC to confirm its absence prior to disposal. If unexploded grenade casings are found, they would be detonated on-site by UXO technicians. Inert debris from the 40-mm grenades will be placed in 55-gallon drums and sent to appropriate facility to be demilitarized. Previously detonated grenade debris would also be placed in 55-gallon drums. The 55-gallon drums would be disposed of at an appropriate treatment, storage, and disposal facility.

Confirmation samples would be collected from the resulting excavation surface of the lead- and PAH-impacted areas to evaluate whether cleanup goals have been achieved. A combination of manual test pits and a geophysical survey would be conducted on the resulting excavation surface of the grenade impact area to confirm the absence of MD. The resulting excavation surface of the grenade impact area would be reseeded with a native seed mix.

Following excavation and characterization, the soil excavated from the lead- and PAH-impacted areas would be transported to and disposed of at an appropriate hazardous waste landfill.

The performance objective of mechanical excavation and screening of soil is to remove the contaminated soil and MEC hazards present at the site to the maximum extent practicable.

4.2.4.1 Implementability

The rating for Alternative 4 for implementability is very good.

Technical Feasibility

This alternative is technically and administratively feasible because excavation and disposal are considered conventional and commonplace technologies.

Administrative Feasibility

Procedures are in place through the FFA to make Alternative 3 relatively easy to administratively implement.

Availability of Services and Materials

Vendors that specialize in excavation and transportation of contaminated soil are readily available and several permitted treatment and disposal facilities exist in California. However, implementing this alternative requires protective measures for the California tiger salamander and the California red legged frog.

4.2.4.2 Effectiveness

Overall Protection of Public Health and the Environment

Alternative 4 would protect human health because surface soil that may pose an unacceptable risk to humans under a future residential use scenario and the environment would be removed and disposed off site. This alternative includes both the removal of contaminated soil and MD. Effectiveness of the contaminated soil removal will be ensured through the collection of confirmation samples. The complete removal of MEC and MD will be ensured through a combination of manual test pits and geophysical surveys. This alternative would permanently reduce risk at IR Site 24A and meet the RAOs.

Compliance with ARARs

The action-specific ARARs for Alternative 4 are summarized below and detailed in Appendix C. The Navy has identified the substantive provisions of the following requirements as potential federal ARARs for excavation and capping of contaminated soil and any waste, including investigation-derived waste, generated during implementation of the removal alternative for soil:

- 40 C.F.R. § 264.554 (d)(1)(i-ii) and (d)(2), (e), (f), (h), (i), (j), and (k) – which allows the temporary staging of RCRA hazardous waste in piles.
- RCRA waste pile requirements at Cal. Code Regs. tit. 22, § 66264.251 (except 251[j],251[e][11]), and § 66264.252(c) and (e) and (f).
- RCRA waste pile closure requirements Cal. Code Regs. tit. 22, § 66264.258(a) and (b), except references to procedural requirements.

- Clean Water Act storm water requirements at 40 C.F.R. 122.44(k)(2) and (4) – which sets forth requirements to use best management practices to prevent construction pollutants from contacting stormwater.

Alternative 4 would meet all identified chemical-, location-, and action-specific ARARs.

Short-term Effectiveness

Alternative 4 would be marginally effective in the short term. The three factors considered under the short-term effectiveness criteria are assessed below.

- The community would be protected during excavation and transportation by implementing containment controls, such as dust suppression during excavation and covers over the trucks transporting soil and excavation backfill. A traffic control plan would be prepared to address additional traffic during removal of the contaminated soil. The traffic control plan and temporary traffic controls would be implemented as necessary to prevent accidents, minimize congestion, and protect local residents.

- Workers would be protected during soil excavation by implementing containment controls, such as dust suppression during excavation, stockpiling, and loading; and following health and safety protocols, including personal protective equipment and decontamination procedures.

- Construction efforts for soil excavation would affect the majority of IR Site 24A. Best management practices for construction would minimize the effects on the local environment. Effects to the natural resources on site are expected to be temporary, and vegetation is expected to recover. The short-term effects (estimated at 4 months) are considered to be nearly immediate after construction begins, and risk from exposure would be eliminated as soon as work is completed.

The rating for Alternative 4 for short-term effectiveness is marginal.

Long-term Effectiveness

Contaminated surface soil that may pose an unacceptable risk to humans under the potential future residential use scenario or the environment would be removed and disposed off-site. Lateral and vertical excavation of surface soil (up to 2 feet bgs) would continue until results of the confirmation samples indicate the RAOs are met. These excavations would effectively and permanently remove COC concentrations that may pose an unacceptable risk to human health or the environment; therefore, being highly effective in the long term. No maintenance or monitoring for chemical contaminants would be needed to ensure continued protectiveness. However, institutional controls would be needed to inform the public of the previous use of

munitions at the site. The rating for Alternative 4 for long-term effectiveness and permanence is excellent.

Reduction of Toxicity, Mobility, or Volume through Treatment

Alternative 4 does not include treatment of contaminated surface soil. Therefore, this alternative would not result in the destruction of COCs or reduce the overall toxicity, mobility, or volume of contamination through treatment and would not meet the statutory preference for treatment options. The rating for Alternative 4 for the reduction of toxicity, mobility, and volume through treatment is poor.

4.2.4.3 Cost

The estimated total present value cost for Alternative 4 is $1,550,035 (Table 5-3) and is detailed in Appendix D. The detailed cost analysis for Alternative 4 includes an estimate of capital, O&M, and periodic costs. Capital costs include those associated planning documents, MEC screening, excavation, and off-site disposal. The rating for Alternative 4 for cost is very good.

4.2.4.4 Summary of Evaluation of Alternative 4

The overall rating for Alternative 4 is very good, rating excellent in short-term effectiveness and implementability, very good for cost, excellent for long-term effectiveness and permanence, and poor for reduction of toxicity, mobility, or volume.

4.2.5 Alternative 5, Soil Excavation with Stabilization, Off-Site Disposal, MEC Screening, and Recycling of Metal

Alternative 5 would include the same excavations as Alternative 4 and would also include separating the lead shot from excavated soil in an effort to recapture costs by recycling the lead. The soil excavated from the lead- and PAH-impacted area would be mechanically separated further utilizing an armored triple-tray vibrating screening unit to remove any lead and bullet fragments. It is estimated that screening would result in the recovery of approximately 54 tons of lead and bullet fragments.

The lead and bullet fragments would be transported to Kinsbursky Brothers Integrated Recycling Solutions for recycling. Kinsbursky Brothers is located approximately 400 miles from the project site in Anaheim, California.

In addition, soil remaining following screening for lead shot would be stabilized using a biogenic apatite soil amendment, Apatite II™. This amendment is a composition of clean and dried fishbone and fish hard parts produced by the fish industry as byproducts (Conca and Wright, 2001). Following treatment, leachability of lead would be greatly decreased to the point that the amended soil would be acceptable for disposal as nonhazardous waste. Samples of the amended soil would undergo Toxicity Characteristic Leaching Procedure analysis to confirm treatment has been successful prior to disposal.

4.2.5.1 Implementability

The rating for Alternative 5 for implementability is very good.

Technical Feasibility

This alternative is technically and administratively feasible because excavation and disposal are considered conventional and commonplace technologies.

Administrative Feasibility

Procedures are in place through the FFA to make Alternative 5 relatively easy to administratively implement.

Availability of Services and Materials

Vendors that specialize in excavation and transportation of contaminated soil are readily available and several permitted treatment and disposal facilities exist in California. However, implementing this alternative requires protective measures for the California tiger salamander and the California red legged frog.

4.2.5.2 Effectiveness

Overall Protection of Public Health and the Environment

Alternative 5 would protect human health because surface soil that may pose an unacceptable risk to humans under a future residential use scenario and the environment would be removed and disposed off site. This alternative includes both the removal and treatment of contaminated soil and MD. Effectiveness of the contaminated soil removal will be ensured through the collection of confirmation samples. The complete removal of MEC and MD will be ensured through a combination of manual test pits and geophysical surveys. This alternative would

permanently reduce risk at IR Site 24A, reduce toxicity of lead in soil excavated from the site, and meet the RAOs.

Compliance with ARARs

The action-specific ARARs for Alternative 5 are identical to those presented for Alternative 4. Alternative 5 would meet all identified chemical-, location-, and action-specific ARARs.

Short-term Effectiveness

The short-term effectiveness of Alternative 5 is identical to Alternative 4. The rating for Alternative 5 for short-term effectiveness is marginal.

Long-term Effectiveness

The long-term effectiveness of Alternative 5 is identical to Alternative 4. The rating for Alternative 5 for long-term effectiveness and permanence is excellent.

Reduction of Toxicity, Mobility, or Volume through Treatment

Alternative 5 includes treatment of contaminated surface soil via stabilization. Because this alternative results in the stabilization of lead, it reduces the overall toxicity and mobility of contamination through treatment and meets the statutory preference for treatment options. In addition, recycling lead shot will reduce the volume of contaminants. The rating for Alternative 5 for the reduction of toxicity, mobility, and volume through treatment is excellent.

4.2.5.3 Cost

The estimated total present value cost for Alternative 5 is $1,518,219 (Table 5-3) and is detailed in Appendix D. The detailed cost analysis for Alternative 5 includes an estimate of capital, O&M, and periodic costs. Capital costs include those associated planning documents, MEC screening, excavation and segregation of lead pellets, treatment, and off-site disposal. The rating for Alternative 5 for cost is very good.

4.2.5.4 Summary of Evaluation of Alternative 5

The overall rating for Alternative 5 is very good. The rating is excellent for short-term effectiveness, implementability, long-term effectiveness, permanence, and reduction of toxicity, mobility, or volume. The rating is very good for cost.

5.0 COMPARISON AND ANALYSIS OF ALTERNATIVES

This section presents the comparative analysis of the evaluation criteria for the alternatives based on effectiveness, implementability, and cost. Five alternatives were identified and evaluated based on the evaluation criteria below. The evaluation criteria for each alternative are discussed in detail in the following sections.

5.1 COMPARATIVE ANALYSIS OF ALTERNATIVES

The comparative analysis evaluates the relative performance of each alternative to the other alternatives to identify advantages and disadvantages of each alternative relative to the others. The five alternatives to be evaluated are:

- Alternative 1: No Action
- Alternative 2: Land Use Controls
- Alternative 3: Placement of Soil Cap over the Former Pistol Range, MEC Screening, and LUCs
- Alternative 4: Soil Excavation within the Former Pistol Range with Off-Site Disposal and MEC Screening
- Alternative 5: Soil Excavation within the Former Pistol Range with Stabilization, Off-Site Disposal, MEC Screening, and Recycling of Metal

The alternative comparison was based on the evaluation criteria of effectiveness, implementability, and cost. A scoring system was used to categorize the alternatives and identify the best alternative that maximizes protection of the public and the environment. The description of the scoring methodology is provided prior to each of the evaluation criteria analyses. Section 4.2 provides detailed evaluations of each alternative with respect to each criterion.

5.1.1 Effectiveness Evaluation

Four evaluation criteria (Protection of Public Safety and the Environment, Compliance with ARARs, Long-term Effectiveness, and Short-term Effectiveness) were considered in the scoring of the effectiveness category. Each criterion was assigned a score of 1 (excellent), 2 (very good), 3 (marginal), or 4 (poor); the lowest total score for the sum of the four evaluation criteria reflects the most desirable alternative. The results are shown in Table 5-1.

TABLE 5-1: SCORING OF ALTERNATIVES FOR THE EFFECTIVENESS CRITERION
Engineering Evaluation and Cost Analysis, IR Site 24A, Former NAVWPNSTA Concord

Effectiveness	Alternative 1	Alternative 2	Alternative 3	Alternative 4	Alternative 5
Protection of Public Safety and the Environment	4	4	3	1	1
Compliance with ARARs	4	1	1	1	1
Long-term Effectiveness	4	4	3	1	1
Short-term Effectiveness	4	1	3	2	2
Reduction of Toxicity, Mobility and Volume through Treatment	4	4	4	4	1
Total	20	14	14	9	6
Rank	5	3	3	2	1

Notes:
Scoring: 1=excellent, 2= very good, 3=marginal, 4=poor

5.1.1.1 Protection of Public Safety and the Environment

Alternatives 4 and 5 were scored a "1" because they are expected to provide the maximum protection and reduction of risk to human health and the environment by reducing chemical concentrations and the MEC and MD hazards through surface and subsurface detection, intrusive investigation, and mechanical excavation and screening operations. This results in the least residual risk.

Alternative 3 was scored a "3" because it removes the MEC and MD hazards but does not remove the contaminated soil from the site.

Alternatives 1 and 2 were scored a "4" because they do not remove any of the subsurface hazards to human health and the environment.

5.1.1.2 Compliance with ARARs

All of the alternatives with exception of Alternative 1 would comply with ARARs, therefore Alternatives 2 through 5 were scored a "1."

Alternative 1 was scored a “4” because it does not remove any of the subsurface hazards to human health and the environment nor provide a physical barrier.

5.1.1.3 Long-term Effectiveness

Alternatives 4 and 5 were scored a “1” because they are expected to provide better long-term effectiveness then the other alternatives by reducing both the surface and subsurface chemical contamination as well as MEC and MD hazards through mechanical excavation and screening operations resulting in the least residual risk.

Alternative 3 was scored a “3” because, although it is expected to substantially reduce the hazards but does not remove the contaminated soil from the site.

Alternatives 1 and 2 were scored a “4” because they do not remove any of the subsurface hazards to human health and the environment.

5.1.1.4 Short-term Effectiveness

Alternative 2 was scored a “1” because it is the quickest in length of time to implement and, because it provides a physical barrier from the hazards, affords some protection from the hazards.

Alternatives 4 and 5 were scored a “2” because their implementation was less rapid than Alternative 2 as both require surface clearance operations and construction activities.

Alternative 3 was scored a “3” because its implementation was slower than Alternatives 4 and 5. This alternative requires a large amount of resources (especially if imported fill material is required) compared to the other alternatives.

Alternative 1 was scored a “4” because it does not remove any of the subsurface hazards to human health and the environment nor provide a physical barrier.

5.1.1.5 Reduction of Toxicity, Mobility, and Volume through Treatment

Alternative 5 is rated as excellent because toxicity and mobility of contaminants will be reduced through soil treatment and the volume of contaminants will be reduced by recycling.

Alternatives 1 through 4 are rated as poor since they will not reduce toxicity, mobility, or volume of contaminants.

5.1.2 Implementability

Six evaluation criteria (Technical Feasibility, Administrative Feasibility, Availability of Services and Materials, Local Agency Acceptance, Community Acceptance, and Regulatory and Governmental Acceptances) were considered in the scoring of the implementability category. Each criterion was assigned a score of 1 (excellent), 2 (very good), 3 (marginal), or 4 (poor); the lowest total score reflects the most desirable alternative. The results are shown in Table 5-2.

TABLE 5-2: SCORING OF ALTERNATIVES FOR THE IMPLEMENTABILITY CRITERION
Engineering Evaluation and Cost Analysis, IR Site 24A, Former NAVWPNSTA Concord

Implementability	Alternative 1	Alternative 2	Alternative 3	Alternative 4	Alternative 5
Technical Feasibility	1	1	2	3	3
Administrative Feasibility	1	1	4	2	2
Availability of Services and Materials	1	1	4	2	2
Local Agency Acceptance	4	4	3	1	1
Community Acceptance	4	4	3	1	1
Regulatory and Governmental Acceptances	4	4	3	2	1
Total	15	15	19	11	10
Rank	3	3	5	2	1

Notes:
Scoring: 1 = excellent, 2 = very good, 3 = marginal, 4 = poor

5.1.2.1 Technical Feasibility

Alternatives 1 and 2 were scored a “1” because no action and establishment of LUCs are the easiest technically of the alternatives to implement.

Alternative 3 was scored a “2” because the placement of a soil cap is more complicated than LUCs, but easier to implement technically than Alternatives 4 and 5.

Alternatives 4 and 5 were scored a “3” because they are more technically difficult than LUCs and soil capping activities because of the controls and procedures required for the removal and disposal of MEC and MD.

5.1.2.2 Administrative Feasibility

Alternatives 1 and 2 were scored a "1" because no action and the establishment of LUCs are the easiest of the alternatives to administratively implement.

Alternatives 4 and 5 were scored a "2" because protocols for the removal and disposal of MEC and MD are more complicated than LUCs to administratively implement, but easier than Alternative 3.

Alternative 3 was scored a "4" because it is the most administratively complex alternative.

5.1.2.3 Availability of Services and Materials

Alternatives 1 and 2 were scored a "1" because no action and the establishment of LUCs require the least amount of services and materials as compared to other alternatives. In addition, Alternative 1 was "not considered" as it does not remove any of the subsurface hazards to human health and the environment nor provide a physical barrier; therefore, this alternative is not considered as an acceptable response action.

Alternatives 4 and 5 were scored a "2" because they require more resources than LUCs, but not as many resources as Alternative 3.

Alternative 3 was scored a "4" because of the significant amount of resources required, to import such a large quantity of soil to the site.

5.1.2.4 Local Agency and Community Acceptances

Alternative 5 was scored "1" for both local agency and community acceptance because it is expected to be accepted by the local agencies and the community because this alternative includes removing the hazards, recycling, and reducing contaminant toxicity resulting in the least residual risk.

Alternative 4 was scored "1" for both local agency and community acceptance because it is expected to be accepted by the local agencies and the community because the alternative removes the contaminant and explosive hazards from the site. However, the excavated material from the site will have to be disposed as hazardous waste which is likely less acceptable to the local agencies and the community.

Alternative 3 was scored a “3” for both local agency and community acceptance because it is less likely to be accepted by the local agencies and the community. Although it will reduce the hazards to human health it does not remove hazards to the environment or potential explosive hazards from the site.

Alternatives 1 and 2 were scored a “4” for both local agency and community acceptance because they are not expected to be accepted by the local agencies and the community because these alternatives do not remove any of the hazards to human health and the environment.

5.1.2.5 Regulatory and Government Acceptances

Alternative 5 was scored “1” for regulatory and government acceptance because it is expected to be accepted by the local regulatory and government agencies because this alternative includes removing the hazards, recycling, and reducing contaminant toxicity resulting in the least residual risk.

Alternative 4 was scored “2” for regulatory and government acceptance because it is expected to be accepted by regulatory and government agencies and the community because the alternative removes the contaminant and explosive hazards from the site. However, the excavated material from the site will require disposal as hazardous waste which is likely less acceptable to the local agencies and the community.

Alternative 3 was scored a “3” for regulatory and government acceptance because it is less likely to be accepted by the regulatory and government agencies. Although it will reduce the hazards to human health it does not remove hazards to the environment or potential explosive hazards from the site.

Alternatives 1 and 2 were scored a “4” for both regulatory and government acceptance because they are not expected to be accepted by the regulatory and government agencies because these alternatives do not remove any of the hazards to human health and the environment.

5.1.2.6 Cost

The cost of each alternative includes the sum of capital and O&M costs, including monitoring. Present value costs provide a common basis for comparison. The costs estimates for all the alternatives are provided in Appendix D. Estimates are intended to provide an accuracy range of

-30 to +50 percent of actual cost. The final project cost will depend on actual material and labor cost, productivity, competitive market conditions, final project scope and schedule, and other variable factors. The estimates provided in this evaluation are for relative comparison purposes only.

TABLE 5-3: SCORING OF ALTERNATIVES FOR TOTAL COST (PRESENT VALUE)
Engineering Evaluation and Cost Analysis, IR Site 24A, Former NAVWPNSTA Concord

Total Cost	Alternative 1	Alternative 2	Alternative 3	Alternative 4	Alternative 5
Rank	1	2	5	4	3
Estimated Cost	$0	$109,830	$1,803,539	$1,550,035	$1,518,219

5.2 SUMMARY

This study conducted a comparative analysis of alternatives by the evaluation criteria of effectiveness, implementability, and costs. The rank for each of the five alternatives includes the effectiveness criterion (from Table 5-1), implementability criterion (from Table 5-2), and costs (from Table 5-3). The total score of the evaluation criteria is summed with the lowest score reflecting the most desirable alternative. The rank order of each alternative (highest to lowest) is depicted on Table 5-4 and the alternative with the lowest number in the rank row is the most desirable.

TABLE 5-4: SUMMARY SCORING OF ALTERNATIVES
Engineering Evaluation and Cost Analysis, IR Site 24A, Former NAVWPNSTA Concord

Criterion	Alternative 1	Alternative 2	Alternative 3	Alternative 4	Alternative 5
Effectiveness	5	3	3	2	1
Implementability	3	3	5	2	1
Cost	1	2	5	4	3
Total	9	9	13	8	5
Rank	**3**	**3**	**5**	**2**	**1**

Notes: Ranking – 1 = highest ranking alternative, 5 = lowest ranking alternative

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6.0 RECOMMENDED REMOVAL ACTION ALTERNATIVE

This EE/CA was performed in accordance with current USEPA guidance documents (USEPA 1993) for NTCRAs under CERCLA. The purpose of this EE/CA is to identify and to analyze various actions required to address chemical contamination, MEC, and MD at IR Site 24A.

Based on the comparative analyses of the alternatives in terms of effectiveness, implementability, and cost (presented in Section 5.1), the Navy's recommended alternative for the planned NTCRA is Alternative 5 – Soil Excavation within the Former Pistol Range with Stabilization, Off-Site Disposal, MEC Screening, and Recycling of Metal.

In Alternative 5, the site would be cleared of existing structures. Soil from the lead- and PAH-impacted areas would be mechanically excavated from the site and placed in an armored triple-tray vibrating screening unit to sort out MD and lead bullet fragments. Remaining lead-contaminated soil would be treated to stabilize the lead, therefore eliminating the requirement of disposal at a hazardous waste landfill. The lead bullet fragments would be sent to an appropriate facility for recycling. Confirmation samples would be collected from the resulting excavation surface to evaluate whether cleanup goals have been achieved. The resulting excavation surface would be re-seeded with a native seed mix. By removing soil with concentrations exceeding cleanup goals and confirming the removal was effective, the first two RAOs are met.

Approximately 1 foot of soil would be mechanically excavated from the grenade impact area and screened for MEC or MD. If unexploded grenade casings are found, they would be detonated on-site by UXO technicians and placed in 55-gallon drums. Inert grenade debris would also be placed in 55-gallon drums and sent to a recycling facility to be demilitarized. The 55-gallon drums would be disposed of at an appropriate treatment, storage, and disposal facility. A combination of manual test pits and geophysical surveys would be conducted on the resulting excavation surface of the grenade impact area to confirm the absence of MEC and MD. Other areas within the range of M407 series practice grenades will be cleared by walking transects with metal detectors.

For this EE/CA, it is estimated that the grenade impact area will be excavated to approximately 1 foot because it is not likely that the 40-mm grenades would have penetrated deeper since they are not a direct-fire weapon. However, the actual depth of excavation will be developed during the LUC removal design planning process. Although 40-mm grenades were reportedly launched only into the grenade impact area, all soil excavated during the NTCRA will be screened for MEC to confirm its absence prior to disposal. Screening all soil excavated for MEC will allow this removal alternative to achieve the RAO of removing potential explosive hazards from IR Site 24A and meet the third RAO.

This alternative protects human health and the environment, complies with ARARs, provides the best balance of long- and short-term effectiveness, is readily implemented, and is expected to be acceptable to the community and local agencies. This alternative best meets the RAOs and the NCP criteria because it:

- Is technically feasible based on commonly used construction techniques and demonstrated proven approaches
- Imposes minimal restrictions on future use of the site
- Uses widely available conventional construction equipment, services, and skilled workers
- Provides a high degree of long-term protection of the public and the environment
- Complies with ARARs
- Provides adequate short-term effectiveness during implementation
- Imposes minimal restrictions on future use of the site
- Removes soil with chemical concentrations exceeding cleanup goals
- Does not create any hazardous waste
- Makes use of site contaminants through recycling
- Removes potential explosive hazards from site

7.0 REFERENCES

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FIGURES

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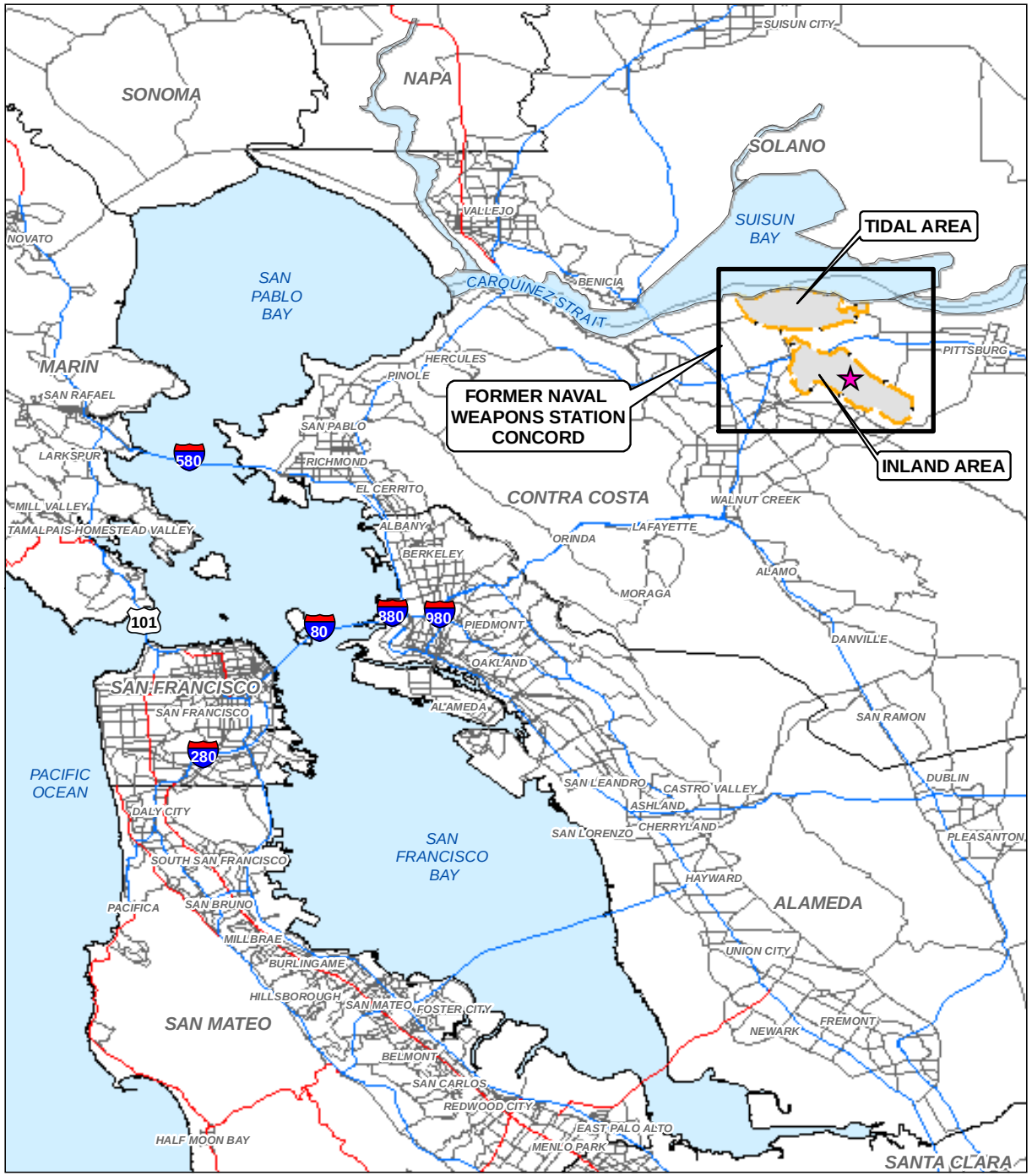

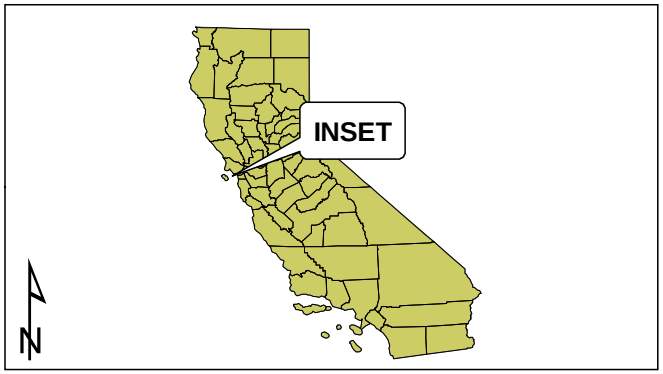

LEGEND

IR SITE 24A

FORMER NAVAL WEAPONS STATION CONCORD SITE BOUNDARY

NOTE:
IR - INSTALLATION RESTORTION

SOURCE: ENVIRONMENTAL SYSTEMS RESEARCH INSTITUTE (ESRI) USA SPATIAL FEATURE CLASSES

N

APPROXIMATE GRAPHIC SCALE

0 4 8 16

(IN MILES)
1 INCH = 8 MILES

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NAVFAC SOUTHWEST

ENGINEERING EVALUATION AND COST ANALYSIS OF IR SITE 24A
FORMER NAVAL WEAPONS STATION SEAL BEACH DETACHMENT CONCORD
CONCORD, CALIFORNIA

FIGURE 1-1

INSTALLATION LOCATION MAP

TREVET

DATE: MAY 2011

CONTRACT NO.: N62473-10-C-4406

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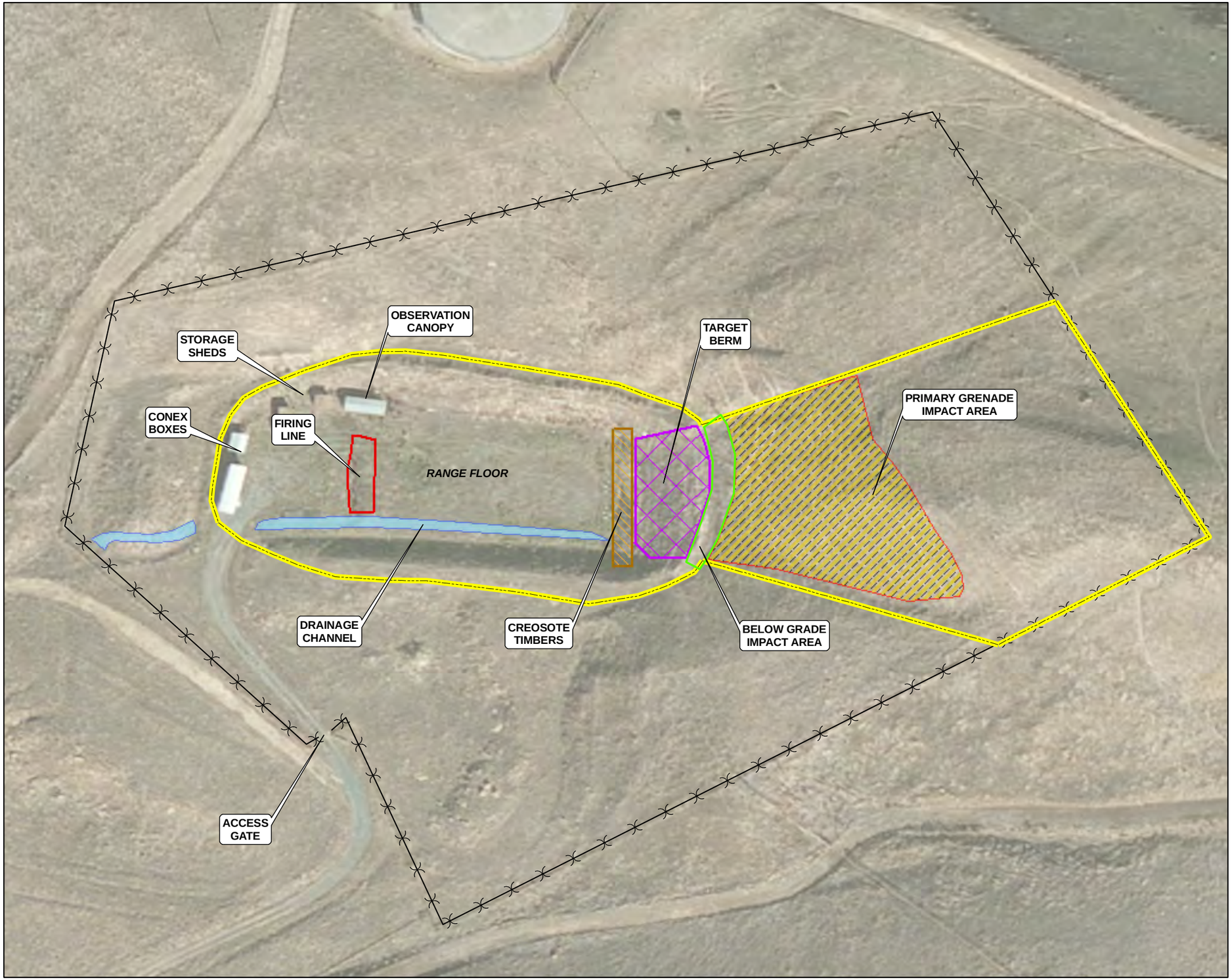

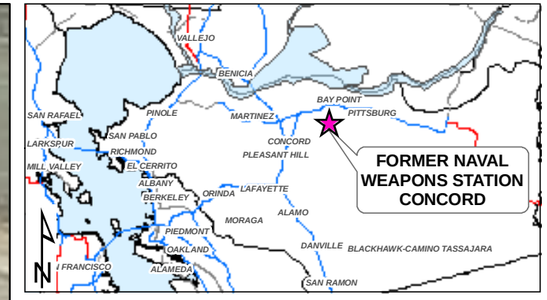

LEGEND

- PERIMETER FENCE
- MUNITIONS RESPONSE SITE (MRS) BOUNDARY
- DRAINAGE CHANNEL
- FIRING LINE
- TARGET BERM
- BELOW GRADE IMPACT AREA
- PRIMARY GRENADE IMPACT AREA

NOTE:
IR - INSTALLATION RESTORTION

SOURCE:
BING MAPS AERIAL IMAGE, DATE UNKNOWN.
ENVIRONMENTAL SYSTEMS RESEARCH INSTITUTE
(ESRI) USA SPATIAL FEATURE CLASSES

GRAPHIC SCALE

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(IN FEET)
1 INCH = 80 FEET

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FIGURE 1-2

SITE VICINITY MAP

TREVET

DATE: MAY 2011

CONTRACT NO.: N62473-10-C-4406

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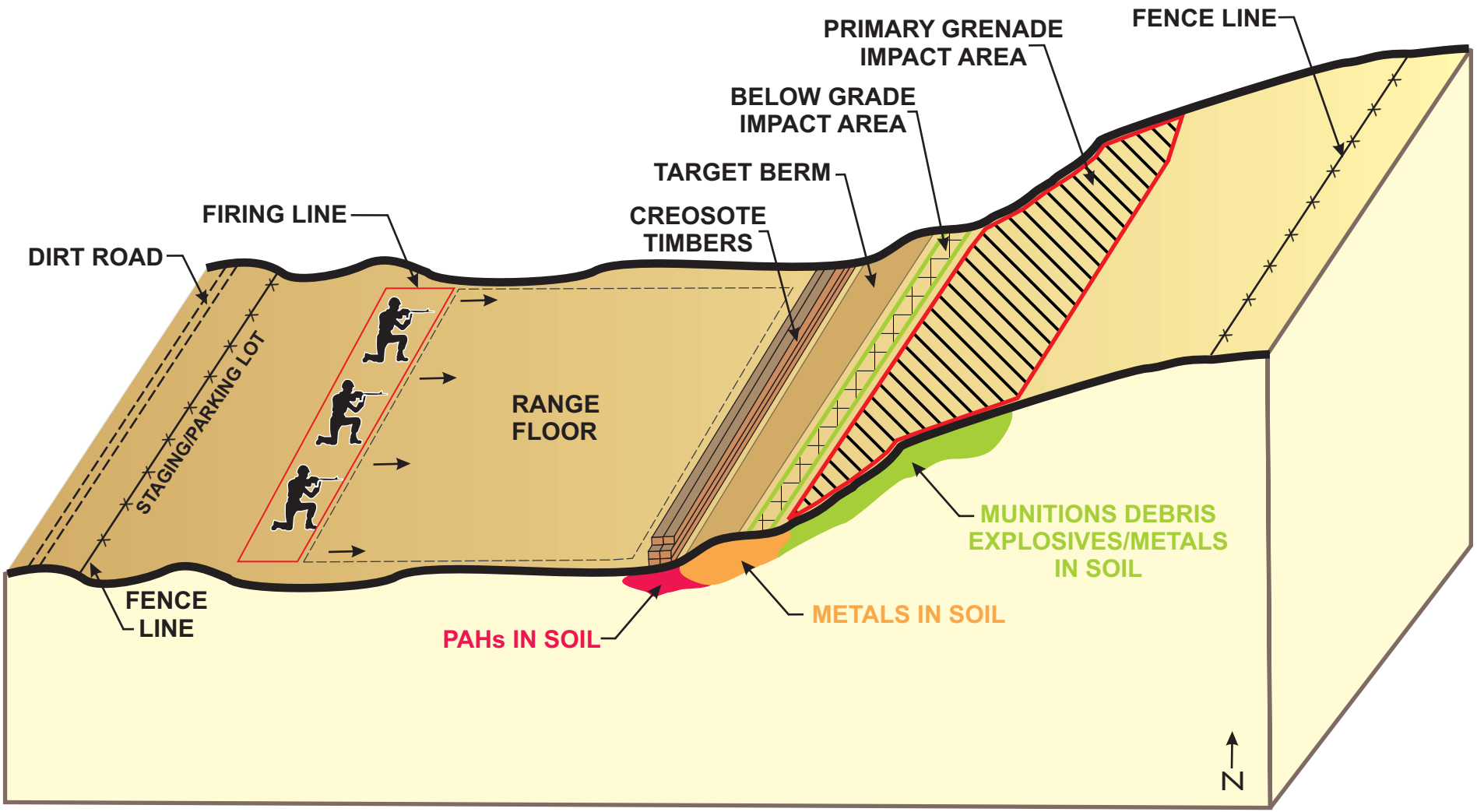

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ENGINEERING EVALUATION AND COST ANALYSIS OF IR SITE 24A
FORMER NAVAL WEAPONS STATION SEAL BEACH DETACHMENT CONCORD
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FIGURE 1-3

CONCEPTUAL SITE MODEL

DATE: MAY 2011

CONTRACT NO.: N62473-10-C-4406

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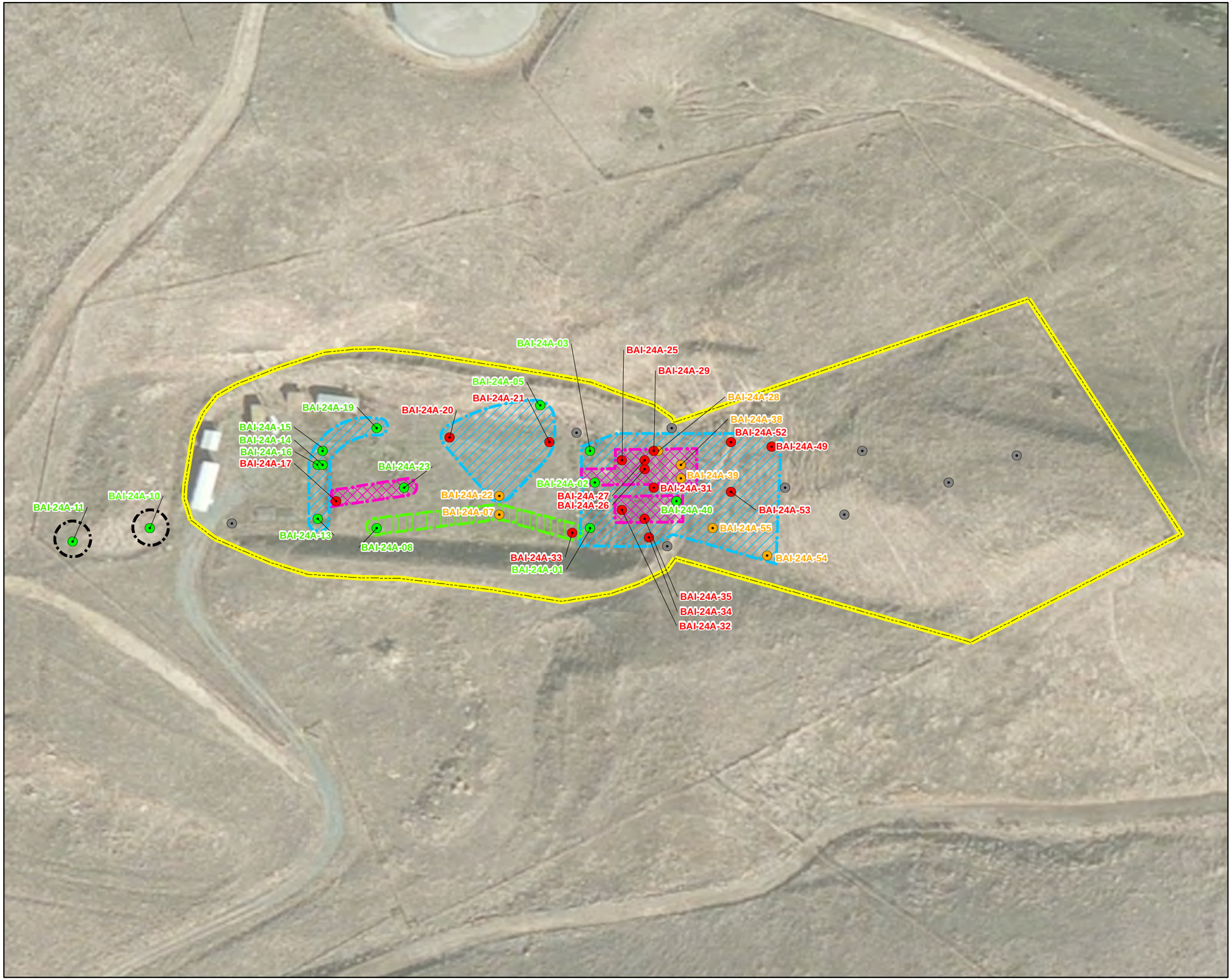

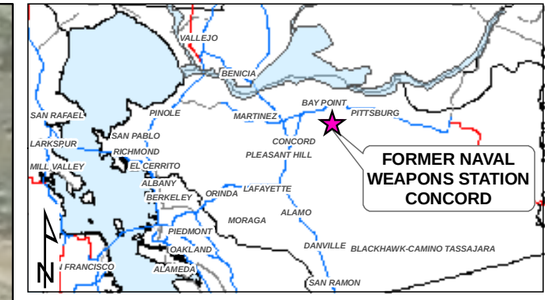

LEGEND

- SOIL SAMPLE LOCATION WITH NO COC EXCEEDANCE
- LEAD PELLETS PRESENT
- NON-LEAD COC SOIL SAMPLE LOCATION
- LEAD IS A DRIVER AT SOIL SAMPLE LOCATION (NO LEAD PELLETS PRESENT)

EXCAVATION DESCRIPTION

RECOMMENDED EXCAVATION BOUNDARY LINES ARE APPROXIMATE AND ARE DRAWN AROUND LOCATION-SPECIFIC EXCEEDANCES OF RISK-BASED CLEANUP GOALS

- NON-LEAD COC, BUT CLEANUP NOT NEEDED
- 0.5' REMOVAL
- 2.0' REMOVAL
- 2.0' REMOVAL - DRAINAGE CHANNEL
- MUNITIONS RESPONSE SITE (MRS) BOUNDARY

NOTES:
COC - CHEMICAL OF CONCERN
IR - INSTALLATION RESTORATION
LOCATION BAI-24A-28 ONLY HAD CONTAMINATION TO DEPTH OF 0.5' BUT BECAUSE OF PROXIMITY TO BAI-24A-29, IT IS INCLUDED IN 2.0' EXCAVATION.
EXCAVATION FOR LOCATION BAI-24A-32 IS TARGETED DUE TO THE PRESENCE OF PELLETS IN TEST PIT 4 WHICH IS LOCATED IN THE VICINITY.

SOURCE:
BING MAPS AERIAL IMAGE, DATE UNKNOWN.
ENVIRONMENTAL SYSTEMS RESEARCH INSTITUTE (ESRI) USA SPATIAL FEATURE CLASSES

GRAPHIC SCALE
0 40 80 160
(IN FEET)
1 INCH = 80 FEET

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FORMER NAVAL WEAPONS STATION SEAL BEACH DETACHMENT CONCORD
CONCORD, CALIFORNIA

FIGURE 2-1

RECOMMENDED REMOVAL AREAS TO MEET CLEANUP GOALS FOR RESIDENTIAL AND ECOLOGICAL RECEPTORS

TREVET

DATE: MAY 2011

CONTRACT NO.: N62473-10-C-4406

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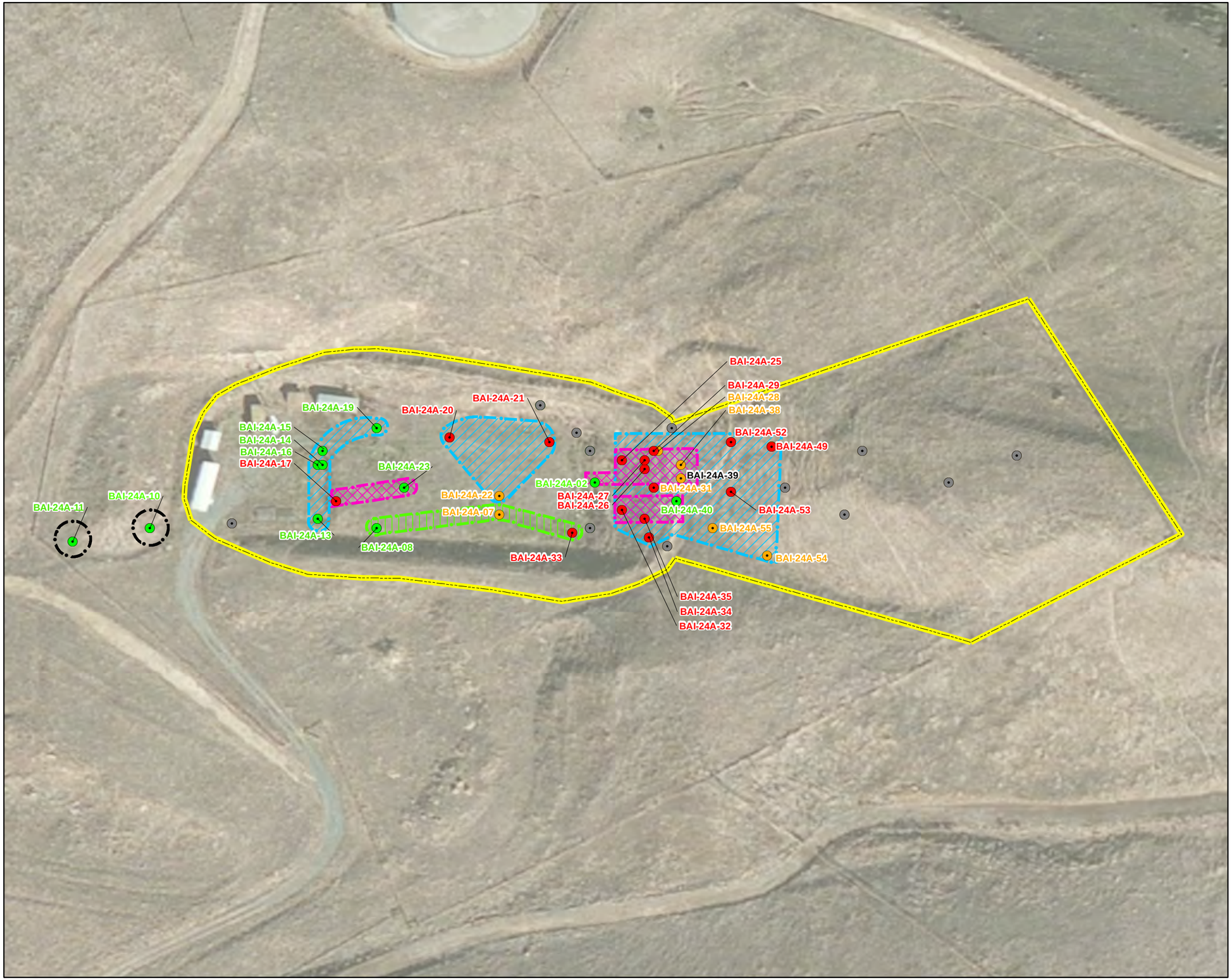

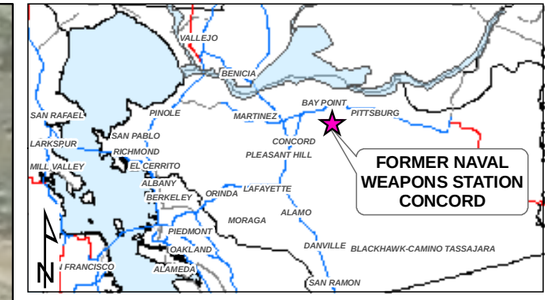

LEGEND

- SOIL SAMPLE LOCATION WITH NO COC EXCEEDANCE
- LEAD PELLETS PRESENT
- NON-LEAD COC SOIL SAMPLE LOCATION
- LEAD IS A DRIVER AT SOIL SAMPLE LOCATION (NO LEAD PELLETS PRESENT)

EXCAVATION DESCRIPTION

RECOMMENDED EXCAVATION BOUNDARY LINES ARE APPROXIMATE AND ARE DRAWN AROUND LOCATION-SPECIFIC EXCEEDANCES OF RISK-BASED CLEANUP GOALS

- NON-LEAD COC, BUT CLEANUP NOT NEEDED
- 0.5' REMOVAL
- 2.0' REMOVAL
- 2.0' REMOVAL - DRAINAGE CHANNEL
- MUNITIONS RESPONSE SITE (MRS) BOUNDARY

NOTES:
COC - CHEMICAL OF CONCERN
IR - INSTALLATION RESTORATION
LOCATION BAI-24A-28 ONLY HAD CONTAMINATION TO DEPTH OF 0.5' BUT BECAUSE OF PROXIMITY TO BAI-24A-29, IT IS INCLUDED IN 2.0' EXCAVATION.
EXCAVATION FOR LOCATION BAI-24A-32 IS TARGETED DUE TO THE PRESENCE OF PELLETS IN TEST PIT 4 WHICH IS LOCATED IN THE VICINITY.

SOURCE:
BING MAPS AERIAL IMAGE, DATE UNKNOWN.
ENVIRONMENTAL SYSTEMS RESEARCH INSTITUTE (ESRI) USA SPATIAL FEATURE CLASSES

GRAPHIC SCALE
0 40 80 160
(IN FEET)
1 INCH = 80 FEET

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ENGINEERING EVALUATION AND COST ANALYSIS OF IR SITE 24A
FORMER NAVAL WEAPONS STATION SEAL BEACH DETACHMENT CONCORD
CONCORD, CALIFORNIA

FIGURE 2-2

RECOMMENDED REMOVAL AREAS TO MEET CLEANUP GOALS FOR RECREATIONAL AND ECOLOGICAL RECEPTORS

TREVET

DATE: MAY 2011

CONTRACT NO.: N62473-10-C-4406

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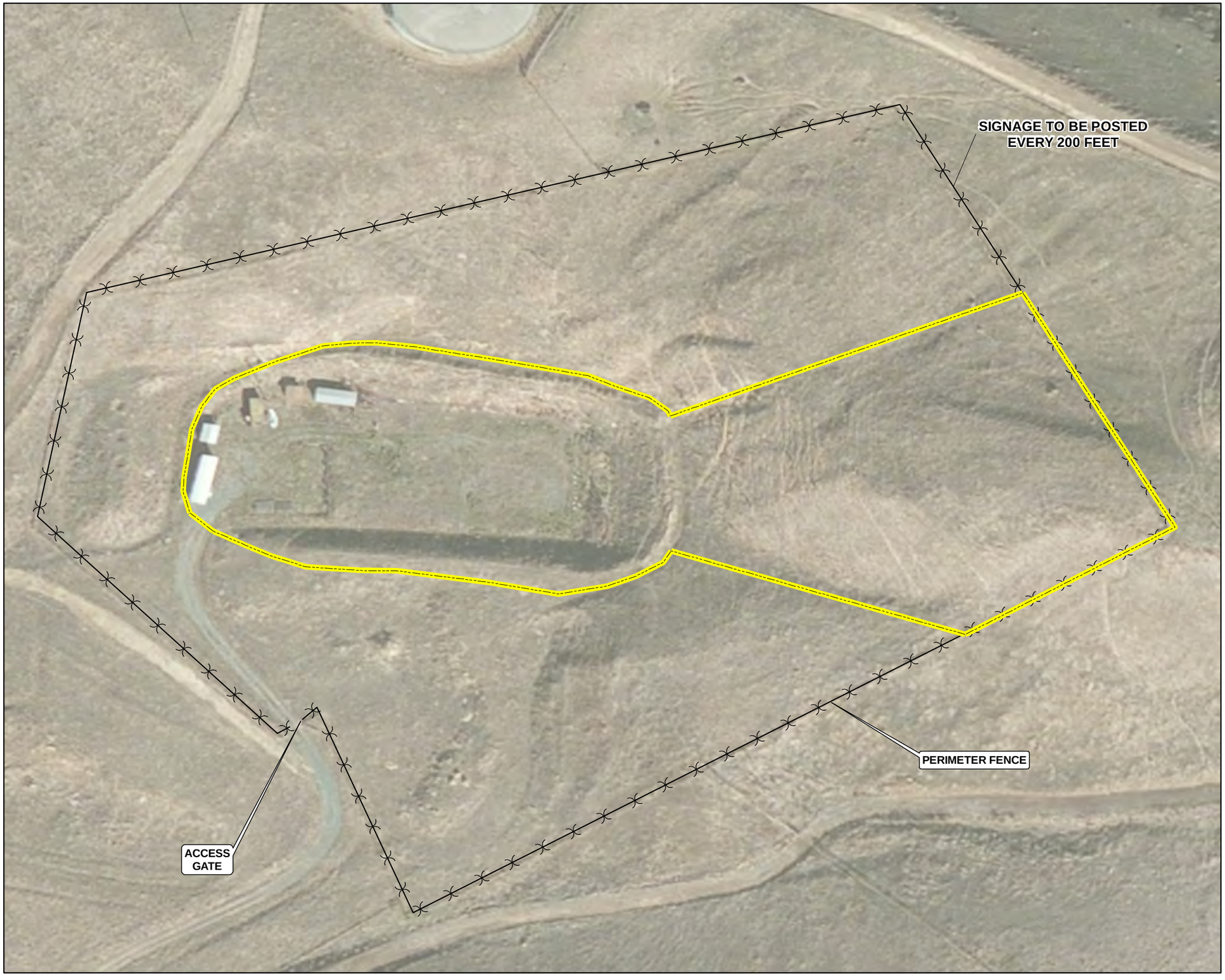

LEGEND

PERIMETER FENCE

MUNITIONS RESPONSE SITE (MRS) BOUNDARY

NOTE:
IR - INSTALLATION RESTORATION

SOURCE:
BING MAPS AERIAL IMAGE, DATE UNKNOWN.
ENVIRONMENTAL SYSTEMS RESEARCH INSTITUTE
(ESRI) USA SPATIAL FEATURE CLASSES

GRAPHIC SCALE

0 40 80 160
(IN FEET)
1 INCH = 80 FEET

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ENGINEERING EVALUATION AND COST ANALYSIS OF IR SITE 24A
FORMER NAVAL WEAPONS STATION SEAL BEACH DETACHMENT CONCORD
CONCORD, CALIFORNIA

FIGURE 4-1

ALTERNATIVE 2
LAND USE CONTROLS

TREVET

DATE: MAY 2011

CONTRACT NO.: N62473-10-C-4406

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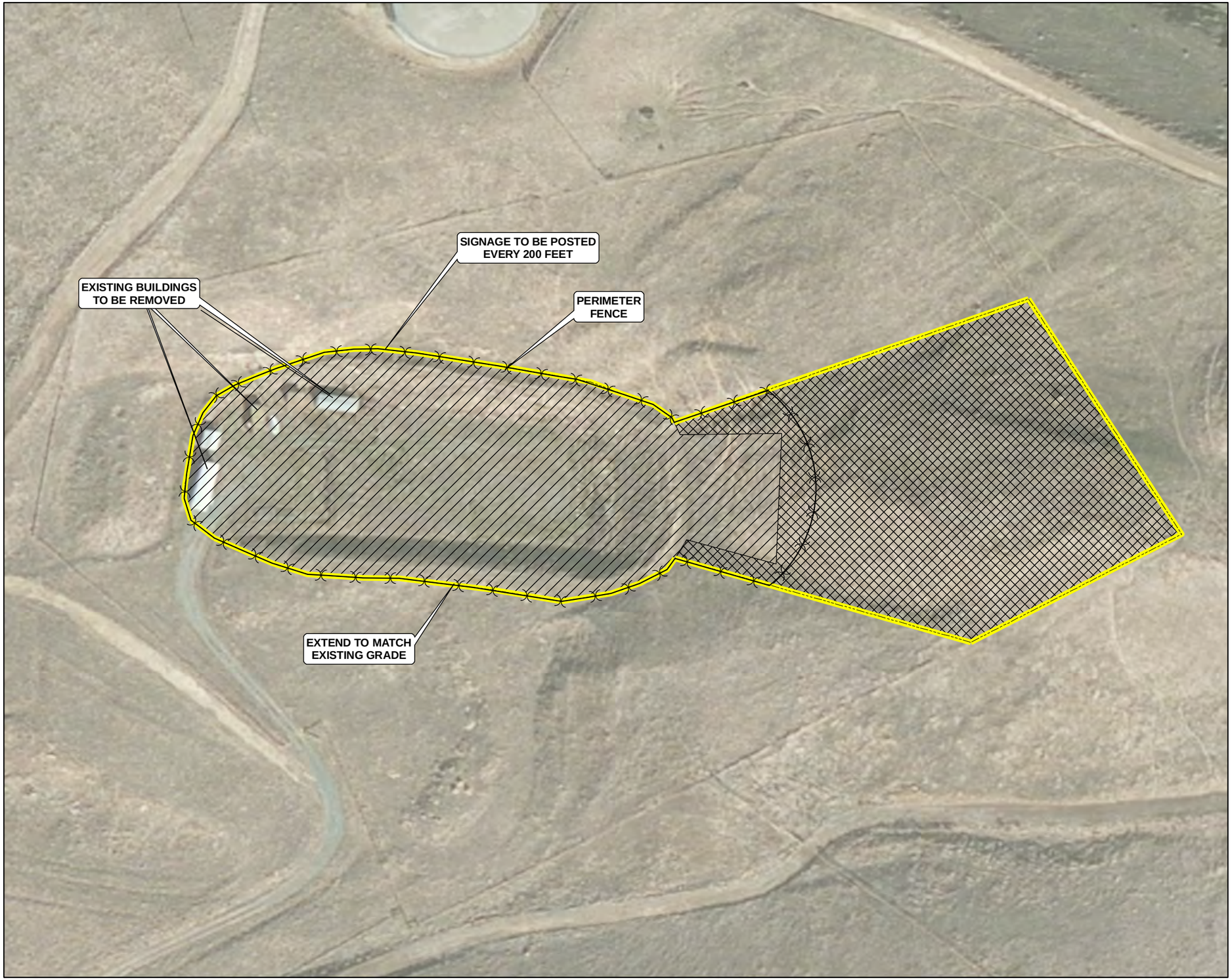

LEGEND

- MUNITIONS RESPONSE SITE (MRS) BOUNDARY
- PERIMETER FENCE
- APPROXIMATE EXTENT OF SOIL CAP
- 1.0' REMOVAL FOR MEC SCREENING IN GRENADE IMPACT AND OVERSHOT AREA

NOTES:
IR - INSTALLATION RESTORATION
MEC - MUNITIONS AND EXPLOSIVES OF CONCERN

SOURCE:
BING MAPS AERIAL IMAGE, DATE UNKNOWN.
ENVIRONMENTAL SYSTEMS RESEARCH INSTITUTE (ESRI) USA SPATIAL FEATURE CLASSES

GRAPHIC SCALE
0 40 80 160
(IN FEET)
1 INCH = 80 FEET

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ENGINEERING EVALUATION AND COST ANALYSIS OF IR SITE 24A
FORMER NAVAL WEAPONS STATION SEAL BEACH DETACHMENT CONCORD
CONCORD, CALIFORNIA

FIGURE 4-2

ALTERNATIVE 3
PLACEMENT OF SOIL CAP, MEC SCREENING, AND LAND USE CONTROLS

TREVET

DATE: MAY 2011

CONTRACT NO.: N62473-10-C-4406

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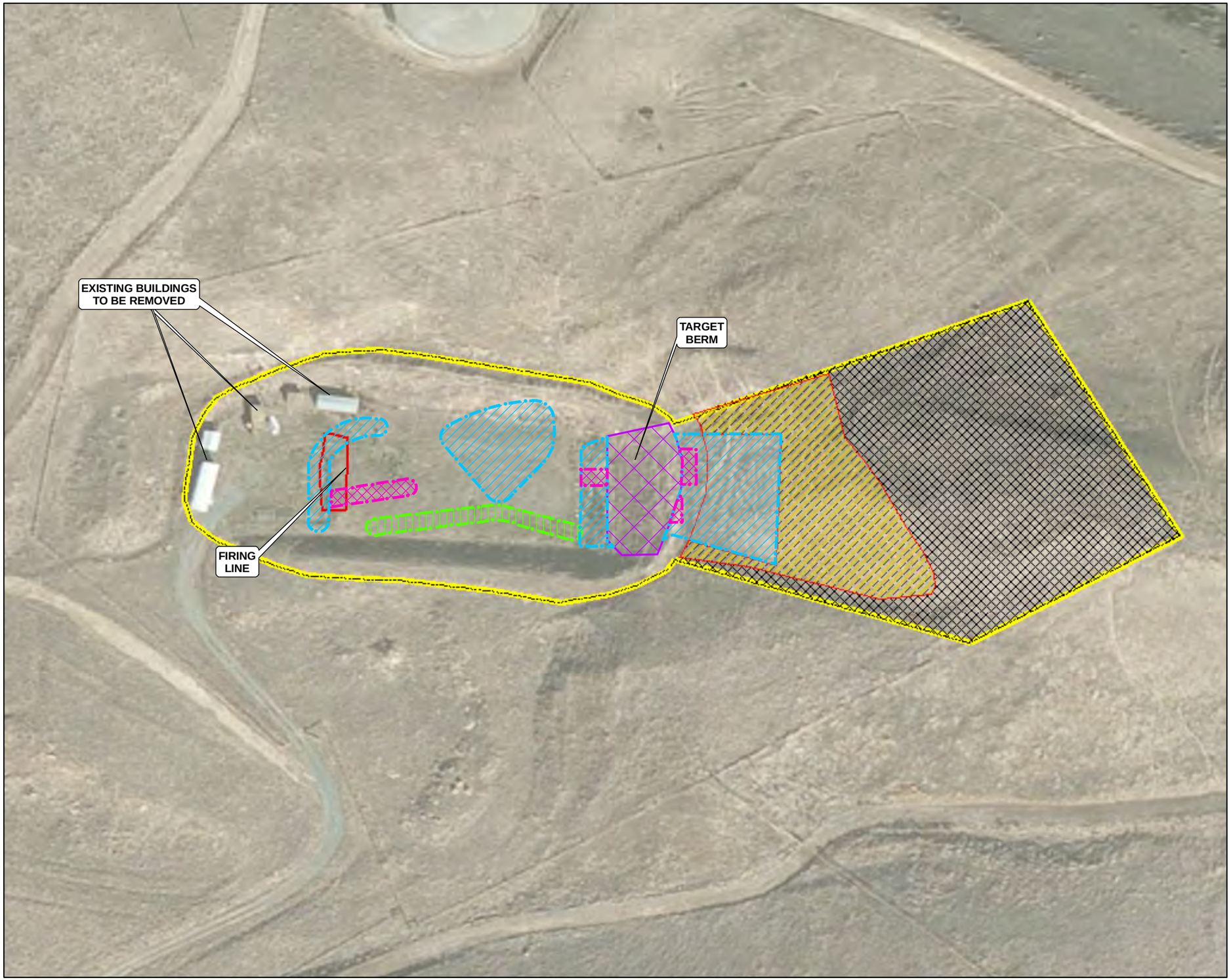

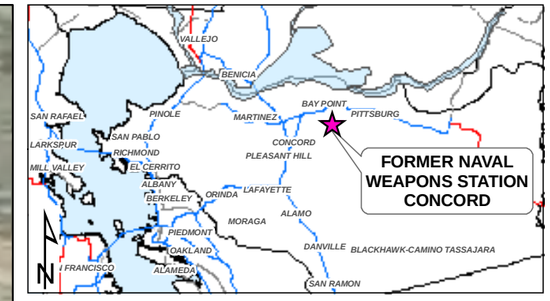

LEGEND

- MUNITIONS RESPONSE SITE (MRS) BOUNDARY
- FIRING LINE
- PRIMARY GRENADE IMPACT AREA 1.0' REMOVAL FOR MEC SCREENING
- OVERSHOT AREA TO BE CLEARED BY WALKING TRANSECTS WITH METAL DETECTORS. ADDITIONAL AREAS BEYOND THE SITE BOUNDARY (TO APPROXIMATELY 250 METERS FROM FIRING LINE) WILL ALSO BE CLEARED, AS NECESSARY, BY WALKING TRANSECTS.

EXCAVATION DESCRIPTION

RECOMMENDED EXCAVATION BOUNDARY LINES ARE APPROXIMATE AND ARE DRAWN AROUND LOCATION-SPECIFIC EXCEEDANCES OF RISK-BASED CLEANUP GOALS

- TARGET BERM*
- 0.5' REMOVAL
- 2.0' REMOVAL
- 2.0' REMOVAL - DRAINAGE CHANNEL AREA

NOTES:
* "THE GOAL OF EXCAVATION ON THE TARGET BERM WILL BE TO REMOVE ALL LOOSE MATERIAL. THE DEPTH WAS ESTIMATED TO BE 1.1 FEET AT THE TOP AND 2.3 FEET AT THE BOTTOM DURING THE SITE INVESTIGATION."
IR - INSTALLATION RESTORATION
MEC - MUNITIONS AND EXPLOSIVES OF CONCERN

SOURCE:
BING MAPS AERIAL IMAGE, DATE UNKNOWN.
ENVIRONMENTAL SYSTEMS RESEARCH INSTITUTE (ESRI) USA SPATIAL FEATURE CLASSES

GRAPHIC SCALE
0 40 80 160
(IN FEET)
1 INCH = 80 FEET

DEPARTMENT OF THE NAVY
NAVFAC SOUTHWEST
SAN DIEGO, CALIFORNIA

ENGINEERING EVALUATION AND COST ANALYSIS OF IR SITE 24A
FORMER NAVAL WEAPONS STATION SEAL BEACH DETACHMENT CONCORD
CONCORD, CALIFORNIA

FIGURE 4-3

ALTERNATIVE 4
SOIL EXCAVATION WITH OFF-SITE DISPOSAL AND MEC SCREENING

TREVET

DATE: MAY 2011

CONTRACT NO.: N62473-10-C-4406

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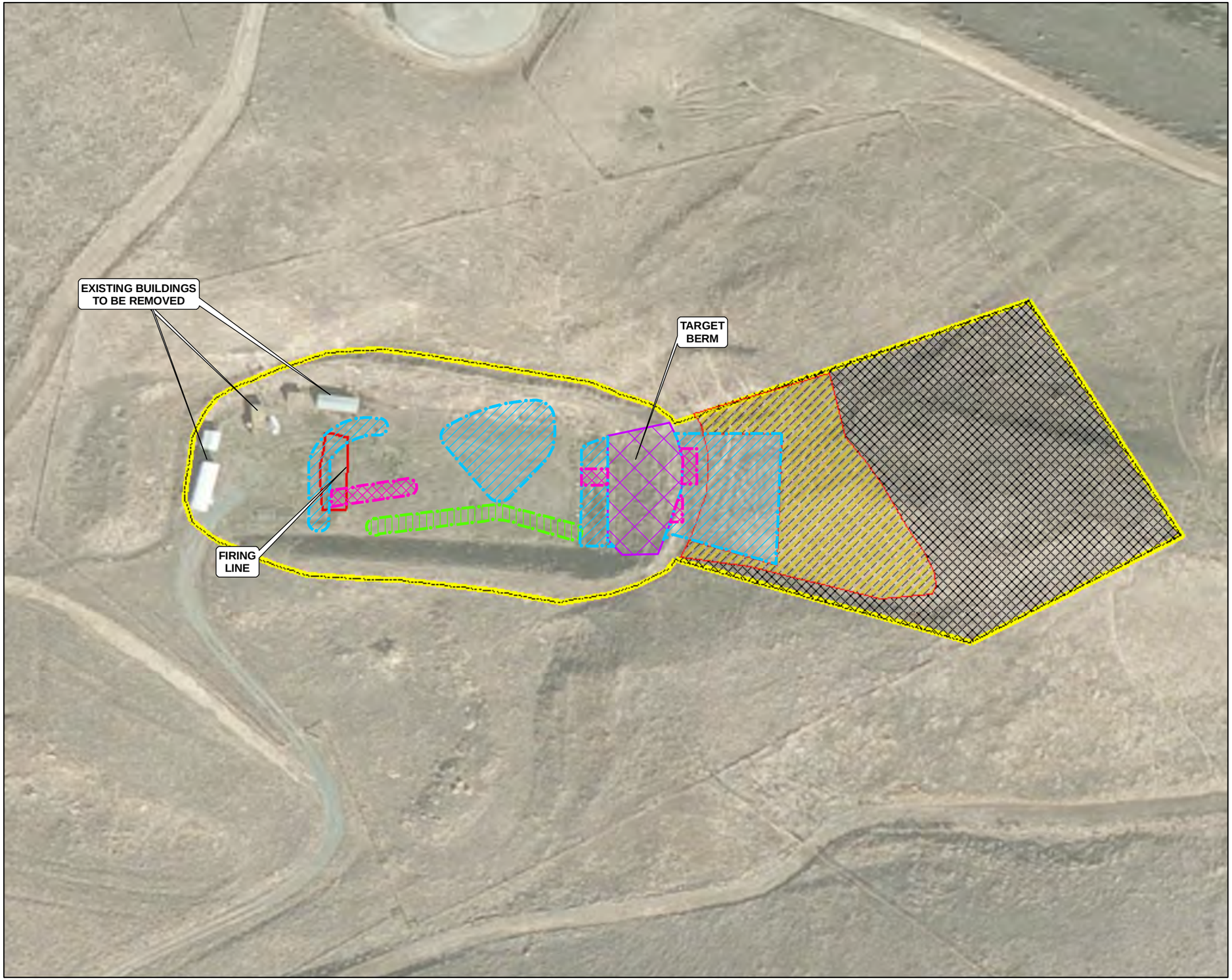

LEGEND

- MUNITIONS RESPONSE SITE (MRS) BOUNDARY
- FIRING LINE
- PRIMARY GRENADE IMPACT AREA 1.0' REMOVAL FOR MEC SCREENING
- OVERSHOT AREA TO BE CLEARED BY WALKING TRANSECTS WITH METAL DETECTORS. ADDITIONAL AREAS BEYOND THE SITE BOUNDARY (TO APPROXIMATELY 250 METERS FROM FIRING LINE) WILL ALSO BE CLEARED, AS NECESSARY, BY WALKING TRANSECTS.

EXCAVATION DESCRIPTION

RECOMMENDED EXCAVATION BOUNDARY LINES ARE APPROXIMATE AND ARE DRAWN AROUND LOCATION-SPECIFIC EXCEEDANCES OF RISK-BASED CLEANUP GOALS

- TARGET BERM*
- 0.5' REMOVAL
- 2.0' REMOVAL
- 2.0' REMOVAL - DRAINAGE CHANNEL AREA

NOTES:
* "THE GOAL OF EXCAVATION ON THE TARGET BERM WILL BE TO REMOVE ALL LOOSE MATERIAL. THE DEPTH WAS ESTIMATED TO BE 1.1 FEET AT THE TOP AND 2.3 FEET AT THE BOTTOM DURING THE SITE INVESTIGATION."
IR - INSTALLATION RESTORATION
MEC - MUNITIONS AND EXPLOSIVES OF CONCERN

SOURCE:
BING MAPS AERIAL IMAGE, DATE UNKNOWN.
ENVIRONMENTAL SYSTEMS RESEARCH INSTITUTE (ESRI) USA SPATIAL FEATURE CLASSES

GRAPHIC SCALE
N
0 40 80 160
(IN FEET)
1 INCH = 80 FEET

DEPARTMENT OF THE NAVY
NAVFAC SOUTHWEST
SAN DIEGO, CALIFORNIA
NAVFAC Naval Facilities Engineering Command

ENGINEERING EVALUATION AND COST ANALYSIS OF IR SITE 24A
FORMER NAVAL WEAPONS STATION SEAL BEACH DETACHMENT CONCORD
CONCORD, CALIFORNIA

FIGURE 4-4

ALTERNATIVE 5
SOIL EXCAVATION WITHIN THE FORMER PISTOL RANGE WITH STABILIZATION, OFF-SITE DISPOSAL, MEC SCREENING, AND RECYCLING OF METAL

TREVET

DATE: MAY 2011

CONTRACT NO.: N62473-10-C-4406

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APPENDIX A
Human Health Risk Assessment

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EXECUTIVE SUMMARY

A human health risk assessment (HHRA) was performed using existing data for chemicals in soil at Installation Restoration (IR) Site 24A at the Former Naval Weapons Station Seal Beach Detachment Concord (NAVWPNSTA Concord), in Concord, California in support of a non-time-critical-removal assessment (as addressed in the main body of this Engineering Evaluation/Cost Assessment [EE/CA] report). A "dual tracking" approach was followed to address the different regulatory requirements of the United States Environmental Protection Agency (USEPA) (Method 1) and the California Environmental Protection Agency's Department of Toxic Substances Control (DTSC) (Method 2). Although both regulatory agencies use the same basic four steps for the HHRA process (i.e., data evaluation, exposure assessment, toxicity assessment, and risk characterization), minor variations are needed to meet the different agency protocols. The primary methodological differences in this HHRA between USEPA Method 1 and DTSC Method 2 involve differences in the values for some exposure factors, sources of toxicity criteria, and whether those toxicity criteria are extrapolated to different routes of exposure.

In the Final Environmental Impact Report for the Concord Community Reuse Project (CCRP) that was approved by the City of Concord in February 2010, the "Clustered Villages" alternative was selected as the preferred reuse and redevelopment plan for the former NAVWPNSTA Concord. In this selected plan, IR Site 24A falls within the area designated as Open Space, located to the east of Mt. Diablo Creek (Figure 2-1 in CCRP 2010). According to the Environmental Impact Report, "Open Space uses include more passive recreation (hiking/biking) on overall unimproved terrain and land for habitat protection and restoration," (CCRP 2010).

The HHRA considered two receptors for IR Site 24A: future residents (unrestricted use) and future recreational users (under the assumption that land use at the site will be converted to recreational open space) for both regulatory approaches. Both reasonable maximum exposure (RME) and central tendency exposure (CTE) scenarios are presented. The chemicals included in the HHRA are inorganic constituents, explosives and related compounds, and polycyclic aromatic hydrocarbons (PAHs). The exposure medium is soil and the exposure pathways are incidental ingestion, dermal contact, and dust and vapor inhalation.

The cumulative, multi-media excess cancer risk (ECR) and noncancer hazard index (HI) for each of the receptors under the different redevelopment and exposure scenarios are summarized below. USEPA guidance (USEPA 1989) generally recommends that ECR be reported to one significant digit, but they are reported here to two significant digits to reduce apparent discrepancies when comparing values between various tables of results.

		USEPA (Method 1)		DTSC (Method 2)	
		ECR	**HI**	**ECR**	**HI**
Future Resident (Unrestricted Use) Exposed to Soil (0 to 2 feet bgs)	RME	3.8×10^{-5}	4.6	4.5×10^{-5}	5.2
	CTE	8.6×10^{-6}	0.83	9.2×10^{-6}	0.91
Future Recreational User Exposed to Soil (0 to 2 feet bgs)	RME	1.6×10^{-5}	1.6	1.8×10^{-5}	1.6
	CTE	5.3×10^{-7}	0.057	5.6×10^{-7}	0.057
Future Recreational User Exposed to Soil (0 to 6 inches bgs)	RME	--	--	2.9×10^{-5}	4.1

Notes:

--	not evaluated
bgs	below ground surface
CTE	central tendency exposure
DTSC	California Department of Toxic Substances Control
ECR	excess cancer risk
HI	hazard index
RME	reasonable maximum exposure
USEPA	United States Environmental Protection Agency

The major findings of the HHRA for IR Site 24A are:

Overall Risk and Hazard Estimates

Most risk estimates fell within a risk management range of between 10^{-4} and 10^{-6}, while HIs exceed a threshold value of 1 in all RME scenarios but were below 1 for all CTE scenarios. Risk estimates for the recreational receptor in the CTE scenario were below 10^{-6} which, along with HI values less than 1, are generally considered de minimis (inconsequential).

Cancer Risk Estimates

Approximately 60 to 90 percent of the cancer risk estimates are due to predicted exposures to arsenic. However, arsenic concentrations at naturally occurring background concentrations

produce risk estimates in excess of 10^{-6} and only 3 of 80 arsenic concentrations were greater than the range of background concentrations for former NAVWPNSTA Concord. The primary additional contributors to the cancer risk estimates are PAHs associated with a limited area where creosote-treated timbers were used as a retaining wall.

Noncancer Hazard Estimates

RME HI values greater than 1 are due primarily to estimated exposures to antimony, which was the only inorganic constituent that had a chemical-specific HI greater than 1. The additional contributors to the HIs include the roster of detected inorganic constituents, but no other individual inorganic had a chemical-specific HI greater than 1.

USEPA Method 1 Versus DTSC Method 2:

Overall, the ECR and HI values when calculated by USEPA Method 1 or DTSC Method 2 are mathematically within 20 percent between methods, and the "risk driver" chemicals at IR Site 24A are similar among all receptors and exposure scenarios: the carcinogens arsenic, benzo[a]anthracene, benzo[b]pyrene, and benzo[k]fluoranthene, and the noncarcinogenic inorganic, antimony.

RME Scenario Versus CTE Scenario

The combination of exposure-factor values and exposure-point concentrations created approximately 2- to 5-fold differences in risk and hazard estimates between the CTE and RME exposure scenarios. Ultimately, all the exposure estimates are linearly correlated to each other because the exposure parameters variables themselves are similar throughout all the exposure equations, because the values of those parameter are all algebraically related (simple decimal numbers), and the exposure mathematics are all linear (i.e., no factorials, differential equations, or integrals).

RESIDENTIAL SCENARIO AND RECREATION SCENARIO

The future resident receptor represents an analysis that can be used to identify a site as suitable for unrestricted use, i.e., no land use controls to limit the kinds of activities that could occur on the site. However, site risk estimates under RME and CTE scenarios are greater than 1×10^{-6} and the HI is greater than 1 for the RME scenarios. Consequently, the site is not immediately suitable

for unrestricted use. Additional assessment (or remediation) is necessary to demonstrate that in-place contaminants do not pose a threat to human health if an unrestricted-use designation is sought.

The recreational user scenarios generally represent an intermittent use of the site as a limited area of open space within a much larger overall expanse of open space. The RME scenario is probably unlikely (assuming site-specific presence at 2 hours per day for 21 years), but results in risk and hazard estimates in excess of de minimis values. However, as indicated previously, the risk estimate is primarily due to arsenic which itself is present primarily at background concentrations. Exposure point concentrations in surficial soil (0 to 6 inches below ground surface [bgs]) are greater than exposure concentrations for the entire 0 to 2 feet bgs interval.

ARSENIC

Based on consideration of the entire relative range of background concentrations at the former NAVWPNSTA Concord, IR Site 24A samples with concentrations below 18 milligrams per kilogram (mg/kg) (comprising 76 of 79 samples with detected concentrations of arsenic) do not appear to represent concentrations elevated above background; 3 samples (BAI-24A-021-00, 120 mg/kg arsenic; BAI-24A-029-00, 73.25 mg/kg arsenic; and BAI-24A-025-00, 31 mg/kg arsenic) represent elevated concentrations of arsenic (i.e., outlier locations with elevated concentrations).

Risks related to arsenic with and without consideration of the outlier locations were also estimated. Analyses were conducted to further characterize the arsenic data and the potential implications for the HHRA, including calculation of supplemental risk estimates excluding the three outlier locations, and additionally excluding four samples that occur in areas proposed for excavation based on other chemicals of concern (COCs) or for ecological concerns. The residual exposure concentrations for arsenic at IR Site 24A (after excavation of outlier locations and other proposed removal locations) were then reevaluated and demonstrate that site-related cumulative risk estimates are highly influenced by background concentrations of arsenic. CTE (mean) or RME of 95 percent upper confidence limit on the mean (95UCL) concentrations for arsenic data sets that exclude the three outlier locations, and the additional four locations within proposed removal areas, are all lower than the site-specific background concentration for IR Site 24A. Thus, with the exception of three outlier locations, exposures to arsenic in soil at IR Site 24A are

estimated to be below naturally occurring background concentrations, and there is no site-related incremental increase in cancer risk due to arsenic.

LEAD

There are multiple locations where concentrations of lead exceeded the residential screening value (the California Human Health Screening Level [CHHSL] of 80 mg/kg or the USEPA commercial/industrial Regional Screening Level [RSL] of 800 mg/kg, which was used as a comparative value for screening the recreational user receptor. Use of the 800 mg/kg RSL as a screening value is consistent with agency recommendations for protection of adult exposures to lead (DTSC 2009a; USEPA 2010a) and is also protective for childhood exposures to lead as evaluated with a recreational user-specific CHHSL-type value (see Section A4.1.1 for details). In addition to the hazards from lead intermixed with soil, incidental ingestion of the lead pellets themselves in the surface soils by young children is a potential, albeit unlikely, hazard.

In summary, the potential threats to human health at IR Site 24A are associated primarily with arsenic (although predominantly present at background concentrations), lead, PAHs leached from a retaining wall, and antimony in soil.

IR Site 24A might require remedial action(s) to eliminate, reduce, or otherwise control the potential for the exposures that cause the exceedances of the risk or hazard thresholds. Such actions would be dependent on the chosen future use of the site, e.g., standards for unrestricted use are more rigorous than would be necessary for a lesser exposure scenario such as the recreational user. Evaluation of remedial options can include development of health-based cleanup standards to ensure protection of human health. Health-based cleanup goals are concentrations for individual COCs in specific environmental media (e.g., soil) that are protective of human health under specified conditions of land use and human activity. As detailed within this Appendix, health-based cleanup goals to achieve a target cumulative cancer risk of 1×10-6 or a target noncancer HI of 1 were developed for estimated exposures of residential and recreational receptors to COCs; cleanup goals for lead are expressed relative to

the residential CHHSL (80 mg/kg) and the USEPA RSL for commercial/industrial land use (800 mg/kg[1]). COCs identified for IR Site 24A include:

Receptor	Exposure Scenario	Cancer Risk Driver (USEPA Method 1 and DTSC Method 2)	Noncancer Driver (USEPA Method 1 and DTSC Method 2)
Future Resident Exposed to Soil (0 to 2 feet bgs)	RME	Arsenic Benzo[a]anthracene Benzo[a]pyrene Benzo[b]fluoranthene	Antimony Lead
	CTE	Arsenic	Lead
Future Recreational User Exposed to Soil (0 to 2 feet bgs)	RME	Arsenic Benzo[a]anthracene Benzo[a]pyrene	Antimony Lead
	CTE	None	Lead
Future Recreational User Exposed to Soil (0 to 6 inches bgs)	RME	Arsenic Benzo[a]pyrene	Antimony Lead

Notes:
bgs below ground surface
CTE central tendency exposure
DTSC California Department of Toxic Substances Control
RME reasonable maximum exposure
USEPA United States Environmental Protection Agency

Health-based cleanup goals based on DTSC Method 2 with RME exposure factors are summarized in the following table for the COCs (excluding arsenic); this exposure scenario uses the most health-protective assumptions and results in the most stringent cleanup goals.

[1] This value is based upon the US EPA industrial preliminary remediation goal (PRG) for adult exposure but is also protective of recreational child exposure, based on the recreational exposure assumptions for this site. Please refer to Section A4.1.1 for details regarding the application of this value to the recreational child scenario.

Chemical of Concern	Cleanup Goal Basis	Residential Scenario Health-Based Cleanup Goals (mg/kg) (10^{-6} Risk or HI=1) DTSC Method 2 RME Scenario	Recreational User Scenario Health-Based Cleanup Goals (mg/kg) (10^{-6} Risk or HI=1) DTSC Method 2 RME Scenario
Antimony	Noncancer hazard	24	75
Lead	Blood Lead Concentration	80	800 [a]
Benz[a]anthracene	Carcinogenic risk	0.37	0.92
Benzo[a]pyrene	Carcinogenic risk	0.037	0.092
Benzo[b]fluoranthene	Carcinogenic risk	0.37	0.92

Notes:
[a] Use of the 800 mg/kg based on the RSL rather than the CHHSL for commercial industrial workers of 320 mg/kg is consistent with DTSC's recommendation in HHRA Notes 3 and 4 (DTSC 2009a, 2009b). DTSC guidance indicates the use of the 2004 PRG (which is the same as the 2009 RSL) is appropriate for the evaluation of nonresidential exposures. Also see Section A4.1.1 regarding protection of recreational exposures.

CHHSL California Human Health Screening Level
DTSC Department of Toxic Substances Control
HHRA human health risk assessment
HI hazard index
mg/kg milligrams per kilogram
PRG preliminary remediation goal
RME reasonable maximum exposure
RSL regional screening level

As initial information for the development of remedial alternatives in this EE/CA, the locations were identified that exceed these health-based cleanup goals, based on DTSC Method 2 RME as the most health-protective approach. Areas encompassing these exceedance locations were delineated to provide a preliminary basis for the evaluation of remedial alternatives and costs within the EE/CA to be protective of human health. These approximate areas are based on an assumption that removal (excavation) is the preferred remedial action. If removal is selected as the preferred remedial alternative, confirmation samples would be collected to ensure that the selected cleanup goals are met.

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Attachment A11 – *Risk and Hazard Calculation Details; DTSC Recreational User Reasonable Maximum Exposure (RME) to Surface Soil (0 to 6 inches bgs)*

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95UCL	95 percent upper confidence limit on the mean
$\mu g/m^3$	micrograms per cubic meter
ATSDR	Agency for Toxic Substances and Disease Registry
B[a]P-eq	benzo[a]pyrene equivalents
bgs	below ground surface
Cal/EPA	California Environmental Protection Agency
CCRP	Concord Community Reuse Project
CHHSL	California Human Health Screening Level
cm^2	square centimeters
COC	chemical of concern
COPC	chemical of potential concern
CSF	cancer slope factor
CSM	conceptual site model
CTE	central tendency exposure
DTSC	Cal/EPA Department of Toxic Substances Control
ECR	excess cancer risk
EE/CA	engineering evaluation/cost assessment
EPC	exposure point concentration
HEAST	Health Effects Assessment Summary Tables
HHRA	human health risk assessment
HI	hazard index
HMW	high molecular weight
HQ	hazard quotient
IR	Installation Restoration
IRIS	Integrated Risk Information System
IUR	inhalation unit risk
kg	kilogram
LMW	low molecular weight
m^3/kg	cubic meters per kilogram
MDL	method detection limit
mg/cm^2-day	milligrams per square centimeter-day
mg/day	milligrams per day
mg/kg	milligrams per kilogram
MRL	method reporting limit
NAVWPNSTA	Naval Weapons Station
Navy	United States Department of the Navy
OEHHA	Cal/EPA Office of Environmental Health Hazard Assessment

PAH	polycyclic aromatic hydrocarbon
PEF	particulate emission factor
PPRTV	Provisional Peer-Reviewed Reference Toxicity Value
PRG	preliminary remediation goal
RAGS	Risk Assessment Guidance for Superfund
REL	reference exposurelevel
RfC	reference concentration
RfD	reference dose
RI	remedial investigation
RME	reasonable maximum exposure
RSL	regional screening level
SI	site inspection
USEPA	United States Environmental Protection Agency

A.1.0 INTRODUCTION

The former Naval Weapons Station (NAVWPNSTA) Seal Beach Detachment Concord (hereafter former NAVWPNSTA Concord) is in north-central Contra Costa County, approximately 30 miles northeast of San Francisco, California (Figure A-1). The facility was an ocean shipping terminal historically used to transfer ordnance from trucks or railcars to ships and from ships to land transportation vehicles. Former NAVWPNSTA Concord is bounded on the north by Suisun Bay, on the east by private land and the City of Pittsburg, and on the south and west by the City of Concord. The facility encompasses almost 13,000 acres in two holdings: the Inland Area and the Tidal Area. Installation Restoration (IR) Site 24A is in the central portion of the Inland Area (Figure A-1). This human health risk evaluation (HHRA) was prepared to address the human health risks associated with exposure to soil at this site, and is based on data collected for the Site Inspection (SI) Report (BAI. 2010). Based on predictions of unacceptable health risks in this Appendix, this report will conclude with the identification of health-based cleanup goals for consideration in the Engineering Evaluation/Cost Assessment (EE/CA; i.e., the main body of the report) to ensure protection of human health.

A-1.1 SITE DESCRIPTION AND HISTORY

IR Site 24A is a former pistol range covering approximately 1.5 acres in the center of the Inland Area, and an approximately 2-acre upslope area that was the grenade impact area, within an overall area of approximately 7 acres (Figure A-2). Currently inactive, the range was used from the early 1950s until 2005. Site features include the grass-covered hillside used as the impact area for grenade launchers, a target berm, and a flat central area for the firing line and some associated structures (an office trailer, storage sheds, conex shipping containers, and an observation area). The target berm and grenade impact area range have munition and target debris, and areas of lead pellets.

The site has been graded to include a drainage channel on the south of the range floor area, which then extends westward through a culvert under the site's access road and leads westward into ungraded land off-site. The nearest apparent surface-water feature is the Clayton Canal, approximately 500 feet west and downhill of IR Site 24A. The Clayton Canal and its right of way is owned by the U.S. Bureau of Reclamation, but is managed by the Contra Costa County

Water District (CCRP 2010). The canal's use as a conveyance was discontinued more than 20 years ago, and there are no plans to put it back in service (CCRP 2010). The seasonal drainages that flow out of the hills in the eastern part of the former NAVWPNSTA Concord convey flow ephemerally or intermittently (CCRP 2010), as would the drainage channel on IR Site 24A, but it is unknown whether site-specific runoff has reached the Clayton Canal.

The depth to groundwater under IR Site 24A is unknown, but typically first occurs at approximately 25 to 50 feet below ground surface (bgs) (BAI 2010). Groundwater under the former NAVWPNSTA Concord may be suitable as a drinking water source (BAI 2010), but there are no current uses of groundwater at IR Site 24A.

A-1.2 LAND USE

Former NAVWPNSTA Concord was previously used as a military base, and its land use has generally been classified as military industrial. IR Site 24A and its structures are currently unoccupied. No military operations are being conducted at IR Site 24A.

Currently, operations at former NAVWPNSTA Concord are associated primarily with routine ammunition transshipment and storage. The current active tenant at the facility, the U.S. Army, confines these activities for the most part to the Tidal Area. Since 1999, the Inland Area has been mostly inactive, with no immediate plans to resume active operations. Although the Army controls daily site activities in the Tidal Area, the Department of the Navy (Navy) retains responsibility for environmental restoration at the facility (Navy 2005).

Former operations in the Inland Area included receiving munitions for inspection and classification and holding them before their transportation and offload.. Five magazine groups for ammunition storage were used within the Inland Area. The Inland Area also housed several production support facilities for weapons and vehicle maintenance facilities. The northwest corner of the Inland Area included an administrative complex, the public works department, and personnel housing for support of the munitions operations. Mt. Diablo Golf course is a 162-acre public golf course (80 acres of which are owned by the City of Concord) that is south of Kinne Boulevard and north of State Route 4. The Weapons Quality Engineering Center was between State Route 4 and Willow Pass Road, and an abandoned airfield south of State Route 4 was used

to train forklift operators. Approximately 1,000 acres of pastureland are present in the Inland Area, including all of IR Site 24A; this land is currently leased for cattle grazing (Navy 2005).

In the Final Environmental Impact Report for the Concord Community Reuse Project (CCRP) that was approved by the City of Concord in February 2010, the "Clustered Villages" alternative was selected as the preferred reuse and redevelopment plan for the former NAVWPNSTA Concord. In this selected plan, IR Site 24A falls within the area designated as Open Space, located to the east of Mt. Diablo Creek (Figure 2-1 in CCRP 2010). According to the Environmental Impact Report, "Open Space uses include more passive recreation (hiking/biking) on overall unimproved terrain and land for habitat protection and restoration" (CCRP 2010).

This HHRA addresses potential human health exposure to site-related chemicals under future land use conditions: residential (unrestricted) use, or if the site were to become part of an open space parkland, a hypothetical recreational use.

A-1.3 REGULATORY FRAMEWORK

The primary guidance document used to develop this HHRA is the United States Environmental Protection Agency (USEPA) Risk Assessment Guidance for Superfund (RAGS) (USEPA 1989) along with subsequent supplements. Guidance documents considered in preparation of this HHRA include, but are not limited to:

- Risk Assessment Guidance for Superfund, Volume I: Human Health Evaluation Manual, Part A (USEPA 1989)
- Role of the Baseline Risk Assessment in Superfund Remedy Selection Decisions (USEPA 1991b)
- Calculating Upper Confidence Limits for Exposure Point Concentrations at Hazardous Waste Sites (USEPA 2002a)
- Human Health Toxicity Values in Superfund Risk Assessments (USEPA 2003a)
- Risk Assessment Guidance for Superfund, Volume I: Human Health Evaluation Manual (Part E, Supplemental Guidance for Dermal Risk Assessment) (USEPA 2004a)

- California Environmental Protection Agency (Cal/EPA) Department of Toxic Substances Control (DTSC) Human Health Risk Assessment (HHRA) Note 1: Recommended DTSC Default Exposure Factors for Use in Risk Assessment at California Military Facilities (DTSC 2005a)

- Human Health Risk Assessment Guidance (Navy 2008)

- Risk Assessment Guidance for Superfund, Volume I: Human Health Evaluation Manual (Part F, Supplemental Guidance for Inhalation Risk Assessment) (USEPA 2009a)

- Exposure Factors Handbook Update. (USEPA 2009b)

- DTSC HHRA Note 3: DTSC Recommended Methodology for Use of U.S. EPA Regional Screening Levels (RSLs) in HHRA Risk Assessment Process at Department of Defense Sites and Facilities (DTSC 2009a)

- DTSC HHRA Note 4: Screening Level Human Health Risk Assessments (DTSC 2009b)

- California Office of Environmental Health Hazard Assessment (OEHHA) California Human Health Screening Levels (CHHSLs) (OEHHA 2009a, 2009b)

- ProUCL Version 4.00.04. User Guide and Technical Guidance. (Singh and Singh 2009; Singh et al. 2009).[2]

- Regional Screening Levels (USEPA 2010a).

- Integrated Risk Information System (IRIS) on-line database (USEPA 2010b)

The HHRA was performed under two regulatory oversight approaches (USEPA Method 1 and DTSC Method 2) because the agencies have differing risk assessment approaches and both agencies have oversight roles at this site. Navy guidance was also implemented, and is particularly well-aligned and consistent with the USEPA Method 1 approach. Although USEPA and DTSC use the same basic four steps to risk assessment (i.e., data evaluation, exposure assessment, toxicity assessment, and risk characterization), minor variations are needed to meet

[2] ProUCL Version 4.00.04 was used in the initial preparation of this document. Version 4.00.05 (USEPA 2010c, 2010d) has since been released. A comparison was performed, and in all cases, exposure concentrations were greater

the different agency protocols. The primary differences involve variations in approaches at the step that involves the identification of the chemicals of potential concern (COPCs); however, this HHRA evaluated all detected chemicals and there was no differential selection of COPCs for the two methods. For example, elimination of inorganic COPCs with concentrations demonstrated to be lower than ambient background concentrations can be used to reduce the initial roster of COPCs (in USEPA Method 1), whereas carrying all inorganic COPCs completely through the risk assessment process then uses a risk characterization step at the end of the assessment to discuss the influence of background concentrations on site risk estimates (in DTSC Method 2). Because there was no screening of COPCs in this HHRA, consideration of background is incorporated at the end of the process in the risk characterization section.

Other differences, which are evident in this HHRA include slight differences in the values of some exposure factors, use of childhood-only exposures (USEPA Method 1) or childhood plus adulthood exposures (DTSC Method 2) for characterizing noncancer effects, preferences for toxicity criteria, and whether the toxicity criteria are extrapolated to different routes of exposure.

For both methodologies, cancer risk and noncancer hazard estimates are presented for all detected chemicals. The cancer risk and noncancer hazard estimates are also based on two types of exposure scenarios: reasonable maximum exposure (RME), and central tendency exposure (CTE). The RME scenario constitutes an estimate of an upper-bound to exposure but not based on multiple worst-case conditions. The CTE scenario is an estimate of the average exposure. RME and CTE scenarios were evaluated for all receptors and both agency methods. Although only briefly summarized in this introduction, the unique aspects of the two methodologies are detailed, as appropriate, within Section A3.0 (Exposure Assessment), Section A4.0 (Toxicity Assessment), and Section A5.0 (Risk Characterization).

using Version 4.00.04 (which relied on more conservative statistical methods). Therefore, this HHRA would not under predict risk.

A-1.4 ORGANIZATION OF REPORT

The remainder of this report is organized as follows:

- Section A2.0: Data Evaluation
- Section A3.0: Exposure Assessment
- Section A4.0: Toxicity Assessment
- Section A5.0: Risk Characterization
- Section A6.0: HHRA Conclusions and Identification of Chemicals of Concern
- Section A7.0: Health-Based Cleanup Goals
- Section A8.0: References
- Figures
- Tables
- Attachment A1: Analytical Data Used in the Human Health Risk Assessment
- Attachment A2: Method Detection Limits and Method Reporting Limits Evaluation
- Attachments A3 through A11: Risk and Hazard Calculation Details (for each exposure scenario)

A.2.0 DATA EVALUATION

The objective of the data evaluation step was to develop a list of COPCs for use in the risk assessment. This HHRA relies upon data collected as part of the SI (BAI 2010).

A-2.1 DEVELOPMENT OF THE DATA SET

The HHRA utilized data collected for the SI as a single data set for soil; sampling locations are displayed in Figure A-3. Soil data were collected from two depth intervals: 0 to 6 inches bgs, and 1.5 to 2 feet bgs. As per agreement with the Navy, the primary risk assessment analyses used a combined data set representing the entire depth interval of 0 to 2 feet bgs. However, a supplemental analysis using just the 0 to 6 inches bgs interval was conducted for the recreational user scenario (details presented in Section A5.3.5). Analytical data, as received from the laboratory, are listed in Table A1-1 of Attachment A1.

A-2.2 LABORATORY QUALITY ASSURANCE AND DATA VALIDATION

Laboratory data generated for the SI were received and used "as is." Independent data validation was not performed specifically for this HHRA.

Eighty soil samples (2 sampled depths at 40 locations) were collected from throughout the range floor and impact area (see Figure A-2) and analyzed for inorganic constituents, and explosives and related compounds (e.g., breakdown products). Ten soil samples were collected (2 sampled depths at 5 locations) near the creosote-treated wood retaining wall (see Figure A-3) and analyzed for polycyclic aromatic hydrocarbons (PAHs). Individual results were identified as either: "U flagged" (not detected below the Method Detection Limit [MDL]); "J flagged" (detected above the MDL but below the Method Reporting Limit (MRL), or detected at the specified concentration. All data were treated as detected concentrations with the exception of "U" or "UJ" flagged data.

A-2.3 DATA MANAGEMENT DECISIONS

The purpose of this section is to describe how the analytical data were managed. Specifically, how nondetected chemicals and duplicates were treated, how analytes with data from methods for the same sample were addressed, and to define the soil data set used as basis for defining levels of naturally occurring inorganic constituents.

A-2.3.1 Treatment of Nondetects

As noted above, all "U" or "UJ" flagged data were considered nondetects. If a chemical was never detected in any sample, the chemical data were evaluated for the adequacy of reporting limits as discussed in Section A2.4. For the development of exposure point concentrations (EPCs), nondetects were evaluated as recommended in the ProUCL program (Singh and Singh 2009; Singh et al. 2009).

A-2.3.2 Treatment of Duplicates

If duplicates exist, the average of the duplicate results is used as a single data point. If one duplicate is a detected concentration and the other a nondetect, the nondetect MDL was averaged with the detected concentration and treated as detected concentration. If both values of the duplicate pair were nondetects, then the average of the MDLs was used to represent the value of the nondetect result for the ProUCL program. This accommodates the usually slight difference in analytical sensitivity that arose between the duplicate analyses.

A-2.3.3 Soil Background Data Set

Data used to represent naturally occurring background concentrations of inorganic constituents in soil were drawn from earlier investigations. A Background Study for the Inland Area of the former NAVWPNSTA Concord was conducted as part of the 1997 Remedial Investigation (RI) for IR Sites 13, 17, 22, 24A, and 27 (provided as Appendix F to the EE/CA main text [TtEMI 1997];). The soil data collected during this investigation were used to develop background concentrations for naturally occurring inorganic constituents specifically for use in the risk assessments and RI for the Inland Area. Soil samples were collected in areas considered unaffected by Navy operations or other commercial/industrial activities to estimate background.

The soil inorganic constituents data from four Inland Area sites (IR Sites 13, 17, 22, and 24A) were analyzed to evaluate whether background levels should be applied uniformly for all Inland Area sites or if the background data sets for a specific group or groups should be used for a given site (TtEMI (1997). The concentrations of some metals (e.g., chromium, manganese, vanadium) displayed two distinct statistical populations: one population corresponded to the data from IR Sites 17 and 24A, and another population was formed by the data from IR Sites 13 and 22. The subset of the background data set from IR Sites 17 and 24A were selected because of their direct

relevance. In this background data set, the representative background concentration was the maximum detected concentration after excluding any anomalously high concentrations ("outliers") or set at the analytical detection limit (molybdenum, selenium, silver, and thallium); see EE/CA Appendix F (TtEMI 1997) for details.

A-2.3.4 IR Site 24A Data Set

All analytical data, as processed through these steps are listed in Table A1-2 of Attachment A1.

A-2.4 METHOD DETECTION LIMITS AND METHOD REPORTING LIMITS

The MDLs and MRLs for soil data were evaluated as to whether the analytical sensitivity was adequate to indicate de minimis concentrations, i.e., if methods were insensitive, then nondetect results could conceivably exceed health-protective concentrations yet be indicated as not detected. This evaluation was performed by comparing the chemical-specific MDLs and MRLs to residential RSLs for soil (USEPA 2010a). The results of this evaluation are presented in Attachment A2. A comparison was also made to residential CHHSLs for soil, and with the exception of arsenic, all MRLs and MDLs were below the corresponding CHHSL (data not shown); there was only one nondetect result for arsenic, so this exceedance is considered inconsequential. The conclusion of the MDL and MRL review is that analytical methods were sufficiently sensitive to be able to indicate concentrations below health-protective limits.

A-2.5 SELECTION OF CHEMICALS OF POTENTIAL CONCERN

In most dual tracking HHRAs, the selection process for the COPCs is one of the primary areas of difference between USEPA Method 1 and DTSC Method 2. Per USEPA (1989) risk assessment guidance, and paralleled in state guidance, COPC identification can be a complex integration of multiple sources of generalized and site-specific information: site history (e.g., known or suspected releases of chemicals), chemical factors (concentrations, essentiality, persistence, bioaccumulation potential, and toxicity of those chemicals), statistical factors (e.g., number of samples, detection frequencies), regulatory agency discussion, and other potential considerations.

A large difference between approaches is whether chemical analytes can be eliminated early in the process (for example, by comparison to background or to health-protective screening concentrations; i.e. USEPA Method 1) or are carried through the entire process (i.e., DTSC

Method 2). Screening of the initial list of analytes reduces the roster of COPCs, but that reduction would need to be later addressed in the risk characterization step as potentially eliminating analytes that in combination could be influential or could be influential at below-background concentrations. In contrast, carrying all analytes completely through the risk assessment process then uses the risk characterization step at the end of the assessment to discuss whether the entire roster of COPCs are ultimately influential contributors to site risks as well as the influence of background concentrations on site risks. This HHRA evaluated all detected chemicals and there was no differential selection of COPCs for the two methods. Consequently, all potentially influential COPCs could be identified, and consideration of background is also then incorporated at the end of the process in the risk characterization section.

As discussed in Section A2.0, 80 samples were analyzed for inorganic constituents and explosives and related compounds and 10 samples were analyzed for PAHs. The list of analytes included 17 inorganic constituents, 14 explosives and related compounds, and 16 PAHs. However, 12 of the 14 explosives and related compounds were not detected: 1,3,5-trinitrobenzene, 1,3-dinitrobenzene, 2,4,6-trinitrotoluene, 2,6-dinitrotoluene, 2-amino-4,6-dinitrotoluene, 2-nitrotoluene, 3-nitrotoluene, 4-amino-2,6-dinitrotoluene, HMX (octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine), nitrobenzene, RDX (hexahydro-1,3,5-trinitro-1,3,5-triazine), and tetryl.

The detected analytes that comprise the roster of COPCs include:

- Seventeen inorganic constituents: antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, copper, lead, mercury, molybdenum, nickel, selenium, silver, thallium, vanadium, and zinc;
- Two explosives or related compounds: 2,4-dinitrotoluene and 4-nitrotoluene; and
- Sixteen PAHs:[3] acenaphthene, acenaphthylene, anthracene, benzo[a]anthracene, benzo[a]pyrene, benzo[b]fluoranthene, benzo[g,h,i]perylene, benzo[k]fluoranthene,

[3] In later data tables, the PAHs are further segregated into two groups, high molecular weight (HMW) PAHs and low molecular weight (LMW) PAHs. The distinction is that HMW PAHs contain four (or more) 5- or 6-carbon atom ring formations in their chemical structure and generally tend to be carcinogenic; the LMW PAHs have three or fewer 5- or 6-carbon atom ringed formations and generally tend to be noncarcinogenic.

chrysene, dibenz[a,h]anthracene, fluoranthene, fluorene, indeno[1,2,3-cd]pyrene, naphthalene, phenanthrene, and pyrene.

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A.3.0 EXPOSURE ASSESSMENT

As discussed in Section A1.3, the HHRA was performed under two regulatory oversight approaches ("dual tracking"). Although many of the elements are comparable, where differences in methodology occurred (e.g., toxicity criteria), separate subsections were used. For ease of review by the regulators, separate risk characterizations sections were developed. The table below provides a preview of the receptors and exposure pathways evaluated under both methods, and indicates where the detailed risk assessment calculations are provided.

Attachment	Method	Exposure	Receptor	Soil Depth Interval (feet bgs)
A-3	USEPA	RME	Resident	0–2
A-4	USEPA	CTE	Resident	0–2
A-5	USEPA	RME	Recreational	0–2
A-6	USEPA	CTE	Recreational	0–2
A-7	DTSC	RME	Resident	0–2
A-8	DTSC	CTE	Resident	0–2
A-9	DTSC	RME	Recreational	0–2
A-10	DTSC	CTE	Recreational	0–2
A-11	DTSC	RME	Recreational	0–0.5

Notes:
bgs = below ground surface
CTE central tendency exposure
DTSC Cal/EPA Department of Toxic Substances Control
RME reasonable maximum exposure
USEPA United States Environmental Protection Agency

The exposure assessment step identifies the potentially exposed populations and the pathways of potential concern under current and reasonably anticipated future land use. The approach to estimate exposure levels (i.e., EPCs) for each pathway of potential exposure is defined. The equations used to determine the magnitude of the dose (intake) or exposure concentration are addressed in this section along with the parameters which represent the frequency and duration of exposure.

The differences in exposure assessment are relatively minor between the two methods. Exposure assessment methods for USEPA Method 1 evaluate noncancer hazards for residential receptors on the basis of exposure assessment for a child receptor only, following USEPA practice (USEPA 2010a), whereas DTSC Method 2 evaluates noncancer hazards for residential receptors on the basis of exposure assessment for during childhood and adulthood. In addition, there are

some differences in the values of computational parameters between the two methods, which are detailed, as warranted, later in this section.

The exposure assessment for IR Site 24A was based on evaluating the approximately 3.5-acre site as a single exposure area. The site is relatively small and although there are spatial trends in the sources of COPCs (e.g., PAHs were only sampled at the retaining wall), the exposure scenarios evaluated herein would be the same across the entire site (i.e., specific portions of the site would not have different exposure scenarios).

A-3.1 CURRENT AND FUTURE LAND USE

As noted in Sections A1.1 and A1.2, IR Site 24A and its structures are currently unoccupied. No military operations are being conducted at IR Site 24A. Therefore, human receptors would only be present under hypothetical future scenarios. An unrestricted (residential) land use scenario generally represents the greatest potential for exposure to site contaminants and is evaluated to provide additional information to support risk management decisions for the site. The recreational user scenario represents a potential conversion of the site to become part of an Open Space greenbelt (CCRP 2010).

A-3.2 CONCEPTUAL SITE MODEL

The conceptual site model (CSM) for IR Site 24A summarizes the information on sources of COPCs, affected environmental media, COPC release and transport mechanisms that may occur at the site, potentially exposed receptors, and potential exposure pathways for each receptor. Figure A-4 presents the schematic version of the CSM. The potentially complete exposure pathways are designated by a red dot and incomplete exposure pathways are designated by an "N/A" (not applicable) in the CSM figure. Quantitative risk evaluation (that is, calculation of numerical cancer risk and noncancer hazard estimates) was conducted for the complete exposure pathways identified in the CSM.

A-3.2.1 Receptors

This HHRA focuses on whether concentrations of contaminants pose an unacceptable risk to human health under current and likely reuse scenarios. Unacceptable risks will be addressed through a non-time-critical removal action, and future land use assumes that development of the

site will require some cleanup (e.g., of munitions-related debris and on-site structures) and likely excavation, construction, and/or regrading.

In accordance with this approach, the receptors evaluated included adult and child residents (for unrestricted use) and recreational users. These receptors were selected because the current Concord Reuse Plan[4] includes the area of this site as future Open Space. An unrestricted (residential) land use scenario generally represents the greatest potential for exposure to site contaminants and was evaluated to provide information to support risk management decisions for the site. The resident receptor incorporates adult and child exposures (with some differences between the USEPA and DTSC methods), and represents a long-term continuous presence on-site.

Since the proposed land use for the site is Open Space, the recreational receptor represents the most likely exposure at the site. The RME recreational user receptor was assumed to represent a somewhat intensive user of the site-specific area, perhaps disproportionately, given the great expanse of other open space area surrounding the site. The RME recreational user, for example, might be someone who often specifically uses the IR Site 24A hillside for running training or other workout activities. The CTE recreational user is assumed to occasionally cross the site, for example, on a hike, but not for any intensive or long-duration activity. A supplemental analysis was conducted for the recreational scenario, using only surficial soil (0 to 6 inches bgs). This supplemental analysis was included because it might be unlikely that a recreational user would conduct intrusive activities into deeper soil. As a health-protective assumption, the supplemental analysis is based on DTSC Method 2 RME exposure factors because that scenario has the highest exposure and the more numerous toxicity values (because of the route-to-route extrapolation).

As previously addressed, the area of the site is slated for land use as future Open Space. Commercial/industrial and construction worker receptors are not evaluated in the HHRA because this area is not designated for redevelopment to accommodate those land uses. In addition, protection of residents would also address risk to commercial/industrial workers. Although cleanup activity at the site would likely involve some demolition and excavation, these activities

[4] http://concordreuseproject.org

would be addressed via a Site Safety and Health Plan and are not the focus of the streamlined HHRA.

A-3.2.2 Exposure Pathways

According to USEPA guidance (USEPA 1989), a complete exposure pathway consists of four elements:

- A source and mechanism of chemical release
- A retention or transport medium (or media in cases involving transfer of chemicals)
- A point of potential human contact with the contaminated medium (referred to as the exposure point)
- An exposure route (such as ingestion) at the contact point

An exposure pathway is considered complete only when all of the above component elements are present. If any of these elements is missing, then the exposure pathway is considered incomplete. In addition, some pathways may be complete, but inconsequential relative to other complete pathways.

The complete list of exposure pathways for the hypothetical future adult and child resident and future recreational user are displayed in the CSM (Figure A-4). The following exposure pathways were considered potentially complete for each receptor type:

Future Resident

- Incidental ingestion of soil
- Inhalation of chemicals adsorbed to windblown soils released to outdoor air
- Dermal contact with soil

Future Recreational User

- Incidental ingestion of soil
- Inhalation of chemicals adsorbed to windblown soils released to outdoor air
- Dermal contact with soil

In accordance with OEHHA (2005) CHHSL guidance and the USEPA RSL methodology (USEPA 2010a), the food pathway (consumption of homegrown produce) was not included in evaluating soil-related exposure pathways for the resident receptor.

The inorganic, explosives and related compounds, and the PAH COPCs are generally considered to be nonvolatile compounds due to molecular weight and physical-chemical properties. Consequently, inhalation exposures to these compounds are addressed in this HHRA as exposure to airborne particulate. However, the DTSC recognizes a few of the COPCs as having some potential for volatilization: elemental mercury, acenaphthene, benzo[b]fluoranthene, chrysene, fluorene, naphthalene, and pyrene (DTSC 2005b). However, the context in which volatilization would be a concern is for vapor intrusion into limited airspaces within occupied buildings or structures. As considered for future land use as Open Space (CCRP 2010), there would not be the potential for accumulation of vapors within limited airspaces. However, if land use at IR Site 24A were to change to residential use, then an evaluation of the potential threat from vapor intrusion might become necessary. Inhalation of potentially volatile compounds (as vapors) in outdoor air was not considered to be a consequential pathway for the recreational receptor while inhalation of vapors in indoor air is a potentially complete pathway for the residential receptor but was not assessed because of the likely future use as open space.

As identified in the site description (Section A1.1), IR Site 24A contains a graded drainage channel which potentially conveys runoff from the site westward off-site. The nearest apparent surface water feature downhill from the site is the Clayton Canal, approximately 500 feet westward, but it is unknown whether site-specific runoff has directly reached the canal. Seasonal rains are likely to create areas of standing water and potentially also overland flow (if rains are sufficiently intense or prolonged) within the on-site drainage channel. Under current land use conditions, there is a potential for exposure to surface water in the drainage channel (incidental ingestion, inhalation of volatiles, dermal contact), but there is no current use of the site such that any exposure pathway is effectively incomplete (or potentially complete but insignificant because of a probable very-limited exposure). Future land use at the site under residential use would likely entail some remedial action and earth moving, such that the present-day drainage canal would probably not exist in the future, rendering incomplete the potential exposure pathway for future residents. It is unknown whether future land use as open space would entail

remedial action and/or earth moving, and future exposure to surface water is a potentially complete pathway. However, there are no available water data to assess the pathway and it is not evaluated in this HHRA.

The site description (Section A1.1) notes that depth to groundwater under IR Site 24A is unknown and there are no current uses of groundwater at IR Site 24A. If the future land use is residential, it is unknown from where potable water would supplied. As groundwater under the former NAVWPNSTA Concord is a potential drinking water source, the domestic use of groundwater could be a potentially complete exposure pathway. However, that exposure pathway is not assessed in this HHRA due its unlikely realization, and there are also no site-related groundwater data available. Under future land use conditions as open space, there are no likely uses of on-site groundwater, so that pathway is considered incomplete.

A-3.3 EXPOSURE POINT CONCENTRATIONS

EPCs are the chemical concentrations that are specific to an environmental medium and represent either an upper-bound estimate of the level of a chemical to which a receptor may be exposed (i.e., the RME scenario) or an average case (i.e., the CTE scenario). EPCs were calculated for the entire set of soil data from the 0 to 2 feet bgs depth interval, and from the 0 to 6 inches bgs interval for the supplemental recreational scenario. The residential receptor is unlikely for the planned site use and any future residential development would result in disturbance and grading of the soil. Therefore, the soil depth range of 0 to 2 feet bgs is a more appropriate range to represent surface soil exposure to residential receptors. The range is inclusive of the 0 to 6 inch bgs range and the expanded range is typically considered a conservative measure. The 0 to 2 feet bgs and the 0 to 6 inch bgs depth intervals were both evaluated for the recreational receptor in order to estimate risks based on recreational activities that are slightly soil intrusive (0 to 6 inches bgs) or more deeply soil intrusive (0 to 2 feet bgs).

The entire site was considered one exposure area. EPC values are the same for both receptors and both agency methods for both depth intervals. Summary statistics, including EPCs, for the analytical results are provided in Table A-1.

RME EPCs were based on the 95 percent upper confidence limit on the mean (95UCL) using the USEPA statistical software ProUCL 4.00.04 (Singh and Singh, 2009; Singh et al. 2009).[5] The ProUCL software generally requires a minimum of eight results and two detected results. If multiple nondetect values are present for a given chemical, the ProUCL software typically recommends the use of Kaplan-Meier nonparametric statistics. In cases where the calculated value of the 95UCL exceeded the maximum detected concentration or when a 95UCL could not be calculated, the maximum detected concentration was used as the EPC.

For soil, the EPC (source concentration) for CTE scenarios was the arithmetic mean. In some cases, where the data were insufficient to calculate the mean (i.e., a high proportion of nondetects or insufficient sample size, per ProUCL), the maximum detected concentration was used.

A-3.4 DOSE EQUATIONS

Chemical intake estimates are used to represent the amount of chemical to which a receptor is exposed per unit body weight and time for oral and dermal exposures, or the concentration in air for inhalation exposures. Chemical intakes integrate exposure factor values with the EPCs. Estimates of exposure are based on equations published in Part A of the Risk Assessment Guidance for Superfund (USEPA 1989) and supplemental updates for the dermal (USEPA 2004a) and inhalation pathways (USEPA 2009a). Oral and dermal exposure doses are expressed in units of milligrams [of COPC] per kilogram of body weight per day (mg/kg-day) and inhalation exposure concentrations are expressed in units of micrograms [of COPC] per cubic meter of air ($\mu g/m^3$).

Exposure factor values are provided in Table A-2 and are based on three primary sources: the methodology employed by USEPA in their derivation of RSLs (USEPA 2010a), the USEPA Exposure Factors Handbook (USEPA 1991a, 2009b), and recommendations from the DTSC (DTSC 2005a). As mentioned previously, exposure assessment methods for USEPA Method 1 evaluate noncancer hazards for residential receptors on the basis of exposure assessment for a

[5] ProUCL Version 4.00.04 was used in the initial preparation of this document. Version 4.00.05 (USEPA 2010c, 2010d) has since been released. A comparison was performed, and in all cases, exposure concentrations were greater using Version 4.00.04 (which relied on more conservative statistical methods). Therefore, this HHRA would not under predict risk.

child receptor only, whereas DTSC Method 2 evaluates noncancer hazards for residential receptors on the basis of exposure assessment during childhood and adulthood. The equations (and exposure factor values) for derivation of the intake dose or exposure concentration, cancer risk estimates, and noncancer hazard estimates for the individual pathways are shown in each of Attachments A3 through A11 in tables numbered A#-2 through A#-4 (where "#" is the Attachment number); Table A#-1 is a summary table for all exposure routes for the particular scenario. The exposure pathways include the following:

- Incidental ingestion of soil
- Inhalation of airborne particulate from soil
- Dermal contact with soil

Exposure factor values for the RME and CTE scenario are further discussed below, first for factors common to all exposure routes, then the route-specific factors.

A-3.4.1 General Exposure Parameters

These general parameters are common to equations for all three exposure routes (ingestion, inhalation, and dermal contact).

Averaging Time

For carcinogens, the averaging time was equivalent to an assumed lifespan of 70 years for all receptors which is the default value for USEPA (USEPA 1991a, 2009b) and DTSC (DTSC 2005a). There was no difference between RME and CTE values for the carcinogen averaging time. Averaging time for noncarcinogens is based on the exposure duration and varies between RME and CTE scenarios (see Table A-2).

Body Weight

The standard recommended adult body weight (USEPA 1991a, 2009b; DTSC 2005a) of 70 kilograms (kg) was used to evaluate all adult receptors used in the risk assessment, based on 50th percentile values for the general population. The default mean body weight of 15 kg from USEPA (USEPA 1991a, 2009b; DTSC 2005a) was selected for the child resident. For the

recreational user scenario, it was assumed that the childhood exposure was for older children and a heavier body weight, 40 kg, was used. There was no difference between RME and CTE values.

Exposure Duration

Exposure duration is the number of years in which exposure occurs. USEPA has identified resident exposure durations of 24 years as an adult and 6 years as a child for the RME scenario, and 9 years adult and 6 years childhood for the CTE scenario (USEPA 1991a, 2009b; and DTSC 2005a). For the hypothetical recreational user, a 21-year exposure duration (11 years as an adult and 10 years as a child) was assumed for the RME scenario, and a 13-year exposure duration (7 years as an adult and 6 as a child) was assumed for the CTE scenario. The selection of these durations was a simple assumption for a somewhat lengthy timeframe, but less than a long-term resident.

Exposure Frequency

Exposure frequency is the rate of exposure within the exposure duration period. The standard default assumption for residential exposure scenarios is 350 days per year (USEPA 1991a, 2009b; DTSC 2005a). Exposure frequencies for the recreational receptor were simple assumed values: 5 days per week for the RME (intensive) user, and 1 day per week for the CTE scenario. There were no differences in exposure frequency values between USEPA Method 1 and DTSC Method 2.

A-3.4.2 Soil Ingestion Factors

The *Soil Ingestion Rate* is the only route-specific parameter for soil ingestion exposures. This value is the amount of soil that is ingested daily due to incidental ingestion (e.g., hand-to-mouth contact). For adult and child residents, the standard RME factors of 100 and 200 milligrams per day (mg/day), respectively, were used for soil ingestion (USEPA 1991a, 2009b; DTSC 2005a). For the CTE adult and child residents, CTE factors of 50 and 100 mg/day, respectively, were used for soil ingestion. These values are drawn from the RSL methodology (USEPA 2010a). The same values were used for the recreational user.

The *Fraction Contaminated Soil Ingested* is a dimensionless exposure factor that allows adjustments for less-than-100 percent site use or, for example, if a site contained contaminated and uncontaminated areas that the receptor might use. However, no such adjustments were made

in this HHRA, but the assumed value of 1 (=100 percent) appears on the soil ingestion tables in the Attachments.

A-3.4.3 Soil (Particulate) Inhalation Factors

The particulate emission factor (PEF) and exposure time parameters are unique to the inhalation pathway.

Particulate Emission Factor

To estimate EPCs in dust, a PEF of 1.36×10^9 cubic meters per kilogram (m^3/kg) was used for nonvolatile contaminants (USEPA 2010a) for all receptors and exposure scenarios. This PEF is based on a computational model with a variety of assumed values for the input factors. One input assumption, 50 percent vegetated ground cover, may overestimate COPC concentrations in outdoor air specifically at IR Site 24A because much of the site soil is covered by grasses and other plant materials. The derivation of the PEF also incorporates default assumptions about wind speeds and turbulence, which may not be representative of any particular site but the methodology and values were chosen to be representative and health-protective (USEPA 2010a). The same PEF was used for all exposure scenarios.

Exposure Time

USEPA recently revised their methodology for characterizing inhalation exposures. Inhalation exposures are now derived as an hourly estimate, assuming continuous exposure throughout the entire product of exposure frequency (days per year) times the exposure duration (years) times the exposure time (hours per day) (USEPA 2009a). For residential scenarios, continuous daily exposure was assumed (24 hours per day; USEPA 2010a). For the recreational receptor, the RME (intensive) user was a simple assumption of 2 hours per day specifically at IR Site 24, while the CTE scenario was assumed to be someone traversing the relatively small site (assumed to be 15 minutes, 0.25 hour). There were no differences between USEPA Method 1 and DTSC Method 2 with respect to a particular receptor's value for exposure time.

A-3.4.4 Dermal Contact Factors for Soil

USEPA recently revised their methodology for assessing dermal exposures (USEPA 2004a). Most notably were changes related to exposure via water, but these are not relevant to this

HHRA. Pertinent factors for soil-related dermal exposures include the dermal soil absorption factor, the soil adherence factor, and the exposed body surface area.

Dermal Soil Absorption Factor

This chemical-specific dimensionless factor accounts for the absorption of a contaminant across the skin. While discussed here with other exposure variables, the values for this factor are provided with the chemical-specific toxicity information in Table A-3. Each chemical-specific value was used in all scenarios: RME, CTE, resident, recreational user, USEPA Method 1, and DTSC Method 2.

Soil Adherence Factor

Soil adherence coupled with exposed skin surface area defines the total amount of soil that clings to exposed skin surfaces. For adult and child residents, the standard RME factors of 0.07 milligrams per square centimeter-day (mg/cm^2-day) and 0.2 mg/cm^2-day, respectively were used as skin-to-soil adherence factors. For adult and child residents, CTE adherence factors of 0.01 mg/cm^2-day and 0.04 mg/cm^2 day, respectively were selected. These values are drawn from USEPA and DTSC (USEPA 2002b, 2009b; DTSC 2005a). The same values were used for the recreational user.

Exposed Body Surface Area

This exposure factor represents the uncovered area where dust or dirt could contact the skin. For USEPA Method 1, 2800 square centimeters (cm^2) was the RME exposed skin area for children, while 5,700 cm^2 was selected for adult residents (corresponding to exposed face, forearms, hands, lower legs, and feet USEPA 2002b, 2009b). For DTSC Method 2, the exposed skin area is 2,900 cm^2 for children and 5,700 cm^2 for adult residents, using slightly higher values account for California's more temperate climate (relative to USEPA nationally based values) (DTSC 2005a). The same values were used for the recreational user.

The *Event Frequency* and *Fraction of Event in Contact With Soil* are dimensionless exposure factors that allow adjustments for multiple visits to a site or less-than-100 percent site use. However, no such adjustments were made in this HHRA, but the assumed *Event Frequency* value of 1 event per day and an assumed *Fraction of Event in Contact with Soil* value of 1 (=100 percent) appears on some of the dermal exposure tables in the Attachments.

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A.4.0 TOXICITY ASSESSMENT

There are multiple differences in agency preference for toxicity values, predominantly hierarchy of sources, and consideration of route-to-route extrapolation. Other chemical-specific discussions are also included in this section.

A-4.1 TOXICITY ASSESSMENT FOR USEPA METHOD 1

The selection of toxicity values followed USEPA's currently recommended hierarchy of sources with a few exceptions as described below.

A-4.1.1 USEPA Toxicity Criteria

In December 2003, USEPA's Office of Solid Waste and Emergency Response issued a directive for selecting human health toxicity values in Superfund risk assessments (USEPA 2003a) and its subsequent implementation in the RSLs (USEPA 2010a) were used under the USEPA Method 1 approach. With the exception of lead, state-specific toxicity criteria, where available, were used in the HHRA only when there were no values available from the higher-priority sources implemented by USEPA in the RSLs (USEPA 2010a). The approach to toxicity criteria in USEPA Method 1 is:

- Use the hierarchy of sources incorporated within USEPA's RSL methodology (USEPA 2010a), listed below in order of preference:
  - USEPA's IRIS
  - USEPA's Provisional Peer-Reviewed Toxicity Reference Values (PPRTVs)
  - Agency for Toxic Substances and Disease Registry's (ATSDR) Minimal Risk Levels
  - USEPA's Environmental Criteria and Assessment Office
  - OEHHA's Cancer Potency Values (OEHHA 2011a) and Chronic Reference Exposure Levels (RELs) (OEHHA 2011b)
  - Screening toxicity values from PPRTV assessments, other state sources, and USEPA's Health Effects Assessment Summary Tables (HEAST) (USEPA 1997).
- For the residential receptor exposed to lead, the current residential CHHSL of 80 mg/kg was used as a screening criterion (OEHHA 2009a). The CHHSL value is lower than USEPA's RSL of 400 mg/kg for lead in residential soil (USEPA 2010a). Lead is a special case because some of the characteristic effects of lead, particularly changes in the levels

of certain blood enzymes, appear to occur at blood lead levels so low as to be essentially without a threshold. In September 2009, OEHHA updated the lead CHHSLs to make them consistent with all other CHHSLs which are calculated irrespective of background exposures. For lead, the residential CHHSL of 80 mg/kg represents the most conservative of any potentially applicable criteria.

- There is no directly comparable screening criterion available for exposure to lead in the site-specific recreational user scenario in this HHRA. The assumptions used to create the recreational user scenario are, in aggregate, less than what would be experienced by standard default "commercial/industrial worker" scenarios used by USEPA and DTSC (USEPA 2010a; DTSC 2005a). The OEHHA's commercial/industrial CHHSL is 320 mg/kg (OEHHA 2009a), while the USEPA's RSL for a commercial/industrial scenario is 800 mg/kg (USEPA 2010a), although other values derived by USEPA using the same methodology for different groupings of receptors extend up to approximately 1,400 mg/kg (USEPA 2003b, 2009c). The CHHSL and RSL are both derived to be protective of the fetus of a pregnant woman exposed to site soil. Use of the 800 mg/kg commercial/industrial RSL is consistent with the recommendation in DTSC to address commercial/industrial scenarios and adult exposures to lead, but the recreational user scenario also incorporates a period of childhood exposure to lead (DTSC 2009a). The DTSC (DTSC 2009a) recommends use of their Lead Risk Assessment Spreadsheet (LeadSpread; DTSC 2009d) to evaluate childhood exposure to lead, and LeadSpread is also the basis for the OEHHA's residential CHHSL. Replicating the OEHHA's method using LeadSpread to develop the residential CHHSL, but modifying the exposure frequency to 0.42 day per week (reflecting the 2 hours per day and 250 days per year exposure values for the recreational user scenario) results in a health-protective concentration of approximately 1,280 mg/kg lead in soil or dust. Again, as there is no directly comparable screening concentration for the recreational use scenario, the USEPA RSL (800 mg/kg) was chosen as the screening criterion because it is protective for adult exposures to lead (as per DTSC 2009a), protective of the fetus of a pregnant woman in a commercial/industrial setting (as per USEPA 2010a), and is protective for childhood exposure based on a recreational scenario-specific CHHSL-type value.

A-4.1.2 Route-to-Route Extrapolations

The USEPA has indicated that extrapolation is not an optimal method due to the uncertainty associated with making such adjustments (USEPA 2010b). With the increasing availability of inhalation toxicity values, generic route-to-route extrapolation was discontinued during the

development of the RSLs. Because the USEPA no longer recommends the extrapolation methodology at the screening stage, route-to-route extrapolations were not performed as part of USEPA Method 1. However, the USEPA does indicate that chemical-specific route-to-route extrapolation may be used after thorough consideration of the chemical-specific issues and may be used in future risk assessments. Therefore, route-to-route extrapolations were not used from the oral to inhalation route.

No toxicity criteria specific to the dermal route are available and instead, oral toxicity criteria were used to estimate dermal risk. An adjustment to the oral toxicity factor to account for absorbed dose in the dermal exposure pathway is recommended in RAGS Part E (USEPA 2004a) only if the toxicity value is based on an administered dose and a scientifically defensible gastrointestinal absorption value can be found to use as the adjustment factor. In addition, as recommended in RAGS Part E, adjustments were conducted only for selected inorganic constituents: antimony, barium, beryllium, cadmium, chromium, mercury, nickel, and silver.

A-4.2 Toxicity Assessment for DTSC Method 2

DTSC Method 2 toxicity criteria are described below.

A-4.2.1 State Toxicity Criteria

Cal/EPA's OEHHA has developed its own cancer slope factors (CSFs), in addition to USEPA's efforts to develop CSFs. The OEHHA CSFs are listed in their Toxicity Criteria Database (OEHHA 2011a) and were preferentially selected under the HHRA DTSC Method 2 approach.

In addition to CSFs, Cal/EPA has developed inhalation and oral RELs to assess noncancer endpoints of inhalation and oral exposures, as part of the Toxic Air Contaminants program (OEHHA 2011b). The inhalation RELs were used, when available, for noncarcinogens under DTSC Method 2. For DTSC Method 2, California toxicity values, when available, were preferentially utilized; lacking a California-specific value, the USEPA (USEPA 2003a) hierarchy as implemented in the RSLs (USEPA 2010a) was then used. Thus, the process for selecting toxicity criteria under DTSC Method 2 was:

- Cal/EPA's CSFs and RELs (OEHHA 2011a; 2011b)

- Hierarchy based on USEPA (USEPA 2003a), as implemented within USEPA's RSL methodology (USEPA 2010a), listed below:

  - USEPA's IRIS
  - USEPA's PPRTVs
  - ATSDR's Minimal Risk Levels
  - USEPA's Environmental Criteria and Assessment Office
  - Screening toxicity values from PPRTV assessments, other state sources, USEPA's HEAST (USEPA 1997)

- As discussed above for the lead toxicity value used in USEPA Method 1 (Section A4.1.1), the current residential CHHSL of 80 mg/kg was used as a screening criterion for the residential receptor and the USEPA RSL for a commercial/industrial scenario, 800 mg/kg,[6], was used as a comparative value for the recreational user scenario.

A-4.2.2 Route-to-Route Extrapolations

Route-to-route extrapolations are recommended for organic analytes by DTSC (DTSC 2009a). Therefore, route-to-route extrapolations were used for oral-to-inhalation toxicity values, as was USEPA's recommended extrapolation from oral-to-dermal toxicity values (USEPA 2004a); see Section A4.1.2).

A-4.3 SURROGATES

Under both USEPA and DTSC methodologies, no surrogates were used for oral CSFs. For noncarcinogenic oral Reference Doses (RfD), the oral RfD for acenaphthene was used as a surrogate for acenaphthylene and the oral RfD for pyrene was used as a surrogate for phenanthrene and benzo[g,h,i]perylene.

A-4.4 TOXICITY VALUES

The toxicity assessment provides a summary of the toxicity values that have been developed by USEPA or Cal/EPA to evaluate potential adverse health effects associated with chemical exposure. Except where route extrapolation occurred, noncarcinogenic RfDs were used to

[6] The 800 mg/kg value is based upon the USEPA industrial preliminary remediation goal (PRG) for adult exposure but is also protective of recreational child exposure, based on the recreational exposure assumptions for this site. Please refer to Section A4.1.1 for details regarding the application of this value to the recreational child scenario.

evaluate oral and dermal exposure (expressed in units of mg/kg-day), while the toxicity value used to evaluate inhalation exposure is termed the Reference Concentration (RfC) (in units of $\mu g/m^3$). The carcinogenic slope factors (CSFs) were used to evaluate oral and dermal exposure (in units of risk per unit dose, $[mg/kg\text{-}day]^{-1}$), and the value used to evaluate inhalation exposure was the inhalation unit risk (IUR) value (in units of risk per unit concentration, $[\mu g/m^3]^{-1}$).

As described in Sections A4.1 and A4.2, the major differences in toxicity assessment between USEPA Method 1 and DTSC Method 2 lie in their preferred hierarchy of sources for cancer and noncancer toxicity values and preferences regarding route-to-route extrapolation of toxicity values. Toxicity factors are listed in Table A-3.

A.5.0 RISK CHARACTERIZATION

Risk characterization is the summarizing step of risk assessment and includes risk estimation, uncertainty analysis, and risk interpretation. In risk estimation, the toxicity values (RfDs and CSFs) are utilized in conjunction with the concentrations of COPCs and exposure value assumptions to estimate carcinogenic (cancer) risks and noncarcinogenic (noncancer) health hazards. The uncertainty analysis evaluates major assumptions and influences to the risk and hazard estimates. In risk interpretation, the calculated risks and hazards are interpreted in the context of site history, spatial and temporal distributions of COPC concentrations, the uncertainties, and other relevant factors.

A-5.1 RISK AND HAZARD ESTIMATION

The following sections describe the methods used to calculate cancer risk and noncancer hazard estimates[7] and summarizes the results of the risk calculations.

A-5.1.1 Noncarcinogenic Hazard Estimation Methods

The potential for adverse noncancer health effects were characterized by dividing estimated chemical intakes by chemical-specific RfDs. The resulting ratio is the hazard quotient (HQ), which is derived as follows:

$$HQ = \frac{Chemical\ Intake\ (mg/kg\ -\ day)}{RfD\ (mg/kg\ -\ day)}$$

For inhalation, the HQ is derived as follows:

$$HQ = \frac{Exposure\ Concentration\ (\mu g\ /\ m^3)}{Reference\ Concentration\ (\mu g\ /\ m^3)}$$

[7] The detailed equations and variables to estimate chemical intake or the inhalation exposure concentration are provided in the Risk and Hazard Calculation Detail attachments for each exposure scenario (Attachments A3 through A11); exposure-factor values were provided in Table A2. Within each attachment, Table A[#] 1 provides a summary of the risk and hazard estimates for all exposure pathways (ingestion, inhalation, and dermal exposure), Table A[#] 2 provides the detailed equations and values for ingestion exposure, Table A[#] 3 provides the equations and values for inhalation exposure, and Table A[#] 4 provides the equations and values for dermal exposure.

USEPA and DTSC risk assessment guidelines (USEPA 1989; DTSC 2009a, 2009b) both consider the additive effects associated with simultaneous exposure to several chemicals by specifying that all HQs initially must be summed across exposure pathways and chemicals to estimate the total hazard index (HI). This summation conservatively assumes that the toxic effects of all contaminants would be additive or, in other words, that all chemicals cause the same toxic effect and act by the same mechanism.

If the total HI is less than or equal to 1, multiple-pathway exposures to COPCs at the site were considered unlikely to result in an adverse effect. If a total HI is greater than 1, further evaluation of exposure assumptions and toxicity, including consideration of specific affected target organs and the mechanisms of toxic actions of COPCs could be conducted to characterize whether the cumulative exposure are additive, or affect different systems at less-than-harmful amounts.

A-5.1.2 Carcinogenic Risk Estimation Methods

The potential for carcinogenic effects was evaluated by estimating the probability of developing cancer over a lifetime based on exposure assumptions and chemical-specific toxicity criteria. The increased likelihood of developing cancer from exposure to a particular chemical is defined as the excess cancer risk (ECR) (i.e., risk in excess of a background cancer risk, of one chance in three [0.3, or 3×10^{-1}] for every American female and one chance in two [0.5, or 5×10^{-1}] for every American male, of eventually developing cancer [American Cancer Society 2009]).

Excess lifetime cancer risk for oral or dermal routes was estimated by multiplying the estimated chemical intake by the CSF:

$$Cancer\ Risk = Chemical\ Intake\,(mg/kg-day)\times CSF\ (mg/kg-day)^{-1}$$

Excess lifetime cancer risk from inhalation was estimated by multiplying the estimated chemical exposure concentration by the IUR, as follows.

$$Cancer\ \ Risk = Chemical\ \ Exposure\ (\mu g/m^3)\times IUR\ (\mu g/m^3)^{-1}$$

These formulas apply to cancer risks lower than 1×10^{-2} (1 in 100). All cancer risk estimates in this assessment are lower than 1×10^{-2}.

The risks resulting from exposure to multiple carcinogens are assumed to be additive. The total carcinogenic risk was estimated by summing the estimated risks for each COPC and for each exposure pathway. USEPA considers risk levels in the range of 1×10^{-6} to 1×10^{-4} as the risk management range (USEPA 1991c). USEPA guidance generally recommends that ECR be reported to one significant digit (USEPA 1989). They are reported here to two significant digits value to ensure correlation in the referencing of results from the attachments.

A-5.1.3 Summary of Risk and Hazard Estimates

Cancer risks and noncancer hazard indices were calculated for the resident and recreational user receptors potentially exposed to COPCs in site soil by incidental ingestion, inhalation of particulate, and dermal contact. The overall results of the RME and CTE evaluation are summarized in a within-text table following this paragraph; greater detail is provided in the summary Table A-4, and scenario-specific calculations and results are supplied in Attachment A3 through Attachment A11. Additional narrative is provided later in this section to discuss consistencies and differences with respect to method, receptor, cancer and noncancer endpoint, and RME and CTE scenarios.

		USEPA Method 1		**DTSC Method 2**	
		ECR	**HI**	**ECR**	**HI**
Future Resident (Unrestricted Use) Exposed to Soil (0 to 2 feet bgs)	RME	3.8×10^{-5}	4.6	4.5×10^{-5}	5.2
	CTE	8.6×10^{-6}	0.83	9.2×10^{-6}	0.91
Future Recreational User Exposed to Soil (0 to 2 feet bgs)	RME	1.6×10^{-5}	1.6	1.8×10^{-5}	1.6
	CTE	5.3×10^{-7}	0.057	5.6×10^{-7}	0.057
Future Recreational User Exposed to Soil (0 to 6 inches bgs)	RME	--	--	2.9×10^{-5}	4.1

Notes:
-- = not evaluated
bgs = below ground surface
CTE = central tendency exposure
DTSC = California Department of Toxic Substances Control
ECR = excess cancer risk
HI = hazard index
RME = reasonable maximum exposure
USEPA = United States Environmental Protection Agency

Lead concentrations at 16 locations of soil collected from 0 to 6 inches bgs, and 7 locations of soil collected from 1.5 to 2 feet bgs exceeded the residential CHHSL (80 mg/kg). Lead concentrations at nine locations of soil collected from 0 to 6 inches bgs, and three locations of soil collected from 1.5 to 2 feet bgs exceeded the USEPA commercial/industrial RSL (800 mg/kg[8]). Exceedances of these screening criteria will be more fully addressed in Section A7.0 (Health-Based Cleanup Goals). In addition to the lead hazards from lead intermixed with soil, incidental ingestion of the lead pellets themselves in the surface soils by children is a potential, albeit unlikely, hazard.

A-5.1.4 Scenario-Specific Risk and Hazard Estimates

This subsection addresses similarities and differences among the scenario-specific findings. This section provides a narrative to accompany the results provided in Table A-4.

Future Resident Receptor

The future resident receptor represents an analysis that can be used to identify a site as suitable for unrestricted use, i.e., no land use controls to limit the kinds of activities that could occur on the site. If risk estimates are less than 1×10^{-6} or the HI is less than 1, then the site is suitable for unrestricted use, whereas exceedance of these thresholds trigger additional assessment (or remediation) to demonstrate that in-place contaminants do not pose a threat to human health if an unrestricted-use designation is sought.

Cancer Risk Estimates

Cumulative risk estimates exceed 1×10^{-6} for all four exposure-scenario combinations (USEPA Method 1 and DTSC Method 2, RME and CTE), but none exceed the upper limit of the risk management range (1×10^{-4}). Cancer risk estimates for the future resident receptor are similar and differ by less than 20 percent between methods for each resident for a given exposure scenario (RME or CTE). The same COPCs are the risk drivers for both methods. Under the RME scenario, chemical-specific cancer risk estimates are greater than 1×10^{-6} for the same combination of COPCs: arsenic, benzo[a]anthracene, benzo[a]pyrene, and benzo[b]fluoranthene.

[8] This value is based upon the USEPA industrial PRG for adult exposure but is also protective of recreational child exposure, based on the recreational exposure assumptions for this site. Please refer to Section A4.1.1 for details regarding the application of this value to the recreational child scenario.

For the CTE scenario, arsenic is the only COPC with a chemical-specific risk estimate greater than 1×10^{-6}, but as just indicated, the cumulative risk exceeds 1×10^{-6} due to contributions from other carcinogens.

Noncancer Hazard Estimates

The total HI exceeds 1 for the RME exposure scenario for both agency methods, but is less than 1 for the CTE exposure scenario for both agency methods. The same combination of inorganic constituents contributes to the HI for all scenarios: antimony, arsenic, cobalt, copper, and vanadium. The greatest proportion of the HI is due to antimony, which itself has a chemical-specific HI greater than 1 for USEPA Method 1 and DTSC Method 2 approaches based on the RME exposure scenario. The chemical-specific HIs for arsenic, cobalt, copper, and vanadium are in the general range of 0.1 to 0.6 and as such, also are somewhat influential individual contributors to the overall total HI (i.e., around 20 percent of the total HI is due each to arsenic, and cobalt, with lesser contributions from copper and vanadium.

<u>Future Recreational User Receptor</u>

The future recreational user receptor represents a derived, site-specific analysis that is consistent with the intended use of the IR Site 24A as a specific area within a broader expanse of open space greenbelt. The receptor is strictly hypothetical as it was based on simple basic assumptions about how long someone might use the area for workout or hiking purposes.

Cancer Risk Estimates

Cumulative risk estimates exceed 1×10^{-6} for all three RME-based exposure scenarios (USEPA Method 1 for 0 to 2 feet bgs soil, DTSC Method 2 for 0 to 2 feet bgs soil, and DTSC Method 2 for 0 to 0.5 foot bgs soil). Cumulative risk estimates did not exceed 1×10^{-6} for the two CTE-based exposure scenarios (USEPA Method 1 for 0–2 feet bgs soil, DTSC Method 2 for 0 to 2 feet bgs soil). The risk drivers for the RME scenarios (i.e., chemical-specific risk estimates greater than 1×10^{-6}) were arsenic and benzo[a]pyrene for all three RME scenarios and also benzo[a]anthracene in the DTSC Method 2 at 0 to 2 feet bgs soil scenario. This general pattern was similar for the CTE scenarios, although cumulative- and chemical-specific risk estimates were all less than 1×10^{-6}.

Noncancer Hazard Estimates

The total HI exceeds 1 for all three RME-based exposure scenarios (USEPA Method 1 for 0 to 2 feet bgs soil, DTSC Method 2 for 0–2 feet bgs soil, and DTSC Method 2 for 0 to 0.5 foot bgs soil). Total HI estimates did not exceed 1 for the two CTE-based exposure scenarios (USEPA Method 1 for 0 to 2 feet bgs soil, DTSC Method 2 for 0 to 2 feet bgs soil). The driver for the RME scenarios (i.e., chemical-specific hazard estimates greater than 1) was antimony, individually contributing approximately 70 percent to the total HI. The chemical-specific HIs for arsenic, cobalt, copper, and vanadium are in the general range of less than 0.2 and as such, also are somewhat influential individual contributors to the overall total HI (i.e., around 20 percent of the total HI is due each to arsenic, and cobalt, with lesser contributions from copper and vanadium.

A-5.2 UNCERTAINTY ANALYSIS

Uncertainties are inherent in all aspects of a HHRA. The nature and magnitude of uncertainties depend on the amount and quality of the data available, the degree of knowledge concerning site conditions, and the assumptions made to perform the risk assessment. A qualitative evaluation of the major uncertainties associated with this assessment is segregated into the four major steps in the following sections.

A-5.2.1 Uncertainty in Site Characterization, Data Quality, and COPC Selection

In the HHRA, it was assumed that samples collected were representative of the area to which various receptor populations may be exposed. However, the collected samples may not be completely representative, due to biases in sampling and to random variability of samples. Soils are not homogeneously distributed in the environment. Random variability of the media sampled may result in either an overestimation or underestimation of actual chemical concentrations and, thus, site risks.

USEPA states that those chemicals that are detected in less than 5 percent of soil samples may be eliminated as COPCs (USEPA 1989). This criteria is applicable for those chemicals with a minimum of 20 results, but was not applied to this site, as all detected chemicals were retained. Only the two detected explosives, 2,4-dinitrotoluene and 4-nitrotoluene had detection frequencies less than 5 percent, but these compounds were not influential contributors to the

cancer risk or noncancer hazard estimates and their exclusion as COPCs would have been inconsequential.

Another option that could have been used during COPC selection for USEPA Method 1 would have been evaluating data against health-protective screening concentrations (such as 1/10th the residential soil RSL or CHHSL). Comparison of maximum detected concentrations of PAHs at IR Site 24A to 1/10th the RSL would have identified only chrysene and pyrene as potentials for elimination as a COPC. However, chrysene is a carcinogenic PAH that would nevertheless have been retained as a contributor to cumulative cancer risks. Pyrene is not identified as a carcinogen, and neither of these two PAHs were significant contributors to the risk or hazard estimates. Consequently, there is little uncertainty in COPC selection even if PAHs had been screened out at the COPC-selection step; the only PAH that could have been screened was not an influential contributor to the hazard index (as would be expected though, because screening occurs at 1/10th of an already health-protective concentration). For a discussion of screening based on background concentrations of inorganic constituents, see Section A5.2.4.

In the EPC derivations computed by ProUCL, nondetect results were represented by the MDL, the lowest concentration at which a chemical can be positively identified, but there is some uncertainty associated with the true concentration. The MRL is the lowest concentration at which the chemical can be positively identified *and* the concentration is reliably estimated. In the theoretical setting, the MRL should represent the nondetect values because there is certainty with chemical identity and concentration. However, in common practice and in this HHRA, representing nondetects by the MDL provides a reasonable tradeoff for more sensitive analytical limits at the expense of some uncertainty in the values comprising the lower end of a site's concentration data set.

Sampling density for the inorganic constituents was relatively robust, with 80 samples collected across the site for the 0 to 2 feet bgs depth interval. With respect to the PAH analyses, there were 10 samples collected from the relatively small area where creosote-treated timbers were used as a retaining wall. PAH exposures in the entire soil column (0 to 2 feet bgs) were based on 95UCL concentrations, but only 5 samples were collected from shallow soil (0 to 6 inches bgs). Exposure point concentrations for surface soil were based on the maximum detected

concentrations because the sample size was too small to calculate a statistically reliable 95UCL. Comparison of maximum concentrations (0 to 6 inches bgs) to maximum and 95UCL concentrations (from 0 to 2 feet bgs) indicate that PAH concentrations are greater in the subsurface The majority of the exposure scenarios evaluated in this HHRA were based on exposure to the 0 to 2 feet bgs soil interval; consequently, exposures to PAHs included the more-contaminated soil. PAHs end up being influential to the cumulative risk estimates. However, while based on a sampling density that is not as robust as for the inorganic constituents (which are relatively much less influential to cumulative risk estimates [see the discussion of background concentrations of arsenic in Section A5.2.4]), there is a basic expectation that PAHs would indeed be localized to the area near the treated timbers, rather than the widespread inorganic constituents throughout the site that are present because of munitions-related sources. IR Site 24A data indicate a capture of expected contaminants in their appropriate locales and thereby reduce some uncertainty about the adequacy of site characterization.

A-5.2.2 Uncertainty in Exposure Assessment

Risk assessments require assumptions in order to assess potential exposures to humans. This risk assessment includes assumptions about general characteristics and potential patterns of human exposure at the site. The assumptions made in this assessment were based primarily on USEPA and DTSC guidance related to exposures to soil. The RME approach used in this HHRA develops protective (conservative) estimates of exposure which likely indicate a potential for risk or hazard that may be greater than would be encountered by future receptors that might utilize the site.

The residential exposure scenarios were employed to evaluate the potential for unrestricted land use at the site, in accordance with de minimis standards recognized by state and federal agencies. Thus, while this scenario is an appropriate basis for evaluation, there is little likelihood that this scenario would occur at the site, given the foreseeable continuation well into the future for the City of Concord's designation of the land as Open Space (CCRP 2010).

The recreational user scenario was used to represent a more plausible future receptor for the open space conditions. However, there is no specific set of default exposure parameter values for a recreational scenario, in part due to the wide possibilities for the types of activities that would

constitute recreation. The RME recreational user receptor was assumed to represent a somewhat intensive user of the site-specific area, perhaps disproportionately, given the great expanse of other open-space area surrounding the site. The RME recreational user, for example, might be someone who often specifically uses the IR Site 24A hillside for running training or other workout activities. The CTE recreational user is assumed to occasionally cross the site, for example, on a hike, but not for any intensive or long-duration activity. The supplemental analysis was conducted for the recreational scenario using only surficial soil because it might be unlikely that a recreational user would conduct intrusive activities into deeper soil. The RME scenarios (exposure to 0 to 2 feet bgs soil and 0 to 6 inches bgs soil) resulted in estimated risks and hazards greater than de minimis thresholds, while the CTE scenario was below the thresholds. Nonetheless, these RME and CTE exposure scenarios are hypothetical presumptions of human activity, and alternative use patterns could be equally valid.

This PEF model used to estimate chemical concentrations in dust incorporate a number of assumptions about the many interacting transport mechanisms that influence dust generation, wind speed, vegetative cover, windspeed distribution functions, surface roughness, etc. The ability of general models to predict accurate chemical transport will vary depending on the environmental conditions present at the specific site. In general, models are conservative, containing assumptions and estimations of chemical properties that are likely to overestimate the amount of chemical that is available for exposure. In addition, they do not account for all modes of transport and degradation, some of which may attenuate the movement of the chemical from the source area to the exposure point. Given the conservative elements inherent in these models, the use of such models is more likely to result in an overestimation of risks and hazards rather than an underestimation. In general, the PEF model is not markedly influential to estimation of inhalation exposures.

Under current site conditions, munitions debris, bullet fragments, and lead shot occur throughout much of the site. These remnants from former activity at the range may pose a hazard to people who might use the site, and their removal has been recommended. From a chemical hazard perspective, these residual pieces themselves probably pose little direct threat to the health of adult and older children under anticipated future uses, although concentrations of chemical constituents released or leached into the soil are shown herein to pose a threat. Incidental

ingestion of lead pellets by young or pica children is a potential, albeit unlikely, hazard and surficial lead pellets should be removed from the site to the extent feasible. The likelihood of pellet ingestion by young children is much under the future residential scenario where remaining pellets could be found in backyards, as opposed to recreational use as a future open space. Lead shot can be a significant ecological problem, and is addressed in the ecological risk evaluation (Appendix B).

A-5.2.3 Uncertainty in Toxicity Assessment

In general, the available scientific information is insufficient to provide a reasonably thorough understanding of the potential toxic properties of chemicals to which humans may be exposed. Consequently, varying degrees of uncertainty surround the assessment of adverse health effects in the exposed populations. Sources of uncertainty related directly to toxicity data include:

- Use of dose-response data from experiments on homogeneous, sensitive animal populations to predict effects in heterogeneous human populations with a wide range of sensitivities.
- Extrapolation of data from 1) high dose animal studies to low dose human exposures; 2) acute or sub chronic toxicity studies to chronic exposure scenarios; and 3) one exposure route to another (e.g., from ingestion to dermal absorption).
- Use of single-chemical test data that do not account for multiple exposures or synergistic and antagonistic responses.
- Toxicity values (RfDs, RfCs, IURs, and CSFs) are predicted values and have incorporated factors to provide a margin of safety for even the most sensitive subpopulations and likely overestimate potential risks for all receptors evaluated in this risk assessment.

Based on the above, a high degree of uncertainty may be associated with the toxicity values used in this risk assessment. In an attempt to minimize the consequences of uncertainty, USEPA and OEHHA typically rely on a conservative approach in determining toxicity values. The current toxicity values used in this risk assessment are likely to over-estimate the potential risk and hazard.

The use of the adjustments to oral toxicity values for the dermal pathway can lead to dermal risks that exceed the oral risk by a considerable margin which is counter to the generally accepted view that oral risks exceed dermal risks. Hence, oral toxicity criteria were used to estimate dermal risk without adjustment for gastrointestinal absorption.

There is currently no RSL established for thallium as the thallium sulfate value has been withdrawn. Because no recommended toxicity criteria are presented in IRIS, risks from thallium were not quantitatively evaluated. Thallium was detected in 7 of 80 samples of soils collected from 0 to 2 foot depth and in 4 of 40 samples collected from 0 to 6 inches deep. It is unlikely that the limited number of detected concentrations of thallium would alter the overall conclusions of the HHRA.

PPRTVs were used for a number of chemicals, which by definition, are provisional toxicity values developed by USEPA for use within the Superfund program. They do not receive the multi-program consensus review provided for the IRIS program.

There is a high level of uncertainty associated with the risk and hazard estimates for cobalt that may have the potential to overestimate risk. The uncertainty pertains to the toxicity values for cobalt which are drawn from USEPA's current PPRTVs (USEPA 2008). The recommended PPRTVs for cobalt are an oral RfD of 3×10^{-4} mg/kg per day and inhalation RfC of 6×10^{-6} milligrams per cubic meter and an IUR of 9×10^{-3} $\mu g/m^3$. These values assume a level of toxicity for cobalt that is one to two orders of magnitude higher than previously estimated (USEPA 2004b). USEPA's level of confidence in both the noncancer reference values is rated as low. The critical effect for the oral RfD is decreased iodine uptake in humans. For the inhalation RfC, the critical effects are decreased pulmonary function and respiratory tract irritation based on human exposure to metallic cobalt dust. USEPA identified numerous limitations and deficiencies in the available database such as inadequate exposure data, insufficient dose-response evidence, and potentially confounding exposure to other chemicals. USEPA does not provide a level of confidence for the IUR value which is derived from a study of respiratory tract neoplasms in mice and rats when exposed to cobalt sulfate hexahydrate. However, several key limitations and uncertainties are identified regarding carcinogenic potential and cancer mode of action. The IUR is based on animal data since reliable human carcinogenicity data were not available. No direct

evidence was found linking cobalt-induced mutagenesis to the development of cancer and the mutagenic potential of cobalt in respiratory cells has not been evaluated.

A-5.2.4 Uncertainty in Risk Characterization

Because of the conservative nature of the assumptions used in the COPC selection process, the exposure assessment and the toxicity assessment, estimates of risk and hazard are generally likely to overestimate the risks and hazards likely to occur at a site.

Evaluation of Background

Under the USEPA Method, background screening of naturally occurring inorganic constituents can be used to select soil COPCs. However, no such exclusion was used for this HHRA (as one means to streamline the overall evaluation of the limited data set) and, consequently, risk and hazard estimates include a contribution that is not related to activity at the former pistol range and target area. This uncertainty is particularly important because arsenic is the dominant contributor to risk estimates that exceed the 1×10^{-6} point of departure (60 percent or more of the cumulative risk estimates are attributable to arsenic, see Table A-4).

The RI report (TtEMI 1997) presented evaluations of concentrations of inorganic constituents in soil collected from four Inland Area sites (IR Sites 13, 17, 22, and 24A) to characterize ambient (background) conditions. The data distribution indicated two groupings: results for soils collected from IR Sites 17 and 24A, and results for soils collected from IR Sites 13 and 22 (see EE/CA Appendix F [TtEMI 1997] for details). The RI report (TtEMI 1997) identified arsenic background concentrations of 23 mg/kg (the 99th percentile of the data) for IR Sites 13 and 22 and 7.3 mg/kg (maximum detected concentration) for IR Sites 17 and 24A.

Arsenic was detected in 79 of 80 samples with an average concentration of 7.718 mg/kg in the 0 to 2 feet bgs data set, and an average of 10.51 mg/kg detected in the 39 of 40 samples collected from 0 to 6 inch bgs. Seventy-six of the 79 detected concentrations were less than 18 mg/kg. The site-specific background concentration of arsenic is 7.3 mg/kg (see Section A2.3.3), and 69 of the IR Site 24A samples had detected concentrations lower than 7.3 mg/kg. Additional background data collected for the former NAVWPNSTA Concord (based on samples collected from IR Sites 13 and 22) indicate an arsenic background concentration of 23 mg/kg (see Section A2.3.3). Based on consideration of the entire relative range of background concentrations at the

former NAVWPNSTA Concord, IR Site 24A samples with concentrations below 18 mg/kg do not appear to represent concentrations elevated above background; three samples (BAI-24A-021-00, 120 mg/kg; BAI-24A-029-00, 73.25 mg/kg; BAI-24A-025-00, 31 mg/kg) represent elevated concentrations of arsenic (i.e., outlier locations).

Supplemental analyses were conducted to further characterize the arsenic data and the potential implications for this HHRA. The three outlier locations samples and the seven samples with arsenic concentrations greater than 7.3 mg/kg are listed in Table A-5. Of the seven samples with concentrations greater than 7.3 mg/kg and less than 18 mg/kg, four are located in areas to be considered for removal based on other (non-arsenic) concerns for human health or for ecological receptors (i.e., as part of the overall conclusions of the EE/CA). The residual exposure concentrations for arsenic at IR Site 24A (after excavation of the outlier locations and proposed removal locations) were then reevaluated to demonstrate further that site-related cumulative risk estimates are highly influenced by background concentrations of arsenic.

Table A-6 provides summary statistical information for arsenic concentrations, as modified by proposed removal actions. Data summarized include: the entirety of the arsenic data (as used in the risk estimates provided in Table A-4); exclusion of the three outlier locations; exclusion of the additional four samples proposed for removal; and the background data (summarized from TtEMI 1997; provided as Appendix F to the EE/CA). Table A-6 also summarizes risk estimates calculated for the RME concentrations of arsenic (the 95UCL concentrations from site data or the background concentrations, from TtEMI 1997) as evaluated through the USEPA Method 1 approach for the residential and recreational receptors exposed to 0 to 2 feet bgs soil.

CTE (mean) or RME (95UCL) concentrations for arsenic data sets that exclude the three outlier locations, and the additional four locations within proposed removal areas, are all lower than the site-specific background concentration for IR Site 24A (7.3 mg/kg). The cumulative risk estimates indicate that background and below-background concentrations of arsenic result in risk estimates greater than the 1×10^{-6} point-of-departure. The cumulative risk estimates for the scenarios that eliminate the three outlier locations and four other locations from the analysis also indicate that the three retained locations with arsenic concentrations slightly greater than the site-specific background (sample BAI-24A-045-18 at 14 mg/kg, sample BAI-24A-10-18 at

9.9 mg/kg, and sample BAI-24A-11-00 at 7.75 mg/kg; see Table A-5) are not influential to the exposure estimates and do not disproportionately increase the cumulative risk predictions. Thus, with the exception of three outlier locations, exposures to arsenic in soil at IR Site 24A are estimated to be below naturally occurring background concentrations, and there is no site-related incremental increase in cancer risk.

If a COPC screening step had been utilized for USEPA Method 1, which would consist of a comparison of the maximum detected concentrations from IR Site 24A samples to the corresponding background concentration, all inorganic constituents would have been carried into the risk evaluation. Consequently, a more rigorous evaluation of the nuances of site and background concentrations (such as the previous paragraph) would still have been needed.

Background evaluations for organic compounds are less commonly encountered due to the assumption that organic compounds are present generally because of anthropogenic activities (with exceptions for fires, volcanic activity, petroleum deposits, etc.). Nonetheless, there has been attention paid to globally ubiquitous low levels of compounds such as the dioxins and polychlorinated biphenyls. In California, the DTSC has integrated background concentrations of PAHs into their cleanup-decision process for remediation of PAH-impacted soils (DTSC 2009c). The DTSC methodology involves the summation of the concentrations of the carcinogenic PAHs in a sample after conversion of those concentrations to a common unit basis (benzo[a]pyrene equivalents; B[a]P-eq) through the use of chemical-specific potency equivalency factors (DTSC 2009c). Based on a subset of data from Northern California, DTSC derived a mean (± standard deviation) concentration of 0.21±0.41 mg/kg B[a]P-eq as representative of ambient conditions (DTSC 2009c). Semiquantitative review of the detected concentrations of PAHs in the 10 samples collected from IR Site 24A indicates that B[a]P-eq concentrations range from 0.0003 mg/kg B[a]P-eq (Sample BAI-24A-05-18) to 1.061 mg/kg B[a]P-eq (Sample BAI-24A-02-18) (summation data not shown). Qualitatively, these general comparisons indicate that IR Site 24A concentrations of PAHs span a range from what could be considered “below background” to above background.

A-5.3 RISK INTERPRETATION

This section provides the context for interpretation of risk and hazard estimates, influential uncertainties, and other site-related information estimated by the USEPA and DTSC Methods, and summarizes the major findings.

A-5.3.1 Overall Risk and Hazard Estimates

Most risk estimates fell within a risk management range of between 10^{-4} and 10^{-6}, while HIs exceed a threshold value of 1 in all RME scenarios but were below 1 for all CTE scenarios. Risk estimates for the recreational receptor in the CTE scenario were below 10^{-6} which, along with HI values less than 1, are generally considered de minimis (inconsequential).

Cancer Risk Estimates

Approximately 60 to 90 percent of the cancer risk estimates are due to predicted exposures to arsenic. However, arsenic concentrations at naturally occurring background concentrations produce risk estimates in excess of 10^{-6} and only 3 of 80 arsenic concentrations were greater than the range of background concentrations for the former NAVWPNSTA Concord. The primary additional contributors to the cancer risk estimates are PAHs detected in soil samples adjacent to creosote-treated timbers that were used as a retaining wall.

Noncancer Hazard Estimates

RME HI values greater than 1 are due primarily to estimated exposures to antimony, which was the only inorganic constituent that had a chemical-specific HI greater than 1. The additional contributors to the HIs include the roster of detected inorganic constituents, but no other individual inorganic had a chemical-specific HI greater than 1.

A-5.3.2 USEPA Method 1 versus DTSC Method 2

Overall, the ECR and HI values when calculated by USEPA Method 1 or DTSC Method 2 are mathematically within 20 percent between methods, and the “risk driver” chemicals at IR Site 24A are similar among all receptors and exposure scenarios: the carcinogens arsenic, benzo[a]anthracene, benzo[b]pyrene, and benzo[k]fluoranthene, and the noncarcinogenic inorganic, antimony.

A-5.3.3 RME Scenario versus CTE Scenario

The combination of exposure-factor values and exposure-point concentrations created approximately 4-f to 30-fold differences in risk and hazard estimates between the CTE and RME exposure scenarios.

A-5.3.4 Lead

There are multiple locations where concentrations of lead exceeded the residential CHHSL (80 mg/kg) or the USEPA commercial/industrial RSL (800 mg/kg[9]), which was used as a comparative value for screening the recreational user receptor.

A-5.3.5 Residential Scenario and Recreation Scenario

The future resident receptor represents an analysis that can be used to identify a site as suitable for unrestricted use, i.e., no land use controls to limit the kinds of activities that could occur on the site. However, site risk estimates under RME and CTE scenarios are greater than 1×10^{-6} and the HI is greater than 1 for the RME scenarios. Consequently, the site is not immediately suitable for unrestricted use. Additional assessment (or remediation) is necessary to demonstrate that in-place contaminants do not pose a threat to human health if an unrestricted-use designation is sought.

The recreational user scenarios generally represent an intermittent use of the site as a limited area of open space within a much larger overall expanse of open space. The RME scenario is probably unlikely (assuming site-specific presence at 2 hours per day for 21 years), but results in risk and hazard estimates in excess of de minimis values. However, as indicated previously, the risk estimate is primarily due to arsenic which itself is present primarily at background concentrations. Exposure point concentrations in surficial soil (0 to 6 inches bgs) are greater than exposure concentrations for the entire 0 to 2 feet bgs interval.

[9] This value is based upon the USEPA industrial PRG for adult exposure but is also protective of recreational child exposure, based on the recreational exposure assumptions for this site. Please refer to Section A4.1.1 for details regarding the application of this value to the recreational child scenario.

A-5.3.6 Summary

In summary, the potential threats to human health at IR Site 24A are associated primarily with limited (three) locations of elevated arsenic concentrations (as arsenic is predominantly present at background concentrations), lead, PAHs leached from a retaining wall, and antimony in soil.

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A.6.0 HHRA CONCLUSIONS AND IDENTIFICATION OF CHEMICALS OF CONCERN

A HHRA was conducted for chemicals detected in 0 to 2-feet bgs soil at IR Site 24A at former NAVWPNSTA Concord, based on residential (unrestricted) use and a derived recreational user scenario through two different regulatory-agency approaches. Exposures to soil via incidental ingestion, particulate inhalation, and dermal contact were characterized.

As shown in the following table, the two regulatory methods resulted in only minor differences in the cumulative ECR. The primary differences are the magnitude of the noncarcinogenic HI. The ECRs and HIs for each of the receptors under the different exposure scenarios are summarized below:

		USEPA Method 1		DTSC Method 2	
		ECR	**HI**	**ECR**	**HI**
Future Resident (Unrestricted Use) Exposed to Soil (0 to 2 feet bgs)	RME	3.8×10^{-5}	4.6	4.5×10^{-5}	5.2
	CTE	8.6×10^{-6}	0.83	9.2×10^{-6}	0.91
Future Recreational User Exposed to Soil (0 to 2 feet bgs)	RME	1.6×10^{-5}	1.6	1.8×10^{-5}	1.6
	CTE	5.3×10^{-7}	0.057	5.6×10^{-7}	0.057
Future Recreational User Exposed to Soil (0 to 6 inches bgs)	RME	--	--	2.9×10^{-5}	4.1

Notes:
-- = not evaluated
bgs = below ground surface
CTE = central tendency exposure
DTSC = California Department of Toxic Substances Control
ECR = excess cancer risk
HI = hazard index
RME = reasonable maximum exposure
USEPA = United States Environmental Protection Agency

A-6.1 IDENTIFICATION OF CHEMICALS OF CONCERN

The HHRA's risk and hazard estimates are summarized above and described in Section A5.0. For all receptors and exposure scenarios, influential contributors to carcinogenic risk estimates greater than 1×10^{-6} were arsenic, benz[a]anthracene, benzo[a]pyrene, and benzo[b]fluoranthene.

For all RME scenarios, antimony had chemical-specific HI values greater than 1, and while other individual inorganic constituents contributed to the scenario's total HI, none had chemical-specific HI values greater than 1. Lead, which is not evaluated through the cancer risk or HI methods, is present in IR Site 24A soils at 16 locations in excess of the residential CHHSL (80 mg/kg) and in 9 locations at concentrations in excess of the USEPA's RSL for commercial/industrial land use (800 mg/kg), a value used as a point-of-comparison for the recreational user scenario.[10]

In evaluation of the IR Site 24A concentrations of arsenic (see Section A5.2.4), all but three sample results are at concentrations that are within the general range of regional background concentrations at former NAVWPNSTA Concord. The three locations of elevated arsenic concentrations are also locations where lead concentrations are highly elevated: BAI-24A-021-00 (120 mg/kg arsenic, 29,000 mg/kg lead), BAI-24A-029-00 (73.25 mg/kg arsenic, 5,700 mg/kg lead), and BAI-24A-025-00 (31 mg/kg arsenic, 9,500 mg/kg lead). Consequently, remedial actions to address lead contamination at IR Site 24A would also address those few locations where arsenic concentrations are elevated above the regional range of background concentrations.

Although there are several locations where lead hot spots are clearly evident (e.g., concentrations of several thousand mg/kg), there are also many locations where lead concentrations exceed background (18 mg/kg) but are lower than the suggested remedial goal (59 mg/kg, based on ecological effects; see Appendix B). These intermediate concentrations are neither low enough to be considered background nor high enough to be considered as hot spots or as exceedances of the risk-based remedial goals. Leaving these concentrations in place (i.e., not remediating at locations with lead less than 59 mg/kg) will be protective of both the ecological and human exposures considered for the site. This is discussed in further detail below.

Eighty soil samples have been collected from IR Site 24A; half from each depth interval sampled (0 to 6 inches bgs and 1.5 to 2 feet bgs). Lead was detected in all samples from both depth

[10] This value is based upon the USEPA industrial PRG for adult exposure but is also protective of recreational child exposure, based on the recreational exposure assumptions for this site. Please refer to Section A4.1.1 for details regarding the application of this value to the recreational child scenario.

intervals (Table A-1). Concentrations of lead vary widely within both depth intervals: 3.3 to 62,000 mg/kg in the 0 to 6 inches bgs interval, and 3.1 to 3,000 mg/kg in the 1.5 to 2 feet bgs depth interval.

Lead pellets and/or fragments were also noted at numerous locations across the site (see Appendix B). Most locations with lead pellets are also co-located with elevated levels of lead, and other metals to a lesser extent. The high concentrations of lead found in soils suggests that lead pellets are degrading and are acting as an ongoing source of lead for soils in certain areas of this site. The central area of the site has the highest density of locations with either elevated lead, lead pellets present, or both: retaining wall, target berm, western portion of range floor, below grenade impact area, and western portion of the drainage channel (see Figures 2-1 and 2-2 in the main EE/CA text).

As presented in the Background Study for the Inland Area (Appendix F to the EE/CA main text; TtEMI 1997), background concentrations of lead at IR Site 24A ranged from 3.5 to 18.2 mg/kg. The suggested background level for lead from the RI report (TtEMI 1997) is 18 mg/kg. Forty-eight of the samples collected from 0 to 2 feet bgs at IR Site 24A exceed this background level (see Table B-26 of Appendix B). The final cleanup goal for lead of 59 mg/kg (derived for ecological receptors) was used as a starting point to identify areas that require risk management (e.g., soil removal). Twenty-four of the 48 samples above the background level for lead are below this cleanup goal (i.e., lead concentrations fall between the background level and cleanup goal). Fifteen of these 24 samples were collected from 0 to 6 inches bgs, and the remaining 9 were collected from 1.5 to 2 feet bgs. The remaining 24 of the 48 samples that exceed the background level also exceed the cleanup goal.

The size distribution of lead pellets at IR Site 24A has not been recorded. Based on the very elevated concentrations of lead at several locations, it is likely that pellets or fragments were measured as part of these soil samples. Regardless of the presence or absence of lead pellets, all soil samples analyzed for lead were included in the risk assessment data sets. This approach implies that the lead pellets or fragments is the same form as lead in soil, in terms of availability for physical uptake (incidental ingestion) and bioavailability once ingested, which is likely to overestimate exposure and risk.

Risk- and hazard-driver chemicals for the HHRA are summarized below:

Receptor	Exposure Scenario	Cancer Risk Driver (USEPA Method 1 and DTSC Method 2)	Noncancer Driver (USEPA Method 1 and DTSC Method 2)
Future Resident Exposed to Soil (0 to 2 feet bgs)	RME	Arsenic Benzo[a]anthracene Benzo[a]pyrene Benzo[b]fluoranthene	Antimony Lead
	CTE	Arsenic	Lead
Future Recreational User Exposed to Soil (0 to 2 feet bgs)	RME	Arsenic Benzo[a]anthracene Benzo[a]pyrene	Antimony Lead
	CTE	None	Lead
Future Recreational User Exposed to Soil (0 to 6 inches bgs)	RME	Arsenic Benzo[a]pyrene	Antimony Lead

Notes:
bgs = below ground surface
CTE = central tendency exposure
DTSC = California Department of Toxic Substances Control
RME = reasonable maximum exposure
USEPA = United States Environmental Protection Agency

Benzo[a]anthracene, benzo[a]pyrene, benzo[b]fluoranthene, antimony, and lead in IR Site 24A soil constitute the chemicals of concern (COCs) as arsenic, while a significant contributor, is predominantly below background concentrations. These soil COCs are the focus of subsequent derivation of health-based cleanup goals (Section A7.0), and the analyses of remedial alternatives in other sections of the main body of this EE/CA report.

A.7.0 HEALTH-BASED CLEANUP GOALS

Concentrations of some COPCs result in risk- or hazard-estimates that exceed target thresholds for the future land use conditions evaluated in the HHRA, i.e., the residential (unrestricted use) scenario, or the recreational user of the site if it were to become an open space recreational area. Consequently, IR Site 24A might require remedial action(s) to eliminate, reduce, or otherwise control the potential for the exposures that cause the exceedances of the risk or hazard targets, depending on the chosen future use of the site. The derivation of health-based cleanup goals can be an initial step for developing remedial action objectives and developing information for the technical feasibility and cost-estimate evaluations that are needed for remedial decision-making within the Superfund program. Health-based cleanup goals for IR Site 24A are concentrations in soil that are derived ("back calculated") to be protective of human health at specified acceptable levels, in contrast to the HHRA methods in Section 5.0 which used specific environmental concentrations to predict ("forward calculate") the health threat.

A-7.1 APPROACH FOR DERIVATION OF HEALTH-BASED CLEANUP GOALS

This section describes the initial derivation of health-based cleanup goals for the three PAHs and antimony in soil; IR Site 24A concentrations of lead are evaluated with respect to the CHHSL or RSL values because lead toxicity is not evaluated in the same process as the other COCs.

As briefly summarized in the introduction to this section, health-based cleanup goals are concentrations for individual COCs in specific environmental media (e.g., soil) that are protective of human health under specified conditions of land use and human activity. Health-based cleanup goals may be used as PRGs to evaluate the need for more detailed investigation, to assist in the analysis and selection of remedial alternatives, or to set health-based cleanup levels (USEPA 1991c, 2004b, 2010a). The health-based cleanup goals derived herein were calculated based on the same agency guidance documents summarized in Section A1.3.

The general approach for determining site-specific health-based cleanup goals involves specifying a target cumulative risk or target HI level and then iteratively deriving the soil concentration that would produce that target value (using the same equations as those used in the HHRA). For IR Site 24A, a target cumulative risks of 1×10^{-6} and a target HI of 1.0 were used for the combined multiple pathways of exposure to COCs by residential and recreational user

receptors. Procedurally, this general approach was implemented using the "GOALSEEK" function in Microsoft's Excel spreadsheet application to solve for the soil EPC in functional computational workbooks[11] for each combination of receptor (residential or recreational), exposure scenario (RME or CTE), and agency approach (USEPA Method 1 or DTSC Method 2).

As addressed previously, the residential CHHSL (80 mg/kg) and the USEPA's RSL for commercial/industrial land use (800 mg/kg[12]) are the comparative values for lead.

A-7.2 HEALTH-BASED CLEANUP GOALS

The overall health-based cleanup goals are arrayed in Table A-7 for each receptor and exposure scenario. As initial information for the development of remedial alternatives in this EE/CA, locations that exceed the health-based cleanup goals (based on DTSC Method 2 RME as the most health-protective approach) are indicated for the residential receptor in Table A-8 and are indicated for the recreational receptor in Table A-9. Depth-specific areas encompassing these locations are approximated in Figure A-5 for the residential scenario, and in Figure A-6 for the recreational user scenario. These approximate areas are based on an assumption that removal (excavation) would be the preferred remedial action and provide a preliminary basis for the evaluation of remedial alternatives and costs within the main text of the EE/CA. If removal is selected as the preferred remedial alternative, confirmation samples would be collected to ensure that the selected cleanup goals are met.

[11] Attachments A3 through A11 display copies of specific worksheets culled from functional workbooks; the functional workbooks have additional worksheets of information needed for computations, but the four tables provided in each Attachment have all the necessary computational details.

[12] This value is based upon the US EPA industrial PRG for adult exposure but is also protective of recreational child exposure, based on the recreational exposure assumptions for this site. Please refer to Section A4.1.1 for details regarding the application of this value to the recreational child scenario.

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FIGURES

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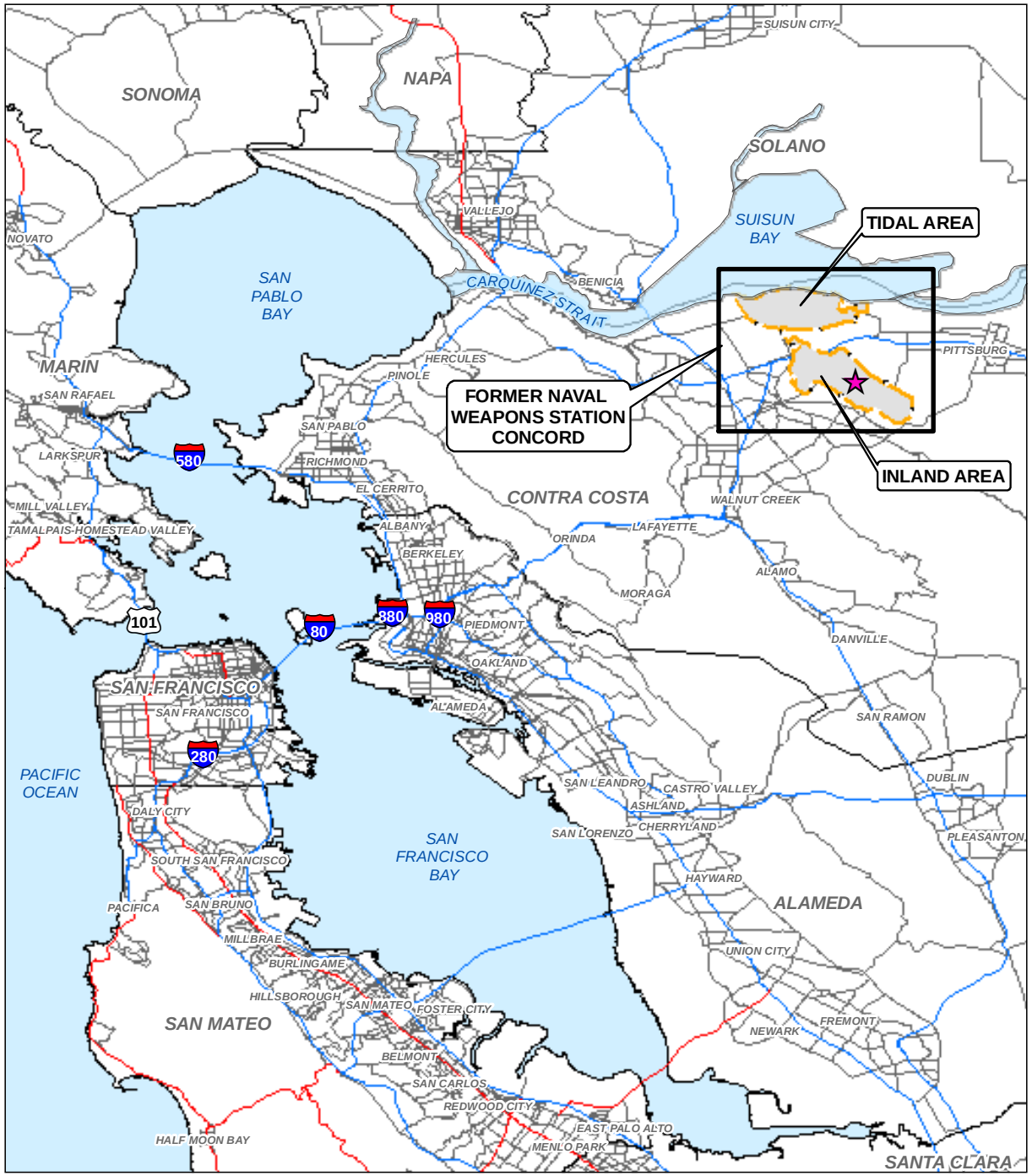

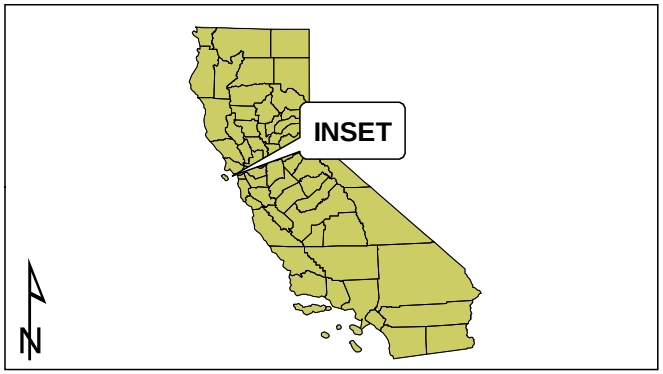

LEGEND

IR SITE 24A

FORMER NAVAL WEAPONS STATION CONCORD SITE BOUNDARY

NOTE:
IR - INSTALLATION RESTORTION

SOURCE: ENVIRONMENTAL SYSTEMS RESEARCH INSTITUTE (ESRI) USA SPATIAL FEATURE CLASSES

N

APPROXIMATE GRAPHIC SCALE

0 4 8 16

(IN MILES)
1 INCH = 8 MILES

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HUMAN HEALTH RISK EVALUATION OF IR SITE 24A
FORMER NAVAL WEAPONS STATION SEAL BEACH DETACHMENT CONCORD
CONCORD, CALFORNIA

FIGURE A-1

INSTALLATION LOCATION MAP

TREVET

DATE: MAY 2011

CONTRACT NO.: N62473-10-C-4406

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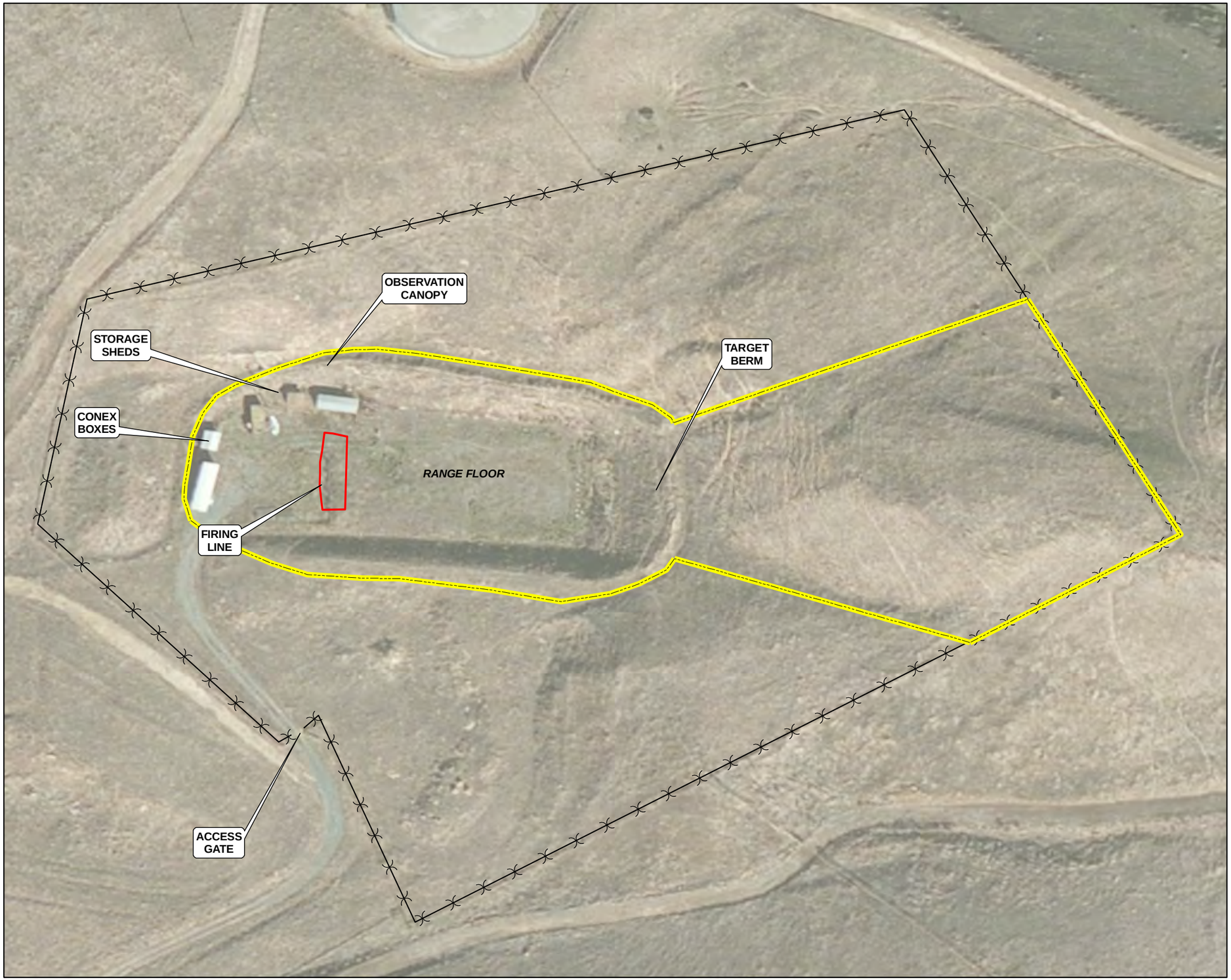

LEGEND

FIRING LINE

PERIMETER FENCE

MUNITIONS RESPONSE SITE (MRS) BOUNDARY

NOTE:
IR - INSTALLATION RESTORATION

SOURCE:
BING MAPS AERIAL IMAGE, DATE UNKNOWN.
ENVIRONMENTAL SYSTEMS RESEARCH INSTITUTE
(ESRI) USA SPATIAL FEATURE CLASSES

GRAPHIC SCALE

0 40 80 160

(IN FEET)
1 INCH = 80 FEET

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HUMAN HEALTH RISK EVALUATION OF IR SITE 24A
FORMER NAVAL WEAPONS STATION SEAL BEACH DETACHMENT CONCORD
CONCORD, CALFORNIA

FIGURE A-2

SITE VICINITY MAP

TREVET

DATE: MAY 2011

CONTRACT NO.: N62473-10-C-4406

Concord\Figs_ECA_4-11\FigA-2_24a_SVM_4-11.mxd) 4/26/2011

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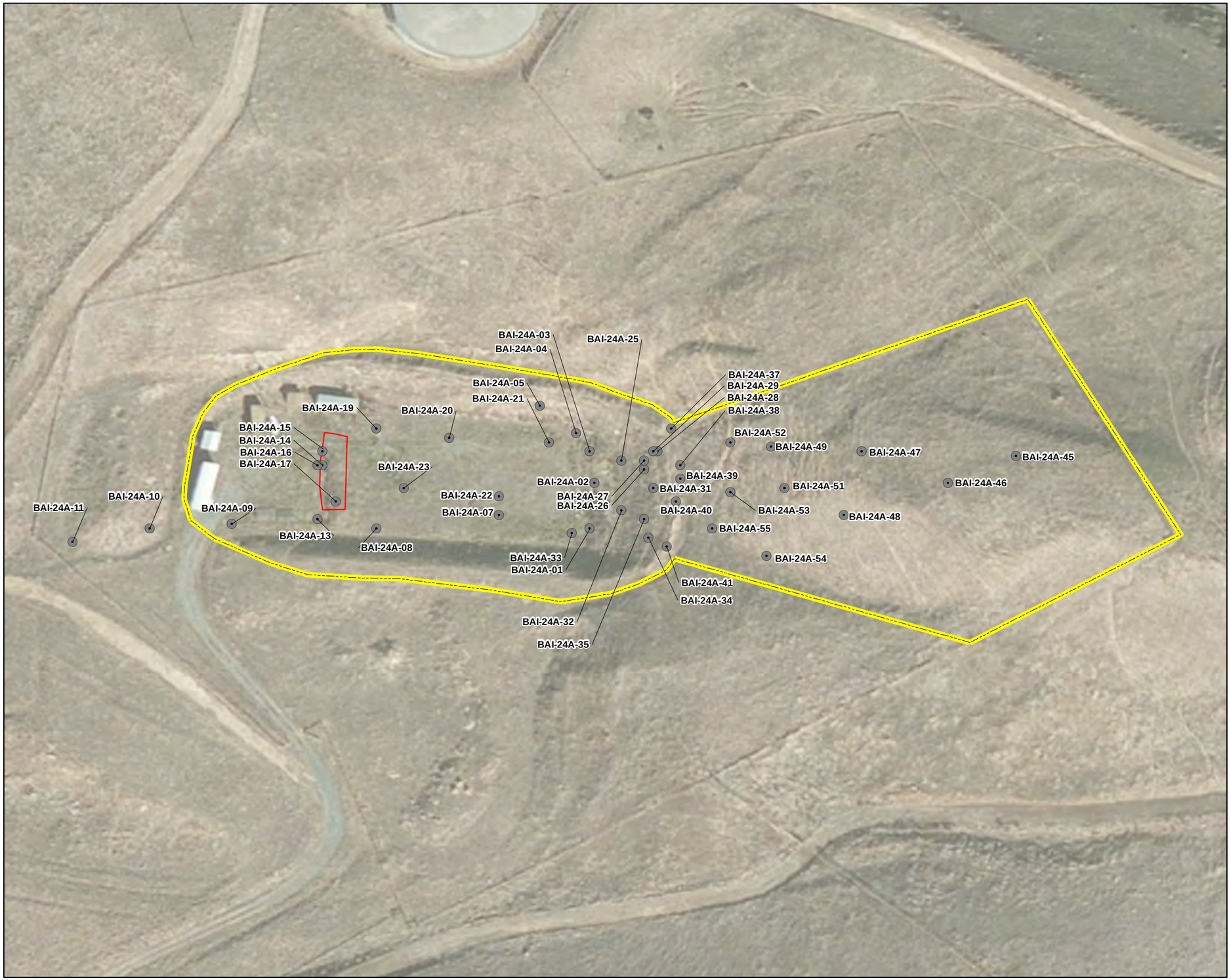

LEGEND

- SOIL SAMPLE LOCATION
- MUNITIONS RESPONSE SITE (MRS) BOUNDARY
- FIRING LINE

NOTE;
IR - INSTALLATION RESTORATION

SOURCE:
BING MAPS AERIAL IMAGE, DATE UNKNOWN.
ENVIRONMENTAL SYSTEMS RESEARCH INSTITUTE
(ESRI) USA SPATIAL FEATURE CLASSES

GRAPHIC SCALE

0 40 80 160

(IN FEET)
1 INCH = 80 FEET

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HUMAN HEALTH RISK EVALUATION OF IR SITE 24A
FORMER NAVAL WEAPONS STATION SEAL BEACH DETACHMENT CONCORD
CONCORD, CALFORNIA

FIGURE A-3

SAMPLE LOCATIONS MAP

TREVET

DATE: MAY 2011

CONTRACT NO.: N62473-10-C-4406

Concord\Figs_ECA_4-11\FigA-3_24a_SLM 4-11.mxd) 4/26/2011

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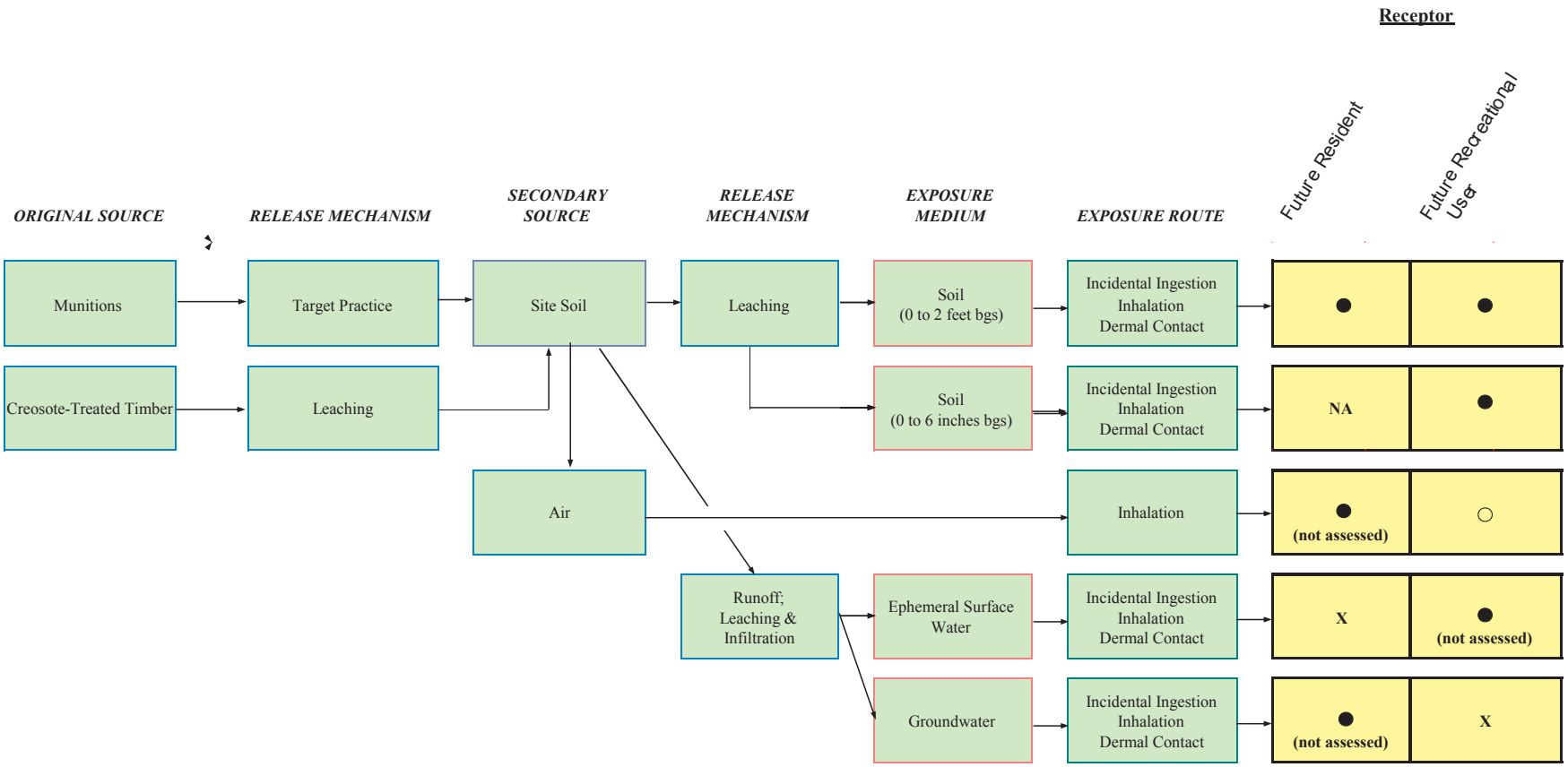
Figure A-4
Conceptual Site Model for the Human Health Risk Evaluation of Site 24A
Former Naval Weapons Station Seal Beach Detachment Concord
Concord, California



Legend

- ● **Potentially complete pathway**
- ○ **Potentially complete pathway, but insignificant**
- **X Incomplete pathway**

NA Not applicable to this scenario in this human health risk evaluation

bgs = below ground surface

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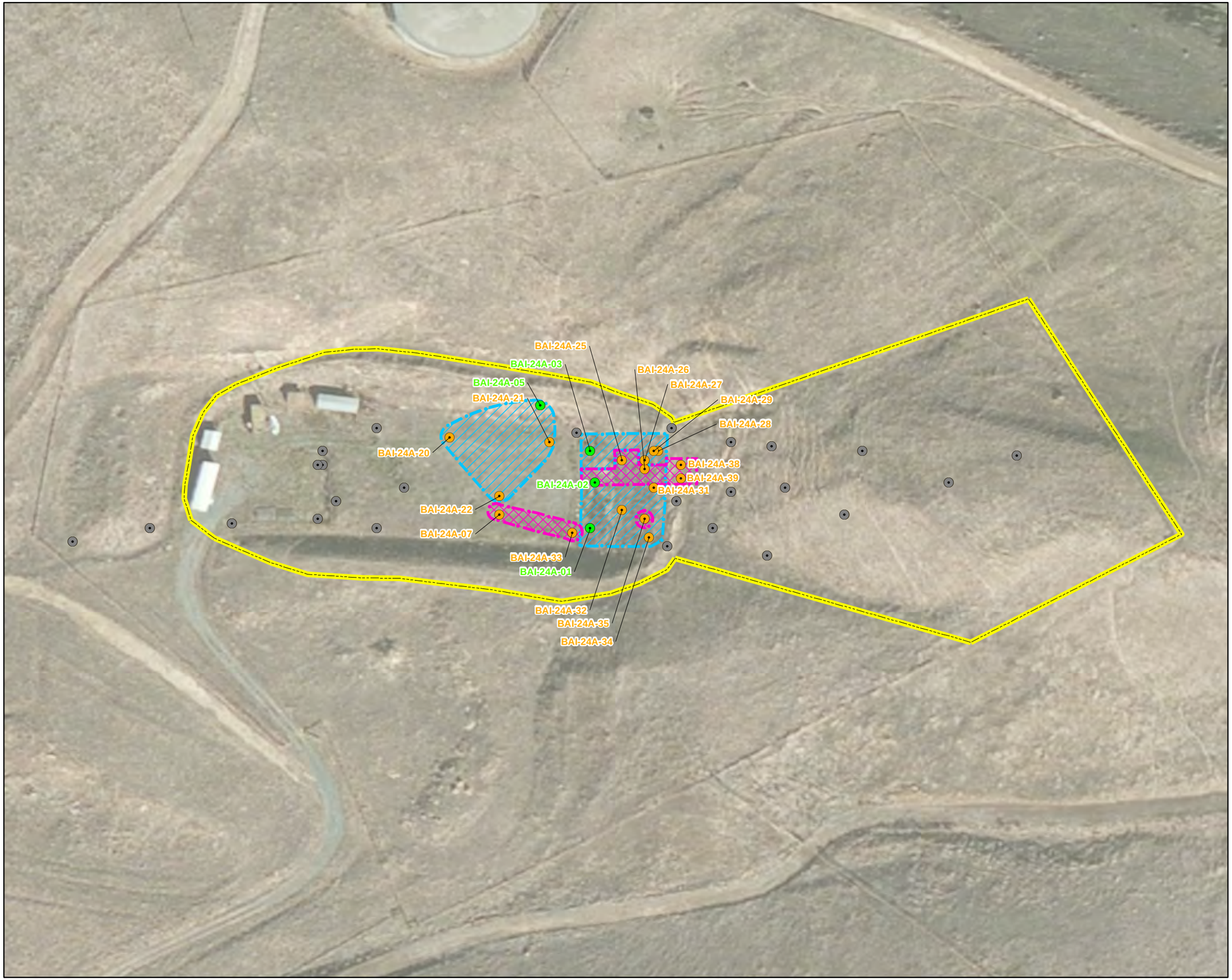

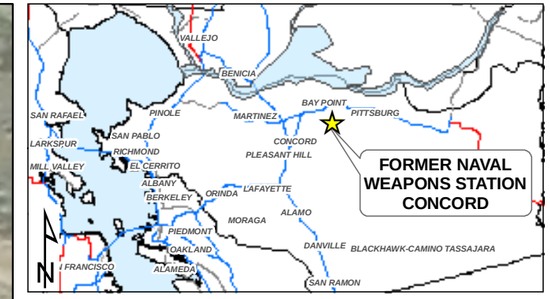

LEGEND

- SOIL SAMPLE LOCATION WITH NO COPC EXCEEDANCE
- NON-LEAD COPC SOIL SAMPLE LOCATION
- LEAD IS A RISK DRIVER AT SOIL SAMPLE LOCATION

EXCAVATION DESCRIPTION

RECOMMENDED EXCAVATION BOUNDARY LINES ARE APPROXIMATE AND ARE DRAWN AROUND LOCATION-SPECIFIC EXCEEDANCES OF RISK-BASED CLEANUP GOALS

- 0.5' REMOVAL
- 2.0' REMOVAL
- MUNITIONS RESPONSE SITE (MRS) BOUNDARY

NOTE:
COPC - CHEMICAL OF POTENTIAL CONCERN

SOURCE:
BING MAPS AERIAL IMAGE, DATE UNKNOWN.
ENVIRONMENTAL SYSTEMS RESEARCH INSTITUTE
(ESRI) USA SPATIAL FEATURE CLASSES

GRAPHIC SCALE

0 40 80 160

(IN FEET)
1 INCH = 80 FEET

DEPARTMENT OF THE NAVY

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HUMAN HEALTH RISK EVALUATION OF SITE 24A
FORMER NAVAL WEAPONS STATION SEAL BEACH DETACHMENT CONCORD
CONCORD, CALFORNIA

FIGURE A-5

RECOMMENDED REMOVAL AREAS TO MEET HEALTH-BASED CLEANUP GOALS FOR RESIDENTIAL RECEPTORS

TREVET

DATE: APRIL 2011

CONTRACT NO.: N62473-10-C-4406

Concord\Figs_ECA_4-11\FigA-5_HH-Res_4-11.mxd) 4/20/2011

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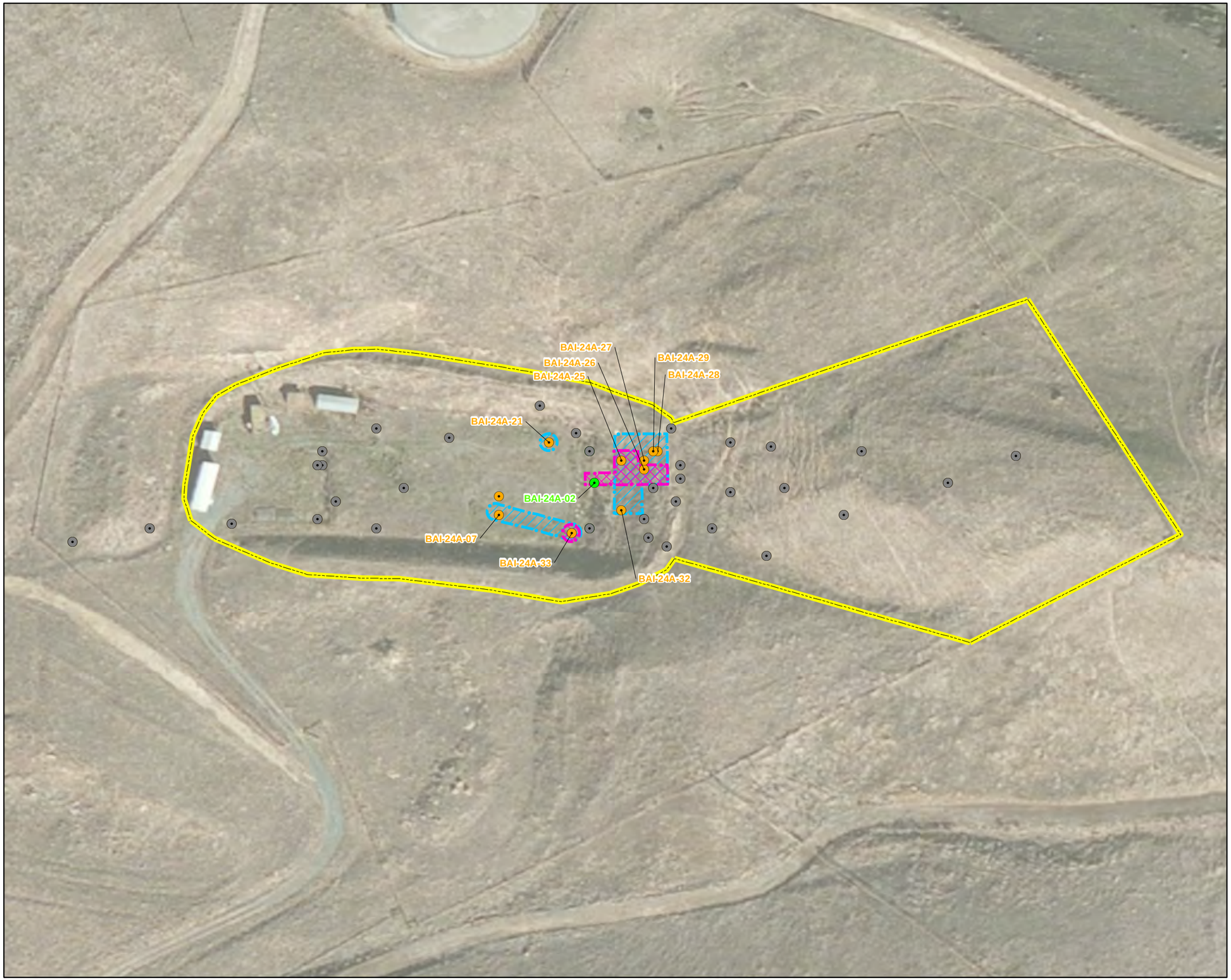

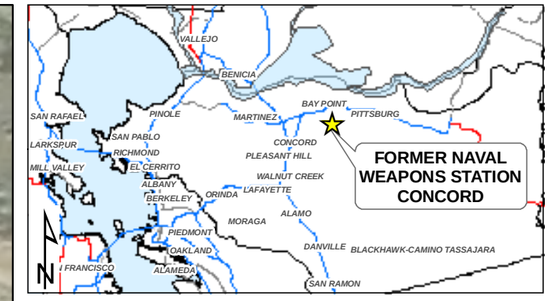

LEGEND

- SOIL SAMPLE LOCATION WITH NO COPC EXCEDENCE
- NON-LEAD COPC SOIL SAMPLE LOCATION
- LEAD IS A DRIVER AT SOIL SAMPLE LOCATION

EXCAVATION DESCRIPTION

RECOMMENDED EXCAVATION BOUNDARY LINES ARE APPROXIMATE AND ARE DRAWN AROUND LOCATION-SPECIFIC EXCEEDANCES OF RISK-BASED CLEANUP GOALS

- 0.5' REMOVAL
- 2.0' REMOVAL
- MUNITIONS RESPONSE SITE (MRS) BOUNDARY

NOTE:
COPC - CHEMICAL OF POTENTIAL CONCERN
IR - INSTALLATION RESTORATION

SOURCE:
BING MAPS AERIAL IMAGE, DATE UNKNOWN.
ENVIRONMENTAL SYSTEMS RESEARCH INSTITUTE
(ESRI) USA SPATIAL FEATURE CLASSES

GRAPHIC SCALE

0 40 80 160

(IN FEET)
1 INCH = 80 FEET

DEPARTMENT OF THE NAVY

SAN DIEGO, CALIFORNIA

NAVFAC SOUTHWEST

HUMAN HEALTH RISK EVALUATION OF IR SITE 24A
FORMER NAVAL WEAPONS STATION SEAL BEACH DETACHMENT CONCORD
CONCORD, CALFORNIA

FIGURE A-6

RECOMMENDED REMOVAL AREAS TO MEET HEALTH-BASED CLEANUP GOALS FOR RECREATIONAL RECEPTORS

TREVET

DATE: MAY 2011

CONTRACT NO.: N62473-10-C-4406

Concord\Figs_ECA_4-11\FigA-6_HH-Rec_4-11.mxd) 4/26/2011

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TABLES

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Table A-1. Summary Statistics for Detected Analytes in Soil, IR Site 24A, Former Naval Weapons Station Seal Beach Detachment Concord

Analyte	CAS #	No. of Samples	Detection Rate	Summary Statistics (mg/kg dry weight)				Non-detect Method Detection Limits (MDL)		Upper Confidence Limit (UCL)	
				Mean (EPC for CTE Scenarios)	Standard Deviation	Minimum Detected	Maximum Detected	Minimum	Maximum	Method of UCL Calculation	95UCL (mg/kg dry weight) (EPC for RME Scenarios, or Maximum used if "NA")
Depth Interval: 0 to 2 feet below ground surface											
Inorganic Constituents											
Antimony	7440-36-0	80	95%	1.99E+01	8.84E+01	2.10E-01	7.00E+02	1.60E-01	1.70E-01	97.5% KM (Chebyshev) UCL	8.21E+01
Arsenic	7440-38-2	80	99%	7.72E+00	1.52E+01	1.16E+00	1.20E+02	8.25E-02	8.25E-02	95% KM (BCA) UCL	1.09E+01
Barium	7440-39-3	80	100%	1.16E+02	3.62E+01	5.50E+00	2.20E+02	NA	NA	95% Chebyshev (Mean, Sd) UCL	1.34E+02
Beryllium	7440-41-7	80	100%	4.48E-01	1.11E-01	2.50E-01	9.80E-01	NA	NA	95% Student's-t UCL	4.68E-01
Cadmium	7440-43-9	80	74%	2.47E-01	4.61E-01	6.10E-02	3.00E+00	5.10E-02	5.70E-02	95% KM (BCA) UCL	3.45E-01
Chromium	7440-47-3	80	100%	1.96E+01	6.61E+00	1.20E+01	6.30E+01	NA	NA	95% Student's-t UCL	2.09E+01
Cobalt	7440-48-4	80	100%	9.54E+00	3.45E+00	5.90E+00	2.85E+01	NA	NA	95% Student's-t UCL	1.02E+01
Copper	7440-50-8	80	100%	1.88E+02	1.34E+03	4.90E+00	1.20E+04	NA	NA	97.5% Chebyshev (Mean, Sd) UCL	1.12E+03
Lead	7439-92-1	80	100%	1.65E+03	7.70E+03	2.10E+00	6.20E+04	NA	NA	99% Chebyshev (Mean, Sd) UCL	1.02E+04
Mercury	7439-97-6	80	41%	5.01E-02	1.16E-01	7.10E-03	6.30E-01	7.50E-05	8.00E-03	95% KM (BCA) UCL	7.28E-02
Molybdenum	7439-98-7	80	49%	2.49E-01	1.11E-01	1.63E-01	6.30E-01	2.00E-01	2.30E-01	95% KM (t) UCL	2.70E-01
Nickel	7440-02-0	80	100%	1.69E+01	4.90E+00	1.00E+01	3.90E+01	NA	NA	95% Student's-t UCL	1.79E+01
Selenium	7782-49-2	80	38%	4.47E-01	6.44E-01	1.80E-01	4.40E+00	1.40E-01	1.70E-01	95% KM (t) UCL	5.69E-01
Silver	7440-22-4	80	35%	1.40E-01	2.42E-01	8.20E-02	2.10E+00	5.10E-02	8.80E-02	95% KM (t) UCL	1.86E-01
Thallium	7440-28-0	80	9%	1.73E-01	5.59E-02	1.60E-01	5.10E-01	1.40E-01	1.90E-01	95% KM (t) UCL	1.84E-01
Vanadium	7440-62-2	80	100%	3.91E+01	1.81E+01	2.00E+01	1.40E+02	NA	NA	95% Student's-t UCL	4.25E+01
Zinc	7440-66-6	80	100%	1.90E+02	3.60E+02	2.85E+01	2.10E+03	NA	NA	95% Chebyshev (Mean, Sd) UCL	3.66E+02
Explosives											
2,4-Dinitrotoluene	121-14-2	80	1%	NA	NA	2.53E-01	2.53E-01	1.98E-02	5.18E-02	NA	NA
4-Nitrotoluene	99-99-0	80	1%	NA	NA	9.51E-02	9.51E-02	2.64E-02	9.20E-02	NA	NA
High Molecular Weight Polyaromatic Hydrocarbons (HMW PAHs)											
Benzo[a]anthracene	56-55-3	10	90%	1.25E-01	2.93E-01	2.60E-03	1.00E+00	1.10E-03	1.10E-03	99% KM (Chebyshev) UCL	1.10E+00
Benzo[a]pyrene	50-32-8	10	90%	1.04E-01	1.95E-01	2.30E-03	6.80E-01	1.10E-03	1.10E-03	95% KM (Chebyshev) UCL	3.89E-01
Benzo[b]fluoranthene	205-99-2	10	100%	2.44E-01	4.50E-01	1.50E-03	1.50E+00	NA	NA	95% Approximate Gamma UCL	6.93E-01
Benzo[g,h,i]perylene	191-24-2	10	100%	8.95E-02	7.64E-02	2.50E-03	2.70E-01	NA	NA	95% Student's-t UCL	1.34E-01
Benzo[k]fluoranthene	207-08-9	10	90%	6.85E-02	1.29E-01	2.30E-03	4.50E-01	1.10E-03	1.10E-03	95% KM (Chebyshev) UCL	2.57E-01
Chrysene	218-01-9	10	90%	1.99E-01	4.04E-01	7.70E-03	1.40E+00	1.10E-03	1.10E-03	95% KM (Chebyshev) UCL	7.90E-01
Dibenz[a,h]anthracene	53-70-3	10	80%	2.89E-02	3.09E-02	1.30E-02	1.20E-01	1.10E-03	1.20E-03	95% KM (BCA) UCL	5.06E-02
Indeno[1,2,3-cd]pyrene	193-39-5	10	100%	8.02E-02	8.71E-02	1.80E-03	3.10E-01	NA	NA	95% Approximate Gamma UCL	1.77E-01
Pyrene	129-00-0	10	100%	1.80E-01	4.30E-01	1.20E-03	1.40E+00	NA	NA	99% Chebyshev (Mean, Sd) UCL	1.53E+00
Low Molecular Weight Polyaromatic Hydrocarbons (LMW PAHs)											
Acenaphthene	83-32-9	10	50%	8.05E-03	1.77E-02	1.40E-03	6.10E-02	1.10E-03	1.20E-03	95% KM (BCA) UCL	2.07E-02
Acenaphthylene	208-96-8	10	80%	4.23E-02	4.99E-02	1.90E-02	1.90E-01	1.10E-03	1.20E-03	95% KM (BCA) UCL	7.68E-02
Anthracene	120-12-7	10	100%	1.27E-01	2.28E-01	1.50E-03	7.70E-01	NA	NA	95% Approximate Gamma UCL	3.33E-01
Fluoranthene	206-44-0	10	100%	1.76E-01	4.31E-01	1.20E-03	1.40E+00	NA	NA	99% Chebyshev (Mean, Sd) UCL	1.53E+00
Fluorene	86-73-7	10	80%	7.43E-03	1.43E-02	1.60E-03	5.00E-02	1.10E-03	1.20E-03	97.5% KM (Chebyshev) UCL	3.75E-02
Naphthalene	91-20-3	10	40%	3.03E-03	5.02E-03	1.15E-03	1.80E-02	1.10E-03	1.20E-03	95% KM (t) UCL	6.38E-03
Phenanthrene	85-01-8	10	90%	6.89E-02	1.71E-01	1.30E-03	5.80E-01	1.10E-03	1.10E-03	99% KM (Chebyshev) UCL	6.38E-01

Table A-1. Summary Statistics for Detected Analytes in Soil, IR Site 24A, Former Naval Weapons Station Seal Beach Detachment Concord

Analyte	CAS #	No. of Samples	Detection Rate	Summary Statistics (mg/kg dry weight)				Non-detect Method Detection Limits (MDL)		Upper Confidence Limit (UCL)	
				Mean (EPC for CTE Scenarios)	Standard Deviation	Minimum Detected	Maximum Detected	Minimum	Maximum	Method of UCL Calculation	95UCL (mg/kg dry weight) (EPC for RME Scenarios, or Maximum used if "NA")
Depth Interval: 0 to 6 inches below ground surface											
Inorganic Constituents											
Antimony	7440-36-0	40	100%	3.65E+01	1.24E+02	2.10E-01	7.00E+02	NA	NA	99% Chebyshev (Mean, Sd) UCL	2.32E+02
Arsenic	7440-38-2	40	98%	1.05E+01	2.10E+01	1.16E+00	1.20E+02	8.25E-02	8.25E-02	95% KM (Chebyshev) UCL	2.52E+01
Barium	7440-39-3	40	100%	1.12E+02	3.87E+01	5.50E+00	2.20E+02	NA	NA	95% Chebyshev (Mean, Sd) UCL	1.39E+02
Beryllium	7440-41-7	40	100%	4.31E-01	9.66E-02	2.50E-01	5.95E-01	NA	NA	95% Student's-t UCL	4.57E-01
Cadmium	7440-43-9	40	75%	2.66E-01	4.66E-01	6.10E-02	3.00E+00	5.20E-02	5.70E-02	95% KM (BCA) UCL	4.44E-01
Chromium	7440-47-3	40	100%	2.17E+01	8.37E+00	1.40E+01	6.30E+01	NA	NA	95% Student's-t UCL	2.39E+01
Cobalt	7440-48-4	40	100%	1.05E+01	4.51E+00	5.90E+00	2.85E+01	NA	NA	95% Student's-t UCL	1.17E+01
Copper	7440-50-8	40	100%	3.49E+02	1.89E+03	7.70E+00	1.20E+04	NA	NA	99% Chebyshev (Mean, Sd) UCL	3.33E+03
Lead	7439-92-1	40	100%	3.12E+03	1.07E+04	3.30E+00	6.20E+04	NA	NA	99% Chebyshev (Mean, Sd) UCL	2.00E+04
Mercury	7439-97-6	40	45%	8.57E-02	1.54E-01	1.00E-02	6.30E-01	6.80E-03	8.00E-03	95% KM (t) UCL	1.28E-01
Molybdenum	7439-98-7	40	55%	2.62E-01	1.23E-01	1.63E-01	6.20E-01	2.10E-01	2.30E-01	95% KM (t) UCL	2.95E-01
Nickel	7440-02-0	40	100%	1.81E+01	5.53E+00	1.00E+01	3.90E+01	NA	NA	95% Student's-t UCL	1.96E+01
Selenium	7782-49-2	40	40%	3.72E-01	4.28E-01	1.80E-01	2.00E+00	1.45E-01	1.70E-01	95% KM (t) UCL	4.89E-01
Silver	7440-22-4	40	40%	1.96E-01	3.33E-01	9.10E-02	2.10E+00	5.20E-02	8.50E-02	95% KM (t) UCL	2.87E-01
Thallium	7440-28-0	40	10%	1.75E-01	6.54E-02	1.60E-01	5.10E-01	1.50E-01	1.90E-01	95% KM (t) UCL	1.95E-01
Vanadium	7440-62-2	40	100%	4.43E+01	2.34E+01	2.50E+01	1.40E+02	NA	NA	95% Student's-t UCL	5.05E+01
Zinc	7440-66-6	40	100%	2.10E+02	3.88E+02	2.85E+01	2.10E+03	NA	NA	99% Chebyshev (Mean, Sd) UCL	8.21E+02
Explosives											
2,4-Dinitrotoluene	121-14-2	40	3%	NA	NA	2.53E-01	2.53E-01	2.02E-02	5.06E-02	NA	NA
4-Nitrotoluene	99-99-0	40	3%	NA	NA	9.51E-02	9.51E-02	2.73E-02	9.20E-02	NA	NA
High Molecular Weight Polyaromatic Hydrocarbons (HMW PAHs)											
Benzo[a]anthracene	56-55-3	5	100%	NA	NA	2.60E-03	6.50E-02	NA	NA	NA	NA
Benzo[a]pyrene	50-32-8	5	100%	NA	NA	2.30E-03	1.10E-01	NA	NA	NA	NA
Benzo[b]fluoranthene	205-99-2	5	100%	NA	NA	6.80E-03	2.80E-01	NA	NA	NA	NA
Benzo[g,h,i]perylene	191-24-2	5	100%	NA	NA	3.60E-03	1.10E-01	NA	NA	NA	NA
Benzo[k]fluoranthene	207-08-9	5	100%	NA	NA	2.30E-03	5.60E-02	NA	NA	NA	NA
Chrysene	218-01-9	5	100%	NA	NA	7.70E-03	1.70E-01	NA	NA	NA	NA
Dibenz[a,h]anthracene	53-70-3	5	80%	NA	NA	2.00E-02	3.20E-02	1.20E-03	1.20E-03	NA	NA
Indeno[1,2,3-cd]pyrene	193-39-5	5	100%	NA	NA	2.50E-03	1.10E-01	NA	NA	NA	NA
Pyrene	129-00-0	5	100%	NA	NA	1.20E-02	1.10E-01	NA	NA	NA	NA
Low Molecular Weight Polyaromatic Hydrocarbons (LMW PAHs)											
Acenaphthene	83-32-9	5	60%	NA	NA	1.40E-03	4.00E-03	1.20E-03	1.20E-03	NA	NA
Acenaphthylene	208-96-8	5	80%	NA	NA	2.20E-02	4.70E-02	1.20E-03	1.20E-03	NA	NA
Anthracene	120-12-7	5	100%	NA	NA	2.90E-03	1.10E-01	NA	NA	NA	NA
Fluoranthene	206-44-0	5	100%	NA	NA	2.10E-02	1.09E-01	NA	NA	NA	NA
Fluorene	86-73-7	5	80%	NA	NA	1.80E-03	5.10E-03	1.20E-03	1.20E-03	NA	NA
Naphthalene	91-20-3	5	60%	NA	NA	1.15E-03	2.80E-03	1.20E-03	1.20E-03	NA	NA
Phenanthrene	85-01-8	5	100%	NA	NA	3.90E-03	2.80E-02	NA	NA	NA	NA

Notes:

a) All analytes with at least one detection are shown.

b) If duplicates exist, the average of the duplicate results is used as a single data point. If one duplicate is detected and the other not, the non-detect MDL was averaged with the detected concentration and treated as detected concentration.

c) If the dataset contains nondetects, summary statistics and UCLs are estimated by the Kaplan-Meier (KM) method.

d) A goodness-of-fit test at the 5% significance level is used to test for distributional assumptions, and distributional assumptions are used within ProUCL to select the appropriate UCL calculation method:
for normal distributions, the UCL is based on the t-statistics;
for lognormal, gamma, and non-parametric distributional assumptions, the UCL is based on the recommended value from USEPA (2002a), Singh and Singh (2009), and Singh et al. (2009).

95UCL = 95-percent upper confidence limit
CAS # = chemical abstracts services registry number
CTE = central tendency exposure
EPC = exposure point concentration
HMW = high molecular weight
KM = Kaplan-Meier
LMW = low molecular weight
MDL = method detection limit
No. = number
PAH = polyaromatic hydrocarbon
RME = reasonable maximum exposure
UCL = upper confidence limit

Table A-2. Exposure Factors, IR Site 24A, Former Naval Weapons Station Seal Beach Detachment Concord

Definitions	Variable	Units	USEPA Method 1			DTSC Method 2		
			RME Value	CTE Value (if different)	Source	RME Value	CTE Value (if different)	Source
Residential (Unrestricted) Use Scenario								
Adherence Factor, adult	AF_a	mg/cm^2-event	0.07	0.01	USEPA (2009b)	0.07	0.01	RME: DTSC (2005a); CTE: USEPA (2009b)
Adherence Factor, child	AF_c	mg/cm^2-event	0.2	0.04	USEPA (2009b)	0.2	0.04	RME: DTSC (2005a); CTE: USEPA (2009b)
Averaging Time, Carcinogens	AT_c	yrs	70		USEPA (2010a)	70		DTSC (2005a)
Averaging Time, noncarcinogens, adult	$AT_{nc,a}$	yrs	24	9	$=ED_{adult}$	24	9	$=ED_{adult}$
Averaging Time, noncarcinogens, child	$AT_{nc,c}$	yrs	6	6	$=ED_{child}$	6	6	$=ED_{child}$
Averaging Time, noncarcinogens, resident	$AT_{nc,r}$	yrs	30	15	$=ED_{adult} + ED_{child}$	30	15	$=ED_{adult} + ED_{child}$
Body Weight, adult	BW_a	kg	70		USEPA (2010a)	70		DTSC (2005a)
Body Weight, child	BW_c	kg	15		USEPA (2010a)	15		DTSC (2005a)
Conversion Factor - dermal	CF_d	kg/mg	1.0E-06		unit conversion factor	1.0E-06		unit conversion factor
Conversion Factor - ingestion	CF_o	kg/mg	1.0E-06		unit conversion factor	1.0E-06		unit conversion factor
Conversion Factor - inhalation	CF_i	m^2/cm^2	1.0E-04		unit conversion factor	1.0E-04		unit conversion factor
Dermal Soil Absorption Factor	ABS_d	dimensionless	chemical-specific		values displayed in Table A-3	chemical-specific		values displayed in Table A-3
Event Frequency	EV	events/day	1		assumption; 1 site visit per day	1		assumption; 1 site visit per day
Exposed Body Surface Area for soil exposure, adult	SA_{adult}	cm^2	5700		USEPA (2009b)	5700		DTSC (2005a)
Exposed Body Surface Area for soil exposure, child	SA_{child}	cm^2	2800		USEPA (2009b)	2900		DTSC (2005a)
Exposure Duration, adult	ED_{adult}	yrs	24	9	USEPA (2009b)	24	9	RME: DTSC (2005a); CTE: USEPA (2009b)
Exposure Duration, child	ED_{child}	yrs	6	6	USEPA (2010a)	6	6	RME: DTSC (2005a); CTE: USEPA (2010a)
Exposure Duration, resident	$ED_{resident}$	yrs	30	15	USEPA (2010a)	30	15	RME: DTSC (2005a); CTE: USEPA (2010a)
Exposure Frequency	EF	days/yr	350		USEPA (2010a)	350		DTSC (2005a)
Exposure Time	ET	hours/day	24		USEPA (2010a)	24		USEPA (2010a)
Fraction contaminated soil ingestec	FI	dimensionless	1		not used; adjustment for less-than-100% exposure	1		not used; adjustment for less-than-100% exposure
Fraction of EV in contact with soi	EC	unitless	1		not used; adjustment for less-than-100% exposure	1		not used; adjustment for less-than-100% exposure
Particulate Emission Factor (non-VOCs), default	PEF	m^3/kg	1.36E+09		USEPA (2010a)	1.36E+09		USEPA (2010a)
Soil Ingestion Rate, adult	IRS_a	mg/day	100	50	USEPA (2010a)	100	50	RME: DTSC (2005a); CTE: USEPA (2010a)
Soil Ingestion Rate, child	IRS_c	mg/day	200	100	USEPA (2010a)	200	100	RME: DTSC (2005a); CTE: USEPA (2010a)
Recreational User Scenario								
Adherence Factor, adult	AF_a	mg/cm^2-event	0.07	0.01	USEPA (2009b)	0.07	0.01	RME: DTSC (2005a); CTE: USEPA (2009b)
Adherence Factor, child	AF_c	mg/cm^2-event	0.2	0.04	USEPA (2009b)	0.2	0.04	RME: DTSC (2005a); CTE: USEPA (2009b)
Averaging Time, Carcinogens	AT_c	yrs	70		USEPA (2010a)	70		DTSC (2005a)
Averaging Time, noncarcinogens, adult	$AT_{nc,a}$	yrs	11	7	$=ED_{adult}$	11	7	$=ED_{adult}$
Averaging Time, noncarcinogens, child	$AT_{nc,c}$	yrs	10	6	$=ED_{child}$	10	6	$=ED_{child}$
Averaging Time, noncarcinogens, recreational user	$AT_{nc,r}$	yrs	21	13	$=ED_{adult} + ED_{child}$	21	13	$=ED_{adult} + ED_{child}$
Body Weight, adult	BW_a	kg	70		USEPA (2010a)	70		DTSC (2005a)
Body Weight, child	BW_c	kg	40		judgement; older children	40		judgement; older children
Conversion Factor - dermal	CF_d	kg/mg	1.0E-06		unit conversion factor	1.0E-06		unit conversion factor
Conversion Factor - ingestion	CF_o	kg/mg	1.0E-06		unit conversion factor	1.0E-06		unit conversion factor
Conversion Factor - inhalation	CF_i	m^2/cm^2	1.0E-04		unit conversion factor	1.0E-04		unit conversion factor
Dermal Soil Absorption Factor	ABS_d	dimensionless	chemical-specific		values displayed in Table A-3	chemical-specific		values displayed in Table A-3
Event Frequency	EV	events/day	1		assumption; 1 site visit per day	1		assumption; 1 site visit per day
Exposed Body Surface Area for soil exposure, adult	SA_{adult}	cm^2	5700		USEPA (2009b)	5700		DTSC (2005a)
Exposed Body Surface Area for soil exposure, child	SA_{child}	cm^2	2800		USEPA (2009b)	2900		DTSC (2005a)
Exposure Duration, adult	ED_{adult}	yrs	11	7	judgement, age 15-25 RME; age 15-21 CTE	11	7	judgement, age 15-25 RME; age 15-21 CTE
Exposure Duration, child	ED_{child}	yrs	10	6	judgement, age 6-15 RME; age 10-15 CTE	10	6	judgement, age 6-15 RME; age 10-15 CTE
Exposure Duration, recreational user	$ED_{recreational}$	yrs	21	13	$=ED_{adult} + ED_{child}$	21	13	$=ED_{adult} + ED_{child}$
Exposure Frequency	EF	days/yr	250	50	judgement, 5 days/week RME; 1d/wk CTE	250	50	judgement, 5 days/week RME; 1d/wk CTE
Exposure Time	ET	hours/day	2	0.25	judgement; 2 hrs onsite playing RME; traversing site CTE	2	0.25	judgement; 2 hrs onsite playing RME; traversing site CTE
Fraction contaminated soil ingestec	FI	dimensionless	1		not used; adjustment for less-than-100% exposure	1		not used; adjustment for less-than-100% exposure
Fraction of EV in contact with soi	EC	unitless	1		not used; adjustment for less-than-100% exposure	1		not used; adjustment for less-than-100% exposure
Particulate Emission Factor (non-VOCs), default	PEF	m^3/kg	1.36E+09		USEPA (2010a)	1.36E+09		USEPA (2010a)
Soil Ingestion Rate, adult	IRS_a	mg/day	100	50	USEPA (2010a)	100	50	RME: DTSC (2005a); CTE: USEPA (2010a)
Soil Ingestion Rate, child	IRS_c	mg/day	200	100	USEPA (2010a)	200	100	RME: DTSC (2005a); CTE: USEPA (2010a)

Notes:
CTE = central tendency exposure
DTSC = Department of Toxic Substances Control
HHRA = human health risk assessment
RME = reasonable maximum exposure
USEPA = U.S. Environmental Protection Agency

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Table A-3. Toxicity Data, IR Site 24A, Former Naval Weapons Station Seal Beach Detachment Concord

		Noncancer Hazard Values				Cancer Risk Values						Dermal			
		Reference Dose - Oral		Reference Concentration		Oral Slope Factor		Inhalation Unit Risk		Oral Absorption Factor		Reference Dose	Slope Factor	Dermal Absorption Factor	
Analyte	Agency (if values differ)	RfDo (mg/kg-d)	Ref.	RfC ($\mu g/m^3$)	Ref.	SFo $(mg/kg\text{-}d)^{-1}$	Ref.	URF_i $(\mu g/m^3)^{-1}$	Ref.	OAF (dimensionless)	Ref.	RfDd [a] (mg/kg-d)	SF_D [b] $(mg/kg\text{-}d)^{-1}$	ABS_d (dimensionless)	Ref.
Inorganic Constituents															
Antimony	USEPA	4.0E-04	I	No Toxicity Value	--	No Toxicity Value	--	No Toxicity Value	--	1.5E-01	R	6.0E-05	No Toxicity Value	1.0E-02	PEA
	DTSC	4.0E-04	I	1.4E+00	route [c]	No Toxicity Value	--	No Toxicity Value	--	1.5E-01	R	6.0E-05	No Toxicity Value	1.0E-02	PEA
Arsenic	USEPA	3.0E-04	I	1.5E-02	O	1.5E+00	I	4.3E-03	I	1.0E+00	Part E	3.0E-04	1.5E+00	3.0E-02	Part E
	DTSC	3.0E-04	I	1.5E-02	O	1.5E+00	O	3.3E-03	O	1.0E+00	Part E	3.0E-04	1.5E+00	3.0E-02	Part E
Barium	same for both	2.0E-01	I	5.0E-01	H	No Toxicity Value	--	No Toxicity Value	--	7.0E-02	R	1.4E-02	No Toxicity Value	1.0E-02	PEA
Beryllium	USEPA	2.0E-03	I	2.0E-02	I	No Toxicity Value	--	2.4E-03	I	7.0E-03	R	1.4E-05	No Toxicity Value	1.0E-02	PEA
	DTSC	2.0E-03	I	7.0E-03	O	No Toxicity Value	--	2.4E-03	O	7.0E-03	R	1.4E-05	No Toxicity Value	1.0E-02	PEA
Cadmium (in diet)	USEPA	1.0E-03	I	1.0E-02	A	No Toxicity Value	--	1.8E-03	I	2.5E-02	R	2.5E-05	No Toxicity Value	1.0E-02	PEA
	DTSC	5.0E-04	O	2.0E-02	O	No Toxicity Value	--	4.2E-03	O	2.5E-02	R	2.5E-05	No Toxicity Value	1.0E-02	PEA
Chromium (as trivalent)	USEPA	1.5E+00	I	No Toxicity Value	--	No Toxicity Value	--	No Toxicity Value	--	1.3E-02	R	2.0E-02	No Toxicity Value	1.0E-02	PEA
	DTSC	1.5E+00	I	5.3E+03	route [c]	No Toxicity Value	--	No Toxicity Value	--	1.3E-02	R	2.0E-02	No Toxicity Value	1.0E-02	PEA
Cobalt	same for both	3.0E-04	P	6.0E-03	P	No Toxicity Value	--	9.0E-03	P	1.0E+00	Part E	3.0E-04	No Toxicity Value	1.0E-02	PEA
Copper	USEPA	4.0E-02	H	No Toxicity Value	--	No Toxicity Value	--	No Toxicity Value	--	1.0E+00	Part E	4.0E-02	No Toxicity Value	1.0E-02	PEA
	DTSC	4.0E-02	H	1.4E+02	route [c]	No Toxicity Value	--	No Toxicity Value	--	1.0E+00	Part E	4.0E-02	No Toxicity Value	1.0E-02	PEA
Lead		Lead is assessed using the California Human Health Screening Level (CHHSLs) for residential receptors (80 mg/kg) and the USEPA Regional Screening Level (RSL), 800 mg/kg, for the recreational user; see text.													
Mercury	USEPA	1.6E-04	O	3.0E-01	I	No Toxicity Value	--	No Toxicity Value	--	7.0E-02	R	1.1E-05	No Toxicity Value	1.0E-02	PEA
	DTSC	1.6E-04	O	3.0E-02	O	No Toxicity Value	--	No Toxicity Value	--	7.0E-02	R	1.1E-05	No Toxicity Value	1.0E-02	PEA
Molybdenum	USEPA	5.0E-03	I	No Toxicity Value	--	No Toxicity Value	--	No Toxicity Value	--	1.0E+00	Part E	5.0E-03	No Toxicity Value	1.0E-02	PEA
	DTSC	5.0E-03	I	1.8E+01	route [c]	No Toxicity Value	--	No Toxicity Value	--	1.0E+00	Part E	5.0E-03	No Toxicity Value	1.0E-02	PEA
Nickel	USEPA	2.0E-02	I	9.0E-02	A	No Toxicity Value	--	2.6E-04	O	4.0E-02	R	8.0E-04	No Toxicity Value	1.0E-02	PEA
	DTSC	2.0E-02	I	5.0E-02	O	No Toxicity Value	--	2.6E-04	O	4.0E-02	R	8.0E-04	No Toxicity Value	1.0E-02	PEA
Selenium	same for both	5.0E-03	I	2.0E+01	O	No Toxicity Value	--	No Toxicity Value	--	1.0E+00	Part E	5.0E-03	No Toxicity Value	1.0E-02	PEA
Silver	USEPA	5.0E-03	I	No Toxicity Value	--	No Toxicity Value	--	No Toxicity Value	--	4.0E-02	R	2.0E-04	No Toxicity Value	1.0E-02	PEA
	DTSC	5.0E-03	I	1.8E+01	route [c]	No Toxicity Value	--	No Toxicity Value	--	4.0E-02	R	2.0E-04	No Toxicity Value	1.0E-02	PEA
Thallium	same for both	No Toxicity Value	--	No Toxicity Value	--	No Toxicity Value	--	No Toxicity Value	--	1.0E+00	Part E	No Toxicity Value	No Toxicity Value	1.0E-02	PEA
Vanadium	same for both	5.0E-03	R [d]	1.0E-01	A	No Toxicity Value	--	No Toxicity Value	--	1.0E+00	Part E	5.0E-03	No Toxicity Value	1.0E-02	PEA
Zinc	USEPA	3.0E-01	I	No Toxicity Value	--	No Toxicity Value	--	No Toxicity Value	--	1.0E+00	Part E	3.0E-01	No Toxicity Value	1.0E-02	PEA
	DTSC	3.0E-01	I	1.1E+03	route [c]	No Toxicity Value	--	No Toxicity Value	--	1.0E+00	Part E	3.0E-01	No Toxicity Value	1.0E-02	PEA
Explosives															
2,4-Dinitrotoluene	USEPA	2.0E-03	I	No Toxicity Value	--	3.1E-01	O	8.9E-05	O	1.0E+00	Part E	2.0E-03	3.1E-01	1.0E-01	Part E
	DTSC	2.0E-03	I	7.0E+00	route [c]	3.1E-01	O	8.9E-05	O	1.0E+00	Part E	2.0E-03	3.1E-01	1.0E-01	Part E
4-Nitrotoluene	USEPA	4.0E-03	P	No Toxicity Value	--	1.6E-02	P	No Toxicity Value	--	1.0E+00	Part E	4.0E-03	1.6E-02	1.0E-01	Part E
	DTSC	4.0E-03	P	1.4E+01	route [c]	1.6E-02	P	4.6E-06	route [e]	1.0E+00	Part E	4.0E-03	1.6E-02	1.0E-01	Part E
High Molecular Weight Polyaromatic Hydrocarbons (HMW PAHs)															
Benzo[a]anthracene	USEPA	No Toxicity Value	--	No Toxicity Value	--	7.3E-01	E	1.1E-04	O	1.0E+00	Part E	No Toxicity Value	7.3E-01	1.3E-01	Part E
	DTSC	No Toxicity Value	--	No Toxicity Value	--	1.2E+00	O	1.1E-04	O	1.0E+00	Part E	No Toxicity Value	1.2E+00	1.3E-01	Part E
Benzo[a]pyrene	USEPA	No Toxicity Value	--	No Toxicity Value	--	7.3E+00	I	1.1E-03	O	1.0E+00	Part E	No Toxicity Value	7.3E+00	1.3E-01	Part E
	DTSC	No Toxicity Value	--	No Toxicity Value	--	1.2E+01	O	1.1E-03	O	1.0E+00	Part E	No Toxicity Value	1.2E+01	1.3E-01	Part E
Benzo[b]fluoranthene	USEPA	No Toxicity Value	--	No Toxicity Value	--	7.3E-01	E	1.1E-04	O	1.0E+00	Part E	No Toxicity Value	7.3E-01	1.3E-01	Part E
	DTSC	No Toxicity Value	--	No Toxicity Value	--	1.2E+00	O	1.1E-04	O	1.0E+00	Part E	No Toxicity Value	1.2E+00	1.3E-01	Part E
Benzo[g,h,i]perylene	USEPA	3.0E-02	pyrene surrogate	No Toxicity Value	--	No Toxicity Value	--	No Toxicity Value	--	1.0E+00	Part E	3.0E-02	No Toxicity Value	1.3E-01	Part E
	DTSC	3.0E-02	pyrene surrogate	1.1E+02	route [c]	No Toxicity Value	--	No Toxicity Value	--	1.0E+00	Part E	3.0E-02	No Toxicity Value	1.3E-01	Part E
Benzo[k]fluoranthene	USEPA	No Toxicity Value	--	No Toxicity Value	--	7.3E-02	E	1.1E-04	O	1.0E+00	Part E	No Toxicity Value	7.3E-02	1.3E-01	Part E
	DTSC	No Toxicity Value	--	No Toxicity Value	--	1.2E+00	O	1.1E-04	O	1.0E+00	Part E	No Toxicity Value	1.2E+00	1.3E-01	Part E
Chrysene	USEPA	No Toxicity Value	--	No Toxicity Value	--	7.3E-03	E	1.1E-05	O	1.0E+00	Part E	No Toxicity Value	7.3E-03	1.3E-01	Part E
	DTSC	No Toxicity Value	--	No Toxicity Value	--	1.2E-01	O	1.1E-05	O	1.0E+00	Part E	No Toxicity Value	1.2E-01	1.3E-01	Part E
Dibenz[a,h]anthracene	USEPA	No Toxicity Value	--	No Toxicity Value	--	7.3E+00	E	1.2E-03	O	1.0E+00	Part E	No Toxicity Value	7.3E+00	1.3E-01	Part E
	DTSC	No Toxicity Value	--	No Toxicity Value	--	4.1E+00	O	1.2E-03	O	1.0E+00	Part E	No Toxicity Value	4.1E+00	1.3E-01	Part E
Indeno[1,2,3-cd]pyrene	USEPA	No Toxicity Value	--	No Toxicity Value	--	7.3E-01	E	1.1E-04	O	1.0E+00	Part E	No Toxicity Value	7.3E-01	1.3E-01	Part E
	DTSC	No Toxicity Value	--	No Toxicity Value	--	1.2E+00	O	1.1E-04	O	1.0E+00	Part E	No Toxicity Value	1.2E+00	1.3E-01	Part E
Pyrene	USEPA	3.0E-02	I	No Toxicity Value	--	No Toxicity Value	--	No Toxicity Value	--	1.0E+00	Part E	3.0E-02	No Toxicity Value	1.3E-01	Part E
	DTSC	3.0E-02	I	1.1E+02	route [c]	No Toxicity Value	--	No Toxicity Value	--	1.0E+00	Part E	3.0E-02	No Toxicity Value	1.3E-01	Part E

Table A-3. Toxicity Data, IR Site 24A, Former Naval Weapons Station Seal Beach Detachment Concord

		Noncancer Hazard Values				Cancer Risk Values						Dermal			
		Reference Dose - Oral		Reference Concentration		Oral Slope Factor		Inhalation Unit Risk		Oral Absorption Factor		Reference Dose	Slope Factor	Dermal Absorption Factor	
Analyte	**Agency** (if values differ)	**RfDo** (mg/kg-d)	**Ref.**	**RfC** ($\mu g/m^3$)	**Ref.**	**SFo** $(mg/kg\text{-}d)^{-1}$	**Ref.**	**URF_i** $(\mu g/m^3)^{-1}$	**Ref.**	**OAF** (dimensionless)	**Ref.**	**RfDd** [a] (mg/kg-d)	**SF_D** [b] $(mg/kg\text{-}d)^{-1}$	**ABS_d** (dimensionless)	**Ref.**
Low Molecular Weight Polyaromatic Hydrocarbons (LMW PAHs)															
Acenaphthene	USEPA	6.0E-02	I	No Toxicity Value	--	No Toxicity Value	--	No Toxicity Value	--	1.0E+00	Part E	6.0E-02	No Toxicity Value	1.3E-01	Part E
	DTSC	6.0E-02	I	2.1E+02	route [c]	No Toxicity Value	--	No Toxicity Value	--	1.0E+00	Part E	6.0E-02	No Toxicity Value	1.3E-01	Part E
Acenaphthylene	USEPA	6.0E-02	acenaphthene surrogate	No Toxicity Value	--	No Toxicity Value	--	No Toxicity Value	--	1.0E+00	Part E	6.0E-02	No Toxicity Value	1.3E-01	Part E
	DTSC	6.0E-02	acenaphthene surrogate	2.1E+02	route [c]	No Toxicity Value	--	No Toxicity Value	--	1.0E+00	Part E	6.0E-02	No Toxicity Value	1.3E-01	Part E
Anthracene	USEPA	3.0E-01	I	No Toxicity Value	--	No Toxicity Value	--	No Toxicity Value	--	1.0E+00	Part E	3.0E-01	No Toxicity Value	1.3E-01	Part E
	DTSC	3.0E-01	I	1.1E+03	route [c]	No Toxicity Value	--	No Toxicity Value	--	1.0E+00	Part E	3.0E-01	No Toxicity Value	1.3E-01	Part E
Fluoranthene	USEPA	4.0E-02	I	No Toxicity Value	--	No Toxicity Value	--	No Toxicity Value	--	1.0E+00	Part E	4.0E-02	No Toxicity Value	1.3E-01	Part E
	DTSC	4.0E-02	I	1.4E+02	route [c]	No Toxicity Value	--	No Toxicity Value	--	1.0E+00	Part E	4.0E-02	No Toxicity Value	1.3E-01	Part E
Fluorene	USEPA	4.0E-02	I	No Toxicity Value	--	No Toxicity Value	--	No Toxicity Value	--	1.0E+00	Part E	4.0E-02	No Toxicity Value	1.3E-01	Part E
	DTSC	4.0E-02	I	1.4E+02	route [c]	No Toxicity Value	--	No Toxicity Value	--	1.0E+00	Part E	4.0E-02	No Toxicity Value	1.3E-01	Part E
Naphthalene	USEPA	2.0E-02	I	3.0E+00	I	No Toxicity Value	--	3.4E-05	O	1.0E+00	Part E	2.0E-02	No Toxicity Value	0E+00	Part E
	DTSC	2.0E-02	I	9.0E+00	O	No Toxicity Value	--	3.4E-05	O	1.0E+00	Part E	2.0E-02	No Toxicity Value	0E+00	Part E
Phenanthrene	USEPA	3.0E-02	pyrene surrogate	No Toxicity Value	--	No Toxicity Value	--	No Toxicity Value	--	1.0E+00	Part E	3.0E-02	No Toxicity Value	1.3E-01	Part E
	DTSC	3.0E-02	pyrene surrogate	1.05E+02	route [c]	No Toxicity Value	--	No Toxicity Value	--	1.0E+00	Part E	3.0E-02	No Toxicity Value	1.3E-01	Part E

Notes:

a) Reference dose adjusted for oral absorption: RfDd = RfDo × OAF (USEPA. 2004. RAGS Part E. EPA/540/R/99/005).

b) Slope factor adjusted for oral absorption: SFd = SFo ÷ OAF (USEPA. 2004. RAGS Part E. EPA/540/R/99/005).

c) Extrapolated RfC ($\mu g/m^3$) = RfDo mg/kg-day × 70 kg × (1 day / 20 m^3 air) × 1000 µg/mg, as recommended by DTSC

d) This RfDo for "vanadium and compounds" was derived by the USEPA (2010a) by adjusting the USEPA's IRIS value for vanadium pentoxide based on the molecular weights of the vanadium and pentoxide portions.

e) Extrapolated IUR $(\mu g/m^3)^{-1}$ = SFo (mg/kg-day)-1 × 20 m^3 air/day × (1 / 70 kg) × 0.001 mg/µg, as recommended by DTSC

$\mu g/m^3$ = microgram per cubic meter
ABSd = dermal absorption factor
DTSC = Department of Toxic Substances Control
mg/kg-d = milligram per kilogram body weight per day
OAF = oral absorption factor
Ref. = reference
RfC = reference concentration
RfDd = dermal reference dose
RfDo = oral reference dose
SF_D = dermal slope factor
SFo = oral slope factor
USEPA = U.S. Environmental Protection Agency

References:

A = Agency for Toxic Substances and Disease Registry (ATSDR), Minimal Risk Level (MRL) (http://www.atsdr.cdc.gov/mrls/)
E = Environmental Criteria and Assessment Office, as cited in USEPA's Regional Screening Level (RSL) tables (http://www.epa.gov/region09/superfund/prg/)
H = USEPA Health Effects Assessment Summary Tables, FY 1997 Update (EPA-540-R-97-036)
I = USEPA Integrated Risk Information System, *IRIS* (http://www.epa.gov/iris/)
O = Cal/EPA Office of Environmental Health Hazard Assessment, OEHHA (http://www.oehha.ca.gov/risk/ChemicalDB/index.asp)
P = Provisional Peer-Reviewed Reference Toxicity Value (PPRTV), as cited in USEPA's Regional Screening Level (RSL) tables (http://www.epa.gov/region09/superfund/prg/)
Part E = USEPA. 2004. Risk Assessment Guidance for Superfund, Volume I: Human Health Evaluation Manual (Part E, Supplemental Guidance for Dermal Assessment); Final. EPA/540/R/99/005
PEA = DTSC. 2004. Preliminary Endangerment Assessment Guidance Manual.
R = Value cited in USEPA's Regional Screening Level (RSL) tables (http://www.epa.gov/region09/superfund/prg/)
route = route-to-route extrapolation, as recommended by DTSC

Table A-4. Cancer Risk and Noncancer Hazard Estimates Summary, IR Site 24A, Former Naval Weapons Station Seal Beach Detachment Concord

Receptor Scenario	Exposure Scenario	Chemical of Concern [a]	Carcinogenic Risk Estimates					Noncancer Hazard Estimates				
			Ingestion	Inhalation	Dermal	Exposure Routes Total	% of Cumulative	Ingestion HQ	Inhalation HQ	Dermal HQ	Exposure Routes HI	% of Cumulative
USEPA Resident Exposed to Soil (0-2 feet bgs)	RME	Antimony	--	--	--	--	--	**2.6E+00**	--	4.9E-01	**3.1E+00**	67%
		Arsenic	**2.6E-05**	1.4E-08	**2.4E-06**	**2.8E-05**	73%	4.6E-01	5.1E-04	3.9E-02	5.0E-01	11%
		Cobalt	--	2.8E-08	--	2.8E-08	< 1%	4.3E-01	1.2E-03	1.2E-02	4.5E-01	10%
		Copper	--	--	--	--	--	3.6E-01	--	1.0E-02	3.7E-01	8%
		Vanadium	--	--	--	--	--	1.1E-01	3.0E-04	3.0E-03	1.1E-01	2%
		Benzo[a]anthracene	**1.1E-06**	3.3E-11	4.7E-07	**1.6E-06**	4%	--	--	--	--	--
		Benzo[a]pyrene	**4.4E-06**	1.3E-10	**1.8E-06**	**6.3E-06**	16%	--	--	--	--	--
		Benzo[b]fluoranthene	7.9E-07	2.3E-11	3.2E-07	**1.1E-06**	3%	--	--	--	--	--
			Cumulative Risk:			**3.8E-05**		Total Hazard Index:			**4.6E+00**	
	CTE	Antimony	--	--	--	--	--	3.2E-01	--	2.4E-02	3.4E-01	41%
		Arsenic	**7.4E-06**	5.0E-09	2.5E-07	**7.6E-06**	88%	1.6E-01	3.6E-04	5.5E-03	1.7E-01	21%
		Cobalt	--	1.3E-08	--	1.3E-08	< 1%	2.0E-01	1.1E-03	2.3E-03	2.1E-01	25%
		Copper	--	--	--	--	--	3.0E-02	--	3.4E-04	3.0E-02	4%
		Vanadium	--	--	--	--	--	5.0E-02	2.8E-04	5.6E-04	5.1E-02	6%
		Benzo[a]anthracene	5.8E-08	2.1E-12	8.5E-09	6.7E-08	< 1%	--	--	--	--	--
		Benzo[a]pyrene	4.8E-07	1.7E-11	7.1E-08	5.6E-07	6%	--	--	--	--	--
		Benzo[b]fluoranthene	1.1E-07	4.1E-12	1.7E-08	1.3E-07	2%	--	--	--	--	--
			Cumulative Risk:			**8.6E-06**		Total Hazard Index:			8.3E-01	
DTSC Resident Exposed to Soil (0-2 feet bgs)	RME	Antimony	--	--	--	--	--	**2.9E+00**	4.1E-05	5.8E-01	**3.5E+00**	67%
		Arsenic	**2.6E-05**	1.1E-08	**2.5E-06**	**2.8E-05**	62%	5.1E-01	5.1E-04	4.6E-02	5.6E-01	11%
		Cobalt	--	2.8E-08	--	2.8E-08	< 1%	4.8E-01	1.2E-03	1.4E-02	5.0E-01	10%
		Copper	--	--	--	--	--	4.0E-01	5.7E-06	1.2E-02	4.1E-01	8%
		Vanadium	--	--	--	--	--	1.2E-01	3.0E-04	3.6E-03	1.2E-01	2%
		Benzo[a]anthracene	**1.9E-06**	3.3E-11	7.9E-07	**2.7E-06**	6%	--	--	--	--	--
		Benzo[a]pyrene	**7.3E-06**	1.3E-10	**3.1E-06**	**1.0E-05**	23%	--	--	--	--	--
		Benzo[b]fluoranthene	**1.3E-06**	2.3E-11	5.5E-07	**1.8E-06**	4%	--	--	--	--	--
			Cumulative Risk:			**4.5E-05**		Total Hazard Index:			**5.2E+00**	
	CTE	Antimony	--	--	--	--	--	3.5E-01	1.0E-05	2.7E-02	3.8E-01	42%
		Arsenic	**7.4E-06**	3.8E-09	2.6E-07	**7.6E-06**	83%	1.8E-01	3.6E-04	6.3E-03	1.9E-01	21%
		Cobalt	--	1.3E-08	--	1.3E-08	< 1%	2.3E-01	1.1E-03	2.6E-03	2.3E-01	25%
		Copper	--	--	--	--	--	3.3E-02	9.4E-07	3.8E-04	3.4E-02	4%
		Vanadium	--	--	--	--	--	5.5E-02	2.8E-04	6.4E-04	5.6E-02	6%
		Benzo[a]anthracene	9.5E-08	2.1E-12	1.4E-08	1.1E-07	1%	--	--	--	--	--
		Benzo[a]pyrene	8.0E-07	1.7E-11	1.2E-07	9.2E-07	10%	--	--	--	--	--
		Benzo[b]fluoranthene	1.9E-07	4.1E-12	2.8E-08	2.1E-07	2%	--	--	--	--	--
			Cumulative Risk:			**9.2E-06**		Total Hazard Index:			9.1E-01	
USEPA Recreational Exposed to Soil (0-2 feet bgs)	RME	Antimony	--	--	--	--	--	9.0E-01	--	1.8E-01	**1.1E+00**	67%
		Arsenic	**1.1E-05**	5.9E-10	9.7E-07	**1.1E-05**	73%	1.6E-01	3.0E-05	1.5E-02	1.7E-01	11%
		Cobalt	--	1.2E-09	--	1.2E-09	< 1%	1.5E-01	7.1E-05	4.6E-03	1.5E-01	10%
		Copper	--	--	--	--	--	1.2E-01	--	3.8E-03	1.3E-01	8%
		Vanadium	--	--	--	--	--	3.7E-02	1.8E-05	1.1E-03	3.9E-02	2%
		Benzo[a]anthracene	4.7E-07	1.4E-12	1.9E-07	6.6E-07	4%	--	--	--	--	--
		Benzo[a]pyrene	**1.8E-06**	5.4E-12	7.3E-07	**2.6E-06**	16%	--	--	--	--	--
		Benzo[b]fluoranthene	3.3E-07	9.6E-13	1.3E-07	4.6E-07	3%	--	--	--	--	--
			Cumulative Risk:			**1.6E-05**		Total Hazard Index:			**1.6E+00**	
	CTE	Antimony	--	--	--	--	--	2.2E-02	--	1.6E-03	2.4E-02	41%
		Arsenic	4.5E-07	6.5E-12	1.5E-08	4.7E-07	88%	1.1E-02	5.4E-07	3.8E-04	1.2E-02	21%
		Cobalt	--	1.7E-11	--	1.7E-11	< 1%	1.4E-02	1.7E-06	1.6E-04	1.4E-02	25%
		Copper	--	--	--	--	--	2.1E-03	--	2.3E-05	2.1E-03	4%
		Vanadium	--	--	--	--	--	3.4E-03	4.1E-07	3.9E-05	3.5E-03	6%
		Benzo[a]anthracene	3.6E-09	2.7E-15	5.2E-10	4.1E-09	< 1%	--	--	--	--	--
		Benzo[a]pyrene	3.0E-08	2.2E-14	4.4E-09	3.4E-08	6%	--	--	--	--	--
		Benzo[b]fluoranthene	7.0E-09	5.2E-15	1.0E-09	8.0E-09	2%	--	--	--	--	--
			Cumulative Risk:			5.3E-07		Total Hazard Index:			5.7E-02	

Table A-4. Cancer Risk and Noncancer Hazard Estimates Summary, IR Site 24A, Former Naval Weapons Station Seal Beach Detachment Concord

Receptor Scenario	Exposure Scenario	Chemical of Concern [a]	Carcinogenic Risk Estimates					Noncancer Hazard Estimates				
			Ingestion	Inhalation	Dermal	Exposure Routes Total	% of Cumulative	Ingestion HQ	Inhalation HQ	Dermal HQ	Exposure Routes HI	% of Cumulative
DTSC Recreational Exposed to Soil (0-2 feet bgs)	RME	Antimony	--	--	--	--	--	9.0E-01	2.5E-06	1.9E-01	**1.1E+00**	67%
		Arsenic	**1.1E-05**	4.5E-10	1.0E-06	**1.1E-05**	63%	1.6E-01	3.0E-05	1.5E-02	1.7E-01	11%
		Cobalt	--	1.2E-09	--	1.2E-09	< 1%	1.5E-01	7.1E-05	4.7E-03	1.5E-01	10%
		Copper	--	--	--	--	--	1.2E-01	3.4E-07	3.9E-03	1.3E-01	8%
		Vanadium	--	--	--	--	--	3.7E-02	1.8E-05	1.2E-03	3.9E-02	2%
		Benzo[a]anthracene	7.7E-07	1.4E-12	3.2E-07	**1.1E-06**	6%	--	--	--	--	--
		Benzo[a]pyrene	**3.0E-06**	5.4E-12	**1.2E-06**	**4.2E-06**	23%	--	--	--	--	--
		Benzo[b]fluoranthene	5.3E-07	9.6E-13	2.2E-07	7.5E-07	4%	--	--	--	--	--
			Cumulative Risk:			**1.8E-05**		Total Hazard Index:			**1.6E+00**	
	CTE	Antimony	--	--	--	--	--	2.2E-02	1.5E-08	1.7E-03	2.4E-02	42%
		Arsenic	4.5E-07	5.0E-12	1.6E-08	4.7E-07	83%	1.1E-02	5.4E-07	3.9E-04	1.2E-02	21%
		Cobalt	--	1.7E-11	--	1.7E-11	< 1%	1.4E-02	1.7E-06	1.6E-04	1.4E-02	25%
		Copper	--	--	--	--	--	2.1E-03	1.4E-09	2.4E-05	2.1E-03	4%
		Vanadium	--	--	--	--	--	3.4E-03	4.1E-07	4.0E-05	3.5E-03	6%
		Benzo[a]anthracene	5.9E-09	2.7E-15	8.8E-10	6.8E-09	1%	--	--	--	--	--
		Benzo[a]pyrene	4.9E-08	2.2E-14	7.4E-09	5.6E-08	10%	--	--	--	--	--
		Benzo[b]fluoranthene	1.1E-08	5.2E-15	1.7E-09	1.3E-08	2%	--	--	--	--	--
			Cumulative Risk:			5.6E-07		Total Hazard Index:			5.7E-02	
DTSC Recreational Exposed to Soil (0-6 inches feet bgs)	RME	Antimony	--	--	--	--	--	**2.6E+00**	7.0E-06	5.3E-01	**3.1E+00**	75%
		Arsenic	**2.4E-05**	1.0E-09	**2.3E-06**	**2.7E-05**	93%	3.7E-01	7.0E-05	3.5E-02	4.0E-01	10%
		Cobalt	--	1.3E-09	--	1.3E-09	< 1%	1.7E-01	8.2E-05	5.4E-03	1.8E-01	4%
		Copper	--	--	--	--	--	3.7E-01	1.0E-06	1.2E-02	3.8E-01	9%
		Vanadium	--	--	--	--	--	4.4E-02	2.1E-05	1.4E-03	4.6E-02	1%
		Benzo[a]anthracene	5.0E-08	9.0E-14	2.1E-08	7.1E-08	< 1%	--	--	--	--	--
		Benzo[a]pyrene	8.5E-07	1.5E-12	3.5E-07	**1.2E-06**	4%	--	--	--	--	--
		Benzo[b]fluoranthene	2.2E-07	3.9E-13	8.9E-08	3.0E-07	1%	--	--	--	--	--
			Cumulative Risk:			**2.9E-05**		Total Hazard Index:			**4.1E+00**	

Notes:

a) The chemicals of concern include any chemical from any scenario with a cancer risk estimate >10^{-6} or which contributes >1% to the total hazard index; for consistency, the same roster of chemicals of concern is listed for every scenario, independent of cumulative risk or total hazard index values.

Bold values indicate a cancer risk estimate >10^{-6} or a noncancer hazard estimate >1.0.

-- = no value estimated (i.e., chemical is not a carcinogen, or chemical does not have a noncancer toxicity benchmark)

bgs = below ground surface

CTE = central tendency exposure

DTSC = Department of Toxic Substances Control

HI = hazard index

HQ = hazard quotient

RME = reasonable maximum exposure

USEPA = U.S. Environmental Protection Agency

Table A-5. Summary of Detected Concentrations of Arsenic in Soil Greater than the Site-Specific Background Concentration (7.3 mg/kg), IR Site 24A, Former Naval Weapons Station Seal Beach Detachment Concord

Sample Name	Site Location Designation	Depth Interval (feet bgs)	Dry Weight Analytical Result (mg/kg)	Within a Proposed Removal Boundary?
BAI-24A-021-00	Range Floor	0-0.5	120	Hot Spot Outlier
BAI-24A-029-00	Target Berm	0-0.5	73.25	Hot Spot Outlier
BAI-24A-025-00	Target Berm	0-0.5	31	Hot Spot Outlier
BAI-24A-07-00	Drainage Channel	0-0.5	18	Yes, see Figures A-5 and A-6
BAI-24A-045-18	Grenade Impact	1.5-2	14	No
BAI-24A-08-00	Drainage Channel	0-0.5	10	Yes, based on ecological receptors (see Figure B-4)
BAI-24A-10-18	Drainage Channel	1.5-2	9.9	No
BAI-24A-033-00	Target Berm	0-0.5	9.7	Yes, see Figures A-5 and A-6
BAI-24A-022-00	Range Floor	0-0.5	9.3	Yes, see Figure A-5 (also for ecological receptors; Figure B-4)
BAI-24A-11-00	Drainage Channel	0-0.5	7.75	No

bgs = below ground surface
mg/kg = milligrams per kilogram

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Table A-6. Supplemental Evaluation of Arsenic in Soil, IR Site 24A and Background Data Sets, Former Naval Weapons Station Seal Beach Detachment Concord

			Summary Statistics[a] (mg/kg dry weight)				Upper Confidence Limit[b,c] (UCL)		RME Cancer Risk Estimate for Arsenic (dimensionless), USEPA Method 1	
Data Group	No. of Samples	Detection Rate	Minimum Detected	Mean (EPC for CTE Scenarios)	Standard Deviation	Maximum Detected	Method of UCL Calculation	95UCL (mg/kg dry weight) (EPC for RME Scenarios)	Resident Scenario[d]	Recreational Scenario[e]
All Samples (including hot spots)										
0 to 6 inches bgs	40	97.5%	1.155	10.51	21.02	120	95% KM (Chebyshev) UCL	25.18	6.5E-05	2.7E-05
0 to 2 feet bgs	80	98.75%	1.155	7.718	15.19	120	95% KM (BCA) UCL	10.89	2.8E-05	1.1E-05
Excluding 3 Hot Spot Samples										
0 to 6 inches bgs	37	97.3%	1.155	5.414	2.941	18	95% KM (BCA) UCL	6.18	1.6E-05	6.5E-06
0 to 2 feet bgs	77	98.7%	1.155	5.158	2.487	18	95% KM (BCA) UCL	5.592	1.4E-05	5.9E-06
Excluding 3 Hot Spots and 4 Additional Samples Within a Removal Boundary (based on other chemicals of concern)										
0 to 6 inches bgs	33	96.97%	1.155	4.622	1.499	7.75	95% KM (t) UCL	4.987	1.3E-05	5.3E-06
0 to 2 feet bgs	73	98.63%	1.155	4.792	1.792	14	95% KM (BCA) UCL	5.11	1.3E-05	5.4E-06
Background Data Sets (from Tables 1 and 2, TetraTech Inc., 1997; included in the EE/CA as Appendix XX?)										
Sites 13 and 22	25	not listed	2.4	not calculated	not calculated	26.6	not calculated	not calculated (Background value = 23 mg/kg)	5.9E-05 (At background concentration)	2.4E-05 (At background concentration)
Sites 17 and 24A	16	100%	3.2	not calculated	not calculated	7.3	not calculated	not calculated (Background value = 7.3 mg/kg)	1.9E-05 (At background concentration)	7.7E-06 (At background concentration)

[a] For duplicate sample pairs, the average is used as the representative datum. If one duplicate is detected and the other not, the non-detect MDL was averaged with the detected concentration and treated as detected concentration.

[b] The datasets contains nondetects; therefore, summary statistics and UCLs are estimated by the Kaplan-Meier (KM) method.

[c] A goodness-of-fit test at the 5% significance level is used to test for distributional assumptions, and distributional assumptions are used within ProUCL to select the appropriate UCL calculation method (USEPA, 2010c,d).

[d] Under USEPA Method 1, Resident RME Scenario includes 6 years child and 24 years adult exposure.

[e] Under USEPA Method 1, Recreational RME Scenario includes 10 years child and 11 years adult exposure.

95UCL = 95-percent upper confidence limit
bgs = below ground surface
CTE = central tendency exposure
DTSC = Department of Toxic Substances Control
EPC = exposure point concentration
KM = Kaplan-Meier
mg/kg = milligrams per kilogram
No. = number
RME = reasonable maximum exposure
UCL = upper confidence limit

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Table A-7. Health-Based Cleanup Goals for Chemicals of Concern, IR Site 24A, Former Naval Weapons Station Seal Beach Detachment Concord

		Residential (Unrestricted Use) Scenario Health-Based Cleanup Levels (mg/kg) (10^{-6} Risk or HI=1.0)				Recreational User (Open Space) Scenario Health-Based Cleanup Levels (mg/kg) (10^{-6} Risk or HI=1.0)			
		USEPA Receptor		DTSC Receptor		USEPA Receptor		DTSC Receptor	
Chemical of Concern	Cleanup Goal Basis	CTE Scenario	RME Scenario	CTE Scenario	RME Scenario	CTE Scenario	RME Scenario	CTE Scenario	RME Scenario
Antimony	Noncancer hazard	58	26	52	24	845	75	843	75
Lead	Blood Lead Concentration	80 mg/kg (Residential CHHSL)				800 mg/kg (USEPA RSL)			
Benz(a)anthracene	Carcinogenic risk	1.1	0.38	1.1	0.37	19	1.5	19	0.92
Benzo(a)pyrene	Carcinogenic risk	0.11	0.038	0.11	0.037	1.9	0.15	1.9	0.092
Benzo(b)fluoranthene	Carcinogenic risk	1.1	0.38	1.1	0.37	19	1.5	19	0.92

Notes:

CHHSL = California Human Health Screening Level
CTE = central tendency exposure
DTSC = Department of Toxic Substances Control
HI = hazard index
mg/kg = milligram per kilogram
RME = reasonable maximum exposure
RSL = Regional Screening Level
USEPA = U.S. Environmental Protection Agency

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Table A-8. Locations of Exceedances of Health-Based Cleanup Levels for the Residential (Unrestricted Use) Scenario, IR Site 24A, Former Naval Weapons Station Seal Beach Detachment Concord

	Depth Interval: 0 to 6 inches below ground surface					Depth Interval: down to 2 feet below ground surface				
Health-Based Cleanup Level[a]:	>24 mg/kg	>80 mg/kg	>0.37 mg/kg	>0.037 mg/kg	>0.37 mg/kg	>24 mg/kg	>80 mg/kg	>0.37 mg/kg	>0.037 mg/kg	>0.37 mg/kg
	Concentration (mg/kg)					Concentration (mg/kg)				
Sample	Antimony	Lead	Benz(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Antimony	Lead	Benz(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene
BAI-24A-01-00	--	--	0.051	0.06	0.17	--	--	0.013	0.02	0.052
BAI-24A-02-00	--	--	0.064	0.11	0.28	--	--	1	0.68	1.5
BAI-24A-03-00	--	--	0.022	0.05	0.15	--	--	0.02	0.031	0.083
BAI-24A-04-00	--	--	0.0026	0.0023	0.0068	--	--	0.011	0.019	0.032
BAI-24A-05-00	--	--	0.065	0.069	0.1685	--	--	<0.0011	<0.0011	0.0015
BAI-24A-07-00	45	7100	--	--	--	2.5	460	--	--	--
BAI-24A-08-00	0.49	35	--	--	--	0.38	20	--	--	--
BAI-24A-09-00	0.4	5	--	--	--	<0.16	2.1	--	--	--
BAI-24A-10-00	0.21	14	--	--	--	<0.16	7.4	--	--	--
BAI-24A-11-00	1.545	24	--	--	--	<0.16	6.6	--	--	--
BAI-24A-013-00	4.9	30	--	--	--	2.9	9.3	--	--	--
BAI-24A-014-00	3.4	13	--	--	--	3	4.5	--	--	--
BAI-24A-015-00	4.2	24	--	--	--	2.8	3.7	--	--	--
BAI-24A-016-00	4	27	--	--	--	3.2	8.4	--	--	--
BAI-24A-017-00	5.4	25	--	--	--	3.3	8.1	--	--	--
BAI-24A-019-00	3.6	21	--	--	--	2.2	8.1	--	--	--
BAI-24A-020-00	6.7	110	--	--	--	2.3	3.4	--	--	--
BAI-24A-021-00 [b]	370	29000	--	--	--	2.6	13	--	--	--
BAI-24A-022-00	10	630	--	--	--	1.6	3.8	--	--	--
BAI-24A-023-00	6.35	8.7	--	--	--	3.4	20	--	--	--
BAI-24A-025-00 [b]	54	9500	--	--	--	44	3000	--	--	--
BAI-24A-026-00	700	62000	--	--	--	7	1300	--	--	--
BAI-24A-027-00	11	2300	--	--	--	4.3	11	--	--	--
BAI-24A-028-00	13	1500	--	--	--	2.5	37	--	--	--
BAI-24A-029-00 [b]	146.5	5700	--	--	--	3.6	13	--	--	--
BAI-24A-031-00	5.2	410	--	--	--	2.4	5.5	--	--	--
BAI-24A-032-00	33	4300	--	--	--	2.7	23	--	--	--
BAI-24A-033-00	4.8	940	--	--	--	7.2	1500	--	--	--
BAI-24A-034-00	3.1	120	--	--	--	2.5	19	--	--	--
BAI-24A-035-00	4.35	249.05	--	--	--	5.4	230	--	--	--
BAI-24A-037-00	1.8	28	--	--	--	0.66	31	--	--	--
BAI-24A-038-00	2.6	24	--	--	--	3.1	180	--	--	--
BAI-24A-039-00	1.9	19	--	--	--	4.5	120	--	--	--
BAI-24A-040-00	2.8	14	--	--	--	3.4	24	--	--	--
BAI-24A-041-00	1.78	46	--	--	--	2.8	8.4	--	--	--
BAI-24A-045-00	0.42	7.1	--	--	--	<0.17	6.4	--	--	--
BAI-24A-046-00	0.62	3.3	--	--	--	0.55	3.6	--	--	--
BAI-24A-047-00	0.51	34	--	--	--	0.22	3.1	--	--	--
BAI-24A-048-00	0.66	25	--	--	--	0.4	3.8	--	--	--
BAI-24A-049-00	0.87	16	--	--	--	0.47	3.2	--	--	--
BAI-24A-051-00	1.2	58	--	--	--	0.95	43	--	--	--
BAI-24A-052-00	0.99	37	--	--	--	0.5	7.2	--	--	--
BAI-24A-053-00	1.4	**96**	--	--	--	1	32	--	--	--
BAI-24A-054-00	1.2	**100**	--	--	--	0.47	9.7	--	--	--
BAI-24A-055-00	1.45	62	--	--	--	0.36	4.2	--	--	--

Notes:

a) Basis of Proposed Cleanup Levels (see Table A-5):

Antimony, Benz(a)anthracene, Benzo(a)pyrene, and Benzo(b)fluroanthene = site-specific derivation, based on DTSC Method 2 and RME exposure factors.

Lead = Residential CHHSL (80 mg/kg)

b) This sample also has an elevated concentration of arsenic in the 0 to 6 inch below ground surface depth interval.

"--" = not analyzed

Bold values indicate detected concentrations that mathematically exceed the proposed cleanup level, but are judged qualitatively to not be markedly elevated.

Shaded cells exceed the proposed cleanup level

mg/kg = milligram per kilogram

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Table A-9. Locations of Exceedances of Health-Based Cleanup Levels for the Recreational User Scenario, IR Site 24A, Former Naval Weapons Station Seal Beach Detachment Concord

	Depth Interval: 0 to 6 inches below ground surface					Depth Interval: down to 2 feet below ground surface				
Health-Based Cleanup Level[a]:	>75 mg/kg	>800 mg/kg	>0.92 mg/kg	>0.092 mg/kg	>0.92 mg/kg	>75 mg/kg	>800 mg/kg	>0.92 mg/kg	>0.092 mg/kg	>0.92 mg/kg
	Concentration (mg/kg)					Concentration (mg/kg)				
Sample	Antimony	Lead	Benz(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Antimony	Lead	Benz(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene
BAI-24A-01-18	--	--	0.051	0.06	0.17	--	--	0.013	0.02	0.052
BAI-24A-02-18	--	--	0.064	0.11	0.28	--	--	1	0.68	1.5
BAI-24A-03-18	--	--	0.022	0.05	0.15	--	--	0.02	0.031	0.083
BAI-24A-04-18	--	--	0.0026	0.0023	0.0068	--	--	0.011	0.019	0.032
BAI-24A-05-18	--	--	0.065	0.069	0.1685	--	--	<0.0011	<0.0011	0.0015
BAI-24A-07-18	45	7100	--	--	--	2.5	460	--	--	--
BAI-24A-08-18	0.49	35	--	--	--	0.38	20	--	--	--
BAI-24A-09-18	0.4	5	--	--	--	<0.16	2.1	--	--	--
BAI-24A-10-18	0.21	14	--	--	--	<0.16	7.4	--	--	--
BAI-24A-11-18	1.545	24	--	--	--	<0.16	6.6	--	--	--
BAI-24A-013-18	4.9	30	--	--	--	2.9	9.3	--	--	--
BAI-24A-014-18	3.4	13	--	--	--	3	4.5	--	--	--
BAI-24A-015-18	4.2	24	--	--	--	2.8	3.7	--	--	--
BAI-24A-016-18	4	27	--	--	--	3.2	8.4	--	--	--
BAI-24A-017-18	5.4	25	--	--	--	3.3	8.1	--	--	--
BAI-24A-019-18	3.6	21	--	--	--	2.2	8.1	--	--	--
BAI-24A-020-18	6.7	110	--	--	--	2.3	3.4	--	--	--
BAI-24A-021-18	370	29000	--	--	--	2.6	13	--	--	--
BAI-24A-022-18	10	630	--	--	--	1.6	3.8	--	--	--
BAI-24A-023-18	6.35	8.7	--	--	--	3.4	20	--	--	--
BAI-24A-025-18	54	9500	--	--	--	44	3000	--	--	--
BAI-24A-026-18	700	62000	--	--	--	7	1300	--	--	--
BAI-24A-027-18	11	2300	--	--	--	4.3	11	--	--	--
BAI-24A-028-18	13	1500	--	--	--	2.5	37	--	--	--
BAI-24A-029-18	146.5	5700	--	--	--	3.6	13	--	--	--
BAI-24A-031-18	5.2	410	--	--	--	2.4	5.5	--	--	--
BAI-24A-032-18	33	4300	--	--	--	2.7	23	--	--	--
BAI-24A-033-18	4.8	940	--	--	--	7.2	1500	--	--	--
BAI-24A-034-18	3.1	120	--	--	--	2.5	19	--	--	--
BAI-24A-035-18	4.35	249.05	--	--	--	5.4	230	--	--	--
BAI-24A-037-18	1.8	28	--	--	--	0.66	31	--	--	--
BAI-24A-038-18	2.6	24	--	--	--	3.1	180	--	--	--
BAI-24A-039-18	1.9	19	--	--	--	4.5	120	--	--	--
BAI-24A-040-18	2.8	14	--	--	--	3.4	24	--	--	--
BAI-24A-041-18	1.78	46	--	--	--	2.8	8.4	--	--	--
BAI-24A-045-18	0.42	7.1	--	--	--	<0.17	6.4	--	--	--
BAI-24A-046-18	0.62	3.3	--	--	--	0.55	3.6	--	--	--
BAI-24A-047-18	0.51	34	--	--	--	0.22	3.1	--	--	--
BAI-24A-048-18	0.66	25	--	--	--	0.4	3.8	--	--	--
BAI-24A-049-18	0.87	16	--	--	--	0.47	3.2	--	--	--
BAI-24A-051-18	1.2	58	--	--	--	0.95	43	--	--	--
BAI-24A-052-18	0.99	37	--	--	--	0.5	7.2	--	--	--
BAI-24A-053-18	1.4	96	--	--	--	1	32	--	--	--
BAI-24A-054-18	1.2	100	--	--	--	0.47	9.7	--	--	--
BAI-24A-055-18	1.45	62	--	--	--	0.36	4.2	--	--	--

Notes:

a) Basis of Proposed Cleanup Levels (see Table A-5):

Antimony, Benz(a)anthracene, Benzo(a)pyrene, and Benzo(b)fluroanthene = site-specific derivation, based on DTSC Method 2 and RME exposure factors.

Lead = USEPA RSL for commercial/industrial land use (800 mg/kg).

"--" = not analyzed

Shaded cells exceed the proposed cleanup level

mg/kg = milligram per kilogram

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ATTACHMENTS

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Attachment A1 –

Analytical Data Used in the Human Health Risk Assessment

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Table A1-1. Raw Data, IR Site 24A, Former Naval Weapons Station Seal Beach Detachment Concord

SAMPLE_NAME	ANALYTICAL_METHOD	SAMPLE_BASIS	PERCENT_MOISTURE	ANALYTE_ID	ANALYTE NAME	ANALYTE_VALUE	RESULT_UNITS	FINAL_QUALIFIER	DETECTED	MDL	MRL
BAI-24A-01-00	8270C_SIM	DRY	14	91-20-3	Naphthalene	1.4	UG_KG	J	Y	1.2	5.8
BAI-24A-01-00	8270C_SIM	DRY	14	208-96-8	Acenaphthylene	25	UG_KG		Y	1.2	5.8
BAI-24A-01-00	8270C_SIM	DRY	14	83-32-9	Acenaphthene	5.8	UG_KG	U	N	1.2	5.8
BAI-24A-01-00	8270C_SIM	DRY	14	86-73-7	Fluorene	2.5	UG_KG	J	Y	1.2	5.8
BAI-24A-01-00	8270C_SIM	DRY	14	85-01-8	Phenanthrene	14	UG_KG		Y	1.2	5.8
BAI-24A-01-00	8270C_SIM	DRY	14	120-12-7	Anthracene	62	UG_KG		Y	1.2	5.8
BAI-24A-01-00	8270C_SIM	DRY	14	206-44-0	Fluoranthene	63	UG_KG		Y	1.2	5.8
BAI-24A-01-00	8270C_SIM	DRY	14	129-00-0	Pyrene	76	UG_KG		Y	1.2	5.8
BAI-24A-01-00	8270C_SIM	DRY	14	56-55-3	Benzo(a)anthracene	51	UG_KG		Y	1.2	5.8
BAI-24A-01-00	8270C_SIM	DRY	14	218-01-9	Chrysene	170	UG_KG		Y	1.2	5.8
BAI-24A-01-00	8270C_SIM	DRY	14	205-99-2	Benzo(b)fluoranthene	170	UG_KG		Y	1.2	5.8
BAI-24A-01-00	8270C_SIM	DRY	14	207-08-9	Benzo(k)fluoranthene	43	UG_KG		Y	1.2	5.8
BAI-24A-01-00	8270C_SIM	DRY	14	50-32-8	Benzo(a)pyrene	60	UG_KG		Y	1.2	5.8
BAI-24A-01-00	8270C_SIM	DRY	14	193-39-5	Indeno(1,2,3-cd)yrene	64	UG_KG		Y	1.2	5.8
BAI-24A-01-00	8270C_SIM	DRY	14	53-70-3	Dibenz(a,h)anthracene	20	UG_KG		Y	1.2	5.8
BAI-24A-01-00	8270C_SIM	DRY	14	191-24-2	Benzo(g,h,i)perylene	61	UG_KG		Y	1.4	5.8
BAI-24A-01-18	8270C_SIM	DRY	16	91-20-3	Naphthalene	5.9	UG_KG	U	N	1.2	5.9
BAI-24A-01-18	8270C_SIM	DRY	16	208-96-8	Acenaphthylene	34	UG_KG		Y	1.2	5.9
BAI-24A-01-18	8270C_SIM	DRY	16	83-32-9	Acenaphthene	5.9	UG_KG	U	N	1.2	5.9
BAI-24A-01-18	8270C_SIM	DRY	16	86-73-7	Fluorene	2	UG_KG	J	Y	1.2	5.9
BAI-24A-01-18	8270C_SIM	DRY	16	85-01-8	Phenanthrene	1.3	UG_KG	J	Y	1.2	5.9
BAI-24A-01-18	8270C_SIM	DRY	16	120-12-7	Anthracene	57	UG_KG		Y	1.2	5.9
BAI-24A-01-18	8270C_SIM	DRY	16	206-44-0	Fluoranthene	5.8	UG_KG	J	Y	1.2	5.9
BAI-24A-01-18	8270C_SIM	DRY	16	129-00-0	Pyrene	9.4	UG_KG		Y	1.2	5.9
BAI-24A-01-18	8270C_SIM	DRY	16	56-55-3	Benzo(a)anthracene	13	UG_KG		Y	1.2	5.9
BAI-24A-01-18	8270C_SIM	DRY	16	218-01-9	Chrysene	41	UG_KG		Y	1.2	5.9
BAI-24A-01-18	8270C_SIM	DRY	16	205-99-2	Benzo(b)fluoranthene	52	UG_KG		Y	1.2	5.9
BAI-24A-01-18	8270C_SIM	DRY	16	207-08-9	Benzo(k)fluoranthene	13	UG_KG		Y	1.2	5.9
BAI-24A-01-18	8270C_SIM	DRY	16	50-32-8	Benzo(a)pyrene	20	UG_KG		Y	1.2	5.9
BAI-24A-01-18	8270C_SIM	DRY	16	193-39-5	Indeno(1,2,3-cd)yrene	63	UG_KG		Y	1.2	5.9
BAI-24A-01-18	8270C_SIM	DRY	16	53-70-3	Dibenz(a,h)anthracene	16	UG_KG		Y	1.2	5.9
BAI-24A-01-18	8270C_SIM	DRY	16	191-24-2	Benzo(g,h,i)perylene	82	UG_KG		Y	1.5	5.9
BAI-24A-02-00	8270C_SIM	DRY	14	91-20-3	Naphthalene	2.8	UG_KG	J	Y	1.2	5.8
BAI-24A-02-00	8270C_SIM	DRY	14	208-96-8	Acenaphthylene	47	UG_KG		Y	1.2	5.8
BAI-24A-02-00	8270C_SIM	DRY	14	83-32-9	Acenaphthene	4	UG_KG	J	Y	1.2	5.8
BAI-24A-02-00	8270C_SIM	DRY	14	86-73-7	Fluorene	5.1	UG_KG	J	Y	1.2	5.8
BAI-24A-02-00	8270C_SIM	DRY	14	85-01-8	Phenanthrene	24	UG_KG		Y	1.2	5.8
BAI-24A-02-00	8270C_SIM	DRY	14	120-12-7	Anthracene	110	UG_KG		Y	1.2	5.8
BAI-24A-02-00	8270C_SIM	DRY	14	206-44-0	Fluoranthene	71	UG_KG		Y	1.2	5.8
BAI-24A-02-00	8270C_SIM	DRY	14	129-00-0	Pyrene	90	UG_KG		Y	1.2	5.8
BAI-24A-02-00	8270C_SIM	DRY	14	56-55-3	Benzo(a)anthracene	64	UG_KG		Y	1.2	5.8
BAI-24A-02-00	8270C_SIM	DRY	14	218-01-9	Chrysene	140	UG_KG		Y	1.2	5.8
BAI-24A-02-00	8270C_SIM	DRY	14	205-99-2	Benzo(b)fluoranthene	280	UG_KG		Y	1.2	5.8
BAI-24A-02-00	8270C_SIM	DRY	14	207-08-9	Benzo(k)fluoranthene	56	UG_KG		Y	1.2	5.8
BAI-24A-02-00	8270C_SIM	DRY	14	50-32-8	Benzo(a)pyrene	110	UG_KG		Y	1.2	5.8
BAI-24A-02-00	8270C_SIM	DRY	14	193-39-5	Indeno(1,2,3-cd)yrene	110	UG_KG		Y	1.2	5.8
BAI-24A-02-00	8270C_SIM	DRY	14	53-70-3	Dibenz(a,h)anthracene	32	UG_KG		Y	1.2	5.8
BAI-24A-02-00	8270C_SIM	DRY	14	191-24-2	Benzo(g,h,i)perylene	110	UG_KG		Y	1.4	5.8
BAI-24A-03-00	8270C_SIM	DRY	15	91-20-3	Naphthalene	5.8	UG_KG	U	N	1.2	5.8
BAI-24A-03-00	8270C_SIM	DRY	15	208-96-8	Acenaphthylene	22	UG_KG		Y	1.2	5.8
BAI-24A-03-00	8270C_SIM	DRY	15	83-32-9	Acenaphthene	1.4	UG_KG	J	Y	1.2	5.8
BAI-24A-03-00	8270C_SIM	DRY	15	86-73-7	Fluorene	1.8	UG_KG	J	Y	1.2	5.8
BAI-24A-03-00	8270C_SIM	DRY	15	85-01-8	Phenanthrene	10	UG_KG		Y	1.2	5.8
BAI-24A-03-00	8270C_SIM	DRY	15	120-12-7	Anthracene	76	UG_KG		Y	1.2	5.8

Table A1-1. Raw Data, IR Site 24A, Former Naval Weapons Station Seal Beach Detachment Concord

SAMPLE_NAME	ANALYTICAL_METHOD	SAMPLE_BASIS	PERCENT_MOISTURE	ANALYTE_ID	ANALYTE NAME	ANALYTE_VALUE	RESULT_UNITS	FINAL_QUALIFIER	DETECTED	MDL	MRL
BAI-24A-03-00	8270C_SIM	DRY	15	206-44-0	Fluoranthene	31	UG_KG		Y	1.2	5.8
BAI-24A-03-00	8270C_SIM	DRY	15	129-00-0	Pyrene	36	UG_KG		Y	1.2	5.8
BAI-24A-03-00	8270C_SIM	DRY	15	56-55-3	Benzo(a)anthracene	22	UG_KG		Y	1.2	5.8
BAI-24A-03-00	8270C_SIM	DRY	15	218-01-9	Chrysene	41	UG_KG		Y	1.2	5.8
BAI-24A-03-00	8270C_SIM	DRY	15	205-99-2	Benzo(b)fluoranthene	150	UG_KG		Y	1.2	5.8
BAI-24A-03-00	8270C_SIM	DRY	15	207-08-9	Benzo(k)fluoranthene	39	UG_KG		Y	1.2	5.8
BAI-24A-03-00	8270C_SIM	DRY	15	50-32-8	Benzo(a)pyrene	50	UG_KG		Y	1.2	5.8
BAI-24A-03-00	8270C_SIM	DRY	15	193-39-5	Indeno(1,2,3-cd)yrene	67	UG_KG		Y	1.2	5.8
BAI-24A-03-00	8270C_SIM	DRY	15	53-70-3	Dibenz(a,h)anthracene	24	UG_KG		Y	1.2	5.8
BAI-24A-03-00	8270C_SIM	DRY	15	191-24-2	Benzo(g,h,i)perylene	88	UG_KG		Y	1.2	5.8
BAI-24A-03-18	8270C_SIM	DRY	18	91-20-3	Naphthalene	6.1	UG_KG	U	N	1.2	6.1
BAI-24A-03-18	8270C_SIM	DRY	18	208-96-8	Acenaphthylene	19	UG_KG		Y	1.2	6.1
BAI-24A-03-18	8270C_SIM	DRY	18	83-32-9	Acenaphthene	6.1	UG_KG	U	N	1.2	6.1
BAI-24A-03-18	8270C_SIM	DRY	18	86-73-7	Fluorene	1.6	UG_KG	J	Y	1.2	6.1
BAI-24A-03-18	8270C_SIM	DRY	18	85-01-8	Phenanthrene	6.9	UG_KG		Y	1.2	6.1
BAI-24A-03-18	8270C_SIM	DRY	18	120-12-7	Anthracene	59	UG_KG		Y	1.2	6.1
BAI-24A-03-18	8270C_SIM	DRY	18	206-44-0	Fluoranthene	38	UG_KG		Y	1.2	6.1
BAI-24A-03-18	8270C_SIM	DRY	18	129-00-0	Pyrene	42	UG_KG		Y	1.2	6.1
BAI-24A-03-18	8270C_SIM	DRY	18	56-55-3	Benzo(a)anthracene	20	UG_KG		Y	1.2	6.1
BAI-24A-03-18	8270C_SIM	DRY	18	218-01-9	Chrysene	42	UG_KG		Y	1.2	6.1
BAI-24A-03-18	8270C_SIM	DRY	18	205-99-2	Benzo(b)fluoranthene	83	UG_KG		Y	1.2	6.1
BAI-24A-03-18	8270C_SIM	DRY	18	207-08-9	Benzo(k)fluoranthene	23	UG_KG		Y	1.2	6.1
BAI-24A-03-18	8270C_SIM	DRY	18	50-32-8	Benzo(a)pyrene	31	UG_KG		Y	1.2	6.1
BAI-24A-03-18	8270C_SIM	DRY	18	193-39-5	Indeno(1,2,3-cd)yrene	43	UG_KG		Y	1.2	6.1
BAI-24A-03-18	8270C_SIM	DRY	18	53-70-3	Dibenz(a,h)anthracene	13	UG_KG		Y	1.2	6.1
BAI-24A-03-18	8270C_SIM	DRY	18	191-24-2	Benzo(g,h,i)perylene	56	UG_KG		Y	1.2	6.1
BAI-24A-04-00	8270C_SIM	DRY	15	91-20-3	Naphthalene	5.8	UG_KG	U	N	1.2	5.8
BAI-24A-04-00	8270C_SIM	DRY	15	208-96-8	Acenaphthylene	5.8	UG_KG	U	N	1.2	5.8
BAI-24A-04-00	8270C_SIM	DRY	15	83-32-9	Acenaphthene	5.8	UG_KG	U	N	1.2	5.8
BAI-24A-04-00	8270C_SIM	DRY	15	86-73-7	Fluorene	5.8	UG_KG	U	N	1.2	5.8
BAI-24A-04-00	8270C_SIM	DRY	15	85-01-8	Phenanthrene	3.9	UG_KG	J	Y	1.2	5.8
BAI-24A-04-00	8270C_SIM	DRY	15	120-12-7	Anthracene	2.9	UG_KG	J	Y	1.2	5.8
BAI-24A-04-00	8270C_SIM	DRY	15	206-44-0	Fluoranthene	21	UG_KG		Y	1.2	5.8
BAI-24A-04-00	8270C_SIM	DRY	15	129-00-0	Pyrene	12	UG_KG		Y	1.2	5.8
BAI-24A-04-00	8270C_SIM	DRY	15	56-55-3	Benzo(a)anthracene	2.6	UG_KG	J	Y	1.2	5.8
BAI-24A-04-00	8270C_SIM	DRY	15	218-01-9	Chrysene	7.7	UG_KG		Y	1.2	5.8
BAI-24A-04-00	8270C_SIM	DRY	15	205-99-2	Benzo(b)fluoranthene	6.8	UG_KG		Y	1.2	5.8
BAI-24A-04-00	8270C_SIM	DRY	15	207-08-9	Benzo(k)fluoranthene	2.3	UG_KG	J	Y	1.2	5.8
BAI-24A-04-00	8270C_SIM	DRY	15	50-32-8	Benzo(a)pyrene	2.3	UG_KG	J	Y	1.2	5.8
BAI-24A-04-00	8270C_SIM	DRY	15	193-39-5	Indeno(1,2,3-cd)yrene	2.5	UG_KG	J	Y	1.2	5.8
BAI-24A-04-00	8270C_SIM	DRY	15	53-70-3	Dibenz(a,h)anthracene	5.8	UG_KG	U	N	1.2	5.8
BAI-24A-04-00	8270C_SIM	DRY	15	191-24-2	Benzo(g,h,i)perylene	3.6	UG_KG	J	Y	1.2	5.8
BAI-24A-04-18	8270C_SIM	DRY	19	91-20-3	Naphthalene	6.1	UG_KG	U	N	1.2	6.1
BAI-24A-04-18	8270C_SIM	DRY	19	208-96-8	Acenaphthylene	22	UG_KG		Y	1.2	6.1
BAI-24A-04-18	8270C_SIM	DRY	19	83-32-9	Acenaphthene	3.7	UG_KG	J	Y	1.2	6.1
BAI-24A-04-18	8270C_SIM	DRY	19	86-73-7	Fluorene	5.1	UG_KG	J	Y	1.2	6.1
BAI-24A-04-18	8270C_SIM	DRY	19	85-01-8	Phenanthrene	20	UG_KG		Y	1.2	6.1
BAI-24A-04-18	8270C_SIM	DRY	19	120-12-7	Anthracene	63	UG_KG		Y	1.2	6.1
BAI-24A-04-18	8270C_SIM	DRY	19	206-44-0	Fluoranthene	24	UG_KG		Y	1.2	6.1
BAI-24A-04-18	8270C_SIM	DRY	19	129-00-0	Pyrene	25	UG_KG		Y	1.2	6.1
BAI-24A-04-18	8270C_SIM	DRY	19	56-55-3	Benzo(a)anthracene	11	UG_KG		Y	1.2	6.1
BAI-24A-04-18	8270C_SIM	DRY	19	218-01-9	Chrysene	24	UG_KG		Y	1.2	6.1
BAI-24A-04-18	8270C_SIM	DRY	19	205-99-2	Benzo(b)fluoranthene	32	UG_KG		Y	1.2	6.1
BAI-24A-04-18	8270C_SIM	DRY	19	207-08-9	Benzo(k)fluoranthene	7.8	UG_KG		Y	1.2	6.1

Table A1-1. Raw Data, IR Site 24A, Former Naval Weapons Station Seal Beach Detachment Concord

SAMPLE_NAME	ANALYTICAL_METHOD	SAMPLE_BASIS	PERCENT_MOISTURE	ANALYTE_ID	ANALYTE NAME	ANALYTE_VALUE	RESULT_UNITS	FINAL_QUALIFIER	DETECTED	MDL	MRL
BAI-24A-04-18	8270C_SIM	DRY	19	50-32-8	Benzo(a)pyrene	19	UG_KG		Y	1.2	6.1
BAI-24A-04-18	8270C_SIM	DRY	19	193-39-5	Indeno(1,2,3-cd)yrene	65	UG_KG		Y	1.2	6.1
BAI-24A-04-18	8270C_SIM	DRY	19	53-70-3	Dibenz(a,h)anthracene	15	UG_KG		Y	1.2	6.1
BAI-24A-04-18	8270C_SIM	DRY	19	191-24-2	Benzo(g,h,i)perylene	140	UG_KG		Y	1.2	6.1
BAI-24A-05-00	8270C_SIM	DRY	15	91-20-3	Naphthalene	5.9	UG_KG	U	N	1.2	5.9
BAI-24A-05-00	8270C_SIM	DRY	15	208-96-8	Acenaphthylene	17	UG_KG		Y	1.2	5.9
BAI-24A-05-00	8270C_SIM	DRY	15	83-32-9	Acenaphthene	2.3	UG_KG	J	Y	1.2	5.9
BAI-24A-05-00	8270C_SIM	DRY	15	86-73-7	Fluorene	1.5	UG_KG	J	Y	1.2	5.9
BAI-24A-05-00	8270C_SIM	DRY	15	85-01-8	Phenanthrene	15	UG_KG		Y	1.2	5.9
BAI-24A-05-00	8270C_SIM	DRY	15	120-12-7	Anthracene	38	UG_KG		Y	1.2	5.9
BAI-24A-05-00	8270C_SIM	DRY	15	206-44-0	Fluoranthene	48	UG_KG		Y	1.2	5.9
BAI-24A-05-00	8270C_SIM	DRY	15	129-00-0	Pyrene	50	UG_KG		Y	1.2	5.9
BAI-24A-05-00	8270C_SIM	DRY	15	56-55-3	Benzo(a)anthracene	30	UG_KG		Y	1.2	5.9
BAI-24A-05-00	8270C_SIM	DRY	15	218-01-9	Chrysene	50	UG_KG		Y	1.2	5.9
BAI-24A-05-00	8270C_SIM	DRY	15	205-99-2	Benzo(b)fluoranthene	87	UG_KG		Y	1.2	5.9
BAI-24A-05-00	8270C_SIM	DRY	15	207-08-9	Benzo(k)fluoranthene	28	UG_KG		Y	1.2	5.9
BAI-24A-05-00	8270C_SIM	DRY	15	50-32-8	Benzo(a)pyrene	49	UG_KG		Y	1.2	5.9
BAI-24A-05-00	8270C_SIM	DRY	15	193-39-5	Indeno(1,2,3-cd)yrene	68	UG_KG		Y	1.2	5.9
BAI-24A-05-00	8270C_SIM	DRY	15	53-70-3	Dibenz(a,h)anthracene	20	UG_KG		Y	1.2	5.9
BAI-24A-05-00	8270C_SIM	DRY	15	191-24-2	Benzo(g,h,i)perylene	82	UG_KG		Y	1.2	5.9
BAI-24A-05-18	8270C_SIM	DRY	13	91-20-3	Naphthalene	5.7	UG_KG	U	N	1.1	5.7
BAI-24A-05-18	8270C_SIM	DRY	13	208-96-8	Acenaphthylene	5.7	UG_KG	U	N	1.1	5.7
BAI-24A-05-18	8270C_SIM	DRY	13	83-32-9	Acenaphthene	5.7	UG_KG	U	N	1.1	5.7
BAI-24A-05-18	8270C_SIM	DRY	13	86-73-7	Fluorene	5.7	UG_KG	U	N	1.1	5.7
BAI-24A-05-18	8270C_SIM	DRY	13	85-01-8	Phenanthrene	5.7	UG_KG	U	N	1.1	5.7
BAI-24A-05-18	8270C_SIM	DRY	13	120-12-7	Anthracene	1.5	UG_KG	J	Y	1.1	5.7
BAI-24A-05-18	8270C_SIM	DRY	13	206-44-0	Fluoranthene	1.2	UG_KG	J	Y	1.1	5.7
BAI-24A-05-18	8270C_SIM	DRY	13	129-00-0	Pyrene	1.2	UG_KG	J	Y	1.1	5.7
BAI-24A-05-18	8270C_SIM	DRY	13	56-55-3	Benzo(a)anthracene	5.7	UG_KG	U	N	1.1	5.7
BAI-24A-05-18	8270C_SIM	DRY	13	218-01-9	Chrysene	5.7	UG_KG	U	N	1.1	5.7
BAI-24A-05-18	8270C_SIM	DRY	13	205-99-2	Benzo(b)fluoranthene	1.5	UG_KG	J	Y	1.1	5.7
BAI-24A-05-18	8270C_SIM	DRY	13	207-08-9	Benzo(k)fluoranthene	5.7	UG_KG	U	N	1.1	5.7
BAI-24A-05-18	8270C_SIM	DRY	13	50-32-8	Benzo(a)pyrene	5.7	UG_KG	U	N	1.1	5.7
BAI-24A-05-18	8270C_SIM	DRY	13	193-39-5	Indeno(1,2,3-cd)yrene	1.8	UG_KG	J	Y	1.1	5.7
BAI-24A-05-18	8270C_SIM	DRY	13	53-70-3	Dibenz(a,h)anthracene	5.7	UG_KG	U	N	1.1	5.7
BAI-24A-05-18	8270C_SIM	DRY	13	191-24-2	Benzo(g,h,i)perylene	2.5	UG_KG	J	Y	1.1	5.7
BAI-24A-01-00	D2216	WET		-86	Percent Moisture	14	PCT		Y		1
BAI-24A-01-18	D2216	WET		-86	Percent Moisture	16	PCT		Y		1
BAI-24A-02-00	D2216	WET		-86	Percent Moisture	14	PCT		Y		1
BAI-24A-02-18	D2216	WET		-86	Percent Moisture	9	PCT		Y		1
BAI-24A-03-00	D2216	WET		-86	Percent Moisture	15	PCT		Y		1
BAI-24A-03-18	D2216	WET		-86	Percent Moisture	18	PCT		Y		1
BAI-24A-04-00	D2216	WET		-86	Percent Moisture	15	PCT		Y		1
BAI-24A-04-18	D2216	WET		-86	Percent Moisture	19	PCT		Y		1
BAI-24A-05-00	D2216	WET		-86	Percent Moisture	15	PCT		Y		1
BAI-24A-05-18	D2216	WET		-86	Percent Moisture	13	PCT		Y		1
BAI-24A-06-00	8270C_SIM	DRY	13	91-20-3	Naphthalene	1.7	UG_KG	J	Y	1.1	5.7
BAI-24A-06-00	8270C_SIM	DRY	13	208-96-8	Acenaphthylene	34	UG_KG		Y	1.1	5.7
BAI-24A-06-00	8270C_SIM	DRY	13	83-32-9	Acenaphthene	4.5	UG_KG	J	Y	1.1	5.7
BAI-24A-06-00	8270C_SIM	DRY	13	86-73-7	Fluorene	4.5	UG_KG	J	Y	1.1	5.7
BAI-24A-06-00	8270C_SIM	DRY	13	85-01-8	Phenanthrene	41	UG_KG		Y	1.1	5.7
BAI-24A-06-00	8270C_SIM	DRY	13	120-12-7	Anthracene	99	UG_KG	J	Y	1.1	5.7
BAI-24A-06-00	8270C_SIM	DRY	13	206-44-0	Fluoranthene	170	UG_KG		Y	1.1	5.7
BAI-24A-06-00	8270C_SIM	DRY	13	129-00-0	Pyrene	170	UG_KG		Y	1.1	5.7

Table A1-1. Raw Data, IR Site 24A, Former Naval Weapons Station Seal Beach Detachment Concord

SAMPLE_NAME	ANALYTICAL_METHOD	SAMPLE_BASIS	PERCENT_MOISTURE	ANALYTE_ID	ANALYTE NAME	ANALYTE_VALUE	RESULT_UNITS	FINAL_QUALIFIER	DETECTED	MDL	MRL
BAI-24A-06-00	8270C_SIM	DRY	13	56-55-3	Benzo(a)anthracene	100	UG_KG		Y	1.1	5.7
BAI-24A-06-00	8270C_SIM	DRY	13	218-01-9	Chrysene	180	UG_KG		Y	1.1	5.7
BAI-24A-06-00	8270C_SIM	DRY	13	205-99-2	Benzo(b)fluoranthene	250	UG_KG		Y	1.1	5.7
BAI-24A-06-00	8270C_SIM	DRY	13	207-08-9	Benzo(k)fluoranthene	70	UG_KG	J	Y	1.1	5.7
BAI-24A-06-00	8270C_SIM	DRY	13	50-32-8	Benzo(a)pyrene	89	UG_KG		Y	1.1	5.7
BAI-24A-06-00	8270C_SIM	DRY	13	193-39-5	Indeno(1,2,3-cd)yrene	83	UG_KG		Y	1.2	5.7
BAI-24A-06-00	8270C_SIM	DRY	13	53-70-3	Dibenz(a,h)anthracene	26	UG_KG		Y	1.2	5.7
BAI-24A-06-00	8270C_SIM	DRY	13	191-24-2	Benzo(g,h,i)perylene	82	UG_KG	J	Y	1.4	5.7
BAI-24A-06-00	D2216	WET		-86	Percent Moisture	13	PCT		Y		1
BAI-24A-12-00	8330	WET		2691-41-0	HMX	200	UG_KG	U	N	15	200
BAI-24A-12-00	8330	WET		121-82-4	RDX	200	UG_KG	U	N	21	200
BAI-24A-12-00	8330	WET		99-35-4	1,3,5-Trinitrobenzene	200	UG_KG	U	N	27	200
BAI-24A-12-00	8330	WET		99-65-0	1,3-Dinitrobenzene	200	UG_KG	U	N	4.6	200
BAI-24A-12-00	8330	WET		98-95-3	Nitrobenzene	200	UG_KG	U	N	16	200
BAI-24A-12-00	8330	WET		479-45-8	Tetryl	200	UG_KG	U	N	56	200
BAI-24A-12-00	8330	WET		118-96-7	2,4,6-Trinitrotoluene	200	UG_KG	U	N	30	200
BAI-24A-12-00	8330	WET		35572-78-2	2-amino-4,6-Dinitrotoluene	200	UG_KG	U	N	18	200
BAI-24A-12-00	8330	WET		19406-51-0	4-amino-2,6-Dinitrotoluene	200	UG_KG	U	N	39	200
BAI-24A-12-00	8330	WET		121-14-2	2,4-Dinitrotoluene	200	UG_KG	U	N	21	200
BAI-24A-12-00	8330	WET		606-20-2	2,6-Dinitrotoluene	200	UG_KG	U	N	22	200
BAI-24A-12-00	8330	WET		88-72-2	2-Nitrotoluene	390	UG_KG	U	N	28	390
BAI-24A-12-00	8330	WET		99-99-0	4-Nitrotoluene	390	UG_KG	U	N	28	390
BAI-24A-12-00	8330	WET		99-08-1	3-Nitrotoluene	390	UG_KG	U	N	40	390
BAI-24A-12-00	6010B	DRY	18	7440-36-0	Antimony	2.9	MG_KG	J	Y	0.18	0.61
BAI-24A-12-00	6010B	DRY	18	7440-38-2	Arsenic	7.4	MG_KG	J	Y	0.095	0.3
BAI-24A-12-00	6010B	DRY	18	7440-39-3	Barium	120	MG_KG	J	Y	0.12	0.35
BAI-24A-12-00	6010B	DRY	18	7440-41-7	Beryllium	0.42	MG_KG		Y	0.023	0.12
BAI-24A-12-00	6010B	DRY	18	7440-43-9	Cadmium	0.24	MG_KG	J	Y	0.058	0.3
BAI-24A-12-00	6010B	DRY	18	7440-47-3	Chromium	22	MG_KG		Y	0.12	0.35
BAI-24A-12-00	6010B	DRY	18	7440-48-4	Cobalt	8.5	MG_KG		Y	0.23	0.69
BAI-24A-12-00	6010B	DRY	18	7440-50-8	Copper	17	MG_KG	J	Y	0.12	0.35
BAI-24A-12-00	6010B	DRY	18	7439-92-1	Lead	25	MG_KG	J	Y	0.084	0.3
BAI-24A-12-00	7470A	DRY	18	7439-97-6	Mercury	0.024	MG_KG	U	N	0.0071	0.024
BAI-24A-12-00	6010B	DRY	18	7439-98-7	Molybdenum	0.34	MG_KG	J	Y	0.23	0.69
BAI-24A-12-00	6010B	DRY	18	7440-02-0	Nickel	15	MG_KG	J	Y	0.23	0.69
BAI-24A-12-00	6010B	DRY	18	7782-49-2	Selenium	0.56	MG_KG	J	Y	0.17	0.61
BAI-24A-12-00	6010B	DRY	18	7440-22-4	Silver	0.3	MG_KG	U	N	0.086	0.3
BAI-24A-12-00	6010B	DRY	18	7440-28-0	Thallium	0.61	MG_KG	U	N	0.19	0.61
BAI-24A-12-00	6010B	DRY	18	7440-62-2	Vanadium	35	MG_KG		Y	0.12	0.35
BAI-24A-12-00	6010B	DRY	18	7440-66-6	Zinc	330	MG_KG	J	Y	0.23	1.2
BAI-24A-12-00	D2216	WET		-86	Percent Moisture	18	PCT		Y		1
BAI-24A-018-00	8330	WET		2691-41-0	HMX	200	UG_KG	U	N	15	200
BAI-24A-018-00	8330	WET		121-82-4	RDX	200	UG_KG	U	N	20	200
BAI-24A-018-00	8330	WET		99-35-4	1,3,5-Trinitrobenzene	200	UG_KG	U	N	27	200
BAI-24A-018-00	8330	WET		99-65-0	1,3-Dinitrobenzene	200	UG_KG	U	N	4.6	200
BAI-24A-018-00	8330	WET		98-95-3	Nitrobenzene	200	UG_KG	U	N	16	200
BAI-24A-018-00	8330	WET		479-45-8	Tetryl	200	UG_KG	U	N	55	200
BAI-24A-018-00	8330	WET		118-96-7	2,4,6-Trinitrotoluene	200	UG_KG	U	N	30	200
BAI-24A-018-00	8330	WET		35572-78-2	2-amino-4,6-Dinitrotoluene	200	UG_KG	U	N	18	200
BAI-24A-018-00	8330	WET		19406-51-0	4-amino-2,6-Dinitrotoluene	200	UG_KG	U	N	39	200
BAI-24A-018-00	8330	WET		121-14-2	2,4-Dinitrotoluene	200	UG_KG	U	N	20	200
BAI-24A-018-00	8330	WET		606-20-2	2,6-Dinitrotoluene	200	UG_KG	U	N	22	200
BAI-24A-018-00	8330	WET		88-72-2	2-Nitrotoluene	390	UG_KG	U	N	28	390
BAI-24A-018-00	8330	WET		99-99-0	4-Nitrotoluene	390	UG_KG	U	N	28	390

Table A1-1. Raw Data, IR Site 24A, Former Naval Weapons Station Seal Beach Detachment Concord

SAMPLE_NAME	ANALYTICAL_METHOD	SAMPLE_BASIS	PERCENT_MOISTURE	ANALYTE_ID	ANALYTE NAME	ANALYTE_VALUE	RESULT_UNITS	FINAL_QUALIFIER	DETECTED	MDL	MRL
BAI-24A-018-00	8330	WET		99-08-1	3-Nitrotoluene	390	UG_KG	U	N	39	390
BAI-24A-018-00	6010B	DRY	8	7440-36-0	Antimony	4.5	MG_KG	J	Y	0.17	0.54
BAI-24A-018-00	6010B	DRY	8	7440-38-2	Arsenic	0.91	MG_KG		Y	0.088	0.27
BAI-24A-018-00	6010B	DRY	8	7440-39-3	Barium	62	MG_KG		Y	0.11	0.32
BAI-24A-018-00	6010B	DRY	8	7440-41-7	Beryllium	0.35	MG_KG		Y	0.021	0.11
BAI-24A-018-00	6010B	DRY	8	7440-43-9	Cadmium	0.34	MG_KG		Y	0.053	0.27
BAI-24A-018-00	6010B	DRY	8	7440-47-3	Chromium	29	MG_KG		Y	0.11	0.32
BAI-24A-018-00	6010B	DRY	8	7440-48-4	Cobalt	17	MG_KG		Y	0.21	0.63
BAI-24A-018-00	6010B	DRY	8	7440-50-8	Copper	23	MG_KG	J	Y	0.11	0.32
BAI-24A-018-00	6010B	DRY	8	7439-92-1	Lead	26	MG_KG		Y	0.077	0.27
BAI-24A-018-00	7470A	DRY	8	7439-97-6	Mercury	0.46	MG_KG		Y	0.0063	0.022
BAI-24A-018-00	6010B	DRY	8	7439-98-7	Molybdenum	0.63	MG_KG	U	N	0.21	0.63
BAI-24A-018-00	6010B	DRY	8	7440-02-0	Nickel	21	MG_KG		Y	0.21	0.63
BAI-24A-018-00	6010B	DRY	8	7782-49-2	Selenium	0.54	MG_KG	U	N	0.15	0.54
BAI-24A-018-00	6010B	DRY	8	7440-22-4	Silver	0.27	MG_KG		Y	0.079	0.27
BAI-24A-018-00	6010B	DRY	8	7440-28-0	Thallium	0.54	MG_KG	U	N	0.17	0.54
BAI-24A-018-00	6010B	DRY	8	7440-62-2	Vanadium	100	MG_KG	J	Y	0.11	0.32
BAI-24A-018-00	6010B	DRY	8	7440-66-6	Zinc	300	MG_KG	J	Y	0.21	1.1
BAI-24A-018-00	D2216	WET		-86	Percent Moisture	8	PCT		Y		1
BAI-24A-07-00	8330	WET		2691-41-0	HMX	200	UG_KG	U	N	12	200
BAI-24A-07-00	8330	WET		121-82-4	RDX	200	UG_KG	U	N	11	200
BAI-24A-07-00	8330	WET		99-35-4	1,3,5-Trinitrobenzene	200	UG_KG	U	N	23	200
BAI-24A-07-00	8330	WET		99-65-0	1,3-Dinitrobenzene	200	UG_KG	U	N	10	200
BAI-24A-07-00	8330	WET		98-95-3	Nitrobenzene	200	UG_KG	U	N	26	200
BAI-24A-07-00	8330	WET		479-45-8	Tetryl	200	UG_KG	U	N	56	200
BAI-24A-07-00	8330	WET		118-96-7	2,4,6-Trinitrotoluene	200	UG_KG	U	N	22	200
BAI-24A-07-00	8330	WET		35572-78-2	2-amino-4,6-Dinitrotoluene	200	UG_KG	U	N	21	200
BAI-24A-07-00	8330	WET		19406-51-0	4-amino-2,6-Dinitrotoluene	200	UG_KG	U	N	51	200
BAI-24A-07-00	8330	WET		121-14-2	2,4-Dinitrotoluene	200	UG_KG	U	N	42	200
BAI-24A-07-00	8330	WET		606-20-2	2,6-Dinitrotoluene	200	UG_KG	U	N	49	200
BAI-24A-07-00	8330	WET		88-72-2	2-Nitrotoluene	400	UG_KG	U	N	11	400
BAI-24A-07-00	8330	WET		99-99-0	4-Nitrotoluene	400	UG_KG	U	N	24	400
BAI-24A-07-00	8330	WET		99-08-1	3-Nitrotoluene	400	UG_KG	U	N	18	400
BAI-24A-07-18	8330	WET		2691-41-0	HMX	200	UG_KG	U	N	12	200
BAI-24A-07-18	8330	WET		121-82-4	RDX	200	UG_KG	U	N	11	200
BAI-24A-07-18	8330	WET		99-35-4	1,3,5-Trinitrobenzene	200	UG_KG	U	N	23	200
BAI-24A-07-18	8330	WET		99-65-0	1,3-Dinitrobenzene	200	UG_KG	U	N	10	200
BAI-24A-07-18	8330	WET		98-95-3	Nitrobenzene	200	UG_KG	U	N	26	200
BAI-24A-07-18	8330	WET		479-45-8	Tetryl	200	UG_KG	U	N	56	200
BAI-24A-07-18	8330	WET		118-96-7	2,4,6-Trinitrotoluene	200	UG_KG	U	N	22	200
BAI-24A-07-18	8330	WET		35572-78-2	2-amino-4,6-Dinitrotoluene	200	UG_KG	U	N	21	200
BAI-24A-07-18	8330	WET		19406-51-0	4-amino-2,6-Dinitrotoluene	200	UG_KG	U	N	51	200
BAI-24A-07-18	8330	WET		121-14-2	2,4-Dinitrotoluene	200	UG_KG	U	N	42	200
BAI-24A-07-18	8330	WET		606-20-2	2,6-Dinitrotoluene	200	UG_KG	U	N	49	200
BAI-24A-07-18	8330	WET		88-72-2	2-Nitrotoluene	400	UG_KG	U	N	11	400
BAI-24A-07-18	8330	WET		99-99-0	4-Nitrotoluene	400	UG_KG	U	N	24	400
BAI-24A-07-18	8330	WET		99-08-1	3-Nitrotoluene	400	UG_KG	U	N	18	400
BAI-24A-08-00	8330	WET		2691-41-0	HMX	200	UG_KG	U	N	12	200
BAI-24A-08-00	8330	WET		121-82-4	RDX	200	UG_KG	U	N	11	200
BAI-24A-08-00	8330	WET		99-35-4	1,3,5-Trinitrobenzene	200	UG_KG	U	N	24	200
BAI-24A-08-00	8330	WET		99-65-0	1,3-Dinitrobenzene	200	UG_KG	U	N	11	200
BAI-24A-08-00	8330	WET		98-95-3	Nitrobenzene	200	UG_KG	U	N	27	200
BAI-24A-08-00	8330	WET		479-45-8	Tetryl	200	UG_KG	U	N	56	200
BAI-24A-08-00	8330	WET		118-96-7	2,4,6-Trinitrotoluene	200	UG_KG	U	N	22	200

Table A1-1. Raw Data, IR Site 24A, Former Naval Weapons Station Seal Beach Detachment Concord

SAMPLE_NAME	ANALYTICAL_METHOD	SAMPLE_BASIS	PERCENT_MOISTURE	ANALYTE_ID	ANALYTE NAME	ANALYTE_VALUE	RESULT_UNITS	FINAL_QUALIFIER	DETECTED	MDL	MRL
BAI-24A-08-00	8330	WET		35572-78-2	2-amino-4,6-Dinitrotoluene	200	UG_KG	U	N	22	200
BAI-24A-08-00	8330	WET		19406-51-0	4-amino-2,6-Dinitrotoluene	200	UG_KG	U	N	51	200
BAI-24A-08-00	8330	WET		121-14-2	2,4-Dinitrotoluene	200	UG_KG	U	N	42	200
BAI-24A-08-00	8330	WET		606-20-2	2,6-Dinitrotoluene	200	UG_KG	U	N	50	200
BAI-24A-08-00	8330	WET		88-72-2	2-Nitrotoluene	400	UG_KG	U	N	11	400
BAI-24A-08-00	8330	WET		99-99-0	4-Nitrotoluene	400	UG_KG	U	N	24	400
BAI-24A-08-00	8330	WET		99-08-1	3-Nitrotoluene	400	UG_KG	U	N	18	400
BAI-24A-08-18	8330	WET		2691-41-0	HMX	200	UG_KG	U	N	12	200
BAI-24A-08-18	8330	WET		121-82-4	RDX	200	UG_KG	U	N	11	200
BAI-24A-08-18	8330	WET		99-35-4	1,3,5-Trinitrobenzene	200	UG_KG	U	N	23	200
BAI-24A-08-18	8330	WET		99-65-0	1,3-Dinitrobenzene	200	UG_KG	U	N	10	200
BAI-24A-08-18	8330	WET		98-95-3	Nitrobenzene	200	UG_KG	U	N	27	200
BAI-24A-08-18	8330	WET		479-45-8	Tetryl	200	UG_KG	U	N	56	200
BAI-24A-08-18	8330	WET		118-96-7	2,4,6-Trinitrotoluene	200	UG_KG	U	N	22	200
BAI-24A-08-18	8330	WET		35572-78-2	2-amino-4,6-Dinitrotoluene	200	UG_KG	U	N	21	200
BAI-24A-08-18	8330	WET		19406-51-0	4-amino-2,6-Dinitrotoluene	200	UG_KG	U	N	51	200
BAI-24A-08-18	8330	WET		121-14-2	2,4-Dinitrotoluene	200	UG_KG	U	N	42	200
BAI-24A-08-18	8330	WET		606-20-2	2,6-Dinitrotoluene	200	UG_KG	U	N	50	200
BAI-24A-08-18	8330	WET		88-72-2	2-Nitrotoluene	400	UG_KG	U	N	11	400
BAI-24A-08-18	8330	WET		99-99-0	4-Nitrotoluene	400	UG_KG	U	N	24	400
BAI-24A-08-18	8330	WET		99-08-1	3-Nitrotoluene	400	UG_KG	U	N	18	400
BAI-24A-09-00	8330	WET		2691-41-0	HMX	200	UG_KG	U	N	12	200
BAI-24A-09-00	8330	WET		121-82-4	RDX	200	UG_KG	U	N	11	200
BAI-24A-09-00	8330	WET		99-35-4	1,3,5-Trinitrobenzene	200	UG_KG	U	N	23	200
BAI-24A-09-00	8330	WET		99-65-0	1,3-Dinitrobenzene	200	UG_KG	U	N	10	200
BAI-24A-09-00	8330	WET		98-95-3	Nitrobenzene	200	UG_KG	U	N	27	200
BAI-24A-09-00	8330	WET		479-45-8	Tetryl	200	UG_KG	U	N	56	200
BAI-24A-09-00	8330	WET		118-96-7	2,4,6-Trinitrotoluene	200	UG_KG	U	N	22	200
BAI-24A-09-00	8330	WET		35572-78-2	2-amino-4,6-Dinitrotoluene	200	UG_KG	U	N	22	200
BAI-24A-09-00	8330	WET		19406-51-0	4-amino-2,6-Dinitrotoluene	200	UG_KG	U	N	51	200
BAI-24A-09-00	8330	WET		121-14-2	2,4-Dinitrotoluene	200	UG_KG	U	N	42	200
BAI-24A-09-00	8330	WET		606-20-2	2,6-Dinitrotoluene	200	UG_KG	U	N	50	200
BAI-24A-09-00	8330	WET		88-72-2	2-Nitrotoluene	400	UG_KG	U	N	11	400
BAI-24A-09-00	8330	WET		99-99-0	4-Nitrotoluene	400	UG_KG	U	N	24	400
BAI-24A-09-00	8330	WET		99-08-1	3-Nitrotoluene	400	UG_KG	U	N	18	400
BAI-24A-09-18	8330	WET		2691-41-0	HMX	200	UG_KG	U	N	12	200
BAI-24A-09-18	8330	WET		121-82-4	RDX	200	UG_KG	U	N	11	200
BAI-24A-09-18	8330	WET		99-35-4	1,3,5-Trinitrobenzene	200	UG_KG	U	N	23	200
BAI-24A-09-18	8330	WET		99-65-0	1,3-Dinitrobenzene	200	UG_KG	U	N	10	200
BAI-24A-09-18	8330	WET		98-95-3	Nitrobenzene	200	UG_KG	U	N	27	200
BAI-24A-09-18	8330	WET		479-45-8	Tetryl	200	UG_KG	U	N	56	200
BAI-24A-09-18	8330	WET		118-96-7	2,4,6-Trinitrotoluene	200	UG_KG	U	N	22	200
BAI-24A-09-18	8330	WET		35572-78-2	2-amino-4,6-Dinitrotoluene	200	UG_KG	U	N	21	200
BAI-24A-09-18	8330	WET		19406-51-0	4-amino-2,6-Dinitrotoluene	200	UG_KG	U	N	51	200
BAI-24A-09-18	8330	WET		121-14-2	2,4-Dinitrotoluene	200	UG_KG	U	N	42	200
BAI-24A-09-18	8330	WET		606-20-2	2,6-Dinitrotoluene	200	UG_KG	U	N	50	200
BAI-24A-09-18	8330	WET		88-72-2	2-Nitrotoluene	400	UG_KG	U	N	11	400
BAI-24A-09-18	8330	WET		99-99-0	4-Nitrotoluene	400	UG_KG	U	N	24	400
BAI-24A-09-18	8330	WET		99-08-1	3-Nitrotoluene	400	UG_KG	U	N	18	400
BAI-24A-10-00	8330	WET		2691-41-0	HMX	200	UG_KG	U	N	12	200
BAI-24A-10-00	8330	WET		121-82-4	RDX	200	UG_KG	U	N	11	200
BAI-24A-10-00	8330	WET		99-35-4	1,3,5-Trinitrobenzene	200	UG_KG	U	N	23	200
BAI-24A-10-00	8330	WET		99-65-0	1,3-Dinitrobenzene	200	UG_KG	U	N	10	200
BAI-24A-10-00	8330	WET		98-95-3	Nitrobenzene	200	UG_KG	U	N	27	200

Table A1-1. Raw Data, IR Site 24A, Former Naval Weapons Station Seal Beach Detachment Concord

SAMPLE_NAME	ANALYTICAL_METHOD	SAMPLE_BASIS	PERCENT_MOISTURE	ANALYTE_ID	ANALYTE NAME	ANALYTE_VALUE	RESULT_UNITS	FINAL_QUALIFIER	DETECTED	MDL	MRL
BAI-24A-10-00	8330	WET		479-45-8	Tetryl	200	UG_KG	U	N	56	200
BAI-24A-10-00	8330	WET		118-96-7	2,4,6-Trinitrotoluene	200	UG_KG	U	N	22	200
BAI-24A-10-00	8330	WET		35572-78-2	2-amino-4,6-Dinitrotoluene	200	UG_KG	U	N	22	200
BAI-24A-10-00	8330	WET		19406-51-0	4-amino-2,6-Dinitrotoluene	200	UG_KG	U	N	51	200
BAI-24A-10-00	8330	WET		121-14-2	2,4-Dinitrotoluene	200	UG_KG	U	N	42	200
BAI-24A-10-00	8330	WET		606-20-2	2,6-Dinitrotoluene	200	UG_KG	U	N	50	200
BAI-24A-10-00	8330	WET		88-72-2	2-Nitrotoluene	400	UG_KG	U	N	11	400
BAI-24A-10-00	8330	WET		99-99-0	4-Nitrotoluene	400	UG_KG	U	N	24	400
BAI-24A-10-00	8330	WET		99-08-1	3-Nitrotoluene	400	UG_KG	U	N	18	400
BAI-24A-10-18	8330	WET		2691-41-0	HMX	200	UG_KG	U	N	12	200
BAI-24A-10-18	8330	WET		121-82-4	RDX	200	UG_KG	U	N	11	200
BAI-24A-10-18	8330	WET		99-35-4	1,3,5-Trinitrobenzene	200	UG_KG	U	N	23	200
BAI-24A-10-18	8330	WET		99-65-0	1,3-Dinitrobenzene	200	UG_KG	U	N	10	200
BAI-24A-10-18	8330	WET		98-95-3	Nitrobenzene	200	UG_KG	U	N	27	200
BAI-24A-10-18	8330	WET		479-45-8	Tetryl	200	UG_KG	U	N	56	200
BAI-24A-10-18	8330	WET		118-96-7	2,4,6-Trinitrotoluene	200	UG_KG	U	N	22	200
BAI-24A-10-18	8330	WET		35572-78-2	2-amino-4,6-Dinitrotoluene	200	UG_KG	U	N	22	200
BAI-24A-10-18	8330	WET		19406-51-0	4-amino-2,6-Dinitrotoluene	200	UG_KG	U	N	51	200
BAI-24A-10-18	8330	WET		121-14-2	2,4-Dinitrotoluene	200	UG_KG	U	N	42	200
BAI-24A-10-18	8330	WET		606-20-2	2,6-Dinitrotoluene	200	UG_KG	U	N	50	200
BAI-24A-10-18	8330	WET		88-72-2	2-Nitrotoluene	400	UG_KG	U	N	11	400
BAI-24A-10-18	8330	WET		99-99-0	4-Nitrotoluene	400	UG_KG	U	N	24	400
BAI-24A-10-18	8330	WET		99-08-1	3-Nitrotoluene	400	UG_KG	U	N	18	400
BAI-24A-11-00	8330	WET		2691-41-0	HMX	200	UG_KG	U	N	12	200
BAI-24A-11-00	8330	WET		121-82-4	RDX	200	UG_KG	U	N	11	200
BAI-24A-11-00	8330	WET		99-35-4	1,3,5-Trinitrobenzene	200	UG_KG	U	N	23	200
BAI-24A-11-00	8330	WET		99-65-0	1,3-Dinitrobenzene	200	UG_KG	U	N	10	200
BAI-24A-11-00	8330	WET		98-95-3	Nitrobenzene	200	UG_KG	U	N	26	200
BAI-24A-11-00	8330	WET		479-45-8	Tetryl	200	UG_KG	U	N	56	200
BAI-24A-11-00	8330	WET		118-96-7	2,4,6-Trinitrotoluene	200	UG_KG	U	N	22	200
BAI-24A-11-00	8330	WET		35572-78-2	2-amino-4,6-Dinitrotoluene	200	UG_KG	U	N	21	200
BAI-24A-11-00	8330	WET		19406-51-0	4-amino-2,6-Dinitrotoluene	200	UG_KG	U	N	51	200
BAI-24A-11-00	8330	WET		121-14-2	2,4-Dinitrotoluene	200	UG_KG	U	N	42	200
BAI-24A-11-00	8330	WET		606-20-2	2,6-Dinitrotoluene	200	UG_KG	U	N	49	200
BAI-24A-11-00	8330	WET		88-72-2	2-Nitrotoluene	390	UG_KG	U	N	11	390
BAI-24A-11-00	8330	WET		99-99-0	4-Nitrotoluene	390	UG_KG	U	N	24	390
BAI-24A-11-00	8330	WET		99-08-1	3-Nitrotoluene	390	UG_KG	U	N	18	390
BAI-24A-11-18	8330	WET		2691-41-0	HMX	200	UG_KG	U	N	12	200
BAI-24A-11-18	8330	WET		121-82-4	RDX	200	UG_KG	U	N	11	200
BAI-24A-11-18	8330	WET		99-35-4	1,3,5-Trinitrobenzene	200	UG_KG	U	N	23	200
BAI-24A-11-18	8330	WET		99-65-0	1,3-Dinitrobenzene	200	UG_KG	U	N	10	200
BAI-24A-11-18	8330	WET		98-95-3	Nitrobenzene	200	UG_KG	U	N	27	200
BAI-24A-11-18	8330	WET		479-45-8	Tetryl	200	UG_KG	U	N	56	200
BAI-24A-11-18	8330	WET		118-96-7	2,4,6-Trinitrotoluene	200	UG_KG	U	N	22	200
BAI-24A-11-18	8330	WET		35572-78-2	2-amino-4,6-Dinitrotoluene	200	UG_KG	U	N	22	200
BAI-24A-11-18	8330	WET		19406-51-0	4-amino-2,6-Dinitrotoluene	200	UG_KG	U	N	51	200
BAI-24A-11-18	8330	WET		121-14-2	2,4-Dinitrotoluene	200	UG_KG	U	N	42	200
BAI-24A-11-18	8330	WET		606-20-2	2,6-Dinitrotoluene	200	UG_KG	U	N	50	200
BAI-24A-11-18	8330	WET		88-72-2	2-Nitrotoluene	400	UG_KG	U	N	11	400
BAI-24A-11-18	8330	WET		99-99-0	4-Nitrotoluene	400	UG_KG	U	N	24	400
BAI-24A-11-18	8330	WET		99-08-1	3-Nitrotoluene	400	UG_KG	U	N	18	400
BAI-24A-07-00	6010B	DRY	17	7440-36-0	Antimony	45	MG_KG	J	Y	0.17	0.6
BAI-24A-07-00	6010B	DRY	17	7440-38-2	Arsenic	18	MG_KG	J	Y	0.083	0.3
BAI-24A-07-00	6010B	DRY	17	7440-39-3	Barium	60	MG_KG		Y	0.11	0.34

Table A1-1. Raw Data, IR Site 24A, Former Naval Weapons Station Seal Beach Detachment Concord

SAMPLE_NAME	ANALYTICAL_METHOD	SAMPLE_BASIS	PERCENT_MOISTURE	ANALYTE_ID	ANALYTE NAME	ANALYTE_VALUE	RESULT_UNITS	FINAL_QUALIFIER	DETECTED	MDL	MRL
BAI-24A-07-00	6010B	DRY	17	7440-41-7	Beryllium	0.26	MG_KG		Y	0.023	0.12
BAI-24A-07-00	6010B	DRY	17	7440-43-9	Cadmium	0.3	MG_KG	U	N	0.057	0.3
BAI-24A-07-00	6010B	DRY	17	7440-47-3	Chromium	31	MG_KG	J	Y	0.11	0.34
BAI-24A-07-00	6010B	DRY	17	7440-48-4	Cobalt	14	MG_KG	J	Y	0.23	0.69
BAI-24A-07-00	7470A	DRY	17	7439-97-6	Mercury	0.25	MG_KG		Y	0.007	0.024
BAI-24A-07-00	6010B	DRY	17	7439-98-7	Molybdenum	0.69	MG_KG	U	N	0.23	0.69
BAI-24A-07-00	6010B	DRY	17	7440-02-0	Nickel	23	MG_KG	J	Y	0.23	0.69
BAI-24A-07-00	6010B	DRY	17	7782-49-2	Selenium	0.47	MG_KG	J	Y	0.18	0.6
BAI-24A-07-00	6010B	DRY	17	7440-22-4	Silver	0.3	MG_KG	U	N	0.057	0.3
BAI-24A-07-00	6010B	DRY	17	7440-28-0	Thallium	0.4	MG_KG	J	Y	0.16	0.6
BAI-24A-07-00	6010B	DRY	17	7440-62-2	Vanadium	64	MG_KG		Y	0.11	0.34
BAI-24A-07-00	6010B	DRY	17	7440-66-6	Zinc	310	MG_KG	J	Y	0.23	1.2
BAI-24A-07-18	6010B	DRY	14	7440-36-0	Antimony	2.5	MG_KG	J	Y	0.16	0.58
BAI-24A-07-18	6010B	DRY	14	7440-38-2	Arsenic	7	MG_KG	J	Y	0.077	0.29
BAI-24A-07-18	6010B	DRY	14	7440-39-3	Barium	170	MG_KG		Y	0.11	0.32
BAI-24A-07-18	6010B	DRY	14	7440-41-7	Beryllium	0.37	MG_KG		Y	0.021	0.12
BAI-24A-07-18	6010B	DRY	14	7440-43-9	Cadmium	3	MG_KG		Y	0.053	0.29
BAI-24A-07-18	6010B	DRY	14	7440-47-3	Chromium	22	MG_KG	J	Y	0.11	0.32
BAI-24A-07-18	6010B	DRY	14	7440-48-4	Cobalt	8.8	MG_KG	J	Y	0.21	0.64
BAI-24A-07-18	6010B	DRY	14	7440-50-8	Copper	75	MG_KG	J	Y	0.11	0.32
BAI-24A-07-18	6010B	DRY	14	7439-92-1	Lead	460	MG_KG	J	Y	0.074	0.29
BAI-24A-07-18	7470A	DRY	14	7439-97-6	Mercury	0.04	MG_KG		Y	0.0068	0.023
BAI-24A-07-18	6010B	DRY	14	7439-98-7	Molybdenum	0.64	MG_KG	U	N	0.21	0.64
BAI-24A-07-18	6010B	DRY	14	7440-02-0	Nickel	20	MG_KG	J	Y	0.21	0.64
BAI-24A-07-18	6010B	DRY	14	7782-49-2	Selenium	4.4	MG_KG		Y	0.17	0.58
BAI-24A-07-18	6010B	DRY	14	7440-22-4	Silver	0.29	MG_KG	U	N	0.053	0.29
BAI-24A-07-18	6010B	DRY	14	7440-28-0	Thallium	0.58	MG_KG	U	N	0.15	0.58
BAI-24A-07-18	6010B	DRY	14	7440-62-2	Vanadium	33	MG_KG		Y	0.11	0.32
BAI-24A-08-00	6010B	DRY	12	7440-36-0	Antimony	0.49	MG_KG	J	Y	0.16	0.57
BAI-24A-08-00	6010B	DRY	12	7440-38-2	Arsenic	10	MG_KG	J	Y	0.079	0.28
BAI-24A-08-00	6010B	DRY	12	7440-39-3	Barium	120	MG_KG		Y	0.11	0.33
BAI-24A-08-00	6010B	DRY	12	7440-41-7	Beryllium	0.36	MG_KG		Y	0.022	0.11
BAI-24A-08-00	6010B	DRY	12	7440-43-9	Cadmium	0.11	MG_KG	J	Y	0.055	0.28
BAI-24A-08-00	6010B	DRY	12	7440-47-3	Chromium	24	MG_KG	J	Y	0.11	0.33
BAI-24A-08-00	6010B	DRY	12	7440-48-4	Cobalt	7.9	MG_KG	J	Y	0.22	0.66
BAI-24A-08-00	6010B	DRY	12	7440-50-8	Copper	23	MG_KG	J	Y	0.11	0.33
BAI-24A-08-00	6010B	DRY	12	7439-92-1	Lead	35	MG_KG	J	Y	0.076	0.28
BAI-24A-08-00	7470A	DRY	12	7439-97-6	Mercury	0.023	MG_KG	U	N	0.0069	0.023
BAI-24A-08-00	6010B	DRY	12	7439-98-7	Molybdenum	0.66	MG_KG	U	N	0.22	0.66
BAI-24A-08-00	6010B	DRY	12	7440-02-0	Nickel	15	MG_KG	J	Y	0.22	0.66
BAI-24A-08-00	6010B	DRY	12	7782-49-2	Selenium	2	MG_KG		Y	0.17	0.57
BAI-24A-08-00	6010B	DRY	12	7440-22-4	Silver	0.28	MG_KG	U	N	0.055	0.28
BAI-24A-08-00	6010B	DRY	12	7440-28-0	Thallium	0.17	MG_KG	J	Y	0.15	0.57
BAI-24A-08-00	6010B	DRY	12	7440-62-2	Vanadium	33	MG_KG		Y	0.11	0.33
BAI-24A-08-00	6010B	DRY	12	7440-66-6	Zinc	270	MG_KG	J	Y	0.22	1.1
BAI-24A-08-18	6010B	DRY	13	7440-36-0	Antimony	0.38	MG_KG	J	Y	0.16	0.57
BAI-24A-08-18	6010B	DRY	13	7440-38-2	Arsenic	5.8	MG_KG	J	Y	0.08	0.29
BAI-24A-08-18	6010B	DRY	13	7440-39-3	Barium	150	MG_KG		Y	0.11	0.33
BAI-24A-08-18	6010B	DRY	13	7440-41-7	Beryllium	0.34	MG_KG		Y	0.022	0.11
BAI-24A-08-18	6010B	DRY	13	7440-43-9	Cadmium	0.24	MG_KG	J	Y	0.055	0.29
BAI-24A-08-18	6010B	DRY	13	7440-47-3	Chromium	17	MG_KG	J	Y	0.11	0.33
BAI-24A-08-18	6010B	DRY	13	7440-48-4	Cobalt	7.8	MG_KG	J	Y	0.22	0.66
BAI-24A-08-18	6010B	DRY	13	7440-50-8	Copper	22	MG_KG	J	Y	0.11	0.33
BAI-24A-08-18	6010B	DRY	13	7439-92-1	Lead	20	MG_KG	J	Y	0.076	0.29

Table A1-1. Raw Data, IR Site 24A, Former Naval Weapons Station Seal Beach Detachment Concord

SAMPLE_NAME	ANALYTICAL_METHOD	SAMPLE_BASIS	PERCENT_MOISTURE	ANALYTE_ID	ANALYTE NAME	ANALYTE_VALUE	RESULT_UNITS	FINAL_QUALIFIER	DETECTED	MDL	MRL
BAI-24A-08-18	7470A	DRY	13	7439-97-6	Mercury	0.023	MG_KG	U	N	0.0071	0.023
BAI-24A-08-18	6010B	DRY	13	7439-98-7	Molybdenum	0.66	MG_KG	U	N	0.22	0.66
BAI-24A-08-18	6010B	DRY	13	7440-02-0	Nickel	15	MG_KG	J	Y	0.22	0.66
BAI-24A-08-18	6010B	DRY	13	7782-49-2	Selenium	0.46	MG_KG	J	Y	0.17	0.57
BAI-24A-08-18	6010B	DRY	13	7440-22-4	Silver	0.29	MG_KG	U	N	0.055	0.29
BAI-24A-08-18	6010B	DRY	13	7440-28-0	Thallium	0.34	MG_KG	J	Y	0.15	0.57
BAI-24A-08-18	6010B	DRY	13	7440-62-2	Vanadium	34	MG_KG		Y	0.11	0.33
BAI-24A-09-00	6010B	DRY	12	7440-36-0	Antimony	0.4	MG_KG	J	Y	0.17	0.57
BAI-24A-09-00	6010B	DRY	12	7440-38-2	Arsenic	4.4	MG_KG	J	Y	0.083	0.28
BAI-24A-09-00	6010B	DRY	12	7440-39-3	Barium	55	MG_KG		Y	0.11	0.34
BAI-24A-09-00	6010B	DRY	12	7440-41-7	Beryllium	0.28	MG_KG		Y	0.023	0.11
BAI-24A-09-00	6010B	DRY	12	7440-43-9	Cadmium	0.28	MG_KG	U	N	0.057	0.28
BAI-24A-09-00	6010B	DRY	12	7440-47-3	Chromium	15	MG_KG	J	Y	0.11	0.34
BAI-24A-09-00	6010B	DRY	12	7440-48-4	Cobalt	7	MG_KG	J	Y	0.23	0.68
BAI-24A-09-00	6010B	DRY	12	7440-50-8	Copper	11	MG_KG	J	Y	0.11	0.34
BAI-24A-09-00	6010B	DRY	12	7439-92-1	Lead	5	MG_KG	J	Y	0.079	0.28
BAI-24A-09-00	7470A	DRY	12	7439-97-6	Mercury	0.024	MG_KG	U	N	0.0074	0.024
BAI-24A-09-00	6010B	DRY	12	7439-98-7	Molybdenum	0.68	MG_KG	U	N	0.23	0.68
BAI-24A-09-00	6010B	DRY	12	7440-02-0	Nickel	13	MG_KG	J	Y	0.23	0.68
BAI-24A-09-00	6010B	DRY	12	7782-49-2	Selenium	1.5	MG_KG		Y	0.18	0.57
BAI-24A-09-00	6010B	DRY	12	7440-22-4	Silver	0.28	MG_KG	U	N	0.057	0.28
BAI-24A-09-00	6010B	DRY	12	7440-28-0	Thallium	0.16	MG_KG	J	Y	0.16	0.57
BAI-24A-09-00	6010B	DRY	12	7440-62-2	Vanadium	28	MG_KG		Y	0.11	0.34
BAI-24A-09-00	6010B	DRY	12	7440-66-6	Zinc	51	MG_KG	J	Y	0.23	1.1
BAI-24A-09-18	6010B	DRY	9	7440-36-0	Antimony	0.55	MG_KG	UJ	N	0.16	0.55
BAI-24A-09-18	6010B	DRY	9	7440-38-2	Arsenic	4.9	MG_KG	J	Y	0.078	0.27
BAI-24A-09-18	6010B	DRY	9	7440-39-3	Barium	50	MG_KG		Y	0.11	0.32
BAI-24A-09-18	6010B	DRY	9	7440-41-7	Beryllium	0.32	MG_KG		Y	0.022	0.11
BAI-24A-09-18	6010B	DRY	9	7440-43-9	Cadmium	0.27	MG_KG	U	N	0.054	0.27
BAI-24A-09-18	6010B	DRY	9	7440-47-3	Chromium	13	MG_KG	J	Y	0.11	0.32
BAI-24A-09-18	6010B	DRY	9	7440-48-4	Cobalt	7.4	MG_KG	J	Y	0.22	0.65
BAI-24A-09-18	6010B	DRY	9	7440-50-8	Copper	10	MG_KG	J	Y	0.11	0.32
BAI-24A-09-18	6010B	DRY	9	7439-92-1	Lead	2.1	MG_KG	J	Y	0.075	0.27
BAI-24A-09-18	7470A	DRY	9	7439-97-6	Mercury	0.022	MG_KG	U	N	0.0071	0.022
BAI-24A-09-18	6010B	DRY	9	7439-98-7	Molybdenum	0.65	MG_KG	U	N	0.22	0.65
BAI-24A-09-18	6010B	DRY	9	7440-02-0	Nickel	13	MG_KG	J	Y	0.22	0.65
BAI-24A-09-18	6010B	DRY	9	7782-49-2	Selenium	1.3	MG_KG		Y	0.17	0.55
BAI-24A-09-18	6010B	DRY	9	7440-22-4	Silver	0.27	MG_KG	U	N	0.054	0.27
BAI-24A-09-18	6010B	DRY	9	7440-28-0	Thallium	0.55	MG_KG	U	N	0.15	0.55
BAI-24A-09-18	6010B	DRY	9	7440-62-2	Vanadium	26	MG_KG		Y	0.11	0.32
BAI-24A-09-18	6010B	DRY	9	7440-66-6	Zinc	45	MG_KG	J	Y	0.22	1.1
BAI-24A-10-00	6010B	DRY	14	7440-36-0	Antimony	0.21	MG_KG	J	Y	0.17	0.58
BAI-24A-10-00	6010B	DRY	14	7440-38-2	Arsenic	6.7	MG_KG	J	Y	0.083	0.29
BAI-24A-10-00	6010B	DRY	14	7440-39-3	Barium	90	MG_KG		Y	0.11	0.34
BAI-24A-10-00	6010B	DRY	14	7440-41-7	Beryllium	0.41	MG_KG		Y	0.023	0.12
BAI-24A-10-00	6010B	DRY	14	7440-43-9	Cadmium	0.2	MG_KG	J	Y	0.057	0.29
BAI-24A-10-00	6010B	DRY	14	7440-47-3	Chromium	19	MG_KG	J	Y	0.11	0.34
BAI-24A-10-00	6010B	DRY	14	7440-48-4	Cobalt	9.4	MG_KG	J	Y	0.23	0.68
BAI-24A-10-00	6010B	DRY	14	7440-50-8	Copper	27	MG_KG	J	Y	0.11	0.34
BAI-24A-10-00	6010B	DRY	14	7439-92-1	Lead	14	MG_KG	J	Y	0.079	0.29
BAI-24A-10-00	7470A	DRY	14	7439-97-6	Mercury	0.032	MG_KG		Y	0.0076	0.024
BAI-24A-10-00	6010B	DRY	14	7439-98-7	Molybdenum	0.68	MG_KG	U	N	0.23	0.68
BAI-24A-10-00	6010B	DRY	14	7440-02-0	Nickel	17	MG_KG	J	Y	0.23	0.68
BAI-24A-10-00	6010B	DRY	14	7782-49-2	Selenium	1.9	MG_KG		Y	0.18	0.58

Table A1-1. Raw Data, IR Site 24A, Former Naval Weapons Station Seal Beach Detachment Concord

SAMPLE_NAME	ANALYTICAL_METHOD	SAMPLE_BASIS	PERCENT_MOISTURE	ANALYTE_ID	ANALYTE NAME	ANALYTE_VALUE	RESULT_UNITS	FINAL_QUALIFIER	DETECTED	MDL	MRL
BAI-24A-10-00	6010B	DRY	14	7440-22-4	Silver	0.29	MG_KG	U	N	0.057	0.29
BAI-24A-10-00	6010B	DRY	14	7440-28-0	Thallium	0.51	MG_KG	J	Y	0.16	0.58
BAI-24A-10-00	6010B	DRY	14	7440-62-2	Vanadium	38	MG_KG		Y	0.11	0.34
BAI-24A-10-00	6010B	DRY	14	7440-66-6	Zinc	490	MG_KG	J	Y	0.23	1.2
BAI-24A-10-18	6010B	DRY	16	7440-36-0	Antimony	0.6	MG_KG	UJ	N	0.16	0.6
BAI-24A-10-18	6010B	DRY	16	7440-38-2	Arsenic	9.9	MG_KG	J	Y	0.08	0.3
BAI-24A-10-18	6010B	DRY	16	7440-39-3	Barium	91	MG_KG		Y	0.11	0.33
BAI-24A-10-18	6010B	DRY	16	7440-41-7	Beryllium	0.69	MG_KG		Y	0.022	0.12
BAI-24A-10-18	6010B	DRY	16	7440-43-9	Cadmium	0.3	MG_KG	U	N	0.055	0.3
BAI-24A-10-18	6010B	DRY	16	7440-47-3	Chromium	22	MG_KG	J	Y	0.11	0.33
BAI-24A-10-18	6010B	DRY	16	7440-48-4	Cobalt	10	MG_KG	J	Y	0.22	0.66
BAI-24A-10-18	6010B	DRY	16	7440-50-8	Copper	35	MG_KG	J	Y	0.11	0.33
BAI-24A-10-18	6010B	DRY	16	7439-92-1	Lead	7.4	MG_KG	J	Y	0.077	0.3
BAI-24A-10-18	7470A	DRY	16	7439-97-6	Mercury	0.037	MG_KG		Y	0.0068	0.024
BAI-24A-10-18	6010B	DRY	16	7439-98-7	Molybdenum	0.66	MG_KG	U	N	0.22	0.66
BAI-24A-10-18	6010B	DRY	16	7440-02-0	Nickel	18	MG_KG	J	Y	0.22	0.66
BAI-24A-10-18	6010B	DRY	16	7782-49-2	Selenium	2.4	MG_KG		Y	0.18	0.6
BAI-24A-10-18	6010B	DRY	16	7440-22-4	Silver	0.3	MG_KG	U	N	0.055	0.3
BAI-24A-10-18	6010B	DRY	16	7440-28-0	Thallium	0.21	MG_KG	J	Y	0.15	0.6
BAI-24A-10-18	6010B	DRY	16	7440-62-2	Vanadium	45	MG_KG		Y	0.11	0.33
BAI-24A-10-18	6010B	DRY	16	7440-66-6	Zinc	65	MG_KG	J	Y	0.22	1.2
BAI-24A-11-00	6010B	DRY	13	7440-36-0	Antimony	0.19	MG_KG	J	Y	0.17	0.57
BAI-24A-11-00	6010B	DRY	13	7440-38-2	Arsenic	8.1	MG_KG	J	Y	0.08	0.29
BAI-24A-11-00	6010B	DRY	13	7440-39-3	Barium	110	MG_KG		Y	0.11	0.33
BAI-24A-11-00	6010B	DRY	13	7440-41-7	Beryllium	0.36	MG_KG		Y	0.022	0.11
BAI-24A-11-00	6010B	DRY	13	7440-43-9	Cadmium	0.13	MG_KG	J	Y	0.055	0.29
BAI-24A-11-00	6010B	DRY	13	7440-47-3	Chromium	20	MG_KG	J	Y	0.11	0.33
BAI-24A-11-00	6010B	DRY	13	7440-48-4	Cobalt	7.9	MG_KG	J	Y	0.22	0.66
BAI-24A-11-00	6010B	DRY	13	7440-50-8	Copper	21	MG_KG	J	Y	0.11	0.33
BAI-24A-11-00	6010B	DRY	13	7439-92-1	Lead	23	MG_KG	J	Y	0.077	0.29
BAI-24A-11-00	7470A	DRY	13	7439-97-6	Mercury	0.023	MG_KG	U	N	0.0067	0.023
BAI-24A-11-00	6010B	DRY	13	7439-98-7	Molybdenum	0.66	MG_KG	U	N	0.22	0.66
BAI-24A-11-00	6010B	DRY	13	7440-02-0	Nickel	14	MG_KG	J	Y	0.22	0.66
BAI-24A-11-00	6010B	DRY	13	7782-49-2	Selenium	0.57	MG_KG	U	N	0.18	0.57
BAI-24A-11-00	6010B	DRY	13	7440-22-4	Silver	0.29	MG_KG	U	N	0.055	0.29
BAI-24A-11-00	6010B	DRY	13	7440-28-0	Thallium	0.57	MG_KG	U	N	0.16	0.57
BAI-24A-11-00	6010B	DRY	13	7440-62-2	Vanadium	32	MG_KG		Y	0.11	0.33
BAI-24A-11-00	6010B	DRY	13	7440-66-6	Zinc	350	MG_KG	J	Y	0.22	1.1
BAI-24A-11-18	6010B	DRY	14	7440-36-0	Antimony	0.58	MG_KG	UJ	N	0.16	0.58
BAI-24A-11-18	6010B	DRY	14	7440-38-2	Arsenic	5.8	MG_KG	J	Y	0.079	0.29
BAI-24A-11-18	6010B	DRY	14	7440-39-3	Barium	86	MG_KG		Y	0.11	0.33
BAI-24A-11-18	6010B	DRY	14	7440-41-7	Beryllium	0.36	MG_KG		Y	0.022	0.12
BAI-24A-11-18	6010B	DRY	14	7440-43-9	Cadmium	0.44	MG_KG		Y	0.054	0.29
BAI-24A-11-18	6010B	DRY	14	7440-47-3	Chromium	16	MG_KG	J	Y	0.11	0.33
BAI-24A-11-18	6010B	DRY	14	7440-48-4	Cobalt	7.7	MG_KG	J	Y	0.22	0.65
BAI-24A-11-18	6010B	DRY	14	7440-50-8	Copper	17	MG_KG	J	Y	0.11	0.33
BAI-24A-11-18	6010B	DRY	14	7439-92-1	Lead	6.6	MG_KG	J	Y	0.076	0.29
BAI-24A-11-18	7470A	DRY	14	7439-97-6	Mercury	0.17	MG_KG		Y	0.0076	0.024
BAI-24A-11-18	6010B	DRY	14	7439-98-7	Molybdenum	0.65	MG_KG	U	N	0.22	0.65
BAI-24A-11-18	6010B	DRY	14	7440-02-0	Nickel	14	MG_KG	J	Y	0.22	0.65
BAI-24A-11-18	6010B	DRY	14	7782-49-2	Selenium	2.1	MG_KG		Y	0.17	0.58
BAI-24A-11-18	6010B	DRY	14	7440-22-4	Silver	0.29	MG_KG	U	N	0.054	0.29
BAI-24A-11-18	6010B	DRY	14	7440-28-0	Thallium	0.38	MG_KG	J	Y	0.15	0.58
BAI-24A-11-18	6010B	DRY	14	7440-62-2	Vanadium	29	MG_KG		Y	0.11	0.33

Table A1-1. Raw Data, IR Site 24A, Former Naval Weapons Station Seal Beach Detachment Concord

SAMPLE_NAME	ANALYTICAL_METHOD	SAMPLE_BASIS	PERCENT_MOISTURE	ANALYTE_ID	ANALYTE NAME	ANALYTE_VALUE	RESULT_UNITS	FINAL_QUALIFIER	DETECTED	MDL	MRL
BAI-24A-07-00	D2216	WET		-86	Percent Moisture	17	PCT		Y		1
BAI-24A-07-18	D2216	WET		-86	Percent Moisture	14	PCT		Y		1
BAI-24A-08-00	D2216	WET		-86	Percent Moisture	12	PCT		Y		1
BAI-24A-08-18	D2216	WET		-86	Percent Moisture	13	PCT		Y		1
BAI-24A-09-00	D2216	WET		-86	Percent Moisture	12	PCT		Y		1
BAI-24A-09-18	D2216	WET		-86	Percent Moisture	9	PCT		Y		1
BAI-24A-10-00	D2216	WET		-86	Percent Moisture	14	PCT		Y		1
BAI-24A-10-18	D2216	WET		-86	Percent Moisture	16	PCT		Y		1
BAI-24A-11-00	D2216	WET		-86	Percent Moisture	13	PCT		Y		1
BAI-24A-11-18	D2216	WET		-86	Percent Moisture	14	PCT		Y		1
BAI-24A-013-00	8330	WET		2691-41-0	HMX	200	UG_KG	U	N	12	200
BAI-24A-013-00	8330	WET		121-82-4	RDX	200	UG_KG	U	N	11	200
BAI-24A-013-00	8330	WET		99-35-4	1,3,5-Trinitrobenzene	200	UG_KG	U	N	24	200
BAI-24A-013-00	8330	WET		99-65-0	1,3-Dinitrobenzene	200	UG_KG	U	N	11	200
BAI-24A-013-00	8330	WET		98-95-3	Nitrobenzene	200	UG_KG	U	N	27	200
BAI-24A-013-00	8330	WET		479-45-8	Tetryl	200	UG_KG	U	N	57	200
BAI-24A-013-00	8330	WET		118-96-7	2,4,6-Trinitrotoluene	200	UG_KG	U	N	22	200
BAI-24A-013-00	8330	WET		35572-78-2	2-amino-4,6-Dinitrotoluene	200	UG_KG	U	N	22	200
BAI-24A-013-00	8330	WET		19406-51-0	4-amino-2,6-Dinitrotoluene	200	UG_KG	U	N	52	200
BAI-24A-013-00	8330	WET		121-14-2	2,4-Dinitrotoluene	200	UG_KG	U	N	43	200
BAI-24A-013-00	8330	WET		606-20-2	2,6-Dinitrotoluene	200	UG_KG	U	N	51	200
BAI-24A-013-00	8330	WET		88-72-2	2-Nitrotoluene	400	UG_KG	U	N	11	400
BAI-24A-013-00	8330	WET		99-99-0	4-Nitrotoluene	400	UG_KG	U	N	24	400
BAI-24A-013-00	8330	WET		99-08-1	3-Nitrotoluene	400	UG_KG	U	N	19	400
BAI-24A-013-18	8330	WET		2691-41-0	HMX	200	UG_KG	U	N	12	200
BAI-24A-013-18	8330	WET		121-82-4	RDX	200	UG_KG	U	N	11	200
BAI-24A-013-18	8330	WET		99-35-4	1,3,5-Trinitrobenzene	200	UG_KG	U	N	24	200
BAI-24A-013-18	8330	WET		99-65-0	1,3-Dinitrobenzene	200	UG_KG	U	N	11	200
BAI-24A-013-18	8330	WET		98-95-3	Nitrobenzene	200	UG_KG	U	N	27	200
BAI-24A-013-18	8330	WET		479-45-8	Tetryl	200	UG_KG	U	N	57	200
BAI-24A-013-18	8330	WET		118-96-7	2,4,6-Trinitrotoluene	200	UG_KG	U	N	22	200
BAI-24A-013-18	8330	WET		35572-78-2	2-amino-4,6-Dinitrotoluene	200	UG_KG	U	N	22	200
BAI-24A-013-18	8330	WET		19406-51-0	4-amino-2,6-Dinitrotoluene	200	UG_KG	U	N	51	200
BAI-24A-013-18	8330	WET		121-14-2	2,4-Dinitrotoluene	200	UG_KG	U	N	43	200
BAI-24A-013-18	8330	WET		606-20-2	2,6-Dinitrotoluene	200	UG_KG	U	N	50	200
BAI-24A-013-18	8330	WET		88-72-2	2-Nitrotoluene	400	UG_KG	U	N	11	400
BAI-24A-013-18	8330	WET		99-99-0	4-Nitrotoluene	400	UG_KG	U	N	24	400
BAI-24A-013-18	8330	WET		99-08-1	3-Nitrotoluene	400	UG_KG	U	N	18	400
BAI-24A-014-00	8330	WET		2691-41-0	HMX	200	UG_KG	U	N	12	200
BAI-24A-014-00	8330	WET		121-82-4	RDX	200	UG_KG	U	N	11	200
BAI-24A-014-00	8330	WET		99-35-4	1,3,5-Trinitrobenzene	200	UG_KG	U	N	24	200
BAI-24A-014-00	8330	WET		99-65-0	1,3-Dinitrobenzene	200	UG_KG	U	N	11	200
BAI-24A-014-00	8330	WET		98-95-3	Nitrobenzene	200	UG_KG	U	N	27	200
BAI-24A-014-00	8330	WET		479-45-8	Tetryl	200	UG_KG	U	N	57	200
BAI-24A-014-00	8330	WET		118-96-7	2,4,6-Trinitrotoluene	200	UG_KG	U	N	22	200
BAI-24A-014-00	8330	WET		35572-78-2	2-amino-4,6-Dinitrotoluene	200	UG_KG	U	N	22	200
BAI-24A-014-00	8330	WET		19406-51-0	4-amino-2,6-Dinitrotoluene	200	UG_KG	U	N	52	200
BAI-24A-014-00	8330	WET		121-14-2	2,4-Dinitrotoluene	200	UG_KG	U	N	43	200
BAI-24A-014-00	8330	WET		606-20-2	2,6-Dinitrotoluene	200	UG_KG	U	N	51	200
BAI-24A-014-00	8330	WET		88-72-2	2-Nitrotoluene	400	UG_KG	U	N	11	400
BAI-24A-014-00	8330	WET		99-99-0	4-Nitrotoluene	400	UG_KG	U	N	24	400
BAI-24A-014-00	8330	WET		99-08-1	3-Nitrotoluene	400	UG_KG	U	N	19	400
BAI-24A-014-18	8330	WET		2691-41-0	HMX	200	UG_KG	U	N	12	200
BAI-24A-014-18	8330	WET		121-82-4	RDX	200	UG_KG	U	N	11	200

Table A1-1. Raw Data, IR Site 24A, Former Naval Weapons Station Seal Beach Detachment Concord

SAMPLE_NAME	ANALYTICAL_METHOD	SAMPLE_BASIS	PERCENT_MOISTURE	ANALYTE_ID	ANALYTE NAME	ANALYTE_VALUE	RESULT_UNITS	FINAL_QUALIFIER	DETECTED	MDL	MRL
BAI-24A-014-18	8330	WET		99-35-4	1,3,5-Trinitrobenzene	200	UG_KG	U	N	24	200
BAI-24A-014-18	8330	WET		99-65-0	1,3-Dinitrobenzene	200	UG_KG	U	N	11	200
BAI-24A-014-18	8330	WET		98-95-3	Nitrobenzene	200	UG_KG	U	N	27	200
BAI-24A-014-18	8330	WET		479-45-8	Tetryl	200	UG_KG	U	N	58	200
BAI-24A-014-18	8330	WET		118-96-7	2,4,6-Trinitrotoluene	200	UG_KG	U	N	22	200
BAI-24A-014-18	8330	WET		35572-78-2	2-amino-4,6-Dinitrotoluene	200	UG_KG	U	N	22	200
BAI-24A-014-18	8330	WET		19406-51-0	4-amino-2,6-Dinitrotoluene	200	UG_KG	U	N	52	200
BAI-24A-014-18	8330	WET		121-14-2	2,4-Dinitrotoluene	200	UG_KG	U	N	43	200
BAI-24A-014-18	8330	WET		606-20-2	2,6-Dinitrotoluene	200	UG_KG	U	N	51	200
BAI-24A-014-18	8330	WET		88-72-2	2-Nitrotoluene	410	UG_KG	U	N	11	410
BAI-24A-014-18	8330	WET		99-99-0	4-Nitrotoluene	410	UG_KG	U	N	24	410
BAI-24A-014-18	8330	WET		99-08-1	3-Nitrotoluene	410	UG_KG	U	N	19	410
BAI-24A-015-00	8330	WET		2691-41-0	HMX	200	UG_KG	U	N	12	200
BAI-24A-015-00	8330	WET		121-82-4	RDX	200	UG_KG	U	N	11	200
BAI-24A-015-00	8330	WET		99-35-4	1,3,5-Trinitrobenzene	200	UG_KG	U	N	24	200
BAI-24A-015-00	8330	WET		99-65-0	1,3-Dinitrobenzene	200	UG_KG	U	N	11	200
BAI-24A-015-00	8330	WET		98-95-3	Nitrobenzene	200	UG_KG	U	N	27	200
BAI-24A-015-00	8330	WET		479-45-8	Tetryl	200	UG_KG	U	N	58	200
BAI-24A-015-00	8330	WET		118-96-7	2,4,6-Trinitrotoluene	200	UG_KG	U	N	22	200
BAI-24A-015-00	8330	WET		35572-78-2	2-amino-4,6-Dinitrotoluene	200	UG_KG	U	N	22	200
BAI-24A-015-00	8330	WET		19406-51-0	4-amino-2,6-Dinitrotoluene	200	UG_KG	U	N	52	200
BAI-24A-015-00	8330	WET		121-14-2	2,4-Dinitrotoluene	200	UG_KG	U	N	43	200
BAI-24A-015-00	8330	WET		606-20-2	2,6-Dinitrotoluene	200	UG_KG	U	N	51	200
BAI-24A-015-00	8330	WET		88-72-2	2-Nitrotoluene	410	UG_KG	U	N	11	410
BAI-24A-015-00	8330	WET		99-99-0	4-Nitrotoluene	410	UG_KG	U	N	24	410
BAI-24A-015-00	8330	WET		99-08-1	3-Nitrotoluene	410	UG_KG	U	N	19	410
BAI-24A-015-18	8330	WET		2691-41-0	HMX	200	UG_KG	U	N	12	200
BAI-24A-015-18	8330	WET		121-82-4	RDX	200	UG_KG	U	N	11	200
BAI-24A-015-18	8330	WET		99-35-4	1,3,5-Trinitrobenzene	200	UG_KG	U	N	24	200
BAI-24A-015-18	8330	WET		99-65-0	1,3-Dinitrobenzene	200	UG_KG	U	N	11	200
BAI-24A-015-18	8330	WET		98-95-3	Nitrobenzene	200	UG_KG	U	N	27	200
BAI-24A-015-18	8330	WET		479-45-8	Tetryl	200	UG_KG	U	N	57	200
BAI-24A-015-18	8330	WET		118-96-7	2,4,6-Trinitrotoluene	200	UG_KG	U	N	22	200
BAI-24A-015-18	8330	WET		35572-78-2	2-amino-4,6-Dinitrotoluene	200	UG_KG	U	N	22	200
BAI-24A-015-18	8330	WET		19406-51-0	4-amino-2,6-Dinitrotoluene	200	UG_KG	U	N	51	200
BAI-24A-015-18	8330	WET		121-14-2	2,4-Dinitrotoluene	200	UG_KG	U	N	43	200
BAI-24A-015-18	8330	WET		606-20-2	2,6-Dinitrotoluene	200	UG_KG	U	N	50	200
BAI-24A-015-18	8330	WET		88-72-2	2-Nitrotoluene	400	UG_KG	U	N	11	400
BAI-24A-015-18	8330	WET		99-99-0	4-Nitrotoluene	400	UG_KG	U	N	24	400
BAI-24A-015-18	8330	WET		99-08-1	3-Nitrotoluene	400	UG_KG	U	N	18	400
BAI-24A-016-00	8330	WET		2691-41-0	HMX	210	UG_KG	U	N	12	210
BAI-24A-016-00	8330	WET		121-82-4	RDX	210	UG_KG	U	N	11	210
BAI-24A-016-00	8330	WET		99-35-4	1,3,5-Trinitrobenzene	210	UG_KG	U	N	24	210
BAI-24A-016-00	8330	WET		99-65-0	1,3-Dinitrobenzene	210	UG_KG	U	N	11	210
BAI-24A-016-00	8330	WET		98-95-3	Nitrobenzene	210	UG_KG	U	N	28	210
BAI-24A-016-00	8330	WET		479-45-8	Tetryl	210	UG_KG	U	N	58	210
BAI-24A-016-00	8330	WET		118-96-7	2,4,6-Trinitrotoluene	210	UG_KG	U	N	23	210
BAI-24A-016-00	8330	WET		35572-78-2	2-amino-4,6-Dinitrotoluene	210	UG_KG	U	N	22	210
BAI-24A-016-00	8330	WET		19406-51-0	4-amino-2,6-Dinitrotoluene	210	UG_KG	U	N	53	210
BAI-24A-016-00	8330	WET		121-14-2	2,4-Dinitrotoluene	210	UG_KG	U	N	44	210
BAI-24A-016-00	8330	WET		606-20-2	2,6-Dinitrotoluene	210	UG_KG	U	N	51	210
BAI-24A-013-00	6010B	DRY	14	7440-36-0	Antimony	4.9	MG_KG	J	Y	0.18	0.58
BAI-24A-013-00	6010B	DRY	14	7440-38-2	Arsenic	3.2	MG_KG		Y	0.095	0.29
BAI-24A-013-00	6010B	DRY	14	7440-39-3	Barium	140	MG_KG		Y	0.11	0.34

Table A1-1. Raw Data, IR Site 24A, Former Naval Weapons Station Seal Beach Detachment Concord

SAMPLE_NAME	ANALYTICAL_METHOD	SAMPLE_BASIS	PERCENT_MOISTURE	ANALYTE_ID	ANALYTE NAME	ANALYTE_VALUE	RESULT_UNITS	FINAL_QUALIFIER	DETECTED	MDL	MRL
BAI-24A-013-00	6010B	DRY	14	7440-41-7	Beryllium	0.43	MG_KG		Y	0.023	0.12
BAI-24A-013-00	6010B	DRY	14	7440-43-9	Cadmium	0.61	MG_KG		Y	0.057	0.29
BAI-24A-013-00	6010B	DRY	14	7440-47-3	Chromium	23	MG_KG		Y	0.11	0.34
BAI-24A-013-00	6010B	DRY	14	7440-48-4	Cobalt	11	MG_KG		Y	0.23	0.68
BAI-24A-013-00	6010B	DRY	14	7440-50-8	Copper	21	MG_KG	J	Y	0.11	0.34
BAI-24A-013-00	6010B	DRY	14	7439-92-1	Lead	30	MG_KG		Y	0.083	0.29
BAI-24A-013-00	7470A	DRY	14	7439-97-6	Mercury	0.26	MG_KG	J	Y	0.0066	0.023
BAI-24A-013-00	6010B	DRY	14	7439-98-7	Molybdenum	0.68	MG_KG	U	N	0.23	0.68
BAI-24A-013-00	6010B	DRY	14	7440-02-0	Nickel	22	MG_KG		Y	0.23	0.68
BAI-24A-013-00	6010B	DRY	14	7782-49-2	Selenium	0.58	MG_KG	U	N	0.17	0.58
BAI-24A-013-00	6010B	DRY	14	7440-22-4	Silver	0.13	MG_KG	J	Y	0.085	0.29
BAI-24A-013-00	6010B	DRY	14	7440-28-0	Thallium	0.58	MG_KG	U	N	0.19	0.58
BAI-24A-013-00	6010B	DRY	14	7440-62-2	Vanadium	55	MG_KG	J	Y	0.11	0.34
BAI-24A-013-00	6010B	DRY	14	7440-66-6	Zinc	520	MG_KG	J	Y	0.23	1.2
BAI-24A-013-18	6010B	DRY	17	7440-36-0	Antimony	2.9	MG_KG	J	Y	0.19	0.6
BAI-24A-013-18	6010B	DRY	17	7440-38-2	Arsenic	7.2	MG_KG		Y	0.098	0.3
BAI-24A-013-18	6010B	DRY	17	7440-39-3	Barium	140	MG_KG		Y	0.12	0.35
BAI-24A-013-18	6010B	DRY	17	7440-41-7	Beryllium	0.68	MG_KG		Y	0.024	0.12
BAI-24A-013-18	6010B	DRY	17	7440-43-9	Cadmium	0.34	MG_KG		Y	0.059	0.3
BAI-24A-013-18	6010B	DRY	17	7440-47-3	Chromium	25	MG_KG		Y	0.12	0.35
BAI-24A-013-18	6010B	DRY	17	7440-48-4	Cobalt	11	MG_KG		Y	0.24	0.71
BAI-24A-013-18	6010B	DRY	17	7440-50-8	Copper	22	MG_KG	J	Y	0.12	0.35
BAI-24A-013-18	6010B	DRY	17	7439-92-1	Lead	9.3	MG_KG		Y	0.086	0.3
BAI-24A-013-18	7470A	DRY	17	7439-97-6	Mercury	0.016	MG_KG	J	Y	0.0076	0.024
BAI-24A-013-18	6010B	DRY	17	7439-98-7	Molybdenum	0.63	MG_KG	J	Y	0.24	0.71
BAI-24A-013-18	6010B	DRY	17	7440-02-0	Nickel	20	MG_KG		Y	0.24	0.71
BAI-24A-013-18	6010B	DRY	17	7782-49-2	Selenium	0.6	MG_KG	U	N	0.17	0.6
BAI-24A-013-18	6010B	DRY	17	7440-22-4	Silver	0.3	MG_KG	U	N	0.088	0.3
BAI-24A-013-18	6010B	DRY	17	7440-28-0	Thallium	0.6	MG_KG	U	N	0.19	0.6
BAI-24A-013-18	6010B	DRY	17	7440-62-2	Vanadium	53	MG_KG	J	Y	0.12	0.35
BAI-24A-016-00	8330	WET		88-72-2	2-Nitrotoluene	410	UG_KG	U	N	11	410
BAI-24A-016-00	8330	WET		99-99-0	4-Nitrotoluene	410	UG_KG	U	N	25	410
BAI-24A-016-00	8330	WET		99-08-1	3-Nitrotoluene	410	UG_KG	U	N	19	410
BAI-24A-016-18	8330	WET		2691-41-0	HMX	210	UG_KG	U	N	12	210
BAI-24A-016-18	8330	WET		121-82-4	RDX	210	UG_KG	U	N	11	210
BAI-24A-016-18	8330	WET		99-35-4	1,3,5-Trinitrobenzene	210	UG_KG	U	N	24	210
BAI-24A-016-18	8330	WET		99-65-0	1,3-Dinitrobenzene	210	UG_KG	U	N	11	210
BAI-24A-016-18	8330	WET		98-95-3	Nitrobenzene	210	UG_KG	U	N	27	210
BAI-24A-016-18	8330	WET		479-45-8	Tetryl	210	UG_KG	U	N	58	210
BAI-24A-016-18	8330	WET		118-96-7	2,4,6-Trinitrotoluene	210	UG_KG	U	N	23	210
BAI-24A-016-18	8330	WET		35572-78-2	2-amino-4,6-Dinitrotoluene	210	UG_KG	U	N	22	210
BAI-24A-016-18	8330	WET		19406-51-0	4-amino-2,6-Dinitrotoluene	210	UG_KG	U	N	53	210
BAI-24A-016-18	8330	WET		121-14-2	2,4-Dinitrotoluene	210	UG_KG	U	N	44	210
BAI-24A-016-18	8330	WET		606-20-2	2,6-Dinitrotoluene	210	UG_KG	U	N	51	210
BAI-24A-016-18	8330	WET		88-72-2	2-Nitrotoluene	410	UG_KG	U	N	11	410
BAI-24A-016-18	8330	WET		99-99-0	4-Nitrotoluene	410	UG_KG	U	N	24	410
BAI-24A-016-18	8330	WET		99-08-1	3-Nitrotoluene	410	UG_KG	U	N	19	410
BAI-24A-017-00	8330	WET		2691-41-0	HMX	200	UG_KG	U	N	12	200
BAI-24A-017-00	8330	WET		121-82-4	RDX	200	UG_KG	U	N	11	200
BAI-24A-017-00	8330	WET		99-35-4	1,3,5-Trinitrobenzene	200	UG_KG	U	N	24	200
BAI-24A-017-00	8330	WET		99-65-0	1,3-Dinitrobenzene	200	UG_KG	U	N	11	200
BAI-24A-017-00	8330	WET		98-95-3	Nitrobenzene	200	UG_KG	U	N	27	200
BAI-24A-017-00	8330	WET		479-45-8	Tetryl	200	UG_KG	U	N	57	200
BAI-24A-017-00	8330	WET		118-96-7	2,4,6-Trinitrotoluene	200	UG_KG	U	N	22	200

Table A1-1. Raw Data, IR Site 24A, Former Naval Weapons Station Seal Beach Detachment Concord

SAMPLE_NAME	ANALYTICAL_METHOD	SAMPLE_BASIS	PERCENT_MOISTURE	ANALYTE_ID	ANALYTE NAME	ANALYTE_VALUE	RESULT_UNITS	FINAL_QUALIFIER	DETECTED	MDL	MRL
BAI-24A-017-00	8330	WET		35572-78-2	2-amino-4,6-Dinitrotoluene	200	UG_KG	U	N	22	200
BAI-24A-017-00	8330	WET		19406-51-0	4-amino-2,6-Dinitrotoluene	200	UG_KG	U	N	52	200
BAI-24A-017-00	8330	WET		121-14-2	2,4-Dinitrotoluene	200	UG_KG	U	N	43	200
BAI-24A-017-00	8330	WET		606-20-2	2,6-Dinitrotoluene	200	UG_KG	U	N	51	200
BAI-24A-017-00	8330	WET		88-72-2	2-Nitrotoluene	400	UG_KG	U	N	11	400
BAI-24A-017-00	8330	WET		99-99-0	4-Nitrotoluene	400	UG_KG	U	N	24	400
BAI-24A-017-00	8330	WET		99-08-1	3-Nitrotoluene	400	UG_KG	U	N	19	400
BAI-24A-017-18	8330	WET		2691-41-0	HMX	200	UG_KG	U	N	12	200
BAI-24A-017-18	8330	WET		121-82-4	RDX	200	UG_KG	U	N	11	200
BAI-24A-017-18	8330	WET		99-35-4	1,3,5-Trinitrobenzene	200	UG_KG	U	N	24	200
BAI-24A-017-18	8330	WET		99-65-0	1,3-Dinitrobenzene	200	UG_KG	U	N	11	200
BAI-24A-017-18	8330	WET		98-95-3	Nitrobenzene	200	UG_KG	U	N	27	200
BAI-24A-017-18	8330	WET		479-45-8	Tetryl	200	UG_KG	U	N	57	200
BAI-24A-017-18	8330	WET		118-96-7	2,4,6-Trinitrotoluene	200	UG_KG	U	N	22	200
BAI-24A-017-18	8330	WET		35572-78-2	2-amino-4,6-Dinitrotoluene	200	UG_KG	U	N	22	200
BAI-24A-017-18	8330	WET		19406-51-0	4-amino-2,6-Dinitrotoluene	200	UG_KG	U	N	52	200
BAI-24A-017-18	8330	WET		121-14-2	2,4-Dinitrotoluene	200	UG_KG	U	N	43	200
BAI-24A-017-18	8330	WET		606-20-2	2,6-Dinitrotoluene	200	UG_KG	U	N	51	200
BAI-24A-017-18	8330	WET		88-72-2	2-Nitrotoluene	410	UG_KG	U	N	11	410
BAI-24A-017-18	8330	WET		99-99-0	4-Nitrotoluene	410	UG_KG	U	N	24	410
BAI-24A-017-18	8330	WET		99-08-1	3-Nitrotoluene	410	UG_KG	U	N	19	410
BAI-24A-013-18	6010B	DRY	17	7440-66-6	Zinc	230	MG_KG	J	Y	0.24	1.2
BAI-24A-014-00	6010B	DRY	13	7440-36-0	Antimony	3.4	MG_KG	J	Y	0.17	0.57
BAI-24A-014-00	6010B	DRY	13	7440-38-2	Arsenic	3.5	MG_KG		Y	0.091	0.29
BAI-24A-014-00	6010B	DRY	13	7440-39-3	Barium	150	MG_KG		Y	0.11	0.33
BAI-24A-014-00	6010B	DRY	13	7440-41-7	Beryllium	0.42	MG_KG		Y	0.022	0.11
BAI-24A-014-00	6010B	DRY	13	7440-43-9	Cadmium	0.36	MG_KG		Y	0.055	0.29
BAI-24A-014-00	6010B	DRY	13	7440-47-3	Chromium	22	MG_KG		Y	0.11	0.33
BAI-24A-014-00	6010B	DRY	13	7440-48-4	Cobalt	9.2	MG_KG		Y	0.22	0.66
BAI-24A-014-00	6010B	DRY	13	7440-50-8	Copper	15	MG_KG	J	Y	0.11	0.33
BAI-24A-014-00	6010B	DRY	13	7439-92-1	Lead	13	MG_KG		Y	0.08	0.29
BAI-24A-014-00	7470A	DRY	13	7439-97-6	Mercury	0.21	MG_KG	J	Y	0.0068	0.023
BAI-24A-014-00	6010B	DRY	13	7439-98-7	Molybdenum	0.66	MG_KG	U	N	0.22	0.66
BAI-24A-014-00	6010B	DRY	13	7440-02-0	Nickel	18	MG_KG		Y	0.22	0.66
BAI-24A-014-00	6010B	DRY	13	7782-49-2	Selenium	0.57	MG_KG	U	N	0.16	0.57
BAI-24A-014-00	6010B	DRY	13	7440-22-4	Silver	0.1	MG_KG	J	Y	0.082	0.29
BAI-24A-014-00	6010B	DRY	13	7440-28-0	Thallium	0.57	MG_KG	U	N	0.18	0.57
BAI-24A-014-00	6010B	DRY	13	7440-62-2	Vanadium	44	MG_KG	J	Y	0.11	0.33
BAI-24A-014-00	6010B	DRY	13	7440-66-6	Zinc	400	MG_KG	J	Y	0.22	1.1
BAI-24A-014-18	6010B	DRY	12	7440-36-0	Antimony	3	MG_KG	J	Y	0.18	0.57
BAI-24A-014-18	6010B	DRY	12	7440-38-2	Arsenic	3.8	MG_KG		Y	0.092	0.28
BAI-24A-014-18	6010B	DRY	12	7440-39-3	Barium	69	MG_KG		Y	0.11	0.33
BAI-24A-014-18	6010B	DRY	12	7440-41-7	Beryllium	0.39	MG_KG		Y	0.022	0.11
BAI-24A-014-18	6010B	DRY	12	7440-43-9	Cadmium	0.1	MG_KG	J	Y	0.055	0.28
BAI-24A-014-18	6010B	DRY	12	7440-47-3	Chromium	17	MG_KG		Y	0.11	0.33
BAI-24A-014-18	6010B	DRY	12	7440-48-4	Cobalt	9.2	MG_KG		Y	0.22	0.66
BAI-24A-014-18	6010B	DRY	12	7440-50-8	Copper	8.2	MG_KG	J	Y	0.11	0.33
BAI-24A-014-18	6010B	DRY	12	7439-92-1	Lead	4.5	MG_KG		Y	0.081	0.28
BAI-24A-014-18	7470A	DRY	12	7439-97-6	Mercury	0.054	MG_KG	J	Y	0.0073	0.023
BAI-24A-014-18	6010B	DRY	12	7439-98-7	Molybdenum	0.28	MG_KG	J	Y	0.22	0.66
BAI-24A-014-18	6010B	DRY	12	7440-02-0	Nickel	15	MG_KG		Y	0.22	0.66
BAI-24A-014-18	6010B	DRY	12	7782-49-2	Selenium	0.57	MG_KG	U	N	0.16	0.57
BAI-24A-014-18	6010B	DRY	12	7440-22-4	Silver	0.28	MG_KG	U	N	0.082	0.28
BAI-24A-014-18	6010B	DRY	12	7440-28-0	Thallium	0.57	MG_KG	U	N	0.18	0.57

Table A1-1. Raw Data, IR Site 24A, Former Naval Weapons Station Seal Beach Detachment Concord

SAMPLE_NAME	ANALYTICAL_METHOD	SAMPLE_BASIS	PERCENT_MOISTURE	ANALYTE_ID	ANALYTE NAME	ANALYTE_VALUE	RESULT_UNITS	FINAL_QUALIFIER	DETECTED	MDL	MRL
BAI-24A-014-18	6010B	DRY	12	7440-62-2	Vanadium	30	MG_KG	J	Y	0.11	0.33
BAI-24A-014-18	6010B	DRY	12	7440-66-6	Zinc	59	MG_KG	J	Y	0.22	1.1
BAI-24A-015-00	6010B	DRY	13	7440-36-0	Antimony	4.2	MG_KG	J	Y	0.17	0.57
BAI-24A-015-00	6010B	DRY	13	7440-38-2	Arsenic	3.6	MG_KG		Y	0.088	0.29
BAI-24A-015-00	6010B	DRY	13	7440-39-3	Barium	150	MG_KG		Y	0.11	0.32
BAI-24A-015-00	6010B	DRY	13	7440-41-7	Beryllium	0.42	MG_KG		Y	0.021	0.11
BAI-24A-015-00	6010B	DRY	13	7440-43-9	Cadmium	0.84	MG_KG		Y	0.053	0.29
BAI-24A-015-00	6010B	DRY	13	7440-47-3	Chromium	23	MG_KG		Y	0.11	0.32
BAI-24A-015-00	6010B	DRY	13	7440-48-4	Cobalt	11	MG_KG		Y	0.21	0.64
BAI-24A-015-00	6010B	DRY	13	7440-50-8	Copper	29	MG_KG	J	Y	0.11	0.32
BAI-24A-015-00	6010B	DRY	13	7439-92-1	Lead	24	MG_KG		Y	0.078	0.29
BAI-24A-015-00	7470A	DRY	13	7439-97-6	Mercury	0.63	MG_KG	J	Y	0.0072	0.023
BAI-24A-015-00	6010B	DRY	13	7439-98-7	Molybdenum	0.22	MG_KG	J	Y	0.21	0.64
BAI-24A-015-00	6010B	DRY	13	7440-02-0	Nickel	24	MG_KG		Y	0.21	0.64
BAI-24A-015-00	6010B	DRY	13	7782-49-2	Selenium	0.57	MG_KG	U	N	0.16	0.57
BAI-24A-015-00	6010B	DRY	13	7440-22-4	Silver	0.13	MG_KG	J	Y	0.08	0.29
BAI-24A-015-00	6010B	DRY	13	7440-28-0	Thallium	0.57	MG_KG	U	N	0.17	0.57
BAI-24A-015-00	6010B	DRY	13	7440-62-2	Vanadium	55	MG_KG	J	Y	0.11	0.32
BAI-24A-015-18	6010B	DRY	12	7440-36-0	Antimony	2.8	MG_KG	J	Y	0.17	0.57
BAI-24A-015-18	6010B	DRY	12	7440-38-2	Arsenic	2.4	MG_KG		Y	0.091	0.28
BAI-24A-015-18	6010B	DRY	12	7440-39-3	Barium	80	MG_KG		Y	0.11	0.33
BAI-24A-015-18	6010B	DRY	12	7440-41-7	Beryllium	0.36	MG_KG		Y	0.022	0.11
BAI-24A-015-18	6010B	DRY	12	7440-43-9	Cadmium	0.11	MG_KG	J	Y	0.055	0.28
BAI-24A-015-18	6010B	DRY	12	7440-47-3	Chromium	19	MG_KG		Y	0.11	0.33
BAI-24A-015-18	6010B	DRY	12	7440-48-4	Cobalt	7	MG_KG		Y	0.22	0.66
BAI-24A-015-18	6010B	DRY	12	7440-50-8	Copper	4.9	MG_KG	J	Y	0.11	0.33
BAI-24A-015-18	6010B	DRY	12	7439-92-1	Lead	3.7	MG_KG		Y	0.08	0.28
BAI-24A-015-18	7470A	DRY	12	7439-97-6	Mercury	0.023	MG_KG	U	N	0.0073	0.023
BAI-24A-015-18	6010B	DRY	12	7439-98-7	Molybdenum	0.66	MG_KG	U	N	0.22	0.66
BAI-24A-015-18	6010B	DRY	12	7440-02-0	Nickel	12	MG_KG		Y	0.22	0.66
BAI-24A-015-18	6010B	DRY	12	7782-49-2	Selenium	0.57	MG_KG	U	N	0.16	0.57
BAI-24A-015-18	6010B	DRY	12	7440-22-4	Silver	0.28	MG_KG	U	N	0.082	0.28
BAI-24A-015-18	6010B	DRY	12	7440-28-0	Thallium	0.57	MG_KG	U	N	0.18	0.57
BAI-24A-015-18	6010B	DRY	12	7440-62-2	Vanadium	32	MG_KG	J	Y	0.11	0.33
BAI-24A-015-18	6010B	DRY	12	7440-66-6	Zinc	58	MG_KG	J	Y	0.22	1.1
BAI-24A-016-00	6010B	DRY	12	7440-36-0	Antimony	4	MG_KG	J	Y	0.17	0.57
BAI-24A-016-00	6010B	DRY	12	7440-38-2	Arsenic	3.2	MG_KG		Y	0.087	0.28
BAI-24A-016-00	6010B	DRY	12	7440-39-3	Barium	130	MG_KG		Y	0.11	0.32
BAI-24A-016-00	6010B	DRY	12	7440-41-7	Beryllium	0.42	MG_KG		Y	0.021	0.11
BAI-24A-016-00	6010B	DRY	12	7440-43-9	Cadmium	0.32	MG_KG		Y	0.053	0.28
BAI-24A-016-00	6010B	DRY	12	7440-47-3	Chromium	21	MG_KG		Y	0.11	0.32
BAI-24A-016-00	6010B	DRY	12	7440-48-4	Cobalt	9.5	MG_KG		Y	0.21	0.63
BAI-24A-016-00	6010B	DRY	12	7440-50-8	Copper	15	MG_KG	J	Y	0.11	0.32
BAI-24A-016-00	6010B	DRY	12	7439-92-1	Lead	27	MG_KG		Y	0.077	0.28
BAI-24A-016-00	7470A	DRY	12	7439-97-6	Mercury	0.095	MG_KG	J	Y	0.0073	0.023
BAI-24A-016-00	6010B	DRY	12	7439-98-7	Molybdenum	0.63	MG_KG	U	N	0.21	0.63
BAI-24A-016-00	6010B	DRY	12	7440-02-0	Nickel	17	MG_KG		Y	0.21	0.63
BAI-24A-016-00	6010B	DRY	12	7782-49-2	Selenium	0.57	MG_KG	U	N	0.15	0.57
BAI-24A-016-00	6010B	DRY	12	7440-22-4	Silver	0.28	MG_KG	U	N	0.079	0.28
BAI-24A-016-00	6010B	DRY	12	7440-28-0	Thallium	0.57	MG_KG	U	N	0.17	0.57
BAI-24A-016-00	6010B	DRY	12	7440-62-2	Vanadium	45	MG_KG	J	Y	0.11	0.32
BAI-24A-016-00	6010B	DRY	12	7440-66-6	Zinc	300	MG_KG	J	Y	0.21	1.1
BAI-24A-016-18	6010B	DRY	11	7440-36-0	Antimony	3.2	MG_KG	J	Y	0.17	0.56
BAI-24A-016-18	6010B	DRY	11	7440-38-2	Arsenic	3.3	MG_KG		Y	0.09	0.28

Table A1-1. Raw Data, IR Site 24A, Former Naval Weapons Station Seal Beach Detachment Concord

SAMPLE_NAME	ANALYTICAL_METHOD	SAMPLE_BASIS	PERCENT_MOISTURE	ANALYTE_ID	ANALYTE NAME	ANALYTE_VALUE	RESULT_UNITS	FINAL_QUALIFIER	DETECTED	MDL	MRL
BAI-24A-016-18	6010B	DRY	11	7440-39-3	Barium	150	MG_KG		Y	0.11	0.32
BAI-24A-016-18	6010B	DRY	11	7440-41-7	Beryllium	0.4	MG_KG		Y	0.022	0.11
BAI-24A-016-18	6010B	DRY	11	7440-43-9	Cadmium	0.29	MG_KG		Y	0.054	0.28
BAI-24A-016-18	6010B	DRY	11	7440-47-3	Chromium	20	MG_KG		Y	0.11	0.32
BAI-24A-016-18	6010B	DRY	11	7440-48-4	Cobalt	8.1	MG_KG		Y	0.22	0.65
BAI-24A-016-18	6010B	DRY	11	7440-50-8	Copper	11	MG_KG	J	Y	0.11	0.32
BAI-24A-016-18	6010B	DRY	11	7439-92-1	Lead	8.4	MG_KG		Y	0.079	0.28
BAI-24A-016-18	7470A	DRY	11	7439-97-6	Mercury	0.0071	MG_KG	J	Y	0.0071	0.022
BAI-24A-016-18	6010B	DRY	11	7439-98-7	Molybdenum	0.24	MG_KG	J	Y	0.22	0.65
BAI-24A-016-18	6010B	DRY	11	7440-02-0	Nickel	16	MG_KG		Y	0.22	0.65
BAI-24A-016-18	6010B	DRY	11	7782-49-2	Selenium	0.56	MG_KG	U	N	0.16	0.56
BAI-24A-016-18	6010B	DRY	11	7440-22-4	Silver	0.083	MG_KG	J	Y	0.081	0.28
BAI-24A-016-18	6010B	DRY	11	7440-28-0	Thallium	0.56	MG_KG	U	N	0.18	0.56
BAI-24A-016-18	6010B	DRY	11	7440-62-2	Vanadium	36	MG_KG	J	Y	0.11	0.32
BAI-24A-016-18	6010B	DRY	11	7440-66-6	Zinc	260	MG_KG	J	Y	0.22	1.1
BAI-24A-017-00	6010B	DRY	7	7440-36-0	Antimony	6.3	MG_KG	J	Y	0.15	0.54
BAI-24A-017-00	6010B	DRY	7	7440-38-2	Arsenic	1.4	MG_KG		Y	0.08	0.27
BAI-24A-017-00	6010B	DRY	7	7440-39-3	Barium	55	MG_KG		Y	0.097	0.29
BAI-24A-017-00	6010B	DRY	7	7440-41-7	Beryllium	0.3	MG_KG		Y	0.019	0.11
BAI-24A-017-00	6010B	DRY	7	7440-43-9	Cadmium	0.33	MG_KG		Y	0.048	0.27
BAI-24A-017-00	6010B	DRY	7	7440-47-3	Chromium	27	MG_KG		Y	0.097	0.29
BAI-24A-017-00	6010B	DRY	7	7440-48-4	Cobalt	15	MG_KG		Y	0.19	0.58
BAI-24A-017-00	6010B	DRY	7	7440-50-8	Copper	15	MG_KG	J	Y	0.097	0.29
BAI-24A-017-00	6010B	DRY	7	7439-92-1	Lead	24	MG_KG		Y	0.071	0.27
BAI-24A-017-00	7470A	DRY	7	7439-97-6	Mercury	0.48	MG_KG	J	Y	0.0061	0.022
BAI-24A-017-00	6010B	DRY	7	7439-98-7	Molybdenum	0.25	MG_KG	J	Y	0.19	0.58
BAI-24A-017-00	6010B	DRY	7	7440-02-0	Nickel	20	MG_KG		Y	0.19	0.58
BAI-24A-017-00	6010B	DRY	7	7782-49-2	Selenium	0.54	MG_KG	U	N	0.14	0.54
BAI-24A-017-00	6010B	DRY	7	7440-22-4	Silver	0.25	MG_KG	J	Y	0.072	0.27
BAI-24A-017-00	6010B	DRY	7	7440-28-0	Thallium	0.54	MG_KG	U	N	0.16	0.54
BAI-24A-017-00	6010B	DRY	7	7440-62-2	Vanadium	93	MG_KG	J	Y	0.097	0.29
BAI-24A-017-00	6010B	DRY	7	7440-66-6	Zinc	220	MG_KG	J	Y	0.19	1.1
BAI-24A-017-18	6010B	DRY	11	7440-36-0	Antimony	3.3	MG_KG	J	Y	0.17	0.56
BAI-24A-017-18	6010B	DRY	11	7440-38-2	Arsenic	3.6	MG_KG		Y	0.091	0.28
BAI-24A-017-18	6010B	DRY	11	7440-39-3	Barium	150	MG_KG		Y	0.11	0.33
BAI-24A-017-18	6010B	DRY	11	7440-41-7	Beryllium	0.44	MG_KG		Y	0.022	0.11
BAI-24A-017-18	6010B	DRY	11	7440-43-9	Cadmium	0.19	MG_KG	J	Y	0.055	0.28
BAI-24A-017-18	6010B	DRY	11	7440-47-3	Chromium	20	MG_KG		Y	0.11	0.33
BAI-24A-017-18	6010B	DRY	11	7440-48-4	Cobalt	8.5	MG_KG		Y	0.22	0.65
BAI-24A-017-18	6010B	DRY	11	7440-50-8	Copper	10	MG_KG	J	Y	0.11	0.33
BAI-24A-017-18	6010B	DRY	11	7439-92-1	Lead	8.1	MG_KG		Y	0.08	0.28
BAI-24A-017-18	7470A	DRY	11	7439-97-6	Mercury	0.024	MG_KG	U	N	0.0075	0.024
BAI-24A-017-18	6010B	DRY	11	7439-98-7	Molybdenum	0.65	MG_KG	U	N	0.22	0.65
BAI-24A-017-18	6010B	DRY	11	7440-02-0	Nickel	15	MG_KG		Y	0.22	0.65
BAI-24A-017-18	6010B	DRY	11	7782-49-2	Selenium	0.56	MG_KG	U	N	0.16	0.56
BAI-24A-017-18	6010B	DRY	11	7440-22-4	Silver	0.12	MG_KG	J	Y	0.082	0.28
BAI-24A-017-18	6010B	DRY	11	7440-28-0	Thallium	0.56	MG_KG	U	N	0.18	0.56
BAI-24A-017-18	6010B	DRY	11	7440-62-2	Vanadium	36	MG_KG	J	Y	0.11	0.33
BAI-24A-017-18	6010B	DRY	11	7440-66-6	Zinc	100	MG_KG	J	Y	0.22	1.1
BAI-24A-013-00	D2216	WET		-86	Percent Moisture	14	PCT		Y		1
BAI-24A-013-18	D2216	WET		-86	Percent Moisture	17	PCT		Y		1
BAI-24A-014-00	D2216	WET		-86	Percent Moisture	13	PCT		Y		1
BAI-24A-014-18	D2216	WET		-86	Percent Moisture	12	PCT		Y		1
BAI-24A-015-00	D2216	WET		-86	Percent Moisture	13	PCT		Y		1

Table A1-1. Raw Data, IR Site 24A, Former Naval Weapons Station Seal Beach Detachment Concord

SAMPLE_NAME	ANALYTICAL_METHOD	SAMPLE_BASIS	PERCENT_MOISTURE	ANALYTE_ID	ANALYTE NAME	ANALYTE_VALUE	RESULT_UNITS	FINAL_QUALIFIER	DETECTED	MDL	MRL
BAI-24A-015-18	D2216	WET		-86	Percent Moisture	12	PCT		Y		1
BAI-24A-016-00	D2216	WET		-86	Percent Moisture	12	PCT		Y		1
BAI-24A-016-18	D2216	WET		-86	Percent Moisture	11	PCT		Y		1
BAI-24A-017-00	D2216	WET		-86	Percent Moisture	7	PCT		Y		1
BAI-24A-017-18	D2216	WET		-86	Percent Moisture	11	PCT		Y		1
BAI-24A-021-18	6010B	DRY	13	7440-22-4	Silver	0.29	MG_KG	U	N	0.085	0.29
BAI-24A-021-18	6010B	DRY	13	7440-28-0	Thallium	0.57	MG_KG	U	N	0.19	0.57
BAI-24A-021-18	6010B	DRY	13	7440-62-2	Vanadium	26	MG_KG		Y	0.11	0.34
BAI-24A-021-18	6010B	DRY	13	7440-66-6	Zinc	43	MG_KG		Y	0.23	1.1
BAI-24A-022-00	6010B	DRY	13	7440-36-0	Antimony	10	MG_KG	J	Y	0.16	0.57
BAI-24A-022-00	6010B	DRY	13	7440-38-2	Arsenic	9.3	MG_KG		Y	0.085	0.29
BAI-24A-022-00	6010B	DRY	13	7440-39-3	Barium	85	MG_KG		Y	0.1	0.31
BAI-24A-022-00	6010B	DRY	13	7440-41-7	Beryllium	0.32	MG_KG		Y	0.021	0.11
BAI-24A-022-00	6010B	DRY	13	7440-43-9	Cadmium	0.13	MG_KG	J	Y	0.051	0.29
BAI-24A-022-00	6010B	DRY	13	7440-47-3	Chromium	30	MG_KG		Y	0.1	0.31
BAI-24A-022-00	6010B	DRY	13	7440-48-4	Cobalt	11	MG_KG		Y	0.21	0.62
BAI-24A-022-00	6010B	DRY	13	7440-50-8	Copper	48	MG_KG		Y	0.1	0.31
BAI-24A-022-00	7470A	DRY	13	7439-97-6	Mercury	0.046	MG_KG	J	Y	0.0072	0.023
BAI-24A-022-00	6010B	DRY	13	7439-98-7	Molybdenum	0.31	MG_KG	J	Y	0.21	0.62
BAI-24A-022-00	6010B	DRY	13	7440-02-0	Nickel	36	MG_KG		Y	0.21	0.62
BAI-24A-022-00	6010B	DRY	13	7782-49-2	Selenium	0.57	MG_KG	U	N	0.15	0.57
BAI-24A-022-00	6010B	DRY	13	7440-22-4	Silver	0.091	MG_KG	J	Y	0.077	0.29
BAI-24A-022-00	6010B	DRY	13	7440-28-0	Thallium	0.57	MG_KG	U	N	0.17	0.57
BAI-24A-022-00	6010B	DRY	13	7440-62-2	Vanadium	41	MG_KG		Y	0.1	0.31
BAI-24A-022-00	6010B	DRY	13	7440-66-6	Zinc	81	MG_KG		Y	0.21	1.1
BAI-24A-022-18	6010B	DRY	11	7440-36-0	Antimony	1.6	MG_KG	J	Y	0.18	0.56
BAI-24A-022-18	6010B	DRY	11	7440-38-2	Arsenic	3.1	MG_KG		Y	0.091	0.28
BAI-24A-022-18	6010B	DRY	11	7440-39-3	Barium	120	MG_KG		Y	0.11	0.33
BAI-24A-022-18	6010B	DRY	11	7440-41-7	Beryllium	0.31	MG_KG		Y	0.022	0.11
BAI-24A-022-18	6010B	DRY	11	7440-43-9	Cadmium	0.074	MG_KG	J	Y	0.055	0.28
BAI-24A-022-18	6010B	DRY	11	7440-47-3	Chromium	12	MG_KG		Y	0.11	0.33
BAI-24A-022-18	6010B	DRY	11	7440-48-4	Cobalt	7	MG_KG		Y	0.22	0.66
BAI-24A-022-18	6010B	DRY	11	7440-50-8	Copper	6.7	MG_KG		Y	0.11	0.33
BAI-24A-022-18	6010B	DRY	11	7439-92-1	Lead	3.8	MG_KG		Y	0.08	0.28
BAI-24A-022-18	7470A	DRY	11	7439-97-6	Mercury	0.023	MG_KG	UJ	N	0.0072	0.023
BAI-24A-022-18	6010B	DRY	11	7439-98-7	Molybdenum	0.66	MG_KG	U	N	0.22	0.66
BAI-24A-022-18	6010B	DRY	11	7440-02-0	Nickel	12	MG_KG		Y	0.22	0.66
BAI-24A-022-18	6010B	DRY	11	7782-49-2	Selenium	0.56	MG_KG	U	N	0.16	0.56
BAI-24A-022-18	6010B	DRY	11	7440-22-4	Silver	0.28	MG_KG	U	N	0.082	0.28
BAI-24A-022-18	6010B	DRY	11	7440-28-0	Thallium	0.56	MG_KG	U	N	0.18	0.56
BAI-24A-022-18	6010B	DRY	11	7440-62-2	Vanadium	20	MG_KG		Y	0.11	0.33
BAI-24A-022-18	6010B	DRY	11	7440-66-6	Zinc	44	MG_KG		Y	0.22	1.1
BAI-24A-023-00	6010B	DRY	6	7440-36-0	Antimony	6.2	MG_KG	J	Y	0.15	0.53
BAI-24A-023-00	6010B	DRY	6	7440-38-2	Arsenic	0.27	MG_KG	U	N	0.08	0.27
BAI-24A-023-00	6010B	DRY	6	7440-39-3	Barium	5.7	MG_KG		Y	0.096	0.29
BAI-24A-023-00	6010B	DRY	6	7440-41-7	Beryllium	0.29	MG_KG		Y	0.019	0.11
BAI-24A-023-00	6010B	DRY	6	7440-43-9	Cadmium	0.29	MG_KG		Y	0.048	0.27
BAI-24A-023-00	6010B	DRY	6	7440-47-3	Chromium	38	MG_KG		Y	0.096	0.29
BAI-24A-023-00	6010B	DRY	6	7440-48-4	Cobalt	31	MG_KG		Y	0.19	0.58
BAI-24A-019-18	8330	WET		19406-51-0	4-amino-2,6-Dinitrotoluene	200	UG_KG	U	N	28	200
BAI-24A-019-18	8330	WET		121-14-2	2,4-Dinitrotoluene	200	UG_KG	U	N	19	200
BAI-24A-019-18	8330	WET		606-20-2	2,6-Dinitrotoluene	200	UG_KG	U	N	18	200
BAI-24A-019-18	8330	WET		88-72-2	2-Nitrotoluene	390	UG_KG	U	N	16	390
BAI-24A-019-18	8330	WET		99-99-0	4-Nitrotoluene	390	UG_KG	U	N	30	390

Table A1-1. Raw Data, IR Site 24A, Former Naval Weapons Station Seal Beach Detachment Concord

SAMPLE_NAME	ANALYTICAL_METHOD	SAMPLE_BASIS	PERCENT_MOISTURE	ANALYTE_ID	ANALYTE NAME	ANALYTE_VALUE	RESULT_UNITS	FINAL_QUALIFIER	DETECTED	MDL	MRL
BAI-24A-019-18	8330	WET		99-08-1	3-Nitrotoluene	390	UG_KG	U	N	60	390
BAI-24A-020-00	8330	WET		2691-41-0	HMX	200	UG_KG	U	N	26	200
BAI-24A-020-00	8330	WET		121-82-4	RDX	200	UG_KG	U	N	39	200
BAI-24A-020-00	8330	WET		99-35-4	1,3,5-Trinitrobenzene	200	UG_KG	U	N	35	200
BAI-24A-020-00	8330	WET		99-65-0	1,3-Dinitrobenzene	200	UG_KG	U	N	20	200
BAI-24A-020-00	8330	WET		98-95-3	Nitrobenzene	200	UG_KG	U	N	18	200
BAI-24A-020-00	8330	WET		479-45-8	Tetryl	200	UG_KG	U	N	65	200
BAI-24A-020-00	8330	WET		118-96-7	2,4,6-Trinitrotoluene	200	UG_KG	U	N	13	200
BAI-24A-020-00	8330	WET		35572-78-2	2-amino-4,6-Dinitrotoluene	200	UG_KG	U	N	26	200
BAI-24A-020-00	8330	WET		19406-51-0	4-amino-2,6-Dinitrotoluene	200	UG_KG	U	N	28	200
BAI-24A-020-00	8330	WET		121-14-2	2,4-Dinitrotoluene	200	UG_KG	U	N	19	200
BAI-24A-020-00	8330	WET		606-20-2	2,6-Dinitrotoluene	200	UG_KG	U	N	18	200
BAI-24A-020-00	8330	WET		88-72-2	2-Nitrotoluene	400	UG_KG	U	N	16	400
BAI-24A-020-00	8330	WET		99-99-0	4-Nitrotoluene	400	UG_KG	U	N	30	400
BAI-24A-020-00	8330	WET		99-08-1	3-Nitrotoluene	400	UG_KG	U	N	60	400
BAI-24A-020-18	8330	WET		2691-41-0	HMX	200	UG_KG	U	N	26	200
BAI-24A-020-18	8330	WET		121-82-4	RDX	200	UG_KG	U	N	39	200
BAI-24A-020-18	8330	WET		99-35-4	1,3,5-Trinitrobenzene	200	UG_KG	U	N	35	200
BAI-24A-020-18	8330	WET		99-65-0	1,3-Dinitrobenzene	200	UG_KG	U	N	19	200
BAI-24A-020-18	8330	WET		98-95-3	Nitrobenzene	200	UG_KG	U	N	18	200
BAI-24A-020-18	8330	WET		479-45-8	Tetryl	200	UG_KG	U	N	65	200
BAI-24A-020-18	8330	WET		118-96-7	2,4,6-Trinitrotoluene	200	UG_KG	U	N	13	200
BAI-24A-020-18	8330	WET		35572-78-2	2-amino-4,6-Dinitrotoluene	200	UG_KG	U	N	26	200
BAI-24A-020-18	8330	WET		19406-51-0	4-amino-2,6-Dinitrotoluene	200	UG_KG	U	N	28	200
BAI-24A-020-18	8330	WET		121-14-2	2,4-Dinitrotoluene	200	UG_KG	U	N	19	200
BAI-24A-020-18	8330	WET		606-20-2	2,6-Dinitrotoluene	200	UG_KG	U	N	18	200
BAI-24A-020-18	8330	WET		88-72-2	2-Nitrotoluene	390	UG_KG	U	N	16	390
BAI-24A-020-18	8330	WET		99-99-0	4-Nitrotoluene	390	UG_KG	U	N	30	390
BAI-24A-020-18	8330	WET		99-08-1	3-Nitrotoluene	390	UG_KG	U	N	60	390
BAI-24A-021-00	8330	WET		2691-41-0	HMX	200	UG_KG	U	N	26	200
BAI-24A-021-00	8330	WET		121-82-4	RDX	200	UG_KG	U	N	39	200
BAI-24A-021-00	8330	WET		99-35-4	1,3,5-Trinitrobenzene	200	UG_KG	U	N	35	200
BAI-24A-021-00	8330	WET		99-65-0	1,3-Dinitrobenzene	200	UG_KG	U	N	20	200
BAI-24A-021-00	8330	WET		98-95-3	Nitrobenzene	200	UG_KG	U	N	18	200
BAI-24A-021-00	8330	WET		479-45-8	Tetryl	200	UG_KG	U	N	65	200
BAI-24A-021-00	8330	WET		118-96-7	2,4,6-Trinitrotoluene	200	UG_KG	U	N	13	200
BAI-24A-021-00	8330	WET		35572-78-2	2-amino-4,6-Dinitrotoluene	200	UG_KG	U	N	26	200
BAI-24A-021-00	8330	WET		19406-51-0	4-amino-2,6-Dinitrotoluene	200	UG_KG	U	N	28	200
BAI-24A-021-00	8330	WET		121-14-2	2,4-Dinitrotoluene	240	UG_KG		Y	42	200
BAI-24A-021-00	8330	WET		606-20-2	2,6-Dinitrotoluene	200	UG_KG	U	N	50	200
BAI-24A-021-00	8330	WET		88-72-2	2-Nitrotoluene	400	UG_KG	U	N	11	400
BAI-24A-021-00	8330	WET		99-99-0	4-Nitrotoluene	400	UG_KG	U	N	30	400
BAI-24A-021-00	8330	WET		99-08-1	3-Nitrotoluene	400	UG_KG	U	N	60	400
BAI-24A-021-18	8330	WET		2691-41-0	HMX	200	UG_KG	U	N	26	200
BAI-24A-021-18	8330	WET		121-82-4	RDX	200	UG_KG	U	N	39	200
BAI-24A-021-18	8330	WET		99-35-4	1,3,5-Trinitrobenzene	200	UG_KG	U	N	35	200
BAI-24A-021-18	8330	WET		99-65-0	1,3-Dinitrobenzene	200	UG_KG	U	N	20	200
BAI-24A-021-18	8330	WET		98-95-3	Nitrobenzene	200	UG_KG	U	N	18	200
BAI-24A-021-18	8330	WET		479-45-8	Tetryl	200	UG_KG	U	N	65	200
BAI-24A-021-18	8330	WET		118-96-7	2,4,6-Trinitrotoluene	200	UG_KG	U	N	13	200
BAI-24A-021-18	8330	WET		35572-78-2	2-amino-4,6-Dinitrotoluene	200	UG_KG	U	N	26	200
BAI-24A-021-18	8330	WET		19406-51-0	4-amino-2,6-Dinitrotoluene	200	UG_KG	U	N	28	200
BAI-24A-021-18	8330	WET		121-14-2	2,4-Dinitrotoluene	200	UG_KG	U	N	19	200
BAI-24A-021-18	8330	WET		606-20-2	2,6-Dinitrotoluene	200	UG_KG	U	N	18	200

Table A1-1. Raw Data, IR Site 24A, Former Naval Weapons Station Seal Beach Detachment Concord

SAMPLE_NAME	ANALYTICAL_METHOD	SAMPLE_BASIS	PERCENT_MOISTURE	ANALYTE_ID	ANALYTE NAME	ANALYTE_VALUE	RESULT_UNITS	FINAL_QUALIFIER	DETECTED	MDL	MRL
BAI-24A-021-18	8330	WET		88-72-2	2-Nitrotoluene	400	UG_KG	U	N	16	400
BAI-24A-021-18	8330	WET		99-99-0	4-Nitrotoluene	400	UG_KG	U	N	30	400
BAI-24A-021-18	8330	WET		99-08-1	3-Nitrotoluene	400	UG_KG	U	N	60	400
BAI-24A-022-00	8330	WET		2691-41-0	HMX	200	UG_KG	U	N	26	200
BAI-24A-022-00	8330	WET		121-82-4	RDX	200	UG_KG	U	N	39	200
BAI-24A-022-00	8330	WET		99-35-4	1,3,5-Trinitrobenzene	200	UG_KG	U	N	35	200
BAI-24A-022-00	8330	WET		99-65-0	1,3-Dinitrobenzene	200	UG_KG	U	N	19	200
BAI-24A-022-00	8330	WET		98-95-3	Nitrobenzene	200	UG_KG	U	N	18	200
BAI-24A-022-00	8330	WET		479-45-8	Tetryl	200	UG_KG	U	N	65	200
BAI-24A-022-00	8330	WET		118-96-7	2,4,6-Trinitrotoluene	200	UG_KG	U	N	13	200
BAI-24A-022-00	8330	WET		35572-78-2	2-amino-4,6-Dinitrotoluene	200	UG_KG	U	N	26	200
BAI-24A-022-00	8330	WET		19406-51-0	4-amino-2,6-Dinitrotoluene	200	UG_KG	U	N	28	200
BAI-24A-022-00	8330	WET		121-14-2	2,4-Dinitrotoluene	200	UG_KG	U	N	19	200
BAI-24A-022-00	8330	WET		606-20-2	2,6-Dinitrotoluene	200	UG_KG	U	N	18	200
BAI-24A-022-00	8330	WET		88-72-2	2-Nitrotoluene	390	UG_KG	U	N	16	390
BAI-24A-022-00	8330	WET		99-99-0	4-Nitrotoluene	390	UG_KG	U	N	30	390
BAI-24A-022-00	8330	WET		99-08-1	3-Nitrotoluene	390	UG_KG	U	N	60	390
BAI-24A-022-18	8330	WET		2691-41-0	HMX	200	UG_KG	U	N	26	200
BAI-24A-022-18	8330	WET		121-82-4	RDX	200	UG_KG	U	N	39	200
BAI-24A-022-18	8330	WET		99-35-4	1,3,5-Trinitrobenzene	200	UG_KG	U	N	35	200
BAI-24A-022-18	8330	WET		99-65-0	1,3-Dinitrobenzene	200	UG_KG	U	N	20	200
BAI-24A-022-18	8330	WET		98-95-3	Nitrobenzene	200	UG_KG	U	N	18	200
BAI-24A-022-18	8330	WET		479-45-8	Tetryl	200	UG_KG	U	N	65	200
BAI-24A-022-18	8330	WET		118-96-7	2,4,6-Trinitrotoluene	200	UG_KG	U	N	13	200
BAI-24A-022-18	8330	WET		35572-78-2	2-amino-4,6-Dinitrotoluene	200	UG_KG	U	N	26	200
BAI-24A-022-18	8330	WET		19406-51-0	4-amino-2,6-Dinitrotoluene	200	UG_KG	U	N	28	200
BAI-24A-022-18	8330	WET		121-14-2	2,4-Dinitrotoluene	200	UG_KG	U	N	19	200
BAI-24A-022-18	8330	WET		606-20-2	2,6-Dinitrotoluene	200	UG_KG	U	N	18	200
BAI-24A-022-18	8330	WET		88-72-2	2-Nitrotoluene	400	UG_KG	U	N	16	400
BAI-24A-022-18	8330	WET		99-99-0	4-Nitrotoluene	400	UG_KG	U	N	30	400
BAI-24A-022-18	8330	WET		99-08-1	3-Nitrotoluene	400	UG_KG	U	N	60	400
BAI-24A-023-00	8330	WET		2691-41-0	HMX	190	UG_KG	U	N	26	190
BAI-24A-023-00	8330	WET		121-82-4	RDX	190	UG_KG	U	N	39	190
BAI-24A-023-00	8330	WET		99-35-4	1,3,5-Trinitrobenzene	190	UG_KG	U	N	34	190
BAI-24A-023-00	8330	WET		99-65-0	1,3-Dinitrobenzene	190	UG_KG	U	N	19	190
BAI-24A-023-00	8330	WET		98-95-3	Nitrobenzene	190	UG_KG	U	N	18	190
BAI-24A-023-00	8330	WET		479-45-8	Tetryl	190	UG_KG	U	N	64	190
BAI-24A-023-00	8330	WET		118-96-7	2,4,6-Trinitrotoluene	190	UG_KG	U	N	13	190
BAI-24A-023-00	8330	WET		35572-78-2	2-amino-4,6-Dinitrotoluene	190	UG_KG	U	N	26	190
BAI-24A-023-00	8330	WET		19406-51-0	4-amino-2,6-Dinitrotoluene	190	UG_KG	U	N	28	190
BAI-24A-023-00	8330	WET		121-14-2	2,4-Dinitrotoluene	190	UG_KG	U	N	19	190
BAI-24A-023-00	8330	WET		606-20-2	2,6-Dinitrotoluene	190	UG_KG	U	N	18	190
BAI-24A-023-00	8330	WET		88-72-2	2-Nitrotoluene	390	UG_KG	U	N	16	390
BAI-24A-023-00	8330	WET		99-99-0	4-Nitrotoluene	390	UG_KG	U	N	30	390
BAI-24A-023-00	8330	WET		99-08-1	3-Nitrotoluene	390	UG_KG	U	N	59	390
BAI-24A-023-18	8330	WET		2691-41-0	HMX	200	UG_KG	U	N	26	200
BAI-24A-023-18	8330	WET		121-82-4	RDX	200	UG_KG	U	N	39	200
BAI-24A-023-18	8330	WET		99-35-4	1,3,5-Trinitrobenzene	200	UG_KG	U	N	35	200
BAI-24A-023-18	8330	WET		99-65-0	1,3-Dinitrobenzene	200	UG_KG	U	N	20	200
BAI-24A-023-18	8330	WET		98-95-3	Nitrobenzene	200	UG_KG	U	N	18	200
BAI-24A-023-18	8330	WET		479-45-8	Tetryl	200	UG_KG	U	N	65	200
BAI-24A-023-18	8330	WET		118-96-7	2,4,6-Trinitrotoluene	200	UG_KG	U	N	13	200
BAI-24A-023-18	8330	WET		35572-78-2	2-amino-4,6-Dinitrotoluene	200	UG_KG	U	N	26	200
BAI-24A-023-18	8330	WET		19406-51-0	4-amino-2,6-Dinitrotoluene	200	UG_KG	U	N	28	200

Table A1-1. Raw Data, IR Site 24A, Former Naval Weapons Station Seal Beach Detachment Concord

SAMPLE_NAME	ANALYTICAL_METHOD	SAMPLE_BASIS	PERCENT_MOISTURE	ANALYTE_ID	ANALYTE NAME	ANALYTE_VALUE	RESULT_UNITS	FINAL_QUALIFIER	DETECTED	MDL	MRL
BAI-24A-023-18	8330	WET		121-14-2	2,4-Dinitrotoluene	200	UG_KG	U	N	19	200
BAI-24A-023-18	8330	WET		606-20-2	2,6-Dinitrotoluene	200	UG_KG	U	N	18	200
BAI-24A-023-18	8330	WET		88-72-2	2-Nitrotoluene	400	UG_KG	U	N	16	400
BAI-24A-023-18	8330	WET		99-99-0	4-Nitrotoluene	400	UG_KG	U	N	30	400
BAI-24A-023-18	8330	WET		99-08-1	3-Nitrotoluene	400	UG_KG	U	N	60	400
BAI-24A-019-00	6010B	DRY	15	7440-36-0	Antimony	3.6	MG_KG	J	Y	0.17	0.59
BAI-24A-019-00	6010B	DRY	15	7440-38-2	Arsenic	3.6	MG_KG		Y	0.09	0.29
BAI-24A-019-00	6010B	DRY	15	7440-39-3	Barium	150	MG_KG		Y	0.11	0.33
BAI-24A-019-00	6010B	DRY	15	7440-41-7	Beryllium	0.44	MG_KG		Y	0.022	0.12
BAI-24A-019-00	6010B	DRY	15	7440-43-9	Cadmium	0.29	MG_KG	J	Y	0.054	0.29
BAI-24A-019-00	6010B	DRY	15	7440-47-3	Chromium	23	MG_KG		Y	0.11	0.33
BAI-24A-019-00	6010B	DRY	15	7440-48-4	Cobalt	11	MG_KG		Y	0.22	0.65
BAI-24A-019-00	6010B	DRY	15	7440-50-8	Copper	20	MG_KG		Y	0.11	0.33
BAI-24A-019-00	6010B	DRY	15	7439-92-1	Lead	21	MG_KG		Y	0.08	0.29
BAI-24A-019-00	7470A	DRY	15	7439-97-6	Mercury	0.053	MG_KG	J	Y	0.0075	0.024
BAI-24A-019-00	6010B	DRY	15	7439-98-7	Molybdenum	0.49	MG_KG	J	Y	0.22	0.65
BAI-24A-019-00	6010B	DRY	15	7440-02-0	Nickel	23	MG_KG		Y	0.22	0.65
BAI-24A-019-00	6010B	DRY	15	7782-49-2	Selenium	0.59	MG_KG	U	N	0.16	0.59
BAI-24A-019-00	6010B	DRY	15	7440-22-4	Silver	0.29	MG_KG	U	N	0.081	0.29
BAI-24A-019-00	6010B	DRY	15	7440-28-0	Thallium	0.59	MG_KG	U	N	0.18	0.59
BAI-24A-019-00	6010B	DRY	15	7440-62-2	Vanadium	40	MG_KG		Y	0.11	0.33
BAI-24A-019-00	6010B	DRY	15	7440-66-6	Zinc	200	MG_KG		Y	0.22	1.2
BAI-24A-019-18	6010B	DRY	13	7440-36-0	Antimony	2.2	MG_KG	J	Y	0.18	0.57
BAI-24A-019-18	6010B	DRY	13	7440-38-2	Arsenic	3.6	MG_KG		Y	0.094	0.29
BAI-24A-019-18	6010B	DRY	13	7440-39-3	Barium	140	MG_KG		Y	0.11	0.34
BAI-24A-019-18	6010B	DRY	13	7440-41-7	Beryllium	0.41	MG_KG		Y	0.023	0.11
BAI-24A-019-18	6010B	DRY	13	7440-43-9	Cadmium	0.22	MG_KG	J	Y	0.057	0.29
BAI-24A-019-18	6010B	DRY	13	7440-47-3	Chromium	16	MG_KG		Y	0.11	0.34
BAI-24A-019-18	6010B	DRY	13	7440-48-4	Cobalt	8.4	MG_KG		Y	0.23	0.68
BAI-24A-019-18	6010B	DRY	13	7440-50-8	Copper	13	MG_KG		Y	0.11	0.34
BAI-24A-019-18	6010B	DRY	13	7439-92-1	Lead	8.1	MG_KG		Y	0.083	0.29
BAI-24A-019-18	7470A	DRY	13	7439-97-6	Mercury	0.012	MG_KG	J	Y	0.0075	0.024
BAI-24A-019-18	6010B	DRY	13	7439-98-7	Molybdenum	0.25	MG_KG	J	Y	0.23	0.68
BAI-24A-019-18	6010B	DRY	13	7440-02-0	Nickel	16	MG_KG		Y	0.23	0.68
BAI-24A-019-18	6010B	DRY	13	7782-49-2	Selenium	0.57	MG_KG	U	N	0.17	0.57
BAI-24A-019-18	6010B	DRY	13	7440-22-4	Silver	0.29	MG_KG	U	N	0.085	0.29
BAI-24A-019-18	6010B	DRY	13	7440-28-0	Thallium	0.57	MG_KG	U	N	0.19	0.57
BAI-24A-019-18	6010B	DRY	13	7440-62-2	Vanadium	31	MG_KG		Y	0.11	0.34
BAI-24A-019-18	6010B	DRY	13	7440-66-6	Zinc	390	MG_KG		Y	0.23	1.1
BAI-24A-020-00	6010B	DRY	6	7440-36-0	Antimony	6.7	MG_KG	J	Y	0.17	0.53
BAI-24A-020-00	6010B	DRY	6	7440-38-2	Arsenic	2.4	MG_KG		Y	0.087	0.27
BAI-24A-020-00	6010B	DRY	6	7440-39-3	Barium	13	MG_KG		Y	0.1	0.31
BAI-24A-020-00	6010B	DRY	6	7440-41-7	Beryllium	0.25	MG_KG		Y	0.021	0.11
BAI-24A-020-00	6010B	DRY	6	7440-43-9	Cadmium	0.23	MG_KG	J	Y	0.052	0.27
BAI-24A-020-00	6010B	DRY	6	7440-47-3	Chromium	27	MG_KG		Y	0.1	0.31
BAI-24A-020-00	6010B	DRY	6	7440-48-4	Cobalt	22	MG_KG		Y	0.21	0.63
BAI-24A-020-00	6010B	DRY	6	7440-50-8	Copper	46	MG_KG		Y	0.1	0.31
BAI-24A-020-00	6010B	DRY	6	7439-92-1	Lead	110	MG_KG		Y	0.076	0.27
BAI-24A-020-00	7470A	DRY	6	7439-97-6	Mercury	0.52	MG_KG	J	Y	0.0067	0.021
BAI-24A-020-00	6010B	DRY	6	7439-98-7	Molybdenum	0.33	MG_KG	J	Y	0.21	0.63
BAI-24A-020-00	6010B	DRY	6	7440-02-0	Nickel	20	MG_KG		Y	0.21	0.63
BAI-24A-020-00	6010B	DRY	6	7782-49-2	Selenium	0.53	MG_KG	U	N	0.15	0.53
BAI-24A-020-00	6010B	DRY	6	7440-22-4	Silver	0.3	MG_KG		Y	0.078	0.27
BAI-24A-020-00	6010B	DRY	6	7440-28-0	Thallium	0.53	MG_KG	U	N	0.17	0.53

Table A1-1. Raw Data, IR Site 24A, Former Naval Weapons Station Seal Beach Detachment Concord

SAMPLE_NAME	ANALYTICAL_METHOD	SAMPLE_BASIS	PERCENT_MOISTURE	ANALYTE_ID	ANALYTE NAME	ANALYTE_VALUE	RESULT_UNITS	FINAL_QUALIFIER	DETECTED	MDL	MRL
BAI-24A-020-00	6010B	DRY	6	7440-62-2	Vanadium	110	MG_KG		Y	0.1	0.31
BAI-24A-020-00	6010B	DRY	6	7440-66-6	Zinc	33	MG_KG		Y	0.21	1.1
BAI-24A-020-18	6010B	DRY	12	7440-36-0	Antimony	2.3	MG_KG	J	Y	0.16	0.57
BAI-24A-020-18	6010B	DRY	12	7440-38-2	Arsenic	2.9	MG_KG		Y	0.086	0.28
BAI-24A-020-18	6010B	DRY	12	7440-39-3	Barium	180	MG_KG		Y	0.1	0.31
BAI-24A-020-18	6010B	DRY	12	7440-41-7	Beryllium	0.37	MG_KG		Y	0.021	0.11
BAI-24A-020-18	6010B	DRY	12	7440-43-9	Cadmium	0.1	MG_KG	J	Y	0.052	0.28
BAI-24A-020-18	6010B	DRY	12	7440-47-3	Chromium	15	MG_KG		Y	0.1	0.31
BAI-24A-020-18	6010B	DRY	12	7440-48-4	Cobalt	7.8	MG_KG		Y	0.21	0.62
BAI-24A-020-18	6010B	DRY	12	7440-50-8	Copper	7.4	MG_KG		Y	0.1	0.31
BAI-24A-020-18	6010B	DRY	12	7439-92-1	Lead	3.4	MG_KG		Y	0.075	0.28
BAI-24A-020-18	7470A	DRY	12	7439-97-6	Mercury	0.023	MG_KG	UJ	N	0.0073	0.023
BAI-24A-020-18	6010B	DRY	12	7439-98-7	Molybdenum	0.23	MG_KG	J	Y	0.21	0.62
BAI-24A-020-18	6010B	DRY	12	7440-02-0	Nickel	12	MG_KG		Y	0.21	0.62
BAI-24A-020-18	6010B	DRY	12	7782-49-2	Selenium	0.57	MG_KG	U	N	0.15	0.57
BAI-24A-020-18	6010B	DRY	12	7440-22-4	Silver	0.28	MG_KG	U	N	0.077	0.28
BAI-24A-020-18	6010B	DRY	12	7440-28-0	Thallium	0.57	MG_KG	U	N	0.17	0.57
BAI-24A-020-18	6010B	DRY	12	7440-62-2	Vanadium	31	MG_KG		Y	0.1	0.31
BAI-24A-020-18	6010B	DRY	12	7440-66-6	Zinc	43	MG_KG		Y	0.21	1.1
BAI-24A-021-00	6010B	DRY	5	7440-36-0	Antimony	370	MG_KG	J	Y	0.16	0.53
BAI-24A-021-00	6010B	DRY	5	7440-38-2	Arsenic	120	MG_KG		Y	0.086	0.26
BAI-24A-021-00	6010B	DRY	5	7440-39-3	Barium	47	MG_KG		Y	0.1	0.31
BAI-24A-021-00	6010B	DRY	5	7440-41-7	Beryllium	0.27	MG_KG		Y	0.021	0.11
BAI-24A-021-00	6010B	DRY	5	7440-43-9	Cadmium	0.24	MG_KG	J	Y	0.052	0.26
BAI-24A-021-00	6010B	DRY	5	7440-47-3	Chromium	33	MG_KG		Y	0.1	0.31
BAI-24A-021-00	6010B	DRY	5	7440-48-4	Cobalt	23	MG_KG		Y	0.21	0.62
BAI-24A-021-00	6010B	DRY	5	7440-50-8	Copper	120	MG_KG		Y	0.1	0.31
BAI-24A-021-00	7470A	DRY	5	7439-97-6	Mercury	0.25	MG_KG	J	Y	0.0065	0.021
BAI-24A-021-00	6010B	DRY	5	7439-98-7	Molybdenum	0.47	MG_KG	J	Y	0.21	0.62
BAI-24A-021-00	6010B	DRY	5	7440-02-0	Nickel	39	MG_KG		Y	0.21	0.62
BAI-24A-021-00	6010B	DRY	5	7782-49-2	Selenium	0.53	MG_KG	U	N	0.15	0.53
BAI-24A-021-00	6010B	DRY	5	7440-22-4	Silver	0.87	MG_KG		Y	0.077	0.26
BAI-24A-021-00	6010B	DRY	5	7440-28-0	Thallium	0.53	MG_KG	U	N	0.17	0.53
BAI-24A-021-00	6010B	DRY	5	7440-62-2	Vanadium	81	MG_KG		Y	0.1	0.31
BAI-24A-021-00	6010B	DRY	5	7440-66-6	Zinc	76	MG_KG		Y	0.21	1.1
BAI-24A-021-18	6010B	DRY	13	7440-36-0	Antimony	2.6	MG_KG	J	Y	0.18	0.57
BAI-24A-021-18	6010B	DRY	13	7440-38-2	Arsenic	2.8	MG_KG		Y	0.094	0.29
BAI-24A-021-18	6010B	DRY	13	7440-39-3	Barium	120	MG_KG		Y	0.11	0.34
BAI-24A-021-18	6010B	DRY	13	7440-41-7	Beryllium	0.41	MG_KG		Y	0.023	0.11
BAI-24A-021-18	6010B	DRY	13	7440-43-9	Cadmium	0.1	MG_KG	J	Y	0.057	0.29
BAI-24A-021-18	6010B	DRY	13	7440-47-3	Chromium	14	MG_KG		Y	0.11	0.34
BAI-24A-021-18	6010B	DRY	13	7440-48-4	Cobalt	8.5	MG_KG		Y	0.23	0.68
BAI-24A-021-18	6010B	DRY	13	7440-50-8	Copper	9.3	MG_KG		Y	0.11	0.34
BAI-24A-021-18	6010B	DRY	13	7439-92-1	Lead	13	MG_KG		Y	0.083	0.29
BAI-24A-021-18	7470A	DRY	13	7439-97-6	Mercury	0.023	MG_KG	UJ	N	0.0066	0.023
BAI-24A-021-18	6010B	DRY	13	7439-98-7	Molybdenum	0.68	MG_KG	U	N	0.23	0.68
BAI-24A-021-18	6010B	DRY	13	7440-02-0	Nickel	12	MG_KG		Y	0.23	0.68
BAI-24A-021-18	6010B	DRY	13	7782-49-2	Selenium	0.57	MG_KG	U	N	0.17	0.57
BAI-24A-023-00	6010B	DRY	6	7440-50-8	Copper	44	MG_KG		Y	0.096	0.29
BAI-24A-023-00	6010B	DRY	6	7439-92-1	Lead	10	MG_KG		Y	0.07	0.27
BAI-24A-023-00	7470A	DRY	6	7439-97-6	Mercury	0.21	MG_KG	J	Y	0.0064	0.021
BAI-24A-023-00	6010B	DRY	6	7439-98-7	Molybdenum	0.25	MG_KG	J	Y	0.19	0.58
BAI-24A-023-00	6010B	DRY	6	7440-02-0	Nickel	24	MG_KG		Y	0.19	0.58
BAI-24A-023-00	6010B	DRY	6	7782-49-2	Selenium	0.53	MG_KG	U	N	0.14	0.53

Table A1-1. Raw Data, IR Site 24A, Former Naval Weapons Station Seal Beach Detachment Concord

SAMPLE_NAME	ANALYTICAL_METHOD	SAMPLE_BASIS	PERCENT_MOISTURE	ANALYTE_ID	ANALYTE NAME	ANALYTE_VALUE	RESULT_UNITS	FINAL_QUALIFIER	DETECTED	MDL	MRL
BAI-24A-023-00	6010B	DRY	6	7440-22-4	Silver	0.36	MG_KG		Y	0.072	0.27
BAI-24A-023-00	6010B	DRY	6	7440-28-0	Thallium	0.53	MG_KG	U	N	0.16	0.53
BAI-24A-023-00	6010B	DRY	6	7440-62-2	Vanadium	150	MG_KG		Y	0.096	0.29
BAI-24A-023-00	6010B	DRY	6	7440-66-6	Zinc	32	MG_KG		Y	0.19	1.1
BAI-24A-023-18	6010B	DRY	13	7440-36-0	Antimony	3.4	MG_KG	J	Y	0.18	0.57
BAI-24A-023-18	6010B	DRY	13	7440-38-2	Arsenic	5.3	MG_KG		Y	0.094	0.29
BAI-24A-023-18	6010B	DRY	13	7440-39-3	Barium	170	MG_KG		Y	0.11	0.34
BAI-24A-023-18	6010B	DRY	13	7440-41-7	Beryllium	0.49	MG_KG		Y	0.023	0.11
BAI-24A-023-18	6010B	DRY	13	7440-43-9	Cadmium	0.42	MG_KG		Y	0.056	0.29
BAI-24A-023-18	6010B	DRY	13	7440-47-3	Chromium	26	MG_KG		Y	0.11	0.34
BAI-24A-023-18	6010B	DRY	13	7440-48-4	Cobalt	12	MG_KG		Y	0.23	0.68
BAI-24A-023-18	6010B	DRY	13	7440-50-8	Copper	20	MG_KG		Y	0.11	0.34
BAI-24A-023-18	6010B	DRY	13	7439-92-1	Lead	20	MG_KG		Y	0.082	0.29
BAI-24A-023-18	7470A	DRY	13	7439-97-6	Mercury	0.046	MG_KG	J	Y	0.0072	0.023
BAI-24A-023-18	6010B	DRY	13	7439-98-7	Molybdenum	0.32	MG_KG	J	Y	0.23	0.68
BAI-24A-023-18	6010B	DRY	13	7440-02-0	Nickel	34	MG_KG		Y	0.23	0.68
BAI-24A-023-18	6010B	DRY	13	7782-49-2	Selenium	0.57	MG_KG	U	N	0.16	0.57
BAI-24A-023-18	6010B	DRY	13	7440-22-4	Silver	0.29	MG_KG	U	N	0.084	0.29
BAI-24A-023-18	6010B	DRY	13	7440-28-0	Thallium	0.57	MG_KG	U	N	0.18	0.57
BAI-24A-023-18	6010B	DRY	13	7440-62-2	Vanadium	46	MG_KG		Y	0.11	0.34
BAI-24A-023-18	6010B	DRY	13	7440-66-6	Zinc	350	MG_KG		Y	0.23	1.1
BAI-24A-019-00	D2216	WET		-86	Percent Moisture	15	PCT		Y		1
BAI-24A-019-18	D2216	WET		-86	Percent Moisture	13	PCT		Y		1
BAI-24A-020-00	D2216	WET		-86	Percent Moisture	6	PCT		Y		1
BAI-24A-020-18	D2216	WET		-86	Percent Moisture	12	PCT		Y		1
BAI-24A-021-00	D2216	WET		-86	Percent Moisture	5	PCT		Y		1
BAI-24A-021-18	D2216	WET		-86	Percent Moisture	13	PCT		Y		1
BAI-24A-022-00	D2216	WET		-86	Percent Moisture	13	PCT		Y		1
BAI-24A-022-18	D2216	WET		-86	Percent Moisture	11	PCT		Y		1
BAI-24A-023-00	D2216	WET		-86	Percent Moisture	6	PCT		Y		1
BAI-24A-023-18	D2216	WET		-86	Percent Moisture	13	PCT		Y		1
BAI-24A-019-00	8330	WET		2691-41-0	HMX	200	UG_KG	U	N	26	200
BAI-24A-019-00	8330	WET		121-82-4	RDX	200	UG_KG	U	N	39	200
BAI-24A-019-00	8330	WET		99-35-4	1,3,5-Trinitrobenzene	200	UG_KG	U	N	35	200
BAI-24A-019-00	8330	WET		99-65-0	1,3-Dinitrobenzene	200	UG_KG	U	N	20	200
BAI-24A-019-00	8330	WET		98-95-3	Nitrobenzene	200	UG_KG	U	N	18	200
BAI-24A-019-00	8330	WET		479-45-8	Tetryl	200	UG_KG	U	N	65	200
BAI-24A-019-00	8330	WET		118-96-7	2,4,6-Trinitrotoluene	200	UG_KG	U	N	13	200
BAI-24A-019-00	8330	WET		35572-78-2	2-amino-4,6-Dinitrotoluene	200	UG_KG	U	N	26	200
BAI-24A-019-00	8330	WET		19406-51-0	4-amino-2,6-Dinitrotoluene	200	UG_KG	U	N	28	200
BAI-24A-019-00	8330	WET		121-14-2	2,4-Dinitrotoluene	200	UG_KG	U	N	19	200
BAI-24A-019-00	8330	WET		606-20-2	2,6-Dinitrotoluene	200	UG_KG	U	N	18	200
BAI-24A-019-00	8330	WET		88-72-2	2-Nitrotoluene	400	UG_KG	U	N	16	400
BAI-24A-019-00	8330	WET		99-99-0	4-Nitrotoluene	400	UG_KG	U	N	31	400
BAI-24A-019-00	8330	WET		99-08-1	3-Nitrotoluene	400	UG_KG	U	N	61	400
BAI-24A-019-18	8330	WET		2691-41-0	HMX	200	UG_KG	U	N	26	200
BAI-24A-019-18	8330	WET		121-82-4	RDX	200	UG_KG	U	N	39	200
BAI-24A-019-18	8330	WET		99-35-4	1,3,5-Trinitrobenzene	200	UG_KG	U	N	35	200
BAI-24A-019-18	8330	WET		99-65-0	1,3-Dinitrobenzene	200	UG_KG	U	N	19	200
BAI-24A-019-18	8330	WET		98-95-3	Nitrobenzene	200	UG_KG	U	N	18	200
BAI-24A-019-18	8330	WET		479-45-8	Tetryl	200	UG_KG	U	N	65	200
BAI-24A-019-18	8330	WET		118-96-7	2,4,6-Trinitrotoluene	200	UG_KG	U	N	13	200
BAI-24A-019-18	8330	WET		35572-78-2	2-amino-4,6-Dinitrotoluene	200	UG_KG	U	N	26	200
BAI-24A-024-00	8330	WET		2691-41-0	HMX	200	UG_KG	U	N	15	200

Table A1-1. Raw Data, IR Site 24A, Former Naval Weapons Station Seal Beach Detachment Concord

SAMPLE_NAME	ANALYTICAL_METHOD	SAMPLE_BASIS	PERCENT_MOISTURE	ANALYTE_ID	ANALYTE NAME	ANALYTE_VALUE	RESULT_UNITS	FINAL_QUALIFIER	DETECTED	MDL	MRL
BAI-24A-024-00	8330	WET		121-82-4	RDX	200	UG_KG	U	N	21	200
BAI-24A-024-00	8330	WET		99-35-4	1,3,5-Trinitrobenzene	200	UG_KG	U	N	27	200
BAI-24A-024-00	8330	WET		99-65-0	1,3-Dinitrobenzene	200	UG_KG	U	N	4.6	200
BAI-24A-024-00	8330	WET		98-95-3	Nitrobenzene	200	UG_KG	U	N	16	200
BAI-24A-024-00	8330	WET		479-45-8	Tetryl	200	UG_KG	UJ	N	56	200
BAI-24A-024-00	8330	WET		118-96-7	2,4,6-Trinitrotoluene	200	UG_KG	U	N	30	200
BAI-24A-024-00	8330	WET		35572-78-2	2-amino-4,6-Dinitrotoluene	200	UG_KG	U	N	18	200
BAI-24A-024-00	8330	WET		19406-51-0	4-amino-2,6-Dinitrotoluene	200	UG_KG	U	N	39	200
BAI-24A-024-00	8330	WET		121-14-2	2,4-Dinitrotoluene	200	UG_KG	U	N	21	200
BAI-24A-024-00	8330	WET		606-20-2	2,6-Dinitrotoluene	200	UG_KG	U	N	22	200
BAI-24A-024-00	8330	WET		88-72-2	2-Nitrotoluene	400	UG_KG	U	N	28	400
BAI-24A-024-00	8330	WET		99-99-0	4-Nitrotoluene	400	UG_KG	U	N	28	400
BAI-24A-024-00	8330	WET		99-08-1	3-Nitrotoluene	400	UG_KG	U	N	40	400
BAI-24A-024-00	6010B	DRY	6	7440-36-0	Antimony	6.5	MG_KG	J	Y	0.16	0.53
BAI-24A-024-00	6010B	DRY	6	7440-38-2	Arsenic	0.27	MG_KG	U	N	0.085	0.27
BAI-24A-024-00	6010B	DRY	6	7440-39-3	Barium	5.3	MG_KG		Y	0.1	0.31
BAI-24A-024-00	6010B	DRY	6	7440-41-7	Beryllium	0.24	MG_KG		Y	0.02	0.11
BAI-24A-024-00	6010B	DRY	6	7440-43-9	Cadmium	0.26	MG_KG	J	Y	0.051	0.27
BAI-24A-024-00	6010B	DRY	6	7440-47-3	Chromium	31	MG_KG		Y	0.1	0.31
BAI-24A-024-00	6010B	DRY	6	7440-48-4	Cobalt	26	MG_KG		Y	0.2	0.61
BAI-24A-024-00	6010B	DRY	6	7440-50-8	Copper	31	MG_KG	J	Y	0.1	0.31
BAI-24A-024-00	6010B	DRY	6	7439-92-1	Lead	7.4	MG_KG		Y	0.075	0.27
BAI-24A-024-00	7470A	DRY	6	7439-97-6	Mercury	0.4	MG_KG		Y	0.0061	0.021
BAI-24A-024-00	6010B	DRY	6	7439-98-7	Molybdenum	0.61	MG_KG	U	N	0.2	0.61
BAI-24A-024-00	6010B	DRY	6	7440-02-0	Nickel	21	MG_KG		Y	0.2	0.61
BAI-24A-024-00	6010B	DRY	6	7782-49-2	Selenium	0.53	MG_KG	U	N	0.15	0.53
BAI-24A-024-00	6010B	DRY	6	7440-22-4	Silver	0.22	MG_KG	J	Y	0.076	0.27
BAI-24A-024-00	6010B	DRY	6	7440-28-0	Thallium	0.53	MG_KG	U	N	0.17	0.53
BAI-24A-024-00	6010B	DRY	6	7440-62-2	Vanadium	130	MG_KG		Y	0.1	0.31
BAI-24A-024-00	6010B	DRY	6	7440-66-6	Zinc	25	MG_KG		Y	0.2	1.1
BAI-24A-024-00	D2216	WET		-86	Percent Moisture	6	PCT		Y		1
BAI-24A-029-00	6010B	DRY	17	7440-47-3	Chromium	20	MG_KG		Y	0.12	0.36
BAI-24A-029-00	6010B	DRY	17	7440-48-4	Cobalt	11	MG_KG		Y	0.24	0.72
BAI-24A-029-00	6010B	DRY	17	7440-50-8	Copper	81	MG_KG		Y	0.12	0.36
BAI-24A-029-00	7470A	DRY	17	7439-97-6	Mercury	0.024	MG_KG	UJ	N	0.0076	0.024
BAI-24A-029-00	6010B	DRY	17	7439-98-7	Molybdenum	0.28	MG_KG	J	Y	0.24	0.72
BAI-24A-029-00	6010B	DRY	17	7440-02-0	Nickel	19	MG_KG		Y	0.24	0.72
BAI-24A-029-00	6010B	DRY	17	7782-49-2	Selenium	0.6	MG_KG	U	N	0.17	0.6
BAI-24A-029-00	6010B	DRY	17	7440-22-4	Silver	0.34	MG_KG		Y	0.089	0.3
BAI-24A-029-00	6010B	DRY	17	7440-28-0	Thallium	0.6	MG_KG	U	N	0.19	0.6
BAI-24A-029-00	6010B	DRY	17	7440-62-2	Vanadium	40	MG_KG		Y	0.12	0.36
BAI-24A-029-00	6010B	DRY	17	7440-66-6	Zinc	140	MG_KG		Y	0.24	1.2
BAI-24A-029-18	6010B	DRY	6	7440-36-0	Antimony	3.6	MG_KG	J	Y	0.16	0.53
BAI-24A-029-18	6010B	DRY	6	7440-38-2	Arsenic	5.1	MG_KG		Y	0.083	0.27
BAI-24A-029-18	6010B	DRY	6	7440-39-3	Barium	97	MG_KG		Y	0.1	0.3
BAI-24A-029-18	6010B	DRY	6	7440-41-7	Beryllium	0.48	MG_KG		Y	0.02	0.11
BAI-24A-029-18	6010B	DRY	6	7440-43-9	Cadmium	0.13	MG_KG	J	Y	0.05	0.27
BAI-24A-029-18	6010B	DRY	6	7440-47-3	Chromium	16	MG_KG		Y	0.1	0.3
BAI-24A-029-18	6010B	DRY	6	7440-48-4	Cobalt	8	MG_KG		Y	0.2	0.6
BAI-24A-029-18	6010B	DRY	6	7440-50-8	Copper	15	MG_KG		Y	0.1	0.3
BAI-24A-029-18	6010B	DRY	6	7439-92-1	Lead	13	MG_KG		Y	0.073	0.27
BAI-24A-029-18	7470A	DRY	6	7439-97-6	Mercury	0.02	MG_KG	J	Y	0.007	0.022
BAI-24A-029-18	6010B	DRY	6	7439-98-7	Molybdenum	0.6	MG_KG	U	N	0.2	0.6
BAI-24A-029-18	6010B	DRY	6	7440-02-0	Nickel	16	MG_KG		Y	0.2	0.6

Table A1-1. Raw Data, IR Site 24A, Former Naval Weapons Station Seal Beach Detachment Concord

SAMPLE_NAME	ANALYTICAL_METHOD	SAMPLE_BASIS	PERCENT_MOISTURE	ANALYTE_ID	ANALYTE NAME	ANALYTE_VALUE	RESULT_UNITS	FINAL_QUALIFIER	DETECTED	MDL	MRL
BAI-24A-029-18	6010B	DRY	6	7782-49-2	Selenium	0.53	MG_KG	U	N	0.15	0.53
BAI-24A-029-18	6010B	DRY	6	7440-22-4	Silver	0.12	MG_KG	J	Y	0.075	0.27
BAI-24A-029-18	6010B	DRY	6	7440-28-0	Thallium	0.53	MG_KG	U	N	0.16	0.53
BAI-24A-029-18	6010B	DRY	6	7440-62-2	Vanadium	31	MG_KG		Y	0.1	0.3
BAI-24A-029-18	6010B	DRY	6	7440-66-6	Zinc	47	MG_KG		Y	0.2	1.1
BAI-24A-025-00	D2216	WET		-86	Percent Moisture	19	PCT		Y		1
BAI-24A-025-18	D2216	WET		-86	Percent Moisture	12	PCT		Y		1
BAI-24A-026-00	D2216	WET		-86	Percent Moisture	17	PCT		Y		1
BAI-24A-026-18	D2216	WET		-86	Percent Moisture	4	PCT		Y		1
BAI-24A-027-00	D2216	WET		-86	Percent Moisture	16	PCT		Y		1
BAI-24A-027-18	D2216	WET		-86	Percent Moisture	7	PCT		Y		1
BAI-24A-028-00	D2216	WET		-86	Percent Moisture	16	PCT		Y		1
BAI-24A-028-18	D2216	WET		-86	Percent Moisture	6	PCT		Y		1
BAI-24A-029-00	D2216	WET		-86	Percent Moisture	17	PCT		Y		1
BAI-24A-029-18	D2216	WET		-86	Percent Moisture	6	PCT		Y		1
BAI-24A-025-00	8330	WET		2691-41-0	HMX	200	UG_KG	U	N	26	200
BAI-24A-025-00	8330	WET		121-82-4	RDX	200	UG_KG	U	N	39	200
BAI-24A-025-00	8330	WET		99-35-4	1,3,5-Trinitrobenzene	200	UG_KG	U	N	35	200
BAI-24A-025-00	8330	WET		99-65-0	1,3-Dinitrobenzene	200	UG_KG	U	N	20	200
BAI-24A-025-00	8330	WET		98-95-3	Nitrobenzene	200	UG_KG	U	N	18	200
BAI-24A-025-00	8330	WET		479-45-8	Tetryl	200	UG_KG	U	N	65	200
BAI-24A-025-00	8330	WET		118-96-7	2,4,6-Trinitrotoluene	200	UG_KG	U	N	13	200
BAI-24A-025-00	8330	WET		35572-78-2	2-amino-4,6-Dinitrotoluene	200	UG_KG	U	N	26	200
BAI-24A-025-00	8330	WET		19406-51-0	4-amino-2,6-Dinitrotoluene	200	UG_KG	U	N	28	200
BAI-24A-025-00	8330	WET		121-14-2	2,4-Dinitrotoluene	200	UG_KG	U	N	19	200
BAI-24A-025-00	8330	WET		606-20-2	2,6-Dinitrotoluene	200	UG_KG	U	N	18	200
BAI-24A-025-00	8330	WET		88-72-2	2-Nitrotoluene	400	UG_KG	U	N	11	400
BAI-24A-025-00	8330	WET		99-99-0	4-Nitrotoluene	77	UG_KG	J	Y	24	400
BAI-24A-025-00	8330	WET		99-08-1	3-Nitrotoluene	400	UG_KG	U	N	60	400
BAI-24A-025-18	8330	WET		2691-41-0	HMX	200	UG_KG	U	N	26	200
BAI-24A-025-18	8330	WET		121-82-4	RDX	200	UG_KG	U	N	39	200
BAI-24A-025-18	8330	WET		99-35-4	1,3,5-Trinitrobenzene	200	UG_KG	U	N	34	200
BAI-24A-025-18	8330	WET		99-65-0	1,3-Dinitrobenzene	200	UG_KG	U	N	19	200
BAI-24A-025-18	8330	WET		98-95-3	Nitrobenzene	200	UG_KG	U	N	18	200
BAI-24A-025-18	8330	WET		479-45-8	Tetryl	200	UG_KG	U	N	64	200
BAI-24A-025-18	8330	WET		118-96-7	2,4,6-Trinitrotoluene	200	UG_KG	U	N	13	200
BAI-24A-025-18	8330	WET		35572-78-2	2-amino-4,6-Dinitrotoluene	200	UG_KG	U	N	26	200
BAI-24A-025-18	8330	WET		19406-51-0	4-amino-2,6-Dinitrotoluene	200	UG_KG	U	N	28	200
BAI-24A-025-18	8330	WET		121-14-2	2,4-Dinitrotoluene	200	UG_KG	U	N	19	200
BAI-24A-025-18	8330	WET		606-20-2	2,6-Dinitrotoluene	200	UG_KG	U	N	18	200
BAI-24A-025-18	8330	WET		88-72-2	2-Nitrotoluene	390	UG_KG	U	N	16	390
BAI-24A-025-18	8330	WET		99-99-0	4-Nitrotoluene	390	UG_KG	U	N	30	390
BAI-24A-025-18	8330	WET		99-08-1	3-Nitrotoluene	390	UG_KG	U	N	60	390
BAI-24A-026-00	8330	WET		2691-41-0	HMX	200	UG_KG	U	N	26	200
BAI-24A-026-00	8330	WET		121-82-4	RDX	200	UG_KG	U	N	39	200
BAI-24A-026-00	8330	WET		99-35-4	1,3,5-Trinitrobenzene	200	UG_KG	U	N	35	200
BAI-24A-026-00	8330	WET		99-65-0	1,3-Dinitrobenzene	200	UG_KG	U	N	20	200
BAI-24A-026-00	8330	WET		98-95-3	Nitrobenzene	200	UG_KG	U	N	18	200
BAI-24A-026-00	8330	WET		479-45-8	Tetryl	200	UG_KG	U	N	65	200
BAI-24A-026-00	8330	WET		118-96-7	2,4,6-Trinitrotoluene	200	UG_KG	U	N	13	200
BAI-24A-026-00	8330	WET		35572-78-2	2-amino-4,6-Dinitrotoluene	200	UG_KG	U	N	26	200
BAI-24A-026-00	8330	WET		19406-51-0	4-amino-2,6-Dinitrotoluene	200	UG_KG	U	N	28	200
BAI-24A-026-00	8330	WET		121-14-2	2,4-Dinitrotoluene	200	UG_KG	U	N	19	200
BAI-24A-026-00	8330	WET		606-20-2	2,6-Dinitrotoluene	200	UG_KG	U	N	18	200

Table A1-1. Raw Data, IR Site 24A, Former Naval Weapons Station Seal Beach Detachment Concord

SAMPLE_NAME	ANALYTICAL_METHOD	SAMPLE_BASIS	PERCENT_MOISTURE	ANALYTE_ID	ANALYTE NAME	ANALYTE_VALUE	RESULT_UNITS	FINAL_QUALIFIER	DETECTED	MDL	MRL
BAI-24A-026-00	8330	WET		88-72-2	2-Nitrotoluene	400	UG_KG	U	N	16	400
BAI-24A-026-00	8330	WET		99-99-0	4-Nitrotoluene	400	UG_KG	U	N	30	400
BAI-24A-026-00	8330	WET		99-08-1	3-Nitrotoluene	400	UG_KG	U	N	60	400
BAI-24A-026-18	8330	WET		2691-41-0	HMX	200	UG_KG	U	N	26	200
BAI-24A-026-18	8330	WET		121-82-4	RDX	200	UG_KG	U	N	39	200
BAI-24A-026-18	8330	WET		99-35-4	1,3,5-Trinitrobenzene	200	UG_KG	U	N	35	200
BAI-24A-026-18	8330	WET		99-65-0	1,3-Dinitrobenzene	200	UG_KG	U	N	20	200
BAI-24A-026-18	8330	WET		98-95-3	Nitrobenzene	200	UG_KG	U	N	18	200
BAI-24A-026-18	8330	WET		479-45-8	Tetryl	200	UG_KG	U	N	66	200
BAI-24A-026-18	8330	WET		118-96-7	2,4,6-Trinitrotoluene	200	UG_KG	U	N	13	200
BAI-24A-026-18	8330	WET		35572-78-2	2-amino-4,6-Dinitrotoluene	200	UG_KG	U	N	26	200
BAI-24A-026-18	8330	WET		19406-51-0	4-amino-2,6-Dinitrotoluene	200	UG_KG	U	N	28	200
BAI-24A-026-18	8330	WET		121-14-2	2,4-Dinitrotoluene	200	UG_KG	U	N	19	200
BAI-24A-026-18	8330	WET		606-20-2	2,6-Dinitrotoluene	200	UG_KG	U	N	18	200
BAI-24A-026-18	8330	WET		88-72-2	2-Nitrotoluene	400	UG_KG	U	N	16	400
BAI-24A-026-18	8330	WET		99-99-0	4-Nitrotoluene	400	UG_KG	U	N	31	400
BAI-24A-026-18	8330	WET		99-08-1	3-Nitrotoluene	400	UG_KG	U	N	61	400
BAI-24A-027-00	8330	WET		2691-41-0	HMX	200	UG_KG	U	N	26	200
BAI-24A-027-00	8330	WET		121-82-4	RDX	200	UG_KG	U	N	40	200
BAI-24A-027-00	8330	WET		99-35-4	1,3,5-Trinitrobenzene	200	UG_KG	U	N	35	200
BAI-24A-027-00	8330	WET		99-65-0	1,3-Dinitrobenzene	200	UG_KG	U	N	20	200
BAI-24A-027-00	8330	WET		98-95-3	Nitrobenzene	200	UG_KG	U	N	18	200
BAI-24A-027-00	8330	WET		479-45-8	Tetryl	200	UG_KG	U	N	66	200
BAI-24A-027-00	8330	WET		118-96-7	2,4,6-Trinitrotoluene	200	UG_KG	U	N	13	200
BAI-24A-027-00	8330	WET		35572-78-2	2-amino-4,6-Dinitrotoluene	200	UG_KG	U	N	26	200
BAI-24A-027-00	8330	WET		19406-51-0	4-amino-2,6-Dinitrotoluene	200	UG_KG	U	N	28	200
BAI-24A-027-00	8330	WET		121-14-2	2,4-Dinitrotoluene	200	UG_KG	U	N	19	200
BAI-24A-027-00	8330	WET		606-20-2	2,6-Dinitrotoluene	200	UG_KG	U	N	18	200
BAI-24A-027-00	8330	WET		88-72-2	2-Nitrotoluene	400	UG_KG	U	N	16	400
BAI-24A-027-00	8330	WET		99-99-0	4-Nitrotoluene	400	UG_KG	U	N	31	400
BAI-24A-027-00	8330	WET		99-08-1	3-Nitrotoluene	400	UG_KG	U	N	61	400
BAI-24A-027-18	8330	WET		2691-41-0	HMX	190	UG_KG	U	N	26	190
BAI-24A-027-18	8330	WET		121-82-4	RDX	190	UG_KG	U	N	38	190
BAI-24A-027-18	8330	WET		99-35-4	1,3,5-Trinitrobenzene	190	UG_KG	U	N	34	190
BAI-24A-027-18	8330	WET		99-65-0	1,3-Dinitrobenzene	190	UG_KG	U	N	19	190
BAI-24A-027-18	8330	WET		98-95-3	Nitrobenzene	190	UG_KG	U	N	18	190
BAI-24A-027-18	8330	WET		479-45-8	Tetryl	190	UG_KG	U	N	64	190
BAI-24A-027-18	8330	WET		118-96-7	2,4,6-Trinitrotoluene	190	UG_KG	U	N	13	190
BAI-24A-027-18	8330	WET		35572-78-2	2-amino-4,6-Dinitrotoluene	190	UG_KG	U	N	26	190
BAI-24A-027-18	8330	WET		19406-51-0	4-amino-2,6-Dinitrotoluene	190	UG_KG	U	N	28	190
BAI-24A-027-18	8330	WET		121-14-2	2,4-Dinitrotoluene	190	UG_KG	U	N	19	190
BAI-24A-027-18	8330	WET		606-20-2	2,6-Dinitrotoluene	190	UG_KG	U	N	18	190
BAI-24A-027-18	8330	WET		88-72-2	2-Nitrotoluene	390	UG_KG	U	N	15	390
BAI-24A-027-18	8330	WET		99-99-0	4-Nitrotoluene	390	UG_KG	U	N	30	390
BAI-24A-027-18	8330	WET		99-08-1	3-Nitrotoluene	390	UG_KG	U	N	59	390
BAI-24A-028-00	8330	WET		2691-41-0	HMX	200	UG_KG	U	N	26	200
BAI-24A-028-00	8330	WET		121-82-4	RDX	200	UG_KG	U	N	39	200
BAI-24A-028-00	8330	WET		99-35-4	1,3,5-Trinitrobenzene	200	UG_KG	U	N	35	200
BAI-24A-028-00	8330	WET		99-65-0	1,3-Dinitrobenzene	200	UG_KG	U	N	20	200
BAI-24A-028-00	8330	WET		98-95-3	Nitrobenzene	200	UG_KG	U	N	18	200
BAI-24A-028-00	8330	WET		479-45-8	Tetryl	200	UG_KG	U	N	65	200
BAI-24A-028-00	8330	WET		118-96-7	2,4,6-Trinitrotoluene	200	UG_KG	U	N	13	200
BAI-24A-028-00	8330	WET		35572-78-2	2-amino-4,6-Dinitrotoluene	200	UG_KG	U	N	26	200
BAI-24A-028-00	8330	WET		19406-51-0	4-amino-2,6-Dinitrotoluene	200	UG_KG	U	N	28	200

Table A1-1. Raw Data, IR Site 24A, Former Naval Weapons Station Seal Beach Detachment Concord

SAMPLE_NAME	ANALYTICAL_METHOD	SAMPLE_BASIS	PERCENT_MOISTURE	ANALYTE_ID	ANALYTE NAME	ANALYTE_VALUE	RESULT_UNITS	FINAL_QUALIFIER	DETECTED	MDL	MRL
BAI-24A-028-00	8330	WET		121-14-2	2,4-Dinitrotoluene	200	UG_KG	U	N	19	200
BAI-24A-028-00	8330	WET		606-20-2	2,6-Dinitrotoluene	200	UG_KG	U	N	18	200
BAI-24A-028-00	8330	WET		88-72-2	2-Nitrotoluene	400	UG_KG	U	N	16	400
BAI-24A-028-00	8330	WET		99-99-0	4-Nitrotoluene	400	UG_KG	U	N	31	400
BAI-24A-028-00	8330	WET		99-08-1	3-Nitrotoluene	400	UG_KG	U	N	61	400
BAI-24A-028-18	8330	WET		2691-41-0	HMX	200	UG_KG	U	N	26	200
BAI-24A-028-18	8330	WET		121-82-4	RDX	200	UG_KG	U	N	39	200
BAI-24A-028-18	8330	WET		99-35-4	1,3,5-Trinitrobenzene	200	UG_KG	U	N	35	200
BAI-24A-028-18	8330	WET		99-65-0	1,3-Dinitrobenzene	200	UG_KG	U	N	20	200
BAI-24A-028-18	8330	WET		98-95-3	Nitrobenzene	200	UG_KG	U	N	18	200
BAI-24A-028-18	8330	WET		479-45-8	Tetryl	200	UG_KG	U	N	65	200
BAI-24A-028-18	8330	WET		118-96-7	2,4,6-Trinitrotoluene	200	UG_KG	U	N	13	200
BAI-24A-028-18	8330	WET		35572-78-2	2-amino-4,6-Dinitrotoluene	200	UG_KG	U	N	26	200
BAI-24A-028-18	8330	WET		19406-51-0	4-amino-2,6-Dinitrotoluene	200	UG_KG	U	N	28	200
BAI-24A-028-18	8330	WET		121-14-2	2,4-Dinitrotoluene	200	UG_KG	U	N	19	200
BAI-24A-028-18	8330	WET		606-20-2	2,6-Dinitrotoluene	200	UG_KG	U	N	18	200
BAI-24A-028-18	8330	WET		88-72-2	2-Nitrotoluene	400	UG_KG	U	N	16	400
BAI-24A-028-18	8330	WET		99-99-0	4-Nitrotoluene	400	UG_KG	U	N	30	400
BAI-24A-028-18	8330	WET		99-08-1	3-Nitrotoluene	400	UG_KG	U	N	60	400
BAI-24A-029-00	8330	WET		2691-41-0	HMX	200	UG_KG	U	N	26	200
BAI-24A-029-00	8330	WET		121-82-4	RDX	200	UG_KG	U	N	40	200
BAI-24A-029-00	8330	WET		99-35-4	1,3,5-Trinitrobenzene	200	UG_KG	U	N	35	200
BAI-24A-029-00	8330	WET		99-65-0	1,3-Dinitrobenzene	200	UG_KG	U	N	20	200
BAI-24A-029-00	8330	WET		98-95-3	Nitrobenzene	200	UG_KG	U	N	18	200
BAI-24A-029-00	8330	WET		479-45-8	Tetryl	200	UG_KG	U	N	66	200
BAI-24A-029-00	8330	WET		118-96-7	2,4,6-Trinitrotoluene	200	UG_KG	U	N	13	200
BAI-24A-029-00	8330	WET		35572-78-2	2-amino-4,6-Dinitrotoluene	200	UG_KG	U	N	26	200
BAI-24A-029-00	8330	WET		19406-51-0	4-amino-2,6-Dinitrotoluene	200	UG_KG	U	N	28	200
BAI-24A-029-00	8330	WET		121-14-2	2,4-Dinitrotoluene	200	UG_KG	U	N	19	200
BAI-24A-029-00	8330	WET		606-20-2	2,6-Dinitrotoluene	200	UG_KG	U	N	18	200
BAI-24A-029-00	8330	WET		88-72-2	2-Nitrotoluene	400	UG_KG	U	N	16	400
BAI-24A-029-00	8330	WET		99-99-0	4-Nitrotoluene	400	UG_KG	U	N	31	400
BAI-24A-029-00	8330	WET		99-08-1	3-Nitrotoluene	400	UG_KG	U	N	61	400
BAI-24A-029-18	8330	WET		2691-41-0	HMX	200	UG_KG	U	N	26	200
BAI-24A-029-18	8330	WET		121-82-4	RDX	200	UG_KG	U	N	39	200
BAI-24A-029-18	8330	WET		99-35-4	1,3,5-Trinitrobenzene	200	UG_KG	U	N	35	200
BAI-24A-029-18	8330	WET		99-65-0	1,3-Dinitrobenzene	200	UG_KG	U	N	20	200
BAI-24A-029-18	8330	WET		98-95-3	Nitrobenzene	200	UG_KG	U	N	18	200
BAI-24A-029-18	8330	WET		479-45-8	Tetryl	200	UG_KG	U	N	65	200
BAI-24A-029-18	8330	WET		118-96-7	2,4,6-Trinitrotoluene	200	UG_KG	U	N	13	200
BAI-24A-029-18	8330	WET		35572-78-2	2-amino-4,6-Dinitrotoluene	200	UG_KG	U	N	26	200
BAI-24A-029-18	8330	WET		19406-51-0	4-amino-2,6-Dinitrotoluene	200	UG_KG	U	N	28	200
BAI-24A-029-18	8330	WET		121-14-2	2,4-Dinitrotoluene	200	UG_KG	U	N	19	200
BAI-24A-029-18	8330	WET		606-20-2	2,6-Dinitrotoluene	200	UG_KG	U	N	18	200
BAI-24A-029-18	8330	WET		88-72-2	2-Nitrotoluene	400	UG_KG	U	N	16	400
BAI-24A-029-18	8330	WET		99-99-0	4-Nitrotoluene	400	UG_KG	U	N	30	400
BAI-24A-029-18	8330	WET		99-08-1	3-Nitrotoluene	400	UG_KG	U	N	60	400
BAI-24A-025-00	6010B	DRY	19	7440-36-0	Antimony	54	MG_KG	J	Y	0.18	0.62
BAI-24A-025-00	6010B	DRY	19	7440-38-2	Arsenic	31	MG_KG		Y	0.094	0.31
BAI-24A-025-00	6010B	DRY	19	7440-39-3	Barium	120	MG_KG		Y	0.11	0.34
BAI-24A-025-00	6010B	DRY	19	7440-41-7	Beryllium	0.47	MG_KG		Y	0.023	0.12
BAI-24A-025-00	6010B	DRY	19	7440-43-9	Cadmium	0.2	MG_KG	J	Y	0.057	0.31
BAI-24A-025-00	6010B	DRY	19	7440-47-3	Chromium	63	MG_KG		Y	0.11	0.34
BAI-24A-025-00	6010B	DRY	19	7440-48-4	Cobalt	9.6	MG_KG		Y	0.23	0.68

Table A1-1. Raw Data, IR Site 24A, Former Naval Weapons Station Seal Beach Detachment Concord

SAMPLE_NAME	ANALYTICAL_METHOD	SAMPLE_BASIS	PERCENT_MOISTURE	ANALYTE_ID	ANALYTE NAME	ANALYTE_VALUE	RESULT_UNITS	FINAL_QUALIFIER	DETECTED	MDL	MRL
BAI-24A-025-00	7470A	DRY	19	7439-97-6	Mercury	0.01	MG_KG	J	Y	0.0076	0.025
BAI-24A-025-00	6010B	DRY	19	7439-98-7	Molybdenum	0.46	MG_KG	J	Y	0.23	0.68
BAI-24A-025-00	6010B	DRY	19	7440-02-0	Nickel	21	MG_KG		Y	0.23	0.68
BAI-24A-025-00	6010B	DRY	19	7782-49-2	Selenium	0.62	MG_KG	U	N	0.17	0.62
BAI-24A-025-00	6010B	DRY	19	7440-22-4	Silver	0.31	MG_KG	J	Y	0.085	0.31
BAI-24A-025-00	6010B	DRY	19	7440-28-0	Thallium	0.62	MG_KG	U	N	0.18	0.62
BAI-24A-025-00	6010B	DRY	19	7440-62-2	Vanadium	36	MG_KG		Y	0.11	0.34
BAI-24A-025-00	6010B	DRY	19	7440-66-6	Zinc	120	MG_KG		Y	0.23	1.2
BAI-24A-025-18	6010B	DRY	12	7440-36-0	Antimony	44	MG_KG	J	Y	0.18	0.57
BAI-24A-025-18	6010B	DRY	12	7440-38-2	Arsenic	5.1	MG_KG		Y	0.092	0.28
BAI-24A-025-18	6010B	DRY	12	7440-39-3	Barium	140	MG_KG		Y	0.11	0.33
BAI-24A-025-18	6010B	DRY	12	7440-41-7	Beryllium	0.38	MG_KG		Y	0.022	0.11
BAI-24A-025-18	6010B	DRY	12	7440-43-9	Cadmium	0.14	MG_KG	J	Y	0.055	0.28
BAI-24A-025-18	6010B	DRY	12	7440-47-3	Chromium	13	MG_KG		Y	0.11	0.33
BAI-24A-025-18	6010B	DRY	12	7440-48-4	Cobalt	7	MG_KG		Y	0.22	0.66
BAI-24A-025-18	6010B	DRY	12	7440-50-8	Copper	260	MG_KG		Y	0.11	0.33
BAI-24A-025-18	7470A	DRY	12	7439-97-6	Mercury	0.011	MG_KG	J	Y	0.0071	0.023
BAI-24A-025-18	6010B	DRY	12	7439-98-7	Molybdenum	0.31	MG_KG	J	Y	0.22	0.66
BAI-24A-025-18	6010B	DRY	12	7440-02-0	Nickel	13	MG_KG		Y	0.22	0.66
BAI-24A-025-18	6010B	DRY	12	7782-49-2	Selenium	0.57	MG_KG	U	N	0.16	0.57
BAI-24A-025-18	6010B	DRY	12	7440-22-4	Silver	0.12	MG_KG	J	Y	0.082	0.28
BAI-24A-025-18	6010B	DRY	12	7440-28-0	Thallium	0.57	MG_KG	U	N	0.18	0.57
BAI-24A-025-18	6010B	DRY	12	7440-62-2	Vanadium	26	MG_KG		Y	0.11	0.33
BAI-24A-025-18	6010B	DRY	12	7440-66-6	Zinc	80	MG_KG		Y	0.22	1.1
BAI-24A-026-00	6010B	DRY	17	7440-38-2	Arsenic	6.5	MG_KG		Y	0.096	0.3
BAI-24A-026-00	6010B	DRY	17	7440-39-3	Barium	99	MG_KG		Y	0.12	0.35
BAI-24A-026-00	6010B	DRY	17	7440-41-7	Beryllium	0.49	MG_KG		Y	0.023	0.12
BAI-24A-026-00	6010B	DRY	17	7440-43-9	Cadmium	3	MG_KG		Y	0.058	0.3
BAI-24A-026-00	6010B	DRY	17	7440-47-3	Chromium	16	MG_KG		Y	0.12	0.35
BAI-24A-026-00	6010B	DRY	17	7440-48-4	Cobalt	9	MG_KG		Y	0.23	0.7
BAI-24A-026-00	7470A	DRY	17	7439-97-6	Mercury	0.016	MG_KG	J	Y	0.0073	0.024
BAI-24A-026-00	6010B	DRY	17	7439-98-7	Molybdenum	0.27	MG_KG	J	Y	0.23	0.7
BAI-24A-026-00	6010B	DRY	17	7440-02-0	Nickel	16	MG_KG		Y	0.23	0.7
BAI-24A-026-00	6010B	DRY	17	7782-49-2	Selenium	0.6	MG_KG	U	N	0.17	0.6
BAI-24A-026-00	6010B	DRY	17	7440-22-4	Silver	2.1	MG_KG		Y	0.087	0.3
BAI-24A-026-00	6010B	DRY	17	7440-28-0	Thallium	0.6	MG_KG	U	N	0.19	0.6
BAI-24A-026-00	6010B	DRY	17	7440-62-2	Vanadium	32	MG_KG		Y	0.12	0.35
BAI-24A-026-18	6010B	DRY	4	7440-36-0	Antimony	7	MG_KG	J	Y	0.15	0.52
BAI-24A-026-18	6010B	DRY	4	7440-38-2	Arsenic	4.9	MG_KG		Y	0.078	0.26
BAI-24A-026-18	6010B	DRY	4	7440-39-3	Barium	96	MG_KG		Y	0.094	0.28
BAI-24A-026-18	6010B	DRY	4	7440-41-7	Beryllium	0.48	MG_KG		Y	0.019	0.1
BAI-24A-026-18	6010B	DRY	4	7440-43-9	Cadmium	0.15	MG_KG	J	Y	0.047	0.26
BAI-24A-026-18	6010B	DRY	4	7440-47-3	Chromium	16	MG_KG		Y	0.094	0.28
BAI-24A-026-18	6010B	DRY	4	7440-48-4	Cobalt	8.4	MG_KG		Y	0.19	0.56
BAI-24A-026-18	6010B	DRY	4	7440-50-8	Copper	43	MG_KG		Y	0.094	0.28
BAI-24A-026-18	7470A	DRY	4	7439-97-6	Mercury	0.0091	MG_KG	J	Y	0.0067	0.021
BAI-24A-026-18	6010B	DRY	4	7439-98-7	Molybdenum	0.27	MG_KG	J	Y	0.19	0.56
BAI-24A-026-18	6010B	DRY	4	7440-02-0	Nickel	15	MG_KG		Y	0.19	0.56
BAI-24A-026-18	6010B	DRY	4	7782-49-2	Selenium	0.52	MG_KG	U	N	0.14	0.52
BAI-24A-026-18	6010B	DRY	4	7440-22-4	Silver	0.082	MG_KG	J	Y	0.07	0.26
BAI-24A-026-18	6010B	DRY	4	7440-28-0	Thallium	0.52	MG_KG	U	N	0.15	0.52
BAI-24A-026-18	6010B	DRY	4	7440-62-2	Vanadium	32	MG_KG		Y	0.094	0.28
BAI-24A-026-18	6010B	DRY	4	7440-66-6	Zinc	53	MG_KG		Y	0.19	1
BAI-24A-027-00	6010B	DRY	16	7440-36-0	Antimony	11	MG_KG	J	Y	0.19	0.6

Table A1-1. Raw Data, IR Site 24A, Former Naval Weapons Station Seal Beach Detachment Concord

SAMPLE_NAME	ANALYTICAL_METHOD	SAMPLE_BASIS	PERCENT_MOISTURE	ANALYTE_ID	ANALYTE NAME	ANALYTE_VALUE	RESULT_UNITS	FINAL_QUALIFIER	DETECTED	MDL	MRL
BAI-24A-027-00	6010B	DRY	16	7440-38-2	Arsenic	5.9	MG_KG		Y	0.097	0.3
BAI-24A-027-00	6010B	DRY	16	7440-39-3	Barium	100	MG_KG		Y	0.12	0.35
BAI-24A-027-00	6010B	DRY	16	7440-41-7	Beryllium	0.51	MG_KG		Y	0.023	0.12
BAI-24A-027-00	6010B	DRY	16	7440-43-9	Cadmium	0.15	MG_KG	J	Y	0.058	0.3
BAI-24A-027-00	6010B	DRY	16	7440-47-3	Chromium	16	MG_KG		Y	0.12	0.35
BAI-24A-027-00	6010B	DRY	16	7440-48-4	Cobalt	8.7	MG_KG		Y	0.23	0.7
BAI-24A-027-00	6010B	DRY	16	7440-50-8	Copper	110	MG_KG		Y	0.12	0.35
BAI-24A-027-00	7470A	DRY	16	7439-97-6	Mercury	0.016	MG_KG	J	Y	0.0072	0.024
BAI-24A-027-00	6010B	DRY	16	7439-98-7	Molybdenum	0.4	MG_KG	J	Y	0.23	0.7
BAI-24A-027-00	6010B	DRY	16	7440-02-0	Nickel	17	MG_KG		Y	0.23	0.7
BAI-24A-027-00	6010B	DRY	16	7782-49-2	Selenium	0.6	MG_KG	U	N	0.17	0.6
BAI-24A-027-00	6010B	DRY	16	7440-22-4	Silver	0.17	MG_KG	J	Y	0.087	0.3
BAI-24A-027-00	6010B	DRY	16	7440-28-0	Thallium	0.6	MG_KG	U	N	0.19	0.6
BAI-24A-027-00	6010B	DRY	16	7440-62-2	Vanadium	35	MG_KG		Y	0.12	0.35
BAI-24A-027-00	6010B	DRY	16	7440-66-6	Zinc	68	MG_KG		Y	0.23	1.2
BAI-24A-027-18	6010B	DRY	7	7440-36-0	Antimony	4.3	MG_KG	J	Y	0.17	0.54
BAI-24A-027-18	6010B	DRY	7	7440-38-2	Arsenic	5.2	MG_KG		Y	0.087	0.27
BAI-24A-027-18	6010B	DRY	7	7440-39-3	Barium	120	MG_KG		Y	0.1	0.31
BAI-24A-027-18	6010B	DRY	7	7440-41-7	Beryllium	0.57	MG_KG		Y	0.021	0.11
BAI-24A-027-18	6010B	DRY	7	7440-43-9	Cadmium	0.14	MG_KG	J	Y	0.052	0.27
BAI-24A-027-18	6010B	DRY	7	7440-47-3	Chromium	18	MG_KG		Y	0.1	0.31
BAI-24A-027-18	6010B	DRY	7	7440-48-4	Cobalt	9.2	MG_KG		Y	0.21	0.63
BAI-24A-027-18	6010B	DRY	7	7440-50-8	Copper	16	MG_KG		Y	0.1	0.31
BAI-24A-027-18	6010B	DRY	7	7439-92-1	Lead	11	MG_KG		Y	0.076	0.27
BAI-24A-027-18	7470A	DRY	7	7439-97-6	Mercury	0.01	MG_KG	J	Y	0.0061	0.022
BAI-24A-027-18	6010B	DRY	7	7439-98-7	Molybdenum	0.27	MG_KG	J	Y	0.21	0.63
BAI-24A-027-18	6010B	DRY	7	7440-02-0	Nickel	18	MG_KG		Y	0.21	0.63
BAI-24A-027-18	6010B	DRY	7	7782-49-2	Selenium	0.54	MG_KG	U	N	0.15	0.54
BAI-24A-027-18	6010B	DRY	7	7440-22-4	Silver	0.1	MG_KG	J	Y	0.078	0.27
BAI-24A-027-18	6010B	DRY	7	7440-28-0	Thallium	0.54	MG_KG	U	N	0.17	0.54
BAI-24A-027-18	6010B	DRY	7	7440-62-2	Vanadium	37	MG_KG		Y	0.1	0.31
BAI-24A-027-18	6010B	DRY	7	7440-66-6	Zinc	51	MG_KG		Y	0.21	1.1
BAI-24A-028-00	6010B	DRY	16	7440-36-0	Antimony	13	MG_KG	J	Y	0.18	0.6
BAI-24A-028-00	6010B	DRY	16	7440-38-2	Arsenic	6.6	MG_KG		Y	0.095	0.3
BAI-24A-028-00	6010B	DRY	16	7440-39-3	Barium	110	MG_KG		Y	0.11	0.34
BAI-24A-028-00	6010B	DRY	16	7440-41-7	Beryllium	0.57	MG_KG		Y	0.023	0.12
BAI-24A-028-00	6010B	DRY	16	7440-43-9	Cadmium	0.17	MG_KG	J	Y	0.057	0.3
BAI-24A-028-00	6010B	DRY	16	7440-47-3	Chromium	18	MG_KG		Y	0.11	0.34
BAI-24A-028-00	6010B	DRY	16	7440-48-4	Cobalt	9.3	MG_KG		Y	0.23	0.69
BAI-24A-028-00	6010B	DRY	16	7440-50-8	Copper	79	MG_KG		Y	0.11	0.34
BAI-24A-028-00	7470A	DRY	16	7439-97-6	Mercury	0.015	MG_KG	J	Y	0.0072	0.024
BAI-24A-028-00	6010B	DRY	16	7439-98-7	Molybdenum	0.38	MG_KG	J	Y	0.23	0.69
BAI-24A-028-00	6010B	DRY	16	7440-02-0	Nickel	18	MG_KG		Y	0.23	0.69
BAI-24A-028-00	6010B	DRY	16	7782-49-2	Selenium	0.6	MG_KG	U	N	0.17	0.6
BAI-24A-028-00	6010B	DRY	16	7440-22-4	Silver	0.21	MG_KG	J	Y	0.086	0.3
BAI-24A-028-00	6010B	DRY	16	7440-28-0	Thallium	0.6	MG_KG	U	N	0.19	0.6
BAI-24A-028-00	6010B	DRY	16	7440-62-2	Vanadium	39	MG_KG		Y	0.11	0.34
BAI-24A-028-00	6010B	DRY	16	7440-66-6	Zinc	64	MG_KG		Y	0.23	1.2
BAI-24A-028-18	6010B	DRY	6	7440-36-0	Antimony	2.5	MG_KG	J	Y	0.16	0.53
BAI-24A-028-18	6010B	DRY	6	7440-38-2	Arsenic	4.5	MG_KG		Y	0.083	0.27
BAI-24A-028-18	6010B	DRY	6	7440-39-3	Barium	98	MG_KG		Y	0.1	0.3
BAI-24A-028-18	6010B	DRY	6	7440-41-7	Beryllium	0.47	MG_KG		Y	0.02	0.11
BAI-24A-028-18	6010B	DRY	6	7440-43-9	Cadmium	0.13	MG_KG	J	Y	0.05	0.27
BAI-24A-028-18	6010B	DRY	6	7440-47-3	Chromium	15	MG_KG		Y	0.1	0.3

Table A1-1. Raw Data, IR Site 24A, Former Naval Weapons Station Seal Beach Detachment Concord

SAMPLE_NAME	ANALYTICAL_METHOD	SAMPLE_BASIS	PERCENT_MOISTURE	ANALYTE_ID	ANALYTE NAME	ANALYTE_VALUE	RESULT_UNITS	FINAL_QUALIFIER	DETECTED	MDL	MRL
BAI-24A-028-18	6010B	DRY	6	7440-48-4	Cobalt	7.5	MG_KG		Y	0.2	0.6
BAI-24A-028-18	6010B	DRY	6	7440-50-8	Copper	16	MG_KG		Y	0.1	0.3
BAI-24A-028-18	6010B	DRY	6	7439-92-1	Lead	37	MG_KG		Y	0.073	0.27
BAI-24A-028-18	7470A	DRY	6	7439-97-6	Mercury	0.012	MG_KG	J	Y	0.0068	0.022
BAI-24A-028-18	6010B	DRY	6	7439-98-7	Molybdenum	0.25	MG_KG	J	Y	0.2	0.6
BAI-24A-028-18	6010B	DRY	6	7440-02-0	Nickel	15	MG_KG		Y	0.2	0.6
BAI-24A-028-18	6010B	DRY	6	7782-49-2	Selenium	0.53	MG_KG	U	N	0.15	0.53
BAI-24A-028-18	6010B	DRY	6	7440-22-4	Silver	0.12	MG_KG	J	Y	0.075	0.27
BAI-24A-028-18	6010B	DRY	6	7440-28-0	Thallium	0.53	MG_KG	U	N	0.16	0.53
BAI-24A-028-18	6010B	DRY	6	7440-62-2	Vanadium	31	MG_KG		Y	0.1	0.3
BAI-24A-028-18	6010B	DRY	6	7440-66-6	Zinc	43	MG_KG		Y	0.2	1.1
BAI-24A-029-00	6010B	DRY	17	7440-36-0	Antimony	280	MG_KG	J	Y	0.19	0.6
BAI-24A-029-00	6010B	DRY	17	7440-38-2	Arsenic	140	MG_KG		Y	0.099	0.3
BAI-24A-029-00	6010B	DRY	17	7440-39-3	Barium	120	MG_KG		Y	0.12	0.36
BAI-24A-029-00	6010B	DRY	17	7440-41-7	Beryllium	0.62	MG_KG		Y	0.024	0.12
BAI-24A-029-00	6010B	DRY	17	7440-43-9	Cadmium	0.32	MG_KG		Y	0.06	0.3
BAI-24A-030-00	8330	WET		2691-41-0	HMX	200	UG_KG	U	N	14	200
BAI-24A-030-00	8330	WET		121-82-4	RDX	200	UG_KG	U	N	20	200
BAI-24A-030-00	8330	WET		99-35-4	1,3,5-Trinitrobenzene	200	UG_KG	U	N	27	200
BAI-24A-030-00	8330	WET		99-65-0	1,3-Dinitrobenzene	200	UG_KG	U	N	4.5	200
BAI-24A-030-00	8330	WET		98-95-3	Nitrobenzene	200	UG_KG	U	N	16	200
BAI-24A-030-00	8330	WET		479-45-8	Tetryl	200	UG_KG	U	N	55	200
BAI-24A-030-00	8330	WET		118-96-7	2,4,6-Trinitrotoluene	200	UG_KG	U	N	30	200
BAI-24A-030-00	8330	WET		35572-78-2	2-amino-4,6-Dinitrotoluene	200	UG_KG	U	N	18	200
BAI-24A-030-00	8330	WET		19406-51-0	4-amino-2,6-Dinitrotoluene	200	UG_KG	U	N	39	200
BAI-24A-030-00	8330	WET		121-14-2	2,4-Dinitrotoluene	200	UG_KG	U	N	20	200
BAI-24A-030-00	8330	WET		606-20-2	2,6-Dinitrotoluene	200	UG_KG	U	N	22	200
BAI-24A-030-00	8330	WET		88-72-2	2-Nitrotoluene	390	UG_KG	U	N	28	390
BAI-24A-030-00	8330	WET		99-99-0	4-Nitrotoluene	390	UG_KG	U	N	28	390
BAI-24A-030-00	8330	WET		99-08-1	3-Nitrotoluene	390	UG_KG	U	N	39	390
BAI-24A-030-00	6010B	DRY	17	7440-36-0	Antimony	13	MG_KG	J	Y	0.18	0.6
BAI-24A-030-00	6010B	DRY	17	7440-38-2	Arsenic	6.5	MG_KG		Y	0.094	0.3
BAI-24A-030-00	6010B	DRY	17	7440-39-3	Barium	110	MG_KG		Y	0.11	0.34
BAI-24A-030-00	6010B	DRY	17	7440-41-7	Beryllium	0.57	MG_KG		Y	0.023	0.12
BAI-24A-030-00	6010B	DRY	17	7440-43-9	Cadmium	0.73	MG_KG		Y	0.057	0.3
BAI-24A-030-00	6010B	DRY	17	7440-47-3	Chromium	18	MG_KG		Y	0.11	0.34
BAI-24A-030-00	6010B	DRY	17	7440-48-4	Cobalt	9.6	MG_KG		Y	0.23	0.68
BAI-24A-030-00	6010B	DRY	17	7440-50-8	Copper	44	MG_KG	J	Y	0.11	0.34
BAI-24A-030-00	7470A	DRY	17	7439-97-6	Mercury	0.026	MG_KG	U	N	0.0082	0.026
BAI-24A-030-00	6010B	DRY	17	7439-98-7	Molybdenum	0.35	MG_KG	J	Y	0.23	0.68
BAI-24A-030-00	6010B	DRY	17	7440-02-0	Nickel	18	MG_KG		Y	0.23	0.68
BAI-24A-030-00	6010B	DRY	17	7782-49-2	Selenium	0.6	MG_KG	U	N	0.17	0.6
BAI-24A-030-00	6010B	DRY	17	7440-22-4	Silver	0.17	MG_KG	J	Y	0.085	0.3
BAI-24A-030-00	6010B	DRY	17	7440-28-0	Thallium	0.6	MG_KG	U	N	0.19	0.6
BAI-24A-030-00	6010B	DRY	17	7440-62-2	Vanadium	37	MG_KG		Y	0.11	0.34
BAI-24A-030-00	6010B	DRY	17	7440-66-6	Zinc	55	MG_KG		Y	0.23	1.2
BAI-24A-030-00	D2216	WET		-86	Percent Moisture	17	PCT		Y		1
BAI-24A-031-00	8330	WET		2691-41-0	HMX	200	UG_KG	U	N	26	200
BAI-24A-031-00	8330	WET		121-82-4	RDX	200	UG_KG	U	N	39	200
BAI-24A-031-00	8330	WET		99-35-4	1,3,5-Trinitrobenzene	200	UG_KG	U	N	35	200
BAI-24A-031-00	8330	WET		99-65-0	1,3-Dinitrobenzene	200	UG_KG	U	N	20	200
BAI-24A-031-00	8330	WET		98-95-3	Nitrobenzene	200	UG_KG	U	N	18	200
BAI-24A-031-00	8330	WET		479-45-8	Tetryl	200	UG_KG	U	N	65	200
BAI-24A-031-00	8330	WET		118-96-7	2,4,6-Trinitrotoluene	200	UG_KG	U	N	13	200

Table A1-1. Raw Data, IR Site 24A, Former Naval Weapons Station Seal Beach Detachment Concord

SAMPLE_NAME	ANALYTICAL_METHOD	SAMPLE_BASIS	PERCENT_MOISTURE	ANALYTE_ID	ANALYTE NAME	ANALYTE_VALUE	RESULT_UNITS	FINAL_QUALIFIER	DETECTED	MDL	MRL
BAI-24A-031-00	8330	WET		35572-78-2	2-amino-4,6-Dinitrotoluene	200	UG_KG	U	N	26	200
BAI-24A-031-00	8330	WET		19406-51-0	4-amino-2,6-Dinitrotoluene	200	UG_KG	U	N	28	200
BAI-24A-031-00	8330	WET		121-14-2	2,4-Dinitrotoluene	200	UG_KG	U	N	19	200
BAI-24A-031-00	8330	WET		606-20-2	2,6-Dinitrotoluene	200	UG_KG	U	N	18	200
BAI-24A-031-00	8330	WET		88-72-2	2-Nitrotoluene	400	UG_KG	U	N	16	400
BAI-24A-031-00	8330	WET		99-99-0	4-Nitrotoluene	400	UG_KG	U	N	30	400
BAI-24A-031-00	8330	WET		99-08-1	3-Nitrotoluene	400	UG_KG	U	N	60	400
BAI-24A-031-18	8330	WET		2691-41-0	HMX	200	UG_KG	U	N	26	200
BAI-24A-031-18	8330	WET		121-82-4	RDX	200	UG_KG	U	N	39	200
BAI-24A-031-18	8330	WET		99-35-4	1,3,5-Trinitrobenzene	200	UG_KG	U	N	35	200
BAI-24A-031-18	8330	WET		99-65-0	1,3-Dinitrobenzene	200	UG_KG	U	N	20	200
BAI-24A-031-18	8330	WET		98-95-3	Nitrobenzene	200	UG_KG	U	N	18	200
BAI-24A-031-18	8330	WET		479-45-8	Tetryl	200	UG_KG	U	N	65	200
BAI-24A-031-18	8330	WET		118-96-7	2,4,6-Trinitrotoluene	200	UG_KG	U	N	13	200
BAI-24A-031-18	8330	WET		35572-78-2	2-amino-4,6-Dinitrotoluene	200	UG_KG	U	N	26	200
BAI-24A-031-18	8330	WET		19406-51-0	4-amino-2,6-Dinitrotoluene	200	UG_KG	U	N	28	200
BAI-24A-031-18	8330	WET		121-14-2	2,4-Dinitrotoluene	200	UG_KG	U	N	19	200
BAI-24A-031-18	8330	WET		606-20-2	2,6-Dinitrotoluene	200	UG_KG	U	N	18	200
BAI-24A-031-18	8330	WET		88-72-2	2-Nitrotoluene	400	UG_KG	U	N	16	400
BAI-24A-031-18	8330	WET		99-99-0	4-Nitrotoluene	400	UG_KG	U	N	30	400
BAI-24A-031-18	8330	WET		99-08-1	3-Nitrotoluene	400	UG_KG	U	N	60	400
BAI-24A-032-00	8330	WET		2691-41-0	HMX	190	UG_KG	U	N	26	190
BAI-24A-032-00	8330	WET		121-82-4	RDX	190	UG_KG	U	N	39	190
BAI-24A-032-00	8330	WET		99-35-4	1,3,5-Trinitrobenzene	190	UG_KG	U	N	34	190
BAI-24A-032-00	8330	WET		99-65-0	1,3-Dinitrobenzene	190	UG_KG	U	N	19	190
BAI-24A-032-00	8330	WET		98-95-3	Nitrobenzene	190	UG_KG	U	N	18	190
BAI-24A-032-00	8330	WET		479-45-8	Tetryl	190	UG_KG	U	N	64	190
BAI-24A-032-00	8330	WET		118-96-7	2,4,6-Trinitrotoluene	190	UG_KG	U	N	13	190
BAI-24A-032-00	8330	WET		35572-78-2	2-amino-4,6-Dinitrotoluene	190	UG_KG	U	N	26	190
BAI-24A-032-00	8330	WET		19406-51-0	4-amino-2,6-Dinitrotoluene	190	UG_KG	U	N	28	190
BAI-24A-032-00	8330	WET		121-14-2	2,4-Dinitrotoluene	190	UG_KG	U	N	19	190
BAI-24A-032-00	8330	WET		606-20-2	2,6-Dinitrotoluene	190	UG_KG	U	N	18	190
BAI-24A-032-00	8330	WET		88-72-2	2-Nitrotoluene	390	UG_KG	U	N	15	390
BAI-24A-032-00	8330	WET		99-99-0	4-Nitrotoluene	390	UG_KG	U	N	30	390
BAI-24A-032-00	8330	WET		99-08-1	3-Nitrotoluene	390	UG_KG	U	N	59	390
BAI-24A-032-18	8330	WET		2691-41-0	HMX	200	UG_KG	U	N	26	200
BAI-24A-032-18	8330	WET		121-82-4	RDX	200	UG_KG	U	N	39	200
BAI-24A-032-18	8330	WET		99-35-4	1,3,5-Trinitrobenzene	200	UG_KG	U	N	35	200
BAI-24A-032-18	8330	WET		99-65-0	1,3-Dinitrobenzene	200	UG_KG	U	N	20	200
BAI-24A-032-18	8330	WET		98-95-3	Nitrobenzene	200	UG_KG	U	N	18	200
BAI-24A-032-18	8330	WET		479-45-8	Tetryl	200	UG_KG	U	N	65	200
BAI-24A-032-18	8330	WET		118-96-7	2,4,6-Trinitrotoluene	200	UG_KG	U	N	13	200
BAI-24A-032-18	8330	WET		35572-78-2	2-amino-4,6-Dinitrotoluene	200	UG_KG	U	N	26	200
BAI-24A-032-18	8330	WET		19406-51-0	4-amino-2,6-Dinitrotoluene	200	UG_KG	U	N	28	200
BAI-24A-032-18	8330	WET		121-14-2	2,4-Dinitrotoluene	200	UG_KG	U	N	19	200
BAI-24A-032-18	8330	WET		606-20-2	2,6-Dinitrotoluene	200	UG_KG	U	N	18	200
BAI-24A-032-18	8330	WET		88-72-2	2-Nitrotoluene	400	UG_KG	U	N	16	400
BAI-24A-032-18	8330	WET		99-99-0	4-Nitrotoluene	400	UG_KG	U	N	31	400
BAI-24A-032-18	8330	WET		99-08-1	3-Nitrotoluene	400	UG_KG	U	N	61	400
BAI-24A-033-00	8330	WET		2691-41-0	HMX	200	UG_KG	U	N	26	200
BAI-24A-033-00	8330	WET		121-82-4	RDX	200	UG_KG	U	N	39	200
BAI-24A-033-00	8330	WET		99-35-4	1,3,5-Trinitrobenzene	200	UG_KG	U	N	35	200
BAI-24A-033-00	8330	WET		99-65-0	1,3-Dinitrobenzene	200	UG_KG	U	N	20	200
BAI-24A-033-00	8330	WET		98-95-3	Nitrobenzene	200	UG_KG	U	N	18	200

Table A1-1. Raw Data, IR Site 24A, Former Naval Weapons Station Seal Beach Detachment Concord

SAMPLE_NAME	ANALYTICAL_METHOD	SAMPLE_BASIS	PERCENT_MOISTURE	ANALYTE_ID	ANALYTE NAME	ANALYTE_VALUE	RESULT_UNITS	FINAL_QUALIFIER	DETECTED	MDL	MRL
BAI-24A-033-00	8330	WET		479-45-8	Tetryl	200	UG_KG	U	N	65	200
BAI-24A-033-00	8330	WET		118-96-7	2,4,6-Trinitrotoluene	200	UG_KG	U	N	13	200
BAI-24A-033-00	8330	WET		35572-78-2	2-amino-4,6-Dinitrotoluene	200	UG_KG	U	N	26	200
BAI-24A-033-00	8330	WET		19406-51-0	4-amino-2,6-Dinitrotoluene	200	UG_KG	U	N	28	200
BAI-24A-033-00	8330	WET		121-14-2	2,4-Dinitrotoluene	200	UG_KG	U	N	19	200
BAI-24A-033-00	8330	WET		606-20-2	2,6-Dinitrotoluene	200	UG_KG	U	N	18	200
BAI-24A-033-00	8330	WET		88-72-2	2-Nitrotoluene	400	UG_KG	U	N	16	400
BAI-24A-033-00	8330	WET		99-99-0	4-Nitrotoluene	400	UG_KG	U	N	30	400
BAI-24A-033-00	8330	WET		99-08-1	3-Nitrotoluene	400	UG_KG	U	N	60	400
BAI-24A-033-18	8330	WET		2691-41-0	HMX	200	UG_KG	U	N	26	200
BAI-24A-033-18	8330	WET		121-82-4	RDX	200	UG_KG	U	N	39	200
BAI-24A-033-18	8330	WET		99-35-4	1,3,5-Trinitrobenzene	200	UG_KG	U	N	35	200
BAI-24A-033-18	8330	WET		99-65-0	1,3-Dinitrobenzene	200	UG_KG	U	N	20	200
BAI-24A-033-18	8330	WET		98-95-3	Nitrobenzene	200	UG_KG	U	N	18	200
BAI-24A-033-18	8330	WET		479-45-8	Tetryl	200	UG_KG	U	N	65	200
BAI-24A-033-18	8330	WET		118-96-7	2,4,6-Trinitrotoluene	200	UG_KG	U	N	13	200
BAI-24A-033-18	8330	WET		35572-78-2	2-amino-4,6-Dinitrotoluene	200	UG_KG	U	N	26	200
BAI-24A-033-18	8330	WET		19406-51-0	4-amino-2,6-Dinitrotoluene	200	UG_KG	U	N	28	200
BAI-24A-033-18	8330	WET		121-14-2	2,4-Dinitrotoluene	200	UG_KG	U	N	19	200
BAI-24A-033-18	8330	WET		606-20-2	2,6-Dinitrotoluene	200	UG_KG	U	N	18	200
BAI-24A-033-18	8330	WET		88-72-2	2-Nitrotoluene	400	UG_KG	U	N	16	400
BAI-24A-033-18	8330	WET		99-99-0	4-Nitrotoluene	400	UG_KG	U	N	30	400
BAI-24A-033-18	8330	WET		99-08-1	3-Nitrotoluene	400	UG_KG	U	N	60	400
BAI-24A-034-00	8330	WET		2691-41-0	HMX	200	UG_KG	U	N	26	200
BAI-24A-034-00	8330	WET		121-82-4	RDX	200	UG_KG	U	N	39	200
BAI-24A-034-00	8330	WET		99-35-4	1,3,5-Trinitrobenzene	200	UG_KG	U	N	35	200
BAI-24A-034-00	8330	WET		99-65-0	1,3-Dinitrobenzene	200	UG_KG	U	N	20	200
BAI-24A-034-00	8330	WET		98-95-3	Nitrobenzene	200	UG_KG	U	N	18	200
BAI-24A-034-00	8330	WET		479-45-8	Tetryl	200	UG_KG	U	N	65	200
BAI-24A-034-00	8330	WET		118-96-7	2,4,6-Trinitrotoluene	200	UG_KG	U	N	13	200
BAI-24A-034-00	8330	WET		35572-78-2	2-amino-4,6-Dinitrotoluene	200	UG_KG	U	N	26	200
BAI-24A-034-00	8330	WET		19406-51-0	4-amino-2,6-Dinitrotoluene	200	UG_KG	U	N	28	200
BAI-24A-034-00	8330	WET		121-14-2	2,4-Dinitrotoluene	200	UG_KG	U	N	19	200
BAI-24A-034-00	8330	WET		606-20-2	2,6-Dinitrotoluene	200	UG_KG	U	N	18	200
BAI-24A-034-00	8330	WET		88-72-2	2-Nitrotoluene	400	UG_KG	U	N	16	400
BAI-24A-034-00	8330	WET		99-99-0	4-Nitrotoluene	400	UG_KG	U	N	30	400
BAI-24A-034-00	8330	WET		99-08-1	3-Nitrotoluene	400	UG_KG	U	N	60	400
BAI-24A-034-18	8330	WET		2691-41-0	HMX	200	UG_KG	U	N	26	200
BAI-24A-034-18	8330	WET		121-82-4	RDX	200	UG_KG	U	N	40	200
BAI-24A-034-18	8330	WET		99-35-4	1,3,5-Trinitrobenzene	200	UG_KG	U	N	35	200
BAI-24A-034-18	8330	WET		99-65-0	1,3-Dinitrobenzene	200	UG_KG	U	N	20	200
BAI-24A-034-18	8330	WET		98-95-3	Nitrobenzene	200	UG_KG	U	N	18	200
BAI-24A-034-18	8330	WET		479-45-8	Tetryl	200	UG_KG	U	N	66	200
BAI-24A-034-18	8330	WET		118-96-7	2,4,6-Trinitrotoluene	200	UG_KG	U	N	13	200
BAI-24A-034-18	8330	WET		35572-78-2	2-amino-4,6-Dinitrotoluene	200	UG_KG	U	N	26	200
BAI-24A-034-18	8330	WET		19406-51-0	4-amino-2,6-Dinitrotoluene	200	UG_KG	U	N	28	200
BAI-24A-034-18	8330	WET		121-14-2	2,4-Dinitrotoluene	200	UG_KG	U	N	19	200
BAI-24A-034-18	8330	WET		606-20-2	2,6-Dinitrotoluene	200	UG_KG	U	N	18	200
BAI-24A-034-18	8330	WET		88-72-2	2-Nitrotoluene	400	UG_KG	U	N	16	400
BAI-24A-034-18	8330	WET		99-99-0	4-Nitrotoluene	400	UG_KG	U	N	31	400
BAI-24A-034-18	8330	WET		99-08-1	3-Nitrotoluene	400	UG_KG	U	N	61	400
BAI-24A-035-18	8330	WET		2691-41-0	HMX	200	UG_KG	U	N	26	200
BAI-24A-035-18	8330	WET		121-82-4	RDX	200	UG_KG	U	N	39	200
BAI-24A-035-18	8330	WET		99-35-4	1,3,5-Trinitrobenzene	200	UG_KG	U	N	35	200

Table A1-1. Raw Data, IR Site 24A, Former Naval Weapons Station Seal Beach Detachment Concord

SAMPLE_NAME	ANALYTICAL_METHOD	SAMPLE_BASIS	PERCENT_MOISTURE	ANALYTE_ID	ANALYTE NAME	ANALYTE_VALUE	RESULT_UNITS	FINAL_QUALIFIER	DETECTED	MDL	MRL
BAI-24A-035-18	8330	WET		99-65-0	1,3-Dinitrobenzene	200	UG_KG	U	N	20	200
BAI-24A-035-18	8330	WET		98-95-3	Nitrobenzene	200	UG_KG	U	N	18	200
BAI-24A-035-18	8330	WET		479-45-8	Tetryl	200	UG_KG	U	N	65	200
BAI-24A-035-18	8330	WET		118-96-7	2,4,6-Trinitrotoluene	200	UG_KG	U	N	13	200
BAI-24A-035-18	8330	WET		35572-78-2	2-amino-4,6-Dinitrotoluene	200	UG_KG	U	N	26	200
BAI-24A-035-18	8330	WET		19406-51-0	4-amino-2,6-Dinitrotoluene	200	UG_KG	U	N	28	200
BAI-24A-035-18	8330	WET		121-14-2	2,4-Dinitrotoluene	200	UG_KG	U	N	19	200
BAI-24A-035-18	8330	WET		606-20-2	2,6-Dinitrotoluene	200	UG_KG	U	N	18	200
BAI-24A-035-18	8330	WET		88-72-2	2-Nitrotoluene	400	UG_KG	U	N	16	400
BAI-24A-035-18	8330	WET		99-99-0	4-Nitrotoluene	400	UG_KG	U	N	31	400
BAI-24A-035-18	8330	WET		99-08-1	3-Nitrotoluene	400	UG_KG	U	N	61	400
BAI-24A-036-00	8330	WET		2691-41-0	HMX	200	UG_KG	U	N	26	200
BAI-24A-036-00	8330	WET		121-82-4	RDX	200	UG_KG	U	N	39	200
BAI-24A-036-00	8330	WET		99-35-4	1,3,5-Trinitrobenzene	200	UG_KG	U	N	35	200
BAI-24A-036-00	8330	WET		99-65-0	1,3-Dinitrobenzene	200	UG_KG	U	N	20	200
BAI-24A-036-00	8330	WET		98-95-3	Nitrobenzene	200	UG_KG	U	N	18	200
BAI-24A-036-00	8330	WET		479-45-8	Tetryl	200	UG_KG	U	N	65	200
BAI-24A-036-00	8330	WET		118-96-7	2,4,6-Trinitrotoluene	200	UG_KG	U	N	13	200
BAI-24A-036-00	8330	WET		35572-78-2	2-amino-4,6-Dinitrotoluene	200	UG_KG	U	N	26	200
BAI-24A-036-00	8330	WET		19406-51-0	4-amino-2,6-Dinitrotoluene	200	UG_KG	U	N	28	200
BAI-24A-036-00	8330	WET		121-14-2	2,4-Dinitrotoluene	200	UG_KG	U	N	19	200
BAI-24A-036-00	8330	WET		606-20-2	2,6-Dinitrotoluene	200	UG_KG	U	N	18	200
BAI-24A-036-00	8330	WET		88-72-2	2-Nitrotoluene	400	UG_KG	U	N	16	400
BAI-24A-036-00	8330	WET		99-99-0	4-Nitrotoluene	400	UG_KG	U	N	30	400
BAI-24A-036-00	8330	WET		99-08-1	3-Nitrotoluene	400	UG_KG	U	N	60	400
BAI-24A-031-00	6010B	DRY	15	7440-36-0	Antimony	5.2	MG_KG	J	Y	0.18	0.59
BAI-24A-031-00	6010B	DRY	15	7440-38-2	Arsenic	4.8	MG_KG	J	Y	0.093	0.29
BAI-24A-031-00	6010B	DRY	15	7440-39-3	Barium	97	MG_KG		Y	0.11	0.34
BAI-24A-031-00	6010B	DRY	15	7440-41-7	Beryllium	0.52	MG_KG		Y	0.022	0.12
BAI-24A-031-00	6010B	DRY	15	7440-43-9	Cadmium	0.18	MG_KG	J	Y	0.056	0.29
BAI-24A-031-00	6010B	DRY	15	7440-47-3	Chromium	17	MG_KG		Y	0.11	0.34
BAI-24A-031-00	6010B	DRY	15	7440-48-4	Cobalt	9.6	MG_KG		Y	0.22	0.67
BAI-24A-031-00	6010B	DRY	15	7440-50-8	Copper	23	MG_KG		Y	0.11	0.34
BAI-24A-031-00	6010B	DRY	15	7439-92-1	Lead	410	MG_KG	J	Y	0.082	0.29
BAI-24A-031-00	7470A	DRY	15	7439-97-6	Mercury	0.024	MG_KG	U	N	0.0073	0.024
BAI-24A-031-00	6010B	DRY	15	7439-98-7	Molybdenum	0.62	MG_KG	J	Y	0.22	0.67
BAI-24A-031-00	6010B	DRY	15	7440-02-0	Nickel	18	MG_KG		Y	0.22	0.67
BAI-24A-031-00	6010B	DRY	15	7782-49-2	Selenium	0.59	MG_KG	U	N	0.16	0.59
BAI-24A-031-00	6010B	DRY	15	7440-22-4	Silver	0.095	MG_KG	J	Y	0.084	0.29
BAI-24A-031-00	6010B	DRY	15	7440-28-0	Thallium	0.59	MG_KG	U	N	0.18	0.59
BAI-24A-031-00	6010B	DRY	15	7440-62-2	Vanadium	33	MG_KG		Y	0.11	0.34
BAI-24A-031-00	6010B	DRY	15	7440-66-6	Zinc	53	MG_KG		Y	0.22	1.2
BAI-24A-031-18	6010B	DRY	11	7440-36-0	Antimony	2.4	MG_KG	J	Y	0.17	0.56
BAI-24A-031-18	6010B	DRY	11	7440-38-2	Arsenic	4	MG_KG	J	Y	0.086	0.28
BAI-24A-031-18	6010B	DRY	11	7440-39-3	Barium	110	MG_KG		Y	0.1	0.31
BAI-24A-031-18	6010B	DRY	11	7440-41-7	Beryllium	0.44	MG_KG		Y	0.021	0.11
BAI-24A-031-18	6010B	DRY	11	7440-43-9	Cadmium	0.14	MG_KG	J	Y	0.052	0.28
BAI-24A-031-18	6010B	DRY	11	7440-47-3	Chromium	15	MG_KG		Y	0.1	0.31
BAI-24A-031-18	6010B	DRY	11	7440-48-4	Cobalt	7.9	MG_KG		Y	0.21	0.62
BAI-24A-031-18	6010B	DRY	11	7440-50-8	Copper	12	MG_KG		Y	0.1	0.31
BAI-24A-031-18	6010B	DRY	11	7439-92-1	Lead	5.5	MG_KG	J	Y	0.076	0.28
BAI-24A-031-18	7470A	DRY	11	7439-97-6	Mercury	0.022	MG_KG	U	N	0.000075	0.022
BAI-24A-031-18	6010B	DRY	11	7439-98-7	Molybdenum	0.62	MG_KG	U	N	0.21	0.62
BAI-24A-031-18	6010B	DRY	11	7440-02-0	Nickel	15	MG_KG		Y	0.21	0.62

Table A1-1. Raw Data, IR Site 24A, Former Naval Weapons Station Seal Beach Detachment Concord

SAMPLE_NAME	ANALYTICAL_METHOD	SAMPLE_BASIS	PERCENT_MOISTURE	ANALYTE_ID	ANALYTE NAME	ANALYTE_VALUE	RESULT_UNITS	FINAL_QUALIFIER	DETECTED	MDL	MRL
BAI-24A-031-18	6010B	DRY	11	7782-49-2	Selenium	0.56	MG_KG	U	N	0.15	0.56
BAI-24A-031-18	6010B	DRY	11	7440-22-4	Silver	0.28	MG_KG	U	N	0.078	0.28
BAI-24A-031-18	6010B	DRY	11	7440-28-0	Thallium	0.56	MG_KG	U	N	0.17	0.56
BAI-24A-031-18	6010B	DRY	11	7440-62-2	Vanadium	30	MG_KG		Y	0.1	0.31
BAI-24A-031-18	6010B	DRY	11	7440-66-6	Zinc	44	MG_KG		Y	0.21	1.1
BAI-24A-032-00	6010B	DRY	16	7440-36-0	Antimony	33	MG_KG	J	Y	0.18	0.6
BAI-24A-032-00	6010B	DRY	16	7440-38-2	Arsenic	7.2	MG_KG	J	Y	0.094	0.3
BAI-24A-032-00	6010B	DRY	16	7440-39-3	Barium	110	MG_KG		Y	0.11	0.34
BAI-24A-032-00	6010B	DRY	16	7440-41-7	Beryllium	0.53	MG_KG		Y	0.023	0.12
BAI-24A-032-00	6010B	DRY	16	7440-43-9	Cadmium	0.19	MG_KG	J	Y	0.057	0.3
BAI-24A-032-00	6010B	DRY	16	7440-47-3	Chromium	17	MG_KG		Y	0.11	0.34
BAI-24A-032-00	6010B	DRY	16	7440-48-4	Cobalt	9.1	MG_KG		Y	0.23	0.68
BAI-24A-032-00	6010B	DRY	16	7440-50-8	Copper	110	MG_KG		Y	0.11	0.34
BAI-24A-032-00	7470A	DRY	16	7439-97-6	Mercury	0.024	MG_KG	U	N	0.0076	0.024
BAI-24A-032-00	6010B	DRY	16	7439-98-7	Molybdenum	0.68	MG_KG	U	N	0.23	0.68
BAI-24A-032-00	6010B	DRY	16	7440-02-0	Nickel	18	MG_KG		Y	0.23	0.68
BAI-24A-032-00	6010B	DRY	16	7782-49-2	Selenium	0.6	MG_KG	U	N	0.17	0.6
BAI-24A-032-00	6010B	DRY	16	7440-22-4	Silver	0.18	MG_KG	J	Y	0.085	0.3
BAI-24A-032-00	6010B	DRY	16	7440-28-0	Thallium	0.6	MG_KG	U	N	0.18	0.6
BAI-24A-032-00	6010B	DRY	16	7440-62-2	Vanadium	35	MG_KG		Y	0.11	0.34
BAI-24A-032-00	6010B	DRY	16	7440-66-6	Zinc	64	MG_KG		Y	0.23	1.2
BAI-24A-032-18	6010B	DRY	8	7440-36-0	Antimony	2.7	MG_KG	J	Y	0.16	0.54
BAI-24A-032-18	6010B	DRY	8	7440-38-2	Arsenic	4.2	MG_KG	J	Y	0.081	0.27
BAI-24A-032-18	6010B	DRY	8	7440-39-3	Barium	79	MG_KG		Y	0.098	0.29
BAI-24A-032-18	6010B	DRY	8	7440-41-7	Beryllium	0.5	MG_KG		Y	0.02	0.11
BAI-24A-032-18	6010B	DRY	8	7440-43-9	Cadmium	0.15	MG_KG	J	Y	0.049	0.27
BAI-24A-032-18	6010B	DRY	8	7440-47-3	Chromium	16	MG_KG		Y	0.098	0.29
BAI-24A-032-18	6010B	DRY	8	7440-48-4	Cobalt	8.6	MG_KG		Y	0.2	0.59
BAI-24A-032-18	6010B	DRY	8	7440-50-8	Copper	15	MG_KG		Y	0.098	0.29
BAI-24A-032-18	6010B	DRY	8	7439-92-1	Lead	23	MG_KG	J	Y	0.072	0.27
BAI-24A-032-18	7470A	DRY	8	7439-97-6	Mercury	0.023	MG_KG	U	N	0.0073	0.023
BAI-24A-032-18	6010B	DRY	8	7439-98-7	Molybdenum	0.33	MG_KG	J	Y	0.2	0.59
BAI-24A-032-18	6010B	DRY	8	7440-02-0	Nickel	16	MG_KG		Y	0.2	0.59
BAI-24A-032-18	6010B	DRY	8	7782-49-2	Selenium	0.54	MG_KG	U	N	0.14	0.54
BAI-24A-032-18	6010B	DRY	8	7440-22-4	Silver	0.11	MG_KG	J	Y	0.073	0.27
BAI-24A-032-18	6010B	DRY	8	7440-28-0	Thallium	0.54	MG_KG	U	N	0.16	0.54
BAI-24A-032-18	6010B	DRY	8	7440-62-2	Vanadium	33	MG_KG		Y	0.098	0.29
BAI-24A-032-18	6010B	DRY	8	7440-66-6	Zinc	52	MG_KG		Y	0.2	1.1
BAI-24A-033-00	6010B	DRY	15	7440-36-0	Antimony	4.8	MG_KG	J	Y	0.18	0.59
BAI-24A-033-00	6010B	DRY	15	7440-38-2	Arsenic	9.7	MG_KG	J	Y	0.094	0.29
BAI-24A-033-00	6010B	DRY	15	7440-39-3	Barium	130	MG_KG		Y	0.11	0.34
BAI-24A-033-00	6010B	DRY	15	7440-41-7	Beryllium	0.5	MG_KG		Y	0.023	0.12
BAI-24A-033-00	6010B	DRY	15	7440-43-9	Cadmium	0.18	MG_KG	J	Y	0.057	0.29
BAI-24A-033-00	6010B	DRY	15	7440-47-3	Chromium	22	MG_KG		Y	0.11	0.34
BAI-24A-033-00	6010B	DRY	15	7440-48-4	Cobalt	9.3	MG_KG		Y	0.23	0.68
BAI-24A-033-00	6010B	DRY	15	7440-50-8	Copper	52	MG_KG		Y	0.11	0.34
BAI-24A-033-00	7470A	DRY	15	7439-97-6	Mercury	0.024	MG_KG	U	N	0.0075	0.024
BAI-24A-033-00	6010B	DRY	15	7439-98-7	Molybdenum	0.41	MG_KG	J	Y	0.23	0.68
BAI-24A-033-00	6010B	DRY	15	7440-02-0	Nickel	17	MG_KG		Y	0.23	0.68
BAI-24A-033-00	6010B	DRY	15	7782-49-2	Selenium	0.59	MG_KG	U	N	0.17	0.59
BAI-24A-033-00	6010B	DRY	15	7440-22-4	Silver	0.29	MG_KG	U	N	0.085	0.29
BAI-24A-033-00	6010B	DRY	15	7440-28-0	Thallium	0.59	MG_KG	U	N	0.18	0.59
BAI-24A-033-00	6010B	DRY	15	7440-62-2	Vanadium	34	MG_KG		Y	0.11	0.34
BAI-24A-033-00	6010B	DRY	15	7440-66-6	Zinc	76	MG_KG		Y	0.23	1.2

Table A1-1. Raw Data, IR Site 24A, Former Naval Weapons Station Seal Beach Detachment Concord

SAMPLE_NAME	ANALYTICAL_METHOD	SAMPLE_BASIS	PERCENT_MOISTURE	ANALYTE_ID	ANALYTE NAME	ANALYTE_VALUE	RESULT_UNITS	FINAL_QUALIFIER	DETECTED	MDL	MRL
BAI-24A-033-18	6010B	DRY	6	7440-36-0	Antimony	7.2	MG_KG	J	Y	0.16	0.53
BAI-24A-033-18	6010B	DRY	6	7440-38-2	Arsenic	4.7	MG_KG	J	Y	0.083	0.27
BAI-24A-033-18	6010B	DRY	6	7440-39-3	Barium	130	MG_KG		Y	0.099	0.3
BAI-24A-033-18	6010B	DRY	6	7440-41-7	Beryllium	0.47	MG_KG		Y	0.02	0.11
BAI-24A-033-18	6010B	DRY	6	7440-43-9	Cadmium	0.15	MG_KG	J	Y	0.05	0.27
BAI-24A-033-18	6010B	DRY	6	7440-47-3	Chromium	18	MG_KG		Y	0.099	0.3
BAI-24A-033-18	6010B	DRY	6	7440-48-4	Cobalt	9.3	MG_KG		Y	0.2	0.6
BAI-24A-033-18	6010B	DRY	6	7440-50-8	Copper	83	MG_KG		Y	0.099	0.3
BAI-24A-033-18	7470A	DRY	6	7439-97-6	Mercury	0.021	MG_KG	U	N	0.0067	0.021
BAI-24A-033-18	6010B	DRY	6	7439-98-7	Molybdenum	0.39	MG_KG	J	Y	0.2	0.6
BAI-24A-033-18	6010B	DRY	6	7440-02-0	Nickel	16	MG_KG		Y	0.2	0.6
BAI-24A-033-18	6010B	DRY	6	7782-49-2	Selenium	0.53	MG_KG	U	N	0.15	0.53
BAI-24A-033-18	6010B	DRY	6	7440-22-4	Silver	0.27	MG_KG	U	N	0.074	0.27
BAI-24A-033-18	6010B	DRY	6	7440-28-0	Thallium	0.53	MG_KG	U	N	0.16	0.53
BAI-24A-033-18	6010B	DRY	6	7440-62-2	Vanadium	33	MG_KG		Y	0.099	0.3
BAI-24A-033-18	6010B	DRY	6	7440-66-6	Zinc	71	MG_KG		Y	0.2	1.1
BAI-24A-034-00	6010B	DRY	16	7440-36-0	Antimony	3.1	MG_KG	J	Y	0.18	0.6
BAI-24A-034-00	6010B	DRY	16	7440-38-2	Arsenic	5.8	MG_KG	J	Y	0.092	0.3
BAI-24A-034-00	6010B	DRY	16	7440-39-3	Barium	120	MG_KG		Y	0.11	0.33
BAI-24A-034-00	6010B	DRY	16	7440-41-7	Beryllium	0.59	MG_KG		Y	0.022	0.12
BAI-24A-034-00	6010B	DRY	16	7440-43-9	Cadmium	0.19	MG_KG	J	Y	0.056	0.3
BAI-24A-034-00	6010B	DRY	16	7440-47-3	Chromium	19	MG_KG		Y	0.11	0.33
BAI-24A-034-00	6010B	DRY	16	7440-48-4	Cobalt	12	MG_KG		Y	0.22	0.67
BAI-24A-034-00	6010B	DRY	16	7440-50-8	Copper	19	MG_KG		Y	0.11	0.33
BAI-24A-034-00	6010B	DRY	16	7439-92-1	Lead	120	MG_KG	J	Y	0.081	0.3
BAI-24A-034-00	7470A	DRY	16	7439-97-6	Mercury	0.024	MG_KG	U	N	0.0076	0.024
BAI-24A-034-00	6010B	DRY	16	7439-98-7	Molybdenum	0.25	MG_KG	J	Y	0.22	0.67
BAI-24A-034-00	6010B	DRY	16	7440-02-0	Nickel	20	MG_KG		Y	0.22	0.67
BAI-24A-034-00	6010B	DRY	16	7782-49-2	Selenium	0.6	MG_KG	U	N	0.16	0.6
BAI-24A-034-00	6010B	DRY	16	7440-22-4	Silver	0.3	MG_KG	U	N	0.083	0.3
BAI-24A-034-00	6010B	DRY	16	7440-28-0	Thallium	0.6	MG_KG	U	N	0.18	0.6
BAI-24A-034-00	6010B	DRY	16	7440-62-2	Vanadium	39	MG_KG		Y	0.11	0.33
BAI-24A-034-00	6010B	DRY	16	7440-66-6	Zinc	59	MG_KG		Y	0.22	1.2
BAI-24A-034-18	6010B	DRY	9	7440-36-0	Antimony	2.5	MG_KG	J	Y	0.16	0.55
BAI-24A-034-18	6010B	DRY	9	7440-38-2	Arsenic	5	MG_KG	J	Y	0.084	0.27
BAI-24A-034-18	6010B	DRY	9	7440-39-3	Barium	98	MG_KG		Y	0.1	0.3
BAI-24A-034-18	6010B	DRY	9	7440-41-7	Beryllium	0.54	MG_KG		Y	0.02	0.11
BAI-24A-034-18	6010B	DRY	9	7440-43-9	Cadmium	0.17	MG_KG	J	Y	0.05	0.27
BAI-24A-034-18	6010B	DRY	9	7440-47-3	Chromium	18	MG_KG		Y	0.1	0.3
BAI-24A-034-18	6010B	DRY	9	7440-48-4	Cobalt	8.6	MG_KG		Y	0.2	0.6
BAI-24A-034-18	6010B	DRY	9	7440-50-8	Copper	16	MG_KG		Y	0.1	0.3
BAI-24A-034-18	6010B	DRY	9	7439-92-1	Lead	19	MG_KG	J	Y	0.074	0.27
BAI-24A-034-18	7470A	DRY	9	7439-97-6	Mercury	0.022	MG_KG	U	N	0.0071	0.022
BAI-24A-034-18	6010B	DRY	9	7439-98-7	Molybdenum	0.28	MG_KG	J	Y	0.2	0.6
BAI-24A-034-18	6010B	DRY	9	7440-02-0	Nickel	18	MG_KG		Y	0.2	0.6
BAI-24A-034-18	6010B	DRY	9	7782-49-2	Selenium	0.55	MG_KG	U	N	0.15	0.55
BAI-24A-034-18	6010B	DRY	9	7440-22-4	Silver	0.095	MG_KG	J	Y	0.075	0.27
BAI-24A-034-18	6010B	DRY	9	7440-28-0	Thallium	0.55	MG_KG	U	N	0.16	0.55
BAI-24A-034-18	6010B	DRY	9	7440-62-2	Vanadium	36	MG_KG		Y	0.1	0.3
BAI-24A-034-18	6010B	DRY	9	7440-66-6	Zinc	53	MG_KG		Y	0.2	1.1
BAI-24A-035-18	6010B	DRY	9	7440-36-0	Antimony	5.4	MG_KG	J	Y	0.16	0.55
BAI-24A-035-18	6010B	DRY	9	7440-38-2	Arsenic	5.1	MG_KG	J	Y	0.084	0.27
BAI-24A-035-18	6010B	DRY	9	7440-39-3	Barium	93	MG_KG		Y	0.1	0.3
BAI-24A-035-18	6010B	DRY	9	7440-41-7	Beryllium	0.53	MG_KG		Y	0.02	0.11

Table A1-1. Raw Data, IR Site 24A, Former Naval Weapons Station Seal Beach Detachment Concord

SAMPLE_NAME	ANALYTICAL_METHOD	SAMPLE_BASIS	PERCENT_MOISTURE	ANALYTE_ID	ANALYTE NAME	ANALYTE_VALUE	RESULT_UNITS	FINAL_QUALIFIER	DETECTED	MDL	MRL
BAI-24A-035-18	6010B	DRY	9	7440-43-9	Cadmium	0.2	MG_KG	J	Y	0.05	0.27
BAI-24A-035-18	6010B	DRY	9	7440-47-3	Chromium	18	MG_KG		Y	0.1	0.3
BAI-24A-035-18	6010B	DRY	9	7440-48-4	Cobalt	9.5	MG_KG		Y	0.2	0.6
BAI-24A-035-18	6010B	DRY	9	7440-50-8	Copper	36	MG_KG		Y	0.1	0.3
BAI-24A-035-18	6010B	DRY	9	7439-92-1	Lead	230	MG_KG	J	Y	0.074	0.27
BAI-24A-035-18	7470A	DRY	9	7439-97-6	Mercury	0.023	MG_KG	U	N	0.0072	0.023
BAI-24A-035-18	6010B	DRY	9	7439-98-7	Molybdenum	0.38	MG_KG	J	Y	0.2	0.6
BAI-24A-035-18	6010B	DRY	9	7440-02-0	Nickel	17	MG_KG		Y	0.2	0.6
BAI-24A-035-18	6010B	DRY	9	7782-49-2	Selenium	0.55	MG_KG	U	N	0.15	0.55
BAI-24A-035-18	6010B	DRY	9	7440-22-4	Silver	0.096	MG_KG	J	Y	0.075	0.27
BAI-24A-035-18	6010B	DRY	9	7440-28-0	Thallium	0.55	MG_KG	U	N	0.16	0.55
BAI-24A-035-18	6010B	DRY	9	7440-62-2	Vanadium	35	MG_KG		Y	0.1	0.3
BAI-24A-035-18	6010B	DRY	9	7440-66-6	Zinc	58	MG_KG		Y	0.2	1.1
BAI-24A-036-00	6010B	DRY	14	7440-36-0	Antimony	2.6	MG_KG	J	Y	0.17	0.58
BAI-24A-036-00	6010B	DRY	14	7440-38-2	Arsenic	4.9	MG_KG	J	Y	0.088	0.29
BAI-24A-036-00	6010B	DRY	14	7440-39-3	Barium	120	MG_KG		Y	0.11	0.32
BAI-24A-036-00	6010B	DRY	14	7440-41-7	Beryllium	0.56	MG_KG		Y	0.021	0.12
BAI-24A-036-00	6010B	DRY	14	7440-43-9	Cadmium	0.19	MG_KG	J	Y	0.053	0.29
BAI-24A-036-00	6010B	DRY	14	7440-47-3	Chromium	19	MG_KG		Y	0.11	0.32
BAI-24A-036-00	6010B	DRY	14	7440-48-4	Cobalt	8.9	MG_KG		Y	0.21	0.63
BAI-24A-036-00	6010B	DRY	14	7440-50-8	Copper	17	MG_KG		Y	0.11	0.32
BAI-24A-036-00	6010B	DRY	14	7439-92-1	Lead	8.1	MG_KG	J	Y	0.077	0.29
BAI-24A-036-00	7470A	DRY	14	7439-97-6	Mercury	0.023	MG_KG	U	N	0.0066	0.023
BAI-24A-036-00	6010B	DRY	14	7439-98-7	Molybdenum	0.63	MG_KG	U	N	0.21	0.63
BAI-24A-036-00	6010B	DRY	14	7440-02-0	Nickel	18	MG_KG		Y	0.21	0.63
BAI-24A-036-00	6010B	DRY	14	7782-49-2	Selenium	0.58	MG_KG	U	N	0.15	0.58
BAI-24A-036-00	6010B	DRY	14	7440-22-4	Silver	0.19	MG_KG	J	Y	0.079	0.29
BAI-24A-036-00	6010B	DRY	14	7440-28-0	Thallium	0.58	MG_KG	U	N	0.17	0.58
BAI-24A-036-00	6010B	DRY	14	7440-62-2	Vanadium	37	MG_KG		Y	0.11	0.32
BAI-24A-036-00	6010B	DRY	14	7440-66-6	Zinc	57	MG_KG		Y	0.21	1.2
BAI-24A-031-00	D2216	WET		-86	Percent Moisture	15	PCT		Y		1
BAI-24A-031-18	D2216	WET		-86	Percent Moisture	11	PCT		Y		1
BAI-24A-032-00	D2216	WET		-86	Percent Moisture	16	PCT		Y		1
BAI-24A-032-18	D2216	WET		-86	Percent Moisture	8	PCT		Y		1
BAI-24A-033-00	D2216	WET		-86	Percent Moisture	15	PCT		Y		1
BAI-24A-033-18	D2216	WET		-86	Percent Moisture	6	PCT		Y		1
BAI-24A-034-00	D2216	WET		-86	Percent Moisture	16	PCT		Y		1
BAI-24A-034-18	D2216	WET		-86	Percent Moisture	9	PCT		Y		1
BAI-24A-035-18	D2216	WET		-86	Percent Moisture	9	PCT		Y		1
BAI-24A-036-00	D2216	WET		-86	Percent Moisture	14	PCT		Y		1
BAI-24A-035-00	8330	WET		2691-41-0	HMX	190	UG_KG	U	N	14	190
BAI-24A-035-00	8330	WET		121-82-4	RDX	190	UG_KG	U	N	20	190
BAI-24A-035-00	8330	WET		99-35-4	1,3,5-Trinitrobenzene	190	UG_KG	U	N	27	190
BAI-24A-035-00	8330	WET		99-65-0	1,3-Dinitrobenzene	190	UG_KG	U	N	4.5	190
BAI-24A-035-00	8330	WET		98-95-3	Nitrobenzene	190	UG_KG	U	N	16	190
BAI-24A-035-00	8330	WET		479-45-8	Tetryl	190	UG_KG	U	N	55	190
BAI-24A-035-00	8330	WET		118-96-7	2,4,6-Trinitrotoluene	190	UG_KG	U	N	30	190
BAI-24A-035-00	8330	WET		35572-78-2	2-amino-4,6-Dinitrotoluene	190	UG_KG	U	N	18	190
BAI-24A-035-00	8330	WET		19406-51-0	4-amino-2,6-Dinitrotoluene	190	UG_KG	U	N	38	190
BAI-24A-035-00	8330	WET		121-14-2	2,4-Dinitrotoluene	190	UG_KG	U	N	20	190
BAI-24A-035-00	8330	WET		606-20-2	2,6-Dinitrotoluene	190	UG_KG	U	N	22	190
BAI-24A-035-00	8330	WET		88-72-2	2-Nitrotoluene	390	UG_KG	U	N	28	390
BAI-24A-035-00	8330	WET		99-99-0	4-Nitrotoluene	390	UG_KG	U	N	28	390
BAI-24A-035-00	8330	WET		99-08-1	3-Nitrotoluene	390	UG_KG	U	N	39	390

Table A1-1. Raw Data, IR Site 24A, Former Naval Weapons Station Seal Beach Detachment Concord

SAMPLE_NAME	ANALYTICAL_METHOD	SAMPLE_BASIS	PERCENT_MOISTURE	ANALYTE_ID	ANALYTE NAME	ANALYTE_VALUE	RESULT_UNITS	FINAL_QUALIFIER	DETECTED	MDL	MRL
BAI-24A-035-00	6010B	DRY	14	7440-36-0	Antimony	6.1	MG_KG	J	Y	0.17	0.58
BAI-24A-035-00	6010B	DRY	14	7440-38-2	Arsenic	6.2	MG_KG		Y	0.09	0.29
BAI-24A-035-00	6010B	DRY	14	7440-39-3	Barium	99	MG_KG		Y	0.11	0.33
BAI-24A-035-00	6010B	DRY	14	7440-41-7	Beryllium	0.57	MG_KG		Y	0.022	0.12
BAI-24A-035-00	6010B	DRY	14	7440-43-9	Cadmium	0.18	MG_KG	J	Y	0.054	0.29
BAI-24A-035-00	6010B	DRY	14	7440-47-3	Chromium	19	MG_KG		Y	0.11	0.33
BAI-24A-035-00	6010B	DRY	14	7440-48-4	Cobalt	10	MG_KG		Y	0.22	0.65
BAI-24A-035-00	6010B	DRY	14	7440-50-8	Copper	49	MG_KG		Y	0.11	0.33
BAI-24A-035-00	6010B	DRY	14	7439-92-1	Lead	490	MG_KG	J	Y	0.079	0.29
BAI-24A-035-00	7470A	DRY	14	7439-97-6	Mercury	0.02	MG_KG	J	Y	0.0073	0.023
BAI-24A-035-00	6010B	DRY	14	7439-98-7	Molybdenum	0.37	MG_KG	J	Y	0.22	0.65
BAI-24A-035-00	6010B	DRY	14	7440-02-0	Nickel	18	MG_KG		Y	0.22	0.65
BAI-24A-035-00	6010B	DRY	14	7782-49-2	Selenium	0.58	MG_KG	U	N	0.16	0.58
BAI-24A-035-00	6010B	DRY	14	7440-22-4	Silver	0.1	MG_KG	J	Y	0.081	0.29
BAI-24A-035-00	6010B	DRY	14	7440-28-0	Thallium	0.58	MG_KG	U	N	0.18	0.58
BAI-24A-035-00	6010B	DRY	14	7440-62-2	Vanadium	37	MG_KG		Y	0.11	0.33
BAI-24A-035-00	6010B	DRY	14	7440-66-6	Zinc	61	MG_KG		Y	0.22	1.2
BAI-24A-035-00	D2216	WET		-86	Percent Moisture	14	PCT		Y		1
BAI-24A-051-00	8330	WET		2691-41-0	HMX	200	UG_KG	U	N	26	200
BAI-24A-051-00	8330	WET		121-82-4	RDX	200	UG_KG	U	N	40	200
BAI-24A-051-00	8330	WET		99-35-4	1,3,5-Trinitrobenzene	200	UG_KG	U	N	35	200
BAI-24A-051-00	8330	WET		99-65-0	1,3-Dinitrobenzene	200	UG_KG	U	N	20	200
BAI-24A-051-00	8330	WET		98-95-3	Nitrobenzene	200	UG_KG	U	N	18	200
BAI-24A-051-00	8330	WET		479-45-8	Tetryl	200	UG_KG	U	N	66	200
BAI-24A-051-00	8330	WET		118-96-7	2,4,6-Trinitrotoluene	200	UG_KG	U	N	13	200
BAI-24A-051-00	8330	WET		35572-78-2	2-amino-4,6-Dinitrotoluene	200	UG_KG	U	N	26	200
BAI-24A-051-00	8330	WET		19406-51-0	4-amino-2,6-Dinitrotoluene	200	UG_KG	U	N	28	200
BAI-24A-051-00	8330	WET		121-14-2	2,4-Dinitrotoluene	200	UG_KG	U	N	19	200
BAI-24A-051-00	8330	WET		606-20-2	2,6-Dinitrotoluene	200	UG_KG	U	N	18	200
BAI-24A-051-00	8330	WET		88-72-2	2-Nitrotoluene	400	UG_KG	U	N	16	400
BAI-24A-051-00	8330	WET		99-99-0	4-Nitrotoluene	400	UG_KG	U	N	31	400
BAI-24A-051-00	8330	WET		99-08-1	3-Nitrotoluene	400	UG_KG	U	N	61	400
BAI-24A-051-18	8330	WET		2691-41-0	HMX	190	UG_KG	U	N	26	190
BAI-24A-051-18	8330	WET		121-82-4	RDX	190	UG_KG	U	N	39	190
BAI-24A-051-18	8330	WET		99-35-4	1,3,5-Trinitrobenzene	190	UG_KG	U	N	34	190
BAI-24A-051-18	8330	WET		99-65-0	1,3-Dinitrobenzene	190	UG_KG	U	N	19	190
BAI-24A-051-18	8330	WET		98-95-3	Nitrobenzene	190	UG_KG	U	N	18	190
BAI-24A-051-18	8330	WET		479-45-8	Tetryl	190	UG_KG	U	N	64	190
BAI-24A-051-18	8330	WET		118-96-7	2,4,6-Trinitrotoluene	190	UG_KG	U	N	13	190
BAI-24A-051-18	8330	WET		35572-78-2	2-amino-4,6-Dinitrotoluene	190	UG_KG	U	N	26	190
BAI-24A-051-18	8330	WET		19406-51-0	4-amino-2,6-Dinitrotoluene	190	UG_KG	U	N	28	190
BAI-24A-051-18	8330	WET		121-14-2	2,4-Dinitrotoluene	190	UG_KG	U	N	19	190
BAI-24A-051-18	8330	WET		606-20-2	2,6-Dinitrotoluene	190	UG_KG	U	N	18	190
BAI-24A-051-18	8330	WET		88-72-2	2-Nitrotoluene	390	UG_KG	U	N	16	390
BAI-24A-051-18	8330	WET		99-99-0	4-Nitrotoluene	390	UG_KG	U	N	30	390
BAI-24A-051-18	8330	WET		99-08-1	3-Nitrotoluene	390	UG_KG	U	N	59	390
BAI-24A-052-00	8330	WET		2691-41-0	HMX	200	UG_KG	U	N	26	200
BAI-24A-052-00	8330	WET		121-82-4	RDX	200	UG_KG	U	N	39	200
BAI-24A-052-00	8330	WET		99-35-4	1,3,5-Trinitrobenzene	200	UG_KG	U	N	35	200
BAI-24A-052-00	8330	WET		99-65-0	1,3-Dinitrobenzene	200	UG_KG	U	N	20	200
BAI-24A-052-00	8330	WET		98-95-3	Nitrobenzene	200	UG_KG	U	N	18	200
BAI-24A-052-00	8330	WET		479-45-8	Tetryl	200	UG_KG	U	N	65	200
BAI-24A-052-00	8330	WET		118-96-7	2,4,6-Trinitrotoluene	200	UG_KG	U	N	13	200
BAI-24A-052-00	8330	WET		35572-78-2	2-amino-4,6-Dinitrotoluene	200	UG_KG	U	N	26	200

Table A1-1. Raw Data, IR Site 24A, Former Naval Weapons Station Seal Beach Detachment Concord

SAMPLE_NAME	ANALYTICAL_METHOD	SAMPLE_BASIS	PERCENT_MOISTURE	ANALYTE_ID	ANALYTE NAME	ANALYTE_VALUE	RESULT_UNITS	FINAL_QUALIFIER	DETECTED	MDL	MRL
BAI-24A-052-00	8330	WET		19406-51-0	4-amino-2,6-Dinitrotoluene	200	UG_KG	U	N	28	200
BAI-24A-052-00	8330	WET		121-14-2	2,4-Dinitrotoluene	200	UG_KG	U	N	19	200
BAI-24A-052-00	8330	WET		606-20-2	2,6-Dinitrotoluene	200	UG_KG	U	N	18	200
BAI-24A-052-00	8330	WET		88-72-2	2-Nitrotoluene	400	UG_KG	U	N	16	400
BAI-24A-052-00	8330	WET		99-99-0	4-Nitrotoluene	400	UG_KG	U	N	30	400
BAI-24A-052-00	8330	WET		99-08-1	3-Nitrotoluene	400	UG_KG	U	N	60	400
BAI-24A-052-18	8330	WET		2691-41-0	HMX	200	UG_KG	U	N	26	200
BAI-24A-052-18	8330	WET		121-82-4	RDX	200	UG_KG	U	N	39	200
BAI-24A-052-18	8330	WET		99-35-4	1,3,5-Trinitrobenzene	200	UG_KG	U	N	35	200
BAI-24A-052-18	8330	WET		99-65-0	1,3-Dinitrobenzene	200	UG_KG	U	N	19	200
BAI-24A-052-18	8330	WET		98-95-3	Nitrobenzene	200	UG_KG	U	N	18	200
BAI-24A-052-18	8330	WET		479-45-8	Tetryl	200	UG_KG	U	N	65	200
BAI-24A-052-18	8330	WET		118-96-7	2,4,6-Trinitrotoluene	200	UG_KG	U	N	13	200
BAI-24A-052-18	8330	WET		35572-78-2	2-amino-4,6-Dinitrotoluene	200	UG_KG	U	N	26	200
BAI-24A-052-18	8330	WET		19406-51-0	4-amino-2,6-Dinitrotoluene	200	UG_KG	U	N	28	200
BAI-24A-052-18	8330	WET		121-14-2	2,4-Dinitrotoluene	200	UG_KG	U	N	19	200
BAI-24A-052-18	8330	WET		606-20-2	2,6-Dinitrotoluene	200	UG_KG	U	N	18	200
BAI-24A-052-18	8330	WET		88-72-2	2-Nitrotoluene	390	UG_KG	U	N	16	390
BAI-24A-052-18	8330	WET		99-99-0	4-Nitrotoluene	390	UG_KG	U	N	30	390
BAI-24A-052-18	8330	WET		99-08-1	3-Nitrotoluene	390	UG_KG	U	N	60	390
BAI-24A-053-00	8330	WET		2691-41-0	HMX	200	UG_KG	U	N	26	200
BAI-24A-053-00	8330	WET		121-82-4	RDX	200	UG_KG	U	N	39	200
BAI-24A-053-00	8330	WET		99-35-4	1,3,5-Trinitrobenzene	200	UG_KG	U	N	35	200
BAI-24A-053-00	8330	WET		99-65-0	1,3-Dinitrobenzene	200	UG_KG	U	N	20	200
BAI-24A-053-00	8330	WET		98-95-3	Nitrobenzene	200	UG_KG	U	N	18	200
BAI-24A-053-00	8330	WET		479-45-8	Tetryl	200	UG_KG	U	N	66	200
BAI-24A-053-00	8330	WET		118-96-7	2,4,6-Trinitrotoluene	200	UG_KG	U	N	13	200
BAI-24A-053-00	8330	WET		35572-78-2	2-amino-4,6-Dinitrotoluene	200	UG_KG	U	N	26	200
BAI-24A-053-00	8330	WET		19406-51-0	4-amino-2,6-Dinitrotoluene	200	UG_KG	U	N	28	200
BAI-24A-053-00	8330	WET		121-14-2	2,4-Dinitrotoluene	200	UG_KG	U	N	19	200
BAI-24A-053-00	8330	WET		606-20-2	2,6-Dinitrotoluene	200	UG_KG	U	N	18	200
BAI-24A-053-00	8330	WET		88-72-2	2-Nitrotoluene	400	UG_KG	U	N	16	400
BAI-24A-053-00	8330	WET		99-99-0	4-Nitrotoluene	400	UG_KG	U	N	31	400
BAI-24A-053-00	8330	WET		99-08-1	3-Nitrotoluene	400	UG_KG	U	N	61	400
BAI-24A-053-18	8330	WET		2691-41-0	HMX	200	UG_KG	U	N	26	200
BAI-24A-053-18	8330	WET		121-82-4	RDX	200	UG_KG	U	N	39	200
BAI-24A-053-18	8330	WET		99-35-4	1,3,5-Trinitrobenzene	200	UG_KG	U	N	35	200
BAI-24A-053-18	8330	WET		99-65-0	1,3-Dinitrobenzene	200	UG_KG	U	N	19	200
BAI-24A-053-18	8330	WET		98-95-3	Nitrobenzene	200	UG_KG	U	N	18	200
BAI-24A-053-18	8330	WET		479-45-8	Tetryl	200	UG_KG	U	N	65	200
BAI-24A-053-18	8330	WET		118-96-7	2,4,6-Trinitrotoluene	200	UG_KG	U	N	13	200
BAI-24A-053-18	8330	WET		35572-78-2	2-amino-4,6-Dinitrotoluene	200	UG_KG	U	N	26	200
BAI-24A-053-18	8330	WET		19406-51-0	4-amino-2,6-Dinitrotoluene	200	UG_KG	U	N	28	200
BAI-24A-053-18	8330	WET		121-14-2	2,4-Dinitrotoluene	200	UG_KG	U	N	19	200
BAI-24A-053-18	8330	WET		606-20-2	2,6-Dinitrotoluene	200	UG_KG	U	N	18	200
BAI-24A-053-18	8330	WET		88-72-2	2-Nitrotoluene	390	UG_KG	U	N	16	390
BAI-24A-053-18	8330	WET		99-99-0	4-Nitrotoluene	390	UG_KG	U	N	30	390
BAI-24A-053-18	8330	WET		99-08-1	3-Nitrotoluene	390	UG_KG	U	N	60	390
BAI-24A-054-00	8330	WET		2691-41-0	HMX	200	UG_KG	U	N	26	200
BAI-24A-054-00	8330	WET		121-82-4	RDX	200	UG_KG	U	N	39	200
BAI-24A-054-00	8330	WET		99-35-4	1,3,5-Trinitrobenzene	200	UG_KG	U	N	34	200
BAI-24A-054-00	8330	WET		99-65-0	1,3-Dinitrobenzene	200	UG_KG	U	N	19	200
BAI-24A-054-00	8330	WET		98-95-3	Nitrobenzene	200	UG_KG	U	N	18	200
BAI-24A-054-00	8330	WET		479-45-8	Tetryl	200	UG_KG	U	N	64	200

Table A1-1. Raw Data, IR Site 24A, Former Naval Weapons Station Seal Beach Detachment Concord

SAMPLE_NAME	ANALYTICAL_METHOD	SAMPLE_BASIS	PERCENT_MOISTURE	ANALYTE_ID	ANALYTE NAME	ANALYTE_VALUE	RESULT_UNITS	FINAL_QUALIFIER	DETECTED	MDL	MRL
BAI-24A-054-00	8330	WET		118-96-7	2,4,6-Trinitrotoluene	200	UG_KG	U	N	13	200
BAI-24A-054-00	8330	WET		35572-78-2	2-amino-4,6-Dinitrotoluene	200	UG_KG	U	N	26	200
BAI-24A-054-00	8330	WET		19406-51-0	4-amino-2,6-Dinitrotoluene	200	UG_KG	U	N	28	200
BAI-24A-054-00	8330	WET		121-14-2	2,4-Dinitrotoluene	200	UG_KG	U	N	19	200
BAI-24A-054-00	8330	WET		606-20-2	2,6-Dinitrotoluene	200	UG_KG	U	N	18	200
BAI-24A-054-00	8330	WET		88-72-2	2-Nitrotoluene	390	UG_KG	U	N	16	390
BAI-24A-054-00	8330	WET		99-99-0	4-Nitrotoluene	390	UG_KG	U	N	30	390
BAI-24A-054-00	8330	WET		99-08-1	3-Nitrotoluene	390	UG_KG	U	N	60	390
BAI-24A-054-18	8330	WET		2691-41-0	HMX	200	UG_KG	U	N	26	200
BAI-24A-054-18	8330	WET		121-82-4	RDX	200	UG_KG	U	N	39	200
BAI-24A-054-18	8330	WET		99-35-4	1,3,5-Trinitrobenzene	200	UG_KG	U	N	34	200
BAI-24A-054-18	8330	WET		99-65-0	1,3-Dinitrobenzene	200	UG_KG	U	N	19	200
BAI-24A-054-18	8330	WET		98-95-3	Nitrobenzene	200	UG_KG	U	N	18	200
BAI-24A-054-18	6010B	DRY	12	7440-43-9	Cadmium	0.28	MG_KG	U	N	0.055	0.28
BAI-24A-054-18	6010B	DRY	12	7440-47-3	Chromium	19	MG_KG		Y	0.11	0.33
BAI-24A-054-18	6010B	DRY	12	7440-48-4	Cobalt	8.7	MG_KG		Y	0.22	0.66
BAI-24A-054-18	6010B	DRY	12	7440-50-8	Copper	21	MG_KG		Y	0.11	0.33
BAI-24A-054-18	6010B	DRY	12	7439-92-1	Lead	9.7	MG_KG	J	Y	0.076	0.28
BAI-24A-054-18	7470A	DRY	12	7439-97-6	Mercury	0.019	MG_KG	UJ	N	0.007	0.023
BAI-24A-054-18	6010B	DRY	12	7439-98-7	Molybdenum	0.66	MG_KG	U	N	0.22	0.66
BAI-24A-054-18	6010B	DRY	12	7440-02-0	Nickel	15	MG_KG		Y	0.22	0.66
BAI-24A-054-18	6010B	DRY	12	7782-49-2	Selenium	0.52	MG_KG	J	Y	0.17	0.57
BAI-24A-054-18	6010B	DRY	12	7440-22-4	Silver	0.28	MG_KG	U	N	0.055	0.28
BAI-24A-054-18	6010B	DRY	12	7440-28-0	Thallium	0.57	MG_KG	U	N	0.15	0.57
BAI-24A-054-18	6010B	DRY	12	7440-62-2	Vanadium	39	MG_KG		Y	0.11	0.33
BAI-24A-054-18	6010B	DRY	12	7440-66-6	Zinc	53	MG_KG		Y	0.22	1.1
BAI-24A-055-00	6010B	DRY	15	7440-36-0	Antimony	1.5	MG_KG	J	Y	0.16	0.59
BAI-24A-055-00	6010B	DRY	15	7440-38-2	Arsenic	5.5	MG_KG	J	Y	0.077	0.29
BAI-24A-055-00	6010B	DRY	15	7440-39-3	Barium	130	MG_KG		Y	0.11	0.32
BAI-24A-055-00	6010B	DRY	15	7440-41-7	Beryllium	0.51	MG_KG		Y	0.021	0.12
BAI-24A-055-00	6010B	DRY	15	7440-43-9	Cadmium	0.29	MG_KG	U	N	0.053	0.29
BAI-24A-054-18	8330	WET		479-45-8	Tetryl	200	UG_KG	U	N	64	200
BAI-24A-054-18	8330	WET		118-96-7	2,4,6-Trinitrotoluene	200	UG_KG	U	N	13	200
BAI-24A-054-18	8330	WET		35572-78-2	2-amino-4,6-Dinitrotoluene	200	UG_KG	U	N	26	200
BAI-24A-054-18	8330	WET		19406-51-0	4-amino-2,6-Dinitrotoluene	200	UG_KG	U	N	28	200
BAI-24A-054-18	8330	WET		121-14-2	2,4-Dinitrotoluene	200	UG_KG	U	N	19	200
BAI-24A-054-18	8330	WET		606-20-2	2,6-Dinitrotoluene	200	UG_KG	U	N	18	200
BAI-24A-054-18	8330	WET		88-72-2	2-Nitrotoluene	390	UG_KG	U	N	16	390
BAI-24A-054-18	8330	WET		99-99-0	4-Nitrotoluene	390	UG_KG	U	N	30	390
BAI-24A-054-18	8330	WET		99-08-1	3-Nitrotoluene	390	UG_KG	U	N	60	390
BAI-24A-055-00	8330	WET		2691-41-0	HMX	190	UG_KG	U	N	26	190
BAI-24A-055-00	8330	WET		121-82-4	RDX	190	UG_KG	U	N	38	190
BAI-24A-055-00	8330	WET		99-35-4	1,3,5-Trinitrobenzene	190	UG_KG	U	N	34	190
BAI-24A-055-00	8330	WET		99-65-0	1,3-Dinitrobenzene	190	UG_KG	U	N	19	190
BAI-24A-055-00	8330	WET		98-95-3	Nitrobenzene	190	UG_KG	U	N	18	190
BAI-24A-055-00	8330	WET		479-45-8	Tetryl	190	UG_KG	U	N	64	190
BAI-24A-055-00	8330	WET		118-96-7	2,4,6-Trinitrotoluene	190	UG_KG	U	N	13	190
BAI-24A-055-00	8330	WET		35572-78-2	2-amino-4,6-Dinitrotoluene	190	UG_KG	U	N	26	190
BAI-24A-055-00	8330	WET		19406-51-0	4-amino-2,6-Dinitrotoluene	190	UG_KG	U	N	28	190
BAI-24A-055-00	8330	WET		121-14-2	2,4-Dinitrotoluene	190	UG_KG	U	N	19	190
BAI-24A-055-00	8330	WET		606-20-2	2,6-Dinitrotoluene	190	UG_KG	U	N	18	190
BAI-24A-055-00	8330	WET		88-72-2	2-Nitrotoluene	390	UG_KG	U	N	15	390
BAI-24A-055-00	8330	WET		99-99-0	4-Nitrotoluene	390	UG_KG	U	N	30	390
BAI-24A-055-00	8330	WET		99-08-1	3-Nitrotoluene	390	UG_KG	U	N	59	390

Table A1-1. Raw Data, IR Site 24A, Former Naval Weapons Station Seal Beach Detachment Concord

SAMPLE_NAME	ANALYTICAL_METHOD	SAMPLE_BASIS	PERCENT_MOISTURE	ANALYTE_ID	ANALYTE NAME	ANALYTE_VALUE	RESULT_UNITS	FINAL_QUALIFIER	DETECTED	MDL	MRL
BAI-24A-055-18	8330	WET		2691-41-0	HMX	200	UG_KG	U	N	26	200
BAI-24A-055-18	8330	WET		121-82-4	RDX	200	UG_KG	U	N	39	200
BAI-24A-055-18	8330	WET		99-35-4	1,3,5-Trinitrobenzene	200	UG_KG	U	N	35	200
BAI-24A-055-18	8330	WET		99-65-0	1,3-Dinitrobenzene	200	UG_KG	U	N	19	200
BAI-24A-055-18	8330	WET		98-95-3	Nitrobenzene	200	UG_KG	U	N	18	200
BAI-24A-055-18	8330	WET		479-45-8	Tetryl	200	UG_KG	U	N	65	200
BAI-24A-055-18	8330	WET		118-96-7	2,4,6-Trinitrotoluene	200	UG_KG	U	N	13	200
BAI-24A-055-18	8330	WET		35572-78-2	2-amino-4,6-Dinitrotoluene	200	UG_KG	U	N	26	200
BAI-24A-055-18	8330	WET		19406-51-0	4-amino-2,6-Dinitrotoluene	200	UG_KG	U	N	28	200
BAI-24A-055-18	8330	WET		121-14-2	2,4-Dinitrotoluene	200	UG_KG	U	N	19	200
BAI-24A-055-18	8330	WET		606-20-2	2,6-Dinitrotoluene	200	UG_KG	U	N	18	200
BAI-24A-055-18	8330	WET		88-72-2	2-Nitrotoluene	390	UG_KG	U	N	16	390
BAI-24A-055-18	8330	WET		99-99-0	4-Nitrotoluene	390	UG_KG	U	N	30	390
BAI-24A-055-18	8330	WET		99-08-1	3-Nitrotoluene	390	UG_KG	U	N	60	390
BAI-24A-051-00	6010B	DRY	14	7440-36-0	Antimony	1.2	MG_KG	J	Y	0.16	0.58
BAI-24A-051-00	6010B	DRY	14	7440-38-2	Arsenic	5.3	MG_KG	J	Y	0.075	0.29
BAI-24A-051-00	6010B	DRY	14	7440-39-3	Barium	110	MG_KG		Y	0.1	0.31
BAI-24A-051-00	6010B	DRY	14	7440-41-7	Beryllium	0.49	MG_KG		Y	0.021	0.12
BAI-24A-051-00	6010B	DRY	14	7440-43-9	Cadmium	0.29	MG_KG	U	N	0.052	0.29
BAI-24A-051-00	6010B	DRY	14	7440-47-3	Chromium	19	MG_KG		Y	0.1	0.31
BAI-24A-051-00	6010B	DRY	14	7440-48-4	Cobalt	8.7	MG_KG		Y	0.21	0.62
BAI-24A-051-00	6010B	DRY	14	7440-50-8	Copper	21	MG_KG		Y	0.1	0.31
BAI-24A-051-00	6010B	DRY	14	7439-92-1	Lead	58	MG_KG	J	Y	0.072	0.29
BAI-24A-051-00	7470A	DRY	14	7439-97-6	Mercury	0.019	MG_KG	UJ	N	0.0068	0.023
BAI-24A-051-00	6010B	DRY	14	7439-98-7	Molybdenum	0.62	MG_KG	U	N	0.21	0.62
BAI-24A-051-00	6010B	DRY	14	7440-02-0	Nickel	15	MG_KG		Y	0.21	0.62
BAI-24A-051-00	6010B	DRY	14	7782-49-2	Selenium	0.53	MG_KG	J	Y	0.17	0.58
BAI-24A-051-00	6010B	DRY	14	7440-22-4	Silver	0.29	MG_KG	U	N	0.052	0.29
BAI-24A-051-00	6010B	DRY	14	7440-28-0	Thallium	0.58	MG_KG	U	N	0.15	0.58
BAI-24A-051-00	6010B	DRY	14	7440-62-2	Vanadium	36	MG_KG		Y	0.1	0.31
BAI-24A-051-00	6010B	DRY	14	7440-66-6	Zinc	61	MG_KG		Y	0.21	1.2
BAI-24A-051-18	6010B	DRY	6	7440-36-0	Antimony	0.95	MG_KG	J	Y	0.16	0.53
BAI-24A-051-18	6010B	DRY	6	7440-38-2	Arsenic	5.2	MG_KG	J	Y	0.077	0.27
BAI-24A-051-18	6010B	DRY	6	7440-39-3	Barium	99	MG_KG		Y	0.11	0.32
BAI-24A-051-18	6010B	DRY	6	7440-41-7	Beryllium	0.47	MG_KG		Y	0.021	0.11
BAI-24A-051-18	6010B	DRY	6	7440-43-9	Cadmium	0.27	MG_KG	U	N	0.053	0.27
BAI-24A-051-18	6010B	DRY	6	7440-47-3	Chromium	18	MG_KG		Y	0.11	0.32
BAI-24A-051-18	6010B	DRY	6	7440-48-4	Cobalt	8.2	MG_KG		Y	0.21	0.63
BAI-24A-051-18	6010B	DRY	6	7440-50-8	Copper	17	MG_KG		Y	0.11	0.32
BAI-24A-051-18	6010B	DRY	6	7439-92-1	Lead	43	MG_KG	J	Y	0.073	0.27
BAI-24A-051-18	7470A	DRY	6	7439-97-6	Mercury	0.02	MG_KG	UJ	N	0.0073	0.023
BAI-24A-051-18	6010B	DRY	6	7439-98-7	Molybdenum	0.63	MG_KG	U	N	0.21	0.63
BAI-24A-051-18	6010B	DRY	6	7440-02-0	Nickel	14	MG_KG		Y	0.21	0.63
BAI-24A-051-18	6010B	DRY	6	7782-49-2	Selenium	0.53	MG_KG	J	Y	0.17	0.53
BAI-24A-051-18	6010B	DRY	6	7440-22-4	Silver	0.27	MG_KG	U	N	0.053	0.27
BAI-24A-051-18	6010B	DRY	6	7440-28-0	Thallium	0.53	MG_KG	U	N	0.15	0.53
BAI-24A-051-18	6010B	DRY	6	7440-62-2	Vanadium	34	MG_KG		Y	0.11	0.32
BAI-24A-051-18	6010B	DRY	6	7440-66-6	Zinc	53	MG_KG		Y	0.21	1.1
BAI-24A-052-00	6010B	DRY	12	7440-36-0	Antimony	0.99	MG_KG	J	Y	0.16	0.57
BAI-24A-052-00	6010B	DRY	12	7440-38-2	Arsenic	4.5	MG_KG	J	Y	0.076	0.28
BAI-24A-052-00	6010B	DRY	12	7440-39-3	Barium	130	MG_KG		Y	0.11	0.32
BAI-24A-052-00	6010B	DRY	12	7440-41-7	Beryllium	0.42	MG_KG		Y	0.021	0.11
BAI-24A-052-00	6010B	DRY	12	7440-43-9	Cadmium	0.061	MG_KG	J	Y	0.053	0.28
BAI-24A-052-00	6010B	DRY	12	7440-47-3	Chromium	17	MG_KG		Y	0.11	0.32

Table A1-1. Raw Data, IR Site 24A, Former Naval Weapons Station Seal Beach Detachment Concord

SAMPLE_NAME	ANALYTICAL_METHOD	SAMPLE_BASIS	PERCENT_MOISTURE	ANALYTE_ID	ANALYTE NAME	ANALYTE_VALUE	RESULT_UNITS	FINAL_QUALIFIER	DETECTED	MDL	MRL
BAI-24A-052-00	6010B	DRY	12	7440-48-4	Cobalt	8	MG_KG		Y	0.21	0.63
BAI-24A-052-00	6010B	DRY	12	7440-50-8	Copper	17	MG_KG		Y	0.11	0.32
BAI-24A-052-00	6010B	DRY	12	7439-92-1	Lead	37	MG_KG	J	Y	0.073	0.28
BAI-24A-052-00	7470A	DRY	12	7439-97-6	Mercury	0.0088	MG_KG	UJ	N	0.0078	0.025
BAI-24A-052-00	6010B	DRY	12	7439-98-7	Molybdenum	0.63	MG_KG	U	N	0.21	0.63
BAI-24A-052-00	6010B	DRY	12	7440-02-0	Nickel	14	MG_KG		Y	0.21	0.63
BAI-24A-052-00	6010B	DRY	12	7782-49-2	Selenium	0.4	MG_KG	J	Y	0.17	0.57
BAI-24A-052-00	6010B	DRY	12	7440-22-4	Silver	0.28	MG_KG	U	N	0.053	0.28
BAI-24A-052-00	6010B	DRY	12	7440-28-0	Thallium	0.57	MG_KG	U	N	0.15	0.57
BAI-24A-052-00	6010B	DRY	12	7440-62-2	Vanadium	33	MG_KG		Y	0.11	0.32
BAI-24A-052-00	6010B	DRY	12	7440-66-6	Zinc	61	MG_KG		Y	0.21	1.1
BAI-24A-052-18	6010B	DRY	10	7440-36-0	Antimony	0.5	MG_KG	J	Y	0.15	0.56
BAI-24A-052-18	6010B	DRY	10	7440-38-2	Arsenic	4.6	MG_KG	J	Y	0.073	0.28
BAI-24A-052-18	6010B	DRY	10	7440-39-3	Barium	140	MG_KG		Y	0.1	0.3
BAI-24A-052-18	6010B	DRY	10	7440-41-7	Beryllium	0.41	MG_KG		Y	0.02	0.11
BAI-24A-052-18	6010B	DRY	10	7440-43-9	Cadmium	0.28	MG_KG	U	N	0.051	0.28
BAI-24A-052-18	6010B	DRY	10	7440-47-3	Chromium	16	MG_KG		Y	0.1	0.3
BAI-24A-052-18	6010B	DRY	10	7440-48-4	Cobalt	7.5	MG_KG		Y	0.2	0.61
BAI-24A-052-18	6010B	DRY	10	7440-50-8	Copper	14	MG_KG		Y	0.1	0.3
BAI-24A-052-18	6010B	DRY	10	7439-92-1	Lead	7.2	MG_KG	J	Y	0.07	0.28
BAI-24A-052-18	7470A	DRY	10	7439-97-6	Mercury	0.01	MG_KG	UJ	N	0.0065	0.022
BAI-24A-052-18	6010B	DRY	10	7439-98-7	Molybdenum	0.61	MG_KG	U	N	0.2	0.61
BAI-24A-052-18	6010B	DRY	10	7440-02-0	Nickel	13	MG_KG		Y	0.2	0.61
BAI-24A-052-18	6010B	DRY	10	7782-49-2	Selenium	0.47	MG_KG	J	Y	0.16	0.56
BAI-24A-052-18	6010B	DRY	10	7440-22-4	Silver	0.28	MG_KG	U	N	0.051	0.28
BAI-24A-052-18	6010B	DRY	10	7440-28-0	Thallium	0.56	MG_KG	U	N	0.14	0.56
BAI-24A-052-18	6010B	DRY	10	7440-62-2	Vanadium	32	MG_KG		Y	0.1	0.3
BAI-24A-052-18	6010B	DRY	10	7440-66-6	Zinc	47	MG_KG		Y	0.2	1.1
BAI-24A-053-00	6010B	DRY	14	7440-36-0	Antimony	1.4	MG_KG	J	Y	0.17	0.58
BAI-24A-053-00	6010B	DRY	14	7440-38-2	Arsenic	5.3	MG_KG	J	Y	0.08	0.29
BAI-24A-053-00	6010B	DRY	14	7440-39-3	Barium	160	MG_KG		Y	0.11	0.33
BAI-24A-053-00	6010B	DRY	14	7440-41-7	Beryllium	0.49	MG_KG		Y	0.022	0.12
BAI-24A-053-00	6010B	DRY	14	7440-43-9	Cadmium	0.29	MG_KG	U	N	0.055	0.29
BAI-24A-053-00	6010B	DRY	14	7440-47-3	Chromium	18	MG_KG		Y	0.11	0.33
BAI-24A-053-00	6010B	DRY	14	7440-48-4	Cobalt	8.1	MG_KG		Y	0.22	0.66
BAI-24A-053-00	6010B	DRY	14	7440-50-8	Copper	36	MG_KG		Y	0.11	0.33
BAI-24A-053-00	6010B	DRY	14	7439-92-1	Lead	96	MG_KG	J	Y	0.077	0.29
BAI-24A-053-00	7470A	DRY	14	7439-97-6	Mercury	0.014	MG_KG	UJ	N	0.0075	0.024
BAI-24A-053-00	6010B	DRY	14	7439-98-7	Molybdenum	0.66	MG_KG	U	N	0.22	0.66
BAI-24A-053-00	6010B	DRY	14	7440-02-0	Nickel	15	MG_KG		Y	0.22	0.66
BAI-24A-053-00	6010B	DRY	14	7782-49-2	Selenium	0.42	MG_KG	J	Y	0.18	0.58
BAI-24A-053-00	6010B	DRY	14	7440-22-4	Silver	0.29	MG_KG	U	N	0.055	0.29
BAI-24A-053-00	6010B	DRY	14	7440-28-0	Thallium	0.58	MG_KG	U	N	0.16	0.58
BAI-24A-053-00	6010B	DRY	14	7440-62-2	Vanadium	37	MG_KG		Y	0.11	0.33
BAI-24A-053-00	6010B	DRY	14	7440-66-6	Zinc	68	MG_KG		Y	0.22	1.2
BAI-24A-053-18	6010B	DRY	8	7440-36-0	Antimony	1	MG_KG	J	Y	0.15	0.54
BAI-24A-053-18	6010B	DRY	8	7440-38-2	Arsenic	5.2	MG_KG	J	Y	0.074	0.27
BAI-24A-053-18	6010B	DRY	8	7440-39-3	Barium	110	MG_KG		Y	0.1	0.31
BAI-24A-053-18	6010B	DRY	8	7440-41-7	Beryllium	0.46	MG_KG		Y	0.021	0.11
BAI-24A-053-18	6010B	DRY	8	7440-43-9	Cadmium	0.27	MG_KG	U	N	0.051	0.27
BAI-24A-053-18	6010B	DRY	8	7440-47-3	Chromium	22	MG_KG		Y	0.1	0.31
BAI-24A-053-18	6010B	DRY	8	7440-48-4	Cobalt	8	MG_KG		Y	0.21	0.62
BAI-24A-053-18	6010B	DRY	8	7440-50-8	Copper	28	MG_KG		Y	0.1	0.31
BAI-24A-053-18	6010B	DRY	8	7439-92-1	Lead	32	MG_KG	J	Y	0.071	0.27

Table A1-1. Raw Data, IR Site 24A, Former Naval Weapons Station Seal Beach Detachment Concord

SAMPLE_NAME	ANALYTICAL_METHOD	SAMPLE_BASIS	PERCENT_MOISTURE	ANALYTE_ID	ANALYTE NAME	ANALYTE_VALUE	RESULT_UNITS	FINAL_QUALIFIER	DETECTED	MDL	MRL
BAI-24A-053-18	7470A	DRY	8	7439-97-6	Mercury	0.011	MG_KG	UJ	N	0.0071	0.023
BAI-24A-053-18	6010B	DRY	8	7439-98-7	Molybdenum	0.62	MG_KG	U	N	0.21	0.62
BAI-24A-053-18	6010B	DRY	8	7440-02-0	Nickel	15	MG_KG		Y	0.21	0.62
BAI-24A-053-18	6010B	DRY	8	7782-49-2	Selenium	0.54	MG_KG		Y	0.16	0.54
BAI-24A-053-18	6010B	DRY	8	7440-22-4	Silver	0.27	MG_KG	U	N	0.051	0.27
BAI-24A-053-18	6010B	DRY	8	7440-28-0	Thallium	0.54	MG_KG	U	N	0.14	0.54
BAI-24A-053-18	6010B	DRY	8	7440-62-2	Vanadium	35	MG_KG		Y	0.1	0.31
BAI-24A-053-18	6010B	DRY	8	7440-66-6	Zinc	81	MG_KG		Y	0.21	1.1
BAI-24A-054-00	6010B	DRY	13	7440-36-0	Antimony	1.2	MG_KG	J	Y	0.16	0.57
BAI-24A-054-00	6010B	DRY	13	7440-38-2	Arsenic	5.1	MG_KG	J	Y	0.077	0.29
BAI-24A-054-00	6010B	DRY	13	7440-39-3	Barium	130	MG_KG		Y	0.11	0.32
BAI-24A-054-00	6010B	DRY	13	7440-41-7	Beryllium	0.49	MG_KG		Y	0.021	0.11
BAI-24A-054-00	6010B	DRY	13	7440-43-9	Cadmium	0.29	MG_KG	U	N	0.053	0.29
BAI-24A-054-00	6010B	DRY	13	7440-47-3	Chromium	19	MG_KG		Y	0.11	0.32
BAI-24A-054-00	6010B	DRY	13	7440-48-4	Cobalt	8	MG_KG		Y	0.21	0.64
BAI-24A-054-00	6010B	DRY	13	7440-50-8	Copper	21	MG_KG		Y	0.11	0.32
BAI-24A-054-00	6010B	DRY	13	7439-92-1	Lead	100	MG_KG	J	Y	0.074	0.29
BAI-24A-054-00	7470A	DRY	13	7439-97-6	Mercury	0.026	MG_KG	UJ	N	0.008	0.026
BAI-24A-054-00	6010B	DRY	13	7439-98-7	Molybdenum	0.64	MG_KG	U	N	0.21	0.64
BAI-24A-054-00	6010B	DRY	13	7440-02-0	Nickel	15	MG_KG		Y	0.21	0.64
BAI-24A-054-00	6010B	DRY	13	7782-49-2	Selenium	0.43	MG_KG	J	Y	0.17	0.57
BAI-24A-054-00	6010B	DRY	13	7440-22-4	Silver	0.29	MG_KG	U	N	0.053	0.29
BAI-24A-054-00	6010B	DRY	13	7440-28-0	Thallium	0.57	MG_KG	U	N	0.15	0.57
BAI-24A-054-00	6010B	DRY	13	7440-62-2	Vanadium	37	MG_KG		Y	0.11	0.32
BAI-24A-054-00	6010B	DRY	13	7440-66-6	Zinc	61	MG_KG		Y	0.21	1.1
BAI-24A-054-18	6010B	DRY	12	7440-36-0	Antimony	0.47	MG_KG	J	Y	0.16	0.57
BAI-24A-054-18	6010B	DRY	12	7440-38-2	Arsenic	6	MG_KG	J	Y	0.079	0.28
BAI-24A-054-18	6010B	DRY	12	7440-39-3	Barium	100	MG_KG		Y	0.11	0.33
BAI-24A-054-18	6010B	DRY	12	7440-41-7	Beryllium	0.54	MG_KG		Y	0.022	0.11
BAI-24A-055-00	6010B	DRY	15	7440-47-3	Chromium	19	MG_KG		Y	0.11	0.32
BAI-24A-055-00	6010B	DRY	15	7440-48-4	Cobalt	9.1	MG_KG		Y	0.21	0.64
BAI-24A-055-00	6010B	DRY	15	7440-50-8	Copper	22	MG_KG		Y	0.11	0.32
BAI-24A-055-00	6010B	DRY	15	7439-92-1	Lead	69	MG_KG	J	Y	0.074	0.29
BAI-24A-055-00	7470A	DRY	15	7439-97-6	Mercury	0.024	MG_KG	UJ	N	0.0075	0.024
BAI-24A-055-00	6010B	DRY	15	7439-98-7	Molybdenum	0.22	MG_KG	J	Y	0.21	0.64
BAI-24A-055-00	6010B	DRY	15	7440-02-0	Nickel	15	MG_KG		Y	0.21	0.64
BAI-24A-055-00	6010B	DRY	15	7782-49-2	Selenium	0.61	MG_KG		Y	0.17	0.59
BAI-24A-055-00	6010B	DRY	15	7440-22-4	Silver	0.29	MG_KG	U	N	0.053	0.29
BAI-24A-055-00	6010B	DRY	15	7440-28-0	Thallium	0.59	MG_KG	U	N	0.15	0.59
BAI-24A-055-00	6010B	DRY	15	7440-62-2	Vanadium	37	MG_KG		Y	0.11	0.32
BAI-24A-055-00	6010B	DRY	15	7440-66-6	Zinc	53	MG_KG		Y	0.21	1.2
BAI-24A-055-18	6010B	DRY	10	7440-36-0	Antimony	0.36	MG_KG	J	Y	0.15	0.56
BAI-24A-055-18	6010B	DRY	10	7440-38-2	Arsenic	5.1	MG_KG	J	Y	0.073	0.28
BAI-24A-055-18	6010B	DRY	10	7440-39-3	Barium	61	MG_KG		Y	0.1	0.3
BAI-24A-055-18	6010B	DRY	10	7440-41-7	Beryllium	0.42	MG_KG		Y	0.02	0.11
BAI-24A-055-18	6010B	DRY	10	7440-43-9	Cadmium	0.28	MG_KG	U	N	0.051	0.28
BAI-24A-055-18	6010B	DRY	10	7440-47-3	Chromium	15	MG_KG		Y	0.1	0.3
BAI-24A-055-18	6010B	DRY	10	7440-48-4	Cobalt	7.2	MG_KG		Y	0.2	0.61
BAI-24A-055-18	6010B	DRY	10	7440-50-8	Copper	17	MG_KG		Y	0.1	0.3
BAI-24A-055-18	6010B	DRY	10	7439-92-1	Lead	4.2	MG_KG	J	Y	0.07	0.28
BAI-24A-055-18	7470A	DRY	10	7439-97-6	Mercury	0.013	MG_KG	UJ	N	0.007	0.022
BAI-24A-055-18	6010B	DRY	10	7439-98-7	Molybdenum	0.61	MG_KG	U	N	0.2	0.61
BAI-24A-055-18	6010B	DRY	10	7440-02-0	Nickel	14	MG_KG		Y	0.2	0.61
BAI-24A-055-18	6010B	DRY	10	7782-49-2	Selenium	0.43	MG_KG	J	Y	0.16	0.56

Table A1-1. Raw Data, IR Site 24A, Former Naval Weapons Station Seal Beach Detachment Concord

SAMPLE_NAME	ANALYTICAL_METHOD	SAMPLE_BASIS	PERCENT_MOISTURE	ANALYTE_ID	ANALYTE NAME	ANALYTE_VALUE	RESULT_UNITS	FINAL_QUALIFIER	DETECTED	MDL	MRL
BAI-24A-055-18	6010B	DRY	10	7440-22-4	Silver	0.28	MG_KG	U	N	0.051	0.28
BAI-24A-055-18	6010B	DRY	10	7440-28-0	Thallium	0.56	MG_KG	U	N	0.14	0.56
BAI-24A-055-18	6010B	DRY	10	7440-62-2	Vanadium	28	MG_KG		Y	0.1	0.3
BAI-24A-055-18	6010B	DRY	10	7440-66-6	Zinc	46	MG_KG		Y	0.2	1.1
BAI-24A-051-00	D2216	WET		-86	Percent Moisture	14	PCT		Y		1
BAI-24A-051-18	D2216	WET		-86	Percent Moisture	6	PCT		Y		1
BAI-24A-052-00	D2216	WET		-86	Percent Moisture	12	PCT		Y		1
BAI-24A-052-18	D2216	WET		-86	Percent Moisture	10	PCT		Y		1
BAI-24A-053-00	D2216	WET		-86	Percent Moisture	14	PCT		Y		1
BAI-24A-053-18	D2216	WET		-86	Percent Moisture	8	PCT		Y		1
BAI-24A-054-00	D2216	WET		-86	Percent Moisture	13	PCT		Y		1
BAI-24A-054-18	D2216	WET		-86	Percent Moisture	12	PCT		Y		1
BAI-24A-055-00	D2216	WET		-86	Percent Moisture	15	PCT		Y		1
BAI-24A-055-18	D2216	WET		-86	Percent Moisture	10	PCT		Y		1
BAI-24A-056-00	8330	WET		2691-41-0	HMX	200	UG_KG	U	N	26	200
BAI-24A-056-00	8330	WET		121-82-4	RDX	200	UG_KG	U	N	39	200
BAI-24A-056-00	8330	WET		99-35-4	1,3,5-Trinitrobenzene	200	UG_KG	U	N	35	200
BAI-24A-056-00	8330	WET		99-65-0	1,3-Dinitrobenzene	200	UG_KG	U	N	19	200
BAI-24A-056-00	8330	WET		98-95-3	Nitrobenzene	200	UG_KG	U	N	18	200
BAI-24A-056-00	8330	WET		479-45-8	Tetryl	200	UG_KG	U	N	65	200
BAI-24A-056-00	8330	WET		118-96-7	2,4,6-Trinitrotoluene	200	UG_KG	U	N	13	200
BAI-24A-056-00	8330	WET		35572-78-2	2-amino-4,6-Dinitrotoluene	200	UG_KG	U	N	26	200
BAI-24A-056-00	8330	WET		19406-51-0	4-amino-2,6-Dinitrotoluene	200	UG_KG	U	N	28	200
BAI-24A-056-00	8330	WET		121-14-2	2,4-Dinitrotoluene	200	UG_KG	U	N	19	200
BAI-24A-056-00	8330	WET		606-20-2	2,6-Dinitrotoluene	200	UG_KG	U	N	18	200
BAI-24A-056-00	8330	WET		88-72-2	2-Nitrotoluene	390	UG_KG	U	N	16	390
BAI-24A-056-00	8330	WET		99-99-0	4-Nitrotoluene	390	UG_KG	U	N	30	390
BAI-24A-056-00	8330	WET		99-08-1	3-Nitrotoluene	390	UG_KG	U	N	60	390
BAI-24A-056-00	6010B	DRY	15	7440-36-0	Antimony	1.4	MG_KG	J	Y	0.16	0.59
BAI-24A-056-00	6010B	DRY	15	7440-38-2	Arsenic	5.9	MG_KG	J	Y	0.076	0.29
BAI-24A-056-00	6010B	DRY	15	7440-39-3	Barium	120	MG_KG	J	Y	0.11	0.32
BAI-24A-056-00	6010B	DRY	15	7440-41-7	Beryllium	0.53	MG_KG		Y	0.021	0.12
BAI-24A-056-00	6010B	DRY	15	7440-43-9	Cadmium	0.29	MG_KG	U	N	0.053	0.29
BAI-24A-056-00	6010B	DRY	15	7440-47-3	Chromium	23	MG_KG	J	Y	0.11	0.32
BAI-24A-056-00	6010B	DRY	15	7440-48-4	Cobalt	8.4	MG_KG		Y	0.21	0.63
BAI-24A-056-00	6010B	DRY	15	7440-50-8	Copper	22	MG_KG	J	Y	0.11	0.32
BAI-24A-056-00	6010B	DRY	15	7439-92-1	Lead	55	MG_KG	J	Y	0.073	0.29
BAI-24A-056-00	7470A	DRY	15	7439-97-6	Mercury	0.025	MG_KG	U	N	0.0079	0.025
BAI-24A-056-00	6010B	DRY	15	7439-98-7	Molybdenum	0.63	MG_KG	U	N	0.21	0.63
BAI-24A-056-00	6010B	DRY	15	7440-02-0	Nickel	15	MG_KG	J	Y	0.21	0.63
BAI-24A-056-00	6010B	DRY	15	7782-49-2	Selenium	0.46	MG_KG	J	Y	0.17	0.59
BAI-24A-056-00	6010B	DRY	15	7440-22-4	Silver	0.29	MG_KG	U	N	0.053	0.29
BAI-24A-056-00	6010B	DRY	15	7440-28-0	Thallium	0.59	MG_KG	U	N	0.15	0.59
BAI-24A-056-00	6010B	DRY	15	7440-62-2	Vanadium	42	MG_KG	J	Y	0.11	0.32
BAI-24A-056-00	6010B	DRY	15	7440-66-6	Zinc	55	MG_KG	J	Y	0.21	1.2
BAI-24A-056-00	D2216	WET		-86	Percent Moisture	15	PCT		Y		1
BAI-24A-042-00	8330	WET		99-99-0	4-Nitrotoluene	390	UG_KG	U	N	30	390
BAI-24A-042-00	8330	WET		99-08-1	3-Nitrotoluene	390	UG_KG	U	N	60	390
BAI-24A-037-00	6010B	DRY	13	7440-36-0	Antimony	1.8	MG_KG	J	Y	0.18	0.57
BAI-24A-037-00	6010B	DRY	13	7440-38-2	Arsenic	3	MG_KG	J	Y	0.092	0.29
BAI-24A-037-00	6010B	DRY	13	7440-39-3	Barium	120	MG_KG		Y	0.11	0.33
BAI-24A-037-00	6010B	DRY	13	7440-41-7	Beryllium	0.36	MG_KG		Y	0.022	0.11
BAI-24A-037-00	6010B	DRY	13	7440-43-9	Cadmium	0.14	MG_KG	J	Y	0.055	0.29
BAI-24A-037-00	6010B	DRY	13	7440-47-3	Chromium	14	MG_KG		Y	0.11	0.33

Table A1-1. Raw Data, IR Site 24A, Former Naval Weapons Station Seal Beach Detachment Concord

SAMPLE_NAME	ANALYTICAL_METHOD	SAMPLE_BASIS	PERCENT_MOISTURE	ANALYTE_ID	ANALYTE NAME	ANALYTE_VALUE	RESULT_UNITS	FINAL_QUALIFIER	DETECTED	MDL	MRL
BAI-24A-037-00	6010B	DRY	13	7440-48-4	Cobalt	7.2	MG_KG		Y	0.22	0.66
BAI-24A-038-18	6010B	DRY	13	7439-98-7	Molybdenum	0.41	MG_KG	J	Y	0.21	0.63
BAI-24A-038-18	6010B	DRY	13	7440-02-0	Nickel	17	MG_KG		Y	0.21	0.63
BAI-24A-038-18	6010B	DRY	13	7782-49-2	Selenium	0.57	MG_KG	U	N	0.15	0.57
BAI-24A-038-18	6010B	DRY	13	7440-22-4	Silver	0.13	MG_KG	J	Y	0.078	0.29
BAI-24A-038-18	6010B	DRY	13	7440-28-0	Thallium	0.57	MG_KG	U	N	0.17	0.57
BAI-24A-038-18	6010B	DRY	13	7440-62-2	Vanadium	34	MG_KG		Y	0.1	0.31
BAI-24A-038-18	6010B	DRY	13	7440-66-6	Zinc	58	MG_KG		Y	0.21	1.1
BAI-24A-039-00	6010B	DRY	13	7440-36-0	Antimony	1.9	MG_KG	J	Y	0.18	0.57
BAI-24A-039-00	6010B	DRY	13	7440-38-2	Arsenic	4.2	MG_KG	J	Y	0.094	0.29
BAI-24A-037-00	8330	WET		2691-41-0	HMX	200	UG_KG	U	N	26	200
BAI-24A-037-00	8330	WET		121-82-4	RDX	200	UG_KG	U	N	39	200
BAI-24A-037-00	8330	WET		99-35-4	1,3,5-Trinitrobenzene	200	UG_KG	U	N	35	200
BAI-24A-037-00	8330	WET		99-65-0	1,3-Dinitrobenzene	200	UG_KG	U	N	19	200
BAI-24A-037-00	8330	WET		98-95-3	Nitrobenzene	200	UG_KG	U	N	18	200
BAI-24A-037-00	8330	WET		479-45-8	Tetryl	200	UG_KG	U	N	65	200
BAI-24A-037-00	8330	WET		118-96-7	2,4,6-Trinitrotoluene	200	UG_KG	U	N	13	200
BAI-24A-037-00	8330	WET		35572-78-2	2-amino-4,6-Dinitrotoluene	200	UG_KG	U	N	26	200
BAI-24A-037-00	8330	WET		19406-51-0	4-amino-2,6-Dinitrotoluene	200	UG_KG	U	N	28	200
BAI-24A-037-00	8330	WET		121-14-2	2,4-Dinitrotoluene	200	UG_KG	U	N	19	200
BAI-24A-037-00	8330	WET		606-20-2	2,6-Dinitrotoluene	200	UG_KG	U	N	18	200
BAI-24A-037-00	8330	WET		88-72-2	2-Nitrotoluene	390	UG_KG	U	N	16	390
BAI-24A-037-00	8330	WET		99-99-0	4-Nitrotoluene	390	UG_KG	U	N	30	390
BAI-24A-037-00	8330	WET		99-08-1	3-Nitrotoluene	390	UG_KG	U	N	60	390
BAI-24A-037-18	8330	WET		2691-41-0	HMX	200	UG_KG	U	N	26	200
BAI-24A-037-18	8330	WET		121-82-4	RDX	200	UG_KG	U	N	39	200
BAI-24A-037-18	8330	WET		99-35-4	1,3,5-Trinitrobenzene	200	UG_KG	U	N	35	200
BAI-24A-037-18	8330	WET		99-65-0	1,3-Dinitrobenzene	200	UG_KG	U	N	19	200
BAI-24A-037-18	8330	WET		98-95-3	Nitrobenzene	200	UG_KG	U	N	18	200
BAI-24A-037-18	8330	WET		479-45-8	Tetryl	200	UG_KG	U	N	65	200
BAI-24A-037-18	8330	WET		118-96-7	2,4,6-Trinitrotoluene	200	UG_KG	U	N	13	200
BAI-24A-037-18	8330	WET		35572-78-2	2-amino-4,6-Dinitrotoluene	200	UG_KG	U	N	26	200
BAI-24A-037-18	8330	WET		19406-51-0	4-amino-2,6-Dinitrotoluene	200	UG_KG	U	N	28	200
BAI-24A-037-18	8330	WET		121-14-2	2,4-Dinitrotoluene	200	UG_KG	U	N	19	200
BAI-24A-037-18	8330	WET		606-20-2	2,6-Dinitrotoluene	200	UG_KG	U	N	18	200
BAI-24A-037-18	8330	WET		88-72-2	2-Nitrotoluene	390	UG_KG	U	N	16	390
BAI-24A-037-18	8330	WET		99-99-0	4-Nitrotoluene	390	UG_KG	U	N	30	390
BAI-24A-037-18	8330	WET		99-08-1	3-Nitrotoluene	390	UG_KG	U	N	60	390
BAI-24A-038-00	8330	WET		2691-41-0	HMX	200	UG_KG	U	N	26	200
BAI-24A-038-00	8330	WET		121-82-4	RDX	200	UG_KG	U	N	40	200
BAI-24A-038-00	8330	WET		99-35-4	1,3,5-Trinitrobenzene	200	UG_KG	U	N	35	200
BAI-24A-038-00	8330	WET		99-65-0	1,3-Dinitrobenzene	200	UG_KG	U	N	20	200
BAI-24A-038-00	8330	WET		98-95-3	Nitrobenzene	200	UG_KG	U	N	18	200
BAI-24A-038-00	8330	WET		479-45-8	Tetryl	200	UG_KG	U	N	66	200
BAI-24A-038-00	8330	WET		118-96-7	2,4,6-Trinitrotoluene	200	UG_KG	U	N	13	200
BAI-24A-038-00	8330	WET		35572-78-2	2-amino-4,6-Dinitrotoluene	200	UG_KG	U	N	26	200
BAI-24A-038-00	8330	WET		19406-51-0	4-amino-2,6-Dinitrotoluene	200	UG_KG	U	N	28	200
BAI-24A-038-00	8330	WET		121-14-2	2,4-Dinitrotoluene	200	UG_KG	U	N	19	200
BAI-24A-038-00	8330	WET		606-20-2	2,6-Dinitrotoluene	200	UG_KG	U	N	18	200
BAI-24A-038-00	8330	WET		88-72-2	2-Nitrotoluene	400	UG_KG	U	N	16	400
BAI-24A-038-00	8330	WET		99-99-0	4-Nitrotoluene	400	UG_KG	U	N	24	400
BAI-24A-038-00	8330	WET		99-08-1	3-Nitrotoluene	400	UG_KG	U	N	61	400
BAI-24A-038-18	8330	WET		2691-41-0	HMX	190	UG_KG	U	N	26	190
BAI-24A-038-18	8330	WET		121-82-4	RDX	190	UG_KG	U	N	39	190

Table A1-1. Raw Data, IR Site 24A, Former Naval Weapons Station Seal Beach Detachment Concord

SAMPLE_NAME	ANALYTICAL_METHOD	SAMPLE_BASIS	PERCENT_MOISTURE	ANALYTE_ID	ANALYTE NAME	ANALYTE_VALUE	RESULT_UNITS	FINAL_QUALIFIER	DETECTED	MDL	MRL
BAI-24A-038-18	8330	WET		99-35-4	1,3,5-Trinitrobenzene	190	UG_KG	U	N	34	190
BAI-24A-038-18	8330	WET		99-65-0	1,3-Dinitrobenzene	190	UG_KG	U	N	19	190
BAI-24A-038-18	8330	WET		98-95-3	Nitrobenzene	190	UG_KG	U	N	18	190
BAI-24A-038-18	8330	WET		479-45-8	Tetryl	190	UG_KG	U	N	64	190
BAI-24A-038-18	8330	WET		118-96-7	2,4,6-Trinitrotoluene	190	UG_KG	U	N	13	190
BAI-24A-038-18	8330	WET		35572-78-2	2-amino-4,6-Dinitrotoluene	190	UG_KG	U	N	26	190
BAI-24A-038-18	8330	WET		19406-51-0	4-amino-2,6-Dinitrotoluene	190	UG_KG	U	N	28	190
BAI-24A-038-18	8330	WET		121-14-2	2,4-Dinitrotoluene	190	UG_KG	U	N	19	190
BAI-24A-038-18	8330	WET		606-20-2	2,6-Dinitrotoluene	190	UG_KG	U	N	18	190
BAI-24A-038-18	8330	WET		88-72-2	2-Nitrotoluene	390	UG_KG	U	N	16	390
BAI-24A-038-18	8330	WET		99-99-0	4-Nitrotoluene	390	UG_KG	U	N	30	390
BAI-24A-038-18	8330	WET		99-08-1	3-Nitrotoluene	390	UG_KG	U	N	59	390
BAI-24A-039-00	8330	WET		2691-41-0	HMX	200	UG_KG	U	N	26	200
BAI-24A-039-00	8330	WET		121-82-4	RDX	200	UG_KG	U	N	39	200
BAI-24A-039-00	8330	WET		99-35-4	1,3,5-Trinitrobenzene	200	UG_KG	U	N	35	200
BAI-24A-039-00	8330	WET		99-65-0	1,3-Dinitrobenzene	200	UG_KG	U	N	20	200
BAI-24A-039-00	8330	WET		98-95-3	Nitrobenzene	200	UG_KG	U	N	18	200
BAI-24A-039-00	8330	WET		479-45-8	Tetryl	200	UG_KG	U	N	65	200
BAI-24A-039-00	8330	WET		118-96-7	2,4,6-Trinitrotoluene	200	UG_KG	U	N	22	200
BAI-24A-039-00	8330	WET		35572-78-2	2-amino-4,6-Dinitrotoluene	200	UG_KG	U	N	26	200
BAI-24A-039-00	8330	WET		19406-51-0	4-amino-2,6-Dinitrotoluene	200	UG_KG	U	N	28	200
BAI-24A-039-00	8330	WET		121-14-2	2,4-Dinitrotoluene	200	UG_KG	U	N	19	200
BAI-24A-039-00	8330	WET		606-20-2	2,6-Dinitrotoluene	200	UG_KG	U	N	18	200
BAI-24A-039-00	8330	WET		88-72-2	2-Nitrotoluene	400	UG_KG	U	N	16	400
BAI-24A-039-00	8330	WET		99-99-0	4-Nitrotoluene	400	UG_KG	U	N	30	400
BAI-24A-039-00	8330	WET		99-08-1	3-Nitrotoluene	400	UG_KG	U	N	60	400
BAI-24A-039-18	8330	WET		2691-41-0	HMX	200	UG_KG	U	N	26	200
BAI-24A-039-18	8330	WET		121-82-4	RDX	200	UG_KG	U	N	40	200
BAI-24A-039-18	8330	WET		99-35-4	1,3,5-Trinitrobenzene	200	UG_KG	U	N	35	200
BAI-24A-039-18	8330	WET		99-65-0	1,3-Dinitrobenzene	200	UG_KG	U	N	20	200
BAI-24A-039-18	8330	WET		98-95-3	Nitrobenzene	200	UG_KG	U	N	18	200
BAI-24A-039-18	8330	WET		479-45-8	Tetryl	200	UG_KG	U	N	66	200
BAI-24A-039-18	8330	WET		118-96-7	2,4,6-Trinitrotoluene	200	UG_KG	U	N	13	200
BAI-24A-039-18	8330	WET		35572-78-2	2-amino-4,6-Dinitrotoluene	200	UG_KG	U	N	26	200
BAI-24A-039-18	8330	WET		19406-51-0	4-amino-2,6-Dinitrotoluene	200	UG_KG	U	N	28	200
BAI-24A-039-18	8330	WET		121-14-2	2,4-Dinitrotoluene	200	UG_KG	U	N	19	200
BAI-24A-039-18	8330	WET		606-20-2	2,6-Dinitrotoluene	200	UG_KG	U	N	18	200
BAI-24A-039-18	8330	WET		88-72-2	2-Nitrotoluene	400	UG_KG	U	N	16	400
BAI-24A-039-18	8330	WET		99-99-0	4-Nitrotoluene	400	UG_KG	U	N	31	400
BAI-24A-039-18	8330	WET		99-08-1	3-Nitrotoluene	400	UG_KG	U	N	61	400
BAI-24A-040-00	8330	WET		2691-41-0	HMX	200	UG_KG	U	N	26	200
BAI-24A-040-00	8330	WET		121-82-4	RDX	200	UG_KG	U	N	39	200
BAI-24A-040-00	8330	WET		99-35-4	1,3,5-Trinitrobenzene	200	UG_KG	U	N	34	200
BAI-24A-040-00	8330	WET		99-65-0	1,3-Dinitrobenzene	200	UG_KG	U	N	19	200
BAI-24A-040-00	8330	WET		98-95-3	Nitrobenzene	200	UG_KG	U	N	18	200
BAI-24A-040-00	8330	WET		479-45-8	Tetryl	200	UG_KG	U	N	64	200
BAI-24A-040-00	8330	WET		118-96-7	2,4,6-Trinitrotoluene	200	UG_KG	U	N	13	200
BAI-24A-040-00	8330	WET		35572-78-2	2-amino-4,6-Dinitrotoluene	200	UG_KG	U	N	26	200
BAI-24A-040-00	8330	WET		19406-51-0	4-amino-2,6-Dinitrotoluene	200	UG_KG	U	N	28	200
BAI-24A-040-00	8330	WET		121-14-2	2,4-Dinitrotoluene	200	UG_KG	U	N	19	200
BAI-24A-040-00	8330	WET		606-20-2	2,6-Dinitrotoluene	200	UG_KG	U	N	18	200
BAI-24A-040-00	8330	WET		88-72-2	2-Nitrotoluene	390	UG_KG	U	N	16	390
BAI-24A-040-00	8330	WET		99-99-0	4-Nitrotoluene	390	UG_KG	U	N	30	390
BAI-24A-040-00	8330	WET		99-08-1	3-Nitrotoluene	390	UG_KG	U	N	60	390

Table A1-1. Raw Data, IR Site 24A, Former Naval Weapons Station Seal Beach Detachment Concord

SAMPLE_NAME	ANALYTICAL_METHOD	SAMPLE_BASIS	PERCENT_MOISTURE	ANALYTE_ID	ANALYTE NAME	ANALYTE_VALUE	RESULT_UNITS	FINAL_QUALIFIER	DETECTED	MDL	MRL
BAI-24A-040-18	8330	WET		2691-41-0	HMX	190	UG_KG	U	N	26	190
BAI-24A-040-18	8330	WET		121-82-4	RDX	190	UG_KG	U	N	38	190
BAI-24A-040-18	8330	WET		99-35-4	1,3,5-Trinitrobenzene	190	UG_KG	U	N	34	190
BAI-24A-040-18	8330	WET		99-65-0	1,3-Dinitrobenzene	190	UG_KG	U	N	19	190
BAI-24A-040-18	8330	WET		98-95-3	Nitrobenzene	190	UG_KG	U	N	18	190
BAI-24A-040-18	8330	WET		479-45-8	Tetryl	190	UG_KG	U	N	64	190
BAI-24A-040-18	8330	WET		118-96-7	2,4,6-Trinitrotoluene	190	UG_KG	U	N	13	190
BAI-24A-040-18	8330	WET		35572-78-2	2-amino-4,6-Dinitrotoluene	190	UG_KG	U	N	26	190
BAI-24A-040-18	8330	WET		19406-51-0	4-amino-2,6-Dinitrotoluene	190	UG_KG	U	N	28	190
BAI-24A-040-18	8330	WET		121-14-2	2,4-Dinitrotoluene	190	UG_KG	U	N	19	190
BAI-24A-040-18	8330	WET		606-20-2	2,6-Dinitrotoluene	190	UG_KG	U	N	18	190
BAI-24A-040-18	8330	WET		88-72-2	2-Nitrotoluene	390	UG_KG	U	N	15	390
BAI-24A-040-18	8330	WET		99-99-0	4-Nitrotoluene	390	UG_KG	U	N	30	390
BAI-24A-040-18	8330	WET		99-08-1	3-Nitrotoluene	390	UG_KG	U	N	59	390
BAI-24A-041-18	8330	WET		2691-41-0	HMX	200	UG_KG	U	N	26	200
BAI-24A-041-18	8330	WET		121-82-4	RDX	200	UG_KG	U	N	39	200
BAI-24A-041-18	8330	WET		99-35-4	1,3,5-Trinitrobenzene	200	UG_KG	U	N	35	200
BAI-24A-041-18	8330	WET		99-65-0	1,3-Dinitrobenzene	200	UG_KG	U	N	20	200
BAI-24A-041-18	8330	WET		98-95-3	Nitrobenzene	200	UG_KG	U	N	18	200
BAI-24A-041-18	8330	WET		479-45-8	Tetryl	200	UG_KG	U	N	65	200
BAI-24A-041-18	8330	WET		118-96-7	2,4,6-Trinitrotoluene	200	UG_KG	U	N	13	200
BAI-24A-041-18	8330	WET		35572-78-2	2-amino-4,6-Dinitrotoluene	200	UG_KG	U	N	26	200
BAI-24A-041-18	8330	WET		19406-51-0	4-amino-2,6-Dinitrotoluene	200	UG_KG	U	N	28	200
BAI-24A-041-18	8330	WET		121-14-2	2,4-Dinitrotoluene	200	UG_KG	U	N	19	200
BAI-24A-041-18	8330	WET		606-20-2	2,6-Dinitrotoluene	200	UG_KG	U	N	18	200
BAI-24A-041-18	8330	WET		88-72-2	2-Nitrotoluene	400	UG_KG	U	N	11	400
BAI-24A-041-18	8330	WET		99-99-0	4-Nitrotoluene	400	UG_KG	U	N	30	400
BAI-24A-041-18	8330	WET		99-08-1	3-Nitrotoluene	400	UG_KG	U	N	60	400
BAI-24A-042-00	8330	WET		2691-41-0	HMX	200	UG_KG	U	N	26	200
BAI-24A-042-00	8330	WET		121-82-4	RDX	200	UG_KG	U	N	39	200
BAI-24A-042-00	8330	WET		99-35-4	1,3,5-Trinitrobenzene	200	UG_KG	U	N	34	200
BAI-24A-042-00	8330	WET		99-65-0	1,3-Dinitrobenzene	200	UG_KG	U	N	19	200
BAI-24A-042-00	8330	WET		98-95-3	Nitrobenzene	200	UG_KG	U	N	18	200
BAI-24A-042-00	8330	WET		479-45-8	Tetryl	200	UG_KG	U	N	64	200
BAI-24A-042-00	8330	WET		118-96-7	2,4,6-Trinitrotoluene	200	UG_KG	U	N	13	200
BAI-24A-042-00	8330	WET		35572-78-2	2-amino-4,6-Dinitrotoluene	200	UG_KG	U	N	26	200
BAI-24A-042-00	8330	WET		19406-51-0	4-amino-2,6-Dinitrotoluene	200	UG_KG	U	N	28	200
BAI-24A-042-00	8330	WET		121-14-2	2,4-Dinitrotoluene	200	UG_KG	U	N	19	200
BAI-24A-042-00	8330	WET		606-20-2	2,6-Dinitrotoluene	200	UG_KG	U	N	18	200
BAI-24A-042-00	8330	WET		88-72-2	2-Nitrotoluene	390	UG_KG	U	N	16	390
BAI-24A-037-00	6010B	DRY	13	7440-50-8	Copper	9.3	MG_KG		Y	0.11	0.33
BAI-24A-037-00	6010B	DRY	13	7439-92-1	Lead	28	MG_KG	J	Y	0.081	0.29
BAI-24A-037-00	7470A	DRY	13	7439-97-6	Mercury	0.023	MG_KG	U	N	0.0068	0.023
BAI-24A-037-00	6010B	DRY	13	7439-98-7	Molybdenum	0.25	MG_KG	J	Y	0.22	0.66
BAI-24A-037-00	6010B	DRY	13	7440-02-0	Nickel	12	MG_KG		Y	0.22	0.66
BAI-24A-037-00	6010B	DRY	13	7782-49-2	Selenium	0.57	MG_KG	U	N	0.16	0.57
BAI-24A-037-00	6010B	DRY	13	7440-22-4	Silver	0.29	MG_KG	U	N	0.083	0.29
BAI-24A-037-00	6010B	DRY	13	7440-28-0	Thallium	0.57	MG_KG	U	N	0.18	0.57
BAI-24A-037-00	6010B	DRY	13	7440-62-2	Vanadium	27	MG_KG		Y	0.11	0.33
BAI-24A-037-00	6010B	DRY	13	7440-66-6	Zinc	48	MG_KG		Y	0.22	1.1
BAI-24A-037-18	6010B	DRY	7	7440-36-0	Antimony	0.66	MG_KG	J	Y	0.16	0.54
BAI-24A-037-18	6010B	DRY	7	7440-38-2	Arsenic	2.9	MG_KG	J	Y	0.083	0.27
BAI-24A-037-18	6010B	DRY	7	7440-39-3	Barium	100	MG_KG		Y	0.1	0.3
BAI-24A-037-18	6010B	DRY	7	7440-41-7	Beryllium	0.36	MG_KG		Y	0.02	0.11

Table A1-1. Raw Data, IR Site 24A, Former Naval Weapons Station Seal Beach Detachment Concord

SAMPLE_NAME	ANALYTICAL_METHOD	SAMPLE_BASIS	PERCENT_MOISTURE	ANALYTE_ID	ANALYTE NAME	ANALYTE_VALUE	RESULT_UNITS	FINAL_QUALIFIER	DETECTED	MDL	MRL
BAI-24A-037-18	6010B	DRY	7	7440-43-9	Cadmium	0.14	MG_KG	J	Y	0.05	0.27
BAI-24A-037-18	6010B	DRY	7	7440-47-3	Chromium	13	MG_KG		Y	0.1	0.3
BAI-24A-037-18	6010B	DRY	7	7440-48-4	Cobalt	7	MG_KG		Y	0.2	0.6
BAI-24A-037-18	6010B	DRY	7	7440-50-8	Copper	9	MG_KG		Y	0.1	0.3
BAI-24A-037-18	6010B	DRY	7	7439-92-1	Lead	31	MG_KG	J	Y	0.073	0.27
BAI-24A-037-18	7470A	DRY	7	7439-97-6	Mercury	0.022	MG_KG	U	N	0.0065	0.022
BAI-24A-037-18	6010B	DRY	7	7439-98-7	Molybdenum	0.6	MG_KG	U	N	0.2	0.6
BAI-24A-037-18	6010B	DRY	7	7440-02-0	Nickel	11	MG_KG		Y	0.2	0.6
BAI-24A-037-18	6010B	DRY	7	7782-49-2	Selenium	0.54	MG_KG	U	N	0.15	0.54
BAI-24A-037-18	6010B	DRY	7	7440-22-4	Silver	0.27	MG_KG	U	N	0.074	0.27
BAI-24A-037-18	6010B	DRY	7	7440-28-0	Thallium	0.54	MG_KG	U	N	0.16	0.54
BAI-24A-037-18	6010B	DRY	7	7440-62-2	Vanadium	25	MG_KG		Y	0.1	0.3
BAI-24A-037-18	6010B	DRY	7	7440-66-6	Zinc	44	MG_KG		Y	0.2	1.1
BAI-24A-038-00	6010B	DRY	15	7440-36-0	Antimony	2.6	MG_KG	J	Y	0.17	0.59
BAI-24A-038-00	6010B	DRY	15	7440-38-2	Arsenic	2.7	MG_KG	J	Y	0.09	0.29
BAI-24A-038-00	6010B	DRY	15	7440-39-3	Barium	130	MG_KG		Y	0.11	0.33
BAI-24A-038-00	6010B	DRY	15	7440-41-7	Beryllium	0.42	MG_KG		Y	0.022	0.12
BAI-24A-038-00	6010B	DRY	15	7440-43-9	Cadmium	0.17	MG_KG	J	Y	0.054	0.29
BAI-24A-038-00	6010B	DRY	15	7440-47-3	Chromium	16	MG_KG		Y	0.11	0.33
BAI-24A-038-00	6010B	DRY	15	7440-48-4	Cobalt	8.2	MG_KG		Y	0.22	0.65
BAI-24A-038-00	6010B	DRY	15	7440-50-8	Copper	11	MG_KG		Y	0.11	0.33
BAI-24A-038-00	6010B	DRY	15	7439-92-1	Lead	24	MG_KG	J	Y	0.08	0.29
BAI-24A-038-00	7470A	DRY	15	7439-97-6	Mercury	0.025	MG_KG	U	N	0.0079	0.025
BAI-24A-038-00	6010B	DRY	15	7439-98-7	Molybdenum	0.65	MG_KG	U	N	0.22	0.65
BAI-24A-038-00	6010B	DRY	15	7440-02-0	Nickel	14	MG_KG		Y	0.22	0.65
BAI-24A-038-00	6010B	DRY	15	7782-49-2	Selenium	0.59	MG_KG	U	N	0.16	0.59
BAI-24A-038-00	6010B	DRY	15	7440-22-4	Silver	0.29	MG_KG	U	N	0.081	0.29
BAI-24A-038-00	6010B	DRY	15	7440-28-0	Thallium	0.59	MG_KG	U	N	0.18	0.59
BAI-24A-038-00	6010B	DRY	15	7440-62-2	Vanadium	31	MG_KG		Y	0.11	0.33
BAI-24A-038-00	6010B	DRY	15	7440-66-6	Zinc	53	MG_KG		Y	0.22	1.2
BAI-24A-038-18	6010B	DRY	13	7440-36-0	Antimony	3.1	MG_KG	J	Y	0.17	0.57
BAI-24A-038-18	6010B	DRY	13	7440-38-2	Arsenic	4	MG_KG	J	Y	0.087	0.29
BAI-24A-038-18	6010B	DRY	13	7440-39-3	Barium	120	MG_KG		Y	0.1	0.31
BAI-24A-038-18	6010B	DRY	13	7440-41-7	Beryllium	0.49	MG_KG		Y	0.021	0.11
BAI-24A-038-18	6010B	DRY	13	7440-43-9	Cadmium	0.18	MG_KG	J	Y	0.052	0.29
BAI-24A-038-18	6010B	DRY	13	7440-47-3	Chromium	18	MG_KG		Y	0.1	0.31
BAI-24A-038-18	6010B	DRY	13	7440-48-4	Cobalt	9.1	MG_KG		Y	0.21	0.63
BAI-24A-038-18	6010B	DRY	13	7440-50-8	Copper	18	MG_KG		Y	0.1	0.31
BAI-24A-038-18	6010B	DRY	13	7439-92-1	Lead	180	MG_KG	J	Y	0.076	0.29
BAI-24A-038-18	7470A	DRY	13	7439-97-6	Mercury	0.024	MG_KG	U	N	0.0077	0.024
BAI-24A-039-00	6010B	DRY	13	7440-39-3	Barium	120	MG_KG		Y	0.11	0.34
BAI-24A-039-00	6010B	DRY	13	7440-41-7	Beryllium	0.5	MG_KG		Y	0.023	0.11
BAI-24A-039-00	6010B	DRY	13	7440-43-9	Cadmium	0.19	MG_KG	J	Y	0.056	0.29
BAI-24A-039-00	6010B	DRY	13	7440-47-3	Chromium	18	MG_KG		Y	0.11	0.34
BAI-24A-039-00	6010B	DRY	13	7440-48-4	Cobalt	10	MG_KG		Y	0.23	0.68
BAI-24A-039-00	6010B	DRY	13	7440-50-8	Copper	12	MG_KG		Y	0.11	0.34
BAI-24A-039-00	6010B	DRY	13	7439-92-1	Lead	19	MG_KG	J	Y	0.082	0.29
BAI-24A-039-00	7470A	DRY	13	7439-97-6	Mercury	0.025	MG_KG	U	N	0.0079	0.025
BAI-24A-039-00	6010B	DRY	13	7439-98-7	Molybdenum	0.53	MG_KG	J	Y	0.23	0.68
BAI-24A-039-00	6010B	DRY	13	7440-02-0	Nickel	17	MG_KG		Y	0.23	0.68
BAI-24A-039-00	6010B	DRY	13	7782-49-2	Selenium	0.57	MG_KG	U	N	0.16	0.57
BAI-24A-039-00	6010B	DRY	13	7440-22-4	Silver	0.29	MG_KG	U	N	0.084	0.29
BAI-24A-039-00	6010B	DRY	13	7440-28-0	Thallium	0.57	MG_KG	U	N	0.18	0.57
BAI-24A-039-00	6010B	DRY	13	7440-62-2	Vanadium	36	MG_KG		Y	0.11	0.34

Table A1-1. Raw Data, IR Site 24A, Former Naval Weapons Station Seal Beach Detachment Concord

SAMPLE_NAME	ANALYTICAL_METHOD	SAMPLE_BASIS	PERCENT_MOISTURE	ANALYTE_ID	ANALYTE NAME	ANALYTE_VALUE	RESULT_UNITS	FINAL_QUALIFIER	DETECTED	MDL	MRL
BAI-24A-039-00	6010B	DRY	13	7440-66-6	Zinc	60	MG_KG		Y	0.23	1.1
BAI-24A-039-18	6010B	DRY	13	7440-36-0	Antimony	4.5	MG_KG	J	Y	0.18	0.57
BAI-24A-039-18	6010B	DRY	13	7440-38-2	Arsenic	4.8	MG_KG	J	Y	0.093	0.29
BAI-24A-039-18	6010B	DRY	13	7440-39-3	Barium	140	MG_KG		Y	0.11	0.33
BAI-24A-039-18	6010B	DRY	13	7440-41-7	Beryllium	0.55	MG_KG		Y	0.022	0.11
BAI-24A-039-18	6010B	DRY	13	7440-43-9	Cadmium	0.19	MG_KG	J	Y	0.056	0.29
BAI-24A-039-18	6010B	DRY	13	7440-47-3	Chromium	20	MG_KG		Y	0.11	0.33
BAI-24A-039-18	6010B	DRY	13	7440-48-4	Cobalt	9.7	MG_KG		Y	0.22	0.67
BAI-24A-039-18	6010B	DRY	13	7440-50-8	Copper	28	MG_KG		Y	0.11	0.33
BAI-24A-039-18	6010B	DRY	13	7439-92-1	Lead	120	MG_KG	J	Y	0.081	0.29
BAI-24A-039-18	7470A	DRY	13	7439-97-6	Mercury	0.023	MG_KG	U	N	0.0074	0.023
BAI-24A-039-18	6010B	DRY	13	7439-98-7	Molybdenum	0.25	MG_KG	J	Y	0.22	0.67
BAI-24A-039-18	6010B	DRY	13	7440-02-0	Nickel	19	MG_KG		Y	0.22	0.67
BAI-24A-039-18	6010B	DRY	13	7782-49-2	Selenium	0.57	MG_KG	U	N	0.16	0.57
BAI-24A-039-18	6010B	DRY	13	7440-22-4	Silver	0.15	MG_KG	J	Y	0.083	0.29
BAI-24A-039-18	6010B	DRY	13	7440-28-0	Thallium	0.57	MG_KG	U	N	0.18	0.57
BAI-24A-039-18	6010B	DRY	13	7440-62-2	Vanadium	38	MG_KG		Y	0.11	0.33
BAI-24A-039-18	6010B	DRY	13	7440-66-6	Zinc	67	MG_KG		Y	0.22	1.1
BAI-24A-040-00	6010B	DRY	12	7440-36-0	Antimony	2.8	MG_KG	J	Y	0.17	0.57
BAI-24A-040-00	6010B	DRY	12	7440-38-2	Arsenic	3.1	MG_KG	J	Y	0.089	0.28
BAI-24A-040-00	6010B	DRY	12	7440-39-3	Barium	120	MG_KG		Y	0.11	0.32
BAI-24A-040-00	6010B	DRY	12	7440-41-7	Beryllium	0.45	MG_KG		Y	0.021	0.11
BAI-24A-040-00	6010B	DRY	12	7440-43-9	Cadmium	0.18	MG_KG	J	Y	0.054	0.28
BAI-24A-040-00	6010B	DRY	12	7440-47-3	Chromium	16	MG_KG		Y	0.11	0.32
BAI-24A-040-00	6010B	DRY	12	7440-48-4	Cobalt	8.8	MG_KG		Y	0.21	0.64
BAI-24A-040-00	6010B	DRY	12	7440-50-8	Copper	11	MG_KG		Y	0.11	0.32
BAI-24A-040-00	6010B	DRY	12	7439-92-1	Lead	14	MG_KG	J	Y	0.078	0.28
BAI-24A-040-00	7470A	DRY	12	7439-97-6	Mercury	0.023	MG_KG	U	N	0.0069	0.023
BAI-24A-040-00	6010B	DRY	12	7439-98-7	Molybdenum	0.43	MG_KG	J	Y	0.21	0.64
BAI-24A-040-00	6010B	DRY	12	7440-02-0	Nickel	16	MG_KG		Y	0.21	0.64
BAI-24A-040-00	6010B	DRY	12	7782-49-2	Selenium	0.57	MG_KG	U	N	0.16	0.57
BAI-24A-040-00	6010B	DRY	12	7440-22-4	Silver	0.28	MG_KG	U	N	0.08	0.28
BAI-24A-040-00	6010B	DRY	12	7440-28-0	Thallium	0.57	MG_KG	U	N	0.17	0.57
BAI-24A-040-00	6010B	DRY	12	7440-62-2	Vanadium	32	MG_KG		Y	0.11	0.32
BAI-24A-040-00	6010B	DRY	12	7440-66-6	Zinc	52	MG_KG		Y	0.21	1.1
BAI-24A-040-18	6010B	DRY	15	7440-36-0	Antimony	3.4	MG_KG	J	Y	0.18	0.59
BAI-24A-040-18	6010B	DRY	15	7440-38-2	Arsenic	5	MG_KG	J	Y	0.092	0.29
BAI-24A-040-18	6010B	DRY	15	7440-39-3	Barium	130	MG_KG		Y	0.11	0.33
BAI-24A-040-18	6010B	DRY	15	7440-41-7	Beryllium	0.6	MG_KG		Y	0.022	0.12
BAI-24A-040-18	6010B	DRY	15	7440-43-9	Cadmium	0.2	MG_KG	J	Y	0.055	0.29
BAI-24A-040-18	6010B	DRY	15	7440-47-3	Chromium	19	MG_KG		Y	0.11	0.33
BAI-24A-040-18	6010B	DRY	15	7440-48-4	Cobalt	10	MG_KG		Y	0.22	0.67
BAI-24A-040-18	6010B	DRY	15	7440-50-8	Copper	19	MG_KG		Y	0.11	0.33
BAI-24A-040-18	6010B	DRY	15	7439-92-1	Lead	24	MG_KG	J	Y	0.081	0.29
BAI-24A-040-18	7470A	DRY	15	7439-97-6	Mercury	0.015	MG_KG	J	Y	0.008	0.026
BAI-24A-040-18	6010B	DRY	15	7439-98-7	Molybdenum	0.67	MG_KG	U	N	0.22	0.67
BAI-24A-040-18	6010B	DRY	15	7440-02-0	Nickel	19	MG_KG		Y	0.22	0.67
BAI-24A-040-18	6010B	DRY	15	7782-49-2	Selenium	0.59	MG_KG	U	N	0.16	0.59
BAI-24A-040-18	6010B	DRY	15	7440-22-4	Silver	0.29	MG_KG	U	N	0.083	0.29
BAI-24A-040-18	6010B	DRY	15	7440-28-0	Thallium	0.59	MG_KG	U	N	0.18	0.59
BAI-24A-040-18	6010B	DRY	15	7440-62-2	Vanadium	38	MG_KG		Y	0.11	0.33
BAI-24A-040-18	6010B	DRY	15	7440-66-6	Zinc	60	MG_KG		Y	0.22	1.2
BAI-24A-041-18	6010B	DRY	13	7440-36-0	Antimony	2.8	MG_KG	J	Y	0.18	0.57
BAI-24A-041-18	6010B	DRY	13	7440-38-2	Arsenic	5.1	MG_KG	J	Y	0.095	0.29

Table A1-1. Raw Data, IR Site 24A, Former Naval Weapons Station Seal Beach Detachment Concord

SAMPLE_NAME	ANALYTICAL_METHOD	SAMPLE_BASIS	PERCENT_MOISTURE	ANALYTE_ID	ANALYTE NAME	ANALYTE_VALUE	RESULT_UNITS	FINAL_QUALIFIER	DETECTED	MDL	MRL
BAI-24A-041-18	6010B	DRY	13	7440-39-3	Barium	110	MG_KG		Y	0.11	0.34
BAI-24A-041-18	6010B	DRY	13	7440-41-7	Beryllium	0.53	MG_KG		Y	0.023	0.11
BAI-24A-041-18	6010B	DRY	13	7440-43-9	Cadmium	0.22	MG_KG	J	Y	0.057	0.29
BAI-24A-041-18	6010B	DRY	13	7440-47-3	Chromium	19	MG_KG		Y	0.11	0.34
BAI-24A-041-18	6010B	DRY	13	7440-48-4	Cobalt	10	MG_KG		Y	0.23	0.69
BAI-24A-041-18	6010B	DRY	13	7440-50-8	Copper	16	MG_KG		Y	0.11	0.34
BAI-24A-041-18	6010B	DRY	13	7439-92-1	Lead	8.4	MG_KG	J	Y	0.084	0.29
BAI-24A-041-18	7470A	DRY	13	7439-97-6	Mercury	0.011	MG_KG	J	Y	0.0066	0.023
BAI-24A-041-18	6010B	DRY	13	7439-98-7	Molybdenum	0.38	MG_KG	J	Y	0.23	0.69
BAI-24A-041-18	6010B	DRY	13	7440-02-0	Nickel	18	MG_KG		Y	0.23	0.69
BAI-24A-041-18	6010B	DRY	13	7782-49-2	Selenium	0.57	MG_KG	U	N	0.17	0.57
BAI-24A-041-18	6010B	DRY	13	7440-22-4	Silver	0.29	MG_KG	U	N	0.086	0.29
BAI-24A-041-18	6010B	DRY	13	7440-28-0	Thallium	0.57	MG_KG	U	N	0.19	0.57
BAI-24A-041-18	6010B	DRY	13	7440-62-2	Vanadium	36	MG_KG		Y	0.11	0.34
BAI-24A-041-18	6010B	DRY	13	7440-66-6	Zinc	58	MG_KG		Y	0.23	1.1
BAI-24A-042-00	6010B	DRY	23	7440-36-0	Antimony	2.7	MG_KG	J	Y	0.2	0.65
BAI-24A-042-00	6010B	DRY	23	7440-38-2	Arsenic	4.3	MG_KG	J	Y	0.1	0.32
BAI-24A-042-00	6010B	DRY	23	7440-39-3	Barium	240	MG_KG		Y	0.13	0.38
BAI-24A-042-00	6010B	DRY	23	7440-41-7	Beryllium	0.59	MG_KG		Y	0.025	0.13
BAI-24A-042-00	6010B	DRY	23	7440-43-9	Cadmium	0.24	MG_KG	J	Y	0.063	0.32
BAI-24A-042-00	6010B	DRY	23	7440-47-3	Chromium	24	MG_KG		Y	0.13	0.38
BAI-24A-042-00	6010B	DRY	23	7440-48-4	Cobalt	11	MG_KG		Y	0.25	0.76
BAI-24A-042-00	6010B	DRY	23	7440-50-8	Copper	24	MG_KG		Y	0.13	0.38
BAI-24A-042-00	6010B	DRY	23	7439-92-1	Lead	49	MG_KG	J	Y	0.092	0.32
BAI-24A-042-00	7470A	DRY	23	7439-97-6	Mercury	0.017	MG_KG	J	Y	0.0079	0.026
BAI-24A-042-00	6010B	DRY	23	7439-98-7	Molybdenum	0.37	MG_KG	J	Y	0.25	0.76
BAI-24A-042-00	6010B	DRY	23	7440-02-0	Nickel	20	MG_KG		Y	0.25	0.76
BAI-24A-042-00	6010B	DRY	23	7782-49-2	Selenium	0.65	MG_KG	U	N	0.18	0.65
BAI-24A-042-00	6010B	DRY	23	7440-22-4	Silver	0.32	MG_KG	U	N	0.094	0.32
BAI-24A-042-00	6010B	DRY	23	7440-28-0	Thallium	0.65	MG_KG	U	N	0.21	0.65
BAI-24A-042-00	6010B	DRY	23	7440-62-2	Vanadium	40	MG_KG		Y	0.13	0.38
BAI-24A-042-00	6010B	DRY	23	7440-66-6	Zinc	73	MG_KG		Y	0.25	1.3
BAI-24A-037-00	D2216	WET		-86	Percent Moisture	13	PCT		Y		1
BAI-24A-037-18	D2216	WET		-86	Percent Moisture	7	PCT		Y		1
BAI-24A-038-00	D2216	WET		-86	Percent Moisture	15	PCT		Y		1
BAI-24A-038-18	D2216	WET		-86	Percent Moisture	13	PCT		Y		1
BAI-24A-039-00	D2216	WET		-86	Percent Moisture	13	PCT		Y		1
BAI-24A-039-18	D2216	WET		-86	Percent Moisture	13	PCT		Y		1
BAI-24A-040-00	D2216	WET		-86	Percent Moisture	12	PCT		Y		1
BAI-24A-040-18	D2216	WET		-86	Percent Moisture	15	PCT		Y		1
BAI-24A-041-18	D2216	WET		-86	Percent Moisture	13	PCT		Y		1
BAI-24A-042-00	D2216	WET		-86	Percent Moisture	23	PCT		Y		1
BAI-24A-041-00	8330	WET		2691-41-0	HMX	200	UG_KG	U	N	15	200
BAI-24A-041-00	8330	WET		121-82-4	RDX	200	UG_KG	U	N	21	200
BAI-24A-041-00	8330	WET		99-35-4	1,3,5-Trinitrobenzene	200	UG_KG	U	N	27	200
BAI-24A-041-00	8330	WET		99-65-0	1,3-Dinitrobenzene	200	UG_KG	U	N	4.6	200
BAI-24A-041-00	8330	WET		98-95-3	Nitrobenzene	200	UG_KG	U	N	16	200
BAI-24A-041-00	8330	WET		479-45-8	Tetryl	200	UG_KG	U	N	56	200
BAI-24A-041-00	8330	WET		118-96-7	2,4,6-Trinitrotoluene	200	UG_KG	U	N	30	200
BAI-24A-041-00	8330	WET		35572-78-2	2-amino-4,6-Dinitrotoluene	200	UG_KG	U	N	18	200
BAI-24A-041-00	8330	WET		19406-51-0	4-amino-2,6-Dinitrotoluene	200	UG_KG	U	N	39	200
BAI-24A-041-00	8330	WET		121-14-2	2,4-Dinitrotoluene	200	UG_KG	U	N	21	200
BAI-24A-041-00	8330	WET		606-20-2	2,6-Dinitrotoluene	200	UG_KG	U	N	22	200
BAI-24A-041-00	8330	WET		88-72-2	2-Nitrotoluene	390	UG_KG	U	N	28	390

Table A1-1. Raw Data, IR Site 24A, Former Naval Weapons Station Seal Beach Detachment Concord

SAMPLE_NAME	ANALYTICAL_METHOD	SAMPLE_BASIS	PERCENT_MOISTURE	ANALYTE_ID	ANALYTE NAME	ANALYTE_VALUE	RESULT_UNITS	FINAL_QUALIFIER	DETECTED	MDL	MRL
BAI-24A-041-00	8330	WET		99-99-0	4-Nitrotoluene	390	UG_KG	U	N	28	390
BAI-24A-041-00	8330	WET		99-08-1	3-Nitrotoluene	390	UG_KG	U	N	40	390
BAI-24A-041-00	6010B	DRY	20	7440-36-0	Antimony	0.86	MG_KG	J	Y	0.17	0.63
BAI-24A-041-00	6010B	DRY	20	7440-38-2	Arsenic	4.4	MG_KG	J	Y	0.083	0.31
BAI-24A-041-00	6010B	DRY	20	7440-39-3	Barium	200	MG_KG		Y	0.11	0.34
BAI-24A-041-00	6010B	DRY	20	7440-41-7	Beryllium	0.49	MG_KG		Y	0.023	0.13
BAI-24A-041-00	6010B	DRY	20	7440-43-9	Cadmium	0.31	MG_KG	U	N	0.057	0.31
BAI-24A-041-00	6010B	DRY	20	7440-47-3	Chromium	22	MG_KG		Y	0.11	0.34
BAI-24A-041-00	6010B	DRY	20	7440-48-4	Cobalt	8.7	MG_KG		Y	0.23	0.68
BAI-24A-041-00	6010B	DRY	20	7440-50-8	Copper	19	MG_KG		Y	0.11	0.34
BAI-24A-041-00	6010B	DRY	20	7439-92-1	Lead	43	MG_KG	J	Y	0.079	0.31
BAI-24A-041-00	7470A	DRY	20	7439-97-6	Mercury	0.018	MG_KG	J	Y	0.0074	0.025
BAI-24A-041-00	6010B	DRY	20	7439-98-7	Molybdenum	0.68	MG_KG	U	N	0.23	0.68
BAI-24A-041-00	6010B	DRY	20	7440-02-0	Nickel	16	MG_KG		Y	0.23	0.68
BAI-24A-041-00	6010B	DRY	20	7782-49-2	Selenium	0.28	MG_KG	J	Y	0.18	0.63
BAI-24A-041-00	6010B	DRY	20	7440-22-4	Silver	0.31	MG_KG	U	N	0.057	0.31
BAI-24A-041-00	6010B	DRY	20	7440-28-0	Thallium	0.63	MG_KG	U	N	0.16	0.63
BAI-24A-041-00	6010B	DRY	20	7440-62-2	Vanadium	37	MG_KG		Y	0.11	0.34
BAI-24A-041-00	6010B	DRY	20	7440-66-6	Zinc	62	MG_KG		Y	0.23	1.3
BAI-24A-041-00	D2216	WET		-86	Percent Moisture	20	PCT		Y		1
BAI-24A-045-00	8330	WET		2691-41-0	HMX	200	UG_KG	U	N	26	200
BAI-24A-045-00	8330	WET		121-82-4	RDX	200	UG_KG	U	N	39	200
BAI-24A-045-00	8330	WET		99-35-4	1,3,5-Trinitrobenzene	200	UG_KG	U	N	35	200
BAI-24A-045-00	8330	WET		99-65-0	1,3-Dinitrobenzene	200	UG_KG	U	N	20	200
BAI-24A-045-00	8330	WET		98-95-3	Nitrobenzene	200	UG_KG	U	N	18	200
BAI-24A-045-00	8330	WET		479-45-8	Tetryl	200	UG_KG	U	N	65	200
BAI-24A-045-00	8330	WET		118-96-7	2,4,6-Trinitrotoluene	200	UG_KG	U	N	13	200
BAI-24A-045-00	8330	WET		35572-78-2	2-amino-4,6-Dinitrotoluene	200	UG_KG	U	N	26	200
BAI-24A-045-00	8330	WET		19406-51-0	4-amino-2,6-Dinitrotoluene	200	UG_KG	U	N	28	200
BAI-24A-045-00	8330	WET		121-14-2	2,4-Dinitrotoluene	200	UG_KG	U	N	19	200
BAI-24A-045-00	8330	WET		606-20-2	2,6-Dinitrotoluene	200	UG_KG	U	N	18	200
BAI-24A-045-00	8330	WET		88-72-2	2-Nitrotoluene	400	UG_KG	U	N	16	400
BAI-24A-045-00	8330	WET		99-99-0	4-Nitrotoluene	400	UG_KG	U	N	30	400
BAI-24A-045-00	8330	WET		99-08-1	3-Nitrotoluene	400	UG_KG	U	N	60	400
BAI-24A-045-18	8330	WET		2691-41-0	HMX	200	UG_KG	U	N	26	200
BAI-24A-045-18	8330	WET		121-82-4	RDX	200	UG_KG	U	N	39	200
BAI-24A-045-18	8330	WET		99-35-4	1,3,5-Trinitrobenzene	200	UG_KG	U	N	35	200
BAI-24A-045-18	8330	WET		99-65-0	1,3-Dinitrobenzene	200	UG_KG	U	N	20	200
BAI-24A-045-18	8330	WET		98-95-3	Nitrobenzene	200	UG_KG	U	N	18	200
BAI-24A-045-18	8330	WET		479-45-8	Tetryl	200	UG_KG	U	N	65	200
BAI-24A-045-18	8330	WET		118-96-7	2,4,6-Trinitrotoluene	200	UG_KG	U	N	13	200
BAI-24A-045-18	8330	WET		35572-78-2	2-amino-4,6-Dinitrotoluene	200	UG_KG	U	N	26	200
BAI-24A-045-18	8330	WET		19406-51-0	4-amino-2,6-Dinitrotoluene	200	UG_KG	U	N	28	200
BAI-24A-045-18	8330	WET		121-14-2	2,4-Dinitrotoluene	200	UG_KG	U	N	19	200
BAI-24A-045-18	8330	WET		606-20-2	2,6-Dinitrotoluene	200	UG_KG	U	N	18	200
BAI-24A-045-18	8330	WET		88-72-2	2-Nitrotoluene	400	UG_KG	U	N	16	400
BAI-24A-045-18	8330	WET		99-99-0	4-Nitrotoluene	400	UG_KG	U	N	31	400
BAI-24A-045-18	8330	WET		99-08-1	3-Nitrotoluene	400	UG_KG	U	N	61	400
BAI-24A-046-00	8330	WET		2691-41-0	HMX	200	UG_KG	U	N	26	200
BAI-24A-046-00	8330	WET		121-82-4	RDX	200	UG_KG	U	N	39	200
BAI-24A-046-00	8330	WET		99-35-4	1,3,5-Trinitrobenzene	200	UG_KG	U	N	35	200
BAI-24A-046-00	8330	WET		99-65-0	1,3-Dinitrobenzene	200	UG_KG	U	N	19	200
BAI-24A-046-00	8330	WET		98-95-3	Nitrobenzene	200	UG_KG	U	N	18	200
BAI-24A-046-00	8330	WET		479-45-8	Tetryl	200	UG_KG	U	N	65	200

Table A1-1. Raw Data, IR Site 24A, Former Naval Weapons Station Seal Beach Detachment Concord

SAMPLE_NAME	ANALYTICAL_METHOD	SAMPLE_BASIS	PERCENT_MOISTURE	ANALYTE_ID	ANALYTE NAME	ANALYTE_VALUE	RESULT_UNITS	FINAL_QUALIFIER	DETECTED	MDL	MRL
BAI-24A-046-00	8330	WET		118-96-7	2,4,6-Trinitrotoluene	200	UG_KG	U	N	13	200
BAI-24A-046-00	8330	WET		35572-78-2	2-amino-4,6-Dinitrotoluene	200	UG_KG	U	N	26	200
BAI-24A-046-00	8330	WET		19406-51-0	4-amino-2,6-Dinitrotoluene	200	UG_KG	U	N	28	200
BAI-24A-046-00	8330	WET		121-14-2	2,4-Dinitrotoluene	200	UG_KG	U	N	19	200
BAI-24A-046-00	8330	WET		606-20-2	2,6-Dinitrotoluene	200	UG_KG	U	N	18	200
BAI-24A-046-00	8330	WET		88-72-2	2-Nitrotoluene	390	UG_KG	U	N	16	390
BAI-24A-046-00	8330	WET		99-99-0	4-Nitrotoluene	390	UG_KG	U	N	30	390
BAI-24A-046-00	8330	WET		99-08-1	3-Nitrotoluene	390	UG_KG	U	N	60	390
BAI-24A-046-18	8330	WET		2691-41-0	HMX	200	UG_KG	U	N	26	200
BAI-24A-046-18	8330	WET		121-82-4	RDX	200	UG_KG	U	N	39	200
BAI-24A-046-18	8330	WET		99-35-4	1,3,5-Trinitrobenzene	200	UG_KG	U	N	35	200
BAI-24A-046-18	8330	WET		99-65-0	1,3-Dinitrobenzene	200	UG_KG	U	N	20	200
BAI-24A-046-18	8330	WET		98-95-3	Nitrobenzene	200	UG_KG	U	N	18	200
BAI-24A-046-18	8330	WET		479-45-8	Tetryl	200	UG_KG	U	N	65	200
BAI-24A-046-18	8330	WET		118-96-7	2,4,6-Trinitrotoluene	200	UG_KG	U	N	13	200
BAI-24A-046-18	8330	WET		35572-78-2	2-amino-4,6-Dinitrotoluene	200	UG_KG	U	N	26	200
BAI-24A-046-18	8330	WET		19406-51-0	4-amino-2,6-Dinitrotoluene	200	UG_KG	U	N	28	200
BAI-24A-046-18	8330	WET		121-14-2	2,4-Dinitrotoluene	200	UG_KG	U	N	19	200
BAI-24A-046-18	8330	WET		606-20-2	2,6-Dinitrotoluene	200	UG_KG	U	N	18	200
BAI-24A-046-18	8330	WET		88-72-2	2-Nitrotoluene	400	UG_KG	U	N	16	400
BAI-24A-050-00	8330	WET		99-99-0	4-Nitrotoluene	400	UG_KG	U	N	79	400
BAI-24A-050-00	8330	WET		99-08-1	3-Nitrotoluene	400	UG_KG	U	N	79	400
BAI-24A-045-00	6010B	DRY	14	7440-36-0	Antimony	0.42	MG_KG	J	Y	0.16	0.58
BAI-24A-045-00	6010B	DRY	14	7440-38-2	Arsenic	5.3	MG_KG	J	Y	0.079	0.29
BAI-24A-045-00	6010B	DRY	14	7440-39-3	Barium	120	MG_KG		Y	0.11	0.33
BAI-24A-045-00	6010B	DRY	14	7440-41-7	Beryllium	0.45	MG_KG		Y	0.022	0.12
BAI-24A-045-00	6010B	DRY	14	7440-43-9	Cadmium	0.29	MG_KG	U	N	0.054	0.29
BAI-24A-045-00	6010B	DRY	14	7440-47-3	Chromium	18	MG_KG		Y	0.11	0.33
BAI-24A-045-00	6010B	DRY	14	7440-48-4	Cobalt	9	MG_KG		Y	0.22	0.65
BAI-24A-045-00	6010B	DRY	14	7440-50-8	Copper	17	MG_KG		Y	0.11	0.33
BAI-24A-045-00	6010B	DRY	14	7439-92-1	Lead	7.1	MG_KG	J	Y	0.076	0.29
BAI-24A-045-00	7470A	DRY	14	7439-97-6	Mercury	0.0068	MG_KG	UJ	N	0.0068	0.023
BAI-24A-045-00	6010B	DRY	14	7439-98-7	Molybdenum	0.65	MG_KG	U	N	0.22	0.65
BAI-24A-045-00	6010B	DRY	14	7440-02-0	Nickel	16	MG_KG		Y	0.22	0.65
BAI-24A-045-00	6010B	DRY	14	7782-49-2	Selenium	0.18	MG_KG	J	Y	0.17	0.58
BAI-24A-045-00	6010B	DRY	14	7440-22-4	Silver	0.29	MG_KG	U	N	0.054	0.29
BAI-24A-045-00	6010B	DRY	14	7440-28-0	Thallium	0.58	MG_KG	U	N	0.15	0.58
BAI-24A-045-00	6010B	DRY	14	7440-62-2	Vanadium	34	MG_KG		Y	0.11	0.33
BAI-24A-045-00	6010B	DRY	14	7440-66-6	Zinc	64	MG_KG		Y	0.22	1.2
BAI-24A-045-18	6010B	DRY	15	7440-36-0	Antimony	0.59	MG_KG	UJ	N	0.17	0.59
BAI-24A-045-18	6010B	DRY	15	7440-38-2	Arsenic	14	MG_KG	J	Y	0.084	0.29
BAI-24A-045-18	6010B	DRY	15	7440-39-3	Barium	160	MG_KG		Y	0.12	0.35
BAI-24A-045-18	6010B	DRY	15	7440-41-7	Beryllium	0.98	MG_KG		Y	0.023	0.12
BAI-24A-045-18	6010B	DRY	15	7440-43-9	Cadmium	0.42	MG_KG		Y	0.058	0.29
BAI-24A-045-18	6010B	DRY	15	7440-47-3	Chromium	21	MG_KG		Y	0.12	0.35
BAI-24A-045-18	6010B	DRY	15	7440-48-4	Cobalt	13	MG_KG		Y	0.23	0.69
BAI-24A-045-18	6010B	DRY	15	7440-50-8	Copper	37	MG_KG		Y	0.12	0.35
BAI-24A-045-18	6010B	DRY	15	7439-92-1	Lead	6.4	MG_KG	J	Y	0.08	0.29
BAI-24A-045-18	7470A	DRY	15	7439-97-6	Mercury	0.024	MG_KG	UJ	N	0.0067	0.024
BAI-24A-045-18	6010B	DRY	15	7439-98-7	Molybdenum	0.69	MG_KG	U	N	0.23	0.69
BAI-24A-045-18	6010B	DRY	15	7440-02-0	Nickel	21	MG_KG		Y	0.23	0.69
BAI-24A-045-18	6010B	DRY	15	7782-49-2	Selenium	1.3	MG_KG		Y	0.18	0.59
BAI-24A-045-18	6010B	DRY	15	7440-22-4	Silver	0.29	MG_KG	U	N	0.058	0.29
BAI-24A-045-18	6010B	DRY	15	7440-28-0	Thallium	0.59	MG_KG	U	N	0.16	0.59

Table A1-1. Raw Data, IR Site 24A, Former Naval Weapons Station Seal Beach Detachment Concord

SAMPLE_NAME	ANALYTICAL_METHOD	SAMPLE_BASIS	PERCENT_MOISTURE	ANALYTE_ID	ANALYTE NAME	ANALYTE_VALUE	RESULT_UNITS	FINAL_QUALIFIER	DETECTED	MDL	MRL
BAI-24A-045-18	6010B	DRY	15	7440-62-2	Vanadium	67	MG_KG		Y	0.12	0.35
BAI-24A-045-18	6010B	DRY	15	7440-66-6	Zinc	77	MG_KG		Y	0.23	1.2
BAI-24A-046-00	6010B	DRY	13	7440-36-0	Antimony	0.62	MG_KG	J	Y	0.15	0.57
BAI-24A-046-00	6010B	DRY	13	7440-38-2	Arsenic	3.5	MG_KG	J	Y	0.075	0.29
BAI-24A-046-00	6010B	DRY	13	7440-39-3	Barium	130	MG_KG		Y	0.1	0.31
BAI-24A-046-00	6010B	DRY	13	7440-41-7	Beryllium	0.27	MG_KG		Y	0.021	0.11
BAI-24A-046-00	6010B	DRY	13	7440-43-9	Cadmium	0.29	MG_KG	U	N	0.052	0.29
BAI-24A-046-00	6010B	DRY	13	7440-47-3	Chromium	15	MG_KG		Y	0.1	0.31
BAI-24A-046-00	6010B	DRY	13	7440-48-4	Cobalt	5.9	MG_KG		Y	0.21	0.62
BAI-24A-046-00	6010B	DRY	13	7440-50-8	Copper	7.7	MG_KG		Y	0.1	0.31
BAI-24A-046-00	6010B	DRY	13	7439-92-1	Lead	3.3	MG_KG	J	Y	0.072	0.29
BAI-24A-046-00	7470A	DRY	13	7439-97-6	Mercury	0.024	MG_KG	UJ	N	0.0077	0.024
BAI-24A-046-00	6010B	DRY	13	7439-98-7	Molybdenum	0.62	MG_KG	U	N	0.21	0.62
BAI-24A-046-00	6010B	DRY	13	7440-02-0	Nickel	10	MG_KG		Y	0.21	0.62
BAI-24A-046-00	6010B	DRY	13	7782-49-2	Selenium	0.46	MG_KG	J	Y	0.17	0.57
BAI-24A-046-00	6010B	DRY	13	7440-22-4	Silver	0.29	MG_KG	U	N	0.052	0.29
BAI-24A-046-00	6010B	DRY	13	7440-28-0	Thallium	0.57	MG_KG	U	N	0.15	0.57
BAI-24A-046-00	6010B	DRY	13	7440-62-2	Vanadium	25	MG_KG		Y	0.1	0.31
BAI-24A-046-00	6010B	DRY	13	7440-66-6	Zinc	33	MG_KG		Y	0.21	1.1
BAI-24A-046-18	6010B	DRY	12	7440-36-0	Antimony	0.55	MG_KG	J	Y	0.16	0.57
BAI-24A-046-18	8330	WET		99-99-0	4-Nitrotoluene	400	UG_KG	U	N	31	400
BAI-24A-046-18	8330	WET		99-08-1	3-Nitrotoluene	400	UG_KG	U	N	61	400
BAI-24A-047-00	8330	WET		2691-41-0	HMX	200	UG_KG	U	N	26	200
BAI-24A-047-00	8330	WET		121-82-4	RDX	200	UG_KG	U	N	39	200
BAI-24A-047-00	8330	WET		99-35-4	1,3,5-Trinitrobenzene	200	UG_KG	U	N	34	200
BAI-24A-047-00	8330	WET		99-65-0	1,3-Dinitrobenzene	200	UG_KG	U	N	19	200
BAI-24A-047-00	8330	WET		98-95-3	Nitrobenzene	200	UG_KG	U	N	18	200
BAI-24A-047-00	8330	WET		479-45-8	Tetryl	200	UG_KG	U	N	64	200
BAI-24A-047-00	8330	WET		118-96-7	2,4,6-Trinitrotoluene	200	UG_KG	U	N	13	200
BAI-24A-047-00	8330	WET		35572-78-2	2-amino-4,6-Dinitrotoluene	200	UG_KG	U	N	26	200
BAI-24A-047-00	8330	WET		19406-51-0	4-amino-2,6-Dinitrotoluene	200	UG_KG	U	N	28	200
BAI-24A-047-00	8330	WET		121-14-2	2,4-Dinitrotoluene	200	UG_KG	U	N	19	200
BAI-24A-047-00	8330	WET		606-20-2	2,6-Dinitrotoluene	200	UG_KG	U	N	18	200
BAI-24A-047-00	8330	WET		88-72-2	2-Nitrotoluene	390	UG_KG	U	N	16	390
BAI-24A-047-00	8330	WET		99-99-0	4-Nitrotoluene	390	UG_KG	U	N	30	390
BAI-24A-047-00	8330	WET		99-08-1	3-Nitrotoluene	390	UG_KG	U	N	60	390
BAI-24A-047-18	8330	WET		2691-41-0	HMX	200	UG_KG	U	N	40	200
BAI-24A-047-18	8330	WET		121-82-4	RDX	200	UG_KG	U	N	40	200
BAI-24A-047-18	8330	WET		99-35-4	1,3,5-Trinitrobenzene	200	UG_KG	U	N	40	200
BAI-24A-047-18	8330	WET		99-65-0	1,3-Dinitrobenzene	200	UG_KG	U	N	40	200
BAI-24A-047-18	8330	WET		98-95-3	Nitrobenzene	200	UG_KG	U	N	40	200
BAI-24A-047-18	8330	WET		479-45-8	Tetryl	200	UG_KG	U	N	40	200
BAI-24A-047-18	8330	WET		118-96-7	2,4,6-Trinitrotoluene	200	UG_KG	U	N	40	200
BAI-24A-047-18	8330	WET		35572-78-2	2-amino-4,6-Dinitrotoluene	200	UG_KG	U	N	50	200
BAI-24A-047-18	8330	WET		19406-51-0	4-amino-2,6-Dinitrotoluene	200	UG_KG	U	N	62	200
BAI-24A-047-18	8330	WET		121-14-2	2,4-Dinitrotoluene	200	UG_KG	U	N	40	200
BAI-24A-047-18	8330	WET		606-20-2	2,6-Dinitrotoluene	200	UG_KG	U	N	40	200
BAI-24A-047-18	8330	WET		88-72-2	2-Nitrotoluene	400	UG_KG	U	N	79	400
BAI-24A-047-18	8330	WET		99-99-0	4-Nitrotoluene	400	UG_KG	U	N	79	400
BAI-24A-047-18	8330	WET		99-08-1	3-Nitrotoluene	400	UG_KG	U	N	79	400
BAI-24A-048-00	8330	WET		2691-41-0	HMX	200	UG_KG	U	N	40	200
BAI-24A-048-00	8330	WET		121-82-4	RDX	200	UG_KG	U	N	40	200
BAI-24A-048-00	8330	WET		99-35-4	1,3,5-Trinitrobenzene	200	UG_KG	U	N	40	200
BAI-24A-048-00	8330	WET		99-65-0	1,3-Dinitrobenzene	200	UG_KG	U	N	40	200

Table A1-1. Raw Data, IR Site 24A, Former Naval Weapons Station Seal Beach Detachment Concord

SAMPLE_NAME	ANALYTICAL_METHOD	SAMPLE_BASIS	PERCENT_MOISTURE	ANALYTE_ID	ANALYTE NAME	ANALYTE_VALUE	RESULT_UNITS	FINAL_QUALIFIER	DETECTED	MDL	MRL
BAI-24A-048-00	8330	WET		98-95-3	Nitrobenzene	200	UG_KG	U	N	40	200
BAI-24A-048-00	8330	WET		479-45-8	Tetryl	200	UG_KG	U	N	40	200
BAI-24A-048-00	8330	WET		118-96-7	2,4,6-Trinitrotoluene	200	UG_KG	U	N	40	200
BAI-24A-048-00	8330	WET		35572-78-2	2-amino-4,6-Dinitrotoluene	200	UG_KG	U	N	50	200
BAI-24A-048-00	8330	WET		19406-51-0	4-amino-2,6-Dinitrotoluene	200	UG_KG	U	N	62	200
BAI-24A-048-00	8330	WET		121-14-2	2,4-Dinitrotoluene	200	UG_KG	U	N	40	200
BAI-24A-048-00	8330	WET		606-20-2	2,6-Dinitrotoluene	200	UG_KG	U	N	40	200
BAI-24A-048-00	8330	WET		88-72-2	2-Nitrotoluene	400	UG_KG	U	N	80	400
BAI-24A-048-00	8330	WET		99-99-0	4-Nitrotoluene	400	UG_KG	U	N	80	400
BAI-24A-048-00	8330	WET		99-08-1	3-Nitrotoluene	400	UG_KG	U	N	80	400
BAI-24A-048-18	8330	WET		2691-41-0	HMX	200	UG_KG	U	N	39	200
BAI-24A-048-18	8330	WET		121-82-4	RDX	200	UG_KG	U	N	39	200
BAI-24A-048-18	8330	WET		99-35-4	1,3,5-Trinitrobenzene	200	UG_KG	U	N	39	200
BAI-24A-048-18	8330	WET		99-65-0	1,3-Dinitrobenzene	200	UG_KG	U	N	39	200
BAI-24A-048-18	8330	WET		98-95-3	Nitrobenzene	200	UG_KG	U	N	39	200
BAI-24A-048-18	8330	WET		479-45-8	Tetryl	200	UG_KG	U	N	39	200
BAI-24A-048-18	8330	WET		118-96-7	2,4,6-Trinitrotoluene	200	UG_KG	U	N	39	200
BAI-24A-048-18	8330	WET		35572-78-2	2-amino-4,6-Dinitrotoluene	200	UG_KG	U	N	49	200
BAI-24A-048-18	8330	WET		19406-51-0	4-amino-2,6-Dinitrotoluene	200	UG_KG	U	N	61	200
BAI-24A-048-18	8330	WET		121-14-2	2,4-Dinitrotoluene	200	UG_KG	U	N	39	200
BAI-24A-048-18	8330	WET		606-20-2	2,6-Dinitrotoluene	200	UG_KG	U	N	39	200
BAI-24A-048-18	8330	WET		88-72-2	2-Nitrotoluene	390	UG_KG	U	N	78	390
BAI-24A-048-18	8330	WET		99-99-0	4-Nitrotoluene	390	UG_KG	U	N	78	390
BAI-24A-048-18	8330	WET		99-08-1	3-Nitrotoluene	390	UG_KG	U	N	78	390
BAI-24A-049-18	8330	WET		2691-41-0	HMX	200	UG_KG	U	N	40	200
BAI-24A-049-18	8330	WET		121-82-4	RDX	200	UG_KG	U	N	40	200
BAI-24A-049-18	8330	WET		99-35-4	1,3,5-Trinitrobenzene	200	UG_KG	U	N	40	200
BAI-24A-049-18	8330	WET		99-65-0	1,3-Dinitrobenzene	200	UG_KG	U	N	40	200
BAI-24A-049-18	8330	WET		98-95-3	Nitrobenzene	200	UG_KG	U	N	40	200
BAI-24A-049-18	8330	WET		479-45-8	Tetryl	200	UG_KG	U	N	40	200
BAI-24A-049-18	8330	WET		118-96-7	2,4,6-Trinitrotoluene	200	UG_KG	U	N	40	200
BAI-24A-049-18	8330	WET		35572-78-2	2-amino-4,6-Dinitrotoluene	200	UG_KG	U	N	50	200
BAI-24A-049-18	8330	WET		19406-51-0	4-amino-2,6-Dinitrotoluene	200	UG_KG	U	N	63	200
BAI-24A-049-18	8330	WET		121-14-2	2,4-Dinitrotoluene	200	UG_KG	U	N	40	200
BAI-24A-049-18	8330	WET		606-20-2	2,6-Dinitrotoluene	200	UG_KG	U	N	40	200
BAI-24A-049-18	8330	WET		88-72-2	2-Nitrotoluene	400	UG_KG	U	N	80	400
BAI-24A-049-18	8330	WET		99-99-0	4-Nitrotoluene	400	UG_KG	U	N	80	400
BAI-24A-049-18	8330	WET		99-08-1	3-Nitrotoluene	400	UG_KG	U	N	80	400
BAI-24A-050-00	8330	WET		2691-41-0	HMX	200	UG_KG	U	N	40	200
BAI-24A-050-00	8330	WET		121-82-4	RDX	200	UG_KG	U	N	40	200
BAI-24A-050-00	8330	WET		99-35-4	1,3,5-Trinitrobenzene	200	UG_KG	U	N	40	200
BAI-24A-050-00	8330	WET		99-65-0	1,3-Dinitrobenzene	200	UG_KG	U	N	40	200
BAI-24A-050-00	8330	WET		98-95-3	Nitrobenzene	200	UG_KG	U	N	40	200
BAI-24A-050-00	8330	WET		479-45-8	Tetryl	200	UG_KG	U	N	40	200
BAI-24A-050-00	8330	WET		118-96-7	2,4,6-Trinitrotoluene	200	UG_KG	U	N	40	200
BAI-24A-050-00	8330	WET		35572-78-2	2-amino-4,6-Dinitrotoluene	200	UG_KG	U	N	50	200
BAI-24A-050-00	8330	WET		19406-51-0	4-amino-2,6-Dinitrotoluene	200	UG_KG	U	N	62	200
BAI-24A-050-00	8330	WET		121-14-2	2,4-Dinitrotoluene	200	UG_KG	U	N	40	200
BAI-24A-050-00	8330	WET		606-20-2	2,6-Dinitrotoluene	200	UG_KG	U	N	40	200
BAI-24A-050-00	8330	WET		88-72-2	2-Nitrotoluene	400	UG_KG	U	N	79	400
BAI-24A-046-18	6010B	DRY	12	7440-38-2	Arsenic	4.2	MG_KG	J	Y	0.076	0.28
BAI-24A-046-18	6010B	DRY	12	7440-39-3	Barium	180	MG_KG		Y	0.11	0.32
BAI-24A-046-18	6010B	DRY	12	7440-41-7	Beryllium	0.4	MG_KG		Y	0.021	0.11
BAI-24A-046-18	6010B	DRY	12	7440-43-9	Cadmium	0.28	MG_KG	U	N	0.053	0.28

Table A1-1. Raw Data, IR Site 24A, Former Naval Weapons Station Seal Beach Detachment Concord

SAMPLE_NAME	ANALYTICAL_METHOD	SAMPLE_BASIS	PERCENT_MOISTURE	ANALYTE_ID	ANALYTE NAME	ANALYTE_VALUE	RESULT_UNITS	FINAL_QUALIFIER	DETECTED	MDL	MRL
BAI-24A-046-18	6010B	DRY	12	7440-47-3	Chromium	17	MG_KG		Y	0.11	0.32
BAI-24A-046-18	6010B	DRY	12	7440-48-4	Cobalt	11	MG_KG		Y	0.21	0.63
BAI-24A-046-18	6010B	DRY	12	7440-50-8	Copper	13	MG_KG		Y	0.11	0.32
BAI-24A-046-18	6010B	DRY	12	7439-92-1	Lead	3.6	MG_KG	J	Y	0.073	0.28
BAI-24A-046-18	7470A	DRY	12	7439-97-6	Mercury	0.014	MG_KG	UJ	N	0.0069	0.023
BAI-24A-050-00	6010B	DRY	11	7440-50-8	Copper	14	MG_KG		Y	0.11	0.32
BAI-24A-050-00	6010B	DRY	11	7439-92-1	Lead	18	MG_KG	J	Y	0.073	0.28
BAI-24A-050-00	7470A	DRY	11	7439-97-6	Mercury	0.011	MG_KG	UJ	N	0.0074	0.023
BAI-24A-050-00	6010B	DRY	11	7439-98-7	Molybdenum	0.63	MG_KG	U	N	0.21	0.63
BAI-24A-050-00	6010B	DRY	11	7440-02-0	Nickel	13	MG_KG		Y	0.21	0.63
BAI-24A-050-00	6010B	DRY	11	7782-49-2	Selenium	0.36	MG_KG	J	Y	0.17	0.56
BAI-24A-050-00	6010B	DRY	11	7440-22-4	Silver	0.28	MG_KG	U	N	0.053	0.28
BAI-24A-050-00	6010B	DRY	11	7440-28-0	Thallium	0.56	MG_KG	U	N	0.15	0.56
BAI-24A-050-00	6010B	DRY	11	7440-62-2	Vanadium	32	MG_KG		Y	0.11	0.32
BAI-24A-050-00	6010B	DRY	11	7440-66-6	Zinc	52	MG_KG		Y	0.21	1.1
BAI-24A-045-00	D2216	WET		-86	Percent Moisture	14	PCT		Y		1
BAI-24A-045-18	D2216	WET		-86	Percent Moisture	15	PCT		Y		1
BAI-24A-046-00	D2216	WET		-86	Percent Moisture	13	PCT		Y		1
BAI-24A-046-18	D2216	WET		-86	Percent Moisture	12	PCT		Y		1
BAI-24A-047-00	D2216	WET		-86	Percent Moisture	13	PCT		Y		1
BAI-24A-047-18	D2216	WET		-86	Percent Moisture	11	PCT		Y		1
BAI-24A-048-00	D2216	WET		-86	Percent Moisture	13	PCT		Y		1
BAI-24A-048-18	D2216	WET		-86	Percent Moisture	5	PCT		Y		1
BAI-24A-049-18	D2216	WET		-86	Percent Moisture	10	PCT		Y		1
BAI-24A-050-00	D2216	WET		-86	Percent Moisture	11	PCT		Y		1
BAI-24A-046-18	6010B	DRY	12	7439-98-7	Molybdenum	0.63	MG_KG	U	N	0.21	0.63
BAI-24A-046-18	6010B	DRY	12	7440-02-0	Nickel	15	MG_KG		Y	0.21	0.63
BAI-24A-046-18	6010B	DRY	12	7782-49-2	Selenium	0.71	MG_KG		Y	0.17	0.57
BAI-24A-046-18	6010B	DRY	12	7440-22-4	Silver	0.28	MG_KG	U	N	0.053	0.28
BAI-24A-046-18	6010B	DRY	12	7440-28-0	Thallium	0.57	MG_KG	U	N	0.15	0.57
BAI-24A-046-18	6010B	DRY	12	7440-62-2	Vanadium	33	MG_KG		Y	0.11	0.32
BAI-24A-046-18	6010B	DRY	12	7440-66-6	Zinc	46	MG_KG		Y	0.21	1.1
BAI-24A-047-00	6010B	DRY	13	7440-36-0	Antimony	0.51	MG_KG	J	Y	0.16	0.57
BAI-24A-047-00	6010B	DRY	13	7440-38-2	Arsenic	4.3	MG_KG	J	Y	0.079	0.29
BAI-24A-047-00	6010B	DRY	13	7440-39-3	Barium	130	MG_KG		Y	0.11	0.33
BAI-24A-047-00	6010B	DRY	13	7440-41-7	Beryllium	0.37	MG_KG		Y	0.022	0.11
BAI-24A-047-00	6010B	DRY	13	7440-43-9	Cadmium	0.067	MG_KG	J	Y	0.054	0.29
BAI-24A-047-00	6010B	DRY	13	7440-47-3	Chromium	16	MG_KG		Y	0.11	0.33
BAI-24A-047-00	6010B	DRY	13	7440-48-4	Cobalt	7.4	MG_KG		Y	0.22	0.65
BAI-24A-047-00	6010B	DRY	13	7440-50-8	Copper	14	MG_KG		Y	0.11	0.33
BAI-24A-047-00	6010B	DRY	13	7439-92-1	Lead	34	MG_KG	J	Y	0.076	0.29
BAI-24A-047-00	7470A	DRY	13	7439-97-6	Mercury	0.014	MG_KG	UJ	N	0.0075	0.024
BAI-24A-047-00	6010B	DRY	13	7439-98-7	Molybdenum	0.65	MG_KG	U	N	0.22	0.65
BAI-24A-047-00	6010B	DRY	13	7440-02-0	Nickel	14	MG_KG		Y	0.22	0.65
BAI-24A-047-00	6010B	DRY	13	7782-49-2	Selenium	0.29	MG_KG	J	Y	0.17	0.57
BAI-24A-047-00	6010B	DRY	13	7440-22-4	Silver	0.29	MG_KG	U	N	0.054	0.29
BAI-24A-047-00	6010B	DRY	13	7440-28-0	Thallium	0.57	MG_KG	U	N	0.15	0.57
BAI-24A-047-00	6010B	DRY	13	7440-62-2	Vanadium	31	MG_KG		Y	0.11	0.33
BAI-24A-047-00	6010B	DRY	13	7440-66-6	Zinc	88	MG_KG		Y	0.22	1.1
BAI-24A-047-18	6010B	DRY	11	7440-36-0	Antimony	0.22	MG_KG	J	Y	0.15	0.56
BAI-24A-047-18	6010B	DRY	11	7440-38-2	Arsenic	3.1	MG_KG	J	Y	0.075	0.28
BAI-24A-047-18	6010B	DRY	11	7440-39-3	Barium	180	MG_KG		Y	0.1	0.31
BAI-24A-047-18	6010B	DRY	11	7440-41-7	Beryllium	0.33	MG_KG		Y	0.021	0.11
BAI-24A-047-18	6010B	DRY	11	7440-43-9	Cadmium	0.28	MG_KG	U	N	0.052	0.28

Table A1-1. Raw Data, IR Site 24A, Former Naval Weapons Station Seal Beach Detachment Concord

SAMPLE_NAME	ANALYTICAL_METHOD	SAMPLE_BASIS	PERCENT_MOISTURE	ANALYTE_ID	ANALYTE NAME	ANALYTE_VALUE	RESULT_UNITS	FINAL_QUALIFIER	DETECTED	MDL	MRL
BAI-24A-047-18	6010B	DRY	11	7440-47-3	Chromium	16	MG_KG		Y	0.1	0.31
BAI-24A-047-18	6010B	DRY	11	7440-48-4	Cobalt	6	MG_KG		Y	0.21	0.62
BAI-24A-047-18	6010B	DRY	11	7440-50-8	Copper	11	MG_KG		Y	0.1	0.31
BAI-24A-047-18	6010B	DRY	11	7439-92-1	Lead	3.1	MG_KG	J	Y	0.072	0.28
BAI-24A-047-18	7470A	DRY	11	7439-97-6	Mercury	0.022	MG_KG	UJ	N	0.0067	0.022
BAI-24A-047-18	6010B	DRY	11	7439-98-7	Molybdenum	0.62	MG_KG	U	N	0.21	0.62
BAI-24A-047-18	6010B	DRY	11	7440-02-0	Nickel	11	MG_KG		Y	0.21	0.62
BAI-24A-047-18	6010B	DRY	11	7782-49-2	Selenium	0.56	MG_KG	U	N	0.16	0.56
BAI-24A-047-18	6010B	DRY	11	7440-22-4	Silver	0.28	MG_KG	U	N	0.052	0.28
BAI-24A-047-18	6010B	DRY	11	7440-28-0	Thallium	0.56	MG_KG	U	N	0.14	0.56
BAI-24A-047-18	6010B	DRY	11	7440-62-2	Vanadium	24	MG_KG		Y	0.1	0.31
BAI-24A-047-18	6010B	DRY	11	7440-66-6	Zinc	39	MG_KG		Y	0.21	1.1
BAI-24A-048-00	6010B	DRY	13	7440-36-0	Antimony	0.66	MG_KG	J	Y	0.16	0.57
BAI-24A-048-00	6010B	DRY	13	7440-38-2	Arsenic	4.8	MG_KG	J	Y	0.077	0.29
BAI-24A-048-00	6010B	DRY	13	7440-39-3	Barium	120	MG_KG		Y	0.11	0.32
BAI-24A-048-00	6010B	DRY	13	7440-41-7	Beryllium	0.45	MG_KG		Y	0.021	0.11
BAI-24A-048-00	6010B	DRY	13	7440-43-9	Cadmium	0.29	MG_KG	U	N	0.053	0.29
BAI-24A-048-00	6010B	DRY	13	7440-47-3	Chromium	18	MG_KG		Y	0.11	0.32
BAI-24A-048-00	6010B	DRY	13	7440-48-4	Cobalt	7.8	MG_KG		Y	0.21	0.64
BAI-24A-048-00	6010B	DRY	13	7440-50-8	Copper	17	MG_KG		Y	0.11	0.32
BAI-24A-048-00	6010B	DRY	13	7439-92-1	Lead	25	MG_KG	J	Y	0.074	0.29
BAI-24A-048-00	7470A	DRY	13	7439-97-6	Mercury	0.017	MG_KG	UJ	N	0.0069	0.023
BAI-24A-048-00	6010B	DRY	13	7439-98-7	Molybdenum	0.64	MG_KG	U	N	0.21	0.64
BAI-24A-048-00	6010B	DRY	13	7440-02-0	Nickel	14	MG_KG		Y	0.21	0.64
BAI-24A-048-00	6010B	DRY	13	7782-49-2	Selenium	0.48	MG_KG	J	Y	0.17	0.57
BAI-24A-048-00	6010B	DRY	13	7440-22-4	Silver	0.29	MG_KG	U	N	0.053	0.29
BAI-24A-048-00	6010B	DRY	13	7440-28-0	Thallium	0.57	MG_KG	U	N	0.15	0.57
BAI-24A-048-00	6010B	DRY	13	7440-62-2	Vanadium	35	MG_KG		Y	0.11	0.32
BAI-24A-048-00	6010B	DRY	13	7440-66-6	Zinc	62	MG_KG		Y	0.21	1.1
BAI-24A-048-18	6010B	DRY	5	7440-36-0	Antimony	0.4	MG_KG	J	Y	0.15	0.53
BAI-24A-048-18	6010B	DRY	5	7440-38-2	Arsenic	4.4	MG_KG	J	Y	0.074	0.26
BAI-24A-048-18	6010B	DRY	5	7440-39-3	Barium	140	MG_KG		Y	0.1	0.31
BAI-24A-048-18	6010B	DRY	5	7440-41-7	Beryllium	0.43	MG_KG		Y	0.02	0.11
BAI-24A-048-18	6010B	DRY	5	7440-43-9	Cadmium	0.26	MG_KG	U	N	0.051	0.26
BAI-24A-048-18	6010B	DRY	5	7440-47-3	Chromium	17	MG_KG		Y	0.1	0.31
BAI-24A-048-18	6010B	DRY	5	7440-48-4	Cobalt	7.8	MG_KG		Y	0.2	0.61
BAI-24A-048-18	6010B	DRY	5	7440-50-8	Copper	15	MG_KG		Y	0.1	0.31
BAI-24A-048-18	6010B	DRY	5	7439-92-1	Lead	3.8	MG_KG	J	Y	0.071	0.26
BAI-24A-048-18	7470A	DRY	5	7439-97-6	Mercury	0.018	MG_KG	UJ	N	0.0062	0.021
BAI-24A-048-18	6010B	DRY	5	7439-98-7	Molybdenum	0.61	MG_KG	U	N	0.2	0.61
BAI-24A-048-18	6010B	DRY	5	7440-02-0	Nickel	13	MG_KG		Y	0.2	0.61
BAI-24A-048-18	6010B	DRY	5	7782-49-2	Selenium	0.56	MG_KG		Y	0.16	0.53
BAI-24A-048-18	6010B	DRY	5	7440-22-4	Silver	0.26	MG_KG	U	N	0.051	0.26
BAI-24A-048-18	6010B	DRY	5	7440-28-0	Thallium	0.53	MG_KG	U	N	0.14	0.53
BAI-24A-048-18	6010B	DRY	5	7440-62-2	Vanadium	33	MG_KG		Y	0.1	0.31
BAI-24A-048-18	6010B	DRY	5	7440-66-6	Zinc	46	MG_KG		Y	0.2	1.1
BAI-24A-049-18	6010B	DRY	10	7440-36-0	Antimony	0.47	MG_KG	J	Y	0.16	0.56
BAI-24A-049-18	6010B	DRY	10	7440-38-2	Arsenic	4.3	MG_KG	J	Y	0.077	0.28
BAI-24A-049-18	6010B	DRY	10	7440-39-3	Barium	130	MG_KG		Y	0.11	0.32
BAI-24A-049-18	6010B	DRY	10	7440-41-7	Beryllium	0.42	MG_KG		Y	0.021	0.11
BAI-24A-049-18	6010B	DRY	10	7440-43-9	Cadmium	0.28	MG_KG	U	N	0.053	0.28
BAI-24A-049-18	6010B	DRY	10	7440-47-3	Chromium	16	MG_KG		Y	0.11	0.32
BAI-24A-049-18	6010B	DRY	10	7440-48-4	Cobalt	8.3	MG_KG		Y	0.21	0.63
BAI-24A-049-18	6010B	DRY	10	7440-50-8	Copper	13	MG_KG		Y	0.11	0.32

Table A1-1. Raw Data, IR Site 24A, Former Naval Weapons Station Seal Beach Detachment Concord

SAMPLE_NAME	ANALYTICAL_METHOD	SAMPLE_BASIS	PERCENT_MOISTURE	ANALYTE_ID	ANALYTE NAME	ANALYTE_VALUE	RESULT_UNITS	FINAL_QUALIFIER	DETECTED	MDL	MRL
BAI-24A-049-18	6010B	DRY	10	7439-92-1	Lead	3.2	MG_KG	J	Y	0.074	0.28
BAI-24A-049-18	7470A	DRY	10	7439-97-6	Mercury	0.022	MG_KG	UJ	N	0.0066	0.022
BAI-24A-049-18	6010B	DRY	10	7439-98-7	Molybdenum	0.63	MG_KG	U	N	0.21	0.63
BAI-24A-049-18	6010B	DRY	10	7440-02-0	Nickel	13	MG_KG		Y	0.21	0.63
BAI-24A-049-18	6010B	DRY	10	7782-49-2	Selenium	0.48	MG_KG	J	Y	0.17	0.56
BAI-24A-049-18	6010B	DRY	10	7440-22-4	Silver	0.28	MG_KG	U	N	0.053	0.28
BAI-24A-049-18	6010B	DRY	10	7440-28-0	Thallium	0.56	MG_KG	U	N	0.15	0.56
BAI-24A-049-18	6010B	DRY	10	7440-62-2	Vanadium	33	MG_KG		Y	0.11	0.32
BAI-24A-049-18	6010B	DRY	10	7440-66-6	Zinc	46	MG_KG		Y	0.21	1.1
BAI-24A-050-00	6010B	DRY	11	7440-36-0	Antimony	0.44	MG_KG	J	Y	0.16	0.56
BAI-24A-050-00	6010B	DRY	11	7440-38-2	Arsenic	4.4	MG_KG	J	Y	0.076	0.28
BAI-24A-050-00	6010B	DRY	11	7440-39-3	Barium	120	MG_KG		Y	0.11	0.32
BAI-24A-050-00	6010B	DRY	11	7440-41-7	Beryllium	0.39	MG_KG		Y	0.021	0.11
BAI-24A-050-00	6010B	DRY	11	7440-43-9	Cadmium	0.28	MG_KG	U	N	0.053	0.28
BAI-24A-050-00	6010B	DRY	11	7440-47-3	Chromium	17	MG_KG		Y	0.11	0.32
BAI-24A-050-00	6010B	DRY	11	7440-48-4	Cobalt	7.8	MG_KG		Y	0.21	0.63
BAI-24A-049-00	8330	WET		2691-41-0	HMX	200	UG_KG	U	N	26	200
BAI-24A-049-00	8330	WET		121-82-4	RDX	200	UG_KG	U	N	39	200
BAI-24A-049-00	8330	WET		99-35-4	1,3,5-Trinitrobenzene	200	UG_KG	U	N	35	200
BAI-24A-049-00	8330	WET		99-65-0	1,3-Dinitrobenzene	200	UG_KG	U	N	19	200
BAI-24A-049-00	8330	WET		98-95-3	Nitrobenzene	200	UG_KG	U	N	18	200
BAI-24A-049-00	8330	WET		479-45-8	Tetryl	200	UG_KG	U	N	65	200
BAI-24A-049-00	8330	WET		118-96-7	2,4,6-Trinitrotoluene	200	UG_KG	U	N	13	200
BAI-24A-049-00	8330	WET		35572-78-2	2-amino-4,6-Dinitrotoluene	200	UG_KG	U	N	26	200
BAI-24A-049-00	8330	WET		19406-51-0	4-amino-2,6-Dinitrotoluene	200	UG_KG	U	N	28	200
BAI-24A-049-00	8330	WET		121-14-2	2,4-Dinitrotoluene	200	UG_KG	U	N	19	200
BAI-24A-049-00	8330	WET		606-20-2	2,6-Dinitrotoluene	200	UG_KG	U	N	18	200
BAI-24A-049-00	8330	WET		88-72-2	2-Nitrotoluene	390	UG_KG	U	N	16	390
BAI-24A-049-00	8330	WET		99-99-0	4-Nitrotoluene	390	UG_KG	U	N	30	390
BAI-24A-049-00	8330	WET		99-08-1	3-Nitrotoluene	390	UG_KG	U	N	60	390
BAI-24A-049-00	6010B	DRY	12	7440-36-0	Antimony	1.3	MG_KG	J	Y	0.16	0.57
BAI-24A-049-00	6010B	DRY	12	7440-38-2	Arsenic	5.4	MG_KG	J	Y	0.076	0.28
BAI-24A-049-00	6010B	DRY	12	7440-39-3	Barium	140	MG_KG	J	Y	0.11	0.32
BAI-24A-049-00	6010B	DRY	12	7440-41-7	Beryllium	0.44	MG_KG		Y	0.021	0.11
BAI-24A-049-00	6010B	DRY	12	7440-43-9	Cadmium	0.28	MG_KG	U	N	0.053	0.28
BAI-24A-049-00	6010B	DRY	12	7440-47-3	Chromium	21	MG_KG	J	Y	0.11	0.32
BAI-24A-049-00	6010B	DRY	12	7440-48-4	Cobalt	7.8	MG_KG		Y	0.21	0.63
BAI-24A-049-00	6010B	DRY	12	7440-50-8	Copper	15	MG_KG	J	Y	0.11	0.32
BAI-24A-049-00	6010B	DRY	12	7439-92-1	Lead	14	MG_KG	J	Y	0.073	0.28
BAI-24A-049-00	7470A	DRY	12	7439-97-6	Mercury	0.023	MG_KG	U	N	0.007	0.023
BAI-24A-049-00	6010B	DRY	12	7439-98-7	Molybdenum	0.63	MG_KG	U	N	0.21	0.63
BAI-24A-049-00	6010B	DRY	12	7440-02-0	Nickel	14	MG_KG	J	Y	0.21	0.63
BAI-24A-049-00	6010B	DRY	12	7782-49-2	Selenium	0.52	MG_KG	J	Y	0.17	0.57
BAI-24A-049-00	6010B	DRY	12	7440-22-4	Silver	0.28	MG_KG	U	N	0.053	0.28
BAI-24A-049-00	6010B	DRY	12	7440-28-0	Thallium	0.57	MG_KG	U	N	0.15	0.57
BAI-24A-049-00	6010B	DRY	12	7440-62-2	Vanadium	39	MG_KG	J	Y	0.11	0.32
BAI-24A-049-00	6010B	DRY	12	7440-66-6	Zinc	56	MG_KG	J	Y	0.21	1.1
BAI-24A-049-00	D2216	WET		-86	Percent Moisture	12	PCT		Y		1
BAI-24A-033-00	6010B	DRY	15	7439-92-1	Lead	940	MG_KG	J	Y	0.41	1.2
BAI-24A-033-18	6010B	DRY	6	7439-92-1	Lead	1500	MG_KG	J	Y	0.36	1.1
BAI-24A-02-18	8270C_SIM	DRY	9	91-20-3	Naphthalene	18	UG_KG	J	Y	7.6	38
BAI-24A-02-18	8270C_SIM	DRY	9	208-96-8	Acenaphthylene	190	UG_KG		Y	7.6	38
BAI-24A-02-18	8270C_SIM	DRY	9	83-32-9	Acenaphthene	61	UG_KG		Y	7.6	38
BAI-24A-02-18	8270C_SIM	DRY	9	86-73-7	Fluorene	50	UG_KG		Y	7.6	38

Table A1-1. Raw Data, IR Site 24A, Former Naval Weapons Station Seal Beach Detachment Concord

SAMPLE_NAME	ANALYTICAL_METHOD	SAMPLE_BASIS	PERCENT_MOISTURE	ANALYTE_ID	ANALYTE NAME	ANALYTE_VALUE	RESULT_UNITS	FINAL_QUALIFIER	DETECTED	MDL	MRL
BAI-24A-02-18	8270C_SIM	DRY	9	85-01-8	Phenanthrene	580	UG_KG		Y	7.6	38
BAI-24A-02-18	8270C_SIM	DRY	9	120-12-7	Anthracene	770	UG_KG		Y	7.6	38
BAI-24A-02-18	8270C_SIM	DRY	9	206-44-0	Fluoranthene	1400	UG_KG		Y	7.6	38
BAI-24A-02-18	8270C_SIM	DRY	9	129-00-0	Pyrene	1400	UG_KG		Y	7.6	38
BAI-24A-02-18	8270C_SIM	DRY	9	56-55-3	Benzo(a)anthracene	1000	UG_KG		Y	7.6	38
BAI-24A-02-18	8270C_SIM	DRY	9	218-01-9	Chrysene	1400	UG_KG		Y	7.6	38
BAI-24A-02-18	8270C_SIM	DRY	9	205-99-2	Benzo(b)fluoranthene	1500	UG_KG		Y	7.6	38
BAI-24A-02-18	8270C_SIM	DRY	9	207-08-9	Benzo(k)fluoranthene	450	UG_KG		Y	7.6	38
BAI-24A-02-18	8270C_SIM	DRY	9	50-32-8	Benzo(a)pyrene	680	UG_KG		Y	7.6	38
BAI-24A-02-18	8270C_SIM	DRY	9	193-39-5	Indeno(1,2,3-cd)yrene	310	UG_KG		Y	7.6	38
BAI-24A-02-18	8270C_SIM	DRY	9	53-70-3	Dibenz(a,h)anthracene	120	UG_KG		Y	7.6	38
BAI-24A-02-18	8270C_SIM	DRY	9	191-24-2	Benzo(g,h,i)perylene	270	UG_KG		Y	7.6	38
BAI-24A-015-00	6010B	DRY	13	7440-66-6	Zinc	2100	MG_KG	J	Y	2.1	11
BAI-24A-022-00	6010B	DRY	13	7439-92-1	Lead	630	MG_KG		Y	0.75	2.2
BAI-24A-030-00	6010B	DRY	17	7439-92-1	Lead	1600	MG_KG		Y	0.83	2.5
BAI-24A-032-00	6010B	DRY	16	7439-92-1	Lead	4300	MG_KG	J	Y	0.83	2.5
BAI-24A-07-00	6010B	DRY	17	7440-50-8	Copper	190	MG_KG	J	Y	2.3	6.9
BAI-24A-07-00	6010B	DRY	17	7439-92-1	Lead	7100	MG_KG	J	Y	1.6	4.8
BAI-24A-07-18	6010B	DRY	14	7440-66-6	Zinc	1600	MG_KG	J	Y	4.3	21
BAI-24A-08-18	6010B	DRY	13	7440-66-6	Zinc	850	MG_KG	J	Y	4.4	22
BAI-24A-11-18	6010B	DRY	14	7440-66-6	Zinc	1300	MG_KG	J	Y	4.3	22
BAI-24A-021-00	6010B	DRY	5	7439-92-1	Lead	29000	MG_KG		Y	7.5	23
BAI-24A-029-00	6010B	DRY	17	7439-92-1	Lead	9800	MG_KG		Y	8.7	26
BAI-24A-025-00	6010B	DRY	19	7440-50-8	Copper	560	MG_KG		Y	11	34
BAI-24A-025-00	6010B	DRY	19	7439-92-1	Lead	9500	MG_KG		Y	8.3	25
BAI-24A-025-18	6010B	DRY	12	7439-92-1	Lead	3000	MG_KG		Y	8.1	24
BAI-24A-026-00	6010B	DRY	17	7440-36-0	Antimony	700	MG_KG	J	Y	18	58
BAI-24A-026-00	6010B	DRY	17	7440-50-8	Copper	12000	MG_KG		Y	12	35
BAI-24A-026-00	6010B	DRY	17	7440-66-6	Zinc	1400	MG_KG		Y	23	120
BAI-24A-026-18	6010B	DRY	4	7439-92-1	Lead	1300	MG_KG		Y	6.9	21
BAI-24A-027-00	6010B	DRY	16	7439-92-1	Lead	2300	MG_KG		Y	8.5	26
BAI-24A-028-00	6010B	DRY	16	7439-92-1	Lead	1500	MG_KG		Y	8.4	25
BAI-24A-026-00	6010B	DRY	17	7439-92-1	Lead	62000	MG_KG		Y	17	51

Notes:

J = A “J” qualifier indicates this compound was detected but at a concentration below the quantitation limit. The result is therefore an estimated value.

U = A "U" qualifier indicates this analyte was analyzed for, but not detected at or above the number indicated which is the reporting limit for that sample.

UJ = A “UJ” qualifier indicates that the analyte was not detected above the reported sample quantitation limit (i.e., the laboratory reporting limit), however, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample

Attachment A2 –

MDL and MRL Evaluation

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Table A2-1. Comparison of Method Detection Limits and Method Reporting Limits for Non-Detect Results for Soil (0-2 feet) to Human-Health-based Soil Screening Benchmarks
IR Site 24A, Former Naval Weapons Station Seal Beach Detachment Concord

		Detected # Samples/	Detection	MDL		MRL			Max MDL >	Max MRL >
Analyte Name	CAS #	Total # Samples	Rate	Min	Max	Min	Max	HH Res RSL	HH Res RSL	HH Res RSL
Inorganic Constituents (mg/kg dw)										
Antimony	7440-36-0	76/80	95%	0.16	0.17	0.55	0.6	31	No	No
Arsenic	7440-38-2	79/80	99%	0.0825	0.0825	0.27	0.27	0.39	No	No
Cadmium	7440-43-9	59/80	74%	0.051	0.057	0.26	0.3	70	No	No
Mercury	7439-97-6	33/80	41%	0.000075	0.008	0.021	0.026	5.6	No	No
Molybdenum	7439-98-7	40/82	49%	0.2	0.23	0.6	0.69	390	No	No
Selenium	7782-49-2	30/80	38%	0.14	0.17	0.52	0.62	390	No	No
Silver	7440-22-4	28/80	35%	0.051	0.088	0.26	0.315	390	No	No
Thallium	7440-28-0	7/80	9%	0.14	0.19	0.52	0.64	NA	NE	NE
Explosives and Related Compounds (ug/kg dw)										
1,3,5-Trinitrobenzene	99-35-4	0/80	0%	25.3	46.0	202.1	254.8	2,200,000	No	No
1,3-Dinitrobenzene	99-65-0	0/80	0%	8.43	46.0	202.13	254.8	6,100	No	No
2,4-Dinitrotoluene	121-14-2	1/80	1%	19.8	51.8	202.1	254.8	1,600	No	No
2,4,6-Trinitrotoluene	118-96-7	0/80	0%	13.5	46.0	202.1	254.8	19,000	No	No
2,6-Dinitrotoluene	606-20-2	0/80	0%	18.8	60.2	202.1	254.8	61,000	No	No
2-amino-4,6-Dinitrotoluene	35572-78-2	0/80	0%	21.6	57.5	202.1	254.8	150,000	No	No
2-Nitrotoluene	88-72-2	0/80	0%	11.6	92.0	410.5	496.8	2,900	No	No
3-Nitrotoluene	99-08-1	0/80	0%	19.8	92.0	410.5	496.8	6,100	No	No
4-amino-2,6-Dinitrotoluene	19406-51-0	0/80	0%	29.2	71.3	202.1	254.8	150,000	No	No
4-Nitrotoluene	99-99-0	1/80	1%	26.4	92.0	410.5	496.8	30,000	No	No
HMX	2691-41-0	0/80	0%	13.2	46.0	202.1	254.8	3,800,000	No	No
Nitrobenzene	98-95-3	0/80	0%	18.1	46.0	202.1	254.8	4,800	No	No
RDX	121-82-4	0/80	0%	12.1	48.1	202.1	254.8	5,500	No	No
Tetryl	479-45-8	0/80	0%	41.1	80.2	202.1	254.8	240,000	No	No
High Molecular Weight Polycyclic Aromatic Hydrocarbons (HMW PAHs) (ug/kg dw)										
Benzo(a)anthracene	56-55-3	9/10	90%	1.1	1.1	5.7	5.7	150	No	No
Benzo(a)pyrene	50-32-8	9/10	90%	1.1	1.1	5.7	5.7	15	No	No
Benzo(k)fluoranthene	207-08-9	9/10	90%	1.1	1.1	5.7	5.7	1,500	No	No
Chrysene	218-01-9	9/10	90%	1.1	1.1	5.7	5.7	15,000	No	No
Dibenz(a,h)anthracene	53-70-3	8/10	80%	1.1	1.2	5.7	5.8	15	No	No
Low Molecular Weight Polycyclic Aromatic Hydrocarbons (LMW PAHs) (ug/kg dw)										
Acenaphthene	83-32-9	5/10	50%	1.1	1.2	5.7	6.1	3,400,000	No	No
Acenaphthylene	208-96-8	8/10	80%	1.1	1.2	5.7	5.8	NA	NE	NE
Fluorene	86-73-7	8/10	80%	1.1	1.2	5.7	5.8	2,300,000	No	No
Naphthalene	91-20-3	4/10	40%	1.1	1.2	5.7	6.1	3,600	No	No
Phenanthrene	85-01-8	9/10	90%	1.1	1.1	5.7	5.7	NA	NE	NE

Notes:
Analytes with at least one non-detect concentration are displayed.

= number
CAS # = chemical abstracts services registry number
HH Res RSL = Human-health-based Residential-land-use Regional Screening Level cited in in USEPA's Regional Screening Level (RSL) tables (http://www.epa.gov/region09/superfund/prg/)
HMW = high molecular weight
LMW = low molecular weight
Max = maximum
MDL = method detection limit
mg/kg dw = milligrams per kilogram dry weight
Min = minimum
MRL = method reporting limit
NE = not established
PAHs = polycyclic aromatic hydrocarbons
ug/kg dw = microgram per kilogram dry weight

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Attachment A3 –

Risk and Hazard Calculation Details; USEPA Residential Reasonable Maximum Exposure (RME)

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Table A3-1. Summary of Risk and Hazard Estimates: Exposure to Soil, USEPA Residential Reasonable Maximum Exposure (RME), IR Site 24A, Former Naval Weapons Station Seal Beach Detachment Concord

		Cancer-Risk Estimate					Noncancer-Hazard Estimate				
Analyte	**Soil EPC** (mg/kg)	Ingestion	Inhalation	Dermal	Multi-Pathway	% of Cumulative	Ingestion	Inhalation	Dermal	Multi-Pathway	% of Cumulative
Inorganic Constituents											
Antimony	8.21E+01	--	--	--			**2.62E+00**	--	4.90E-01	**3.1E+00**	67%
Arsenic	1.09E+01	**2.56E-05**	1.41E-08	**2.42E-06**	**2.8E-05**	73%	4.64E-01	5.12E-04	3.90E-02	5.0E-01	11%
Barium	1.34E+02	--	--	--			8.56E-03	1.89E-04	3.42E-03	1.2E-02	< 1%
Beryllium	4.68E-01	--	3.39E-10	--	3.4E-10	< 1%	2.99E-03	1.65E-05	1.20E-02	1.5E-02	< 1%
Cadmium	3.45E-01	--	1.88E-10	--	1.9E-10	< 1%	4.41E-03	2.43E-05	4.94E-03	9.4E-03	< 1%
Chromium	2.09E+01	--	--	--			1.78E-04	--	3.83E-04	5.6E-04	< 1%
Cobalt	1.02E+01	--	2.77E-08	--	2.8E-08	< 1%	4.34E-01	1.20E-03	1.21E-02	4.5E-01	10%
Copper	1.12E+03	--	--	--			3.59E-01	--	1.01E-02	3.7E-01	8%
Lead	1.02E+04	--	--	--			--	--	--		
Mercury	7.28E-02	--	--	--			5.82E-03	1.71E-07	2.33E-03	8.1E-03	< 1%
Molybdenum	2.70E-01	--	--	--			6.90E-04	--	1.93E-05	7.1E-04	< 1%
Nickel	1.79E+01	--	1.40E-09	--	1.4E-09	< 1%	1.14E-02	1.40E-04	7.99E-03	2.0E-02	< 1%
Selenium	5.69E-01	--	--	--			1.45E-03	2.01E-08	4.07E-05	1.5E-03	< 1%
Silver	1.86E-01	--	--	--			4.76E-04	--	3.33E-04	8.1E-04	< 1%
Thallium	1.84E-01	--	--	--			--	--	--		
Vanadium	4.25E+01	--	--	--			1.09E-01	3.00E-04	3.04E-03	1.1E-01	2%
Zinc	3.66E+02	--	--	--			1.56E-02	--	4.36E-04	1.6E-02	< 1%
Explosives											
2,4-Dinitrotoluene	2.53E-01	1.23E-07	6.79E-12	3.95E-08	1.6E-07	< 1%	1.61E-03	--	4.61E-04	2.1E-03	< 1%
4-Nitrotoluene	9.51E-02	2.38E-09	--	7.52E-10	3.1E-09	< 1%	3.04E-04	--	8.51E-05	3.9E-04	< 1%
High Molecular Weight Polyaromatic Hydrocarbons (HMW PAHs)											
Benzo[a]anthracene	1.00E+00	**1.14E-06**	3.32E-11	4.69E-07	**1.6E-06**	4%	--	--	--		
Benzo[a]pyrene	3.89E-01	**4.44E-06**	1.29E-10	**1.82E-06**	**6.3E-06**	16%	--	--	--		
Benzo[b]fluoranthene	6.93E-01	7.92E-07	2.30E-11	3.25E-07	**1.1E-06**	3%	--	--	--		
Benzo[g,h,i]perylene	1.34E-01	--	--	--			5.70E-05	--	2.08E-05	7.8E-05	< 1%
Benzo[k]fluoranthene	2.57E-01	2.93E-08	8.53E-12	1.20E-08	4.1E-08	< 1%	--	--	--		
Chrysene	7.90E-01	9.02E-09	2.62E-12	3.70E-09	1.3E-08	< 1%	--	--	--		
Dibenz[a,h]anthracene	5.06E-02	5.78E-07	1.83E-11	2.37E-07	8.2E-07	2%	--	--	--		
Indeno[1,2,3-cd]pyrene	1.77E-01	2.03E-07	5.90E-12	8.32E-08	2.9E-07	< 1%	--	--	--		
Pyrene	1.40E+00	--	--	--			5.97E-04	--	2.17E-04	8.1E-04	< 1%
Low Molecular Weight Polyaromatic Hydrocarbons (LMW PAHs)											
Acenaphthene	2.07E-02	--	--	--			4.42E-06	--	1.61E-06	6.0E-06	< 1%
Acenaphthylene	7.68E-02	--	--	--			1.64E-05	--	5.96E-06	2.2E-05	< 1%
Anthracene	3.33E-01	--	--	--			1.42E-05	--	5.16E-06	1.9E-05	< 1%
Fluoranthene	1.40E+00	--	--	--			4.47E-04	--	1.63E-04	6.1E-04	< 1%
Fluorene	3.75E-02	--	--	--			1.20E-05	--	4.36E-06	1.6E-05	< 1%
Naphthalene	6.38E-03	--	6.56E-14	--	6.6E-14	< 1%	4.08E-06	1.50E-09	0.00E+00	4.1E-06	< 1%
Phenanthrene	5.80E-01	--	--	--			2.47E-04	--	9.00E-05	3.4E-04	< 1%
				Cumulative Risk:	**3.8E-05**				**Cumulative Hazard:**	**4.6E+00**	

"--" = data not available or not calculated

Table A3-2. Risk and Hazard Estimates: Incidental Ingestion of Soil, USEPA Residential Reasonable Maximum Exposure (RME), IR Site 24A, Former Naval Weapons Station Seal Beach Detachment Concord

Definition	Variable	Value	
Averaging Time, carcinogens	AT_c	70	yrs
Averaging Time, noncarcinogens, child	$AT_{nc,c}$	6	yrs
Body Weight	BW_a	70	kg
Body Weight	BW_c	15	kg
Conversion Factor	CF_o	1E-06	kg/mg
COPC Concentration in soil	C_{soil}	chemical-specific	mg/kg
Exposure Duration, adult	ED_a	24	yrs
Exposure Duration, child	ED_c	6	yrs
Exposure Frequency	EF	350	days/yr
Fraction Contaminated Soil Ingested	FI	1.0	unitless
Soil Ingestion Rate (adult)	IRS_a	100	mg/day
Soil Ingestion Rate (child)	IRS_c	200	mg/day
Oral Reference Dose	RfD_O	chemical-specific	mg/kg-day
Oral Slope Factor	SF_O	chemical-specific	$(mg/kg\text{-}day)^{-1}$

Equations

Cancer Risk:

$$Risk = SF_o \times \left[C_{soil} \times \left(\frac{IRS_a \times EF \times ED_a \times FI \times CF_o}{BW_a \times AT_c \times 365\ day/year} + \frac{IRS_c \times EF \times ED_c \times FI \times CF_o}{BW_c \times AT_c \times 365\ day/year} \right) \right]$$

Noncancer Hazard:

$$Hazard = \frac{1}{RfD_o} \times \left[C_{soil} \times \left(\frac{IRS_c \times EF \times ED_c \times FI \times CF_o}{BW_c \times AT_{nc,c} \times 365\ day/year} \right) \right]$$

Analyte	C_{soil} (mg/kg)	SF_o $(mg/kg\text{-}day)^{-1}$	Cancer Risk (dimensionless)	% of Total	RfD_o (mg/kg-day)	Noncancer Hazard (dimensionless)	% of Total
Inorganic Constituents							
Antimony	8.21E+01	No Toxicity Value	--	--	4.00E-04	2.62E+00	65%
Arsenic	1.09E+01	1.50E+00	2.56E-05	78%	3.00E-04	4.64E-01	11%
Barium	1.34E+02	No Toxicity Value	--	--	2.00E-01	8.56E-03	< 1%
Beryllium	4.68E-01	No Toxicity Value	--	--	2.00E-03	2.99E-03	< 1%
Cadmium	3.45E-01	No Toxicity Value	--	--	1.00E-03	4.41E-03	< 1%
Chromium	2.09E+01	No Toxicity Value	--	--	1.50E+00	1.78E-04	< 1%
Cobalt	1.02E+01	No Toxicity Value	--	--	3.00E-04	4.34E-01	11%
Copper	1.12E+03	No Toxicity Value	--	--	4.00E-02	3.59E-01	9%
Lead	1.02E+04	No Toxicity Value	--	--	No Toxicity Value	--	--
Mercury	7.28E-02	No Toxicity Value	--	--	1.60E-04	5.82E-03	< 1%
Molybdenum	2.70E-01	No Toxicity Value	--	--	5.00E-03	6.90E-04	< 1%
Nickel	1.79E+01	No Toxicity Value	--	--	2.00E-02	1.14E-02	< 1%
Selenium	5.69E-01	No Toxicity Value	--	--	5.00E-03	1.45E-03	< 1%
Silver	1.86E-01	No Toxicity Value	--	--	5.00E-03	4.76E-04	< 1%
Thallium	1.84E-01	No Toxicity Value	--	--	No Toxicity Value	--	--
Vanadium	4.25E+01	No Toxicity Value	--	--	5.00E-03	1.09E-01	3%
Zinc	3.66E+02	No Toxicity Value	--	--	3.00E-01	1.56E-02	< 1%

Table A3-2. Risk and Hazard Estimates: Incidental Ingestion of Soil, USEPA Residential Reasonable Maximum Exposure (RME), IR Site 24A, Former Naval Weapons Station Seal Beach Detachment Concord

Definition	Variable	Value	
Averaging Time, carcinogens	AT_c	70	yrs
Averaging Time, noncarcinogens, child	$AT_{nc,c}$	6	yrs
Body Weight	BW_a	70	kg
Body Weight	BW_c	15	kg
Conversion Factor	CF_o	1E-06	kg/mg
COPC Concentration in soil	C_{soil}	chemical-specific	mg/kg
Exposure Duration, adult	ED_a	24	yrs
Exposure Duration, child	ED_c	6	yrs
Exposure Frequency	EF	350	days/yr
Fraction Contaminated Soil Ingested	FI	1.0	unitless
Soil Ingestion Rate (adult)	IRS_a	100	mg/day
Soil Ingestion Rate (child)	IRS_c	200	mg/day
Oral Reference Dose	RfD_O	chemical-specific	mg/kg-day
Oral Slope Factor	SF_O	chemical-specific	$(mg/kg\text{-}day)^{-1}$

Equations

Cancer Risk:

$$Risk = SF_o \times \left[C_{soil} \times \left(\frac{IRS_a \times EF \times ED_a \times FI \times CF_o}{BW_a \times AT_c \times 365\ day/year} + \frac{IRS_c \times EF \times ED_c \times FI \times CF_o}{BW_c \times AT_c \times 365\ day/year} \right) \right]$$

Noncancer Hazard:

$$Hazard = \frac{1}{RfD_o} \times \left[C_{soil} \times \left(\frac{IRS_c \times EF \times ED_c \times FI \times CF_o}{BW_c \times AT_{nc,c} \times 365\ day/year} \right) \right]$$

Analyte	C_{soil} (mg/kg)	SF_o $(mg/kg\text{-}day)^{-1}$	Cancer Risk (dimensionless)	% of Total	RfD_o (mg/kg-day)	Noncancer Hazard (dimensionless)	% of Total
Explosives							
2,4-Dinitrotoluene	2.53E-01	3.10E-01	1.23E-07	< 1%	2.00E-03	1.61E-03	< 1%
4-Nitrotoluene	9.51E-02	1.60E-02	2.38E-09	< 1%	4.00E-03	3.04E-04	< 1%
High Molecular Weight Polyaromatic Hydrocarbons (HMW PAHs)							
Benzo[a]anthracene	1.00E+00	7.30E-01	1.14E-06	3%	No Toxicity Value	--	--
Benzo[a]pyrene	3.89E-01	7.30E+00	4.44E-06	14%	No Toxicity Value	--	--
Benzo[b]fluoranthene	6.93E-01	7.30E-01	7.92E-07	2%	No Toxicity Value	--	--
Benzo[g,h,i]perylene	1.34E-01	No Toxicity Value	--	--	3.00E-02	5.70E-05	< 1%
Benzo[k]fluoranthene	2.57E-01	7.30E-02	2.93E-08	< 1%	No Toxicity Value	--	--
Chrysene	7.90E-01	7.30E-03	9.02E-09	< 1%	No Toxicity Value	--	--
Dibenz[a,h]anthracene	5.06E-02	7.30E+00	5.78E-07	2%	No Toxicity Value	--	--
Indeno[1,2,3-cd]pyrene	1.77E-01	7.30E-01	2.03E-07	< 1%	No Toxicity Value	--	--
Pyrene	1.40E+00	No Toxicity Value	--	--	3.00E-02	5.97E-04	< 1%

Table A3-2. Risk and Hazard Estimates: Incidental Ingestion of Soil, USEPA Residential Reasonable Maximum Exposure (RME), IR Site 24A, Former Naval Weapons Station Seal Beach Detachment Concord

Definition	Variable	Value	
Averaging Time, carcinogens	AT_c	70	yrs
Averaging Time, noncarcinogens, child	$AT_{nc,c}$	6	yrs
Body Weight	BW_a	70	kg
Body Weight	BW_c	15	kg
Conversion Factor	CF_o	1E-06	kg/mg
COPC Concentration in soil	C_{soil}	chemical-specific	mg/kg
Exposure Duration, adult	ED_a	24	yrs
Exposure Duration, child	ED_c	6	yrs
Exposure Frequency	EF	350	days/yr
Fraction Contaminated Soil Ingested	FI	1.0	unitless
Soil Ingestion Rate (adult)	IRS_a	100	mg/day
Soil Ingestion Rate (child)	IRS_c	200	mg/day
Oral Reference Dose	RfD_O	chemical-specific	mg/kg-day
Oral Slope Factor	SF_O	chemical-specific	$(mg/kg\text{-}day)^{-1}$

Equations

Cancer Risk:

$$Risk = SF_o \times \left[C_{soil} \times \left(\frac{IRS_a \times EF \times ED_a \times FI \times CF_o}{BW_a \times AT_c \times 365\ day/year} + \frac{IRS_c \times EF \times ED_c \times FI \times CF_o}{BW_c \times AT_c \times 365\ day/year} \right) \right]$$

Noncancer Hazard:

$$Hazard = \frac{1}{RfD_o} \times \left[C_{soil} \times \left(\frac{IRS_c \times EF \times ED_c \times FI \times CF_o}{BW_c \times AT_{nc,c} \times 365\ day/year} \right) \right]$$

Analyte	C_{soil} (mg/kg)	SF_o $(mg/kg\text{-}day)^{-1}$	Cancer Risk (dimensionless)	% of Total	RfD_o (mg/kg-day)	Noncancer Hazard (dimensionless)	% of Total
Low Molecular Weight Polyaromatic Hydrocarbons (LMW PAHs)							
Acenaphthene	2.07E-02	No Toxicity Value	--	--	6.00E-02	4.42E-06	< 1%
Acenaphthylene	7.68E-02	No Toxicity Value	--	--	6.00E-02	1.64E-05	< 1%
Anthracene	3.33E-01	No Toxicity Value	--	--	3.00E-01	1.42E-05	< 1%
Fluoranthene	1.40E+00	No Toxicity Value	--	--	4.00E-02	4.47E-04	< 1%
Fluorene	3.75E-02	No Toxicity Value	--	--	4.00E-02	1.20E-05	< 1%
Naphthalene	6.38E-03	No Toxicity Value	--	--	2.00E-02	4.08E-06	< 1%
Phenanthrene	5.80E-01	No Toxicity Value	--	--	3.00E-02	2.47E-04	< 1%
		Pathway Sum:	Cancer Risk 3.29E-05			Hazard Index 4.04E+00	

"--" = data not available or not calculated

Table A3-3. Risk and Hazard Estimates: Inhalation, USEPA Residential Reasonable Maximum Exposure (RME), IR Site 24A, Former Naval Weapons Station Seal Beach Detachment Concord

Description	Variable	Value
Averaging Time, carcinogens	AT_c	70 yrs
Averaging Time, noncarcinogens, child	$AT_{nc,c}$	6 yrs
COPC Concentration in air	C_{air}	chemical-specific µg/m^3
COPC Concentration in soil	C_{soil}	chemical-specific mg/kg
Exposure Duration, resident	ED_r	30 yrs
Exposure Duration, child	ED_c	6 yrs
Exposure Frequency	EF	350 days/yr
Exposure Time	ET	24 hours/day
Inhalation Unit-Risk Factor	IUR	chemical-specific (µg/m^3)$^{-1}$
Particulate emission factor (non-VOCs)	PEF	1.360E+09 m^3/kg
Inhalation Reference Concentration	RfC	chemical-specific µg/m^3
Volatilization Factor for VOCs	VF	chemical-specific m^3/kg

Equations

Cancer Risk:

$$Risk = IUR \times C_{air} \times \left(\frac{ED_r \times EF \times ET}{AT_c \times 365\ days/year \times 24\ hours/day} \right)$$

Noncancer Hazard:

$$Hazard = \frac{1}{RfC} \times C_{air} \times \left(\frac{ED_c \times EF \times ET}{AT_{nc,c} \times 365 days/year \times 24 hours/day} \right)$$

where:

$$C_{air} = \frac{C_{soil}}{PEF} \times 1000\ \mu g/mg$$

Analyte	C_{soil} (mg/kg)	PEF (m^3/kg)	C_{air} (µg/m^3)	IUR (µg/m^3)$^{-1}$	Cancer Risk (dimensionless)	% of Total	RfC (µg/m^3)	Hazard Quotient (dimensionless)	% of Total
Inorganic Constituents									
Antimony	8.21E+01	1.360E+09	6.03E-05	No Toxicity Value	--	--	No Toxicity Value	--	--
Arsenic	1.09E+01	1.360E+09	8.01E-06	4.30E-03	1.41E-08	32%	1.50E-02	5.12E-04	22%
Barium	1.34E+02	1.360E+09	9.85E-05	No Toxicity Value	--	--	5.00E-01	1.89E-04	8%
Beryllium	4.68E-01	1.360E+09	3.44E-07	2.40E-03	3.39E-10	< 1%	2.00E-02	1.65E-05	< 1%
Cadmium	3.45E-01	1.360E+09	2.54E-07	1.80E-03	1.88E-10	< 1%	1.00E-02	2.43E-05	1%
Chromium	2.09E+01	1.360E+09	1.53E-05	No Toxicity Value	--	--	No Toxicity Value	--	--
Cobalt	1.02E+01	1.360E+09	7.49E-06	9.00E-03	2.77E-08	63%	6.00E-03	1.20E-03	50%
Copper	1.12E+03	1.360E+09	8.26E-04	No Toxicity Value	--	--	No Toxicity Value	--	--
Lead	1.02E+04	1.360E+09	7.51E-03	No Toxicity Value	--	--	No Toxicity Value	--	--
Mercury	7.28E-02	1.360E+09	5.35E-08	No Toxicity Value	--	--	3.00E-01	1.71E-07	< 1%
Molybdenum	2.70E-01	1.360E+09	1.99E-07	No Toxicity Value	--	--	No Toxicity Value	--	--
Nickel	1.79E+01	1.360E+09	1.31E-05	2.60E-04	1.40E-09	3%	9.00E-02	1.40E-04	6%
Selenium	5.69E-01	1.360E+09	4.18E-07	No Toxicity Value	--	--	2.00E+01	2.01E-08	< 1%
Silver	1.86E-01	1.360E+09	1.37E-07	No Toxicity Value	--	--	No Toxicity Value	--	--
Thallium	1.84E-01	1.360E+09	1.35E-07	No Toxicity Value	--	--	No Toxicity Value	--	--
Vanadium	4.25E+01	1.360E+09	3.13E-05	No Toxicity Value	--	--	1.00E-01	3.00E-04	13%
Zinc	3.66E+02	1.360E+09	2.69E-04	No Toxicity Value	--	--	No Toxicity Value	--	--
Explosives									
2,4-Dinitrotoluene	2.53E-01	1.360E+09	1.86E-07	8.90E-05	6.79E-12	< 1%	No Toxicity Value	--	--
4-Nitrotoluene	9.51E-02	1.360E+09	6.99E-08	No Toxicity Value	--	--	No Toxicity Value	--	--

Table A3-3. Risk and Hazard Estimates: Inhalation, USEPA Residential Reasonable Maximum Exposure (RME), IR Site 24A, Former Naval Weapons Station Seal Beach Detachment Concord

Description	Variable	Value
Averaging Time, carcinogens	AT_c	70 yrs
Averaging Time, noncarcinogens, child	$AT_{nc,c}$	6 yrs
COPC Concentration in air	C_{air}	chemical-specific µg/m^3
COPC Concentration in soil	C_{soil}	chemical-specific mg/kg
Exposure Duration, resident	ED_r	30 yrs
Exposure Duration, child	ED_c	6 yrs
Exposure Frequency	EF	350 days/yr
Exposure Time	ET	24 hours/day
Inhalation Unit-Risk Factor	IUR	chemical-specific (µg/m^3)$^{-1}$
Particulate emission factor (non-VOCs)	PEF	1.360E+09 m^3/kg
Inhalation Reference Concentration	RfC	chemical-specific µg/m^3
Volatilization Factor for VOCs	VF	chemical-specific m^3/kg

Equations

Cancer Risk:

$$Risk = IUR \times C_{air} \times \left(\frac{ED_r \times EF \times ET}{AT_c \times 365\ days/year \times 24\ hours/day} \right)$$

Noncancer Hazard:

$$Hazard = \frac{1}{RfC} \times C_{air} \times \left(\frac{ED_c \times EF \times ET}{AT_{nc,c} \times 365 days/year \times 24 hours/day} \right)$$

where:

$$C_{air} = \frac{C_{soil}}{PEF} \times 1000\ \mu g/mg$$

Analyte	C_{soil} (mg/kg)	PEF (m^3/kg)	C_{air} (µg/m^3)	IUR (µg/m^3)$^{-1}$	Cancer Risk (dimensionless)	% of Total	RfC (µg/m^3)	Hazard Quotient (dimensionless)	% of Total
High Molecular Weight Polyaromatic Hydrocarbons (HMW PAHs)									
Benzo[a]anthracene	1.00E+00	1.360E+09	7.35E-07	1.10E-04	3.32E-11	< 1%	No Toxicity Value	--	--
Benzo[a]pyrene	3.89E-01	1.360E+09	2.86E-07	1.10E-03	1.29E-10	< 1%	No Toxicity Value	--	--
Benzo[b]fluoranthene	6.93E-01	1.360E+09	5.09E-07	1.10E-04	2.30E-11	< 1%	No Toxicity Value	--	--
Benzo[g,h,i]perylene	1.34E-01	1.360E+09	9.84E-08	No Toxicity Value	--	--	No Toxicity Value	--	--
Benzo[k]fluoranthene	2.57E-01	1.360E+09	1.89E-07	1.10E-04	8.53E-12	< 1%	No Toxicity Value	--	--
Chrysene	7.90E-01	1.360E+09	5.81E-07	1.10E-05	2.62E-12	< 1%	No Toxicity Value	--	--
Dibenz[a,h]anthracene	5.06E-02	1.360E+09	3.72E-08	1.20E-03	1.83E-11	< 1%	No Toxicity Value	--	--
Indeno[1,2,3-cd]pyrene	1.77E-01	1.360E+09	1.30E-07	1.10E-04	5.90E-12	< 1%	No Toxicity Value	--	--
Pyrene	1.40E+00	1.360E+09	1.03E-06	No Toxicity Value	--	--	No Toxicity Value	--	--
Low Molecular Weight Polyaromatic Hydrocarbons (LMW PAHs)									
Acenaphthene	2.07E-02	1.360E+09	1.53E-08	No Toxicity Value	--	--	No Toxicity Value	--	--
Acenaphthylene	7.68E-02	1.360E+09	5.65E-08	No Toxicity Value	--	--	No Toxicity Value	--	--
Anthracene	3.33E-01	1.360E+09	2.45E-07	No Toxicity Value	--	--	No Toxicity Value	--	--
Fluoranthene	1.40E+00	1.360E+09	1.03E-06	No Toxicity Value	--	--	No Toxicity Value	--	--
Fluorene	3.75E-02	1.360E+09	2.76E-08	No Toxicity Value	--	--	No Toxicity Value	--	--
Naphthalene	6.38E-03	1.360E+09	4.69E-09	3.40E-05	6.56E-14	< 1%	3.00E+00	1.50E-09	< 1%
Phenanthrene	5.80E-01	1.360E+09	4.26E-07	No Toxicity Value	--	--	No Toxicity Value	--	--
				Pathway Sums:	Cancer Risk 4.40E-08			Hazard Index 2.38E-03	

"--" = data not available or not calculated

Table A3-4. Risk and Hazard Estimates: Dermal Contact with Soil, USEPA Residential Reasonable Maximum Exposure (RME), IR Site 24A, Former Naval Weapons Station Seal Beach Detachment Concord

Description	Variable	Value	
Dermal Soil Absorption Fraction	ABS_d	chemical-specific	unitless
Soil-to-Skin Adherence Fraction	AF_a	0.07	mg/cm^2-day
Soil-to-Skin Adherence Fraction	AF_c	0.2	mg/cm^2-day
Averaging Time, Carcinogens	AT_c	70	yrs
Averaging Time, noncarcinogens, child	$AT_{nc,c}$	6	yrs
Body Weight, adult	BW_a	70	kg
Body Weight, child	BW_c	15	kg
Conversion Factor	CF_d	1E-06	kg/mg
COPC Concentration in Soil	C_{soil}	chemical-specific	mg/kg
Exposure Duration	ED_a	24	yrs
Exposure Duration, child	ED_c	6	yrs
Exposure Frequency	EF	350	days/yr
Oral Reference Dose Adjusted for GI Absorption	RfD_d	chemical-specific	mg/kg-day
Exposed Body Surface Area, adult	SA_a	5700	cm^2
Exposed Body Surface Area, child	SA_c	2800	cm^2
Oral Slope Factor Adjusted for GI Absorption	SF_d	chemical-specific	$(mg/kg\text{-}day)^{-1}$

Equations:

Cancer Risk:

$$Risk = SF_d \times \left[C_{soil} \times \left(\frac{AF_a \times ABS_d \times EF \times ED_a \times SA_a \times CF_d}{BW_a \times AT_c \times 365\, day/year} + \frac{AF_c \times ABS_d \times EF \times ED_c \times SA_c \times CF_d}{BW_c \times AT_c \times 365\, day/year} \right) \right]$$

Noncancer Hazard:

$$Hazard = \frac{1}{RfD_d} \times \left[C_{soil} \times \left(\frac{AF_c \times ABS_d \times EF \times ED_c \times SA_c \times CF_d}{BW_c \times AT_{nc,c} \times 365\, day/year} \right) \right]$$

Analyte	C_{soil}	C_{soil} (mg/kg)	ABS_d (unitless)	SF_d $(mg/kg\text{-}day)^{-1}$	Cancer Risk (dimensionless)	% of Total	RfD_d (mg/kg-day)	Hazard Quotient (dimensionless)	% of Total
Inorganic Constituents									
Antimony		8.21E+01	1.00E-02	No Toxicity Value	--	--	6.00E-05	4.90E-01	83%
Arsenic		1.09E+01	3.00E-02	1.50E+00	2.42E-06	45%	3.00E-04	3.90E-02	7%
Barium		1.34E+02	1.00E-02	No Toxicity Value	--	--	1.40E-02	3.42E-03	< 1%
Beryllium		4.68E-01	1.00E-02	No Toxicity Value	--	--	1.40E-05	1.20E-02	2%
Cadmium		3.45E-01	1.00E-02	No Toxicity Value	--	--	2.50E-05	4.94E-03	< 1%
Chromium		2.09E+01	1.00E-02	No Toxicity Value	--	--	1.95E-02	3.83E-04	< 1%
Cobalt		1.02E+01	1.00E-02	No Toxicity Value	--	--	3.00E-04	1.21E-02	2%
Copper		1.12E+03	1.00E-02	No Toxicity Value	--	--	4.00E-02	1.01E-02	2%
Lead		1.02E+04	1.00E-02	No Toxicity Value	--	--	No Toxicity Value	--	--
Mercury		7.28E-02	1.00E-02	No Toxicity Value	--	--	1.12E-05	2.33E-03	< 1%
Molybdenum		2.70E-01	1.00E-02	No Toxicity Value	--	--	5.00E-03	1.93E-05	< 1%
Nickel		1.79E+01	1.00E-02	No Toxicity Value	--	--	8.00E-04	7.99E-03	1%
Selenium		5.69E-01	1.00E-02	No Toxicity Value	--	--	5.00E-03	4.07E-05	< 1%
Silver		1.86E-01	1.00E-02	No Toxicity Value	--	--	2.00E-04	3.33E-04	< 1%
Thallium		1.84E-01	1.00E-02	No Toxicity Value	--	--	No Toxicity Value	--	--
Vanadium		4.25E+01	1.00E-02	No Toxicity Value	--	--	5.00E-03	3.04E-03	< 1%
Zinc		3.66E+02	1.00E-02	No Toxicity Value	--	--	3.00E-01	4.36E-04	< 1%

Table A3-4. Risk and Hazard Estimates: Dermal Contact with Soil, USEPA Residential Reasonable Maximum Exposure (RME), IR Site 24A, Former Naval Weapons Station Seal Beach Detachment Concord

Description	Variable	Value	
Dermal Soil Absorption Fraction	ABS_d	chemical-specific	unitless
Soil-to-Skin Adherence Fraction	AF_a	0.07	mg/cm^2-day
Soil-to-Skin Adherence Fraction	AF_c	0.2	mg/cm^2-day
Averaging Time, Carcinogens	AT_c	70	yrs
Averaging Time, noncarcinogens, child	$AT_{nc,c}$	6	yrs
Body Weight, adult	BW_a	70	kg
Body Weight, child	BW_c	15	kg
Conversion Factor	CF_d	1E-06	kg/mg
COPC Concentration in Soil	C_{soil}	chemical-specific	mg/kg
Exposure Duration	ED_a	24	yrs
Exposure Duration, child	ED_c	6	yrs
Exposure Frequency	EF	350	days/yr
Oral Reference Dose Adjusted for GI Absorption	RfD_d	chemical-specific	mg/kg-day
Exposed Body Surface Area, adult	SA_a	5700	cm^2
Exposed Body Surface Area, child	SA_c	2800	cm^2
Oral Slope Factor Adjusted for GI Absorption	SF_d	chemical-specific	$(mg/kg\text{-}day)^{-1}$

Equations:

Cancer Risk:

$$Risk = SF_d \times \left[C_{soil} \times \left(\frac{AF_a \times ABS_d \times EF \times ED_a \times SA_a \times CF_d}{BW_a \times AT_c \times 365\, day/year} + \frac{AF_c \times ABS_d \times EF \times ED_c \times SA_c \times CF_d}{BW_c \times AT_c \times 365\, day/year} \right) \right]$$

Noncancer Hazard:

$$Hazard = \frac{1}{RfD_d} \times \left[C_{soil} \times \left(\frac{AF_c \times ABS_d \times EF \times ED_c \times SA_c \times CF_d}{BW_c \times AT_{nc,c} \times 365\, day/year} \right) \right]$$

Analyte	C_{soil}	C_{soil} (mg/kg)	ABS_d (unitless)	SF_d $(mg/kg\text{-}day)^{-1}$	Cancer Risk (dimensionless)	% of Total	RfD_d (mg/kg-day)	Hazard Quotient (dimensionless)	% of Total
Explosives									
2,4-Dinitrotoluene		2.53E-01	1.02E-01	3.10E-01	3.95E-08	< 1%	2.00E-03	4.61E-04	< 1%
4-Nitrotoluene		9.51E-02	1.00E-01	1.60E-02	7.52E-10	< 1%	4.00E-03	8.51E-05	< 1%
High Molecular Weight Polyaromatic Hydrocarbons (HMW PAHs)									
Benzo[a]anthracene		1.00E+00	1.30E-01	7.30E-01	4.69E-07	9%	No Toxicity Value	--	--
Benzo[a]pyrene		3.89E-01	1.30E-01	7.30E+00	1.82E-06	34%	No Toxicity Value	--	--
Benzo[b]fluoranthene		6.93E-01	1.30E-01	7.30E-01	3.25E-07	6%	No Toxicity Value	--	--
Benzo[g,h,i]perylene		1.34E-01	1.30E-01	No Toxicity Value	--	--	3.00E-02	2.08E-05	< 1%
Benzo[k]fluoranthene		2.57E-01	1.30E-01	7.30E-02	1.20E-08	< 1%	No Toxicity Value	--	--
Chrysene		7.90E-01	1.30E-01	7.30E-03	3.70E-09	< 1%	No Toxicity Value	--	--
Dibenz[a,h]anthracene		5.06E-02	1.30E-01	7.30E+00	2.37E-07	4%	No Toxicity Value	--	--
Indeno[1,2,3-cd]pyrene		1.77E-01	1.30E-01	7.30E-01	8.32E-08	2%	No Toxicity Value	--	--
Pyrene		1.40E+00	1.30E-01	No Toxicity Value	--	--	3.00E-02	2.17E-04	< 1%

Table A3-4. Risk and Hazard Estimates: Dermal Contact with Soil, USEPA Residential Reasonable Maximum Exposure (RME), IR Site 24A, Former Naval Weapons Station Seal Beach Detachment Concord

Description	Variable	Value	
Dermal Soil Absorption Fraction	ABS_d	chemical-specific	unitless
Soil-to-Skin Adherence Fraction	AF_a	0.07	mg/cm^2-day
Soil-to-Skin Adherence Fraction	AF_c	0.2	mg/cm^2-day
Averaging Time, Carcinogens	AT_c	70	yrs
Averaging Time, noncarcinogens, child	$AT_{nc,c}$	6	yrs
Body Weight, adult	BW_a	70	kg
Body Weight, child	BW_c	15	kg
Conversion Factor	CF_d	1E-06	kg/mg
COPC Concentration in Soil	C_{soil}	chemical-specific	mg/kg
Exposure Duration	ED_a	24	yrs
Exposure Duration, child	ED_c	6	yrs
Exposure Frequency	EF	350	days/yr
Oral Reference Dose Adjusted for GI Absorption	RfD_d	chemical-specific	mg/kg-day
Exposed Body Surface Area, adult	SA_a	5700	cm^2
Exposed Body Surface Area, child	SA_c	2800	cm^2
Oral Slope Factor Adjusted for GI Absorption	SF_d	chemical-specific	$(mg/kg\text{-}day)^{-1}$

Equations:

Cancer Risk:

$$Risk = SF_d \times \left[C_{soil} \times \left(\frac{AF_a \times ABS_d \times EF \times ED_a \times SA_a \times CF_d}{BW_a \times AT_c \times 365\, day/year} + \frac{AF_c \times ABS_d \times EF \times ED_c \times SA_c \times CF_d}{BW_c \times AT_c \times 365\, day/year} \right) \right]$$

Noncancer Hazard:

$$Hazard = \frac{1}{RfD_d} \times \left[C_{soil} \times \left(\frac{AF_c \times ABS_d \times EF \times ED_c \times SA_c \times CF_d}{BW_c \times AT_{nc,c} \times 365\, day/year} \right) \right]$$

Analyte	C_{soil}	C_{soil} (mg/kg)	ABS_d (unitless)	SF_d $(mg/kg\text{-}day)^{-1}$	Cancer Risk (dimensionless)	% of Total	RfD_d (mg/kg-day)	Hazard Quotient (dimensionless)	% of Total
Low Molecular Weight Polyaromatic Hydrocarbons (LMW PAHs)									
Acenaphthene		2.07E-02	1.30E-01	No Toxicity Value	--	--	6.00E-02	1.61E-06	< 1%
Acenaphthylene		7.68E-02	1.30E-01	No Toxicity Value	--	--	6.00E-02	5.96E-06	< 1%
Anthracene		3.33E-01	1.30E-01	No Toxicity Value	--	--	3.00E-01	5.16E-06	< 1%
Fluoranthene		1.40E+00	1.30E-01	No Toxicity Value	--	--	4.00E-02	1.63E-04	< 1%
Fluorene		3.75E-02	1.30E-01	No Toxicity Value	--	--	4.00E-02	4.36E-06	< 1%
Naphthalene		6.38E-03	0.00E+00	No Toxicity Value	--	--	2.00E-02	0.00E+00	< 1%
Phenanthrene		5.80E-01	1.30E-01	No Toxicity Value	--	--	3.00E-02	9.00E-05	< 1%
				Pathway Sums:	Cancer Risk 5.42E-06			Hazard Index 5.87E-01	

"--" = data not available or not calculated

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Attachment A4 –

Risk and Hazard Calculation Details; USEPA Residential Central Tendency Exposure (CTE)

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Table A4-1. Summary of Risk and Hazard Estimates: Exposure to Soil, USEPA Residential Central Tendency Exposure (CTE), IR Site 24A, Former Naval Weapons Station Seal Beach Detachment Concord

		Cancer-Risk Estimate					Noncancer-Hazard Estimate				
Analyte	**Soil EPC** (mg/kg)	Ingestion	Inhalation	Dermal	Multi-Pathway	% of Cumulative	Ingestion	Inhalation	Dermal	Multi-Pathway	% of Cumulative
Inorganic Constituents											
Antimony	1.99E+01	--	--	--			3.18E-01	--	2.38E-02	3.4E-01	41%
Arsenic	7.72E+00	**7.36E-06**	5.01E-09	2.48E-07	**7.6E-06**	88%	1.64E-01	3.63E-04	5.53E-03	1.7E-01	21%
Barium	1.16E+02	--	--	--			3.72E-03	1.64E-04	5.95E-04	4.5E-03	< 1%
Beryllium	4.48E-01	--	1.62E-10	--	1.6E-10	< 1%	1.43E-03	1.58E-05	2.29E-03	3.7E-03	< 1%
Cadmium	2.47E-01	--	6.72E-11	--	6.7E-11	< 1%	1.58E-03	1.74E-05	7.07E-04	2.3E-03	< 1%
Chromium	1.96E+01	--	--	--			8.37E-05	--	7.21E-05	1.6E-04	< 1%
Cobalt	9.54E+00	--	1.30E-08	--	1.3E-08	< 1%	2.03E-01	1.12E-03	2.28E-03	2.1E-01	25%
Copper	1.88E+02	--	--	--			3.00E-02	--	3.36E-04	3.0E-02	4%
Lead	1.65E+03	--	--	--			--	--	--		
Mercury	5.01E-02	--	--	--			2.00E-03	1.18E-07	3.20E-04	2.3E-03	< 1%
Molybdenum	2.49E-01	--	--	--			3.18E-04	--	3.57E-06	3.2E-04	< 1%
Nickel	1.69E+01	--	6.65E-10	--	6.7E-10	< 1%	5.41E-03	1.33E-04	1.52E-03	7.1E-03	< 1%
Selenium	4.47E-01	--	--	--			5.72E-04	1.58E-08	6.40E-06	5.8E-04	< 1%
Silver	1.40E-01	--	--	--			1.79E-04	--	5.01E-05	2.3E-04	< 1%
Thallium	1.73E-01	--	--	--			--	--	--		
Vanadium	3.91E+01	--	--	--			5.00E-02	2.76E-04	5.60E-04	5.1E-02	6%
Zinc	1.90E+02	--	--	--			4.05E-03	--	4.54E-05	4.1E-03	< 1%
Explosives											
2,4-Dinitrotoluene	2.53E-01	4.98E-08	3.40E-12	5.70E-09	5.6E-08	< 1%	8.07E-04	--	9.22E-05	9.0E-04	< 1%
4-Nitrotoluene	9.51E-02	9.67E-10	--	1.09E-10	1.1E-09	< 1%	1.52E-04	--	1.70E-05	1.7E-04	< 1%
High Molecular Weight Polyaromatic Hydrocarbons (HMW PAHs)											
Benzo[a]anthracene	1.25E-01	5.81E-08	2.08E-12	8.48E-09	6.7E-08	< 1%	--	--	--		
Benzo[a]pyrene	1.04E-01	4.85E-07	1.74E-11	7.07E-08	5.6E-07	6%	--	--	--		
Benzo[b]fluoranthene	2.44E-01	1.13E-07	4.06E-12	1.66E-08	1.3E-07	2%	--	--	--		
Benzo[g,h,i]perylene	8.95E-02	--	--	--			1.91E-05	--	2.78E-06	2.2E-05	< 1%
Benzo[k]fluoranthene	6.85E-02	3.18E-09	1.14E-12	4.64E-10	3.6E-09	< 1%	--	--	--		
Chrysene	1.99E-01	9.23E-10	3.30E-13	1.35E-10	1.1E-09	< 1%	--	--	--		
Dibenz[a,h]anthracene	2.89E-02	1.34E-07	5.24E-12	1.96E-08	1.5E-07	2%	--	--	--		
Indeno[1,2,3-cd]pyrene	8.02E-02	3.72E-08	1.33E-12	5.43E-09	4.3E-08	< 1%	--	--	--		
Pyrene	1.80E-01	--	--	--			3.84E-05	--	5.59E-06	4.4E-05	< 1%
Low Molecular Weight Polyaromatic Hydrocarbons (LMW PAHs)											
Acenaphthene	8.05E-03	--	--	--			8.58E-07	--	1.25E-07	9.8E-07	< 1%
Acenaphthylene	4.23E-02	--	--	--			4.50E-06	--	6.55E-07	5.2E-06	< 1%
Anthracene	1.27E-01	--	--	--			2.71E-06	--	3.94E-07	3.1E-06	< 1%
Fluoranthene	1.76E-01	--	--	--			2.82E-05	--	4.10E-06	3.2E-05	< 1%
Fluorene	7.43E-03	--	--	--			1.19E-06	--	1.73E-07	1.4E-06	< 1%
Naphthalene	3.03E-03	--	1.55E-14	--	1.6E-14	< 1%	9.67E-07	7.11E-10	0.00E+00	9.7E-07	< 1%
Phenanthrene	6.89E-02	--	--	--			1.47E-05	--	2.14E-06	1.7E-05	< 1%
				Cumulative Risk:	8.6E-06				**Cumulative Hazard:**	8.3E-01	

"--" = data not available or not calculated

Table A4-2. Risk and Hazard Estimates: Incidental Ingestion of Soil, USEPA Residential Central Tendency Exposure (CTE), IR Site 24A, Former Naval Weapons Station Seal Beach Detachment Concord

Definition	Variable	Value
Averaging Time, carcinogens	AT_c	70 yrs
Averaging Time, noncarcinogens, child	$AT_{nc,c}$	6 yrs
Body Weight	BW_a	70 kg
Body Weight	BW_c	15 kg
Conversion Factor	CF_o	1E-06 kg/mg
COPC Concentration in soil	C_{soil}	chemical-specific mg/kg
Exposure Duration, adult	ED_a	9 yrs
Exposure Duration, child	ED_c	6 yrs
Exposure Frequency	EF	350 days/yr
Fraction Contaminated Soil Ingested	FI	1.0 unitless
Soil Ingestion Rate (adult)	IRS_a	50 mg/day
Soil Ingestion Rate (child)	IRS_c	100 mg/day
Oral Reference Dose	RfD_O	chemical-specific mg/kg-day
Oral Slope Factor	SF_O	chemical-specific $(mg/kg\text{-}day)^{-1}$

Equations

Cancer Risk:

$$Risk = SF_o \times \left[C_{soil} \times \left(\frac{IRS_a \times EF \times ED_a \times FI \times CF_o}{BW_a \times AT_c \times 365\ day/year} + \frac{IRS_c \times EF \times ED_c \times FI \times CF_o}{BW_c \times AT_c \times 365\ day/year} \right) \right]$$

Noncancer Hazard:

$$Hazard = \frac{1}{RfD_o} \times \left[C_{soil} \times \left(\frac{IRS_c \times EF \times ED_c \times FI \times CF_o}{BW_c \times AT_{nc,c} \times 365\ day/year} \right) \right]$$

Analyte	C_{soil} (mg/kg)	SF_o $(mg/kg\text{-}day)^{-1}$	Cancer Risk (dimensionless)	% of Total	RfD_o (mg/kg-day)	Noncancer Hazard (dimensionless)	% of Total
Inorganic Constituents							
Antimony	1.99E+01	No Toxicity Value	--	--	4.00E-04	3.18E-01	40%
Arsenic	7.72E+00	1.50E+00	7.36E-06	89%	3.00E-04	1.64E-01	21%
Barium	1.16E+02	No Toxicity Value	--	--	2.00E-01	3.72E-03	< 1%
Beryllium	4.48E-01	No Toxicity Value	--	--	2.00E-03	1.43E-03	< 1%
Cadmium	2.47E-01	No Toxicity Value	--	--	1.00E-03	1.58E-03	< 1%
Chromium	1.96E+01	No Toxicity Value	--	--	1.50E+00	8.37E-05	< 1%
Cobalt	9.54E+00	No Toxicity Value	--	--	3.00E-04	2.03E-01	26%
Copper	1.88E+02	No Toxicity Value	--	--	4.00E-02	3.00E-02	4%
Lead	1.65E+03	No Toxicity Value	--	--	No Toxicity Value	--	--
Mercury	5.01E-02	No Toxicity Value	--	--	1.60E-04	2.00E-03	< 1%
Molybdenum	2.49E-01	No Toxicity Value	--	--	5.00E-03	3.18E-04	< 1%
Nickel	1.69E+01	No Toxicity Value	--	--	2.00E-02	5.41E-03	< 1%
Selenium	4.47E-01	No Toxicity Value	--	--	5.00E-03	5.72E-04	< 1%
Silver	1.40E-01	No Toxicity Value	--	--	5.00E-03	1.79E-04	< 1%
Thallium	1.73E-01	No Toxicity Value	--	--	No Toxicity Value	--	--
Vanadium	3.91E+01	No Toxicity Value	--	--	5.00E-03	5.00E-02	6%
Zinc	1.90E+02	No Toxicity Value	--	--	3.00E-01	4.05E-03	< 1%

Table A4-2. Risk and Hazard Estimates: Incidental Ingestion of Soil, USEPA Residential Central Tendency Exposure (CTE), IR Site 24A, Former Naval Weapons Station Seal Beach Detachment Concord

Definition	Variable	Value	
Averaging Time, carcinogens	AT_c	70	yrs
Averaging Time, noncarcinogens, child	$AT_{nc,c}$	6	yrs
Body Weight	BW_a	70	kg
Body Weight	BW_c	15	kg
Conversion Factor	CF_o	1E-06	kg/mg
COPC Concentration in soil	C_{soil}	chemical-specific	mg/kg
Exposure Duration, adult	ED_a	9	yrs
Exposure Duration, child	ED_c	6	yrs
Exposure Frequency	EF	350	days/yr
Fraction Contaminated Soil Ingested	FI	1.0	unitless
Soil Ingestion Rate (adult)	IRS_a	50	mg/day
Soil Ingestion Rate (child)	IRS_c	100	mg/day
Oral Reference Dose	RfD_O	chemical-specific	mg/kg-day
Oral Slope Factor	SF_O	chemical-specific	$(mg/kg\text{-}day)^{-1}$

Equations

Cancer Risk:

$$Risk = SF_o \times \left[C_{soil} \times \left(\frac{IRS_a \times EF \times ED_a \times FI \times CF_o}{BW_a \times AT_c \times 365\ day/year} + \frac{IRS_c \times EF \times ED_c \times FI \times CF_o}{BW_c \times AT_c \times 365\ day/year} \right) \right]$$

Noncancer Hazard:

$$Hazard = \frac{1}{RfD_o} \times \left[C_{soil} \times \left(\frac{IRS_c \times EF \times ED_c \times FI \times CF_o}{BW_c \times AT_{nc,c} \times 365\ day/year} \right) \right]$$

Analyte	C_{soil} (mg/kg)	SF_o $(mg/kg\text{-}day)^{-1}$	Cancer Risk (dimensionless)	% of Total	RfD_o (mg/kg-day)	Noncancer Hazard (dimensionless)	% of Total
Explosives							
2,4-Dinitrotoluene	2.53E-01	3.10E-01	4.98E-08	< 1%	2.00E-03	8.07E-04	< 1%
4-Nitrotoluene	9.51E-02	1.60E-02	9.67E-10	< 1%	4.00E-03	1.52E-04	< 1%
High Molecular Weight Polyaromatic Hydrocarbons (HMW PAHs)							
Benzo[a]anthracene	1.25E-01	7.30E-01	5.81E-08	< 1%	No Toxicity Value	--	--
Benzo[a]pyrene	1.04E-01	7.30E+00	4.85E-07	6%	No Toxicity Value	--	--
Benzo[b]fluoranthene	2.44E-01	7.30E-01	1.13E-07	1%	No Toxicity Value	--	--
Benzo[g,h,i]perylene	8.95E-02	No Toxicity Value	--	--	3.00E-02	1.91E-05	< 1%
Benzo[k]fluoranthene	6.85E-02	7.30E-02	3.18E-09	< 1%	No Toxicity Value	--	--
Chrysene	1.99E-01	7.30E-03	9.23E-10	< 1%	No Toxicity Value	--	--
Dibenz[a,h]anthracene	2.89E-02	7.30E+00	1.34E-07	2%	No Toxicity Value	--	--
Indeno[1,2,3-cd]pyrene	8.02E-02	7.30E-01	3.72E-08	< 1%	No Toxicity Value	--	--
Pyrene	1.80E-01	No Toxicity Value	--	--	3.00E-02	3.84E-05	< 1%

Table A4-2. Risk and Hazard Estimates: Incidental Ingestion of Soil, USEPA Residential Central Tendency Exposure (CTE), IR Site 24A, Former Naval Weapons Station Seal Beach Detachment Concord

Definition	Variable	Value	
Averaging Time, carcinogens	AT_c	70	yrs
Averaging Time, noncarcinogens, child	$AT_{nc,c}$	6	yrs
Body Weight	BW_a	70	kg
Body Weight	BW_c	15	kg
Conversion Factor	CF_o	1E-06	kg/mg
COPC Concentration in soil	C_{soil}	chemical-specific	mg/kg
Exposure Duration, adult	ED_a	9	yrs
Exposure Duration, child	ED_c	6	yrs
Exposure Frequency	EF	350	days/yr
Fraction Contaminated Soil Ingested	FI	1.0	unitless
Soil Ingestion Rate (adult)	IRS_a	50	mg/day
Soil Ingestion Rate (child)	IRS_c	100	mg/day
Oral Reference Dose	RfD_O	chemical-specific	mg/kg-day
Oral Slope Factor	SF_O	chemical-specific	$(mg/kg\text{-}day)^{-1}$

Equations

Cancer Risk:

$$Risk = SF_o \times \left[C_{soil} \times \left(\frac{IRS_a \times EF \times ED_a \times FI \times CF_o}{BW_a \times AT_c \times 365\ day/year} + \frac{IRS_c \times EF \times ED_c \times FI \times CF_o}{BW_c \times AT_c \times 365\ day/year} \right) \right]$$

Noncancer Hazard:

$$Hazard = \frac{1}{RfD_o} \times \left[C_{soil} \times \left(\frac{IRS_c \times EF \times ED_c \times FI \times CF_o}{BW_c \times AT_{nc,c} \times 365\ day/year} \right) \right]$$

Analyte	C_{soil} (mg/kg)	SF_o $(mg/kg\text{-}day)^{-1}$	Cancer Risk (dimensionless)	% of Total	RfD_o (mg/kg-day)	Noncancer Hazard (dimensionless)	% of Total
Low Molecular Weight Polyaromatic Hydrocarbons (LMW PAHs)							
Acenaphthene	8.05E-03	No Toxicity Value	--	--	6.00E-02	8.58E-07	< 1%
Acenaphthylene	4.23E-02	No Toxicity Value	--	--	6.00E-02	4.50E-06	< 1%
Anthracene	1.27E-01	No Toxicity Value	--	--	3.00E-01	2.71E-06	< 1%
Fluoranthene	1.76E-01	No Toxicity Value	--	--	4.00E-02	2.82E-05	< 1%
Fluorene	7.43E-03	No Toxicity Value	--	--	4.00E-02	1.19E-06	< 1%
Naphthalene	3.03E-03	No Toxicity Value	--	--	2.00E-02	9.67E-07	< 1%
Phenanthrene	6.89E-02	No Toxicity Value	--	--	3.00E-02	1.47E-05	< 1%
			Cancer Risk			Hazard Index	
		Pathway Sum:	8.25E-06			7.87E-01	

"--" = data not available or not calculated

Table A4-3. Risk and Hazard Estimates: Inhalation, USEPA Residential Central Tendency Exposure (CTE), IR Site 24A, Former Naval Weapons Station Seal Beach Detachment Concord

Description	Variable	Value
Averaging Time, carcinogens	AT_c	70 yrs
Averaging Time, noncarcinogens, child	$AT_{nc,c}$	6 yrs
COPC Concentration in air	C_{air}	chemical-specific µg/m^3
COPC Concentration in soil	C_{soil}	chemical-specific mg/kg
Exposure Duration, resident	ED_r	15 yrs
Exposure Duration, child	ED_c	6 yrs
Exposure Frequency	EF	350 days/yr
Exposure Time	ET	24 hours/day
Inhalation Unit-Risk Factor	IUR	chemical-specific (µg/m^3)$^{-1}$
Particulate emission factor (non-VOCs)	PEF	1.360E+09 m^3/kg
Inhalation Reference Concentration	RfC	chemical-specific µg/m^3
Volatilization Factor for VOCs	VF	chemical-specific m^3/kg

Equations

Cancer Risk:

$$Risk = IUR \times C_{air} \times \left(\frac{ED_r \times EF \times ET}{AT_c \times 365\ days/year \times 24\ hours/day} \right)$$

Noncancer Hazard:

$$Hazard = \frac{1}{RfC} \times C_{air} \times \left(\frac{ED_c \times EF \times ET}{AT_{nc,c} \times 365 days/year \times 24 hours/day} \right)$$

where:

$$C_{air} = \frac{C_{soil}}{PEF} \times 1000\ \mu g/mg$$

Analyte	C_{soil} (mg/kg)	PEF (m^3/kg)	C_{air} (µg/m^3)	IUR (µg/m^3)$^{-1}$	Cancer Risk (dimensionless)	% of Total	RfC (µg/m^3)	Hazard Quotient (dimensionless)	% of Total
Inorganic Constituents									
Antimony	1.99E+01	1.360E+09	1.46E-05	No Toxicity Value	--	--	No Toxicity Value	--	--
Arsenic	7.72E+00	1.360E+09	5.68E-06	4.30E-03	5.01E-09	27%	1.50E-02	3.63E-04	17%
Barium	1.16E+02	1.360E+09	8.55E-05	No Toxicity Value	--	--	5.00E-01	1.64E-04	8%
Beryllium	4.48E-01	1.360E+09	3.29E-07	2.40E-03	1.62E-10	< 1%	2.00E-02	1.58E-05	< 1%
Cadmium	2.47E-01	1.360E+09	1.82E-07	1.80E-03	6.72E-11	< 1%	1.00E-02	1.74E-05	< 1%
Chromium	1.96E+01	1.360E+09	1.44E-05	No Toxicity Value	--	--	No Toxicity Value	--	--
Cobalt	9.54E+00	1.360E+09	7.02E-06	9.00E-03	1.30E-08	69%	6.00E-03	1.12E-03	54%
Copper	1.88E+02	1.360E+09	1.38E-04	No Toxicity Value	--	--	No Toxicity Value	--	--
Lead	1.65E+03	1.360E+09	1.21E-03	No Toxicity Value	--	--	No Toxicity Value	--	--
Mercury	5.01E-02	1.360E+09	3.68E-08	No Toxicity Value	--	--	3.00E-01	1.18E-07	< 1%
Molybdenum	2.49E-01	1.360E+09	1.83E-07	No Toxicity Value	--	--	No Toxicity Value	--	--
Nickel	1.69E+01	1.360E+09	1.25E-05	2.60E-04	6.65E-10	4%	9.00E-02	1.33E-04	6%
Selenium	4.47E-01	1.360E+09	3.29E-07	No Toxicity Value	--	--	2.00E+01	1.58E-08	< 1%
Silver	1.40E-01	1.360E+09	1.03E-07	No Toxicity Value	--	--	No Toxicity Value	--	--
Thallium	1.73E-01	1.360E+09	1.27E-07	No Toxicity Value	--	--	No Toxicity Value	--	--
Vanadium	3.91E+01	1.360E+09	2.88E-05	No Toxicity Value	--	--	1.00E-01	2.76E-04	13%
Zinc	1.90E+02	1.360E+09	1.40E-04	No Toxicity Value	--	--	No Toxicity Value	--	--
Explosives									
2,4-Dinitrotoluene	2.53E-01	1.360E+09	1.86E-07	8.90E-05	3.40E-12	< 1%	No Toxicity Value	--	--
4-Nitrotoluene	9.51E-02	1.360E+09	6.99E-08	No Toxicity Value	--	--	No Toxicity Value	--	--

Table A4-3. Risk and Hazard Estimates: Inhalation, USEPA Residential Central Tendency Exposure (CTE), IR Site 24A, Former Naval Weapons Station Seal Beach Detachment Concord

Description	Variable	Value
Averaging Time, carcinogens	AT_c	70 yrs
Averaging Time, noncarcinogens, child	$AT_{nc,c}$	6 yrs
COPC Concentration in air	C_{air}	chemical-specific µg/m^3
COPC Concentration in soil	C_{soil}	chemical-specific mg/kg
Exposure Duration, resident	ED_r	15 yrs
Exposure Duration, child	ED_c	6 yrs
Exposure Frequency	EF	350 days/yr
Exposure Time	ET	24 hours/day
Inhalation Unit-Risk Factor	IUR	chemical-specific (µg/m^3)$^{-1}$
Particulate emission factor (non-VOCs)	PEF	1.360E+09 m^3/kg
Inhalation Reference Concentration	RfC	chemical-specific µg/m^3
Volatilization Factor for VOCs	VF	chemical-specific m^3/kg

Equations

Cancer Risk:

$$Risk = IUR \times C_{air} \times \left(\frac{ED_r \times EF \times ET}{AT_c \times 365\ days/year \times 24\ hours/day} \right)$$

Noncancer Hazard:

$$Hazard = \frac{1}{RfC} \times C_{air} \times \left(\frac{ED_c \times EF \times ET}{AT_{nc,c} \times 365 days/year \times 24 hours/day} \right)$$

where:

$$C_{air} = \frac{C_{soil}}{PEF} \times 1000\ \mu g/mg$$

Analyte	C_{soil} (mg/kg)	PEF (m^3/kg)	C_{air} (µg/m^3)	IUR (µg/m^3)$^{-1}$	Cancer Risk (dimensionless)	% of Total	RfC (µg/m^3)	Hazard Quotient (dimensionless)	% of Total
High Molecular Weight Polyaromatic Hydrocarbons (HMW PAHs)									
Benzo[a]anthracene	1.25E-01	1.360E+09	9.20E-08	1.10E-04	2.08E-12	< 1%	No Toxicity Value	--	--
Benzo[a]pyrene	1.04E-01	1.360E+09	7.68E-08	1.10E-03	1.74E-11	< 1%	No Toxicity Value	--	--
Benzo[b]fluoranthene	2.44E-01	1.360E+09	1.80E-07	1.10E-04	4.06E-12	< 1%	No Toxicity Value	--	--
Benzo[g,h,i]perylene	8.95E-02	1.360E+09	6.58E-08	No Toxicity Value	--	--	No Toxicity Value	--	--
Benzo[k]fluoranthene	6.85E-02	1.360E+09	5.04E-08	1.10E-04	1.14E-12	< 1%	No Toxicity Value	--	--
Chrysene	1.99E-01	1.360E+09	1.46E-07	1.10E-05	3.30E-13	< 1%	No Toxicity Value	--	--
Dibenz[a,h]anthracene	2.89E-02	1.360E+09	2.13E-08	1.20E-03	5.24E-12	< 1%	No Toxicity Value	--	--
Indeno[1,2,3-cd]pyrene	8.02E-02	1.360E+09	5.90E-08	1.10E-04	1.33E-12	< 1%	No Toxicity Value	--	--
Pyrene	1.80E-01	1.360E+09	1.33E-07	No Toxicity Value	--	--	No Toxicity Value	--	--
Low Molecular Weight Polyaromatic Hydrocarbons (LMW PAHs)									
Acenaphthene	8.05E-03	1.360E+09	5.92E-09	No Toxicity Value	--	--	No Toxicity Value	--	--
Acenaphthylene	4.23E-02	1.360E+09	3.11E-08	No Toxicity Value	--	--	No Toxicity Value	--	--
Anthracene	1.27E-01	1.360E+09	9.34E-08	No Toxicity Value	--	--	No Toxicity Value	--	--
Fluoranthene	1.76E-01	1.360E+09	1.30E-07	No Toxicity Value	--	--	No Toxicity Value	--	--
Fluorene	7.43E-03	1.360E+09	5.46E-09	No Toxicity Value	--	--	No Toxicity Value	--	--
Naphthalene	3.03E-03	1.360E+09	2.22E-09	3.40E-05	1.55E-14	< 1%	3.00E+00	7.11E-10	< 1%
Phenanthrene	6.89E-02	1.360E+09	5.07E-08	No Toxicity Value	--	--	No Toxicity Value	--	--
				Pathway Sums:	Cancer Risk 1.89E-08			Hazard Index 2.09E-03	

"--" = data not available or not calculated

Table A4-4. Risk and Hazard Estimates: Dermal Contact with Soil, USEPA Residential Central Tendency Exposure (CTE), IR Site 24A, Former Naval Weapons Station Seal Beach Detachment Concord

Description	Variable	Value	
Dermal Soil Absorption Fraction	ABS_d	chemical-specific	unitless
Soil-to-Skin Adherence Fraction	AF_a	0.01	mg/cm^2-day
Soil-to-Skin Adherence Fraction	AF_c	0.04	mg/cm^2-day
Averaging Time, Carcinogens	AT_c	70	yrs
Averaging Time, noncarcinogens, child	$AT_{nc,c}$	6	yrs
Body Weight, adult	BW_a	70	kg
Body Weight, child	BW_c	15	kg
Conversion Factor	CF_d	1E-06	kg/mg
COPC Concentration in Soil	C_{soil}	chemical-specific	mg/kg
Exposure Duration	ED_a	9	yrs
Exposure Duration, child	ED_c	6	yrs
Exposure Frequency	EF	350	days/yr
Oral Reference Dose Adjusted for GI Absorption	RfD_d	chemical-specific	mg/kg-day
Exposed Body Surface Area, adult	SA_a	5700	cm^2
Exposed Body Surface Area, child	SA_c	2800	cm^2
Oral Slope Factor Adjusted for GI Absorption	SF_d	chemical-specific	$(mg/kg\text{-}day)^{-1}$

Equations:

Cancer Risk:

$$Risk = SF_d \times \left[C_{soil} \times \left(\frac{AF_a \times ABS_d \times EF \times ED_a \times SA_a \times CF_d}{BW_a \times AT_c \times 365\, day/year} + \frac{AF_c \times ABS_d \times EF \times ED_c \times SA_c \times CF_d}{BW_c \times AT_c \times 365\, day/year} \right) \right]$$

Noncancer Hazard:

$$Hazard = \frac{1}{RfD_d} \times \left[C_{soil} \times \left(\frac{AF_c \times ABS_d \times EF \times ED_c \times SA_c \times CF_d}{BW_c \times AT_{nc,c} \times 365\, day/year} \right) \right]$$

Analyte	C_{soil}	C_{soil} (mg/kg)	ABS_d (unitless)	SF_d $(mg/kg\text{-}day)^{-1}$	Cancer Risk (dimensionless)	% of Total	RfD_d (mg/kg-day)	Hazard Quotient (dimensionless)	% of Total
Inorganic Constituents									
Antimony		1.99E+01	1.00E-02	No Toxicity Value	--	--	6.00E-05	2.38E-02	62%
Arsenic		7.72E+00	3.00E-02	1.50E+00	2.48E-07	66%	3.00E-04	5.53E-03	14%
Barium		1.16E+02	1.00E-02	No Toxicity Value	--	--	1.40E-02	5.95E-04	2%
Beryllium		4.48E-01	1.00E-02	No Toxicity Value	--	--	1.40E-05	2.29E-03	6%
Cadmium		2.47E-01	1.00E-02	No Toxicity Value	--	--	2.50E-05	7.07E-04	2%
Chromium		1.96E+01	1.00E-02	No Toxicity Value	--	--	1.95E-02	7.21E-05	< 1%
Cobalt		9.54E+00	1.00E-02	No Toxicity Value	--	--	3.00E-04	2.28E-03	6%
Copper		1.88E+02	1.00E-02	No Toxicity Value	--	--	4.00E-02	3.36E-04	< 1%
Lead		1.65E+03	1.00E-02	No Toxicity Value	--	--	No Toxicity Value	--	--
Mercury		5.01E-02	1.00E-02	No Toxicity Value	--	--	1.12E-05	3.20E-04	< 1%
Molybdenum		2.49E-01	1.00E-02	No Toxicity Value	--	--	5.00E-03	3.57E-06	< 1%
Nickel		1.69E+01	1.00E-02	No Toxicity Value	--	--	8.00E-04	1.52E-03	4%
Selenium		4.47E-01	1.00E-02	No Toxicity Value	--	--	5.00E-03	6.40E-06	< 1%
Silver		1.40E-01	1.00E-02	No Toxicity Value	--	--	2.00E-04	5.01E-05	< 1%
Thallium		1.73E-01	1.00E-02	No Toxicity Value	--	--	No Toxicity Value	--	--
Vanadium		3.91E+01	1.00E-02	No Toxicity Value	--	--	5.00E-03	5.60E-04	1%
Zinc		1.90E+02	1.00E-02	No Toxicity Value	--	--	3.00E-01	4.54E-05	< 1%

Table A4-4. Risk and Hazard Estimates: Dermal Contact with Soil, USEPA Residential Central Tendency Exposure (CTE), IR Site 24A, Former Naval Weapons Station Seal Beach Detachment Concord

Description	Variable	Value	
Dermal Soil Absorption Fraction	ABS_d	chemical-specific	unitless
Soil-to-Skin Adherence Fraction	AF_a	0.01	mg/cm^2-day
Soil-to-Skin Adherence Fraction	AF_c	0.04	mg/cm^2-day
Averaging Time, Carcinogens	AT_c	70	yrs
Averaging Time, noncarcinogens, child	$AT_{nc,c}$	6	yrs
Body Weight, adult	BW_a	70	kg
Body Weight, child	BW_c	15	kg
Conversion Factor	CF_d	1E-06	kg/mg
COPC Concentration in Soil	C_{soil}	chemical-specific	mg/kg
Exposure Duration	ED_a	9	yrs
Exposure Duration, child	ED_c	6	yrs
Exposure Frequency	EF	350	days/yr
Oral Reference Dose Adjusted for GI Absorption	RfD_d	chemical-specific	mg/kg-day
Exposed Body Surface Area, adult	SA_a	5700	cm^2
Exposed Body Surface Area, child	SA_c	2800	cm^2
Oral Slope Factor Adjusted for GI Absorption	SF_d	chemical-specific	$(mg/kg\text{-}day)^{-1}$

Equations:

Cancer Risk:

$$Risk = SF_d \times \left[C_{soil} \times \left(\frac{AF_a \times ABS_d \times EF \times ED_a \times SA_a \times CF_d}{BW_a \times AT_c \times 365\, day/year} + \frac{AF_c \times ABS_d \times EF \times ED_c \times SA_c \times CF_d}{BW_c \times AT_c \times 365\, day/year} \right) \right]$$

Noncancer Hazard:

$$Hazard = \frac{1}{RfD_d} \times \left[C_{soil} \times \left(\frac{AF_c \times ABS_d \times EF \times ED_c \times SA_c \times CF_d}{BW_c \times AT_{nc,c} \times 365\, day/year} \right) \right]$$

Analyte	C_{soil}	C_{soil} (mg/kg)	ABS_d (unitless)	SF_d $(mg/kg\text{-}day)^{-1}$	Cancer Risk (dimensionless)	% of Total	RfD_d (mg/kg-day)	Hazard Quotient (dimensionless)	% of Total
Explosives									
2,4-Dinitrotoluene		2.53E-01	1.02E-01	3.10E-01	5.70E-09	2%	2.00E-03	9.22E-05	< 1%
4-Nitrotoluene		9.51E-02	1.00E-01	1.60E-02	1.09E-10	< 1%	4.00E-03	1.70E-05	< 1%
High Molecular Weight Polyaromatic Hydrocarbons (HMW PAHs)									
Benzo[a]anthracene		1.25E-01	1.30E-01	7.30E-01	8.48E-09	2%	No Toxicity Value	--	--
Benzo[a]pyrene		1.04E-01	1.30E-01	7.30E+00	7.07E-08	19%	No Toxicity Value	--	--
Benzo[b]fluoranthene		2.44E-01	1.30E-01	7.30E-01	1.66E-08	4%	No Toxicity Value	--	--
Benzo[g,h,i]perylene		8.95E-02	1.30E-01	No Toxicity Value	--	--	3.00E-02	2.78E-06	< 1%
Benzo[k]fluoranthene		6.85E-02	1.30E-01	7.30E-02	4.64E-10	< 1%	No Toxicity Value	--	--
Chrysene		1.99E-01	1.30E-01	7.30E-03	1.35E-10	< 1%	No Toxicity Value	--	--
Dibenz[a,h]anthracene		2.89E-02	1.30E-01	7.30E+00	1.96E-08	5%	No Toxicity Value	--	--
Indeno[1,2,3-cd]pyrene		8.02E-02	1.30E-01	7.30E-01	5.43E-09	1%	No Toxicity Value	--	--
Pyrene		1.80E-01	1.30E-01	No Toxicity Value	--	--	3.00E-02	5.59E-06	< 1%

Table A4-4. Risk and Hazard Estimates: Dermal Contact with Soil, USEPA Residential Central Tendency Exposure (CTE), IR Site 24A, Former Naval Weapons Station Seal Beach Detachment Concord

Description	Variable	Value	
Dermal Soil Absorption Fraction	ABS_d	chemical-specific	unitless
Soil-to-Skin Adherence Fraction	AF_a	0.01	mg/cm^2-day
Soil-to-Skin Adherence Fraction	AF_c	0.04	mg/cm^2-day
Averaging Time, Carcinogens	AT_c	70	yrs
Averaging Time, noncarcinogens, child	$AT_{nc,c}$	6	yrs
Body Weight, adult	BW_a	70	kg
Body Weight, child	BW_c	15	kg
Conversion Factor	CF_d	1E-06	kg/mg
COPC Concentration in Soil	C_{soil}	chemical-specific	mg/kg
Exposure Duration	ED_a	9	yrs
Exposure Duration, child	ED_c	6	yrs
Exposure Frequency	EF	350	days/yr
Oral Reference Dose Adjusted for GI Absorption	RfD_d	chemical-specific	mg/kg-day
Exposed Body Surface Area, adult	SA_a	5700	cm^2
Exposed Body Surface Area, child	SA_c	2800	cm^2
Oral Slope Factor Adjusted for GI Absorption	SF_d	chemical-specific	$(mg/kg\text{-}day)^{-1}$

Equations:

Cancer Risk:

$$Risk = SF_d \times \left[C_{soil} \times \left(\frac{AF_a \times ABS_d \times EF \times ED_a \times SA_a \times CF_d}{BW_a \times AT_c \times 365\, day/year} + \frac{AF_c \times ABS_d \times EF \times ED_c \times SA_c \times CF_d}{BW_c \times AT_c \times 365\, day/year} \right) \right]$$

Noncancer Hazard:

$$Hazard = \frac{1}{RfD_d} \times \left[C_{soil} \times \left(\frac{AF_c \times ABS_d \times EF \times ED_c \times SA_c \times CF_d}{BW_c \times AT_{nc,c} \times 365\, day/year} \right) \right]$$

Analyte	C_{soil}	C_{soil} (mg/kg)	ABS_d (unitless)	SF_d $(mg/kg\text{-}day)^{-1}$	Cancer Risk (dimensionless)	% of Total	RfD_d (mg/kg-day)	Hazard Quotient (dimensionless)	% of Total
Low Molecular Weight Polyaromatic Hydrocarbons (LMW PAHs)									
Acenaphthene		8.05E-03	1.30E-01	No Toxicity Value	--	--	6.00E-02	1.25E-07	< 1%
Acenaphthylene		4.23E-02	1.30E-01	No Toxicity Value	--	--	6.00E-02	6.55E-07	< 1%
Anthracene		1.27E-01	1.30E-01	No Toxicity Value	--	--	3.00E-01	3.94E-07	< 1%
Fluoranthene		1.76E-01	1.30E-01	No Toxicity Value	--	--	4.00E-02	4.10E-06	< 1%
Fluorene		7.43E-03	1.30E-01	No Toxicity Value	--	--	4.00E-02	1.73E-07	< 1%
Naphthalene		3.03E-03	0.00E+00	No Toxicity Value	--	--	2.00E-02	0.00E+00	< 1%
Phenanthrene		6.89E-02	1.30E-01	No Toxicity Value	--	--	3.00E-02	2.14E-06	< 1%
				Pathway Sums:	Cancer Risk 3.75E-07			Hazard Index 3.82E-02	

"--" = data not available or not calculated

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Attachment A5 –

Risk and Hazard Calculation Details; USEPA Recreational User Reasonable Maximum Exposure (RME)

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Table A5-1. Summary of Risk and Hazard Estimates: Exposure to Soil, USEPA Recreational User (childhood and adulthood) Reasonable Maximum Exposure (RME), IR Site 24A, Former Naval Weapons Station Seal Beach Detachment Concord

		Cancer-Risk Estimate					Noncancer-Hazard Estimate				
Analyte	**Soil EPC** (mg/kg)	Ingestion	Inhalation	Dermal	Multi-Pathway	% of Cumulative	Ingestion	Inhalation	Dermal	Multi-Pathway	% of Cumulative
Inorganic Constituents											
Antimony	8.21E+01	--	--	--			9.03E-01	--	1.85E-01	**1.1E+00**	67%
Arsenic	1.09E+01	**1.05E-05**	5.90E-10	9.72E-07	**1.1E-05**	73%	1.60E-01	3.05E-05	1.47E-02	1.7E-01	11%
Barium	1.34E+02	--	--	--			2.95E-03	1.12E-05	1.29E-03	4.2E-03	< 1%
Beryllium	4.68E-01	--	1.41E-11	--	1.4E-11	< 1%	1.03E-03	9.82E-07	4.51E-03	5.5E-03	< 1%
Cadmium	3.45E-01	--	7.82E-12	--	7.8E-12	< 1%	1.52E-03	1.45E-06	1.86E-03	3.4E-03	< 1%
Chromium	2.09E+01	--	--	--			6.12E-05	--	1.44E-04	2.1E-04	< 1%
Cobalt	1.02E+01	--	1.15E-09	--	1.2E-09	< 1%	1.49E-01	7.12E-05	4.58E-03	1.5E-01	10%
Copper	1.12E+03	--	--	--			1.24E-01	--	3.79E-03	1.3E-01	8%
Lead	1.02E+04	--	--	--			--	--	--		
Mercury	7.28E-02	--	--	--			2.00E-03	1.02E-08	8.77E-04	2.9E-03	< 1%
Molybdenum	2.70E-01	--	--	--			2.38E-04	--	7.29E-06	2.5E-04	< 1%
Nickel	1.79E+01	--	5.85E-11	--	5.8E-11	< 1%	3.93E-03	8.33E-06	3.01E-03	7.0E-03	< 1%
Selenium	5.69E-01	--	--	--			5.01E-04	1.19E-09	1.54E-05	5.2E-04	< 1%
Silver	1.86E-01	--	--	--			1.64E-04	--	1.25E-04	2.9E-04	< 1%
Thallium	1.84E-01	--	--	--			--	--	--		
Vanadium	4.25E+01	--	--	--			3.74E-02	1.78E-05	1.15E-03	3.9E-02	2%
Zinc	3.66E+02	--	--	--			5.37E-03	--	1.64E-04	5.5E-03	< 1%
Explosives											
2,4-Dinitrotoluene	2.53E-01	5.04E-08	2.83E-13	1.58E-08	6.6E-08	< 1%	5.56E-04	--	1.74E-04	7.3E-04	< 1%
4-Nitrotoluene	9.51E-02	9.78E-10	--	3.02E-10	1.3E-09	< 1%	1.05E-04	--	3.21E-05	1.4E-04	< 1%
High Molecular Weight Polyaromatic Hydrocarbons (HMW PAHs)											
Benzo[a]anthracene	1.00E+00	4.69E-07	1.38E-12	1.88E-07	6.6E-07	4%	--	--	--		
Benzo[a]pyrene	3.89E-01	**1.82E-06**	5.38E-12	7.32E-07	**2.6E-06**	16%	--	--	--		
Benzo[b]fluoranthene	6.93E-01	3.25E-07	9.59E-13	1.30E-07	4.6E-07	3%	--	--	--		
Benzo[g,h,i]perylene	1.34E-01	--	--	--			1.96E-05	--	7.82E-06	2.7E-05	< 1%
Benzo[k]fluoranthene	2.57E-01	1.20E-08	3.55E-13	4.83E-09	1.7E-08	< 1%	--	--	--		
Chrysene	7.90E-01	3.71E-09	1.09E-13	1.49E-09	5.2E-09	< 1%	--	--	--		
Dibenz[a,h]anthracene	5.06E-02	2.38E-07	7.65E-13	9.52E-08	3.3E-07	2%	--	--	--		
Indeno[1,2,3-cd]pyrene	1.77E-01	8.33E-08	2.46E-13	3.34E-08	1.2E-07	< 1%	--	--	--		
Pyrene	1.40E+00	--	--	--			2.05E-04	--	8.19E-05	2.9E-04	< 1%
Low Molecular Weight Polyaromatic Hydrocarbons (LMW PAHs)											
Acenaphthene	2.07E-02	--	--	--			1.52E-06	--	6.06E-07	2.1E-06	< 1%
Acenaphthylene	7.68E-02	--	--	--			5.64E-06	--	2.25E-06	7.9E-06	< 1%
Anthracene	3.33E-01	--	--	--			4.88E-06	--	1.95E-06	6.8E-06	< 1%
Fluoranthene	1.40E+00	--	--	--			1.54E-04	--	6.14E-05	2.2E-04	< 1%
Fluorene	3.75E-02	--	--	--			4.13E-06	--	1.64E-06	5.8E-06	< 1%
Naphthalene	6.38E-03	--	2.73E-15	--	2.7E-15	< 1%	1.41E-06	8.93E-11	0.00E+00	1.4E-06	< 1%
Phenanthrene	5.80E-01	--	--	--			8.51E-05	--	3.39E-05	1.2E-04	< 1%
				Cumulative Risk:	**1.6E-05**				**Cumulative Hazard:**	**1.6E+00**	

"--" = data not available or not calculated

Table A5-2. Risk and Hazard Estimates: Incidental Ingestion of Soil, USEPA Recreational User (childhood and adulthood) Reasonable Maximum Exposure (RME), IR Site 24A, Former Naval Weapons Station Seal Beach Detachment Concord

Definition	Variable	Value	
Averaging Time, carcinogens	AT_c	70	yrs
Averaging Time, noncarcinogens, adult	$AT_{nc,a}$	11	yrs
Averaging Time, noncarcinogens, child	$AT_{nc,c}$	10	yrs
Body Weight	BW_a	70	kg
Body Weight	BW_c	40	kg
Conversion Factor	CF_o	1E-06	kg/mg
COPC Concentration in soil	C_{soil}	chemical-specific	mg/kg
Exposure Duration, adult	ED_a	11	yrs
Exposure Duration, child	ED_c	10	yrs
Exposure Frequency	EF	250	days/yr
Fraction Contaminated Soil Ingested	FI	1.0	unitless
Soil Ingestion Rate (adult)	IRS_a	100	mg/day
Soil Ingestion Rate (child)	IRS_c	200	mg/day
Oral Reference Dose	RfD_O	chemical-specific	mg/kg-day
Oral Slope Factor	SF_O	chemical-specific	$(mg/kg\text{-}day)^{-1}$

Equations

Cancer Risk:

$$Risk = SF_o \times \left\{ C_{soil} \times \left[\frac{IRS_a \times EF \times ED_a \times FI \times CF_o}{BW_a \times AT_c \times 365\ day/year} + \frac{IRS_c \times EF \times ED_c \times FI \times CF_o}{BW_c \times AT_c \times 365\ day/year} \right] \right\}$$

Noncancer Hazard:

$$Hazard = \frac{1}{RfD_o} \times \left\{ C_{soil} \times \left[\frac{IRS_a \times EF \times ED_a \times FI \times CF_o}{BW_a \times AT_{nc,a} \times 365\ day/year} + \frac{IRS_c \times EF \times ED_c \times FI \times CF_o}{BW_c \times AT_{nc,c} \times 365\ day/year)} \right] \right\}$$

Analyte	C_{soil} (mg/kg)	SF_o $(mg/kg\text{-}day)^{-1}$	Cancer Risk (dimensionless)	% of Total	RfD_o (mg/kg-day)	Noncancer Hazard (dimensionless)	% of Total
Inorganic Constituents							
Antimony	8.21E+01	No Toxicity Value	--	--	4.00E-04	9.03E-01	65%
Arsenic	1.09E+01	1.50E+00	1.05E-05	78%	3.00E-04	1.60E-01	11%
Barium	1.34E+02	No Toxicity Value	--	--	2.00E-01	2.95E-03	< 1%
Beryllium	4.68E-01	No Toxicity Value	--	--	2.00E-03	1.03E-03	< 1%
Cadmium	3.45E-01	No Toxicity Value	--	--	1.00E-03	1.52E-03	< 1%
Chromium	2.09E+01	No Toxicity Value	--	--	1.50E+00	6.12E-05	< 1%
Cobalt	1.02E+01	No Toxicity Value	--	--	3.00E-04	1.49E-01	11%
Copper	1.12E+03	No Toxicity Value	--	--	4.00E-02	1.24E-01	9%
Lead	1.02E+04	No Toxicity Value	--	--	No Toxicity Value	--	--
Mercury	7.28E-02	No Toxicity Value	--	--	1.60E-04	2.00E-03	< 1%
Molybdenum	2.70E-01	No Toxicity Value	--	--	5.00E-03	2.38E-04	< 1%
Nickel	1.79E+01	No Toxicity Value	--	--	2.00E-02	3.93E-03	< 1%
Selenium	5.69E-01	No Toxicity Value	--	--	5.00E-03	5.01E-04	< 1%
Silver	1.86E-01	No Toxicity Value	--	--	5.00E-03	1.64E-04	< 1%
Thallium	1.84E-01	No Toxicity Value	--	--	No Toxicity Value	--	--
Vanadium	4.25E+01	No Toxicity Value	--	--	5.00E-03	3.74E-02	3%
Zinc	3.66E+02	No Toxicity Value	--	--	3.00E-01	5.37E-03	< 1%
Explosives							
2,4-Dinitrotoluene	2.53E-01	3.10E-01	5.04E-08	< 1%	2.00E-03	5.56E-04	< 1%
4-Nitrotoluene	9.51E-02	1.60E-02	9.78E-10	< 1%	4.00E-03	1.05E-04	< 1%

Table A5-2. Risk and Hazard Estimates: Incidental Ingestion of Soil, USEPA Recreational User (childhood and adulthood) Reasonable Maximum Exposure (RME), IR Site 24A, Former Naval Weapons Station Seal Beach Detachment Concord

Definition	Variable	Value	
Averaging Time, carcinogens	AT_c	70	yrs
Averaging Time, noncarcinogens, adult	$AT_{nc,a}$	11	yrs
Averaging Time, noncarcinogens, child	$AT_{nc,c}$	10	yrs
Body Weight	BW_a	70	kg
Body Weight	BW_c	40	kg
Conversion Factor	CF_o	1E-06	kg/mg
COPC Concentration in soil	C_{soil}	chemical-specific	mg/kg
Exposure Duration, adult	ED_a	11	yrs
Exposure Duration, child	ED_c	10	yrs
Exposure Frequency	EF	250	days/yr
Fraction Contaminated Soil Ingested	FI	1.0	unitless
Soil Ingestion Rate (adult)	IRS_a	100	mg/day
Soil Ingestion Rate (child)	IRS_c	200	mg/day
Oral Reference Dose	RfD_O	chemical-specific	mg/kg-day
Oral Slope Factor	SF_O	chemical-specific	$(mg/kg\text{-}day)^{-1}$

Equations

Cancer Risk:

$$Risk = SF_o \times \left\{ C_{soil} \times \left[\frac{IRS_a \times EF \times ED_a \times FI \times CF_o}{BW_a \times AT_c \times 365\ day/year} + \frac{IRS_c \times EF \times ED_c \times FI \times CF_o}{BW_c \times AT_c \times 365\ day/year} \right] \right\}$$

Noncancer Hazard:

$$Hazard = \frac{1}{RfD_o} \times \left\{ C_{soil} \times \left[\frac{IRS_a \times EF \times ED_a \times FI \times CF_o}{BW_a \times AT_{nc,a} \times 365\ day/year} + \frac{IRS_c \times EF \times ED_c \times FI \times CF_o}{BW_c \times AT_{nc,c} \times 365\ day/year)} \right] \right\}$$

Analyte	C_{soil} (mg/kg)	SF_o $(mg/kg\text{-}day)^{-1}$	Cancer Risk (dimensionless)	% of Total	RfD_o (mg/kg-day)	Noncancer Hazard (dimensionless)	% of Total
High Molecular Weight Polyaromatic Hydrocarbons (HMW PAHs)							
Benzo[a]anthracene	1.00E+00	7.30E-01	4.69E-07	3%	No Toxicity Value	--	--
Benzo[a]pyrene	3.89E-01	7.30E+00	1.82E-06	14%	No Toxicity Value	--	--
Benzo[b]fluoranthene	6.93E-01	7.30E-01	3.25E-07	2%	No Toxicity Value	--	--
Benzo[g,h,i]perylene	1.34E-01	No Toxicity Value	--	--	3.00E-02	1.96E-05	< 1%
Benzo[k]fluoranthene	2.57E-01	7.30E-02	1.20E-08	< 1%	No Toxicity Value	--	--
Chrysene	7.90E-01	7.30E-03	3.71E-09	< 1%	No Toxicity Value	--	--
Dibenz[a,h]anthracene	5.06E-02	7.30E+00	2.38E-07	2%	No Toxicity Value	--	--
Indeno[1,2,3-cd]pyrene	1.77E-01	7.30E-01	8.33E-08	< 1%	No Toxicity Value	--	--
Pyrene	1.40E+00	No Toxicity Value	--	--	3.00E-02	2.05E-04	< 1%
Low Molecular Weight Polyaromatic Hydrocarbons (LMW PAHs)							
Acenaphthene	2.07E-02	No Toxicity Value	--	--	6.00E-02	1.52E-06	< 1%
Acenaphthylene	7.68E-02	No Toxicity Value	--	--	6.00E-02	5.64E-06	< 1%
Anthracene	3.33E-01	No Toxicity Value	--	--	3.00E-01	4.88E-06	< 1%
Fluoranthene	1.40E+00	No Toxicity Value	--	--	4.00E-02	1.54E-04	< 1%
Fluorene	3.75E-02	No Toxicity Value	--	--	4.00E-02	4.13E-06	< 1%
Naphthalene	6.38E-03	No Toxicity Value	--	--	2.00E-02	1.41E-06	< 1%
Phenanthrene	5.80E-01	No Toxicity Value	--	--	3.00E-02	8.51E-05	< 1%

	Cancer Risk	Hazard Index
Pathway Sum:	1.35E-05	1.39E+00

"--" = data not available or not calculated

Table A5-3. Risk and Hazard Estimates: Inhalation, USEPA Recreational User (childhood and adulthood) Reasonable Maximum Exposure (RME), IR Site 24A, Former Naval Weapons Station Seal Beach Detachment Concord

Description	Variable	Value	
Averaging Time, carcinogens	AT_c	70	yrs
Averaging Time, noncarcinogens	$AT_{nc,r}$	21	yrs
COPC Concentration in air	C_{air}	chemical-specific	µg/m^3
COPC Concentration in soil	C_{soil}	chemical-specific	mg/kg
Exposure Duration	ED	21	yrs
Exposure Frequency	EF	250	days/yr
Exposure Time	ET	2	hours/day
Inhalation Unit-Risk Factor	IUR	chemical-specific	(µg/m^3)$^{-1}$
Particulate emission factor (non-VOCs)	PEF	1.360E+09	m^3/kg
Inhalation Reference Concentration	RfC	chemical-specific	µg/m^3
Volatilization Factor for VOCs	VF	chemical-specific	m^3/kg

Equations

Cancer Risk:

$$Risk = IUR \times C_{air} \times \left(\frac{ED \times EF \times ET}{AT_c \times 365\ days/year \times 24\ hours/day} \right)$$

Noncancer Hazard:

$$Hazard = \frac{1}{RfC} \times C_{air} \times \left(\frac{ED \times EF \times ET}{AT_{nc} \times 365\ days/year \times 24\ hours/day} \right)$$

where: $C_{air} = \frac{C_{soil}}{PEF} \times 1000\ \mu g/mg$

Analyte	C_{soil} (mg/kg)	PEF (m^3/kg)	C_{air} (µg/m^3)	IUR (µg/m^3)$^{-1}$	Cancer Risk (dimensionless)	% of Total	RfC (µg/m^3)	Hazard Quotient (dimensionless)	% of Total
Inorganic Constituents									
Antimony	8.21E+01	1.360E+09	6.03E-05	No Toxicity Value	--	--	No Toxicity Value	--	--
Arsenic	1.09E+01	1.360E+09	8.01E-06	4.30E-03	5.90E-10	32%	1.50E-02	3.05E-05	22%
Barium	1.34E+02	1.360E+09	9.85E-05	No Toxicity Value	--	--	5.00E-01	1.12E-05	8%
Beryllium	4.68E-01	1.360E+09	3.44E-07	2.40E-03	1.41E-11	< 1%	2.00E-02	9.82E-07	< 1%
Cadmium	3.45E-01	1.360E+09	2.54E-07	1.80E-03	7.82E-12	< 1%	1.00E-02	1.45E-06	1%
Chromium	2.09E+01	1.360E+09	1.53E-05	No Toxicity Value	--	--	No Toxicity Value	--	--
Cobalt	1.02E+01	1.360E+09	7.49E-06	9.00E-03	1.15E-09	63%	6.00E-03	7.12E-05	50%
Copper	1.12E+03	1.360E+09	8.26E-04	No Toxicity Value	--	--	No Toxicity Value	--	--
Lead	1.02E+04	1.360E+09	7.51E-03	No Toxicity Value	--	--	No Toxicity Value	--	--
Mercury	7.28E-02	1.360E+09	5.35E-08	No Toxicity Value	--	--	3.00E-01	1.02E-08	< 1%
Molybdenum	2.70E-01	1.360E+09	1.99E-07	No Toxicity Value	--	--	No Toxicity Value	--	--
Nickel	1.79E+01	1.360E+09	1.31E-05	2.60E-04	5.85E-11	3%	9.00E-02	8.33E-06	6%
Selenium	5.69E-01	1.360E+09	4.18E-07	No Toxicity Value	--	--	2.00E+01	1.19E-09	< 1%
Silver	1.86E-01	1.360E+09	1.37E-07	No Toxicity Value	--	--	No Toxicity Value	--	--
Thallium	1.84E-01	1.360E+09	1.35E-07	No Toxicity Value	--	--	No Toxicity Value	--	--
Vanadium	4.25E+01	1.360E+09	3.13E-05	No Toxicity Value	--	--	1.00E-01	1.78E-05	13%
Zinc	3.66E+02	1.360E+09	2.69E-04	No Toxicity Value	--	--	No Toxicity Value	--	--
Explosives									
2,4-Dinitrotoluene	2.53E-01	1.360E+09	1.86E-07	8.90E-05	2.83E-13	< 1%	No Toxicity Value	--	--
4-Nitrotoluene	9.51E-02	1.360E+09	6.99E-08	No Toxicity Value	--	--	No Toxicity Value	--	--

Table A5-3. Risk and Hazard Estimates: Inhalation, USEPA Recreational User (childhood and adulthood) Reasonable Maximum Exposure (RME), IR Site 24A, Former Naval Weapons Station Seal Beach Detachment Concord

Description	Variable	Value	
Averaging Time, carcinogens	AT_c	70	yrs
Averaging Time, noncarcinogens	$AT_{nc,r}$	21	yrs
COPC Concentration in air	C_{air}	chemical-specific	µg/m^3
COPC Concentration in soil	C_{soil}	chemical-specific	mg/kg
Exposure Duration	ED	21	yrs
Exposure Frequency	EF	250	days/yr
Exposure Time	ET	2	hours/day
Inhalation Unit-Risk Factor	IUR	chemical-specific	(µg/m^3)$^{-1}$
Particulate emission factor (non-VOCs)	PEF	1.360E+09	m^3/kg
Inhalation Reference Concentration	RfC	chemical-specific	µg/m^3
Volatilization Factor for VOCs	VF	chemical-specific	m^3/kg

Equations

Cancer Risk:

$$Risk = IUR \times C_{air} \times \left(\frac{ED \times EF \times ET}{AT_c \times 365\ days/year \times 24\ hours/day} \right)$$

Noncancer Hazard:

$$Hazard = \frac{1}{RfC} \times C_{air} \times \left(\frac{ED \times EF \times ET}{AT_{nc} \times 365\ days/year \times 24\ hours/day} \right)$$

where: $C_{air} = \frac{C_{soil}}{PEF} \times 1000\ \mu g/mg$

Analyte	C_{soil} (mg/kg)	PEF (m^3/kg)	C_{air} (µg/m^3)	IUR (µg/m^3)$^{-1}$	Cancer Risk (dimensionless)	% of Total	RfC (µg/m^3)	Hazard Quotient (dimensionless)	% of Total
High Molecular Weight Polyaromatic Hydrocarbons (HMW PAHs)									
Benzo[a]anthracene	1.00E+00	1.360E+09	7.35E-07	1.10E-04	1.38E-12	< 1%	No Toxicity Value	--	--
Benzo[a]pyrene	3.89E-01	1.360E+09	2.86E-07	1.10E-03	5.38E-12	< 1%	No Toxicity Value	--	--
Benzo[b]fluoranthene	6.93E-01	1.360E+09	5.09E-07	1.10E-04	9.59E-13	< 1%	No Toxicity Value	--	--
Benzo[g,h,i]perylene	1.34E-01	1.360E+09	9.84E-08	No Toxicity Value	--	--	No Toxicity Value	--	--
Benzo[k]fluoranthene	2.57E-01	1.360E+09	1.89E-07	1.10E-04	3.55E-13	< 1%	No Toxicity Value	--	--
Chrysene	7.90E-01	1.360E+09	5.81E-07	1.10E-05	1.09E-13	< 1%	No Toxicity Value	--	--
Dibenz[a,h]anthracene	5.06E-02	1.360E+09	3.72E-08	1.20E-03	7.65E-13	< 1%	No Toxicity Value	--	--
Indeno[1,2,3-cd]pyrene	1.77E-01	1.360E+09	1.30E-07	1.10E-04	2.46E-13	< 1%	No Toxicity Value	--	--
Pyrene	1.40E+00	1.360E+09	1.03E-06	No Toxicity Value	--	--	No Toxicity Value	--	--
Low Molecular Weight Polyaromatic Hydrocarbons (LMW PAHs)									
Acenaphthene	2.07E-02	1.360E+09	1.53E-08	No Toxicity Value	--	--	No Toxicity Value	--	--
Acenaphthylene	7.68E-02	1.360E+09	5.65E-08	No Toxicity Value	--	--	No Toxicity Value	--	--
Anthracene	3.33E-01	1.360E+09	2.45E-07	No Toxicity Value	--	--	No Toxicity Value	--	--
Fluoranthene	1.40E+00	1.360E+09	1.03E-06	No Toxicity Value	--	--	No Toxicity Value	--	--
Fluorene	3.75E-02	1.360E+09	2.76E-08	No Toxicity Value	--	--	No Toxicity Value	--	--
Naphthalene	6.38E-03	1.360E+09	4.69E-09	3.40E-05	2.73E-15	< 1%	3.00E+00	8.93E-11	< 1%
Phenanthrene	5.80E-01	1.360E+09	4.26E-07	No Toxicity Value	--	--	No Toxicity Value	--	--
				Pathway Sums:	Cancer Risk 1.83E-09			Hazard Index 1.42E-04	

"--" = data not available or not calculated

Table A5-4. Risk and Hazard Estimates: Dermal Contact with Soil, USEPA Recreational User (childhood and adulthood) Reasonable Maximum Exposure (RME), IR Site 24A, Former Naval Weapons Station Seal Beach Detachment Concord

Description	Variable	Value
Dermal Soil Absorption Fraction	ABS_d	chemical-specific unitless
Soil-to-Skin Adherence Fraction, adult	AF_a	0.07 mg/cm^2-day
Soil-to-Skin Adherence Fraction, child	AF_c	0.2 mg/cm^2-day
Averaging Time, Carcinogens	AT_c	70 yrs
Averaging Time, noncarcinogens, adult	$AT_{nc,a}$	11 yrs
Averaging Time, noncarcinogens, child	$AT_{nc,c}$	10 yrs
Body Weight, adult	BW_a	70 kg
Body Weight, child	BW_c	40 kg
Conversion Factor	CF_d	1E-06 kg/mg
COPC Concentration in Soil	C_{soil}	chemical-specific mg/kg
Fraction of EV in Contact with Soil	EC	1 unitless
Exposure Duration, adult	ED_a	11 yrs
Exposure Duration, child	ED_c	10 yrs
Exposure Frequency	EF	250 days/yr
Event Frequency	EV	1 events/day
Oral Reference Dose Adjusted for GI Absorption	RfD_d	chemical-specific mg/kg-day
Exposed Body Surface Area, adult	SA_a	5700 cm^2
Exposed Body Surface Area, child	SA_c	2800 cm^2
Oral Slope Factor Adjusted for GI Absorption	SF_d	chemical-specific (mg/kg-day)$^{-1}$

Equations:

Cancer Risk:

$$Risk = SF_d \times \left[C_{soil} \times \left(\frac{AF_a \times ABS_d \times EF \times ED_a \times SA_{s,a} \times CF_{s,d}}{BW_a \times AT_c \times 365\ day/year} + \frac{AF_c \times ABS_d \times EF \times ED_c \times SA_{s,c} \times CF_{s,d}}{BW_c \times AT_c \times 365\ day/year} \right) \right]$$

Noncancer Hazard:

$$Hazard = \frac{1}{RfD_d} \times \left[C_{soil} \times \left(\frac{AF_a \times ABS_d \times EF \times ED_a \times SA_{s,a} \times CF_{s,d}}{BW_a \times AT_{nc,a} \times 365\ day/year} + \frac{AF_c \times ABS_d \times EF \times ED_c \times SA_{s,c} \times CF_{s,d}}{BW_c \times AT_{nc,c} \times 365\ day/year} \right) \right]$$

Analyte	C_{soil} (mg/kg)	ABS_d (unitless)	SF_d (mg/kg-day)$^{-1}$	Cancer Risk (dimensionless)	% of Total	RfD_d (mg/kg-day)	Hazard Quotient (dimensionless)	% of Total
Inorganic Constituents								
Antimony	8.21E+01	1.00E-02		--	--	6.00E-05	1.85E-01	83%
Arsenic	1.09E+01	3.00E-02	1.50E+00	9.72E-07	45%	3.00E-04	1.47E-02	7%
Barium	1.34E+02	1.00E-02		--	--	1.40E-02	1.29E-03	< 1%
Beryllium	4.68E-01	1.00E-02		--	--	1.40E-05	4.51E-03	2%
Cadmium	3.45E-01	1.00E-02		--	--	2.50E-05	1.86E-03	< 1%
Chromium	2.09E+01	1.00E-02		--	--	1.95E-02	1.44E-04	< 1%
Cobalt	1.02E+01	1.00E-02		--	--	3.00E-04	4.58E-03	2%
Copper	1.12E+03	1.00E-02		--	--	4.00E-02	3.79E-03	2%
Lead	1.02E+04	1.00E-02		--	--		--	--
Mercury	7.28E-02	1.00E-02		--	--	1.12E-05	8.77E-04	< 1%
Molybdenum	2.70E-01	1.00E-02		--	--	5.00E-03	7.29E-06	< 1%
Nickel	1.79E+01	1.00E-02		--	--	8.00E-04	3.01E-03	1%
Selenium	5.69E-01	1.00E-02		--	--	5.00E-03	1.54E-05	< 1%
Silver	1.86E-01	1.00E-02		--	--	2.00E-04	1.25E-04	< 1%
Thallium	1.84E-01	1.00E-02		--	--		--	--
Vanadium	4.25E+01	1.00E-02		--	--	5.00E-03	1.15E-03	< 1%
Zinc	3.66E+02	1.00E-02		--	--	3.00E-01	1.64E-04	< 1%
Explosives								
2,4-Dinitrotoluene	2.53E-01	1.02E-01	3.10E-01	1.58E-08	< 1%	2.00E-03	1.74E-04	< 1%
4-Nitrotoluene	9.51E-02	1.00E-01	1.60E-02	3.02E-10	< 1%	4.00E-03	3.21E-05	< 1%

Table A5-4. Risk and Hazard Estimates: Dermal Contact with Soil, USEPA Recreational User (childhood and adulthood) Reasonable Maximum Exposure (RME), IR Site 24A, Former Naval Weapons Station Seal Beach Detachment Concord

Description	Variable	Value
Dermal Soil Absorption Fraction	ABS_d	chemical-specific unitless
Soil-to-Skin Adherence Fraction, adult	AF_a	0.07 mg/cm^2-day
Soil-to-Skin Adherence Fraction, child	AF_c	0.2 mg/cm^2-day
Averaging Time, Carcinogens	AT_c	70 yrs
Averaging Time, noncarcinogens, adult	$AT_{nc,a}$	11 yrs
Averaging Time, noncarcinogens, child	$AT_{nc,c}$	10 yrs
Body Weight, adult	BW_a	70 kg
Body Weight, child	BW_c	40 kg
Conversion Factor	CF_d	1E-06 kg/mg
COPC Concentration in Soil	C_{soil}	chemical-specific mg/kg
Fraction of EV in Contact with Soil	EC	1 unitless
Exposure Duration, adult	ED_a	11 yrs
Exposure Duration, child	ED_c	10 yrs
Exposure Frequency	EF	250 days/yr
Event Frequency	EV	1 events/day
Oral Reference Dose Adjusted for GI Absorption	RfD_d	chemical-specific mg/kg-day
Exposed Body Surface Area, adult	SA_a	5700 cm^2
Exposed Body Surface Area, child	SA_c	2800 cm^2
Oral Slope Factor Adjusted for GI Absorption	SF_d	chemical-specific (mg/kg-day)$^{-1}$

Equations:

Cancer Risk:

$$Risk = SF_d \times \left[C_{soil} \times \left(\frac{AF_a \times ABS_d \times EF \times ED_a \times SA_{s,a} \times CF_{s,d}}{BW_a \times AT_c \times 365\ day/year} + \frac{AF_c \times ABS_d \times EF \times ED_c \times SA_{s,c} \times CF_{s,d}}{BW_c \times AT_c \times 365\ day/year} \right) \right]$$

Noncancer Hazard:

$$Hazard = \frac{1}{RfD_d} \times \left[C_{soil} \times \left(\frac{AF_a \times ABS_d \times EF \times ED_a \times SA_{s,a} \times CF_{s,d}}{BW_a \times AT_{nc,a} \times 365\ day/year} + \frac{AF_c \times ABS_d \times EF \times ED_c \times SA_{s,c} \times CF_{s,d}}{BW_c \times AT_{nc,c} \times 365\ day/year} \right) \right]$$

Analyte	C_{soil} (mg/kg)	ABS_d (unitless)	SF_d (mg/kg-day)$^{-1}$	Cancer Risk (dimensionless)	% of Total	RfD_d (mg/kg-day)	Hazard Quotient (dimensionless)	% of Total
High Molecular Weight Polyaromatic Hydrocarbons (HMW PAHs)								
Benzo[a]anthracene	1.00E+00	1.30E-01	7.30E-01	1.88E-07	9%		--	--
Benzo[a]pyrene	3.89E-01	1.30E-01	7.30E+00	7.32E-07	34%		--	--
Benzo[b]fluoranthene	6.93E-01	1.30E-01	7.30E-01	1.30E-07	6%		--	--
Benzo[g,h,i]perylene	1.34E-01	1.30E-01		--	--	3.00E-02	7.82E-06	< 1%
Benzo[k]fluoranthene	2.57E-01	1.30E-01	7.30E-02	4.83E-09	< 1%		--	--
Chrysene	7.90E-01	1.30E-01	7.30E-03	1.49E-09	< 1%		--	--
Dibenz[a,h]anthracene	5.06E-02	1.30E-01	7.30E+00	9.52E-08	4%		--	--
Indeno[1,2,3-cd]pyrene	1.77E-01	1.30E-01	7.30E-01	3.34E-08	2%		--	--
Pyrene	1.40E+00	1.30E-01		--	--	3.00E-02	8.19E-05	< 1%
Low Molecular Weight Polyaromatic Hydrocarbons (LMW PAHs)								
Acenaphthene	2.07E-02	1.30E-01		--	--	6.00E-02	6.06E-07	< 1%
Acenaphthylene	7.68E-02	1.30E-01		--	--	6.00E-02	2.25E-06	< 1%
Anthracene	3.33E-01	1.30E-01		--	--	3.00E-01	1.95E-06	< 1%
Fluoranthene	1.40E+00	1.30E-01		--	--	4.00E-02	6.14E-05	< 1%
Fluorene	3.75E-02	1.30E-01		--	--	4.00E-02	1.64E-06	< 1%
Naphthalene	6.38E-03	0.00E+00		--	--	2.00E-02	0.00E+00	< 1%
Phenanthrene	5.80E-01	1.30E-01		--	--	3.00E-02	3.39E-05	< 1%
			Pathway Sums:	Cancer Risk 2.17E-06			Hazard Index 2.21E-01	

"--" = data not available or not calculated

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Attachment A6 –

Risk and Hazard Calculation Details; USEPA Recreational User Central Tendency Exposure (CTE)

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Table A6-1. Summary of Risk and Hazard Estimates: Exposure to Soil, USEPA Recreational User (childhood and adulthood) Central Tendency Exposure (CTE), IR Site 24A, Former Naval Weapons Station Seal Beach Detachment Concord

		Cancer-Risk Estimate					Noncancer-Hazard Estimate				
Analyte	**Soil EPC** (mg/kg)	Ingestion	Inhalation	Dermal	Multi-Pathway	% of Cumulative	Ingestion	Inhalation	Dermal	Multi-Pathway	% of Cumulative
Inorganic Constituents											
Antimony	1.99E+01	--	--	--			2.19E-02	--	1.64E-03	2.4E-02	41%
Arsenic	7.72E+00	4.53E-07	6.47E-12	1.53E-08	4.7E-07	88%	1.13E-02	5.40E-07	3.82E-04	1.2E-02	21%
Barium	1.16E+02	--	--	--			2.56E-04	2.44E-07	4.11E-05	3.0E-04	< 1%
Beryllium	4.48E-01	--	2.10E-13	--	2.1E-13	< 1%	9.86E-05	2.35E-08	1.58E-04	2.6E-04	< 1%
Cadmium	2.47E-01	--	8.66E-14	--	8.7E-14	< 1%	1.09E-04	2.59E-08	4.89E-05	1.6E-04	< 1%
Chromium	1.96E+01	--	--	--			5.76E-06	--	4.98E-06	1.1E-05	< 1%
Cobalt	9.54E+00	--	1.67E-11	--	1.7E-11	< 1%	1.40E-02	1.67E-06	1.57E-04	1.4E-02	25%
Copper	1.88E+02	--	--	--			2.06E-03	--	2.32E-05	2.1E-03	4%
Lead	1.65E+03	--	--	--			--	--	--		
Mercury	5.01E-02	--	--	--			1.38E-04	1.75E-10	2.21E-05	1.6E-04	< 1%
Molybdenum	2.49E-01	--	--	--			2.19E-05	--	2.47E-07	2.2E-05	< 1%
Nickel	1.69E+01	--	8.58E-13	--	8.6E-13	< 1%	3.73E-04	1.97E-07	1.05E-04	4.8E-04	< 1%
Selenium	4.47E-01	--	--	--			3.94E-05	2.35E-11	4.43E-07	4.0E-05	< 1%
Silver	1.40E-01	--	--	--			1.23E-05	--	3.47E-06	1.6E-05	< 1%
Thallium	1.73E-01	--	--	--			--	--	--		
Vanadium	3.91E+01	--	--	--			3.45E-03	4.11E-07	3.88E-05	3.5E-03	6%
Zinc	1.90E+02	--	--	--			2.79E-04	--	3.14E-06	2.8E-04	< 1%
Explosives											
2,4-Dinitrotoluene	2.53E-01	3.07E-09	4.38E-15	3.52E-10	3.4E-09	< 1%	5.56E-05	--	6.38E-06	6.2E-05	< 1%
4-Nitrotoluene	9.51E-02	5.95E-11	--	6.70E-12	6.6E-11	< 1%	1.05E-05	--	1.18E-06	1.2E-05	< 1%
High Molecular Weight Polyaromatic Hydrocarbons (HMW PAHs)											
Benzo[a]anthracene	1.25E-01	3.57E-09	2.68E-15	5.23E-10	4.1E-09	< 1%	--	--	--		
Benzo[a]pyrene	1.04E-01	2.98E-08	2.24E-14	4.36E-09	3.4E-08	6%	--	--	--		
Benzo[b]fluoranthene	2.44E-01	6.98E-09	5.24E-15	1.02E-09	8.0E-09	2%	--	--	--		
Benzo[g,h,i]perylene	8.95E-02	--	--	--			1.31E-06	--	1.92E-07	1.5E-06	< 1%
Benzo[k]fluoranthene	6.85E-02	1.96E-10	1.47E-15	2.86E-11	2.2E-10	< 1%	--	--	--		
Chrysene	1.99E-01	5.68E-11	4.26E-16	8.31E-12	6.5E-11	< 1%	--	--	--		
Dibenz[a,h]anthracene	2.89E-02	8.26E-09	6.76E-15	1.21E-09	9.5E-09	2%	--	--	--		
Indeno[1,2,3-cd]pyrene	8.02E-02	2.29E-09	1.72E-15	3.35E-10	2.6E-09	< 1%	--	--	--		
Pyrene	1.80E-01	--	--	--			2.64E-06	--	3.87E-07	3.0E-06	< 1%
Low Molecular Weight Polyaromatic Hydrocarbons (LMW PAHs)											
Acenaphthene	8.05E-03	--	--	--			5.91E-08	--	8.64E-09	6.8E-08	< 1%
Acenaphthylene	4.23E-02	--	--	--			3.10E-07	--	4.53E-08	3.6E-07	< 1%
Anthracene	1.27E-01	--	--	--			1.86E-07	--	2.72E-08	2.1E-07	< 1%
Fluoranthene	1.76E-01	--	--	--			1.94E-06	--	2.84E-07	2.2E-06	< 1%
Fluorene	7.43E-03	--	--	--			8.18E-08	--	1.20E-08	9.4E-08	< 1%
Naphthalene	3.03E-03	--	2.00E-17	--	2.0E-17	< 1%	6.66E-08	1.06E-12	0.00E+00	6.7E-08	< 1%
Phenanthrene	6.89E-02	--	--	--			1.01E-06	--	1.48E-07	1.2E-06	< 1%
				Cumulative Risk:	5.3E-07				**Cumulative Hazard:**	5.7E-02	

"--" = data not available or not calculated

Table A6-2. Risk and Hazard Estimates: Incidental Ingestion of Soil, USEPA Recreational User (childhood and adulthood) Central Tendency Exposure (CTE), IR Site 24A, Former Naval Weapons Station Seal Beach Detachment Concord

Definition	Variable	Value	
Averaging Time, carcinogens	AT_c	70	yrs
Averaging Time, noncarcinogens, adult	$AT_{nc,a}$	7	yrs
Averaging Time, noncarcinogens, child	$AT_{nc,c}$	6	yrs
Body Weight	BW_a	70	kg
Body Weight	BW_c	40	kg
Conversion Factor	CF_o	1E-06	kg/mg
COPC Concentration in soil	C_{soil}	chemical-specific	mg/kg
Exposure Duration, adult	ED_a	7	yrs
Exposure Duration, child	ED_c	6	yrs
Exposure Frequency	EF	50	days/yr
Fraction Contaminated Soil Ingested	FI	1.0	unitless
Soil Ingestion Rate (adult)	IRS_a	50	mg/day
Soil Ingestion Rate (child)	IRS_c	100	mg/day
Oral Reference Dose	RfD_O	chemical-specific	mg/kg-day
Oral Slope Factor	SF_O	chemical-specific	$(mg/kg\text{-}day)^{-1}$

Equations

Cancer Risk:

$$Risk = SF_o \times \left\{ C_{soil} \times \left[\frac{IRS_a \times EF \times ED_a \times FI \times CF_o}{BW_a \times AT_c \times 365\ day/year} + \frac{IRS_c \times EF \times ED_c \times FI \times CF_o}{BW_c \times AT_c \times 365\ day/year} \right] \right\}$$

Noncancer Hazard:

$$Hazard = \frac{1}{RfD_o} \times \left\{ C_{soil} \times \left[\frac{IRS_a \times EF \times ED_a \times FI \times CF_o}{BW_a \times AT_{nc,a} \times 365\ day/year} + \frac{IRS_c \times EF \times ED_c \times FI \times CF_o}{BW_c \times AT_{nc,c} \times 365\ day/year)} \right] \right\}$$

Analyte	C_{soil} (mg/kg)	SF_o $(mg/kg\text{-}day)^{-1}$	Cancer Risk (dimensionless)	% of Total	RfD_o (mg/kg-day)	Noncancer Hazard (dimensionless)	% of Total
Inorganic Constituents							
Antimony	1.99E+01	No Toxicity Value	--	--	4.00E-04	2.19E-02	40%
Arsenic	7.72E+00	1.50E+00	4.53E-07	89%	3.00E-04	1.13E-02	21%
Barium	1.16E+02	No Toxicity Value	--	--	2.00E-01	2.56E-04	< 1%
Beryllium	4.48E-01	No Toxicity Value	--	--	2.00E-03	9.86E-05	< 1%
Cadmium	2.47E-01	No Toxicity Value	--	--	1.00E-03	1.09E-04	< 1%
Chromium	1.96E+01	No Toxicity Value	--	--	1.50E+00	5.76E-06	< 1%
Cobalt	9.54E+00	No Toxicity Value	--	--	3.00E-04	1.40E-02	26%
Copper	1.88E+02	No Toxicity Value	--	--	4.00E-02	2.06E-03	4%
Lead	1.65E+03	No Toxicity Value	--	--	No Toxicity Value	--	--
Mercury	5.01E-02	No Toxicity Value	--	--	1.60E-04	1.38E-04	< 1%
Molybdenum	2.49E-01	No Toxicity Value	--	--	5.00E-03	2.19E-05	< 1%
Nickel	1.69E+01	No Toxicity Value	--	--	2.00E-02	3.73E-04	< 1%
Selenium	4.47E-01	No Toxicity Value	--	--	5.00E-03	3.94E-05	< 1%
Silver	1.40E-01	No Toxicity Value	--	--	5.00E-03	1.23E-05	< 1%
Thallium	1.73E-01	No Toxicity Value	--	--	No Toxicity Value	--	--
Vanadium	3.91E+01	No Toxicity Value	--	--	5.00E-03	3.45E-03	6%
Zinc	1.90E+02	No Toxicity Value	--	--	3.00E-01	2.79E-04	< 1%
Explosives							
2,4-Dinitrotoluene	2.53E-01	3.10E-01	3.07E-09	< 1%	2.00E-03	5.56E-05	< 1%
4-Nitrotoluene	9.51E-02	1.60E-02	5.95E-11	< 1%	4.00E-03	1.05E-05	< 1%

Table A6-2. Risk and Hazard Estimates: Incidental Ingestion of Soil, USEPA Recreational User (childhood and adulthood) Central Tendency Exposure (CTE), IR Site 24A, Former Naval Weapons Station Seal Beach Detachment Concord

Definition	Variable	Value	
Averaging Time, carcinogens	AT_c	70	yrs
Averaging Time, noncarcinogens, adult	$AT_{nc,a}$	7	yrs
Averaging Time, noncarcinogens, child	$AT_{nc,c}$	6	yrs
Body Weight	BW_a	70	kg
Body Weight	BW_c	40	kg
Conversion Factor	CF_o	1E-06	kg/mg
COPC Concentration in soil	C_{soil}	chemical-specific	mg/kg
Exposure Duration, adult	ED_a	7	yrs
Exposure Duration, child	ED_c	6	yrs
Exposure Frequency	EF	50	days/yr
Fraction Contaminated Soil Ingested	FI	1.0	unitless
Soil Ingestion Rate (adult)	IRS_a	50	mg/day
Soil Ingestion Rate (child)	IRS_c	100	mg/day
Oral Reference Dose	RfD_O	chemical-specific	mg/kg-day
Oral Slope Factor	SF_O	chemical-specific	$(mg/kg\text{-}day)^{-1}$

Equations

Cancer Risk:

$$Risk = SF_o \times \left\{ C_{soil} \times \left[\frac{IRS_a \times EF \times ED_a \times FI \times CF_o}{BW_a \times AT_c \times 365\ day/year} + \frac{IRS_c \times EF \times ED_c \times FI \times CF_o}{BW_c \times AT_c \times 365\ day/year} \right] \right\}$$

Noncancer Hazard:

$$Hazard = \frac{1}{RfD_o} \times \left\{ C_{soil} \times \left[\frac{IRS_a \times EF \times ED_a \times FI \times CF_o}{BW_a \times AT_{nc,a} \times 365\ day/year} + \frac{IRS_c \times EF \times ED_c \times FI \times CF_o}{BW_c \times AT_{nc,c} \times 365\ day/year)} \right] \right\}$$

Analyte	C_{soil} (mg/kg)	SF_o $(mg/kg\text{-}day)^{-1}$	Cancer Risk (dimensionless)	% of Total	RfD_o (mg/kg-day)	Noncancer Hazard (dimensionless)	% of Total
High Molecular Weight Polyaromatic Hydrocarbons (HMW PAHs)							
Benzo[a]anthracene	1.25E-01	7.30E-01	3.57E-09	< 1%	No Toxicity Value	--	--
Benzo[a]pyrene	1.04E-01	7.30E+00	2.98E-08	6%	No Toxicity Value	--	--
Benzo[b]fluoranthene	2.44E-01	7.30E-01	6.98E-09	1%	No Toxicity Value	--	--
Benzo[g,h,i]perylene	8.95E-02	No Toxicity Value	--	--	3.00E-02	1.31E-06	< 1%
Benzo[k]fluoranthene	6.85E-02	7.30E-02	1.96E-10	< 1%	No Toxicity Value	--	--
Chrysene	1.99E-01	7.30E-03	5.68E-11	< 1%	No Toxicity Value	--	--
Dibenz[a,h]anthracene	2.89E-02	7.30E+00	8.26E-09	2%	No Toxicity Value	--	--
Indeno[1,2,3-cd]pyrene	8.02E-02	7.30E-01	2.29E-09	< 1%	No Toxicity Value	--	--
Pyrene	1.80E-01	No Toxicity Value	--	--	3.00E-02	2.64E-06	< 1%
Low Molecular Weight Polyaromatic Hydrocarbons (LMW PAHs)							
Acenaphthene	8.05E-03	No Toxicity Value	--	--	6.00E-02	5.91E-08	< 1%
Acenaphthylene	4.23E-02	No Toxicity Value	--	--	6.00E-02	3.10E-07	< 1%
Anthracene	1.27E-01	No Toxicity Value	--	--	3.00E-01	1.86E-07	< 1%
Fluoranthene	1.76E-01	No Toxicity Value	--	--	4.00E-02	1.94E-06	< 1%
Fluorene	7.43E-03	No Toxicity Value	--	--	4.00E-02	8.18E-08	< 1%
Naphthalene	3.03E-03	No Toxicity Value	--	--	2.00E-02	6.66E-08	< 1%
Phenanthrene	6.89E-02	No Toxicity Value	--	--	3.00E-02	1.01E-06	< 1%

	Cancer Risk	Hazard Index
Pathway Sum:	5.07E-07	5.42E-02

"--" = data not available or not calculated

Table A6-3. Risk and Hazard Estimates: Inhalation, USEPA Recreational User (childhood and adulthood) Central Tendency Exposure (CTE), IR Site 24A, Former Naval Weapons Station Seal Beach Detachment Concord

Description	Variable	Value
Averaging Time, carcinogens	AT_c	70 yrs
Averaging Time, noncarcinogens	$AT_{nc,r}$	13 yrs
COPC Concentration in air	C_{air}	chemical-specific µg/m^3
COPC Concentration in soil	C_{soil}	chemical-specific mg/kg
Exposure Duration	ED	13 yrs
Exposure Frequency	EF	50 days/yr
Exposure Time	ET	0.25 hours/day
Inhalation Unit-Risk Factor	IUR	chemical-specific (µg/m^3)$^{-1}$
Particulate emission factor (non-VOCs)	PEF	1.360E+09 m^3/kg
Inhalation Reference Concentration	RfC	chemical-specific µg/m^3
Volatilization Factor for VOCs	VF	chemical-specific m^3/kg

Equations

Cancer Risk:

$$Risk = IUR \times C_{air} \times \left(\frac{ED \times EF \times ET}{AT_c \times 365\ days / year \times 24\ hours / day} \right)$$

Noncancer Hazard:

$$Hazard = \frac{1}{RfC} \times C_{air} \times \left(\frac{ED \times EF \times ET}{AT_{nc} \times 365\ days / year \times 24\ hours / day} \right)$$

where: $C_{air} = \frac{C_{soil}}{PEF} \times 1000\ \mu g / mg$

Analyte	C_{soil} (mg/kg)	PEF (m^3/kg)	C_{air} (µg/m^3)	IUR (µg/m^3)$^{-1}$	Cancer Risk (dimensionless)	% of Total	RfC (µg/m^3)	Hazard Quotient (dimensionless)	% of Total
Inorganic Constituents									
Antimony	1.99E+01	1.360E+09	1.46E-05	No Toxicity Value	--	--	No Toxicity Value	--	--
Arsenic	7.72E+00	1.360E+09	5.68E-06	4.30E-03	6.47E-12	27%	1.50E-02	5.40E-07	17%
Barium	1.16E+02	1.360E+09	8.55E-05	No Toxicity Value	--	--	5.00E-01	2.44E-07	8%
Beryllium	4.48E-01	1.360E+09	3.29E-07	2.40E-03	2.10E-13	< 1%	2.00E-02	2.35E-08	< 1%
Cadmium	2.47E-01	1.360E+09	1.82E-07	1.80E-03	8.66E-14	< 1%	1.00E-02	2.59E-08	< 1%
Chromium	1.96E+01	1.360E+09	1.44E-05	No Toxicity Value	--	--	No Toxicity Value	--	--
Cobalt	9.54E+00	1.360E+09	7.02E-06	9.00E-03	1.67E-11	69%	6.00E-03	1.67E-06	54%
Copper	1.88E+02	1.360E+09	1.38E-04	No Toxicity Value	--	--	No Toxicity Value	--	--
Lead	1.65E+03	1.360E+09	1.21E-03	No Toxicity Value	--	--	No Toxicity Value	--	--
Mercury	5.01E-02	1.360E+09	3.68E-08	No Toxicity Value	--	--	3.00E-01	1.75E-10	< 1%
Molybdenum	2.49E-01	1.360E+09	1.83E-07	No Toxicity Value	--	--	No Toxicity Value	--	--
Nickel	1.69E+01	1.360E+09	1.25E-05	2.60E-04	8.58E-13	4%	9.00E-02	1.97E-07	6%
Selenium	4.47E-01	1.360E+09	3.29E-07	No Toxicity Value	--	--	2.00E+01	2.35E-11	< 1%
Silver	1.40E-01	1.360E+09	1.03E-07	No Toxicity Value	--	--	No Toxicity Value	--	--
Thallium	1.73E-01	1.360E+09	1.27E-07	No Toxicity Value	--	--	No Toxicity Value	--	--
Vanadium	3.91E+01	1.360E+09	2.88E-05	No Toxicity Value	--	--	1.00E-01	4.11E-07	13%
Zinc	1.90E+02	1.360E+09	1.40E-04	No Toxicity Value	--	--	No Toxicity Value	--	--
Explosives									
2,4-Dinitrotoluene	2.53E-01	1.360E+09	1.86E-07	8.90E-05	4.38E-15	< 1%	No Toxicity Value	--	--
4-Nitrotoluene	9.51E-02	1.360E+09	6.99E-08	No Toxicity Value	--	--	No Toxicity Value	--	--

Table A6-3. Risk and Hazard Estimates: Inhalation, USEPA Recreational User (childhood and adulthood) Central Tendency Exposure (CTE), IR Site 24A, Former Naval Weapons Station Seal Beach Detachment Concord

Description	Variable	Value
Averaging Time, carcinogens	AT_c	70 yrs
Averaging Time, noncarcinogens	$AT_{nc,r}$	13 yrs
COPC Concentration in air	C_{air}	chemical-specific µg/m^3
COPC Concentration in soil	C_{soil}	chemical-specific mg/kg
Exposure Duration	ED	13 yrs
Exposure Frequency	EF	50 days/yr
Exposure Time	ET	0.25 hours/day
Inhalation Unit-Risk Factor	IUR	chemical-specific (µg/m^3)$^{-1}$
Particulate emission factor (non-VOCs)	PEF	1.360E+09 m^3/kg
Inhalation Reference Concentration	RfC	chemical-specific µg/m^3
Volatilization Factor for VOCs	VF	chemical-specific m^3/kg

Equations

Cancer Risk:

$$Risk = IUR \times C_{air} \times \left(\frac{ED \times EF \times ET}{AT_c \times 365\ days\ /\ year \times 24\ hours\ /\ day} \right)$$

Noncancer Hazard:

$$Hazard = \frac{1}{RfC} \times C_{air} \times \left(\frac{ED \times EF \times ET}{AT_{nc} \times 365\ days\ /\ year \times 24\ hours\ /\ day} \right)$$

where: $C_{air} = \frac{C_{soil}}{PEF} \times 1000\ \mu g\ /\ mg$

Analyte	C_{soil} (mg/kg)	PEF (m^3/kg)	C_{air} (µg/m^3)	IUR (µg/m^3)$^{-1}$	Cancer Risk (dimensionless)	% of Total	RfC (µg/m^3)	Hazard Quotient (dimensionless)	% of Total
High Molecular Weight Polyaromatic Hydrocarbons (HMW PAHs)									
Benzo[a]anthracene	1.25E-01	1.360E+09	9.20E-08	1.10E-04	2.68E-15	< 1%	No Toxicity Value	--	--
Benzo[a]pyrene	1.04E-01	1.360E+09	7.68E-08	1.10E-03	2.24E-14	< 1%	No Toxicity Value	--	--
Benzo[b]fluoranthene	2.44E-01	1.360E+09	1.80E-07	1.10E-04	5.24E-15	< 1%	No Toxicity Value	--	--
Benzo[g,h,i]perylene	8.95E-02	1.360E+09	6.58E-08	No Toxicity Value	--	--	No Toxicity Value	--	--
Benzo[k]fluoranthene	6.85E-02	1.360E+09	5.04E-08	1.10E-04	1.47E-15	< 1%	No Toxicity Value	--	--
Chrysene	1.99E-01	1.360E+09	1.46E-07	1.10E-05	4.26E-16	< 1%	No Toxicity Value	--	--
Dibenz[a,h]anthracene	2.89E-02	1.360E+09	2.13E-08	1.20E-03	6.76E-15	< 1%	No Toxicity Value	--	--
Indeno[1,2,3-cd]pyrene	8.02E-02	1.360E+09	5.90E-08	1.10E-04	1.72E-15	< 1%	No Toxicity Value	--	--
Pyrene	1.80E-01	1.360E+09	1.33E-07	No Toxicity Value	--	--	No Toxicity Value	--	--
Low Molecular Weight Polyaromatic Hydrocarbons (LMW PAHs)									
Acenaphthene	8.05E-03	1.360E+09	5.92E-09	No Toxicity Value	--	--	No Toxicity Value	--	--
Acenaphthylene	4.23E-02	1.360E+09	3.11E-08	No Toxicity Value	--	--	No Toxicity Value	--	--
Anthracene	1.27E-01	1.360E+09	9.34E-08	No Toxicity Value	--	--	No Toxicity Value	--	--
Fluoranthene	1.76E-01	1.360E+09	1.30E-07	No Toxicity Value	--	--	No Toxicity Value	--	--
Fluorene	7.43E-03	1.360E+09	5.46E-09	No Toxicity Value	--	--	No Toxicity Value	--	--
Naphthalene	3.03E-03	1.360E+09	2.22E-09	3.40E-05	2.00E-17	< 1%	3.00E+00	1.06E-12	< 1%
Phenanthrene	6.89E-02	1.360E+09	5.07E-08	No Toxicity Value	--	--	No Toxicity Value	--	--
				Pathway Sums:	Cancer Risk 2.44E-11			Hazard Index 3.11E-06	

"--" = data not available or not calculated

Table A6-4. Risk and Hazard Estimates: Dermal Contact with Soil, USEPA Recreational User (childhood and adulthood) Central Tendency Exposure (CTE), IR Site 24A, Former Naval Weapons Station Seal Beach Detachment Concord

Description	Variable	Value
Dermal Soil Absorption Fraction	ABS_d	chemical-specific unitless
Soil-to-Skin Adherence Fraction, adult	AF_a	0.01 mg/cm^2-day
Soil-to-Skin Adherence Fraction, child	AF_c	0.04 mg/cm^2-day
Averaging Time, Carcinogens	AT_c	70 yrs
Averaging Time, noncarcinogens, adult	$AT_{nc,a}$	7 yrs
Averaging Time, noncarcinogens, child	$AT_{nc,c}$	6 yrs
Body Weight, adult	BW_a	70 kg
Body Weight, child	BW_c	40 kg
Conversion Factor	CF_d	1E-06 kg/mg
COPC Concentration in Soil	C_{soil}	chemical-specific mg/kg
Fraction of EV in Contact with Soil	EC	1 unitless
Exposure Duration, adult	ED_a	7 yrs
Exposure Duration, child	ED_c	6 yrs
Exposure Frequency	EF	50 days/yr
Event Frequency	EV	1 events/day
Oral Reference Dose Adjusted for GI Absorption	RfD_d	chemical-specific mg/kg-day
Exposed Body Surface Area, adult	SA_a	5700 cm^2
Exposed Body Surface Area, child	SA_c	2800 cm^2
Oral Slope Factor Adjusted for GI Absorption	SF_d	chemical-specific (mg/kg-day)$^{-1}$

Equations:

Cancer Risk:

$$Risk = SF_d \times \left[C_{soil} \times \left(\frac{AF_a \times ABS_d \times EF \times ED_a \times SA_{s,a} \times CF_{s,d}}{BW_a \times AT_c \times 365\ day/year} + \frac{AF_c \times ABS_d \times EF \times ED_c \times SA_{s,c} \times CF_{s,d}}{BW_c \times AT_c \times 365\ day/year} \right) \right]$$

Noncancer Hazard:

$$Hazard = \frac{1}{RfD_d} \times \left[C_{soil} \times \left(\frac{AF_a \times ABS_d \times EF \times ED_a \times SA_{s,a} \times CF_{s,d}}{BW_a \times AT_{nc,a} \times 365\ day/year} + \frac{AF_c \times ABS_d \times EF \times ED_c \times SA_{s,c} \times CF_{s,d}}{BW_c \times AT_{nc,c} \times 365\ day/year} \right) \right]$$

Analyte	C_{soil} (mg/kg)	ABS_d (unitless)	SF_d (mg/kg-day)$^{-1}$	Cancer Risk (dimensionless)	% of Total	RfD_d (mg/kg-day)	Hazard Quotient (dimensionless)	% of Total
Inorganic Constituents								
Antimony	1.99E+01	1.00E-02		--	--	6.00E-05	1.64E-03	62%
Arsenic	7.72E+00	3.00E-02	1.50E+00	1.53E-08	66%	3.00E-04	3.82E-04	14%
Barium	1.16E+02	1.00E-02		--	--	1.40E-02	4.11E-05	2%
Beryllium	4.48E-01	1.00E-02		--	--	1.40E-05	1.58E-04	6%
Cadmium	2.47E-01	1.00E-02		--	--	2.50E-05	4.89E-05	2%
Chromium	1.96E+01	1.00E-02		--	--	1.95E-02	4.98E-06	< 1%
Cobalt	9.54E+00	1.00E-02		--	--	3.00E-04	1.57E-04	6%
Copper	1.88E+02	1.00E-02		--	--	4.00E-02	2.32E-05	< 1%
Lead	1.65E+03	1.00E-02		--	--		--	--
Mercury	5.01E-02	1.00E-02		--	--	1.12E-05	2.21E-05	< 1%
Molybdenum	2.49E-01	1.00E-02		--	--	5.00E-03	2.47E-07	< 1%
Nickel	1.69E+01	1.00E-02		--	--	8.00E-04	1.05E-04	4%
Selenium	4.47E-01	1.00E-02		--	--	5.00E-03	4.43E-07	< 1%
Silver	1.40E-01	1.00E-02		--	--	2.00E-04	3.47E-06	< 1%
Thallium	1.73E-01	1.00E-02		--	--		--	--
Vanadium	3.91E+01	1.00E-02		--	--	5.00E-03	3.88E-05	1%
Zinc	1.90E+02	1.00E-02		--	--	3.00E-01	3.14E-06	< 1%
Explosives								
2,4-Dinitrotoluene	2.53E-01	1.02E-01	3.10E-01	3.52E-10	2%	2.00E-03	6.38E-06	< 1%
4-Nitrotoluene	9.51E-02	1.00E-01	1.60E-02	6.70E-12	< 1%	4.00E-03	1.18E-06	< 1%

Table A6-4. Risk and Hazard Estimates: Dermal Contact with Soil, USEPA Recreational User (childhood and adulthood) Central Tendency Exposure (CTE), IR Site 24A, Former Naval Weapons Station Seal Beach Detachment Concord

Description	Variable	Value
Dermal Soil Absorption Fraction	ABS_d	chemical-specific unitless
Soil-to-Skin Adherence Fraction, adult	AF_a	0.01 mg/cm^2-day
Soil-to-Skin Adherence Fraction, child	AF_c	0.04 mg/cm^2-day
Averaging Time, Carcinogens	AT_c	70 yrs
Averaging Time, noncarcinogens, adult	$AT_{nc,a}$	7 yrs
Averaging Time, noncarcinogens, child	$AT_{nc,c}$	6 yrs
Body Weight, adult	BW_a	70 kg
Body Weight, child	BW_c	40 kg
Conversion Factor	CF_d	1E-06 kg/mg
COPC Concentration in Soil	C_{soil}	chemical-specific mg/kg
Fraction of EV in Contact with Soil	EC	1 unitless
Exposure Duration, adult	ED_a	7 yrs
Exposure Duration, child	ED_c	6 yrs
Exposure Frequency	EF	50 days/yr
Event Frequency	EV	1 events/day
Oral Reference Dose Adjusted for GI Absorption	RfD_d	chemical-specific mg/kg-day
Exposed Body Surface Area, adult	SA_a	5700 cm^2
Exposed Body Surface Area, child	SA_c	2800 cm^2
Oral Slope Factor Adjusted for GI Absorption	SF_d	chemical-specific $(mg/kg\text{-}day)^{-1}$

Equations:

Cancer Risk:

$$Risk = SF_d \times \left[C_{soil} \times \left(\frac{AF_a \times ABS_d \times EF \times ED_a \times SA_{s,a} \times CF_{s,d}}{BW_a \times AT_c \times 365\ day/year} + \frac{AF_c \times ABS_d \times EF \times ED_c \times SA_{s,c} \times CF_{s,d}}{BW_c \times AT_c \times 365\ day/year} \right) \right]$$

Noncancer Hazard:

$$Hazard = \frac{1}{RfD_d} \times \left[C_{soil} \times \left(\frac{AF_a \times ABS_d \times EF \times ED_a \times SA_{s,a} \times CF_{s,d}}{BW_a \times AT_{nc,a} \times 365\ day/year} + \frac{AF_c \times ABS_d \times EF \times ED_c \times SA_{s,c} \times CF_{s,d}}{BW_c \times AT_{nc,c} \times 365\ day/year} \right) \right]$$

Analyte	C_{soil} (mg/kg)	ABS_d (unitless)	SF_d $(mg/kg\text{-}day)^{-1}$	Cancer Risk (dimensionless)	% of Total	RfD_d (mg/kg-day)	Hazard Quotient (dimensionless)	% of Total
High Molecular Weight Polyaromatic Hydrocarbons (HMW PAHs)								
Benzo[a]anthracene	1.25E-01	1.30E-01	7.30E-01	5.23E-10	2%		--	--
Benzo[a]pyrene	1.04E-01	1.30E-01	7.30E+00	4.36E-09	19%		--	--
Benzo[b]fluoranthene	2.44E-01	1.30E-01	7.30E-01	1.02E-09	4%		--	--
Benzo[g,h,i]perylene	8.95E-02	1.30E-01		--	--	3.00E-02	1.92E-07	< 1%
Benzo[k]fluoranthene	6.85E-02	1.30E-01	7.30E-02	2.86E-11	< 1%		--	--
Chrysene	1.99E-01	1.30E-01	7.30E-03	8.31E-12	< 1%		--	--
Dibenz[a,h]anthracene	2.89E-02	1.30E-01	7.30E+00	1.21E-09	5%		--	--
Indeno[1,2,3-cd]pyrene	8.02E-02	1.30E-01	7.30E-01	3.35E-10	1%		--	--
Pyrene	1.80E-01	1.30E-01		--	--	3.00E-02	3.87E-07	< 1%
Low Molecular Weight Polyaromatic Hydrocarbons (LMW PAHs)								
Acenaphthene	8.05E-03	1.30E-01		--	--	6.00E-02	8.64E-09	< 1%
Acenaphthylene	4.23E-02	1.30E-01		--	--	6.00E-02	4.53E-08	< 1%
Anthracene	1.27E-01	1.30E-01		--	--	3.00E-01	2.72E-08	< 1%
Fluoranthene	1.76E-01	1.30E-01		--	--	4.00E-02	2.84E-07	< 1%
Fluorene	7.43E-03	1.30E-01		--	--	4.00E-02	1.20E-08	< 1%
Naphthalene	3.03E-03	0.00E+00		--	--	2.00E-02	0.00E+00	< 1%
Phenanthrene	6.89E-02	1.30E-01		--	--	3.00E-02	1.48E-07	< 1%
			Pathway Sums:	Cancer Risk 2.31E-08			Hazard Index 2.64E-03	

"--" = data not available or not calculated

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Attachment A7 –

Risk and Hazard Calculation Details; DTSC Residential Reasonable Maximum Exposure (RME)

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Table A7-1. Summary of Risk and Hazard Estimates: Exposure to Soil, DTSC Residential Reasonable Maximum Exposure (RME), IR Site 24A, Former Naval Weapons Station Seal Beach Detachment Concord

		Cancer-Risk Estimate					Noncancer-Hazard Estimate				
Analyte	**Soil EPC** (mg/kg)	Ingestion	Inhalation	Dermal	Multi-Pathway	% of Cumulative	Ingestion	Inhalation	Dermal	Multi-Pathway	% of Cumulative
Inorganic Constituents											
Antimony	8.21E+01	--	--	--			**2.90E+00**	4.13E-05	5.82E-01	**3.5E+00**	67%
Arsenic	1.09E+01	**2.56E-05**	1.09E-08	**2.48E-06**	**2.8E-05**	62%	5.14E-01	5.12E-04	4.63E-02	5.6E-01	11%
Barium	1.34E+02	--	--	--			9.48E-03	1.89E-04	4.07E-03	1.4E-02	< 1%
Beryllium	4.68E-01	--	3.39E-10	--	3.4E-10	< 1%	3.31E-03	4.71E-05	1.42E-02	1.8E-02	< 1%
Cadmium	3.45E-01	--	4.38E-10	--	4.4E-10	< 1%	9.77E-03	1.22E-05	1.17E-02	2.2E-02	< 1%
Chromium	2.09E+01	--	--	--			1.97E-04	2.80E-09	4.55E-04	6.5E-04	< 1%
Cobalt	1.02E+01	--	2.77E-08	--	2.8E-08	< 1%	4.80E-01	1.20E-03	1.44E-02	5.0E-01	10%
Copper	1.12E+03	--	--	--			3.97E-01	5.66E-06	1.19E-02	4.1E-01	8%
Lead	1.02E+04	--	--	--			--	--	--		
Mercury	7.28E-02	--	--	--			6.44E-03	1.71E-06	2.77E-03	9.2E-03	< 1%
Molybdenum	2.70E-01	--	--	--			7.64E-04	1.09E-08	2.30E-05	7.9E-04	< 1%
Nickel	1.79E+01	--	1.40E-09	--	1.4E-09	< 1%	5.06E-03	2.52E-04	3.80E-03	9.1E-03	< 1%
Selenium	5.69E-01	--	--	--			1.61E-03	2.01E-08	4.84E-05	1.7E-03	< 1%
Silver	1.86E-01	--	--	--			5.27E-04	7.49E-09	3.96E-04	9.2E-04	< 1%
Thallium	1.84E-01	--	--	--			--	--	--		
Vanadium	4.25E+01	--	--	--			1.20E-01	3.00E-04	3.62E-03	1.2E-01	2%
Zinc	3.66E+02	--	--	--			1.73E-02	2.46E-07	5.18E-04	1.8E-02	< 1%
Explosives											
2,4-Dinitrotoluene	2.53E-01	1.23E-07	6.79E-12	4.04E-08	1.6E-07	< 1%	1.79E-03	2.54E-08	5.48E-04	2.3E-03	< 1%
4-Nitrotoluene	9.51E-02	2.38E-09	1.31E-13	7.68E-10	3.1E-09	< 1%	3.36E-04	4.79E-09	1.01E-04	4.4E-04	< 1%
High Molecular Weight Polyaromatic Hydrocarbons (HMW PAHs)											
Benzo[a]anthracene	1.00E+00	**1.88E-06**	3.32E-11	7.88E-07	**2.7E-06**	6%	--	--	--		
Benzo[a]pyrene	3.89E-01	**7.30E-06**	1.29E-10	**3.06E-06**	**1.0E-05**	23%	--	--	--		
Benzo[b]fluoranthene	6.93E-01	**1.30E-06**	2.30E-11	5.46E-07	**1.8E-06**	4%	--	--	--		
Benzo[g,h,i]perylene	1.34E-01	--	--	--			6.31E-05	8.98E-10	2.47E-05	8.8E-05	< 1%
Benzo[k]fluoranthene	2.57E-01	4.82E-07	8.53E-12	2.02E-07	6.8E-07	2%	--	--	--		
Chrysene	7.90E-01	1.48E-07	2.62E-12	6.22E-08	2.1E-07	< 1%	--	--	--		
Dibenz[a,h]anthracene	5.06E-02	3.25E-07	1.83E-11	1.36E-07	4.6E-07	1%	--	--	--		
Indeno[1,2,3-cd]pyrene	1.77E-01	3.33E-07	5.90E-12	1.40E-07	4.7E-07	1%	--	--	--		
Pyrene	1.40E+00	--	--	--			6.61E-04	9.40E-09	2.58E-04	9.2E-04	< 1%
Low Molecular Weight Polyaromatic Hydrocarbons (LMW PAHs)											
Acenaphthene	2.07E-02	--	--	--			4.89E-06	6.96E-11	1.91E-06	6.8E-06	< 1%
Acenaphthylene	7.68E-02	--	--	--			1.81E-05	2.58E-10	7.08E-06	2.5E-05	< 1%
Anthracene	3.33E-01	--	--	--			1.57E-05	2.23E-10	6.13E-06	2.2E-05	< 1%
Fluoranthene	1.40E+00	--	--	--			4.95E-04	7.05E-09	1.94E-04	6.9E-04	< 1%
Fluorene	3.75E-02	--	--	--			1.33E-05	1.89E-10	5.19E-06	1.8E-05	< 1%
Naphthalene	6.38E-03	--	6.56E-14	--	6.6E-14	< 1%	4.52E-06	5.00E-10	0.00E+00	4.5E-06	< 1%
Phenanthrene	5.80E-01	--	--	--			2.74E-04	3.89E-09	1.07E-04	3.8E-04	< 1%
				Cumulative Risk:	**4.5E-05**				**Cumulative Hazard:**	**5.2E+00**	

"--" = data not available or not calculated

Table A7-2. Risk and Hazard Estimates: Incidental Ingestion of Soil, DTSC Residential Reasonable Maximum Exposure (RME), IR Site 24A, Former Naval Weapons Station Seal Beach Detachment Concord

Definition	Variable	Value	
Averaging Time, carcinogens	AT_c	70	yrs
Averaging Time, noncarcinogens, adult	$AT_{nc,a}$	24	yrs
Averaging Time, noncarcinogens, child	$AT_{nc,c}$	6	yrs
Body Weight	BW_a	70	kg
Body Weight	BW_c	15	kg
Conversion Factor	CF_o	1E-06	kg/mg
COPC Concentration in soil	C_{soil}	chemical-specific	mg/kg
Exposure Duration, adult	ED_a	24	yrs
Exposure Duration, child	ED_c	6	yrs
Exposure Frequency	EF	350	days/yr
Fraction Contaminated Soil Ingested	FI	1.0	unitless
Soil Ingestion Rate (adult)	IRS_a	100	mg/day
Soil Ingestion Rate (child)	IRS_c	200	mg/day
Oral Reference Dose	RfD_O	chemical-specific	mg/kg-day
Oral Slope Factor	SF_O	chemical-specific	$(mg/kg\text{-}day)^{-1}$

Equations

Cancer Risk:

$$Risk = SF_o \times \left\{ C_{soil} \times \left[\frac{IRS_a \times EF \times ED_a \times FI \times CF_o}{BW_a \times AT_c \times 365\ day/year} + \frac{IRS_c \times EF \times ED_c \times FI \times CF_o}{BW_c \times AT_c \times 365\ day/year} \right] \right\}$$

Noncancer Hazard:

$$Hazard = \frac{1}{RfD_o} \times \left\{ C_{soil} \times \left[\frac{IRS_a \times EF \times ED_a \times FI \times CF_o}{BW_a \times AT_{nc,a} \times 365\ day/year} + \frac{IRS_c \times EF \times ED_c \times FI \times CF_o}{BW_c \times AT_{nc,c} \times 365\ day/year)} \right] \right\}$$

Analyte	C_{soil} (mg/kg)	SF_o $(mg/kg\text{-}day)^{-1}$	Cancer Risk (dimensionless)	% of Total	RfD_o (mg/kg-day)	Noncancer Hazard (dimensionless)	% of Total
Inorganic Constituents							
Antimony	8.21E+01	No Toxicity Value	--	--	4.00E-04	2.90E+00	65%
Arsenic	1.09E+01	1.50E+00	2.56E-05	68%	3.00E-04	5.14E-01	11%
Barium	1.34E+02	No Toxicity Value	--	--	2.00E-01	9.48E-03	< 1%
Beryllium	4.68E-01	No Toxicity Value	--	--	2.00E-03	3.31E-03	< 1%
Cadmium	3.45E-01	No Toxicity Value	--	--	5.00E-04	9.77E-03	< 1%
Chromium	2.09E+01	No Toxicity Value	--	--	1.50E+00	1.97E-04	< 1%
Cobalt	1.02E+01	No Toxicity Value	--	--	3.00E-04	4.80E-01	11%
Copper	1.12E+03	No Toxicity Value	--	--	4.00E-02	3.97E-01	9%
Lead	1.02E+04	No Toxicity Value	--	--	No Toxicity Value	--	--
Mercury	7.28E-02	No Toxicity Value	--	--	1.60E-04	6.44E-03	< 1%
Molybdenum	2.70E-01	No Toxicity Value	--	--	5.00E-03	7.64E-04	< 1%
Nickel	1.79E+01	No Toxicity Value	--	--	5.00E-02	5.06E-03	< 1%
Selenium	5.69E-01	No Toxicity Value	--	--	5.00E-03	1.61E-03	< 1%
Silver	1.86E-01	No Toxicity Value	--	--	5.00E-03	5.27E-04	< 1%
Thallium	1.84E-01	No Toxicity Value	--	--	No Toxicity Value	--	--
Vanadium	4.25E+01	No Toxicity Value	--	--	5.00E-03	1.20E-01	3%
Zinc	3.66E+02	No Toxicity Value	--	--	3.00E-01	1.73E-02	< 1%
Explosives							
2,4-Dinitrotoluene	2.53E-01	3.10E-01	1.23E-07	< 1%	2.00E-03	1.79E-03	< 1%
4-Nitrotoluene	9.51E-02	1.60E-02	2.38E-09	< 1%	4.00E-03	3.36E-04	< 1%

Table A7-2. Risk and Hazard Estimates: Incidental Ingestion of Soil, DTSC Residential Reasonable Maximum Exposure (RME), IR Site 24A, Former Naval Weapons Station Seal Beach Detachment Concord

Definition	Variable	Value	
Averaging Time, carcinogens	AT_c	70	yrs
Averaging Time, noncarcinogens, adult	$AT_{nc,a}$	24	yrs
Averaging Time, noncarcinogens, child	$AT_{nc,c}$	6	yrs
Body Weight	BW_a	70	kg
Body Weight	BW_c	15	kg
Conversion Factor	CF_o	1E-06	kg/mg
COPC Concentration in soil	C_{soil}	chemical-specific	mg/kg
Exposure Duration, adult	ED_a	24	yrs
Exposure Duration, child	ED_c	6	yrs
Exposure Frequency	EF	350	days/yr
Fraction Contaminated Soil Ingested	FI	1.0	unitless
Soil Ingestion Rate (adult)	IRS_a	100	mg/day
Soil Ingestion Rate (child)	IRS_c	200	mg/day
Oral Reference Dose	RfD_O	chemical-specific	mg/kg-day
Oral Slope Factor	SF_O	chemical-specific	$(mg/kg\text{-}day)^{-1}$

Equations

Cancer Risk:

$$Risk = SF_o \times \left\{ C_{soil} \times \left[\frac{IRS_a \times EF \times ED_a \times FI \times CF_o}{BW_a \times AT_c \times 365\ day/year} + \frac{IRS_c \times EF \times ED_c \times FI \times CF_o}{BW_c \times AT_c \times 365\ day/year} \right] \right\}$$

Noncancer Hazard:

$$Hazard = \frac{1}{RfD_o} \times \left\{ C_{soil} \times \left[\frac{IRS_a \times EF \times ED_a \times FI \times CF_o}{BW_a \times AT_{nc,a} \times 365\ day/year} + \frac{IRS_c \times EF \times ED_c \times FI \times CF_o}{BW_c \times AT_{nc,c} \times 365\ day/year)} \right] \right\}$$

Analyte	C_{soil} (mg/kg)	SF_o $(mg/kg\text{-}day)^{-1}$	Cancer Risk (dimensionless)	% of Total	RfD_o (mg/kg-day)	Noncancer Hazard (dimensionless)	% of Total
High Molecular Weight Polyaromatic Hydrocarbons (HMW PAHs)							
Benzo[a]anthracene	1.00E+00	1.20E+00	1.88E-06	5%	No Toxicity Value	--	--
Benzo[a]pyrene	3.89E-01	1.20E+01	7.30E-06	19%	No Toxicity Value	--	--
Benzo[b]fluoranthene	6.93E-01	1.20E+00	1.30E-06	3%	No Toxicity Value	--	--
Benzo[g,h,i]perylene	1.34E-01	No Toxicity Value	--	--	3.00E-02	6.31E-05	< 1%
Benzo[k]fluoranthene	2.57E-01	1.20E+00	4.82E-07	1%	No Toxicity Value	--	--
Chrysene	7.90E-01	1.20E-01	1.48E-07	< 1%	No Toxicity Value	--	--
Dibenz[a,h]anthracene	5.06E-02	4.10E+00	3.25E-07	< 1%	No Toxicity Value	--	--
Indeno[1,2,3-cd]pyrene	1.77E-01	1.20E+00	3.33E-07	< 1%	No Toxicity Value	--	--
Pyrene	1.40E+00	No Toxicity Value	--	--	3.00E-02	6.61E-04	< 1%
Low Molecular Weight Polyaromatic Hydrocarbons (LMW PAHs)							
Acenaphthene	2.07E-02	No Toxicity Value	--	--	6.00E-02	4.89E-06	< 1%
Acenaphthylene	7.68E-02	No Toxicity Value	--	--	6.00E-02	1.81E-05	< 1%
Anthracene	3.33E-01	No Toxicity Value	--	--	3.00E-01	1.57E-05	< 1%
Fluoranthene	1.40E+00	No Toxicity Value	--	--	4.00E-02	4.95E-04	< 1%
Fluorene	3.75E-02	No Toxicity Value	--	--	4.00E-02	1.33E-05	< 1%
Naphthalene	6.38E-03	No Toxicity Value	--	--	2.00E-02	4.52E-06	< 1%
Phenanthrene	5.80E-01	No Toxicity Value	--	--	3.00E-02	2.74E-04	< 1%
			Cancer Risk			Hazard Index	
		Pathway Sum:	3.75E-05			4.47E+00	

"--" = data not available or not calculated

Table A7-3. Risk and Hazard Estimates: Inhalation, DTSC Residential Reasonable Maximum Exposure (RME), IR Site 24A, Former Naval Weapons Station Seal Beach Detachment Concord

Description	Variable	Value
Averaging Time, carcinogens	AT_c	70 yrs
Averaging Time, noncarcinogens, resident	$AT_{nc,r}$	30 yrs
COPC Concentration in air	C_{air}	chemical-specific µg/m^3
COPC Concentration in soil	C_{soil}	chemical-specific mg/kg
Exposure Duration, resident	ED_r	30 yrs
Exposure Frequency	EF	350 days/yr
Exposure Time	ET	24 hours/day
Inhalation Unit-Risk Factor	IUR	chemical-specific (µg/m^3)$^{-1}$
Particulate emission factor (non-VOCs)	PEF	1.360E+09 m^3/kg
Inhalation Reference Concentration	RfC	chemical-specific µg/m^3
Volatilization Factor for VOCs	VF	chemical-specific m^3/kg

Equations

Cancer Risk:

$$Risk = IUR \times C_{air} \times \left(\frac{ED_r \times EF \times ET}{AT_c \times 365\ days\ /\ year \times 24\ hours\ /\ day} \right)$$

Noncancer Hazard:

$$Hazard = \frac{1}{RfC} \times C_{air} \times \left(\frac{ED_r \times EF \times ET}{AT_{nc,r} \times 365\ days\ /\ year \times 24\ hours\ /\ day} \right)$$

where: $C_{air} = \frac{C_{soil}}{PEF} \times 1000\ \mu g\ /\ mg$

Analyte	C_{soil} (mg/kg)	PEF (m^3/kg)	C_{air} (µg/m^3)	IUR (µg/m^3)$^{-1}$	Cancer Risk (dimensionless)	% of Total	RfC (µg/m^3)	Hazard Quotient (dimensionless)	% of Total
Inorganic Constituents									
Antimony	8.21E+01	1.360E+09	6.03E-05	No Toxicity Value	--	--	1.40E+00	4.13E-05	2%
Arsenic	1.09E+01	1.360E+09	8.01E-06	3.30E-03	1.09E-08	27%	1.50E-02	5.12E-04	20%
Barium	1.34E+02	1.360E+09	9.85E-05	No Toxicity Value	--	--	5.00E-01	1.89E-04	7%
Beryllium	4.68E-01	1.360E+09	3.44E-07	2.40E-03	3.39E-10	< 1%	7.00E-03	4.71E-05	2%
Cadmium	3.45E-01	1.360E+09	2.54E-07	4.20E-03	4.38E-10	1%	2.00E-02	1.22E-05	< 1%
Chromium	2.09E+01	1.360E+09	1.53E-05	No Toxicity Value	--	--	5.25E+03	2.80E-09	< 1%
Cobalt	1.02E+01	1.360E+09	7.49E-06	9.00E-03	2.77E-08	68%	6.00E-03	1.20E-03	47%
Copper	1.12E+03	1.360E+09	8.26E-04	No Toxicity Value	--	--	1.40E+02	5.66E-06	< 1%
Lead	1.02E+04	1.360E+09	7.51E-03	No Toxicity Value	--	--	No Toxicity Value	--	--
Mercury	7.28E-02	1.360E+09	5.35E-08	No Toxicity Value	--	--	3.00E-02	1.71E-06	< 1%
Molybdenum	2.70E-01	1.360E+09	1.99E-07	No Toxicity Value	--	--	1.75E+01	1.09E-08	< 1%
Nickel	1.79E+01	1.360E+09	1.31E-05	2.60E-04	1.40E-09	3%	5.00E-02	2.52E-04	10%
Selenium	5.69E-01	1.360E+09	4.18E-07	No Toxicity Value	--	--	2.00E+01	2.01E-08	< 1%
Silver	1.86E-01	1.360E+09	1.37E-07	No Toxicity Value	--	--	1.75E+01	7.49E-09	< 1%
Thallium	1.84E-01	1.360E+09	1.35E-07	No Toxicity Value	--	--	No Toxicity Value	--	--
Vanadium	4.25E+01	1.360E+09	3.13E-05	No Toxicity Value	--	--	1.00E-01	3.00E-04	12%
Zinc	3.66E+02	1.360E+09	2.69E-04	No Toxicity Value	--	--	1.05E+03	2.46E-07	< 1%
Explosives									
2,4-Dinitrotoluene	2.53E-01	1.360E+09	1.86E-07	8.90E-05	6.79E-12	< 1%	7.00E+00	2.54E-08	< 1%
4-Nitrotoluene	9.51E-02	1.360E+09	6.99E-08	4.57E-06	1.31E-13	< 1%	1.40E+01	4.79E-09	< 1%

Table A7-3. Risk and Hazard Estimates: Inhalation, DTSC Residential Reasonable Maximum Exposure (RME), IR Site 24A, Former Naval Weapons Station Seal Beach Detachment Concord

Description	Variable	Value
Averaging Time, carcinogens	AT_c	70 yrs
Averaging Time, noncarcinogens, resident	$AT_{nc,r}$	30 yrs
COPC Concentration in air	C_{air}	chemical-specific µg/m^3
COPC Concentration in soil	C_{soil}	chemical-specific mg/kg
Exposure Duration, resident	ED_r	30 yrs
Exposure Frequency	EF	350 days/yr
Exposure Time	ET	24 hours/day
Inhalation Unit-Risk Factor	IUR	chemical-specific (µg/m^3)$^{-1}$
Particulate emission factor (non-VOCs)	PEF	1.360E+09 m^3/kg
Inhalation Reference Concentration	RfC	chemical-specific µg/m^3
Volatilization Factor for VOCs	VF	chemical-specific m^3/kg

Equations

Cancer Risk:

$$Risk = IUR \times C_{air} \times \left(\frac{ED_r \times EF \times ET}{AT_c \times 365\ days/year \times 24\ hours/day} \right)$$

Noncancer Hazard:

$$Hazard = \frac{1}{RfC} \times C_{air} \times \left(\frac{ED_r \times EF \times ET}{AT_{nc,r} \times 365\ days/year \times 24\ hours/day} \right)$$

where: $C_{air} = \frac{C_{soil}}{PEF} \times 1000\ \mu g/mg$

Analyte	C_{soil} (mg/kg)	PEF (m^3/kg)	C_{air} (µg/m^3)	IUR (µg/m^3)$^{-1}$	Cancer Risk (dimensionless)	% of Total	RfC (µg/m^3)	Hazard Quotient (dimensionless)	% of Total
High Molecular Weight Polyaromatic Hydrocarbons (HMW PAHs)									
Benzo[a]anthracene	1.00E+00	1.360E+09	7.35E-07	1.10E-04	3.32E-11	< 1%	No Toxicity Value	--	--
Benzo[a]pyrene	3.89E-01	1.360E+09	2.86E-07	1.10E-03	1.29E-10	< 1%	No Toxicity Value	--	--
Benzo[b]fluoranthene	6.93E-01	1.360E+09	5.09E-07	1.10E-04	2.30E-11	< 1%	No Toxicity Value	--	--
Benzo[g,h,i]perylene	1.34E-01	1.360E+09	9.84E-08	No Toxicity Value	--	--	1.05E+02	8.98E-10	< 1%
Benzo[k]fluoranthene	2.57E-01	1.360E+09	1.89E-07	1.10E-04	8.53E-12	< 1%	No Toxicity Value	--	--
Chrysene	7.90E-01	1.360E+09	5.81E-07	1.10E-05	2.62E-12	< 1%	No Toxicity Value	--	--
Dibenz[a,h]anthracene	5.06E-02	1.360E+09	3.72E-08	1.20E-03	1.83E-11	< 1%	No Toxicity Value	--	--
Indeno[1,2,3-cd]pyrene	1.77E-01	1.360E+09	1.30E-07	1.10E-04	5.90E-12	< 1%	No Toxicity Value	--	--
Pyrene	1.40E+00	1.360E+09	1.03E-06	No Toxicity Value	--	--	1.05E+02	9.40E-09	< 1%
Low Molecular Weight Polyaromatic Hydrocarbons (LMW PAHs)									
Acenaphthene	2.07E-02	1.360E+09	1.53E-08	No Toxicity Value	--	--	2.10E+02	6.96E-11	< 1%
Acenaphthylene	7.68E-02	1.360E+09	5.65E-08	No Toxicity Value	--	--	2.10E+02	2.58E-10	< 1%
Anthracene	3.33E-01	1.360E+09	2.45E-07	No Toxicity Value	--	--	1.05E+03	2.23E-10	< 1%
Fluoranthene	1.40E+00	1.360E+09	1.03E-06	No Toxicity Value	--	--	1.40E+02	7.05E-09	< 1%
Fluorene	3.75E-02	1.360E+09	2.76E-08	No Toxicity Value	--	--	1.40E+02	1.89E-10	< 1%
Naphthalene	6.38E-03	1.360E+09	4.69E-09	3.40E-05	6.56E-14	< 1%	9.00E+00	5.00E-10	< 1%
Phenanthrene	5.80E-01	1.360E+09	4.26E-07	No Toxicity Value	--	--	1.05E+02	3.89E-09	< 1%
					Cancer Risk			Hazard Index	
				Pathway Sums:	4.10E-08			2.56E-03	

"--" = data not available or not calculated

Table A7-4. Risk and Hazard Estimates: Dermal Contact with Soil, DTSC Residential Reasonable Maximum Exposure (RME), IR Site 24A, Former Naval Weapons Station Seal Beach Detachment Concord

Description	Variable	Value	
Dermal Soil Absorption Fraction	ABS_d	chemical-specific	unitless
Soil-to-Skin Adherence Fraction	AF_a	0.07	mg/cm^2-day
Soil-to-Skin Adherence Fraction	AF_c	0.2	mg/cm^2-day
Averaging Time, Carcinogens	AT_c	70	yrs
Averaging Time, noncarcinogens, adult	$AT_{nc,a}$	24	yrs
Averaging Time, noncarcinogens, child	$AT_{nc,c}$	6	yrs
Body Weight, adult	BW_a	70	kg
Body Weight, child	BW_c	15	kg
Conversion Factor	CF_d	1E-06	kg/mg
COPC Concentration in Soil	C_{soil}	chemical-specific	mg/kg
Fraction of EV in Contact with Soil	EC	1	unitless
Exposure Duration	ED_a	24	yrs
Exposure Duration, child	ED_c	6	yrs
Exposure Frequency	EF	350	days/yr
Event Frequency	EV	1	events/day
Oral Reference Dose Adjusted for GI Absorption	RfD_d	chemical-specific	mg/kg-day
Exposed Body Surface Area, adult	SA_a	5700	cm^2
Exposed Body Surface Area, child	SA_c	2900	cm^2
Oral Slope Factor Adjusted for GI Absorption	SF_d	chemical-specific	$(mg/kg\text{-}day)^{-1}$

Equations:

Cancer Risk:

$$Risk = SF_d \times \left\{ C_{soil} \times \left[\frac{AF_a \times ABS_d \times EF \times ED_a \times EV \times EC \times SA_a \times CF_d}{BW_a \times AT_c \times 365 day/year} + \frac{AF_c \times ABS_d \times EF \times ED_c \times EV \times EC \times SA_c \times CF_d}{BW_c \times AT_c \times 365 day/year} \right] \right\}$$

Noncancer Hazard:

$$Hazard = \frac{1}{RfD_d} \times \left\{ C_{soil} \times \left[\frac{AF_a \times ABS_d \times EF \times ED_a \times EV \times EC \times SA_a \times CF_d}{BW_a \times AT_{nc,a} \times 365 day/year} + \frac{AF_c \times ABS_d \times EF \times ED_c \times EV \times EC \times SA_c \times CF_d}{BW_c \times AT_{nc,c} \times 365 day/year} \right] \right\}$$

Analyte	C_{soil} (mg/kg)	ABS_d (unitless)	SF_d $(mg/kg\text{-}day)^{-1}$	Cancer Risk (dimensionless)	% of Total	RfD_d (mg/kg-day)	Hazard Quotient (dimensionless)	% of Total
Inorganic Constituents								
Antimony	8.21E+01	1.00E-02		--	--	6.00E-05	5.82E-01	83%
Arsenic	1.09E+01	3.00E-02	1.50E+00	2.48E-06	33%	3.00E-04	4.63E-02	7%
Barium	1.34E+02	1.00E-02		--	--	1.40E-02	4.07E-03	< 1%
Beryllium	4.68E-01	1.00E-02		--	--	1.40E-05	1.42E-02	2%
Cadmium	3.45E-01	1.00E-02		--	--	1.25E-05	1.17E-02	2%
Chromium	2.09E+01	1.00E-02		--	--	1.95E-02	4.55E-04	< 1%
Cobalt	1.02E+01	1.00E-02		--	--	3.00E-04	1.44E-02	2%
Copper	1.12E+03	1.00E-02		--	--	4.00E-02	1.19E-02	2%
Lead	1.02E+04	1.00E-02		--	--		--	--
Mercury	7.28E-02	1.00E-02		--	--	1.12E-05	2.77E-03	< 1%
Molybdenum	2.70E-01	1.00E-02		--	--	5.00E-03	2.30E-05	< 1%
Nickel	1.79E+01	1.00E-02		--	--	2.00E-03	3.80E-03	< 1%
Selenium	5.69E-01	1.00E-02		--	--	5.00E-03	4.84E-05	< 1%
Silver	1.86E-01	1.00E-02		--	--	2.00E-04	3.96E-04	< 1%
Thallium	1.84E-01	1.00E-02		--	--		--	--
Vanadium	4.25E+01	1.00E-02		--	--	5.00E-03	3.62E-03	< 1%
Zinc	3.66E+02	1.00E-02		--	--	3.00E-01	5.18E-04	< 1%
Explosives								
2,4-Dinitrotoluene	2.53E-01	1.02E-01	3.10E-01	4.04E-08	< 1%	2.00E-03	5.48E-04	< 1%
4-Nitrotoluene	9.51E-02	1.00E-01	1.60E-02	7.68E-10	< 1%	4.00E-03	1.01E-04	< 1%

Table A7-4. Risk and Hazard Estimates: Dermal Contact with Soil, DTSC Residential Reasonable Maximum Exposure (RME), IR Site 24A, Former Naval Weapons Station Seal Beach Detachment Concord

Description	Variable	Value	
Dermal Soil Absorption Fraction	ABS_d	chemical-specific	unitless
Soil-to-Skin Adherence Fraction	AF_a	0.07	mg/cm^2-day
Soil-to-Skin Adherence Fraction	AF_c	0.2	mg/cm^2-day
Averaging Time, Carcinogens	AT_c	70	yrs
Averaging Time, noncarcinogens, adult	$AT_{nc,a}$	24	yrs
Averaging Time, noncarcinogens, child	$AT_{nc,c}$	6	yrs
Body Weight, adult	BW_a	70	kg
Body Weight, child	BW_c	15	kg
Conversion Factor	CF_d	1E-06	kg/mg
COPC Concentration in Soil	C_{soil}	chemical-specific	mg/kg
Fraction of EV in Contact with Soil	EC	1	unitless
Exposure Duration	ED_a	24	yrs
Exposure Duration, child	ED_c	6	yrs
Exposure Frequency	EF	350	days/yr
Event Frequency	EV	1	events/day
Oral Reference Dose Adjusted for GI Absorption	RfD_d	chemical-specific	mg/kg-day
Exposed Body Surface Area, adult	SA_a	5700	cm^2
Exposed Body Surface Area, child	SA_c	2900	cm^2
Oral Slope Factor Adjusted for GI Absorption	SF_d	chemical-specific	$(mg/kg\text{-}day)^{-1}$

Equations:

Cancer Risk:

$$Risk = SF_d \times \left\{ C_{soil} \times \left[\frac{AF_a \times ABS_d \times EF \times ED_a \times EV \times EC \times SA_a \times CF_d}{BW_a \times AT_c \times 365 day/year} + \frac{AF_c \times ABS_d \times EF \times ED_c \times EV \times EC \times SA_c \times CF_d}{BW_c \times AT_c \times 365 day/year} \right] \right\}$$

Noncancer Hazard:

$$Hazard = \frac{1}{RfD_d} \times \left\{ C_{soil} \times \left[\frac{AF_a \times ABS_d \times EF \times ED_a \times EV \times EC \times SA_a \times CF_d}{BW_a \times AT_{nc,a} \times 365 day/year} + \frac{AF_c \times ABS_d \times EF \times ED_c \times EV \times EC \times SA_c \times CF_d}{BW_c \times AT_{nc,c} \times 365 day/year} \right] \right\}$$

Analyte	C_{soil} (mg/kg)	ABS_d (unitless)	SF_d $(mg/kg\text{-}day)^{-1}$	Cancer Risk (dimensionless)	% of Total	RfD_d (mg/kg-day)	Hazard Quotient (dimensionless)	% of Total
High Molecular Weight Polyaromatic Hydrocarbons (HMW PAHs)								
Benzo[a]anthracene	1.00E+00	1.30E-01	1.20E+00	7.88E-07	11%		--	--
Benzo[a]pyrene	3.89E-01	1.30E-01	1.20E+01	3.06E-06	41%		--	--
Benzo[b]fluoranthene	6.93E-01	1.30E-01	1.20E+00	5.46E-07	7%		--	--
Benzo[g,h,i]perylene	1.34E-01	1.30E-01		--	--	3.00E-02	2.47E-05	< 1%
Benzo[k]fluoranthene	2.57E-01	1.30E-01	1.20E+00	2.02E-07	3%		--	--
Chrysene	7.90E-01	1.30E-01	1.20E-01	6.22E-08	< 1%		--	--
Dibenz[a,h]anthracene	5.06E-02	1.30E-01	4.10E+00	1.36E-07	2%		--	--
Indeno[1,2,3-cd]pyrene	1.77E-01	1.30E-01	1.20E+00	1.40E-07	2%		--	--
Pyrene	1.40E+00	1.30E-01		--	--	3.00E-02	2.58E-04	< 1%
Low Molecular Weight Polyaromatic Hydrocarbons (LMW PAHs)								
Acenaphthene	2.07E-02	1.30E-01		--	--	6.00E-02	1.91E-06	< 1%
Acenaphthylene	7.68E-02	1.30E-01		--	--	6.00E-02	7.08E-06	< 1%
Anthracene	3.33E-01	1.30E-01		--	--	3.00E-01	6.13E-06	< 1%
Fluoranthene	1.40E+00	1.30E-01		--	--	4.00E-02	1.94E-04	< 1%
Fluorene	3.75E-02	1.30E-01		--	--	4.00E-02	5.19E-06	< 1%
Naphthalene	6.38E-03	0.00E+00		--	--	2.00E-02	0.00E+00	< 1%
Phenanthrene	5.80E-01	1.30E-01		--	--	3.00E-02	1.07E-04	< 1%
			Pathway Sums:	Cancer Risk 7.45E-06			Hazard Index 6.98E-01	

"--" = data not available or not calculated

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Attachment A8 –

Risk and Hazard Calculation Details; DTSC Residential Central Tendency Exposure (CTE)

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Table A8-1. Summary of Risk and Hazard Estimates: Exposure to Soil, DTSC Residential Central Tendency Exposure (CTE), IR Site 24A, Former Naval Weapons Station Seal Beach Detachment Concord

		Cancer-Risk Estimate					Noncancer-Hazard Estimate				
Analyte	**Soil EPC** (mg/kg)	Ingestion	Inhalation	Dermal	Multi-Pathway	% of Cumulative	Ingestion	Inhalation	Dermal	Multi-Pathway	% of Cumulative
Inorganic Constituents											
Antimony	1.99E+01	--	--	--			3.52E-01	1.00E-05	2.72E-02	3.8E-01	42%
Arsenic	7.72E+00	**7.36E-06**	3.85E-09	2.56E-07	**7.6E-06**	83%	1.82E-01	3.63E-04	6.33E-03	1.9E-01	21%
Barium	1.16E+02	--	--	--			4.12E-03	1.64E-04	6.81E-04	5.0E-03	< 1%
Beryllium	4.48E-01	--	1.62E-10	--	1.6E-10	< 1%	1.59E-03	4.51E-05	2.62E-03	4.3E-03	< 1%
Cadmium	2.47E-01	--	1.57E-10	--	1.6E-10	< 1%	3.50E-03	8.71E-06	1.62E-03	5.1E-03	< 1%
Chromium	1.96E+01	--	--	--			9.26E-05	2.64E-09	8.25E-05	1.8E-04	< 1%
Cobalt	9.54E+00	--	1.30E-08	--	1.3E-08	< 1%	2.25E-01	1.12E-03	2.61E-03	2.3E-01	25%
Copper	1.88E+02	--	--	--			3.32E-02	9.44E-07	3.84E-04	3.4E-02	4%
Lead	1.65E+03	--	--	--			--	--	--		
Mercury	5.01E-02	--	--	--			2.22E-03	1.18E-06	3.67E-04	2.6E-03	< 1%
Molybdenum	2.49E-01	--	--	--			3.52E-04	1.00E-08	4.08E-06	3.6E-04	< 1%
Nickel	1.69E+01	--	6.65E-10	--	6.7E-10	< 1%	2.40E-03	2.39E-04	6.94E-04	3.3E-03	< 1%
Selenium	4.47E-01	--	--	--			6.33E-04	1.58E-08	7.33E-06	6.4E-04	< 1%
Silver	1.40E-01	--	--	--			1.98E-04	5.64E-09	5.74E-05	2.6E-04	< 1%
Thallium	1.73E-01	--	--	--			--	--	--		
Vanadium	3.91E+01	--	--	--			5.54E-02	2.76E-04	6.42E-04	5.6E-02	6%
Zinc	1.90E+02	--	--	--			4.49E-03	1.28E-07	5.20E-05	4.5E-03	< 1%
Explosives											
2,4-Dinitrotoluene	2.53E-01	4.98E-08	3.40E-12	5.88E-09	5.6E-08	< 1%	8.94E-04	2.54E-08	1.06E-04	1.0E-03	< 1%
4-Nitrotoluene	9.51E-02	9.67E-10	6.57E-14	1.12E-10	1.1E-09	< 1%	1.68E-04	4.79E-09	1.95E-05	1.9E-04	< 1%
High Molecular Weight Polyaromatic Hydrocarbons (HMW PAHs)											
Benzo[a]anthracene	1.25E-01	9.55E-08	2.08E-12	1.44E-08	1.1E-07	1%	--	--	--		
Benzo[a]pyrene	1.04E-01	7.97E-07	1.74E-11	1.20E-07	9.2E-07	10%	--	--	--		
Benzo[b]fluoranthene	2.44E-01	1.87E-07	4.06E-12	2.81E-08	2.1E-07	2%	--	--	--		
Benzo[g,h,i]perylene	8.95E-02	--	--	--			2.11E-05	6.01E-10	3.18E-06	2.4E-05	< 1%
Benzo[k]fluoranthene	6.85E-02	5.23E-08	1.14E-12	7.87E-09	6.0E-08	< 1%	--	--	--		
Chrysene	1.99E-01	1.52E-08	3.30E-13	2.28E-09	1.7E-08	< 1%	--	--	--		
Dibenz[a,h]anthracene	2.89E-02	7.54E-08	5.24E-12	1.13E-08	8.7E-08	< 1%	--	--	--		
Indeno[1,2,3-cd]pyrene	8.02E-02	6.12E-08	1.33E-12	9.21E-09	7.0E-08	< 1%	--	--	--		
Pyrene	1.80E-01	--	--	--			4.25E-05	1.21E-09	6.40E-06	4.9E-05	< 1%
Low Molecular Weight Polyaromatic Hydrocarbons (LMW PAHs)											
Acenaphthene	8.05E-03	--	--	--			9.50E-07	2.70E-11	1.43E-07	1.1E-06	< 1%
Acenaphthylene	4.23E-02	--	--	--			4.98E-06	1.42E-10	7.50E-07	5.7E-06	< 1%
Anthracene	1.27E-01	--	--	--			3.00E-06	8.53E-11	4.51E-07	3.4E-06	< 1%
Fluoranthene	1.76E-01	--	--	--			3.12E-05	8.88E-10	4.70E-06	3.6E-05	< 1%
Fluorene	7.43E-03	--	--	--			1.31E-06	3.74E-11	1.98E-07	1.5E-06	< 1%
Naphthalene	3.03E-03	--	1.55E-14	--	1.6E-14	< 1%	1.07E-06	2.37E-10	0.00E+00	1.1E-06	< 1%
Phenanthrene	6.89E-02	--	--	--			1.63E-05	4.63E-10	2.45E-06	1.9E-05	< 1%
				Cumulative Risk:	9.2E-06				**Cumulative Hazard:**	9.1E-01	

"--" = data not available or not calculated

Table A8-2. Risk and Hazard Estimates: Incidental Ingestion of Soil, DTSC Residential Central Tendency Exposure (CTE), IR Site 24A, Former Naval Weapons Station Seal Beach Detachment Concord

Definition	Variable	Value	
Averaging Time, carcinogens	AT_c	70	yrs
Averaging Time, noncarcinogens, adult	$AT_{nc,a}$	9	yrs
Averaging Time, noncarcinogens, child	$AT_{nc,c}$	6	yrs
Body Weight	BW_a	70	kg
Body Weight	BW_c	15	kg
Conversion Factor	CF_o	1E-06	kg/mg
COPC Concentration in soil	C_{soil}	chemical-specific	mg/kg
Exposure Duration, adult	ED_a	9	yrs
Exposure Duration, child	ED_c	6	yrs
Exposure Frequency	EF	350	days/yr
Fraction Contaminated Soil Ingested	FI	1.0	unitless
Soil Ingestion Rate (adult)	IRS_a	50	mg/day
Soil Ingestion Rate (child)	IRS_c	100	mg/day
Oral Reference Dose	RfD_O	chemical-specific	mg/kg-day
Oral Slope Factor	SF_O	chemical-specific	$(mg/kg\text{-}day)^{-1}$

Equations

Cancer Risk:

$$Risk = SF_o \times \left\{ C_{soil} \times \left[\frac{IRS_a \times EF \times ED_a \times FI \times CF_o}{BW_a \times AT_c \times 365\ day/year} + \frac{IRS_c \times EF \times ED_c \times FI \times CF_o}{BW_c \times AT_c \times 365\ day/year} \right] \right\}$$

Noncancer Hazard:

$$Hazard = \frac{1}{RfD_o} \times \left\{ C_{soil} \times \left[\frac{IRS_a \times EF \times ED_a \times FI \times CF_o}{BW_a \times AT_{nc,a} \times 365\ day/year} + \frac{IRS_c \times EF \times ED_c \times FI \times CF_o}{BW_c \times AT_{nc,c} \times 365\ day/year)} \right] \right\}$$

Analyte	C_{soil} (mg/kg)	SF_o $(mg/kg\text{-}day)^{-1}$	Cancer Risk (dimensionless)	% of Total	RfD_o (mg/kg-day)	Noncancer Hazard (dimensionless)	% of Total
Inorganic Constituents							
Antimony	1.99E+01	No Toxicity Value	--	--	4.00E-04	3.52E-01	41%
Arsenic	7.72E+00	1.50E+00	7.36E-06	85%	3.00E-04	1.82E-01	21%
Barium	1.16E+02	No Toxicity Value	--	--	2.00E-01	4.12E-03	< 1%
Beryllium	4.48E-01	No Toxicity Value	--	--	2.00E-03	1.59E-03	< 1%
Cadmium	2.47E-01	No Toxicity Value	--	--	5.00E-04	3.50E-03	< 1%
Chromium	1.96E+01	No Toxicity Value	--	--	1.50E+00	9.26E-05	< 1%
Cobalt	9.54E+00	No Toxicity Value	--	--	3.00E-04	2.25E-01	26%
Copper	1.88E+02	No Toxicity Value	--	--	4.00E-02	3.32E-02	4%
Lead	1.65E+03	No Toxicity Value	--	--	No Toxicity Value	--	--
Mercury	5.01E-02	No Toxicity Value	--	--	1.60E-04	2.22E-03	< 1%
Molybdenum	2.49E-01	No Toxicity Value	--	--	5.00E-03	3.52E-04	< 1%
Nickel	1.69E+01	No Toxicity Value	--	--	5.00E-02	2.40E-03	< 1%
Selenium	4.47E-01	No Toxicity Value	--	--	5.00E-03	6.33E-04	< 1%
Silver	1.40E-01	No Toxicity Value	--	--	5.00E-03	1.98E-04	< 1%
Thallium	1.73E-01	No Toxicity Value	--	--	No Toxicity Value	--	--
Vanadium	3.91E+01	No Toxicity Value	--	--	5.00E-03	5.54E-02	6%
Zinc	1.90E+02	No Toxicity Value	--	--	3.00E-01	4.49E-03	< 1%
Explosives							
2,4-Dinitrotoluene	2.53E-01	3.10E-01	4.98E-08	< 1%	2.00E-03	8.94E-04	< 1%
4-Nitrotoluene	9.51E-02	1.60E-02	9.67E-10	< 1%	4.00E-03	1.68E-04	< 1%

Table A8-2. Risk and Hazard Estimates: Incidental Ingestion of Soil, DTSC Residential Central Tendency Exposure (CTE), IR Site 24A, Former Naval Weapons Station Seal Beach Detachment Concord

Definition	Variable	Value	
Averaging Time, carcinogens	AT_c	70	yrs
Averaging Time, noncarcinogens, adult	$AT_{nc,a}$	9	yrs
Averaging Time, noncarcinogens, child	$AT_{nc,c}$	6	yrs
Body Weight	BW_a	70	kg
Body Weight	BW_c	15	kg
Conversion Factor	CF_o	1E-06	kg/mg
COPC Concentration in soil	C_{soil}	chemical-specific	mg/kg
Exposure Duration, adult	ED_a	9	yrs
Exposure Duration, child	ED_c	6	yrs
Exposure Frequency	EF	350	days/yr
Fraction Contaminated Soil Ingested	FI	1.0	unitless
Soil Ingestion Rate (adult)	IRS_a	50	mg/day
Soil Ingestion Rate (child)	IRS_c	100	mg/day
Oral Reference Dose	RfD_O	chemical-specific	mg/kg-day
Oral Slope Factor	SF_O	chemical-specific	$(mg/kg\text{-}day)^{-1}$

Equations

Cancer Risk:

$$Risk = SF_o \times \left\{ C_{soil} \times \left[\frac{IRS_a \times EF \times ED_a \times FI \times CF_o}{BW_a \times AT_c \times 365\ day/year} + \frac{IRS_c \times EF \times ED_c \times FI \times CF_o}{BW_c \times AT_c \times 365\ day/year} \right] \right\}$$

Noncancer Hazard:

$$Hazard = \frac{1}{RfD_o} \times \left\{ C_{soil} \times \left[\frac{IRS_a \times EF \times ED_a \times FI \times CF_o}{BW_a \times AT_{nc,a} \times 365\ day/year} + \frac{IRS_c \times EF \times ED_c \times FI \times CF_o}{BW_c \times AT_{nc,c} \times 365\ day/year)} \right] \right\}$$

Analyte	C_{soil} (mg/kg)	SF_o $(mg/kg\text{-}day)^{-1}$	Cancer Risk (dimensionless)	% of Total	RfD_o (mg/kg-day)	Noncancer Hazard (dimensionless)	% of Total
High Molecular Weight Polyaromatic Hydrocarbons (HMW PAHs)							
Benzo[a]anthracene	1.25E-01	1.20E+00	9.55E-08	1%	No Toxicity Value	--	--
Benzo[a]pyrene	1.04E-01	1.20E+01	7.97E-07	9%	No Toxicity Value	--	--
Benzo[b]fluoranthene	2.44E-01	1.20E+00	1.87E-07	2%	No Toxicity Value	--	--
Benzo[g,h,i]perylene	8.95E-02	No Toxicity Value	--	--	3.00E-02	2.11E-05	< 1%
Benzo[k]fluoranthene	6.85E-02	1.20E+00	5.23E-08	< 1%	No Toxicity Value	--	--
Chrysene	1.99E-01	1.20E-01	1.52E-08	< 1%	No Toxicity Value	--	--
Dibenz[a,h]anthracene	2.89E-02	4.10E+00	7.54E-08	< 1%	No Toxicity Value	--	--
Indeno[1,2,3-cd]pyrene	8.02E-02	1.20E+00	6.12E-08	< 1%	No Toxicity Value	--	--
Pyrene	1.80E-01	No Toxicity Value	--	--	3.00E-02	4.25E-05	< 1%
Low Molecular Weight Polyaromatic Hydrocarbons (LMW PAHs)							
Acenaphthene	8.05E-03	No Toxicity Value	--	--	6.00E-02	9.50E-07	< 1%
Acenaphthylene	4.23E-02	No Toxicity Value	--	--	6.00E-02	4.98E-06	< 1%
Anthracene	1.27E-01	No Toxicity Value	--	--	3.00E-01	3.00E-06	< 1%
Fluoranthene	1.76E-01	No Toxicity Value	--	--	4.00E-02	3.12E-05	< 1%
Fluorene	7.43E-03	No Toxicity Value	--	--	4.00E-02	1.31E-06	< 1%
Naphthalene	3.03E-03	No Toxicity Value	--	--	2.00E-02	1.07E-06	< 1%
Phenanthrene	6.89E-02	No Toxicity Value	--	--	3.00E-02	1.63E-05	< 1%

	Cancer Risk	Hazard Index
Pathway Sum:	8.70E-06	8.69E-01

"--" = data not available or not calculated

Table A8-3. Risk and Hazard Estimates: Inhalation, DTSC Residential Central Tendency Exposure (CTE), IR Site 24A, Former Naval Weapons Station Seal Beach Detachment Concord

Description	Variable	Value	
Averaging Time, carcinogens	AT_c	70	yrs
Averaging Time, noncarcinogens, resident	$AT_{nc,r}$	15	yrs
COPC Concentration in air	C_{air}	chemical-specific	µg/m^3
COPC Concentration in soil	C_{soil}	chemical-specific	mg/kg
Exposure Duration, resident	ED_r	15	yrs
Exposure Frequency	EF	350	days/yr
Exposure Time	ET	24	hours/day
Inhalation Unit-Risk Factor	IUR	chemical-specific	(µg/m^3)$^{-1}$
Particulate emission factor (non-VOCs)	PEF	1.360E+09	m^3/kg
Inhalation Reference Concentration	RfC	chemical-specific	µg/m^3
Volatilization Factor for VOCs	VF	chemical-specific	m^3/kg

Equations

Cancer Risk:

$$Risk = IUR \times C_{air} \times \left(\frac{ED_r \times EF \times ET}{AT_c \times 365\ days\ /\ year \times 24\ hours\ /\ day} \right)$$

Noncancer Hazard:

$$Hazard = \frac{1}{RfC} \times C_{air} \times \left(\frac{ED_r \times EF \times ET}{AT_{nc,r} \times 365\ days\ /\ year \times 24\ hours\ /\ day} \right)$$

where: $C_{air} = \frac{C_{soil}}{PEF} \times 1000\ \mu g\ /\ mg$

Analyte	C_{soil} (mg/kg)	PEF (m^3/kg)	C_{air} (µg/m^3)	IUR (µg/m^3)$^{-1}$	Cancer Risk (dimensionless)	% of Total	RfC (µg/m^3)	Hazard Quotient (dimensionless)	% of Total
Inorganic Constituents									
Antimony	1.99E+01	1.360E+09	1.46E-05	No Toxicity Value	--	--	1.40E+00	1.00E-05	< 1%
Arsenic	7.72E+00	1.360E+09	5.68E-06	3.30E-03	3.85E-09	22%	1.50E-02	3.63E-04	16%
Barium	1.16E+02	1.360E+09	8.55E-05	No Toxicity Value	--	--	5.00E-01	1.64E-04	7%
Beryllium	4.48E-01	1.360E+09	3.29E-07	2.40E-03	1.62E-10	< 1%	7.00E-03	4.51E-05	2%
Cadmium	2.47E-01	1.360E+09	1.82E-07	4.20E-03	1.57E-10	< 1%	2.00E-02	8.71E-06	< 1%
Chromium	1.96E+01	1.360E+09	1.44E-05	No Toxicity Value	--	--	5.25E+03	2.64E-09	< 1%
Cobalt	9.54E+00	1.360E+09	7.02E-06	9.00E-03	1.30E-08	73%	6.00E-03	1.12E-03	50%
Copper	1.88E+02	1.360E+09	1.38E-04	No Toxicity Value	--	--	1.40E+02	9.44E-07	< 1%
Lead	1.65E+03	1.360E+09	1.21E-03	No Toxicity Value	--	--	No Toxicity Value	--	--
Mercury	5.01E-02	1.360E+09	3.68E-08	No Toxicity Value	--	--	3.00E-02	1.18E-06	< 1%
Molybdenum	2.49E-01	1.360E+09	1.83E-07	No Toxicity Value	--	--	1.75E+01	1.00E-08	< 1%
Nickel	1.69E+01	1.360E+09	1.25E-05	2.60E-04	6.65E-10	4%	5.00E-02	2.39E-04	11%
Selenium	4.47E-01	1.360E+09	3.29E-07	No Toxicity Value	--	--	2.00E+01	1.58E-08	< 1%
Silver	1.40E-01	1.360E+09	1.03E-07	No Toxicity Value	--	--	1.75E+01	5.64E-09	< 1%
Thallium	1.73E-01	1.360E+09	1.27E-07	No Toxicity Value	--	--	No Toxicity Value	--	--
Vanadium	3.91E+01	1.360E+09	2.88E-05	No Toxicity Value	--	--	1.00E-01	2.76E-04	12%
Zinc	1.90E+02	1.360E+09	1.40E-04	No Toxicity Value	--	--	1.05E+03	1.28E-07	< 1%
Explosives									
2,4-Dinitrotoluene	2.53E-01	1.360E+09	1.86E-07	8.90E-05	3.40E-12	< 1%	7.00E+00	2.54E-08	< 1%
4-Nitrotoluene	9.51E-02	1.360E+09	6.99E-08	4.57E-06	6.57E-14	< 1%	1.40E+01	4.79E-09	< 1%

Table A8-3. Risk and Hazard Estimates: Inhalation, DTSC Residential Central Tendency Exposure (CTE), IR Site 24A, Former Naval Weapons Station Seal Beach Detachment Concord

Description	Variable	Value	
Averaging Time, carcinogens	AT_c	70	yrs
Averaging Time, noncarcinogens, resident	$AT_{nc,r}$	15	yrs
COPC Concentration in air	C_{air}	chemical-specific	µg/m^3
COPC Concentration in soil	C_{soil}	chemical-specific	mg/kg
Exposure Duration, resident	ED_r	15	yrs
Exposure Frequency	EF	350	days/yr
Exposure Time	ET	24	hours/day
Inhalation Unit-Risk Factor	IUR	chemical-specific	(µg/m^3)$^{-1}$
Particulate emission factor (non-VOCs)	PEF	1.360E+09	m^3/kg
Inhalation Reference Concentration	RfC	chemical-specific	µg/m^3
Volatilization Factor for VOCs	VF	chemical-specific	m^3/kg

Equations

Cancer Risk:

$$Risk = IUR \times C_{air} \times \left(\frac{ED_r \times EF \times ET}{AT_c \times 365\ days\ /\ year \times 24\ hours\ /\ day} \right)$$

Noncancer Hazard:

$$Hazard = \frac{1}{RfC} \times C_{air} \times \left(\frac{ED_r \times EF \times ET}{AT_{nc,r} \times 365\ days\ /\ year \times 24\ hours\ /\ day} \right)$$

where: $C_{air} = \frac{C_{soil}}{PEF} \times 1000\ \mu g\ /\ mg$

Analyte	C_{soil} (mg/kg)	PEF (m^3/kg)	C_{air} (µg/m^3)	IUR (µg/m^3)$^{-1}$	Cancer Risk (dimensionless)	% of Total	RfC (µg/m^3)	Hazard Quotient (dimensionless)	% of Total
High Molecular Weight Polyaromatic Hydrocarbons (HMW PAHs)									
Benzo[a]anthracene	1.25E-01	1.360E+09	9.20E-08	1.10E-04	2.08E-12	< 1%	No Toxicity Value	--	--
Benzo[a]pyrene	1.04E-01	1.360E+09	7.68E-08	1.10E-03	1.74E-11	< 1%	No Toxicity Value	--	--
Benzo[b]fluoranthene	2.44E-01	1.360E+09	1.80E-07	1.10E-04	4.06E-12	< 1%	No Toxicity Value	--	--
Benzo[g,h,i]perylene	8.95E-02	1.360E+09	6.58E-08	No Toxicity Value	--	--	1.05E+02	6.01E-10	< 1%
Benzo[k]fluoranthene	6.85E-02	1.360E+09	5.04E-08	1.10E-04	1.14E-12	< 1%	No Toxicity Value	--	--
Chrysene	1.99E-01	1.360E+09	1.46E-07	1.10E-05	3.30E-13	< 1%	No Toxicity Value	--	--
Dibenz[a,h]anthracene	2.89E-02	1.360E+09	2.13E-08	1.20E-03	5.24E-12	< 1%	No Toxicity Value	--	--
Indeno[1,2,3-cd]pyrene	8.02E-02	1.360E+09	5.90E-08	1.10E-04	1.33E-12	< 1%	No Toxicity Value	--	--
Pyrene	1.80E-01	1.360E+09	1.33E-07	No Toxicity Value	--	--	1.05E+02	1.21E-09	< 1%
Low Molecular Weight Polyaromatic Hydrocarbons (LMW PAHs)									
Acenaphthene	8.05E-03	1.360E+09	5.92E-09	No Toxicity Value	--	--	2.10E+02	2.70E-11	< 1%
Acenaphthylene	4.23E-02	1.360E+09	3.11E-08	No Toxicity Value	--	--	2.10E+02	1.42E-10	< 1%
Anthracene	1.27E-01	1.360E+09	9.34E-08	No Toxicity Value	--	--	1.05E+03	8.53E-11	< 1%
Fluoranthene	1.76E-01	1.360E+09	1.30E-07	No Toxicity Value	--	--	1.40E+02	8.88E-10	< 1%
Fluorene	7.43E-03	1.360E+09	5.46E-09	No Toxicity Value	--	--	1.40E+02	3.74E-11	< 1%
Naphthalene	3.03E-03	1.360E+09	2.22E-09	3.40E-05	1.55E-14	< 1%	9.00E+00	2.37E-10	< 1%
Phenanthrene	6.89E-02	1.360E+09	5.07E-08	No Toxicity Value	--	--	1.05E+02	4.63E-10	< 1%
					Cancer Risk			Hazard Index	
				Pathway Sums:	1.78E-08			2.23E-03	

"--" = data not available or not calculated

Table A8-4. Risk and Hazard Estimates: Dermal Contact with Soil, DTSC Residential Central Tendency Exposure (CTE), IR Site 24A, Former Naval Weapons Station Seal Beach Detachment Concord

Description	Variable	Value	
Dermal Soil Absorption Fraction	ABS_d	chemical-specific	unitless
Soil-to-Skin Adherence Fraction	AF_a	0.01	mg/cm^2-day
Soil-to-Skin Adherence Fraction	AF_c	0.04	mg/cm^2-day
Averaging Time, Carcinogens	AT_c	70	yrs
Averaging Time, noncarcinogens, adult	$AT_{nc,a}$	9	yrs
Averaging Time, noncarcinogens, child	$AT_{nc,c}$	6	yrs
Body Weight, adult	BW_a	70	kg
Body Weight, child	BW_c	15	kg
Conversion Factor	CF_d	1E-06	kg/mg
COPC Concentration in Soil	C_{soil}	chemical-specific	mg/kg
Fraction of EV in Contact with Soil	EC	1	unitless
Exposure Duration	ED_a	9	yrs
Exposure Duration, child	ED_c	6	yrs
Exposure Frequency	EF	350	days/yr
Event Frequency	EV	1	events/day
Oral Reference Dose Adjusted for GI Absorption	RfD_d	chemical-specific	mg/kg-day
Exposed Body Surface Area, adult	SA_a	5700	cm^2
Exposed Body Surface Area, child	SA_c	2900	cm^2
Oral Slope Factor Adjusted for GI Absorption	SF_d	chemical-specific	$(mg/kg\text{-}day)^{-1}$

Equations:

Cancer Risk:

$$Risk = SF_d \times \left\{ C_{soil} \times \left[\frac{AF_a \times ABS_d \times EF \times ED_a \times EV \times EC \times SA_a \times CF_d}{BW_a \times AT_c \times 365 day/year} + \frac{AF_c \times ABS_d \times EF \times ED_c \times EV \times EC \times SA_c \times CF_d}{BW_c \times AT_c \times 365 day/year} \right] \right\}$$

Noncancer Hazard:

$$Hazard = \frac{1}{RfD_d} \times \left\{ C_{soil} \times \left[\frac{AF_a \times ABS_d \times EF \times ED_a \times EV \times EC \times SA_a \times CF_d}{BW_a \times AT_{nc,a} \times 365 day/year} + \frac{AF_c \times ABS_d \times EF \times ED_c \times EV \times EC \times SA_c \times CF_d}{BW_c \times AT_{nc,c} \times 365 day/year} \right] \right\}$$

Analyte	C_{soil} (mg/kg)	ABS_d (unitless)	SF_d $(mg/kg\text{-}day)^{-1}$	Cancer Risk (dimensionless)	% of Total	RfD_d (mg/kg-day)	Hazard Quotient (dimensionless)	% of Total
Inorganic Constituents								
Antimony	1.99E+01	1.00E-02		--	--	6.00E-05	2.72E-02	63%
Arsenic	7.72E+00	3.00E-02	1.50E+00	2.56E-07	56%	3.00E-04	6.33E-03	15%
Barium	1.16E+02	1.00E-02		--	--	1.40E-02	6.81E-04	2%
Beryllium	4.48E-01	1.00E-02		--	--	1.40E-05	2.62E-03	6%
Cadmium	2.47E-01	1.00E-02		--	--	1.25E-05	1.62E-03	4%
Chromium	1.96E+01	1.00E-02		--	--	1.95E-02	8.25E-05	< 1%
Cobalt	9.54E+00	1.00E-02		--	--	3.00E-04	2.61E-03	6%
Copper	1.88E+02	1.00E-02		--	--	4.00E-02	3.84E-04	< 1%
Lead	1.65E+03	1.00E-02		--	--		--	--
Mercury	5.01E-02	1.00E-02		--	--	1.12E-05	3.67E-04	< 1%
Molybdenum	2.49E-01	1.00E-02		--	--	5.00E-03	4.08E-06	< 1%
Nickel	1.69E+01	1.00E-02		--	--	2.00E-03	6.94E-04	2%
Selenium	4.47E-01	1.00E-02		--	--	5.00E-03	7.33E-06	< 1%
Silver	1.40E-01	1.00E-02		--	--	2.00E-04	5.74E-05	< 1%
Thallium	1.73E-01	1.00E-02		--	--		--	--
Vanadium	3.91E+01	1.00E-02		--	--	5.00E-03	6.42E-04	1%
Zinc	1.90E+02	1.00E-02		--	--	3.00E-01	5.20E-05	< 1%
Explosives								
2,4-Dinitrotoluene	2.53E-01	1.02E-01	3.10E-01	5.88E-09	1%	2.00E-03	1.06E-04	< 1%
4-Nitrotoluene	9.51E-02	1.00E-01	1.60E-02	1.12E-10	< 1%	4.00E-03	1.95E-05	< 1%

Table A8-4. Risk and Hazard Estimates: Dermal Contact with Soil, DTSC Residential Central Tendency Exposure (CTE), IR Site 24A, Former Naval Weapons Station Seal Beach Detachment Concord

Description	Variable	Value	
Dermal Soil Absorption Fraction	ABS_d	chemical-specific	unitless
Soil-to-Skin Adherence Fraction	AF_a	0.01	mg/cm^2-day
Soil-to-Skin Adherence Fraction	AF_c	0.04	mg/cm^2-day
Averaging Time, Carcinogens	AT_c	70	yrs
Averaging Time, noncarcinogens, adult	$AT_{nc,a}$	9	yrs
Averaging Time, noncarcinogens, child	$AT_{nc,c}$	6	yrs
Body Weight, adult	BW_a	70	kg
Body Weight, child	BW_c	15	kg
Conversion Factor	CF_d	1E-06	kg/mg
COPC Concentration in Soil	C_{soil}	chemical-specific	mg/kg
Fraction of EV in Contact with Soil	EC	1	unitless
Exposure Duration	ED_a	9	yrs
Exposure Duration, child	ED_c	6	yrs
Exposure Frequency	EF	350	days/yr
Event Frequency	EV	1	events/day
Oral Reference Dose Adjusted for GI Absorption	RfD_d	chemical-specific	mg/kg-day
Exposed Body Surface Area, adult	SA_a	5700	cm^2
Exposed Body Surface Area, child	SA_c	2900	cm^2
Oral Slope Factor Adjusted for GI Absorption	SF_d	chemical-specific	$(mg/kg\text{-}day)^{-1}$

Equations:

Cancer Risk:

$$Risk = SF_d \times \left\{ C_{soil} \times \left[\frac{AF_a \times ABS_d \times EF \times ED_a \times EV \times EC \times SA_a \times CF_d}{BW_a \times AT_c \times 365 day/year} + \frac{AF_c \times ABS_d \times EF \times ED_c \times EV \times EC \times SA_c \times CF_d}{BW_c \times AT_c \times 365 day/year} \right] \right\}$$

Noncancer Hazard:

$$Hazard = \frac{1}{RfD_d} \times \left\{ C_{soil} \times \left[\frac{AF_a \times ABS_d \times EF \times ED_a \times EV \times EC \times SA_a \times CF_d}{BW_a \times AT_{nc,a} \times 365 day/year} + \frac{AF_c \times ABS_d \times EF \times ED_c \times EV \times EC \times SA_c \times CF_d}{BW_c \times AT_{nc,c} \times 365 day/year} \right] \right\}$$

Analyte	C_{soil} (mg/kg)	ABS_d (unitless)	SF_d $(mg/kg\text{-}day)^{-1}$	Cancer Risk (dimensionless)	% of Total	RfD_d (mg/kg-day)	Hazard Quotient (dimensionless)	% of Total
High Molecular Weight Polyaromatic Hydrocarbons (HMW PAHs)								
Benzo[a]anthracene	1.25E-01	1.30E-01	1.20E+00	1.44E-08	3%		--	--
Benzo[a]pyrene	1.04E-01	1.30E-01	1.20E+01	1.20E-07	26%		--	--
Benzo[b]fluoranthene	2.44E-01	1.30E-01	1.20E+00	2.81E-08	6%		--	--
Benzo[g,h,i]perylene	8.95E-02	1.30E-01		--	--	3.00E-02	3.18E-06	< 1%
Benzo[k]fluoranthene	6.85E-02	1.30E-01	1.20E+00	7.87E-09	2%		--	--
Chrysene	1.99E-01	1.30E-01	1.20E-01	2.28E-09	< 1%		--	--
Dibenz[a,h]anthracene	2.89E-02	1.30E-01	4.10E+00	1.13E-08	2%		--	--
Indeno[1,2,3-cd]pyrene	8.02E-02	1.30E-01	1.20E+00	9.21E-09	2%		--	--
Pyrene	1.80E-01	1.30E-01		--	--	3.00E-02	6.40E-06	< 1%
Low Molecular Weight Polyaromatic Hydrocarbons (LMW PAHs)								
Acenaphthene	8.05E-03	1.30E-01		--	--	6.00E-02	1.43E-07	< 1%
Acenaphthylene	4.23E-02	1.30E-01		--	--	6.00E-02	7.50E-07	< 1%
Anthracene	1.27E-01	1.30E-01		--	--	3.00E-01	4.51E-07	< 1%
Fluoranthene	1.76E-01	1.30E-01		--	--	4.00E-02	4.70E-06	< 1%
Fluorene	7.43E-03	1.30E-01		--	--	4.00E-02	1.98E-07	< 1%
Naphthalene	3.03E-03	0.00E+00		--	--	2.00E-02	0.00E+00	< 1%
Phenanthrene	6.89E-02	1.30E-01		--	--	3.00E-02	2.45E-06	< 1%
			Pathway Sums:	Cancer Risk 4.55E-07			Hazard Index 4.35E-02	

"--" = data not available or not calculated

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Attachment A9 –

Risk and Hazard Calculation Details; DTSC Recreational User Reasonable Maximum Exposure (RME)

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Table A9-1. Summary of Risk and Hazard Estimates: Exposure to Soil, DTSC Recreational User (childhood and adulthood) Reasonable Maximum Exposure (RME), IR Site 24A, Former Naval Weapons Station Seal Beach Detachment Concord

		Cancer-Risk Estimate					Noncancer-Hazard Estimate				
Analyte	**Soil EPC** (mg/kg)	Ingestion	Inhalation	Dermal	Multi-Pathway	% of Cumulative	Ingestion	Inhalation	Dermal	Multi-Pathway	% of Cumulative
Inorganic Constituents											
Antimony	8.21E+01	--	--	--			9.03E-01	2.46E-06	1.89E-01	**1.1E+00**	67%
Arsenic	1.09E+01	**1.05E-05**	4.52E-10	9.96E-07	**1.1E-05**	63%	1.60E-01	3.05E-05	1.51E-02	1.7E-01	11%
Barium	1.34E+02	--	--	--			2.95E-03	1.12E-05	1.32E-03	4.3E-03	< 1%
Beryllium	4.68E-01	--	1.41E-11	--	1.4E-11	< 1%	1.03E-03	2.81E-06	4.63E-03	5.7E-03	< 1%
Cadmium	3.45E-01	--	1.82E-11	--	1.8E-11	< 1%	3.04E-03	7.24E-07	3.82E-03	6.9E-03	< 1%
Chromium	2.09E+01	--	--	--			6.12E-05	1.67E-10	1.48E-04	2.1E-04	< 1%
Cobalt	1.02E+01	--	1.15E-09	--	1.2E-09	< 1%	1.49E-01	7.12E-05	4.69E-03	1.5E-01	10%
Copper	1.12E+03	--	--	--			1.24E-01	3.37E-07	3.88E-03	1.3E-01	8%
Lead	1.02E+04	--	--	--			--	--	--		
Mercury	7.28E-02	--	--	--			2.00E-03	1.02E-07	8.99E-04	2.9E-03	< 1%
Molybdenum	2.70E-01	--	--	--			2.38E-04	6.48E-10	7.47E-06	2.5E-04	< 1%
Nickel	1.79E+01	--	5.85E-11	--	5.8E-11	< 1%	1.57E-03	1.50E-05	1.24E-03	2.8E-03	< 1%
Selenium	5.69E-01	--	--	--			5.01E-04	1.19E-09	1.57E-05	5.2E-04	< 1%
Silver	1.86E-01	--	--	--			1.64E-04	4.46E-10	1.29E-04	2.9E-04	< 1%
Thallium	1.84E-01	--	--	--			--	--	--		
Vanadium	4.25E+01	--	--	--			3.74E-02	1.78E-05	1.18E-03	3.9E-02	2%
Zinc	3.66E+02	--	--	--			5.37E-03	1.46E-08	1.69E-04	5.5E-03	< 1%
Explosives											
2,4-Dinitrotoluene	2.53E-01	5.04E-08	2.83E-13	1.62E-08	6.7E-08	< 1%	5.56E-04	1.51E-09	1.78E-04	7.3E-04	< 1%
4-Nitrotoluene	9.51E-02	9.78E-10	5.47E-15	3.09E-10	1.3E-09	< 1%	1.05E-04	2.85E-10	3.29E-05	1.4E-04	< 1%
High Molecular Weight Polyaromatic Hydrocarbons (HMW PAHs)											
Benzo[a]anthracene	1.00E+00	7.72E-07	1.38E-12	3.17E-07	**1.1E-06**	6%	--	--	--		
Benzo[a]pyrene	3.89E-01	**3.00E-06**	5.38E-12	**1.23E-06**	**4.2E-06**	23%	--	--	--		
Benzo[b]fluoranthene	6.93E-01	5.34E-07	9.59E-13	2.20E-07	7.5E-07	4%	--	--	--		
Benzo[g,h,i]perylene	1.34E-01	--	--	--			1.96E-05	5.35E-11	8.02E-06	2.8E-05	< 1%
Benzo[k]fluoranthene	2.57E-01	1.98E-07	3.55E-13	8.13E-08	2.8E-07	2%	--	--	--		
Chrysene	7.90E-01	6.09E-08	1.09E-13	2.50E-08	8.6E-08	< 1%	--	--	--		
Dibenz[a,h]anthracene	5.06E-02	1.33E-07	7.65E-13	5.48E-08	1.9E-07	1%	--	--	--		
Indeno[1,2,3-cd]pyrene	1.77E-01	1.37E-07	2.46E-13	5.62E-08	1.9E-07	1%	--	--	--		
Pyrene	1.40E+00	--	--	--			2.05E-04	5.60E-10	8.39E-05	2.9E-04	< 1%
Low Molecular Weight Polyaromatic Hydrocarbons (LMW PAHs)											
Acenaphthene	2.07E-02	--	--	--			1.52E-06	4.14E-12	6.22E-07	2.1E-06	< 1%
Acenaphthylene	7.68E-02	--	--	--			5.64E-06	1.53E-11	2.30E-06	7.9E-06	< 1%
Anthracene	3.33E-01	--	--	--			4.88E-06	1.33E-11	1.99E-06	6.9E-06	< 1%
Fluoranthene	1.40E+00	--	--	--			1.54E-04	4.20E-10	6.30E-05	2.2E-04	< 1%
Fluorene	3.75E-02	--	--	--			4.13E-06	1.12E-11	1.69E-06	5.8E-06	< 1%
Naphthalene	6.38E-03	--	2.73E-15	--	2.7E-15	< 1%	1.41E-06	2.98E-11	0.00E+00	1.4E-06	< 1%
Phenanthrene	5.80E-01	--	--	--			8.51E-05	2.32E-10	3.48E-05	1.2E-04	< 1%
				Cumulative Risk:	**1.8E-05**				**Cumulative Hazard:**	**1.6E+00**	

"--" = data not available or not calculated

Table A9-2. Risk and Hazard Estimates: Incidental Ingestion of Soil, DTSC Recreational User (childhood and adulthood) Reasonable Maximum Exposure (RME), IR Site 24A, Former Naval Weapons Station Seal Beach Detachment Concord

Definition	Variable	Value	
Averaging Time, carcinogens	AT_c	70	yrs
Averaging Time, noncarcinogens, adult	$AT_{nc,a}$	11	yrs
Averaging Time, noncarcinogens, child	$AT_{nc,c}$	10	yrs
Body Weight	BW_a	70	kg
Body Weight	BW_c	40	kg
Conversion Factor	CF_o	1E-06	kg/mg
COPC Concentration in soil	C_{soil}	chemical-specific	mg/kg
Exposure Duration, adult	ED_a	11	yrs
Exposure Duration, child	ED_c	10	yrs
Exposure Frequency	EF	250	days/yr
Fraction Contaminated Soil Ingested	FI	1.0	unitless
Soil Ingestion Rate (adult)	IRS_a	100	mg/day
Soil Ingestion Rate (child)	IRS_c	200	mg/day
Oral Reference Dose	RfD_O	chemical-specific	mg/kg-day
Oral Slope Factor	SF_O	chemical-specific	$(mg/kg\text{-}day)^{-1}$

Equations

Cancer Risk:

$$Risk = SF_o \times \left\{ C_{soil} \times \left[\frac{IRS_a \times EF \times ED_a \times FI \times CF_o}{BW_a \times AT_c \times 365\ day/year} + \frac{IRS_c \times EF \times ED_c \times FI \times CF_o}{BW_c \times AT_c \times 365\ day/year} \right] \right\}$$

Noncancer Hazard:

$$Hazard = \frac{1}{RfD_o} \times \left\{ C_{soil} \times \left[\frac{IRS_a \times EF \times ED_a \times FI \times CF_o}{BW_a \times AT_{nc,a} \times 365\ day/year} + \frac{IRS_c \times EF \times ED_c \times FI \times CF_o}{BW_c \times AT_{nc,c} \times 365\ day/year} \right] \right\}$$

Analyte	C_{soil} (mg/kg)	SF_o $(mg/kg\text{-}day)^{-1}$	Cancer Risk (dimensionless)	% of Total	RfD_o (mg/kg-day)	Noncancer Hazard (dimensionless)	% of Total
Inorganic Constituents							
Antimony	8.21E+01	No Toxicity Value	--	--	4.00E-04	9.03E-01	65%
Arsenic	1.09E+01	1.50E+00	1.05E-05	68%	3.00E-04	1.60E-01	11%
Barium	1.34E+02	No Toxicity Value	--	--	2.00E-01	2.95E-03	< 1%
Beryllium	4.68E-01	No Toxicity Value	--	--	2.00E-03	1.03E-03	< 1%
Cadmium	3.45E-01	No Toxicity Value	--	--	5.00E-04	3.04E-03	< 1%
Chromium	2.09E+01	No Toxicity Value	--	--	1.50E+00	6.12E-05	< 1%
Cobalt	1.02E+01	No Toxicity Value	--	--	3.00E-04	1.49E-01	11%
Copper	1.12E+03	No Toxicity Value	--	--	4.00E-02	1.24E-01	9%
Lead	1.02E+04	No Toxicity Value	--	--	No Toxicity Value	--	--
Mercury	7.28E-02	No Toxicity Value	--	--	1.60E-04	2.00E-03	< 1%
Molybdenum	2.70E-01	No Toxicity Value	--	--	5.00E-03	2.38E-04	< 1%
Nickel	1.79E+01	No Toxicity Value	--	--	5.00E-02	1.57E-03	< 1%
Selenium	5.69E-01	No Toxicity Value	--	--	5.00E-03	5.01E-04	< 1%
Silver	1.86E-01	No Toxicity Value	--	--	5.00E-03	1.64E-04	< 1%
Thallium	1.84E-01	No Toxicity Value	--	--	No Toxicity Value	--	--
Vanadium	4.25E+01	No Toxicity Value	--	--	5.00E-03	3.74E-02	3%
Zinc	3.66E+02	No Toxicity Value	--	--	3.00E-01	5.37E-03	< 1%
Explosives							
2,4-Dinitrotoluene	2.53E-01	3.10E-01	5.04E-08	< 1%	2.00E-03	5.56E-04	< 1%
4-Nitrotoluene	9.51E-02	1.60E-02	9.78E-10	< 1%	4.00E-03	1.05E-04	< 1%

Table A9-2. Risk and Hazard Estimates: Incidental Ingestion of Soil, DTSC Recreational User (childhood and adulthood) Reasonable Maximum Exposure (RME), IR Site 24A, Former Naval Weapons Station Seal Beach Detachment Concord

Definition	Variable	Value	
Averaging Time, carcinogens	AT_c	70	yrs
Averaging Time, noncarcinogens, adult	$AT_{nc,a}$	11	yrs
Averaging Time, noncarcinogens, child	$AT_{nc,c}$	10	yrs
Body Weight	BW_a	70	kg
Body Weight	BW_c	40	kg
Conversion Factor	CF_o	1E-06	kg/mg
COPC Concentration in soil	C_{soil}	chemical-specific	mg/kg
Exposure Duration, adult	ED_a	11	yrs
Exposure Duration, child	ED_c	10	yrs
Exposure Frequency	EF	250	days/yr
Fraction Contaminated Soil Ingested	FI	1.0	unitless
Soil Ingestion Rate (adult)	IRS_a	100	mg/day
Soil Ingestion Rate (child)	IRS_c	200	mg/day
Oral Reference Dose	RfD_O	chemical-specific	mg/kg-day
Oral Slope Factor	SF_O	chemical-specific	$(mg/kg\text{-}day)^{-1}$

Equations

Cancer Risk:

$$Risk = SF_o \times \left\{ C_{soil} \times \left[\frac{IRS_a \times EF \times ED_a \times FI \times CF_o}{BW_a \times AT_c \times 365\ day/year} + \frac{IRS_c \times EF \times ED_c \times FI \times CF_o}{BW_c \times AT_c \times 365\ day/year} \right] \right\}$$

Noncancer Hazard:

$$Hazard = \frac{1}{RfD_o} \times \left\{ C_{soil} \times \left[\frac{IRS_a \times EF \times ED_a \times FI \times CF_o}{BW_a \times AT_{nc,a} \times 365\ day/year} + \frac{IRS_c \times EF \times ED_c \times FI \times CF_o}{BW_c \times AT_{nc,c} \times 365\ day/year} \right] \right\}$$

Analyte	C_{soil} (mg/kg)	SF_o $(mg/kg\text{-}day)^{-1}$	Cancer Risk (dimensionless)	% of Total	RfD_o (mg/kg-day)	Noncancer Hazard (dimensionless)	% of Total
High Molecular Weight Polyaromatic Hydrocarbons (HMW PAHs)							
Benzo[a]anthracene	1.00E+00	1.20E+00	7.72E-07	5%	No Toxicity Value	--	--
Benzo[a]pyrene	3.89E-01	1.20E+01	3.00E-06	19%	No Toxicity Value	--	--
Benzo[b]fluoranthene	6.93E-01	1.20E+00	5.34E-07	3%	No Toxicity Value	--	--
Benzo[g,h,i]perylene	1.34E-01	No Toxicity Value	--	--	3.00E-02	1.96E-05	< 1%
Benzo[k]fluoranthene	2.57E-01	1.20E+00	1.98E-07	1%	No Toxicity Value	--	--
Chrysene	7.90E-01	1.20E-01	6.09E-08	< 1%	No Toxicity Value	--	--
Dibenz[a,h]anthracene	5.06E-02	4.10E+00	1.33E-07	< 1%	No Toxicity Value	--	--
Indeno[1,2,3-cd]pyrene	1.77E-01	1.20E+00	1.37E-07	< 1%	No Toxicity Value	--	--
Pyrene	1.40E+00	No Toxicity Value	--	--	3.00E-02	2.05E-04	< 1%
Low Molecular Weight Polyaromatic Hydrocarbons (LMW PAHs)							
Acenaphthene	2.07E-02	No Toxicity Value	--	--	6.00E-02	1.52E-06	< 1%
Acenaphthylene	7.68E-02	No Toxicity Value	--	--	6.00E-02	5.64E-06	< 1%
Anthracene	3.33E-01	No Toxicity Value	--	--	3.00E-01	4.88E-06	< 1%
Fluoranthene	1.40E+00	No Toxicity Value	--	--	4.00E-02	1.54E-04	< 1%
Fluorene	3.75E-02	No Toxicity Value	--	--	4.00E-02	4.13E-06	< 1%
Naphthalene	6.38E-03	No Toxicity Value	--	--	2.00E-02	1.41E-06	< 1%
Phenanthrene	5.80E-01	No Toxicity Value	--	--	3.00E-02	8.51E-05	< 1%
			Cancer Risk			Hazard Index	
		Pathway Sum:	1.54E-05			1.39E+00	

"--" = data not available or not calculated

Table A9-3. Risk and Hazard Estimates: Inhalation, DTSC Recreational User (childhood and adulthood) Reasonable Maximum Exposure (RME), IR Site 24A, Former Naval Weapons Station Seal Beach Detachment Concord

Description	Variable	Value
Averaging Time, carcinogens	AT_c	70 yrs
Averaging Time, noncarcinogens	$AT_{nc,r}$	21 yrs
COPC Concentration in air	C_{air}	chemical-specific µg/m^3
COPC Concentration in soil	C_{soil}	chemical-specific mg/kg
Exposure Duration	ED	21 yrs
Exposure Frequency	EF	250 days/yr
Exposure Time	ET	2 hours/day
Inhalation Unit-Risk Factor	IUR	chemical-specific (µg/m^3)$^{-1}$
Particulate emission factor (non-VOCs)	PEF	1.360E+09 m^3/kg
Inhalation Reference Concentration	RfC	chemical-specific µg/m^3
Volatilization Factor for VOCs	VF	chemical-specific m^3/kg

Equations

Cancer Risk:

$$Risk = IUR \times C_{air} \times \left(\frac{ED \times EF \times ET}{AT_c \times 365\ days / year \times 24\ hours / day} \right)$$

Noncancer Hazard:

$$Hazard = \frac{1}{RfC} \times C_{air} \times \left(\frac{ED \times EF \times ET}{AT_{nc} \times 365\ days / year \times 24\ hours / day} \right)$$

where: $C_{air} = \frac{C_{soil}}{PEF} \times 1000\ \mu g / mg$

Analyte	C_{soil} (mg/kg)	PEF (m^3/kg)	C_{air} (µg/m^3)	IUR (µg/m^3)$^{-1}$	Cancer Risk (dimensionless)	% of Total	RfC (µg/m^3)	Hazard Quotient (dimensionless)	% of Total
Inorganic Constituents									
Antimony	8.21E+01	1.360E+09	6.03E-05	No Toxicity Value	--	--	1.40E+00	2.46E-06	2%
Arsenic	1.09E+01	1.360E+09	8.01E-06	3.30E-03	4.52E-10	27%	1.50E-02	3.05E-05	20%
Barium	1.34E+02	1.360E+09	9.85E-05	No Toxicity Value	--	--	5.00E-01	1.12E-05	7%
Beryllium	4.68E-01	1.360E+09	3.44E-07	2.40E-03	1.41E-11	< 1%	7.00E-03	2.81E-06	2%
Cadmium	3.45E-01	1.360E+09	2.54E-07	4.20E-03	1.82E-11	1%	2.00E-02	7.24E-07	< 1%
Chromium	2.09E+01	1.360E+09	1.53E-05	No Toxicity Value	--	--	5.25E+03	1.67E-10	< 1%
Cobalt	1.02E+01	1.360E+09	7.49E-06	9.00E-03	1.15E-09	68%	6.00E-03	7.12E-05	47%
Copper	1.12E+03	1.360E+09	8.26E-04	No Toxicity Value	--	--	1.40E+02	3.37E-07	< 1%
Lead	1.02E+04	1.360E+09	7.51E-03	No Toxicity Value	--	--	No Toxicity Value	--	--
Mercury	7.28E-02	1.360E+09	5.35E-08	No Toxicity Value	--	--	3.00E-02	1.02E-07	< 1%
Molybdenum	2.70E-01	1.360E+09	1.99E-07	No Toxicity Value	--	--	1.75E+01	6.48E-10	< 1%
Nickel	1.79E+01	1.360E+09	1.31E-05	2.60E-04	5.85E-11	3%	5.00E-02	1.50E-05	10%
Selenium	5.69E-01	1.360E+09	4.18E-07	No Toxicity Value	--	--	2.00E+01	1.19E-09	< 1%
Silver	1.86E-01	1.360E+09	1.37E-07	No Toxicity Value	--	--	1.75E+01	4.46E-10	< 1%
Thallium	1.84E-01	1.360E+09	1.35E-07	No Toxicity Value	--	--	No Toxicity Value	--	--
Vanadium	4.25E+01	1.360E+09	3.13E-05	No Toxicity Value	--	--	1.00E-01	1.78E-05	12%
Zinc	3.66E+02	1.360E+09	2.69E-04	No Toxicity Value	--	--	1.05E+03	1.46E-08	< 1%
Explosives									
2,4-Dinitrotoluene	2.53E-01	1.360E+09	1.86E-07	8.90E-05	2.83E-13	< 1%	7.00E+00	1.51E-09	< 1%
4-Nitrotoluene	9.51E-02	1.360E+09	6.99E-08	4.57E-06	5.47E-15	< 1%	1.40E+01	2.85E-10	< 1%

Table A9-3. Risk and Hazard Estimates: Inhalation, DTSC Recreational User (childhood and adulthood) Reasonable Maximum Exposure (RME), IR Site 24A, Former Naval Weapons Station Seal Beach Detachment Concord

Description	Variable	Value
Averaging Time, carcinogens	AT_c	70 yrs
Averaging Time, noncarcinogens	$AT_{nc,r}$	21 yrs
COPC Concentration in air	C_{air}	chemical-specific µg/m^3
COPC Concentration in soil	C_{soil}	chemical-specific mg/kg
Exposure Duration	ED	21 yrs
Exposure Frequency	EF	250 days/yr
Exposure Time	ET	2 hours/day
Inhalation Unit-Risk Factor	IUR	chemical-specific (µg/m^3)$^{-1}$
Particulate emission factor (non-VOCs)	PEF	1.360E+09 m^3/kg
Inhalation Reference Concentration	RfC	chemical-specific µg/m^3
Volatilization Factor for VOCs	VF	chemical-specific m^3/kg

Equations

Cancer Risk:

$$Risk = IUR \times C_{air} \times \left(\frac{ED \times EF \times ET}{AT_c \times 365\ days/year \times 24\ hours/day} \right)$$

Noncancer Hazard:

$$Hazard = \frac{1}{RfC} \times C_{air} \times \left(\frac{ED \times EF \times ET}{AT_{nc} \times 365\ days/year \times 24\ hours/day} \right)$$

where: $C_{air} = \frac{C_{soil}}{PEF} \times 1000\ \mu g/mg$

Analyte	C_{soil} (mg/kg)	PEF (m^3/kg)	C_{air} (µg/m^3)	IUR (µg/m^3)$^{-1}$	Cancer Risk (dimensionless)	% of Total	RfC (µg/m^3)	Hazard Quotient (dimensionless)	% of Total
High Molecular Weight Polyaromatic Hydrocarbons (HMW PAHs)									
Benzo[a]anthracene	1.00E+00	1.360E+09	7.35E-07	1.10E-04	1.38E-12	< 1%	No Toxicity Value	--	--
Benzo[a]pyrene	3.89E-01	1.360E+09	2.86E-07	1.10E-03	5.38E-12	< 1%	No Toxicity Value	--	--
Benzo[b]fluoranthene	6.93E-01	1.360E+09	5.09E-07	1.10E-04	9.59E-13	< 1%	No Toxicity Value	--	--
Benzo[g,h,i]perylene	1.34E-01	1.360E+09	9.84E-08	No Toxicity Value	--	--	1.05E+02	5.35E-11	< 1%
Benzo[k]fluoranthene	2.57E-01	1.360E+09	1.89E-07	1.10E-04	3.55E-13	< 1%	No Toxicity Value	--	--
Chrysene	7.90E-01	1.360E+09	5.81E-07	1.10E-05	1.09E-13	< 1%	No Toxicity Value	--	--
Dibenz[a,h]anthracene	5.06E-02	1.360E+09	3.72E-08	1.20E-03	7.65E-13	< 1%	No Toxicity Value	--	--
Indeno[1,2,3-cd]pyrene	1.77E-01	1.360E+09	1.30E-07	1.10E-04	2.46E-13	< 1%	No Toxicity Value	--	--
Pyrene	1.40E+00	1.360E+09	1.03E-06	No Toxicity Value	--	--	1.05E+02	5.60E-10	< 1%
Low Molecular Weight Polyaromatic Hydrocarbons (LMW PAHs)									
Acenaphthene	2.07E-02	1.360E+09	1.53E-08	No Toxicity Value	--	--	2.10E+02	4.14E-12	< 1%
Acenaphthylene	7.68E-02	1.360E+09	5.65E-08	No Toxicity Value	--	--	2.10E+02	1.53E-11	< 1%
Anthracene	3.33E-01	1.360E+09	2.45E-07	No Toxicity Value	--	--	1.05E+03	1.33E-11	< 1%
Fluoranthene	1.40E+00	1.360E+09	1.03E-06	No Toxicity Value	--	--	1.40E+02	4.20E-10	< 1%
Fluorene	3.75E-02	1.360E+09	2.76E-08	No Toxicity Value	--	--	1.40E+02	1.12E-11	< 1%
Naphthalene	6.38E-03	1.360E+09	4.69E-09	3.40E-05	2.73E-15	< 1%	9.00E+00	2.98E-11	< 1%
Phenanthrene	5.80E-01	1.360E+09	4.26E-07	No Toxicity Value	--	--	1.05E+02	2.32E-10	< 1%
				Pathway Sums:	Cancer Risk 1.71E-09			Hazard Index 1.52E-04	

"--" = data not available or not calculated

Table A9-4. Risk and Hazard Estimates: Dermal Contact with Soil, DTSC Recreational User (childhood and adulthood) Reasonable Maximum Exposure (RME), IR Site 24A, Former Naval Weapons Station Seal Beach Detachment Concord

Description	Variable	Value
Dermal Soil Absorption Fraction	ABS_d	chemical-specific unitless
Soil-to-Skin Adherence Fraction, adult	AF_a	0.07 mg/cm^2-day
Soil-to-Skin Adherence Fraction, child	AF_c	0.2 mg/cm^2-day
Averaging Time, Carcinogens	AT_c	70 yrs
Averaging Time, noncarcinogens, adult	$AT_{nc,a}$	11 yrs
Averaging Time, noncarcinogens, child	$AT_{nc,c}$	10 yrs
Body Weight, adult	BW_a	70 kg
Body Weight, child	BW_c	40 kg
Conversion Factor	CF_d	1E-06 kg/mg
COPC Concentration in Soil	C_{soil}	chemical-specific mg/kg
Fraction of EV in Contact with Soil	EC	1 unitless
Exposure Duration, adult	ED_a	11 yrs
Exposure Duration, child	ED_c	10 yrs
Exposure Frequency	EF	250 days/yr
Event Frequency	EV	1 events/day
Oral Reference Dose Adjusted for GI Absorption	RfD_d	chemical-specific mg/kg-day
Exposed Body Surface Area, adult	SA_a	5700 cm^2
Exposed Body Surface Area, child	SA_c	2900 cm^2
Oral Slope Factor Adjusted for GI Absorption	SF_d	chemical-specific (mg/kg-day)$^{-1}$

Equations:

Cancer Risk:

$$Risk = SF_d \times \left[C_{soil} \times \left(\frac{AF_a \times ABS_d \times EF \times ED_a \times SA_{s,a} \times CF_{s,d}}{BW_a \times AT_c \times 365\ day/year} + \frac{AF_c \times ABS_d \times EF \times ED_c \times SA_{s,c} \times CF_{s,d}}{BW_c \times AT_c \times 365\ day/year} \right) \right]$$

Noncancer Hazard:

$$Hazard = \frac{1}{RfD_d} \times \left[C_{soil} \times \left(\frac{AF_a \times ABS_d \times EF \times ED_a \times SA_{s,a} \times CF_{s,d}}{BW_a \times AT_{nc,a} \times 365\ day/year} + \frac{AF_c \times ABS_d \times EF \times ED_c \times SA_{s,c} \times CF_{s,d}}{BW_c \times AT_{nc,c} \times 365\ day/year} \right) \right]$$

Analyte	C_{soil} (mg/kg)	ABS_d (unitless)	SF_d (mg/kg-day)$^{-1}$	Cancer Risk (dimensionless)	% of Total	RfD_d (mg/kg-day)	Hazard Quotient (dimensionless)	% of Total
Inorganic Constituents								
Antimony	8.21E+01	1.00E-02		--	--	6.00E-05	1.89E-01	83%
Arsenic	1.09E+01	3.00E-02	1.50E+00	9.96E-07	33%	3.00E-04	1.51E-02	7%
Barium	1.34E+02	1.00E-02		--	--	1.40E-02	1.32E-03	< 1%
Beryllium	4.68E-01	1.00E-02		--	--	1.40E-05	4.63E-03	2%
Cadmium	3.45E-01	1.00E-02		--	--	1.25E-05	3.82E-03	2%
Chromium	2.09E+01	1.00E-02		--	--	1.95E-02	1.48E-04	< 1%
Cobalt	1.02E+01	1.00E-02		--	--	3.00E-04	4.69E-03	2%
Copper	1.12E+03	1.00E-02		--	--	4.00E-02	3.88E-03	2%
Lead	1.02E+04	1.00E-02		--	--		--	--
Mercury	7.28E-02	1.00E-02		--	--	1.12E-05	8.99E-04	< 1%
Molybdenum	2.70E-01	1.00E-02		--	--	5.00E-03	7.47E-06	< 1%
Nickel	1.79E+01	1.00E-02		--	--	2.00E-03	1.24E-03	< 1%
Selenium	5.69E-01	1.00E-02		--	--	5.00E-03	1.57E-05	< 1%
Silver	1.86E-01	1.00E-02		--	--	2.00E-04	1.29E-04	< 1%
Thallium	1.84E-01	1.00E-02		--	--		--	--
Vanadium	4.25E+01	1.00E-02		--	--	5.00E-03	1.18E-03	< 1%
Zinc	3.66E+02	1.00E-02		--	--	3.00E-01	1.69E-04	< 1%
Explosives								
2,4-Dinitrotoluene	2.53E-01	1.02E-01	3.10E-01	1.62E-08	< 1%	2.00E-03	1.78E-04	< 1%
4-Nitrotoluene	9.51E-02	1.00E-01	1.60E-02	3.09E-10	< 1%	4.00E-03	3.29E-05	< 1%

Table A9-4. Risk and Hazard Estimates: Dermal Contact with Soil, DTSC Recreational User (childhood and adulthood) Reasonable Maximum Exposure (RME), IR Site 24A, Former Naval Weapons Station Seal Beach Detachment Concord

Description	Variable	Value	
Dermal Soil Absorption Fraction	ABS_d	chemical-specific	unitless
Soil-to-Skin Adherence Fraction, adult	AF_a	0.07	mg/cm^2-day
Soil-to-Skin Adherence Fraction, child	AF_c	0.2	mg/cm^2-day
Averaging Time, Carcinogens	AT_c	70	yrs
Averaging Time, noncarcinogens, adult	$AT_{nc,a}$	11	yrs
Averaging Time, noncarcinogens, child	$AT_{nc,c}$	10	yrs
Body Weight, adult	BW_a	70	kg
Body Weight, child	BW_c	40	kg
Conversion Factor	CF_d	1E-06	kg/mg
COPC Concentration in Soil	C_{soil}	chemical-specific	mg/kg
Fraction of EV in Contact with Soil	EC	1	unitless
Exposure Duration, adult	ED_a	11	yrs
Exposure Duration, child	ED_c	10	yrs
Exposure Frequency	EF	250	days/yr
Event Frequency	EV	1	events/day
Oral Reference Dose Adjusted for GI Absorption	RfD_d	chemical-specific	mg/kg-day
Exposed Body Surface Area, adult	SA_a	5700	cm^2
Exposed Body Surface Area, child	SA_c	2900	cm^2
Oral Slope Factor Adjusted for GI Absorption	SF_d	chemical-specific	$(mg/kg\text{-}day)^{-1}$

Equations:

Cancer Risk:

$$Risk = SF_d \times \left[C_{soil} \times \left(\frac{AF_a \times ABS_d \times EF \times ED_a \times SA_{s,a} \times CF_{s,d}}{BW_a \times AT_c \times 365\ day/year} + \frac{AF_c \times ABS_d \times EF \times ED_c \times SA_{s,c} \times CF_{s,d}}{BW_c \times AT_c \times 365\ day/year} \right) \right]$$

Noncancer Hazard:

$$Hazard = \frac{1}{RfD_d} \times \left[C_{soil} \times \left(\frac{AF_a \times ABS_d \times EF \times ED_a \times SA_{s,a} \times CF_{s,d}}{BW_a \times AT_{nc,a} \times 365\ day/year} + \frac{AF_c \times ABS_d \times EF \times ED_c \times SA_{s,c} \times CF_{s,d}}{BW_c \times AT_{nc,c} \times 365\ day/year} \right) \right]$$

Analyte	C_{soil} (mg/kg)	ABS_d (unitless)	SF_d $(mg/kg\text{-}day)^{-1}$	Cancer Risk (dimensionless)	% of Total	RfD_d (mg/kg-day)	Hazard Quotient (dimensionless)	% of Total
High Molecular Weight Polyaromatic Hydrocarbons (HMW PAHs)								
Benzo[a]anthracene	1.00E+00	1.30E-01	1.20E+00	3.17E-07	11%		--	--
Benzo[a]pyrene	3.89E-01	1.30E-01	1.20E+01	1.23E-06	41%		--	--
Benzo[b]fluoranthene	6.93E-01	1.30E-01	1.20E+00	2.20E-07	7%		--	--
Benzo[g,h,i]perylene	1.34E-01	1.30E-01		--	--	3.00E-02	8.02E-06	< 1%
Benzo[k]fluoranthene	2.57E-01	1.30E-01	1.20E+00	8.13E-08	3%		--	--
Chrysene	7.90E-01	1.30E-01	1.20E-01	2.50E-08	< 1%		--	--
Dibenz[a,h]anthracene	5.06E-02	1.30E-01	4.10E+00	5.48E-08	2%		--	--
Indeno[1,2,3-cd]pyrene	1.77E-01	1.30E-01	1.20E+00	5.62E-08	2%		--	--
Pyrene	1.40E+00	1.30E-01		--	--	3.00E-02	8.39E-05	< 1%
Low Molecular Weight Polyaromatic Hydrocarbons (LMW PAHs)								
Acenaphthene	2.07E-02	1.30E-01		--	--	6.00E-02	6.22E-07	< 1%
Acenaphthylene	7.68E-02	1.30E-01		--	--	6.00E-02	2.30E-06	< 1%
Anthracene	3.33E-01	1.30E-01		--	--	3.00E-01	1.99E-06	< 1%
Fluoranthene	1.40E+00	1.30E-01		--	--	4.00E-02	6.30E-05	< 1%
Fluorene	3.75E-02	1.30E-01		--	--	4.00E-02	1.69E-06	< 1%
Naphthalene	6.38E-03	0.00E+00		--	--	2.00E-02	0.00E+00	< 1%
Phenanthrene	5.80E-01	1.30E-01		--	--	3.00E-02	3.48E-05	< 1%
			Pathway Sums:	Cancer Risk 3.00E-06			Hazard Index 2.27E-01	

"--" = data not available or not calculated

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Attachment A10 –

Risk and Hazard Calculation Details; DTSC Recreational User Central Tendency Exposure (CTE)

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Table A10-1. Summary of Risk and Hazard Estimates: Exposure to Soil, DTSC Recreational User (childhood and adulthood) Central Tendency Exposure (CTE), IR Site 24A, Former Naval Weapons Station Seal Beach Detachment Concord

		Cancer-Risk Estimate					Noncancer-Hazard Estimate				
Analyte	**Soil EPC** (mg/kg)	Ingestion	Inhalation	Dermal	Multi-Pathway	% of Cumulative	Ingestion	Inhalation	Dermal	Multi-Pathway	% of Cumulative
Inorganic Constituents											
Antimony	1.99E+01	--	--	--			2.19E-02	1.49E-08	1.69E-03	2.4E-02	42%
Arsenic	7.72E+00	4.53E-07	4.96E-12	1.57E-08	4.7E-07	83%	1.13E-02	5.40E-07	3.93E-04	1.2E-02	21%
Barium	1.16E+02	--	--	--			2.56E-04	2.44E-07	4.23E-05	3.0E-04	< 1%
Beryllium	4.48E-01	--	2.10E-13	--	2.1E-13	< 1%	9.86E-05	6.72E-08	1.63E-04	2.6E-04	< 1%
Cadmium	2.47E-01	--	2.02E-13	--	2.0E-13	< 1%	2.18E-04	1.30E-08	1.01E-04	3.2E-04	< 1%
Chromium	1.96E+01	--	--	--			5.76E-06	3.92E-12	5.12E-06	1.1E-05	< 1%
Cobalt	9.54E+00	--	1.67E-11	--	1.7E-11	< 1%	1.40E-02	1.67E-06	1.62E-04	1.4E-02	25%
Copper	1.88E+02	--	--	--			2.06E-03	1.41E-09	2.39E-05	2.1E-03	4%
Lead	1.65E+03	--	--	--			--	--	--		
Mercury	5.01E-02	--	--	--			1.38E-04	1.75E-09	2.28E-05	1.6E-04	< 1%
Molybdenum	2.49E-01	--	--	--			2.19E-05	1.49E-11	2.53E-07	2.2E-05	< 1%
Nickel	1.69E+01	--	8.58E-13	--	8.6E-13	< 1%	1.49E-04	3.55E-07	4.31E-05	1.9E-04	< 1%
Selenium	4.47E-01	--	--	--			3.94E-05	2.35E-11	4.55E-07	4.0E-05	< 1%
Silver	1.40E-01	--	--	--			1.23E-05	8.39E-12	3.56E-06	1.6E-05	< 1%
Thallium	1.73E-01	--	--	--			--	--	--		
Vanadium	3.91E+01	--	--	--			3.45E-03	4.11E-07	3.98E-05	3.5E-03	6%
Zinc	1.90E+02	--	--	--			2.79E-04	1.90E-10	3.23E-06	2.8E-04	< 1%
Explosives											
2,4-Dinitrotoluene	2.53E-01	3.07E-09	4.38E-15	3.61E-10	3.4E-09	< 1%	5.56E-05	3.79E-11	6.56E-06	6.2E-05	< 1%
4-Nitrotoluene	9.51E-02	5.95E-11	8.47E-17	6.88E-12	6.6E-11	< 1%	1.05E-05	7.12E-12	1.21E-06	1.2E-05	< 1%
High Molecular Weight Polyaromatic Hydrocarbons (HMW PAHs)											
Benzo[a]anthracene	1.25E-01	5.88E-09	2.68E-15	8.82E-10	6.8E-09	1%	--	--	--		
Benzo[a]pyrene	1.04E-01	4.90E-08	2.24E-14	7.36E-09	5.6E-08	10%	--	--	--		
Benzo[b]fluoranthene	2.44E-01	1.15E-08	5.24E-15	1.72E-09	1.3E-08	2%	--	--	--		
Benzo[g,h,i]perylene	8.95E-02	--	--	--			1.31E-06	8.94E-13	1.97E-07	1.5E-06	< 1%
Benzo[k]fluoranthene	6.85E-02	3.22E-09	1.47E-15	4.83E-10	3.7E-09	< 1%	--	--	--		
Chrysene	1.99E-01	9.34E-10	4.26E-16	1.40E-10	1.1E-09	< 1%	--	--	--		
Dibenz[a,h]anthracene	2.89E-02	4.64E-09	6.76E-15	6.96E-10	5.3E-09	< 1%	--	--	--		
Indeno[1,2,3-cd]pyrene	8.02E-02	3.77E-09	1.72E-15	5.65E-10	4.3E-09	< 1%	--	--	--		
Pyrene	1.80E-01	--	--	--			2.64E-06	1.80E-12	3.97E-07	3.0E-06	< 1%
Low Molecular Weight Polyaromatic Hydrocarbons (LMW PAHs)											
Acenaphthene	8.05E-03	--	--	--			5.91E-08	4.02E-14	8.87E-09	6.8E-08	< 1%
Acenaphthylene	4.23E-02	--	--	--			3.10E-07	2.11E-13	4.66E-08	3.6E-07	< 1%
Anthracene	1.27E-01	--	--	--			1.86E-07	1.27E-13	2.80E-08	2.1E-07	< 1%
Fluoranthene	1.76E-01	--	--	--			1.94E-06	1.32E-12	2.92E-07	2.2E-06	< 1%
Fluorene	7.43E-03	--	--	--			8.18E-08	5.57E-14	1.23E-08	9.4E-08	< 1%
Naphthalene	3.03E-03	--	2.00E-17	--	2.0E-17	< 1%	6.66E-08	3.53E-13	0.00E+00	6.7E-08	< 1%
Phenanthrene	6.89E-02	--	--	--			1.01E-06	6.89E-13	1.52E-07	1.2E-06	< 1%
				Cumulative Risk:	5.6E-07				**Cumulative Hazard:**	5.7E-02	

"--" = data not available or not calculated

Table A10-2. Risk and Hazard Estimates: Incidental Ingestion of Soil, DTSC Recreational User (childhood and adulthood) Central Tendency Exposure (CTE), IR Site 24A, Former Naval Weapons Station Seal Beach Detachment Concord

Definition	Variable	Value	
Averaging Time, carcinogens	AT_c	70	yrs
Averaging Time, noncarcinogens, adult	$AT_{nc,a}$	7	yrs
Averaging Time, noncarcinogens, child	$AT_{nc,c}$	6	yrs
Body Weight	BW_a	70	kg
Body Weight	BW_c	40	kg
Conversion Factor	CF_o	1E-06	kg/mg
COPC Concentration in soil	C_{soil}	chemical-specific	mg/kg
Exposure Duration, adult	ED_a	7	yrs
Exposure Duration, child	ED_c	6	yrs
Exposure Frequency	EF	50	days/yr
Fraction Contaminated Soil Ingested	FI	1.0	unitless
Soil Ingestion Rate (adult)	IRS_a	50	mg/day
Soil Ingestion Rate (child)	IRS_c	100	mg/day
Oral Reference Dose	RfD_O	chemical-specific	mg/kg-day
Oral Slope Factor	SF_O	chemical-specific	$(mg/kg\text{-}day)^{-1}$

Equations

Cancer Risk:

$$Risk = SF_o \times \left\{ C_{soil} \times \left[\frac{IRS_a \times EF \times ED_a \times FI \times CF_o}{BW_a \times AT_c \times 365\ day/year} + \frac{IRS_c \times EF \times ED_c \times FI \times CF_o}{BW_c \times AT_c \times 365\ day/year} \right] \right\}$$

Noncancer Hazard:

$$Hazard = \frac{1}{RfD_o} \times \left\{ C_{soil} \times \left[\frac{IRS_a \times EF \times ED_a \times FI \times CF_o}{BW_a \times AT_{nc,a} \times 365\ day/year} + \frac{IRS_c \times EF \times ED_c \times FI \times CF_o}{BW_c \times AT_{nc,c} \times 365\ day/year)} \right] \right\}$$

Analyte	C_{soil} (mg/kg)	SF_o $(mg/kg\text{-}day)^{-1}$	Cancer Risk (dimensionless)	% of Total	RfD_o (mg/kg-day)	Noncancer Hazard (dimensionless)	% of Total
Inorganic Constituents							
Antimony	1.99E+01	No Toxicity Value	--	--	4.00E-04	2.19E-02	41%
Arsenic	7.72E+00	1.50E+00	4.53E-07	85%	3.00E-04	1.13E-02	21%
Barium	1.16E+02	No Toxicity Value	--	--	2.00E-01	2.56E-04	< 1%
Beryllium	4.48E-01	No Toxicity Value	--	--	2.00E-03	9.86E-05	< 1%
Cadmium	2.47E-01	No Toxicity Value	--	--	5.00E-04	2.18E-04	< 1%
Chromium	1.96E+01	No Toxicity Value	--	--	1.50E+00	5.76E-06	< 1%
Cobalt	9.54E+00	No Toxicity Value	--	--	3.00E-04	1.40E-02	26%
Copper	1.88E+02	No Toxicity Value	--	--	4.00E-02	2.06E-03	4%
Lead	1.65E+03	No Toxicity Value	--	--	No Toxicity Value	--	--
Mercury	5.01E-02	No Toxicity Value	--	--	1.60E-04	1.38E-04	< 1%
Molybdenum	2.49E-01	No Toxicity Value	--	--	5.00E-03	2.19E-05	< 1%
Nickel	1.69E+01	No Toxicity Value	--	--	5.00E-02	1.49E-04	< 1%
Selenium	4.47E-01	No Toxicity Value	--	--	5.00E-03	3.94E-05	< 1%
Silver	1.40E-01	No Toxicity Value	--	--	5.00E-03	1.23E-05	< 1%
Thallium	1.73E-01	No Toxicity Value	--	--	No Toxicity Value	--	--
Vanadium	3.91E+01	No Toxicity Value	--	--	5.00E-03	3.45E-03	6%
Zinc	1.90E+02	No Toxicity Value	--	--	3.00E-01	2.79E-04	< 1%
Explosives							
2,4-Dinitrotoluene	2.53E-01	3.10E-01	3.07E-09	< 1%	2.00E-03	5.56E-05	< 1%
4-Nitrotoluene	9.51E-02	1.60E-02	5.95E-11	< 1%	4.00E-03	1.05E-05	< 1%

Table A10-2. Risk and Hazard Estimates: Incidental Ingestion of Soil, DTSC Recreational User (childhood and adulthood) Central Tendency Exposure (CTE), IR Site 24A, Former Naval Weapons Station Seal Beach Detachment Concord

Definition	Variable	Value	
Averaging Time, carcinogens	AT_c	70	yrs
Averaging Time, noncarcinogens, adult	$AT_{nc,a}$	7	yrs
Averaging Time, noncarcinogens, child	$AT_{nc,c}$	6	yrs
Body Weight	BW_a	70	kg
Body Weight	BW_c	40	kg
Conversion Factor	CF_o	1E-06	kg/mg
COPC Concentration in soil	C_{soil}	chemical-specific	mg/kg
Exposure Duration, adult	ED_a	7	yrs
Exposure Duration, child	ED_c	6	yrs
Exposure Frequency	EF	50	days/yr
Fraction Contaminated Soil Ingested	FI	1.0	unitless
Soil Ingestion Rate (adult)	IRS_a	50	mg/day
Soil Ingestion Rate (child)	IRS_c	100	mg/day
Oral Reference Dose	RfD_O	chemical-specific	mg/kg-day
Oral Slope Factor	SF_O	chemical-specific	$(mg/kg\text{-}day)^{-1}$

Equations

Cancer Risk:

$$Risk = SF_o \times \left\{ C_{soil} \times \left[\frac{IRS_a \times EF \times ED_a \times FI \times CF_o}{BW_a \times AT_c \times 365\ day/year} + \frac{IRS_c \times EF \times ED_c \times FI \times CF_o}{BW_c \times AT_c \times 365\ day/year} \right] \right\}$$

Noncancer Hazard:

$$Hazard = \frac{1}{RfD_o} \times \left\{ C_{soil} \times \left[\frac{IRS_a \times EF \times ED_a \times FI \times CF_o}{BW_a \times AT_{nc,a} \times 365\ day/year} + \frac{IRS_c \times EF \times ED_c \times FI \times CF_o}{BW_c \times AT_{nc,c} \times 365\ day/year)} \right] \right\}$$

Analyte	C_{soil} (mg/kg)	SF_o $(mg/kg\text{-}day)^{-1}$	Cancer Risk (dimensionless)	% of Total	RfD_o (mg/kg-day)	Noncancer Hazard (dimensionless)	% of Total
High Molecular Weight Polyaromatic Hydrocarbons (HMW PAHs)							
Benzo[a]anthracene	1.25E-01	1.20E+00	5.88E-09	1%	No Toxicity Value	--	--
Benzo[a]pyrene	1.04E-01	1.20E+01	4.90E-08	9%	No Toxicity Value	--	--
Benzo[b]fluoranthene	2.44E-01	1.20E+00	1.15E-08	2%	No Toxicity Value	--	--
Benzo[g,h,i]perylene	8.95E-02	No Toxicity Value	--	--	3.00E-02	1.31E-06	< 1%
Benzo[k]fluoranthene	6.85E-02	1.20E+00	3.22E-09	< 1%	No Toxicity Value	--	--
Chrysene	1.99E-01	1.20E-01	9.34E-10	< 1%	No Toxicity Value	--	--
Dibenz[a,h]anthracene	2.89E-02	4.10E+00	4.64E-09	< 1%	No Toxicity Value	--	--
Indeno[1,2,3-cd]pyrene	8.02E-02	1.20E+00	3.77E-09	< 1%	No Toxicity Value	--	--
Pyrene	1.80E-01	No Toxicity Value	--	--	3.00E-02	2.64E-06	< 1%
Low Molecular Weight Polyaromatic Hydrocarbons (LMW PAHs)							
Acenaphthene	8.05E-03	No Toxicity Value	--	--	6.00E-02	5.91E-08	< 1%
Acenaphthylene	4.23E-02	No Toxicity Value	--	--	6.00E-02	3.10E-07	< 1%
Anthracene	1.27E-01	No Toxicity Value	--	--	3.00E-01	1.86E-07	< 1%
Fluoranthene	1.76E-01	No Toxicity Value	--	--	4.00E-02	1.94E-06	< 1%
Fluorene	7.43E-03	No Toxicity Value	--	--	4.00E-02	8.18E-08	< 1%
Naphthalene	3.03E-03	No Toxicity Value	--	--	2.00E-02	6.66E-08	< 1%
Phenanthrene	6.89E-02	No Toxicity Value	--	--	3.00E-02	1.01E-06	< 1%

	Cancer Risk	Hazard Index
Pathway Sum:	5.35E-07	5.41E-02

"--" = data not available or not calculated

Table A10-3. Risk and Hazard Estimates: Inhalation, DTSC Recreational User (childhood and adulthood) Central Tendency Exposure (CTE), IR Site 24A, Former Naval Weapons Station Seal Beach Detachment Concord

Description	Variable	Value
Averaging Time, carcinogens	AT_c	70 yrs
Averaging Time, noncarcinogens	$AT_{nc,r}$	13 yrs
COPC Concentration in air	C_{air}	chemical-specific µg/m^3
COPC Concentration in soil	C_{soil}	chemical-specific mg/kg
Exposure Duration	ED	13 yrs
Exposure Frequency	EF	50 days/yr
Exposure Time	ET	0.25 hours/day
Inhalation Unit-Risk Factor	IUR	chemical-specific (µg/m^3)$^{-1}$
Particulate emission factor (non-VOCs)	PEF	1.360E+09 m^3/kg
Inhalation Reference Concentration	RfC	chemical-specific µg/m^3
Volatilization Factor for VOCs	VF	chemical-specific m^3/kg

Equations

Cancer Risk:

$$Risk = IUR \times C_{air} \times \left(\frac{ED \times EF \times ET}{AT_c \times 365\ days / year \times 24\ hours / day} \right)$$

Noncancer Hazard:

$$Hazard = \frac{1}{RfC} \times C_{air} \times \left(\frac{ED \times EF \times ET}{AT_{nc} \times 365\ days / year \times 24\ hours / day} \right)$$

where:

$$C_{air} = \frac{C_{soil}}{PEF} \times 1000\ \mu g / mg$$

Analyte	C_{soil} (mg/kg)	PEF (m^3/kg)	C_{air} (µg/m^3)	IUR (µg/m^3)$^{-1}$	Cancer Risk (dimensionless)	% of Total	RfC (µg/m^3)	Hazard Quotient (dimensionless)	% of Total
Inorganic Constituents									
Antimony	1.99E+01	1.360E+09	1.46E-05	No Toxicity Value	--	--	1.40E+00	1.49E-08	< 1%
Arsenic	7.72E+00	1.360E+09	5.68E-06	3.30E-03	4.96E-12	22%	1.50E-02	5.40E-07	16%
Barium	1.16E+02	1.360E+09	8.55E-05	No Toxicity Value	--	--	5.00E-01	2.44E-07	7%
Beryllium	4.48E-01	1.360E+09	3.29E-07	2.40E-03	2.10E-13	< 1%	7.00E-03	6.72E-08	2%
Cadmium	2.47E-01	1.360E+09	1.82E-07	4.20E-03	2.02E-13	< 1%	2.00E-02	1.30E-08	< 1%
Chromium	1.96E+01	1.360E+09	1.44E-05	No Toxicity Value	--	--	5.25E+03	3.92E-12	< 1%
Cobalt	9.54E+00	1.360E+09	7.02E-06	9.00E-03	1.67E-11	73%	6.00E-03	1.67E-06	50%
Copper	1.88E+02	1.360E+09	1.38E-04	No Toxicity Value	--	--	1.40E+02	1.41E-09	< 1%
Lead	1.65E+03	1.360E+09	1.21E-03	No Toxicity Value	--	--	No Toxicity Value	--	--
Mercury	5.01E-02	1.360E+09	3.68E-08	No Toxicity Value	--	--	3.00E-02	1.75E-09	< 1%
Molybdenum	2.49E-01	1.360E+09	1.83E-07	No Toxicity Value	--	--	1.75E+01	1.49E-11	< 1%
Nickel	1.69E+01	1.360E+09	1.25E-05	2.60E-04	8.58E-13	4%	5.00E-02	3.55E-07	11%
Selenium	4.47E-01	1.360E+09	3.29E-07	No Toxicity Value	--	--	2.00E+01	2.35E-11	< 1%
Silver	1.40E-01	1.360E+09	1.03E-07	No Toxicity Value	--	--	1.75E+01	8.39E-12	< 1%
Thallium	1.73E-01	1.360E+09	1.27E-07	No Toxicity Value	--	--	No Toxicity Value	--	--
Vanadium	3.91E+01	1.360E+09	2.88E-05	No Toxicity Value	--	--	1.00E-01	4.11E-07	12%
Zinc	1.90E+02	1.360E+09	1.40E-04	No Toxicity Value	--	--	1.05E+03	1.90E-10	< 1%
Explosives									
2,4-Dinitrotoluene	2.53E-01	1.360E+09	1.86E-07	8.90E-05	4.38E-15	< 1%	7.00E+00	3.79E-11	< 1%
4-Nitrotoluene	9.51E-02	1.360E+09	6.99E-08	4.57E-06	8.47E-17	< 1%	1.40E+01	7.12E-12	< 1%

Table A10-3. Risk and Hazard Estimates: Inhalation, DTSC Recreational User (childhood and adulthood) Central Tendency Exposure (CTE), IR Site 24A, Former Naval Weapons Station Seal Beach Detachment Concord

Description	Variable	Value
Averaging Time, carcinogens	AT_c	70 yrs
Averaging Time, noncarcinogens	$AT_{nc,r}$	13 yrs
COPC Concentration in air	C_{air}	chemical-specific µg/m^3
COPC Concentration in soil	C_{soil}	chemical-specific mg/kg
Exposure Duration	ED	13 yrs
Exposure Frequency	EF	50 days/yr
Exposure Time	ET	0.25 hours/day
Inhalation Unit-Risk Factor	IUR	chemical-specific (µg/m^3)$^{-1}$
Particulate emission factor (non-VOCs)	PEF	1.360E+09 m^3/kg
Inhalation Reference Concentration	RfC	chemical-specific µg/m^3
Volatilization Factor for VOCs	VF	chemical-specific m^3/kg

Equations

Cancer Risk:

$$Risk = IUR \times C_{air} \times \left(\frac{ED \times EF \times ET}{AT_c \times 365\ days/year \times 24\ hours/day} \right)$$

Noncancer Hazard:

$$Hazard = \frac{1}{RfC} \times C_{air} \times \left(\frac{ED \times EF \times ET}{AT_{nc} \times 365\ days/year \times 24\ hours/day} \right)$$

where:

$$C_{air} = \frac{C_{soil}}{PEF} \times 1000\ \mu g/mg$$

Analyte	C_{soil} (mg/kg)	PEF (m^3/kg)	C_{air} (µg/m^3)	IUR (µg/m^3)$^{-1}$	Cancer Risk (dimensionless)	% of Total	RfC (µg/m^3)	Hazard Quotient (dimensionless)	% of Total
High Molecular Weight Polyaromatic Hydrocarbons (HMW PAHs)									
Benzo[a]anthracene	1.25E-01	1.360E+09	9.20E-08	1.10E-04	2.68E-15	< 1%	No Toxicity Value	--	--
Benzo[a]pyrene	1.04E-01	1.360E+09	7.68E-08	1.10E-03	2.24E-14	< 1%	No Toxicity Value	--	--
Benzo[b]fluoranthene	2.44E-01	1.360E+09	1.80E-07	1.10E-04	5.24E-15	< 1%	No Toxicity Value	--	--
Benzo[g,h,i]perylene	8.95E-02	1.360E+09	6.58E-08	No Toxicity Value	--	--	1.05E+02	8.94E-13	< 1%
Benzo[k]fluoranthene	6.85E-02	1.360E+09	5.04E-08	1.10E-04	1.47E-15	< 1%	No Toxicity Value	--	--
Chrysene	1.99E-01	1.360E+09	1.46E-07	1.10E-05	4.26E-16	< 1%	No Toxicity Value	--	--
Dibenz[a,h]anthracene	2.89E-02	1.360E+09	2.13E-08	1.20E-03	6.76E-15	< 1%	No Toxicity Value	--	--
Indeno[1,2,3-cd]pyrene	8.02E-02	1.360E+09	5.90E-08	1.10E-04	1.72E-15	< 1%	No Toxicity Value	--	--
Pyrene	1.80E-01	1.360E+09	1.33E-07	No Toxicity Value	--	--	1.05E+02	1.80E-12	< 1%
Low Molecular Weight Polyaromatic Hydrocarbons (LMW PAHs)									
Acenaphthene	8.05E-03	1.360E+09	5.92E-09	No Toxicity Value	--	--	2.10E+02	4.02E-14	< 1%
Acenaphthylene	4.23E-02	1.360E+09	3.11E-08	No Toxicity Value	--	--	2.10E+02	2.11E-13	< 1%
Anthracene	1.27E-01	1.360E+09	9.34E-08	No Toxicity Value	--	--	1.05E+03	1.27E-13	< 1%
Fluoranthene	1.76E-01	1.360E+09	1.30E-07	No Toxicity Value	--	--	1.40E+02	1.32E-12	< 1%
Fluorene	7.43E-03	1.360E+09	5.46E-09	No Toxicity Value	--	--	1.40E+02	5.57E-14	< 1%
Naphthalene	3.03E-03	1.360E+09	2.22E-09	3.40E-05	2.00E-17	< 1%	9.00E+00	3.53E-13	< 1%
Phenanthrene	6.89E-02	1.360E+09	5.07E-08	No Toxicity Value	--	--	1.05E+02	6.89E-13	< 1%
					Cancer Risk			Hazard Index	
				Pathway Sums:	2.30E-11			3.32E-06	

"--" = data not available or not calculated

Table A10-4. Risk and Hazard Estimates: Dermal Contact with Soil, DTSC Recreational User (childhood and adulthood) Central Tendency Exposure (CTE), IR Site 24A, Former Naval Weapons Station Seal Beach Detachment Concord

Description	Variable	Value	
Dermal Soil Absorption Fraction	ABS_d	chemical-specific	unitless
Soil-to-Skin Adherence Fraction, adult	AF_a	0.01	mg/cm^2-day
Soil-to-Skin Adherence Fraction, child	AF_c	0.04	mg/cm^2-day
Averaging Time, Carcinogens	AT_c	70	yrs
Averaging Time, noncarcinogens, adult	$AT_{nc,a}$	7	yrs
Averaging Time, noncarcinogens, child	$AT_{nc,c}$	6	yrs
Body Weight, adult	BW_a	70	kg
Body Weight, child	BW_c	40	kg
Conversion Factor	CF_d	1E-06	kg/mg
COPC Concentration in Soil	C_{soil}	chemical-specific	mg/kg
Fraction of EV in Contact with Soil	EC	1	unitless
Exposure Duration, adult	ED_a	7	yrs
Exposure Duration, child	ED_c	6	yrs
Exposure Frequency	EF	50	days/yr
Event Frequency	EV	1	events/day
Oral Reference Dose Adjusted for GI Absorption	RfD_d	chemical-specific	mg/kg-day
Exposed Body Surface Area, adult	SA_a	5700	cm^2
Exposed Body Surface Area, child	SA_c	2900	cm^2
Oral Slope Factor Adjusted for GI Absorption	SF_d	chemical-specific	$(mg/kg\text{-}day)^{-1}$

Equations:

Cancer Risk:

$$Risk = SF_d \times \left[C_{soil} \times \left(\frac{AF_a \times ABS_d \times EF \times ED_a \times SA_{s,a} \times CF_{s,d}}{BW_a \times AT_c \times 365\ day/year} + \frac{AF_c \times ABS_d \times EF \times ED_c \times SA_{s,c} \times CF_{s,d}}{BW_c \times AT_c \times 365\ day/year} \right) \right]$$

Noncancer Hazard:

$$Hazard = \frac{1}{RfD_d} \times \left[C_{soil} \times \left(\frac{AF_a \times ABS_d \times EF \times ED_a \times SA_{s,a} \times CF_{s,d}}{BW_a \times AT_{nc,a} \times 365\ day/year} + \frac{AF_c \times ABS_d \times EF \times ED_c \times SA_{s,c} \times CF_{s,d}}{BW_c \times AT_{nc,c} \times 365\ day/year} \right) \right]$$

Analyte	C_{soil} (mg/kg)	ABS_d (unitless)	SF_d $(mg/kg\text{-}day)^{-1}$	Cancer Risk (dimensionless)	% of Total	RfD_d (mg/kg-day)	Hazard Quotient (dimensionless)	% of Total
Inorganic Constituents								
Antimony	1.99E+01	1.00E-02		--	--	6.00E-05	1.69E-03	63%
Arsenic	7.72E+00	3.00E-02	1.50E+00	1.57E-08	56%	3.00E-04	3.93E-04	15%
Barium	1.16E+02	1.00E-02		--	--	1.40E-02	4.23E-05	2%
Beryllium	4.48E-01	1.00E-02		--	--	1.40E-05	1.63E-04	6%
Cadmium	2.47E-01	1.00E-02		--	--	1.25E-05	1.01E-04	4%
Chromium	1.96E+01	1.00E-02		--	--	1.95E-02	5.12E-06	< 1%
Cobalt	9.54E+00	1.00E-02		--	--	3.00E-04	1.62E-04	6%
Copper	1.88E+02	1.00E-02		--	--	4.00E-02	2.39E-05	< 1%
Lead	1.65E+03	1.00E-02		--	--		--	--
Mercury	5.01E-02	1.00E-02		--	--	1.12E-05	2.28E-05	< 1%
Molybdenum	2.49E-01	1.00E-02		--	--	5.00E-03	2.53E-07	< 1%
Nickel	1.69E+01	1.00E-02		--	--	2.00E-03	4.31E-05	2%
Selenium	4.47E-01	1.00E-02		--	--	5.00E-03	4.55E-07	< 1%
Silver	1.40E-01	1.00E-02		--	--	2.00E-04	3.56E-06	< 1%
Thallium	1.73E-01	1.00E-02		--	--		--	--
Vanadium	3.91E+01	1.00E-02		--	--	5.00E-03	3.98E-05	1%
Zinc	1.90E+02	1.00E-02		--	--	3.00E-01	3.23E-06	< 1%
Explosives								
2,4-Dinitrotoluene	2.53E-01	1.02E-01	3.10E-01	3.61E-10	1%	2.00E-03	6.56E-06	< 1%
4-Nitrotoluene	9.51E-02	1.00E-01	1.60E-02	6.88E-12	< 1%	4.00E-03	1.21E-06	< 1%

Table A10-4. Risk and Hazard Estimates: Dermal Contact with Soil, DTSC Recreational User (childhood and adulthood) Central Tendency Exposure (CTE), IR Site 24A, Former Naval Weapons Station Seal Beach Detachment Concord

Description	Variable	Value	
Dermal Soil Absorption Fraction	ABS_d	chemical-specific	unitless
Soil-to-Skin Adherence Fraction, adult	AF_a	0.01	mg/cm^2-day
Soil-to-Skin Adherence Fraction, child	AF_c	0.04	mg/cm^2-day
Averaging Time, Carcinogens	AT_c	70	yrs
Averaging Time, noncarcinogens, adult	$AT_{nc,a}$	7	yrs
Averaging Time, noncarcinogens, child	$AT_{nc,c}$	6	yrs
Body Weight, adult	BW_a	70	kg
Body Weight, child	BW_c	40	kg
Conversion Factor	CF_d	1E-06	kg/mg
COPC Concentration in Soil	C_{soil}	chemical-specific	mg/kg
Fraction of EV in Contact with Soil	EC	1	unitless
Exposure Duration, adult	ED_a	7	yrs
Exposure Duration, child	ED_c	6	yrs
Exposure Frequency	EF	50	days/yr
Event Frequency	EV	1	events/day
Oral Reference Dose Adjusted for GI Absorption	RfD_d	chemical-specific	mg/kg-day
Exposed Body Surface Area, adult	SA_a	5700	cm^2
Exposed Body Surface Area, child	SA_c	2900	cm^2
Oral Slope Factor Adjusted for GI Absorption	SF_d	chemical-specific	(mg/kg-day)$^{-1}$

Equations:

Cancer Risk:

$$Risk = SF_d \times \left[C_{soil} \times \left(\frac{AF_a \times ABS_d \times EF \times ED_a \times SA_{s,a} \times CF_{s,d}}{BW_a \times AT_c \times 365\ day/year} + \frac{AF_c \times ABS_d \times EF \times ED_c \times SA_{s,c} \times CF_{s,d}}{BW_c \times AT_c \times 365\ day/year} \right) \right]$$

Noncancer Hazard:

$$Hazard = \frac{1}{RfD_d} \times \left[C_{soil} \times \left(\frac{AF_a \times ABS_d \times EF \times ED_a \times SA_{s,a} \times CF_{s,d}}{BW_a \times AT_{nc,a} \times 365\ day/year} + \frac{AF_c \times ABS_d \times EF \times ED_c \times SA_{s,c} \times CF_{s,d}}{BW_c \times AT_{nc,c} \times 365\ day/year} \right) \right]$$

Analyte	C_{soil} (mg/kg)	ABS_d (unitless)	SF_d (mg/kg-day)$^{-1}$	Cancer Risk (dimensionless)	% of Total	RfD_d (mg/kg-day)	Hazard Quotient (dimensionless)	% of Total
High Molecular Weight Polyaromatic Hydrocarbons (HMW PAHs)								
Benzo[a]anthracene	1.25E-01	1.30E-01	1.20E+00	8.82E-10	3%		--	--
Benzo[a]pyrene	1.04E-01	1.30E-01	1.20E+01	7.36E-09	26%		--	--
Benzo[b]fluoranthene	2.44E-01	1.30E-01	1.20E+00	1.72E-09	6%		--	--
Benzo[g,h,i]perylene	8.95E-02	1.30E-01		--	--	3.00E-02	1.97E-07	< 1%
Benzo[k]fluoranthene	6.85E-02	1.30E-01	1.20E+00	4.83E-10	2%		--	--
Chrysene	1.99E-01	1.30E-01	1.20E-01	1.40E-10	< 1%		--	--
Dibenz[a,h]anthracene	2.89E-02	1.30E-01	4.10E+00	6.96E-10	2%		--	--
Indeno[1,2,3-cd]pyrene	8.02E-02	1.30E-01	1.20E+00	5.65E-10	2%		--	--
Pyrene	1.80E-01	1.30E-01		--	--	3.00E-02	3.97E-07	< 1%
Low Molecular Weight Polyaromatic Hydrocarbons (LMW PAHs)								
Acenaphthene	8.05E-03	1.30E-01		--	--	6.00E-02	8.87E-09	< 1%
Acenaphthylene	4.23E-02	1.30E-01		--	--	6.00E-02	4.66E-08	< 1%
Anthracene	1.27E-01	1.30E-01		--	--	3.00E-01	2.80E-08	< 1%
Fluoranthene	1.76E-01	1.30E-01		--	--	4.00E-02	2.92E-07	< 1%
Fluorene	7.43E-03	1.30E-01		--	--	4.00E-02	1.23E-08	< 1%
Naphthalene	3.03E-03	0.00E+00		--	--	2.00E-02	0.00E+00	< 1%
Phenanthrene	6.89E-02	1.30E-01		--	--	3.00E-02	1.52E-07	< 1%
			Pathway Sums:	Cancer Risk 2.79E-08			Hazard Index 2.70E-03	

"--" = data not available or not calculated

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Attachment A11 –

Risk and Hazard Calculation Details; DTSC Recreational User Reasonable Maximum Exposure (RME) to Surface Soil (0 to 6 inches bgs)

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Table A11-1. Summary of Risk and Hazard Estimates: Exposure to Soil, DTSC Recreational User (childhood and adulthood) Reasonable Maximum Exposure (RME) to Surface Soil (0-6" bgs), IR Site 24A, Former Naval Weapons Station Seal Beach Detachment Concord

		Cancer-Risk Estimate					Noncancer-Hazard Estimate				
Analyte	**Soil EPC** (mg/kg)	Ingestion	Inhalation	Dermal	Multi-Pathway	% of Cumulative	Ingestion	Inhalation	Dermal	Multi-Pathway	% of Cumulative
Inorganic Constituents											
Antimony	2.32E+02	--	--	--			**2.55E+00**	6.95E-06	5.35E-01	**3.1E+00**	75%
Arsenic	2.52E+01	**2.43E-05**	1.05E-09	**2.30E-06**	**2.7E-05**	93%	3.70E-01	7.05E-05	3.48E-02	4.0E-01	10%
Barium	1.39E+02	--	--	--			3.05E-03	1.16E-05	1.37E-03	4.4E-03	< 1%
Beryllium	4.57E-01	--	1.38E-11	--	1.4E-11	< 1%	1.01E-03	2.74E-06	4.52E-03	5.5E-03	< 1%
Cadmium	4.44E-01	--	2.35E-11	--	2.3E-11	< 1%	3.91E-03	9.32E-07	4.91E-03	8.8E-03	< 1%
Chromium	2.39E+01	--	--	--			7.02E-05	1.91E-10	1.70E-04	2.4E-04	< 1%
Cobalt	1.17E+01	--	1.32E-09	--	1.3E-09	< 1%	1.71E-01	8.16E-05	5.38E-03	1.8E-01	4%
Copper	3.33E+03	--	--	--			3.66E-01	9.97E-07	1.15E-02	3.8E-01	9%
Lead	2.00E+04	--	--	--			--	--	--		
Mercury	1.28E-01	--	--	--			3.52E-03	1.79E-07	1.58E-03	5.1E-03	< 1%
Molybdenum	2.95E-01	--	--	--			2.60E-04	7.07E-10	8.16E-06	2.7E-04	< 1%
Nickel	1.96E+01	--	6.41E-11	--	6.4E-11	< 1%	1.73E-03	1.64E-05	1.36E-03	3.1E-03	< 1%
Selenium	4.89E-01	--	--	--			4.31E-04	1.03E-09	1.35E-05	4.4E-04	< 1%
Silver	2.87E-01	--	--	--			2.53E-04	6.88E-10	1.99E-04	4.5E-04	< 1%
Thallium	1.95E-01	--	--	--			--	--	--		
Vanadium	5.05E+01	--	--	--			4.45E-02	2.12E-05	1.40E-03	4.6E-02	1%
Zinc	8.21E+02	--	--	--			1.20E-02	3.28E-08	3.79E-04	1.2E-02	< 1%
Explosives											
2,4-Dinitrotoluene	2.53E-01	5.04E-08	2.83E-13	1.62E-08	6.7E-08	< 1%	5.56E-04	1.51E-09	1.78E-04	7.3E-04	< 1%
4-Nitrotoluene	9.51E-02	9.78E-10	5.47E-15	3.09E-10	1.3E-09	< 1%	1.05E-04	2.85E-10	3.29E-05	1.4E-04	< 1%
High Molecular Weight Polyaromatic Hydrocarbons (HMW PAHs)											
Benzo[a]anthracene	6.50E-02	5.02E-08	9.00E-14	2.06E-08	7.1E-08	< 1%	--	--	--		
Benzo[a]pyrene	1.10E-01	8.49E-07	1.52E-12	3.49E-07	**1.2E-06**	4%	--	--	--		
Benzo[b]fluoranthene	2.80E-01	2.16E-07	3.88E-13	8.88E-08	3.0E-07	1%	--	--	--		
Benzo[g,h,i]perylene	1.10E-01	--	--	--			1.61E-05	4.40E-11	6.59E-06	2.3E-05	< 1%
Benzo[k]fluoranthene	5.60E-02	4.32E-08	7.76E-14	1.78E-08	6.1E-08	< 1%	--	--	--		
Chrysene	1.70E-01	1.31E-08	2.35E-14	5.39E-09	1.9E-08	< 1%	--	--	--		
Dibenz[a,h]anthracene	3.20E-02	8.44E-08	4.83E-13	3.47E-08	1.2E-07	< 1%	--	--	--		
Indeno[1,2,3-cd]pyrene	1.10E-01	8.49E-08	1.52E-13	3.49E-08	1.2E-07	< 1%	--	--	--		
Pyrene	1.10E-01	--	--	--			1.61E-05	4.40E-11	6.59E-06	2.3E-05	< 1%
Low Molecular Weight Polyaromatic Hydrocarbons (LMW PAHs)											
Acenaphthene	4.00E-03	--	--	--			2.94E-07	7.99E-13	1.20E-07	4.1E-07	< 1%
Acenaphthylene	4.70E-02	--	--	--			3.45E-06	9.39E-12	1.41E-06	4.9E-06	< 1%
Anthracene	1.10E-01	--	--	--			1.61E-06	4.40E-12	6.59E-07	2.3E-06	< 1%
Fluoranthene	1.09E-01	--	--	--			1.20E-05	3.27E-11	4.90E-06	1.7E-05	< 1%
Fluorene	5.10E-03	--	--	--			5.61E-07	1.53E-12	2.29E-07	7.9E-07	< 1%
Naphthalene	2.80E-03	--	1.20E-15	--	1.2E-15	< 1%	6.16E-07	1.31E-11	0.00E+00	6.2E-07	< 1%
Phenanthrene	2.80E-02	--	--	--			4.11E-06	1.12E-11	1.68E-06	5.8E-06	< 1%
				Cumulative Risk:	**2.9E-05**				**Cumulative Hazard:**	**4.1E+00**	

"--" = data not available or not calculated

Table A11-2. Risk and Hazard Estimates: Incidental Ingestion of Soil, DTSC Recreational User (childhood and adulthood) Reasonable Maximum Exposure (RME) to Surface Soil (0-6" bgs), IR Site 24A, Former Naval Weapons Station Seal Beach Detachment Concord

Definition	Variable	Value
Averaging Time, carcinogens	AT_c	70 yrs
Averaging Time, noncarcinogens, adult	$AT_{nc,a}$	11 yrs
Averaging Time, noncarcinogens, child	$AT_{nc,c}$	10 yrs
Body Weight	BW_a	70 kg
Body Weight	BW_c	40 kg
Conversion Factor	CF_o	1E-06 kg/mg
COPC Concentration in soil	C_{soil}	chemical-specific mg/kg
Exposure Duration, adult	ED_a	11 yrs
Exposure Duration, child	ED_c	10 yrs
Exposure Frequency	EF	250 days/yr
Fraction Contaminated Soil Ingested	FI	1.0 unitless
Soil Ingestion Rate (adult)	IRS_a	100 mg/day
Soil Ingestion Rate (child)	IRS_c	200 mg/day
Oral Reference Dose	RfD_O	chemical-specific mg/kg-day
Oral Slope Factor	SF_O	chemical-specific $(mg/kg\text{-}day)^{-1}$

Equations

Cancer Risk:

$$Risk = SF_o \times \left\{ C_{soil} \times \left[\frac{IRS_a \times EF \times ED_a \times FI \times CF_o}{BW_a \times AT_c \times 365\ day/year} + \frac{IRS_c \times EF \times ED_c \times FI \times CF_o}{BW_c \times AT_c \times 365\ day/year} \right] \right\}$$

Noncancer Hazard:

$$Hazard = \frac{1}{RfD_o} \times \left\{ C_{soil} \times \left[\frac{IRS_a \times EF \times ED_a \times FI \times CF_o}{BW_a \times AT_{nc,a} \times 365\ day/year} + \frac{IRS_c \times EF \times ED_c \times FI \times CF_o}{BW_c \times AT_{nc,c} \times 365\ day/year)} \right] \right\}$$

Analyte	C_{soil} (mg/kg)	SF_o $(mg/kg\text{-}day)^{-1}$	Cancer Risk (dimensionless)	% of Total	RfD_o (mg/kg-day)	Noncancer Hazard (dimensionless)	% of Total
Inorganic Constituents							
Antimony	2.32E+02	No Toxicity Value	--	--	4.00E-04	2.55E+00	72%
Arsenic	2.52E+01	1.50E+00	2.43E-05	95%	3.00E-04	3.70E-01	10%
Barium	1.39E+02	No Toxicity Value	--	--	2.00E-01	3.05E-03	< 1%
Beryllium	4.57E-01	No Toxicity Value	--	--	2.00E-03	1.01E-03	< 1%
Cadmium	4.44E-01	No Toxicity Value	--	--	5.00E-04	3.91E-03	< 1%
Chromium	2.39E+01	No Toxicity Value	--	--	1.50E+00	7.02E-05	< 1%
Cobalt	1.17E+01	No Toxicity Value	--	--	3.00E-04	1.71E-01	5%
Copper	3.33E+03	No Toxicity Value	--	--	4.00E-02	3.66E-01	10%
Lead	2.00E+04	No Toxicity Value	--	--	No Toxicity Value	--	--
Mercury	1.28E-01	No Toxicity Value	--	--	1.60E-04	3.52E-03	< 1%
Molybdenum	2.95E-01	No Toxicity Value	--	--	5.00E-03	2.60E-04	< 1%
Nickel	1.96E+01	No Toxicity Value	--	--	5.00E-02	1.73E-03	< 1%
Selenium	4.89E-01	No Toxicity Value	--	--	5.00E-03	4.31E-04	< 1%
Silver	2.87E-01	No Toxicity Value	--	--	5.00E-03	2.53E-04	< 1%
Thallium	1.95E-01	No Toxicity Value	--	--	No Toxicity Value	--	--
Vanadium	5.05E+01	No Toxicity Value	--	--	5.00E-03	4.45E-02	1%
Zinc	8.21E+02	No Toxicity Value	--	--	3.00E-01	1.20E-02	< 1%
Explosives							
2,4-Dinitrotoluene	2.53E-01	3.10E-01	5.04E-08	< 1%	2.00E-03	5.56E-04	< 1%
4-Nitrotoluene	9.51E-02	1.60E-02	9.78E-10	< 1%	4.00E-03	1.05E-04	< 1%

Table A11-2. Risk and Hazard Estimates: Incidental Ingestion of Soil, DTSC Recreational User (childhood and adulthood) Reasonable Maximum Exposure (RME) to Surface Soil (0-6" bgs), IR Site 24A, Former Naval Weapons Station Seal Beach Detachment Concord

Definition	Variable	Value
Averaging Time, carcinogens	AT_c	70 yrs
Averaging Time, noncarcinogens, adult	$AT_{nc,a}$	11 yrs
Averaging Time, noncarcinogens, child	$AT_{nc,c}$	10 yrs
Body Weight	BW_a	70 kg
Body Weight	BW_c	40 kg
Conversion Factor	CF_o	1E-06 kg/mg
COPC Concentration in soil	C_{soil}	chemical-specific mg/kg
Exposure Duration, adult	ED_a	11 yrs
Exposure Duration, child	ED_c	10 yrs
Exposure Frequency	EF	250 days/yr
Fraction Contaminated Soil Ingested	FI	1.0 unitless
Soil Ingestion Rate (adult)	IRS_a	100 mg/day
Soil Ingestion Rate (child)	IRS_c	200 mg/day
Oral Reference Dose	RfD_O	chemical-specific mg/kg-day
Oral Slope Factor	SF_O	chemical-specific $(mg/kg\text{-}day)^{-1}$

Equations

Cancer Risk:

$$Risk = SF_o \times \left\{ C_{soil} \times \left[\frac{IRS_a \times EF \times ED_a \times FI \times CF_o}{BW_a \times AT_c \times 365\ day/year} + \frac{IRS_c \times EF \times ED_c \times FI \times CF_o}{BW_c \times AT_c \times 365\ day/year} \right] \right\}$$

Noncancer Hazard:

$$Hazard = \frac{1}{RfD_o} \times \left\{ C_{soil} \times \left[\frac{IRS_a \times EF \times ED_a \times FI \times CF_o}{BW_a \times AT_{nc,a} \times 365\ day/year} + \frac{IRS_c \times EF \times ED_c \times FI \times CF_o}{BW_c \times AT_{nc,c} \times 365\ day/year)} \right] \right\}$$

Analyte	C_{soil} (mg/kg)	SF_o $(mg/kg\text{-}day)^{-1}$	Cancer Risk (dimensionless)	% of Total	RfD_o (mg/kg-day)	Noncancer Hazard (dimensionless)	% of Total
High Molecular Weight Polyaromatic Hydrocarbons (HMW PAHs)							
Benzo[a]anthracene	6.50E-02	1.20E+00	5.02E-08	< 1%	No Toxicity Value	--	--
Benzo[a]pyrene	1.10E-01	1.20E+01	8.49E-07	3%	No Toxicity Value	--	--
Benzo[b]fluoranthene	2.80E-01	1.20E+00	2.16E-07	< 1%	No Toxicity Value	--	--
Benzo[g,h,i]perylene	1.10E-01	No Toxicity Value	--	--	3.00E-02	1.61E-05	< 1%
Benzo[k]fluoranthene	5.60E-02	1.20E+00	4.32E-08	< 1%	No Toxicity Value	--	--
Chrysene	1.70E-01	1.20E-01	1.31E-08	< 1%	No Toxicity Value	--	--
Dibenz[a,h]anthracene	3.20E-02	4.10E+00	8.44E-08	< 1%	No Toxicity Value	--	--
Indeno[1,2,3-cd]pyrene	1.10E-01	1.20E+00	8.49E-08	< 1%	No Toxicity Value	--	--
Pyrene	1.10E-01	No Toxicity Value	--	--	3.00E-02	1.61E-05	< 1%
Low Molecular Weight Polyaromatic Hydrocarbons (LMW PAHs)							
Acenaphthene	4.00E-03	No Toxicity Value	--	--	6.00E-02	2.94E-07	< 1%
Acenaphthylene	4.70E-02	No Toxicity Value	--	--	6.00E-02	3.45E-06	< 1%
Anthracene	1.10E-01	No Toxicity Value	--	--	3.00E-01	1.61E-06	< 1%
Fluoranthene	1.09E-01	No Toxicity Value	--	--	4.00E-02	1.20E-05	< 1%
Fluorene	5.10E-03	No Toxicity Value	--	--	4.00E-02	5.61E-07	< 1%
Naphthalene	2.80E-03	No Toxicity Value	--	--	2.00E-02	6.16E-07	< 1%
Phenanthrene	2.80E-02	No Toxicity Value	--	--	3.00E-02	4.11E-06	< 1%

	Cancer Risk	Hazard Index
Pathway Sum:	2.57E-05	3.53E+00

"--" = data not available or not calculated

Table A11-3. Risk and Hazard Estimates: Inhalation, DTSC Recreational User (childhood and adulthood) Reasonable Maximum Exposure (RME) to Surface Soil (0-6" bgs), IR Site 24A, Former Naval Weapons Station Seal Beach Detachment Concord

Description	Variable	Value	
Averaging Time, carcinogens	AT_c	70	yrs
Averaging Time, noncarcinogens	$AT_{nc,r}$	21	yrs
COPC Concentration in air	C_{air}	chemical-specific	µg/m^3
COPC Concentration in soil	C_{soil}	chemical-specific	mg/kg
Exposure Duration	ED	21	yrs
Exposure Frequency	EF	250	days/yr
Exposure Time	ET	2	hours/day
Inhalation Unit-Risk Factor	IUR	chemical-specific	(µg/m^3)$^{-1}$
Particulate emission factor (non-VOCs)	PEF	1.360E+09	m^3/kg
Inhalation Reference Concentration	RfC	chemical-specific	µg/m^3
Volatilization Factor for VOCs	VF	chemical-specific	m^3/kg

Equations

Cancer Risk:

$$Risk = IUR \times C_{air} \times \left(\frac{ED \times EF \times ET}{AT_c \times 365\ days/year \times 24\ hours/day} \right)$$

Noncancer Hazard:

$$Hazard = \frac{1}{RfC} \times C_{air} \times \left(\frac{ED \times EF \times ET}{AT_{nc} \times 365\ days/year \times 24\ hours/day} \right)$$

where: $C_{air} = \frac{C_{soil}}{PEF} \times 1000\ \mu g/mg$

Analyte	C_{soil} (mg/kg)	PEF (m^3/kg)	C_{air} (µg/m^3)	IUR (µg/m^3)$^{-1}$	Cancer Risk (dimensionless)	% of Total	RfC (µg/m^3)	Hazard Quotient (dimensionless)	% of Total
Inorganic Constituents									
Antimony	2.32E+02	1.360E+09	1.71E-04	No Toxicity Value	--	--	1.40E+00	6.95E-06	3%
Arsenic	2.52E+01	1.360E+09	1.85E-05	3.30E-03	1.05E-09	42%	1.50E-02	7.05E-05	33%
Barium	1.39E+02	1.360E+09	1.02E-04	No Toxicity Value	--	--	5.00E-01	1.16E-05	5%
Beryllium	4.57E-01	1.360E+09	3.36E-07	2.40E-03	1.38E-11	< 1%	7.00E-03	2.74E-06	1%
Cadmium	4.44E-01	1.360E+09	3.26E-07	4.20E-03	2.35E-11	< 1%	2.00E-02	9.32E-07	< 1%
Chromium	2.39E+01	1.360E+09	1.76E-05	No Toxicity Value	--	--	5.25E+03	1.91E-10	< 1%
Cobalt	1.17E+01	1.360E+09	8.57E-06	9.00E-03	1.32E-09	53%	6.00E-03	8.16E-05	38%
Copper	3.33E+03	1.360E+09	2.44E-03	No Toxicity Value	--	--	1.40E+02	9.97E-07	< 1%
Lead	2.00E+04	1.360E+09	1.47E-02	No Toxicity Value	--	--	No Toxicity Value	--	--
Mercury	1.28E-01	1.360E+09	9.41E-08	No Toxicity Value	--	--	3.00E-02	1.79E-07	< 1%
Molybdenum	2.95E-01	1.360E+09	2.17E-07	No Toxicity Value	--	--	1.75E+01	7.07E-10	< 1%
Nickel	1.96E+01	1.360E+09	1.44E-05	2.60E-04	6.41E-11	3%	5.00E-02	1.64E-05	8%
Selenium	4.89E-01	1.360E+09	3.60E-07	No Toxicity Value	--	--	2.00E+01	1.03E-09	< 1%
Silver	2.87E-01	1.360E+09	2.11E-07	No Toxicity Value	--	--	1.75E+01	6.88E-10	< 1%
Thallium	1.95E-01	1.360E+09	1.43E-07	No Toxicity Value	--	--	No Toxicity Value	--	--
Vanadium	5.05E+01	1.360E+09	3.71E-05	No Toxicity Value	--	--	1.00E-01	2.12E-05	10%
Zinc	8.21E+02	1.360E+09	6.04E-04	No Toxicity Value	--	--	1.05E+03	3.28E-08	< 1%
Explosives									
2,4-Dinitrotoluene	2.53E-01	1.360E+09	1.86E-07	8.90E-05	2.83E-13	< 1%	7.00E+00	1.51E-09	< 1%
4-Nitrotoluene	9.51E-02	1.360E+09	6.99E-08	4.57E-06	5.47E-15	< 1%	1.40E+01	2.85E-10	< 1%

Table A11-3. Risk and Hazard Estimates: Inhalation, DTSC Recreational User (childhood and adulthood) Reasonable Maximum Exposure (RME) to Surface Soil (0-6" bgs), IR Site 24A, Former Naval Weapons Station Seal Beach Detachment Concord

Description	Variable	Value	
Averaging Time, carcinogens	AT_c	70	yrs
Averaging Time, noncarcinogens	$AT_{nc,r}$	21	yrs
COPC Concentration in air	C_{air}	chemical-specific	µg/m^3
COPC Concentration in soil	C_{soil}	chemical-specific	mg/kg
Exposure Duration	ED	21	yrs
Exposure Frequency	EF	250	days/yr
Exposure Time	ET	2	hours/day
Inhalation Unit-Risk Factor	IUR	chemical-specific	(µg/m^3)$^{-1}$
Particulate emission factor (non-VOCs)	PEF	1.360E+09	m^3/kg
Inhalation Reference Concentration	RfC	chemical-specific	µg/m^3
Volatilization Factor for VOCs	VF	chemical-specific	m^3/kg

Equations

Cancer Risk:

$$Risk = IUR \times C_{air} \times \left(\frac{ED \times EF \times ET}{AT_c \times 365\ days/year \times 24\ hours/day} \right)$$

Noncancer Hazard:

$$Hazard = \frac{1}{RfC} \times C_{air} \times \left(\frac{ED \times EF \times ET}{AT_{nc} \times 365\ days/year \times 24\ hours/day} \right)$$

where: $C_{air} = \frac{C_{soil}}{PEF} \times 1000\ \mu g/mg$

Analyte	C_{soil} (mg/kg)	PEF (m^3/kg)	C_{air} (µg/m^3)	IUR (µg/m^3)$^{-1}$	Cancer Risk (dimensionless)	% of Total	RfC (µg/m^3)	Hazard Quotient (dimensionless)	% of Total
High Molecular Weight Polyaromatic Hydrocarbons (HMW PAHs)									
Benzo[a]anthracene	6.50E-02	1.360E+09	4.78E-08	1.10E-04	9.00E-14	< 1%	No Toxicity Value	--	--
Benzo[a]pyrene	1.10E-01	1.360E+09	8.09E-08	1.10E-03	1.52E-12	< 1%	No Toxicity Value	--	--
Benzo[b]fluoranthene	2.80E-01	1.360E+09	2.06E-07	1.10E-04	3.88E-13	< 1%	No Toxicity Value	--	--
Benzo[g,h,i]perylene	1.10E-01	1.360E+09	8.09E-08	No Toxicity Value	--	--	1.05E+02	4.40E-11	< 1%
Benzo[k]fluoranthene	5.60E-02	1.360E+09	4.12E-08	1.10E-04	7.76E-14	< 1%	No Toxicity Value	--	--
Chrysene	1.70E-01	1.360E+09	1.25E-07	1.10E-05	2.35E-14	< 1%	No Toxicity Value	--	--
Dibenz[a,h]anthracene	3.20E-02	1.360E+09	2.35E-08	1.20E-03	4.83E-13	< 1%	No Toxicity Value	--	--
Indeno[1,2,3-cd]pyrene	1.10E-01	1.360E+09	8.09E-08	1.10E-04	1.52E-13	< 1%	No Toxicity Value	--	--
Pyrene	1.10E-01	1.360E+09	8.09E-08	No Toxicity Value	--	--	1.05E+02	4.40E-11	< 1%
Low Molecular Weight Polyaromatic Hydrocarbons (LMW PAHs)									
Acenaphthene	4.00E-03	1.360E+09	2.94E-09	No Toxicity Value	--	--	2.10E+02	7.99E-13	< 1%
Acenaphthylene	4.70E-02	1.360E+09	3.46E-08	No Toxicity Value	--	--	2.10E+02	9.39E-12	< 1%
Anthracene	1.10E-01	1.360E+09	8.09E-08	No Toxicity Value	--	--	1.05E+03	4.40E-12	< 1%
Fluoranthene	1.09E-01	1.360E+09	8.01E-08	No Toxicity Value	--	--	1.40E+02	3.27E-11	< 1%
Fluorene	5.10E-03	1.360E+09	3.75E-09	No Toxicity Value	--	--	1.40E+02	1.53E-12	< 1%
Naphthalene	2.80E-03	1.360E+09	2.06E-09	3.40E-05	1.20E-15	< 1%	9.00E+00	1.31E-11	< 1%
Phenanthrene	2.80E-02	1.360E+09	2.06E-08	No Toxicity Value	--	--	1.05E+02	1.12E-11	< 1%
				Pathway Sums:	Cancer Risk 2.47E-09			Hazard Index 2.13E-04	

"--" = data not available or not calculated

Table A11-4. Risk and Hazard Estimates: Dermal Contact with Soil, DTSC Recreational User (childhood and adulthood) Reasonable Maximum Exposure (RME) to Surface Soil (0-6" bgs), IR Site 24A, Former Naval Weapons Station Seal Beach Detachment Concord

Description	Variable	Value
Dermal Soil Absorption Fraction	ABS_d	chemical-specific unitless
Soil-to-Skin Adherence Fraction, adult	AF_a	0.07 mg/cm^2-day
Soil-to-Skin Adherence Fraction, child	AF_c	0.2 mg/cm^2-day
Averaging Time, Carcinogens	AT_c	70 yrs
Averaging Time, noncarcinogens, adult	$AT_{nc,a}$	11 yrs
Averaging Time, noncarcinogens, child	$AT_{nc,c}$	10 yrs
Body Weight, adult	BW_a	70 kg
Body Weight, child	BW_c	40 kg
Conversion Factor	CF_d	1E-06 kg/mg
COPC Concentration in Soil	C_{soil}	chemical-specific mg/kg
Fraction of EV in Contact with Soil	EC	1 unitless
Exposure Duration, adult	ED_a	11 yrs
Exposure Duration, child	ED_c	10 yrs
Exposure Frequency	EF	250 days/yr
Event Frequency	EV	1 events/day
Oral Reference Dose Adjusted for GI Absorption	RfD_d	chemical-specific mg/kg-day
Exposed Body Surface Area, adult	SA_a	5700 cm^2
Exposed Body Surface Area, child	SA_c	2900 cm^2
Oral Slope Factor Adjusted for GI Absorption	SF_d	chemical-specific (mg/kg-day)$^{-1}$

Equations:

Cancer Risk:

$$Risk = SF_d \times \left[C_{soil} \times \left(\frac{AF_a \times ABS_d \times EF \times ED_a \times SA_{s,a} \times CF_{s,d}}{BW_a \times AT_c \times 365\ day/year} + \frac{AF_c \times ABS_d \times EF \times ED_c \times SA_{s,c} \times CF_{s,d}}{BW_c \times AT_c \times 365\ day/year} \right) \right]$$

Noncancer Hazard:

$$Hazard = \frac{1}{RfD_d} \times \left[C_{soil} \times \left(\frac{AF_a \times ABS_d \times EF \times ED_a \times SA_{s,a} \times CF_{s,d}}{BW_a \times AT_{nc,a} \times 365\ day/year} + \frac{AF_c \times ABS_d \times EF \times ED_c \times SA_{s,c} \times CF_{s,d}}{BW_c \times AT_{nc,c} \times 365\ day/year} \right) \right]$$

Analyte	C_{soil} (mg/kg)	ABS_d (unitless)	SF_d (mg/kg-day)$^{-1}$	Cancer Risk (dimensionless)	% of Total	RfD_d (mg/kg-day)	Hazard Quotient (dimensionless)	% of Total
Inorganic Constituents								
Antimony	2.32E+02	1.00E-02		--	--	6.00E-05	5.35E-01	89%
Arsenic	2.52E+01	3.00E-02	1.50E+00	2.30E-06	80%	3.00E-04	3.48E-02	6%
Barium	1.39E+02	1.00E-02		--	--	1.40E-02	1.37E-03	< 1%
Beryllium	4.57E-01	1.00E-02		--	--	1.40E-05	4.52E-03	< 1%
Cadmium	4.44E-01	1.00E-02		--	--	1.25E-05	4.91E-03	< 1%
Chromium	2.39E+01	1.00E-02		--	--	1.95E-02	1.70E-04	< 1%
Cobalt	1.17E+01	1.00E-02		--	--	3.00E-04	5.38E-03	< 1%
Copper	3.33E+03	1.00E-02		--	--	4.00E-02	1.15E-02	2%
Lead	2.00E+04	1.00E-02		--	--		--	--
Mercury	1.28E-01	1.00E-02		--	--	1.12E-05	1.58E-03	< 1%
Molybdenum	2.95E-01	1.00E-02		--	--	5.00E-03	8.16E-06	< 1%
Nickel	1.96E+01	1.00E-02		--	--	2.00E-03	1.36E-03	< 1%
Selenium	4.89E-01	1.00E-02		--	--	5.00E-03	1.35E-05	< 1%
Silver	2.87E-01	1.00E-02		--	--	2.00E-04	1.99E-04	< 1%
Thallium	1.95E-01	1.00E-02		--	--		--	--
Vanadium	5.05E+01	1.00E-02		--	--	5.00E-03	1.40E-03	< 1%
Zinc	8.21E+02	1.00E-02		--	--	3.00E-01	3.79E-04	< 1%
Explosives								
2,4-Dinitrotoluene	2.53E-01	1.02E-01	3.10E-01	1.62E-08	< 1%	2.00E-03	1.78E-04	< 1%
4-Nitrotoluene	9.51E-02	1.00E-01	1.60E-02	3.09E-10	< 1%	4.00E-03	3.29E-05	< 1%

Table A11-4. Risk and Hazard Estimates: Dermal Contact with Soil, DTSC Recreational User (childhood and adulthood) Reasonable Maximum Exposure (RME) to Surface Soil (0-6" bgs), IR Site 24A, Former Naval Weapons Station Seal Beach Detachment Concord

Description	Variable	Value	
Dermal Soil Absorption Fraction	ABS_d	chemical-specific	unitless
Soil-to-Skin Adherence Fraction, adult	AF_a	0.07	mg/cm^2-day
Soil-to-Skin Adherence Fraction, child	AF_c	0.2	mg/cm^2-day
Averaging Time, Carcinogens	AT_c	70	yrs
Averaging Time, noncarcinogens, adult	$AT_{nc,a}$	11	yrs
Averaging Time, noncarcinogens, child	$AT_{nc,c}$	10	yrs
Body Weight, adult	BW_a	70	kg
Body Weight, child	BW_c	40	kg
Conversion Factor	CF_d	1E-06	kg/mg
COPC Concentration in Soil	C_{soil}	chemical-specific	mg/kg
Fraction of EV in Contact with Soil	EC	1	unitless
Exposure Duration, adult	ED_a	11	yrs
Exposure Duration, child	ED_c	10	yrs
Exposure Frequency	EF	250	days/yr
Event Frequency	EV	1	events/day
Oral Reference Dose Adjusted for GI Absorption	RfD_d	chemical-specific	mg/kg-day
Exposed Body Surface Area, adult	SA_a	5700	cm^2
Exposed Body Surface Area, child	SA_c	2900	cm^2
Oral Slope Factor Adjusted for GI Absorption	SF_d	chemical-specific	$(mg/kg\text{-}day)^{-1}$

Equations:

Cancer Risk:

$$Risk = SF_d \times \left[C_{soil} \times \left(\frac{AF_a \times ABS_d \times EF \times ED_a \times SA_{s,a} \times CF_{s,d}}{BW_a \times AT_c \times 365\ day/year} + \frac{AF_c \times ABS_d \times EF \times ED_c \times SA_{s,c} \times CF_{s,d}}{BW_c \times AT_c \times 365\ day/year} \right) \right]$$

Noncancer Hazard:

$$Hazard = \frac{1}{RfD_d} \times \left[C_{soil} \times \left(\frac{AF_a \times ABS_d \times EF \times ED_a \times SA_{s,a} \times CF_{s,d}}{BW_a \times AT_{nc,a} \times 365\ day/year} + \frac{AF_c \times ABS_d \times EF \times ED_c \times SA_{s,c} \times CF_{s,d}}{BW_c \times AT_{nc,c} \times 365\ day/year} \right) \right]$$

Analyte	C_{soil} (mg/kg)	ABS_d (unitless)	SF_d $(mg/kg\text{-}day)^{-1}$	Cancer Risk (dimensionless)	% of Total	RfD_d (mg/kg-day)	Hazard Quotient (dimensionless)	% of Total
High Molecular Weight Polyaromatic Hydrocarbons (HMW PAHs)								
Benzo[a]anthracene	6.50E-02	1.30E-01	1.20E+00	2.06E-08	< 1%		--	--
Benzo[a]pyrene	1.10E-01	1.30E-01	1.20E+01	3.49E-07	12%		--	--
Benzo[b]fluoranthene	2.80E-01	1.30E-01	1.20E+00	8.88E-08	3%		--	--
Benzo[g,h,i]perylene	1.10E-01	1.30E-01		--	--	3.00E-02	6.59E-06	< 1%
Benzo[k]fluoranthene	5.60E-02	1.30E-01	1.20E+00	1.78E-08	< 1%		--	--
Chrysene	1.70E-01	1.30E-01	1.20E-01	5.39E-09	< 1%		--	--
Dibenz[a,h]anthracene	3.20E-02	1.30E-01	4.10E+00	3.47E-08	1%		--	--
Indeno[1,2,3-cd]pyrene	1.10E-01	1.30E-01	1.20E+00	3.49E-08	1%		--	--
Pyrene	1.10E-01	1.30E-01		--	--	3.00E-02	6.59E-06	< 1%
Low Molecular Weight Polyaromatic Hydrocarbons (LMW PAHs)								
Acenaphthene	4.00E-03	1.30E-01		--	--	6.00E-02	1.20E-07	< 1%
Acenaphthylene	4.70E-02	1.30E-01		--	--	6.00E-02	1.41E-06	< 1%
Anthracene	1.10E-01	1.30E-01		--	--	3.00E-01	6.59E-07	< 1%
Fluoranthene	1.09E-01	1.30E-01		--	--	4.00E-02	4.90E-06	< 1%
Fluorene	5.10E-03	1.30E-01		--	--	4.00E-02	2.29E-07	< 1%
Naphthalene	2.80E-03	0.00E+00		--	--	2.00E-02	0.00E+00	< 1%
Phenanthrene	2.80E-02	1.30E-01		--	--	3.00E-02	1.68E-06	< 1%
			Pathway Sums:	Cancer Risk 2.87E-06			Hazard Index 6.03E-01	

Table A11-4. Risk and Hazard Estimates: Dermal Contact with Soil, DTSC Recreational User (childhood and adulthood) Reasonable Maximum Exposure (RME) to Surface Soil (0-6" bgs), IR Site 24A, Former Naval Weapons Station Seal Beach Detachment Concord

Description	Variable	Value	
Dermal Soil Absorption Fraction	ABS_d	chemical-specific	unitless
Soil-to-Skin Adherence Fraction, adult	AF_a	0.07	mg/cm^2-day
Soil-to-Skin Adherence Fraction, child	AF_c	0.2	mg/cm^2-day
Averaging Time, Carcinogens	AT_c	70	yrs
Averaging Time, noncarcinogens, adult	$AT_{nc,a}$	11	yrs
Averaging Time, noncarcinogens, child	$AT_{nc,c}$	10	yrs
Body Weight, adult	BW_a	70	kg
Body Weight, child	BW_c	40	kg
Conversion Factor	CF_d	1E-06	kg/mg
COPC Concentration in Soil	C_{soil}	chemical-specific	mg/kg
Fraction of EV in Contact with Soil	EC	1	unitless
Exposure Duration, adult	ED_a	11	yrs
Exposure Duration, child	ED_c	10	yrs
Exposure Frequency	EF	250	days/yr
Event Frequency	EV	1	events/day
Oral Reference Dose Adjusted for GI Absorption	RfD_d	chemical-specific	mg/kg-day
Exposed Body Surface Area, adult	SA_a	5700	cm^2
Exposed Body Surface Area, child	SA_c	2900	cm^2
Oral Slope Factor Adjusted for GI Absorption	SF_d	chemical-specific	$(mg/kg\text{-}day)^{-1}$

Equations:

Cancer Risk:

$$Risk = SF_d \times \left[C_{soil} \times \left(\frac{AF_a \times ABS_d \times EF \times ED_a \times SA_{s,a} \times CF_{s,d}}{BW_a \times AT_c \times 365\ day/year} + \frac{AF_c \times ABS_d \times EF \times ED_c \times SA_{s,c} \times CF_{s,d}}{BW_c \times AT_c \times 365\ day/year} \right) \right]$$

Noncancer Hazard:

$$Hazard = \frac{1}{RfD_d} \times \left[C_{soil} \times \left(\frac{AF_a \times ABS_d \times EF \times ED_a \times SA_{s,a} \times CF_{s,d}}{BW_a \times AT_{nc,a} \times 365\ day/year} + \frac{AF_c \times ABS_d \times EF \times ED_c \times SA_{s,c} \times CF_{s,d}}{BW_c \times AT_{nc,c} \times 365\ day/year} \right) \right]$$

				Cancer			Hazard	
Analyte	**C_{soil}** (mg/kg)	**ABS_d** (unitless)	**SF_d** $(mg/kg\text{-}day)^{-1}$	**Risk** (dimensionless)	**% of Total**	**RfD_d** (mg/kg-day)	**Quotient** (dimensionless)	**% of Total**

"--" = data not available or not calculated

APPENDIX B
Ecological Risk Assessment

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EXECUTIVE SUMMARY

The results of this two-tiered ecological screening evaluation, based on the existing soil data for Installation Restoration (IR) Site 24A, Former Pistol Range (UX0001A) at Former Naval Weapons Station Seal Beach Detachment Concord located in Contra Costa, California, were used to develop risk-based cleanup goals to support the Engineering Evaluation/Cost Analysis (EE/CA). The ecological risk evaluation follows regulatory agency guidance to assess any impacts from chemical levels in the environment that may be harmful to wildlife and their food resources. The tiered ecological risk assessment (ERA) included four primary phases: 1) problem formulation; 2) estimates of exposure; 3) evaluation of ecological effects; and 4) risk characterization.

In the first phase, the different types of chemicals are evaluated to see whether different types of plants, invertebrates, and various wildlife species can come in contact with these chemicals. For instance, if a chemical is only found in deep soil, then most wildlife and plant root systems will not be exposed to it and no harm will occur to the environment. If a chemical is found to be in a form where exposure can occur, then the chemical concentration (phase 2) is compared to safe levels (phase 3). In some cases, mathematical calculations or dose levels are estimated to evaluate the potential for harm. In the final phase (risk characterization), the estimated amount of the chemical in the environment is divided by the safe level to estimate a "hazard quotient" (HQ). If the level in the environment is less than the agency level deemed as safe (the HQ is less than 1), then no further action is needed. The main difference between the first and second tier of the ERA is that more site-specific, refined assumptions regarding exposure and ecological effects are applied in Tier 2 for chemicals that are shown to be a potential problem based on the more conservative assumptions applied in Tier 1.

Because unsafe levels of lead, other metals, and lead pellets are present in soils at IR Site 24A and can cause harm when ingested as grit by birds, and because a removal action has already been established for this site by the United States Department of the Navy, cleanup goals were derived based on back-calculation of hazards (i.e., setting the dose equal to the selected safe toxicity level) for those chemicals of ecological concern (COECs) identified for each receptor of concern. The final cleanup goal was the lowest cleanup value for any wildlife species. These wildlife-based cleanup goals were then compared to the chemical levels measured in soil and lines were drawn around the clustered samples to define areas where soil removal was necessary. With the possible exception of a postremediation residual ERA to verify success of the removal action, no further risk assessment is needed for IR Site 24A.

The Tier 1 Screening Level ERA (SLERA) focused on development of an ecological conceptual site model (CSM) that included identification of ecological receptors at the site and selection of indicator species, identification of the relevant exposure pathways for the indicator species, and selection of measurement and assessment endpoints. In the SLERA, the maximum detected chemical concentrations were used as exposure point concentrations (EPCs) in the assessment of the potential chemical hazards for the indicator species. This comparison served as a screening process to identify the chemical of potential ecological concern (COPECs) from a full list of detected and/or nondetected chemicals that may require further risk evaluation in the Tier 2 Baseline ERA (BERA). Ecological hazards were only calculated for detected chemicals. COPECs are those chemicals that are determined, through this screening process, to have a potential to contribute to overall site risks because the maximum concentration exceeded a soil benchmark for plants or soil invertebrates or resulted in an estimated dose that exceeded a bird or mammal toxicity reference value (TRV). Both Low- and High-TRVs were considered. At the end of the Tier 1 SLERA, if any COPECs were identified, then these COPECs were further evaluated in the Tier 2 BERA. In addition to impacts from COPECs, impacts to birds from lead pellet ingestion were also considered.

The Tier 1 SLERA included a site visit to characterize the plant and animal communities at the site and to evaluate general habitat quality. The SLERA also included the development of an ecological CSM, selection of assessment and measurement endpoints, selection of COPECs, and a preliminary evaluation of ecological hazards. The site visit was used to assist in the identification of possible stressors and chemical exposure pathways and to assess whether the indicator species selected for other upland sites in the Inland area (e.g., IR Site 29) were appropriate for IR Site 24A. A query of the California Natural Diversity Database (CNDDB) was also performed at the Tier 1 stage to assess whether sensitive ecological receptors could be present at the site. The golden eagle (*Aquila chrysaetos*) and the ferruginous hawk (*Buteo regalis*) were the two bird species found to occur within a 1-mile radius of IR Site 24A. The golden eagle is not currently listed as threatened or endangered in the U.S., but is classified as fully-protected in California and is on the state Watch List. The ferruginous hawk is not currently listed as threatened or endangered in the U.S., but is also on the state Watch List.

California tiger salamanders (*Ambystoma californiense*) and California red-legged frog (*Rana draytonii*) have not been sighted within the boundaries of IR Site 24A, but have been documented within the 1-mile radius of the site. The California red-legged frog is currently a federally listed threatened species and is a state species of special concern. The California tiger

salamander is a federally and state listed threatened species at Concord. This information was extracted from the most recent list of threatened and endangered species prepared by California Department of Fish and Game (CDFG) (January 2011) and the CDFG special animals list (January 2011). The preservation of habitat for both species is considered a management goal, as noted in the Integrated Natural Resources Management Plan and Environmental Assessment (Tetra Tech 2002). Although these protected amphibian species have not been found at IR Site 24A, the rodent burrows at IR Site 24A potentially offer seasonal habitat for the salamanders and the drainage channel could potentially offer seasonal habitat for the salamanders and frogs. These species were also considered in this ERA. No special status mammals are known to occur within a 1-mile radius of the site. One special status reptile, the Alameda whipsnake, is known to occur within the general area, although precise sightings are not documented in the CNDDB. The whipsnake can occur in grassland habitats like those present at IR Site 24A, however conditions at the site may not be ideal for this species, which prefer scrub brushland with adjacent woods. In addition, the site was not included in the area designated as critical habitat for this species.

Based on the site visit, indicator species were selected for the Tier 1 SLERA for IR Site 24A to represent the following ecological receptor groups:

- Terrestrial plants
- Soil invertebrates
- Seasonal benthic invertebrates
- Amphibians and reptiles
- Avian omnivores (American robin)
- Avian carnivores (red-tailed hawk)
- Mammalian herbivores (California vole)
- Mammalian omnivores (western harvest mouse)
- Mammalian carnivores (grey fox)

Conservative exposure parameters identified from the natural life history and scientific literature and conservative thresholds for adverse ecological effects (soil benchmarks and TRVs) were used in the Tier 1 SLERA. With the exception of amphibians and reptiles, which were addressed qualitatively, HQs estimated in the SLERA were calculated based on the maximum detected concentration in soil across the entire site. The exit criteria for the SLERA fell into Category 2 for IR Site 24A because contaminant concentrations were found at concentrations greater than plant and invertebrate benchmarks and because HQs greater than 1 were noted for birds and mammals. In addition, potentially complete exposure pathways were identified for amphibians. Therefore, a Tier 2 BERA was performed.

The same indicator species identified for the Tier 1 SLERA were retained for the BERA. The primary difference between the Tier 1 and Tier 2 ERAs was the consideration of background levels of metals, the use of the 95 percent upper confidence limit of the mean (UCL95) as the EPC, refinement of other species-specific exposure parameters, as appropriate, and consideration of the frequency and spatial distribution of chemical detections in assessing the significance of the HQs greater than 1. COECs are those chemicals retained at the conclusion of the Tier 2 BERA.

The major findings of the ERA for IR Site 24A are summarized below:

- The primary COECs are metals in soil, whereas explosives and polycyclic aromatic hydrocarbons were generally not noted at ecologically significant concentrations. The presence of lead pellets and fragments also has the potential to pose a hazard to songbirds. The high concentrations of lead found in site soils suggests that lead pellets are degrading and are acting as an ongoing source of lead for soils in many areas of the site.

- No sensitive plant or special-status invertebrate species are noted within a 1-mile radius of this site. In the absence of special-status plant and invertebrate species, the screening benchmarks for these receptors, which are highly uncertain, were not considered in the development of cleanup goals. Likewise, the sediment benchmarks were not considered in the derivation of cleanup goals for the drainage channel, given this channel is a man-made feature that likely only seasonally contains suitable habitat for benthic species.

- Two federally and state protected amphibians have been identified within a 1-mile radius of IR Site 24A: the California red-legged frog and the California tiger salamander. The California tiger salamander and California red-legged frog could seek refuge in

abandoned ground squirrel and other small rodent burrows at the site (Smallwood and Morrison 2007; EDAW 2008) or may be seasonally present in the drainage channel. Although the likelihood of these species seeking refuge in burrows or the drainage channel containing temporary standing water is questionable, a semiquantitative evaluation of potential impacts to amphibians was performed to be protective of these threatened species. Benchmarks for the protection of amphibians were considered during the selection of cleanup goals for the site.

- No sensitive reptiles are known to occur on the site, although it is possible for one to be present. Dose-response data for reptile species are very limited and this assessment focused on a semiquantitative evaluation of hazards to amphibians, which is likely a conservative indicator species for reptiles. Concentrations of copper, lead and zinc were of potential concern to amphibians and may also pose a concern to reptiles. Cleanup goals protective of amphibians for these three metals were considered in the selection of final cleanup goals for IR Site 24A, and the assumption was made that these cleanup goals will also protect reptiles that may occur at the site.

- No sensitive omnivorous bird species are noted within a 1-mile radius of this site. The American robin was selected as the indicator species for this feeding guild. The concentrations of copper, lead and zinc resulted in HQs greater than 1 based on Low-TRVs in the Tier 2 BERA. The cleanup goals for the robin for copper, lead and zinc were the lowest values for any receptor group. This receptor group is also likely to ingest lead pellets. All locations with visible pellets were targeted for remedial action.

- Golden eagle and the ferruginous hawk, both predatory birds, are the sensitive bird species known to occur within a 1-mile radius of IR Site 24A. The red-tailed hawk was selected as an indicator species to evaluate impacts of chemicals on carnivorous birds at IR Site 24A. The red-tailed hawk is a very common resident species with more abundant life history data, is smaller in size, and has a smaller home range than the Golden eagle, which makes it an appropriate indicator species. No HQs greater than 1 (using the United States Environmental Protection Agency Ecological Soil Screening Level TRV for inorganic lead) were calculated based on the Low-TRV for the hawk in the Tier 2 BERA. As such, no cleanup goals in soil were derived for predatory birds for IR Site 24A.

- While California ground squirrels were common throughout the site, no sensitive burrowing or herbivorous mammal species are noted within a 1-mile radius of this site. The California vole was selected as a representative species for both herbivorous

mammals and burrowing mammals. The Low-TRV HQs for dietary pathways for the vole were greater than 1 for seven metals. The cleanup goal for the vole for molybdenum was the lowest value for any receptor group. However, the cleanup goal for molybdenum was greater than the maximum detected concentration and molybdenum did not affect the recommended cleanup area (no remediation warranted).

- No sensitive omnivorous mammal species are noted within a 1-mile radius of this site. The western harvest mouse was selected as the indicator species for this feeding guild. Eight metals resulted in HQs greater than 1 based on Low-TRVs and cleanup goals were derived for each of these metals. The cleanup goals for the mouse for antimony, arsenic, cadmium and selenium were the lowest values for any receptor group.

- No sensitive carnivorous mammal species are noted within a 1-mile radius of this site. The grey fox was selected as the indicator species for this feeding guild. No HQs greater than 1 were calculated based on the Low-TRV for the fox in the Tier 2 BERA. As such, the chemical goals in soil at IR Site 24 do not appear to pose a significant health threat to carnivorous mammals.

- Selected metals (primarily antimony, lead, copper, and zinc) were found to pose a current or future potential hazard to ecological receptors at the site. Cleanup goals were developed and recommended areas of cleanup were identified. In addition, the presence of lead pellets was presumed to pose a risk to songbirds that could ingest soil as grit to aid in digestion and removal of soils containing lead pellets at the site is recommended. The cleanup goals based on lead shot density vary according to site conditions, but generally fall in the range of 3 to13 shot pellets per square foot stated in the Massachusetts Department of Environmental Protection guidance that can be used as a recommended cleanup goal (MADEP 2009). The approximate areas identified based on protection of ecological receptors assume that removal (excavation) is the preferred remedial action. If removal is selected as the preferred remedial alternative, confirmation samples would need to be collected to confirm that the selected cleanup goals are met.

- In addition to the chemical hazards at the site, several site features pose an attractive nuisance at the site. In addition to unsecured doors and windows in the conex and trailer that attracts nesting songbirds, a woodpile adjacent to one of the conex structures could attract rodents to the site.

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ACRONYMS AND ABBREVIATIONS

AFB	Air Force Base
AOEC	area of ecological concern
BAF	bioaccumulation factor
BERA	baseline ecological risk assessment
bgs	below ground surface
BTAG	Navy-Biological Technical Advisory Group
CDFG	California Department of Fish and Game
CNDDB	California Natural Diversity Database
COEC	chemicals of ecological concern
COPEC	chemicals of potential ecological concern
CSM	conceptual site model
DTSC	Department of Toxic Substances Control
Eco-SSL	ecological soil screening level
EE/CA	engineering evaluation/cost analysis
EIR	environmental impact report
EPC	exposure point concentration
ERA	ecological risk assessment
ESL	Environmental screening level
HQ	hazard quotient
IR	Installation Restoration
kg	kilogram
kg/day	kilograms per day
LOAEL	lowest observed adverse effect level
LOEC	low observed effect concentration
MDL	method detection limit
mg/kg	milligrams per kilogram dry weight
mg/kg-day	milligrams per kilogram body weight per day dry weight
mm	millimeter
MRL	Method reporting limit
NAVWPNSTA Concord	Naval Weapons Station Seal Beach Detachment Concord
Navy	United States Department of the Navy
NOAEL	no observed adverse effect level
NOEC	no observed effect concentration
ORNL	Oak Ridge National Laboratory
PAH	polycyclic aromatic hydrocarbon
QA/QC	quality assurance/quality control
RI	remedial investigation
SI	site investigation

SLERA	screening level ecological risk assessment
SUF	site use factor
TEC	threshold effects concentrations
TRV	toxicity reference value
UCL95	95 percent upper confidence limit of the mean
USEPA	United States Environmental Protection Agency

B-1.0 INTRODUCTION

Former Naval Weapons Station Seal Beach Detachment Concord (NAVWPNSTA Concord) is located in Concord in north-central Contra Costa County, approximately 30 miles northeast of San Francisco, California (Figure 1-1 of the main engineering evaluation/cost analysis [EE/CA] report). The facility was an ocean shipping terminal historically used to transfer ordnance from trucks or railcars to ships and from ships to land transportation vehicles. Former NAVWPNSTA Concord is bounded on the north by Suisun Bay, on the east by private land and the City of Pittsburg, and on the south and west by the City of Concord. The facility encompasses almost 13,000 acres in two holdings: the Inland Area and the Tidal Area. This ecological risk assessment (ERA) was prepared to address IR Site 24A, which is located within the south-central portion of the Inland Area on Wildon Road between Buena Vista Street and Kinne Boulevard (see Figure 1-1 of the main EE/CA report).

The former pistol range and 40-mm (millimeter) grenade impact area covers approximately 2.5 acres (Photos B-1 and B-2 in Attachment B-1). The site consists of a target berm, a firing line (on an east to west axis), a classroom/office trailer, conex boxes, bleachers in disrepair, a wood pile (Photos B-2 and B-3), storage sheds and an observation canopy. A retaining wall is located near the target berm. An unpaved road connects the site to the main road and access is gained through a gate.

Direction of fire was from the southwest toward a target berm and grenade impact area (Photo B-4). The range was active from the early 1950s until 2005 and is currently inactive. There are no ponds, springs, or other water sources within the site boundaries. Run-off from the site generally collects in the drainage channel that runs along the southern perimeter of the site (Photo B-5), then drains to the southwest where it connects to the abandoned Clayton Canal (Photo B-6) about 500 feet away and ultimately discharges to Galindo Creek approximately 2 miles southwest of IR Site 24A. The berms surrounding the range floor contain numerous California ground squirrel (*Spermophilus beecheyi*) and other small mammal burrows (Photos B-7 and B-8) and squirrels (Photo B-9). Other evidence of wildlife usage includes the presence of invertebrates such as the darkling beetle of the genus (Eleodes) (Photo B-10) and coyote (*Canis latrans*) scat (Photo B-11).

Previous site investigations for IR Site 24A are described in detail in Section 2.0 of the EE/CA report. This ecological screening evaluation was performed using the available soil data. The data used in this ERA are discussed in more detail in Section 2.1.4.1.

This ERA was conducted in accordance with Department of the Navy (Navy) policy (Navy 1999; 2004a; 2004b), California Environmental Protection Agency (Cal/EPA) Department of Toxic Substances Control (DTSC) guidance (DTSC 1996a; 1998) as well as United States Environmental Protection Agency (USEPA) guidance (USEPA 1997; 1998; 2001). An ERA workplan for IR Site 24A was not developed. However, the ERA for IR Site 24A generally follows the methodology for IR Site 29 described in the approved Final Work Plan for the Remedial Investigation at Installation Restoration Site 29 (Final Work Plan) (SulTech 2007). Navy policy for conducting ERAs identifies a multi-tiered approach that incorporates different levels of complexity (Navy 1999; 2004b):

- Tier 1 – Screening Level ERA (SLERA)
- Tier 2 – Baseline ERA (BERA)

The Tier 1 SLERA is generally equivalent to a DTSC Scoping Assessment and the Tier 2 BERA is analogous to Steps 1 and 2 and Steps 3 through 7 of the USEPA guidance. When conducting a Tier 1 SLERA, the primary objective of Step 1 is to evaluate whether a complete exposure pathway is present between each chemical of interest and the ecological receptors selected for the evaluation. In Step 2, risks are estimated for the chemicals with complete exposure pathways that were identified in Step 1. Risks are estimated by comparing chemical concentrations directly with media-based threshold values, or by modeling chemical doses to ecological receptors and comparing the dose estimates with threshold dose values. No unacceptable risks are expected below no-effects-based threshold values. Potential unacceptable risks are indicated for chemicals that occur at concentrations or doses that exceed the threshold values.

For each site, there are three potential outcomes of the Tier 1 SLERA:

- Ecological risks are acceptable, and no further ERA is necessary.
- Potential unacceptable risks are indicated, additional ERA is warranted, and the ERA process proceeds to Tier 2.
- Potential unacceptable risks are indicated, and accelerated site remediation (based on cost effectiveness) is initiated.

If chemicals at the site are identified in Tier 1 as posing potential unacceptable risks based on the conservative assumptions used in the SLERA, the site will proceed to a Tier 2 BERA. The Tier 2 BERA evaluates site-specific data and is technically rigorous (and much less conservative) than the Tier 1 SLERA. The Tier 2 BERA begins by refining the conservative exposure assumptions employed in the Tier 1 SLERA and recalculating the Tier 1 risk estimates. This refinement step is referred to as Step 3a (Navy 2004b; 2004c). For the purposes of this EE/CA, if HQs greater than 1 were generated based on the Low- toxicity reference value (TRV) for a given amphibian, bird or mammal receptor, then risk-based cleanup goals were derived for those chemicals of potential ecological concern (COPECs) for that receptor. With the possible exception of a postremediation residual ERA to verify success of the removal action, no further risk assessment is needed for IR Site 24A.

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B-2.0 TIER 1 SLERA

This SLERA includes four primary phases: 1) problem formulation; 2) estimates of exposure; 3) evaluation of ecological effects; and 4) risk characterization. An ecological conceptual site model (CSM) was developed during the problem formulation phase to help understand exposure at the site and to assist in selecting assessment and measurement endpoints. Conservative exposure parameters are identified from the natural life history and scientific literature during the exposure estimate phase for representative receptors that were established in the problem formulation phase. Contaminant exposure levels that represent conservative thresholds for adverse ecological effects are identified from the toxicological literature during the ecological effects evaluation. Finally, the potential risks to selected assessment endpoints associated with the site are conservatively estimated during the risk characterization phase.

B-2.1 TIER 1 STEP 1: PROBLEM FORMULATION

Problem formulation establishes the goals and endpoints to assist in focusing the risk assessment. A site visit was conducted on August 9, 2010 to document the species and habitats currently found on IR Site 24A (Attachment B-2). The primary objective of the site visit was to characterize the plant and animal communities at the site and to investigate the presence or potential presence of protected species or sensitive habitats. Secondary objectives included evaluating potential habitat values and identifying the possible stressors and chemical exposure pathways in the environment. This assessment of whether complete exposure pathways and suitable habitat exist for representative receptors potentially present at the site was used to support the development of a CSM. The ecological CSM, the end product of the problem formulation phase, identifies ecological receptors that may occur on the site including any species of special-status, the indicator species to be evaluated in the risk assessment, and the potentially complete exposure pathways. The assessment and measurement endpoints are also presented in this step.

B-2.1.1 Site Setting and Habitats

IR Site 24A is classified as a grassland habitat and is enclosed within a three-strand barbed wire fence (BAI 2010). Cattle grazing has occurred on the site as evidenced by numerous cow patties during the 2010 site visit. The range floor slopes upward to the northeast and is lightly vegetated by brush and grasses and is moderately cluttered with target debris, small arms casings, and other items. The range floor is surrounded on three sides with berms that are utilized by California ground squirrels and other burrowing rodents. The berm on the eastern portion of the site was

used as the backstop for the firing range and is referred to as the target berm or backstop in this report. This berm is reinforced with a wood retaining wall. In the late 1970s or early 1980s, the berm was reportedly capped with soil of unknown thickness to create the current target berm (Tetra Tech 1997). Visible target debris and shot was noted at the surface of this berm during the 2010 site visit.

The terrain beyond the target berm rises abruptly some 300 feet above the range floor (BAI 2010) and was used for training for launching 40-mm grenades. This grenade impact area is vegetated with grasses, which limits the potential for surface runoff down the slope. The nearest apparent surface-water feature is the Clayton Canal, approximately 500 feet west and downhill of IR Site 24A. The Clayton Canal and its right of way is owned by the U.S. Bureau of Reclamation, but is managed by the Contra Costa County Water District (CCRP 2010). The canal's use as a conveyance was discontinued more than 20 years ago, and there are no plans to put it back in service (CCRP 2010). The seasonal drainages that flow out of the hills in the eastern part of the former NAVWPNSTA Concord convey flow ephemerally or intermittently (CCRP 2010), as would the drainage channel on IR Site 24A, but it is unknown whether site-specific runoff has reached the Clayton Canal. Five 40-mm grenade targets consisting of 1-foot by 1-foot poles that stand approximately 7-feet high are found with the grenade impact area (BAI 2010). These posts have the potential to be used as perches for flycatching birds, as does the metal structure located on the range floor near the firing line. As noted in the biological survey (Attachment B-2), the temporary structures were utilized by nesting birds and insects such as paper wasps (*Polistes sp.*). The pile of lumber adjacent to the conex box (Photo B-3) provides suitable habitat for rodents such as mice and rats.

The future land use is unlikely to significantly impact the existing site habitats. In the Final Environmental Impact Report (EIR) for the Concord Community Reuse Project that was approved by the City of Concord in February 2010, the "Clustered Villages" alternative was selected as the preferred reuse and redevelopment plan for the former NAVWPNSTA Concord. In this selected plan, IR Site 24A falls within the area designated as Open Space, located to the east of Mt. Diablo Creek (Figure 2-1, Concord Community Reuse Project [CCRP] 2010). According to the EIR, "Open Space uses include more passive recreation (hiking/biking) on overall unimproved terrain and land for habitat protection and restoration." (CCRP 2010).

B-2.1.2 Receptor Identification

Ecological receptors of interest were identified by evaluating the type and quality of habitats noted during the August 2010 biological survey, information from previous biological reports (e.g., EDAW 2008), and the results of the CNDDB search. The ecological site survey included a single site visit. The survey findings are included as Attachment B-2. A query of the CNDDB was performed on July 3, 2010. The full output from the 2010 CNDDB search, is presented as Attachment B-3 to this Appendix.

In addition to the biological survey performed on August 9, 2010, flora and fauna information was also reviewed in Tetra Tech 2002, EDAW 2008, Downard et al. 1999, and Smallwood and Morrison 2007.

B-2.1.2.1 Sensitive Species and Habitats

The CNDDB provides information on location, status and natural history of rare or endangered plants, animals, and habitats. The CNDDB is part of a nationwide network of natural heritage programs that is integrated with Geographic Information Systems and is maintained by the Habitat Conservation Division of the California Department of Fish and Game (CDFG). Only actual sightings of species or species previously known to be present on a given site are recorded. The California Native Plant Society is a major contributor to the database, as well as universities and other users of the CNDDB. The CNDDB was searched to identify listed species and sensitive habitats that have been observed in the vicinity of IR Site 24A. Definitions of the terms used to designate special status plant species are provided in the footnotes of Table B-1.

Attachment B-3 presents the complete CNDDB report output file. As per DTSC guidance (DTSC 1996b), sensitive species that specifically occur within a 1-mile radius of the site are noted. Two United States Geologic Survey quadrangles (Clayton and Honker Bay) fall within a 1-mile radius of IR Site 24A. As a result, species from distant areas and from habitats that are not found on IR Site 24A are represented in these quadrangles. The site itself falls within the Clayton Quadrangle. Because the CNDDB records spanning the two quadrangles represent 117 pages, and because plants are immobile, the summary table for the CNDDB search included only those plants from the Clayton Quadrangle. All animal species from the two quadrangles were included on the summary table and an evaluation of whether suitable habitat or prey could be present was performed to determine if the species was likely to be affected from site contamination. A total of 22 animal species were noted within the CNDDB database within the Clayton and Honker Bay Quadrangles that overlap a 1-mile radius of IR Site 24A, while 29 plant species were noted

within the Clayton Quadrangle that encompasses the site, including one endangered plant species that was noted in the Clayton Quadrangle. Of the animal species, there are 3 species of invertebrates, 2 species of amphibians, 2 species of reptiles, 10 species of birds, and 5 species of mammals.

Figure B-1 provides the extent of the 1-mile radius around IR Site 24A. Based on the CNDDB search, the golden eagle (Aquila chrysaetos), California tiger salamander (Ambystoma californiense), California red-legged frog (Rana draytonii), and the ferruginous hawk (Buteo regalis) occur within a 1-mile radius of IR Site 24A.

The reported occurrences of the special-status species documented in the CNDDB database were reviewed for the following:

- In relation to a 1-mile radius of IR Site 24A and the associated quadrangles
- With respect to their habitat requirements as compared to habitats noted during the 2010 biology survey
- To assess the likelihood of exposure, and
- Identify any potential impacts on receptor selection.

These factors are discussed for each receptor group identified within the CNDDB in the following paragraphs.

Invertebrates

One butterfly (San Bruno elfin butterfly; *Callophrys mossii bayensis*), one snail (Bridges' coast range shoulderband; *Helminthoglypta nickliniana bridgesi*), and one crustacean (vernal pool tadpole shrimp; *Lepidurus packardi*) species are reported to occur in Clayton and/or the Honker Bay Quadrangle. The San Bruno elfin butterfly is a federally listed endangered butterfly. This butterfly has been documented at the summit of Mount Diablo and is generally found at high elevations, such that its presence on or near the site is improbable. The Bridges' coast range shoulderband tends to colonize under tall grasses and weeds, but the documented sighting was noted on Mount Diablo, not on former NAVWPNSTA Concord. While suitable habitat for the snail may be present on or near the site, its presence is highly unlikely based on locations cited in the CNDDB. The vernal pool tadpole shrimp is a federally listed endangered crustacean. This crustacean has been documented in Montezuma (Honker Bay Quad) and is generally found in

vernal pools and swales in the Sacramento Valley. Based on the 2010 biological survey, seasonal wetlands or vernal pool are unlikely at IR Site 24A making the habitat unsuitable for the crustacean, its presence is highly unlikely. Because dose-response data for adult invertebrate species are very limited, toxicological impacts are usually addressed using nonspecies specific benchmarks, typically for insect larvae and earthworms. This receptor group is evaluated as a community at IR Site 24A, rather than focusing on a single invertebrate species.

Amphibians

Two species of amphibians were noted within the 1-mile radius of IR Site 24A based on the CNDDB search: the California red-legged frog (*Rana draytonii*) and the California tiger salamander (*Ambystoma californiense*). The California red-legged frog is currently a federally listed threatened species and is a state species of special concern, while California tiger salamanders are federally and state listed threatened species at Concord. This information was extracted from the CDFG's most recent list of threatened and endangered species (January 2011) and CDFG's special animals list (January 2011). The preservation of habitat for both species is considered a management goal, as noted in the Integrated Natural Resources Management Plan and Environmental Assessment (Tetra Tech 2002).

California red-legged frogs primarily require permanent nearby fresh water. The frog has been observed in ponds on former NAVWPNSTA Concord property, within Seal Creek, and the closest sighting documented in the CNDDB is approximately 3,000 feet from IR Site 24A (Downard et al. 1999). High quality breeding habitat for red-legged frogs at former NAVWPNSTA Concord is found at the freshwater ponds approximately 2,000 feet east-southeast (Indian Springs Pond) and 4,000 feet southeast (Cistern Pond) from IR Site 24A. Red-legged frogs and frog eggs have been counted at these pond locations on several occasions (Downard et al. 1999). Most of IR Site 24A is open grassland with some rodent burrows that could potentially serve as seasonal habitat for the red-legged frog. The site and nearby areas were dry during the August 2010 biological survey.

California tiger salamanders are commonly found at the Hilltop Ponds (Ponds 113, 114 and 115) and the Cistern Pond (Pond 110) located approximately 3,000 feet and 4,000 feet to the east and southeast, respectively of IR Site 24A. California tiger salamanders have been known to spend the majority of their time in burrows created by rodents, or in dark, moist places under buildings, old pipes, rip-rap, *etc*. (EDAW 2008).

Although California tiger salamanders and California red-legged frogs have not been sighted in the immediate vicinity of IR Site 24A, the rodent burrows at IR Site 24A could potentially offer seasonal habitat for these amphibian species. The burrow concentration data collected during recent salamander surveys indicate small burrow densities in the vicinity of IR Site 24A, with the closest area of higher burrow concentrations approximately 2,500 feet west of the site (Figure 4 in EDAW 2008).

Reptiles

Of the two reptile species reported in the CNDDB, two were noted in the Clayton Quadrangle: the Alameda whipsnake (*Masticophis lateralis euryxanthus*) and the coast horned lizard (*Phrynosoma blainvillii*). The Alameda whipsnake is federally and state listed as a threatened snake. The snake has been noted within the Clayton Quad and has the potential for occurring within the 1-mile radius of the site. Rodent burrows and grassland habitat utilized by this species occurs at this site. However, in 2006, the United States Fish and Wildlife Service published a final rule designating 6 units encompassing 154,834 acres in California's East Bay as critical habitat for the federally threatened Alameda whipsnake (50 California Federal Code of Regulation part 17, 2006). None of these units lie within the former NAVWPNSTA Concord property. In addition, the Alameda whipsnake typically inhabits scrub brushland with adjacent woods or grasslands. There is no scrub brushland at IR Site 24A.

Likewise, the two sightings of the coast horned lizard occurred in chaparral habitat that is distant from the former NAVWPNSTA Concord. Given the documented locations and lack of suitable habitat, the coast horned lizard is unlikely to be found on IR Site 24A.

Birds

The only two sensitive bird species located within a 1-mile radius of IR Site 24A are the golden eagle (*Aquila chrysaetos)* and the ferruginous hawk (*Buteo regalis*). The golden eagle is not currently listed as threatened or endangered in the U.S., but is classified as fully-protected in California. Both birds are on the state Watch List. The eagle's diet consists primarily (80 to 90 percent) of small- to medium-sized mammals, including hares and ground squirrels such that foraging on IR Site 24A is possible (Conservation Status Report 2007). The golden eagle was not observed at or near the site during the August 2010 biological survey, but it was reported that a nest is located east of the site in a stand of eucalyptus trees. A ferruginous hawk was noted on the former NAVWPNSTA Concord in December 2006, 1.25 miles north of the intersection of Bailey Road and Myrtle Drive. Ferruginous hawks are an uncommon winter resident in

California (Zeiner et al. 1990). The hawk's preferred food of lagomorphs, ground squirrels and mice as well as reptiles, amphibians, and birds (Zeiner et al. 1990) are present on and near IR Site 24A such that this raptor species could seasonally forage on or near the site. Eight other special-status birds were noted in the CNDDB search, with only one other avian species occurring in the Clayton Quadrangle (burrowing owl).

Four distinct areas are defined for the locations of the burrowing owls (*Athene cunicularia*) in the database (Figure B-1), and none of the locations are found on former NAVWPNSTA Concord property. While rodent burrows that can be used by burrowing owls were found on the site, no whitewash at the entrance of any burrow was noted during the 2010 biological survey. Nonetheless, the owl's preferred food of small mammals, insects, reptiles and birds (Zeiner et al. 1990) is likely present within the site boundaries. Of the seven remaining special-status bird species noted in the database, four species (two rail species [*Laterallus jamaicensis coturniculus* and *Rallus longirostris obsoletus*], the Suisun song sparrow [*Melospiza melodia maxillaries*] and yellowthroat [*Geothlypis trichas sinuosa*]) reside in saltmarsh habitats not found on or near IR Site 24A. Likewise, the tri-colored blackbird (*Actinemys marmorata*) prefers marshland and tules for nesting. The California least tern (*Sternula antillarum browni*) was noted in three locations in Honker Bay Quadrangle and suitable nesting or foraging habitat for this species is not present on or near IR Site 24A. While suitable grassland habitat and prey for the short-eared owl (*Asio flammeus*) is possibly present at IR Site 24A, this species has only been noted on Grizzly Island in the Honker Bay Quadrangle and prefers marshlands for breeding.

Mammals

No sensitive mammal species were identified within a 1-mile radius of the site. A total of three sensitive mammal species were identified during the CNDDB search, two of these sensitive species of mammal (Pallid bat *Antrozous pallidus*) and San Joaquin kit fox [*Vulpes macrotis mutica*]) were noted within the Clayton Quadrangle. The pallid bat prefers rocky outcrops for roosting that are not present on IR Site 24A. None of the specific CNDDB records for the pallid bat suggest their presence on the former NAVWPNSTA Concord. A bat survey conducted in 1994 by Kuenzi and Morrison, did not capture or result in bat observations (Tetra Tech 2002). No bats were captured during surveys conducted between July 1998 and August 1999, but bat activity at five locations within the Inland Area was noted (Tetra Tech 2002), suggesting transient foraging by the pallid bat could potentially occur on IR Site 24A. The San Joaquin kit fox has been noted at Black Diamond Mines in the Pittsburg area. Its presence on IR Site 24A is unlikely.

The salt marsh harvest mouse (*Reithrodontomys raviventris*) lives in saltmarsh habitats not found on or near IR Site 24A. The Berkeley kangaroo rat (*Dipodomys heermanni berkeleyensis)* has only been noted on Mount Diablo, near the summit and its presence on or near IR Site 24A is unlikely. The San Joaquin pocket mouse (*Perognathus inornatus inornatus*) is typically found in a mixture of grasslands and scrub with no ground squirrels. The two CNDDB records note the pocket mouse was found at Black Diamond Mines and between Port Chicago Highway and Ambrose Road in Honker Bay Quadrangle, suggesting its presence at the site in unlikely.

Terrestrial Plants

No sensitive plant species are known to occur on the site. The CNDDB search indicated that one endangered plant species, the large-flowered fiddleneck (*Amsinckia grandiflora*), was found within the Clayton Quadrangle, but not found within a 1-mile radius of the site.

In summary, the following ecological receptor groups are potentially present at or near IR Site 24A:

- Terrestrial plants
- Soil and seasonal benthic invertebrates (e.g., earthworms and beetles)
- Amphibians (e.g., frogs, salamanders) and reptiles (lizards)
- Mammalian herbivores (e.g., voles, ground squirrels)
- Avian, reptilian, and mammalian omnivores (e.g., mice, sparrows, meadowlarks, lizards)
- Top-level avian and mammalian predators (e.g., coyote, owls, hawks and other raptors).

These receptor groups represent the major types of trophic levels present and reflect the fundamental feeding strategies adopted by terrestrial birds and mammals and were used to select the indicator species for the SLERA.

B-2.1.2.2 Identification of Indicator Species

There are no discharge points for groundwater into surface water and groundwater is not considered a medium of concern. Therefore, no aquatic receptors were identified as indicator species.

Terrestrial Plants

No sensitive plant species are noted within a 1-mile radius of this site. During the 2010 biological survey, the vegetation tended to be disturbed/ruderal species and no stressed vegetation was noted. Toxicological evaluation of plants does not tend to be specific for a given plant species and selection of a site-specific plant species as a receptor of concern for this receptor group was not considered warranted. However, evaluation of this receptor group is recommended to address impacts to the food chain based on the assessment endpoints.

Soil Invertebrates

Although no special-status soil invertebrate species are present, soil invertebrates play an important ecological role in nutrient recycling and in food webs. While selection of a site-specific invertebrate species as a receptor of concern for this receptor group was not considered warranted, evaluation of this receptor group was performed to address impacts to the food chain based on the assessment endpoints.

Benthic Invertebrates

Although no special-status benthic invertebrate species are known to be present in the drainage channel, which does not offer a permanent source of water (i.e., habitat) for this receptor group, benthic invertebrates play an important ecological role in nutrient recycling and in food webs. While selection of a site-specific invertebrate species as a receptor of concern for this receptor group was not considered warranted, evaluation of this receptor group was performed to address impacts to the food chain based on the assessment endpoints.

Amphibians

Two special-status species of amphibians were noted in the CNDDB search: the California red-legged frog and the California tiger salamander. Because dose-response data for amphibian species is very limited, potential impacts for this receptor group are addressed qualitatively at the Tier 1 level and comparisons to screening benchmarks were performed in the Tier 2 BERA due to the presence of potentially complete pathways.

Reptiles

No sensitive reptiles are known to occur on the site, although it is possible for one to be present. Like amphibians, birds and mammals, reptiles are potentially exposed to contaminants through their prey. Ecological risks to reptiles are generally not addressed through a direct, quantitative evaluation because dose-response data for reptile species is very limited. Reptiles have generally slower metabolic rates than do birds and mammals and may be expected to ingest less food and

receive less exposure to chemicals in food than would birds and mammals. In addition, amphibians are likely more susceptible to contaminant exposure. Therefore, a reptile species was not selected for quantitative evaluation.

Birds

The special-status bird species known to occur within a 1-mile radius of the site are the golden eagle and the ferruginous hawk. During the 2010 biological survey of IR Site 24A and the surrounding area, the overhead wires were utilized by a single American pipit (*Anthus rubescens*) and several mourning doves. A red-tailed hawk (*Buteo jamaicensis*) kiting/foraging over the site was observed. Songbird scat was noted atop the metal structure on the pistol range floor and on the bleachers. Possible owl pellets were noted on the trailer floor. A quick examination of one of these "pellets" showed it was comprised mostly of vegetation and lacked the rodent bones of a typical owl pellet. Other species observed in the general vicinity included western meadowlarks (*Sterna neglecta*), American kestrel (*Falco sparverius*), rock pigeon (*Columbia livia*), a turkey vulture (*Cathartes aura*), black phoebe (*Sayornis nigricans*), white-tailed kite (*Elanus caeruleus*), northern harrier (*Circus cyaneus*) common crow (*Corvus corax),* barn swallow *(Hirundo rustica),* and cliff swallow (*Hirundo pyrrhonota*). Given the presence of multiple bird species on or near IR Site 24A, terrestrial birds, particularly upland songbirds and birds of prey, are receptors of concern. As such, two species of birds were selected as indicator species for the SLERA to represent these feeding guilds:

- American robin (*Turdus migratorius*) was selected as a representative species for omnivorous birds
- A red-tailed hawk (*Buteo jamaicensis*) was selected as a representative species for carnivorous birds.

Mammals

During the 2010 ecological site visit, numerous burrows typical of the California ground squirrel were noted in and around the berm areas Coyote scat was noted on the range floor and on the southern berm. A coyote was also sighted south of the site in the rangeland used by the cattle. Although no cattle were present on the site itself, evidence of bovine presence in the form of cow patties was prevalent. Bat activity at five locations within the Inland Area was noted during a 1999 survey (Tetra Tech 2002), suggesting foraging by bats could potentially occur on IR Site 24A. In addition to the sensitive species, bat species whose distributions and general environments overlap the former NAVWPNSTA Concord include California myotis (*Myotis*

californicus), long-legged myotis (*M. volans*), long-eared myotis (*M. evotis*), Yuma myotis (*M. yumanensis*), western red bat (*Lasiurus blossevillii*), big brown bat (*Eptesicus fuscus*), western pipistrelle (*Pipistrellus hesperus*), Townsend's big-eared bat (*Corynorhinus townsendii*), and the Brazilian free-tailed bat (*Tadaria brasiliensis*) (Tetra Tech 2002). Bats probably forage in the vicinity of the site, but their exposure duration is likely transient and their main source of food, i.e., airborne insects, has little contact with soil-bound contaminants limiting the potential for exposure through food items. Therefore, any exposure dose to bats from site-related contamination would be relatively low.

Other mammals potentially occurring at the site include the deer mouse (*Peromyscus maniculatus*), western harvest mouse (*Reithrodontomys megalotis*), and California vole (*Microtus californicus*) (Tetra Tech 2002). Three species of mammals were selected as indicator species for the SLERA to represent the various feeding guilds, as follows:

- The California vole (*Microtus californicus*) was selected as a representative species for herbivorous mammals.
- The western harvest mouse (*Reithrodontomys megalotis*) was selected as a representative species for omnivorous mammals.
- The grey fox (Urocyon cinereoargenteus) was selected as a representative species for carnivorous mammals. The fox has a smaller home range than other large mammals observed at the site (e.g., coyote) (Zeiner et al. 1990) and, therefore, is potentially likely subject to a higher level of exposure to site media.

B-2.1.3 Identification of Complete Exposure Pathways

Potentially complete exposure pathways must meet specific criteria for an exposure to occur. Aside from necessary habitat for ecological receptors, a complete exposure pathway must satisfy the following elements:

- Contaminant source (e.g., chemicals in soil)
- Mechanism for contaminant release and transport (e.g., surface-water runoff)
- Exposure medium (e.g., soil)
- Route of exposure (e.g., ingestion)

- Receptor (e.g., plant, bird, or mammal).

Depth to groundwater at the site is unknown (BAI 2010). Regionally, groundwater beneath the Inland Area commonly resides in the coarser sand and gravel units of unconsolidated alluvial deposits (Tetra Tech 2005) with groundwater being first encountered at depths of approximately 25 to 50 feet below ground surface (bgs) under semi-confined to confined conditions. However, locally perched conditions appear to exist.

The ephemeral Seal Creek drainage is located approximately 0.4 miles south of IR Site 24A. Flow in Seal Creek along the Inland Area is intermittent and occurs primarily during the winter rainy season and dries out completely during the summer months (Natural Heritage Institute 2006) (Photo B-6). This seasonal creek is separated from IR Site 24A by Clayton Canal and by a roadway such that overland flow to the creek is not considered a significant migration pathway.

As noted in the ecological CSM (Figure B-2), the following exposure pathways were considered complete exposure pathways and selected for quantitative evaluation:

- Uptake of or dermal contact with chemicals in soil (plants and invertebrates). Ingestion of soil by terrestrial invertebrates is also complete exposure pathway.

- Uptake of or dermal contact with chemicals in seasonally inundated soils in the drainage channel by benthic invertebrates.

- Ingestion of chemically impacted soil or prey or dermal contact with chemicals in soils of ground squirrel and other small mammal burrows or soil seasonally-inundated soils in the drainage channel by amphibians.

- The dose assessment for higher-trophic-level receptors such as birds and mammals assumes that ingestion of contaminated prey (e.g., food-chain exposure) and soil is the dominant exposure route and that the contributions of direct dermal contact is negligible (Suter 1993).

Figure B-3 presents the interrelationships between chemical transfer through ingestion of food items at different levels of the food chain within the ecosystem. Chemicals released through soil, seasonal sediment or surface water can traverse each trophic level to simulate chemical transfer or, in some cases, biomagnification from primary and secondary producers to top predators. For IR Site 24A, chemical uptake into the primary food resources include terrestrial plants, soil and, seasonally, benthic invertebrates. These organisms can then be consumed by

amphibians, omnivorous reptiles, songbirds (American robin), and small mammals (California vole and western harvest mouse), which in turn can be consumed by predators, including carnivorous reptiles (snakes), carnivorous mammals (grey fox), and predatory birds (red-tailed hawk).

B-2.1.4 Ecological Endpoints

USEPA defines an assessment endpoint as an "explicit expression of an environmental value to be protected" (USEPA 1998). Various definitions of valuable ecological resources include those without which ecosystem function would be significantly impaired; those that provide critical resources, such as habitat; and those perceived by humans as valuable, such as endangered species. Useful assessment endpoints define both the valuable ecological entities at the site and a characteristic of the entity to protect, such as reproductive success or production per unit area.

Unlike a human health risk assessment, which evaluates only one species, an ERA evaluates multiple species with different degrees of exposure and toxicological responses. This Tier 1 SLERA focused on endpoints that are most likely to be affected given the fate and transport mechanisms of the COPECs, the ecotoxicological properties of the COPECs, the habitats at the site, and the potential receptors at the site.

Assessment endpoints are not amenable to direct measurement; therefore, measurement endpoints related to assessment endpoints were identified. USEPA defines a measurement endpoint as "a measurable ecological characteristic that is related to the valued characteristic chosen as the assessment endpoint and is a measure of biological effects (such as mortality, reproduction, or growth)" (USEPA 1998). Measurement endpoints can include measures of exposure or effect and are frequently numerical expressions of observations. They may be compared statistically with a control or reference site or scientific study to detect adverse responses to a site-specific COPEC. Each measurement endpoint correlates directly with one of the defined assessment endpoints and is based on available literature about mechanisms of toxicity.

Table B-2 summarizes the assessment and measurement endpoints that were used to evaluate the potential ecological risk at IR Site 24A.

B-2.1.5 Tier 1 Step 2: Estimates of Exposure

This process of estimating exposure included the selection of representative analytical data of adequate quality, defining the process for generating exposure point concentrations (EPCs) in

abiotic media, and defining the equations, exposure factors, and bioaccumulation factors (BAFs) used in estimating dose levels for upper trophic species.

The site impacts are such that the site was delineated into four exposure units for purposes of the Tier 2, Step 3a BERA, using habitat type, spatial distribution of lead data, presence of lead pellets, *etc*. as a means of grouping samples within these exposure units. Exposure Unit 1 represents the western half of the target range floor, including the firing line and all site buildings. Exposure Unit 2 represents the eastern half of the target range floor, including the retaining wall and target berm. Exposure Unit 3 represents the 40-mm grenade impact area. Exposure Unit 4 represents the drainage channel that runs along the south end of the range floor and extends to the west of the road. Exposure Unit 4 was used to evaluate the amphibian and benthic invertebrate exposures in Tier 2. Exposures to the terrestrial plants and soil invertebrates were evaluated site-wide. Bird and mammalian species were evaluated on a site-wide basis, as well as to Exposure Units 1 through 3. For Exposure Units 1 and 2, the samples in the drainage channel were included in these exposure areas to evaluate exposure by terrestrial ecological receptors. The sample locations by exposure unit are listed in Table B-3 and shown on Figure B-4.

The boundary of the drainage channel shown in Figures B-4 and B-5 is slightly different than the boundary of the channel depicted on Figure 7-3 presented in the Site Inspection (SI) (BAI 2010) and the figure is inconsistent with Table 4-1 in the SI. On Figure 7-3 of the SI, the boundary of the channel does not include a sample that was originally identified as a drainage channel sample in the SI (BAI-24A-07), but does include a sample that was not identified as a drainage channel sample (BAI-24A-33; originally designated as a target berm sample on Figure 4-5 of the SI). Elevated concentrations of lead occur at both locations and lead pellets are present at BAI-24A-33, which is linearly aligned with the drainage channel and appears to be part of the channel based on site photographs (Photos B-2 and B-5 of Attachment B-1). For these reasons, and because BAI-24A-07 was designated as a drainage channel sample in Table 4-1 even though it is slightly north of the linear ditch, both samples were included within the boundary of the channel shown in Figures B-4 and B-5.

B-2.1.5.1 Data Selection and Data Quality Evaluation

The objective of the data evaluation step was to develop a list of COPECs for use in the risk assessment. This BERA relies upon data collected as part of the Site SI (BAI 2010). The BERA utilized data collected for the SI as a single data set for soil; sampling locations are displayed in

Figure B-4 (Figure 4-5 from BAI 2010). Soil data were segregated into two depth intervals: 0 to 6 inches bgs, and 1.5 to 2 feet bgs. As per agreement with the Navy, the primary risk assessment analyses used a combined data set representing the entire depth interval of 0 to 2 feet bgs. Sample locations are shown on Figure B-4.

B-2.2 LABORATORY QUALITY ASSURANCE AND DATA VALIDATION

Laboratory data generated for the SI were received and used "as is." Independent data validation was not performed specifically for this BERA.

Eighty soil samples were collected and analyzed for inorganic constituents, explosives and related compounds throughout the range floor and impact areas, and 10 samples were analyzed for polycyclic aromatic hydrocarbons (PAHs) near the creosote-treated wood retaining walls. Individual results were identified as either: "U flagged" (not detected below the Method Detection Limit [MDL]), "J flagged" (detected above the MDL but below the Method Reporting Limit (MRL), or detected at the specified concentration. With the exception of "U" or "UJ" flagged data, all data were treated as detected concentrations.

B-2.3 DATA DECISIONS

The purpose of this section is to describe how the analytical data were managed. Specifically, how nondetected chemicals and duplicates were treated, and how the soil data set formed the basis for defining levels of naturally occurring inorganics.

B-2.3.1 Treatment of Nondetects

As noted above, all "U" or "UJ" flagged data were considered detects. If a chemical was never detected in any sample, the chemical data were evaluated for the adequacy of reporting limits as discussed in Section B3.6.1. In addition, MDLs and MRLs from nondetect samples were compared to risk-based screening levels to better understand the quality of the data and implications of using these results in ProUCL 4.00.04 **(**Singh, et al. 2009; Singh and Singh, 2009). The ProUCL software generally requires a minimum of five results and two detected results. If multiple nondetect values are present for a given chemical, the ProUCL software typically recommends the use of Kaplan-Meier nonparametric statistics. For the development of EPCs, non-detects were evaluated as recommended in the ProUCL program (Singh and Singh 2009; Singh et al. 2009).

B-2.3.2 Treatment of Duplicates

If duplicates exist, the average of the duplicate results is used as a single data point. If one duplicate is a detected concentration and the other a nondetect, the nondetect MDL was averaged with the detected concentration and treated as detected concentration. If both values of the duplicate pair were -detects, then the average of the MDLs was used to represent the nondetect value for the sample in ProUCL.

B-2.3.3 Soil Background Data Set

Data used to represent naturally occurring background concentrations of inorganic chemicals in soil were drawn from earlier investigations. A Background Study for the Inland Area of the former NAVWPNSTA Concord was conducted as part of the 1997 Remedial Investigation (RI) for IR Sites 13, 17, 22, 24A, and 27 (Tetra Tech 1997; Appendix F). As performed in the SI report (BAI 2010), the soil data collected during this investigation was used to develop background concentrations for naturally occurring metals specifically for use in risk assessments and RI for the Inland Area. Soil samples were collected in areas considered unaffected by Navy operations or other commercial/industrial activities to estimate background.

The soil metals data from four Inland Area sites (IR Sites 13, 17, 22, and 24A) were analyzed to evaluate whether metals background levels should be applied uniformly for all Inland Area sites or if the background data sets for a specific group or groups should be used for a given site. The concentrations of some metals (e.g., chromium, manganese, and vanadium) displayed two distinct statistical populations: one population corresponded to the data from IR Sites 17 and 24A, and another population was formed by the data from IR Sites 13 and 22. The subset of the background data set from IR Sites 17 and 24A were selected because of the direct relevance. In this data set, the representative background concentration was the maximum detected concentration after excluding any anomalously high concentrations ("outliers"); see Tetra Tech (1997) for details. Background comparisons were performed as part of the Tier 2 BERA (Section B3.1).

B-2.4 METHOD DETECTION LIMITS AND METHOD REPORTING LIMITS

The MDLs and MRLs for soil data were evaluated as to whether the analytical sensitivity was adequate to indicate *de minimis* concentrations, i.e., if methods were insensitive, then nondetect results could conceivable exceed ecologically protective concentrations yet be indicated as not detected. This evaluation was performed by comparing the chemical-specific MDLs and MRLs

to the lowest selected soil screening benchmarks (see Section B3.6.1). The results of this evaluation are presented in the uncertainty section. The conclusion of the MDL and MRL review is that analytical methods were sufficiently sensitive to be able to indicate concentrations below ecologically-protective limits.

With the following exceptions, MRLs did not exceed soil screening benchmarks for plants or invertebrates:

- Selenium – all MRLs exceeded the plant benchmark,
- 1,3-dinitrobenzene and nitrobenzene – all MRLs exceeded the benthic invertebrate benchmark, and
- 2,6-dinitrobenzene – all MRLs exceeded all three benchmarks (plant, soil invertebrate, and benthic invertebrate).

Based on a comparison of the benchmarks to MDLs, no exeedances occurred for selenium and nitrobenzene. The maximum MDL for 1,3-dinitrobenzene exceeded the benthic invertebrate benchmark, and the maximum MDL for 2,6-dinitrobenzene exceeded all three benchmarks (plant, soil invertebrate, and benthic invertebrate).

B-2.4.1 Exposure Point Concentrations for COPEC Selection

Detected inorganic and organic chemicals were considered as COPECs for the SLERA. Analytical data for metals, PAHs, and explosives were collected. The potential ecological significance of these classes of chemicals along with uncertainties associated with the adequacy of detection limits were evaluated in Section B3.6.1. A detailed description of the summary statistics used to estimate EPCs and how nondetect values were handled is discussed in Section B2.3." For Tier 1, the maximum detected concentration for a given Exposure Area (see also Section B.2.1.5) was used as the EPC. For Tier 2, the lower of the maximum detected concentration and the 95 percent upper confidence limit of the mean (UCL95) was used as the EPC.

Although the 0 to 2 feet exposure depth was selected for this ERA, separate summary statistics were developed to assist in the delineation of the areas of ecological concern (AOEC) after the development of the risk-based cleanup goals for protection of ecological receptors. Table B-4 presents the summary statistics for soil at depths of 0 to 0.5 feet bgs. Table B-5 presents the

summary statistics for soil at depths of 1.5 to 2 feet bgs. Table B-6 presents the summary statistics for soil at depths of 0 to 2 feet bgs and was the data used for this ERA.

All metals, PAHs, and explosives detected in soils were evaluated for effects on plants and invertebrates. Exposure concentrations for plants, soil invertebrates, birds, and mammals were evaluated using data for soil collected from 0 to 2 feet bgs. Exposure concentrations for the benthic community were evaluated using data for soil/sediment collected from 0 to 2 feet bgs in the drainage channel. Amphibians were also evaluated semi-quantitatively using soil/sediment from 0 to 2 feet bgs in the channel in the Tier 2 BERA. This receptor group was evaluated qualitatively at the Tier 1 level.

B-2.4.2 Dose Estimation

For the birds and mammals, site-specific daily dose estimates were developed to estimate chemical intake from food resources and incidental soil ingestion. The food chain transfer mechanisms via the ingestion pathway for each bird and mammal receptor group are summarized as follows:

- Soil → Plants and soil invertebrates → American robin
- Soil → Small mammals → Red-tailed hawk
- Soil → Plants → California vole
- Soil → Plants and soil invertebrates → Western harvest mouse
- Soil → Small mammals → Grey fox

Site-specific daily dose estimates were calculated using the following general equation for the strictly herbivorous and carnivorous species (red-tailed hawk, California vole, and grey fox):

$$\text{Dose}_{\text{total}} = \frac{([\text{IR}_{\text{food}} \times \text{C}_{\text{food}}] + [\text{IR}_{\text{soil}} \times \text{C}_{\text{soil}}]) \times \text{SUF}}{\text{BW}}$$

where:

$\text{Dose}_{\text{total}}$ = Estimated dose from ingestion (milligrams per kilogram body weight per day dry weight [mg/kg-day])

IR_{food} = Ingestion rate of food (kilograms per day [kg/day])

C_{food}	=	Concentration in dry weight of COPEC in food (mg/kg) which is estimated by multiplying C_{soil} by the BAF as described below
IR_{soil}	=	Ingestion rate of soil (kg/day)
C_{soil}	=	Concentration in dry weight of COPEC in soil (mg/kg)
SUF	=	Site use factor (unitless)
BW	=	Adult body weight (kilograms [kg])

For omnivorous species (American robin and western harvest mouse) where more than one type of food is consumed, the dose equation becomes:

$$\text{Dose}_{\text{total}} = \frac{([CF1 \times PF1 \times \text{IRF1}] + [\text{CF2} \times PF2 \times \text{IRF2}] + [\text{IR}_{\text{soil}} \times \text{C}_{\text{soil}}]) \times \text{SUF}}{\text{BW}}$$

where:

CF1	=	Concentration in dry weight of COPEC in food item 1 (mg/kg)
*PF*1	=	Proportion of diet of food item 1
IRF1	=	Ingestion rate of food item 1 (kg/day)
CF2	=	Concentration in dry weight of COPEC in food item 2 (mg/kg)
*PF*2	=	Proportion of diet of food item 2
IRF2	=	Ingestion rate of food item 2 (kg/day)
IR_{soil}	=	Ingestion rate of soil
C_{soil}	=	Concentration in soil
SUF	=	Site Use Factor

The exposure parameters for the American robin and red-tailed hawk are presented in Tables B-7 and B-8, respectively. The exposure parameters for the California vole, western harvest mouse, and grey fox are presented in Tables B-9, B-10, and B-11, respectively.

B-2.4.3 Bioaccumulation Factors

Bioaccumulation models were used to estimate the concentrations of COPECs in plant or prey tissue based on the concentrations of COPECs in soil because site-specific tissue data are not available for use in the dose calculation described above. Soil-to-biota bioaccumulation models for plants, invertebrates, and small mammals were used, both as simple BAFs that can be multiplied by the concentration in soil, and as regression models which incorporate the soil concentration to estimate the COPEC concentration in prey.

Regression models are often used because in most cases the relationship between concentrations of chemicals in soil and that in tissue is not constant along the entire spectrum of soil concentrations. For example, in the case of some metals, high chemical concentrations in soil do not result in proportionately high chemical concentrations in tissue. This disparity is caused by the ability of some organisms to metabolically regulate their metal uptake at high concentrations. Represented graphically (i.e., a graph showing chemical concentrations in soil against chemical concentrations in tissue), the relationship would be relatively linear and positive at lower and mid-level concentrations of chemicals in soil, followed by a decreasing slope and leveling off of chemical concentrations in tissue once soil concentrations increase beyond a certain point. This and other types of soil-concentration-to-tissue-concentration relationships are better described through the use of a regression equation that uses natural log-transformed values of chemical concentrations in soil and tissue to account for the soil-tissue relationship across the entire range of soil concentrations.

Because most environmental data sets are log-normally distributed rather than normally distributed, a linear relationship between the soil and tissue concentrations is often revealed when a data set is transformed into lognormal values. Regression equations are usually presented in the following form:

$$\ln(y) = a + b \times \ln(x)$$

where:

y = chemical concentration in tissue (mg/kg dry weight)
x = chemical concentration in soil/sediment (mg/kg dry weight)
a = log-transformed y intercept
b = slope

In some instances, calculated regression equations do not reliably predict concentrations of chemicals that bioaccumulate (or bioconcentrate) in tissue. This type of unreliability can occur when the soil-tissue concentration relationship for a particular chemical is not linearized by log transformation, when the data set used to generate the regression equation is too limited, or when the chemical-specific lognormal octanol water partition coefficient ($\log K_{ow}$) is very high (e.g., steric hindrance) or very low (low persistence, readily metabolized).

The BAFs and regression models presented in USEPA's Ecological Soil Screening Level (Eco-SSL) guidance (USEPA 2005-2009; Attachment 4-1) were used whenever they were available.

In the absence of Eco-SSL BAFs for plants and invertebrates, alternative regression models or BAFs were used as noted in Tables B-12 and B-13, respectively. The regression equations developed for Vandenberg Air Force Base (AFB) (Tetra Tech 2003a) are based on plant or soil invertebrate tissue and co-located soil data. These equations are currently being applied throughout California at sites with similar habitats primarily at the request of State agencies. The Vandenberg AFB regression model was applied only if the model was significant (the slope differed significantly [$p < 0.05$] from 0) and the coefficient of determination (R^2) was greater than or equal to 0.2. If these criteria were not met, then another regression model or BAF was selected to estimate bioaccumulation.

Soil to Plant BAFs

For plants, Eco-SSL BAFs or regressions were available for all but mercury, molybdenum, thallium, 2,4-dinitrotoluene and 4-nitrotoluene (Table B-12). The median BAF from data presented in *Empirical Models for the Uptake of Inorganic Chemicals from Soil by Plants* (Bechtel-Jacobs 1998) was used for mercury. For molybdenum, the Vandenberg regression equation was used (Tetra Tech 2003a). A default of 1 was used for thallium, 2,4-dinitrotoluene and 4-nitrotoluene.

Soil to Invertebrate BAFs

For invertebrates, Eco-SSL BAFs or regressions were used for all but mercury, molybdenum, nickel, thallium, 2,4-dinitrotoluene and 4-nitrotoluene (Table B-13). For molybdenum, the Vandenberg regression equation was used (Tetra Tech 2003a). Median BAFs from data presented in *Development and Validation of Bioaccumulation Models for Earthworms* (Sample et al. 1998b) were used for mercury and nickel. A default of 1 was used for thallium, 2,4-dinitrotoluene and 4-nitrotoluene.

Soil to Small Mammals BAF

For small mammals, Eco-SSL BAFs or regression equations were available for all but mercury, molybdenum, thallium, 2,4-dinitrotoluene and 4-nitrotoluene (Table B-14). Median BAFs from data presented in *Development and Validation of Bioaccumulation Models for Small Mammals* (Sample et al. 1998a) were used for mercury and thallium. For molybdenum and the two explosives, a default of 1 was used.

B-2.4.4 Tier 1 Step 3: Evaluation of Ecological Effects

Typically, not all chemicals present at a site pose ecological risks or contribute significantly to overall site risks. Therefore, a screening process was used to identify COPECs from a full list of detected and/or nondetected chemicals. COPECs are those chemicals that are determined, through this screening process, to have a potential to contribute to overall site risks because the maximum concentration (or associated exposure dose) exceeded an ecological benchmark or TRV. This section identifies the soil benchmarks and TRVs selected for the Tier 1 SLERA. For all receptors, if no toxicity benchmark or TRV is available for a COPEC, no conclusions can be drawn in the Tier 1 SLERA about the risk posed to the receptor group. Nonetheless, these COPECs were carried into the Tier 2.

B-2.4.4.1 Plants, Soil and Benthic Invertebrates

USEPA's Eco-SSLs for plants and soil invertebrates were selected whenever possible (USEPA 2005-2009). In the absence of Eco-SSLs, Oak Ridge National Laboratory (ORNL) benchmarks for plants (Efroymson, et al. 1997a; ORNL 2010) or ORNL benchmarks for effects on soil and litter invertebrates and heterotrophic processes (Efroymson et al. 1997b; ORNL 2010) were selected. For the benthic invertebrates, the consensus-based threshold effects concentrations (TECs) and probable effects concentrations (PECs) for freshwater sediments (MacDonald et al. 2000) were preferentially selected. In the absence of TEC values, other freshwater sediment benchmarks were selected as indicated in the table footnotes. For metals with a site-specific background soil concentration greater than the risk-based soil or sediment benchmark, the soil background concentration replaced the benchmark. The plant, soil invertebrate and sediment benchmarks are presented in Table B-15.

B-2.4.4.2 Amphibians and Reptiles

No sensitive reptiles are known to occur on the site, although it is possible for one to be present (i.e., Alameda whipsnake). The California red-legged frog and California tiger salamander are known to inhabit the former NAVWPNSTA Concord. Amphibian benchmarks are available for a select few metals: cadmium, copper, lead, and zinc (Table B-16). However, little information on toxicity is available to assess risk to amphibians for most chemicals; therefore, risk to amphibians and reptiles were evaluated qualitatively in the Tier 1 SLERA. In the Tier 2 BERA, risk to amphibians was evaluated using the sediment benchmarks provided in Table B-16.

B-2.4.4.3 Birds and Mammals – COPEC Exposure

Food chain models were used to estimate exposure though ingestion of site COPECs for birds and mammals by using site-specific soil concentrations, estimated prey concentrations and natural history information to calculate doses as described in Step 4. These calculated doses were compared to literature-derived TRVs based on potential reproductive, developmental, or physiological impacts.

TRVs used in the food chain models were taken from the Navy-Biological Technical Advisory Group (BTAG) working group technical memorandum when available (DTSC 2009). A Low-TRV is a conservative value consistent with a chronic no observed adverse effect level (NOAEL). A High-TRV represents a mid-range effects level for a COPEC, where the endpoint of toxicity was ecologically relevant. The BTAG TRV-Low for lead in mammals was updated in 2002 to take into account behavioral and systemic effects (DTSC 2002). Additional sources of TRVs used when BTAG TRVs were not available are documented in Table B-17.

NOAEL- and lowest observed adverse effects level (LOAEL)-TRVs based on toxicological benchmarks for wildlife developed by ORNL (Sample, et al., 1996) were used when BTAG TRVs were not available. The NOAEL-based benchmarks represent values believed to be nonhazardous for wildlife; LOAEL-based benchmarks represent threshold levels at which adverse effects may become evident. These benchmarks consider exposure to COPECs through oral ingestion of contaminated media (food and water consumption, and incidental ingestion of soil); exposure through inhalation or dermal routes was not considered in their development. The NOAEL- and LOAEL-based ORNL benchmarks are used in a manner similar to the High- and Low- BTAG TRVs.

No bird TRVs are available for antimony, beryllium, thallium, and PAHs, and the associated with this lack of toxicity information is discussed in the uncertainty section. Because neither a BTAG nor an ORNL TRV for mammals and birds exist for silver, the TRV from the Eco-SSL documents (USEPA 2005-2009) was considered as a Low-TRV.

For lead, two types of TRVs were considered. To assess the potential ecological impacts to birds, the BTAG-Low TRV for birds of 0.014 mg/kg-day, which is based on a highly bioavailable form of lead (i.e., lead acetate) was conservatively considered (DTSC 1999). However, use of this Low-TRV has been debated because in many cases, it leads to elevated HQs for lead even when concentrations are below the background level. Therefore, in addition to these values, HQs were also calculated using an alternative lead NOAEL-based TRV of 1.63 mg/kg-bw/day, which is the

TRV used to calculate the lead Eco-SSL for birds (USEPA 2005-2009). The geometric mean NOAEL derived from reproduction and growth study endpoints for inorganic lead was higher than the lowest estimated LOAEL in the data reviewed by USEPA during development of the Eco-SSL. Therefore, USEPA set the TRV equal to the highest bounded NOAEL that is lower than the lowest bounded LOAEL for reproduction, growth, or survival study endpoints (USEPA 2005-2009). The inorganic form of lead is more relevant to site conditions (lead pellets and munitions), and there is no expected source of organic lead.

Allometric conversions that assume that smaller animals have higher metabolic rates were not performed in the SLERA, as none were needed because the difference between the body weight of test species used in the TRV studies and the selected receptors are less than two orders of magnitude (DTSC 1999). The bird and mammal TRVs used in this Tier 1 SLERA are presented in Table B-17.

B-2.4.4.4 Birds – Pellet Ingestion

Grit size preference is a key factor to assessing the likelihood of pellet ingestion by a given bird species. As many as 20 bird species use grit particles ranging in size from 0.5 mm to 2.8 mm (Peddicord and LeKind 2000). The pellet sizes (No. 7 to No. 9) as well as smaller shot fragments would typically fall within the range of the grit size consumed by birds. Within a given shot gun shell, multiple pellets may be present that can be released upon impact. According to the SI report (BAI 2010), the soil was passed through a No. 10 sieve (2.0 mm) prior to metals analysis. However, sieving through smaller sieves was not performed so that further assessment on the exact size of the bullets and bullet fragments could not be performed for IR Site 24A. However, the bullet sizes noted in the field notes suggest that 40 and 44 caliber bullets and fragments are scattered throughout the target berm area and sometimes beyond. Individual soil samples were also reported to contain bullets/fragments within the target berm (BAI-24A-25 through -27, BAI-24A-29 and BAI-24A-31 through -35), range floor (BAI-24A-20 and BAI-24A-21), firing line (BAI-24A-17), and grenade impact area (BAI-24A-49, BAI-24A-52 and BAI-24A-53). In five test pits evaluated in October 2009 within the target berm, only Test Pit 3 did not show evidence of impacts (i.e., bullet fragments or munitions debris) from the firing range (BAI 2010). For the purposes of the ERA, it was presumed that bullets and fragments in the range of sizes suitable for bird ingestion as grit are present at the site.

B-2.4.5 Tier 1 Step 4: Risk Characterization

The following sections describe the methodology for evaluating risk to plants, invertebrates, birds, and mammals from exposure to contaminants in soil at IR Site 24A. A qualitative evaluation of risks to amphibians was also included. SLERA risk estimates ensure that the assessment does not indicate little or no risk when a risk exists; therefore, conservative assumptions were used in this analysis in the absence of site- or species-specific data.

The risks to all receptors were characterized using the HQ methodology that concurs with state and federal guidance. By calculating two HQs, one equal to the dose divided by the Low-TRV and one equal to the dose divided by the High-TRV, a risk manager can more definitively assess risk to the typical individual in the overall population. Because of differences in the degree of conservatism in selecting TRVs for various chemicals and receptors, Navy policy requires that resulting HQs are not compared between chemicals or receptors; instead, the HQs should be considered individually (Navy 1999).

The equation for calculating the HQs for the plants, soil and benthic invertebrates is provided below:

$$HQ = \frac{Soil\ Concentration}{Benchmark}$$

HQ	=	hazard quotient (unitless)
Soil Concentration	=	site-specific COPEC concentration (mg/kg dry weight)
Benchmark	=	soil benchmark for plants or invertebrates or sedimentbenchmark (mg/kg dry weight)

For the ingestion pathways for birds and mammals, site-specific daily ingestion dose estimates were compared with High- and Low-TRVs to estimate the potential adverse biological effects on each avian and mammalian receptor. The risks to representative receptors were characterized using USEPA's HQ methodology (USEPA 1986), as follows:

$$HQ = \frac{Dose}{TRV}$$

where:

HQ	=	hazard quotient (unitless)
Dose	=	COPEC-, receptor-, and site-specific daily dose estimate (mg/kg-day)
TRV	=	COPEC- and receptor-specific toxicity reference value (mg/kg-day)

The interpretation of each HQ is summarized in the following table.

HQ = Dose or Concentration/TRV	Low-TRV HQ	High-TRV HQ	Between Low- and High- TRV
Estimated Ingested Dose or Soil or Soil Gas Concentration	HQ <1 indicates no unacceptable risk to average receptor	HQ > 1 indicates potential unacceptable risk to average receptor	HQ(High-TRV) < 1 and HQ(Low-TRV) > 1 indicates potential unacceptable risk to average receptor. However, the magnitude of the risk is uncertain.

Notes: HQ Hazard Quotient
TRV Toxicity Reference Value

B-2.4.5.1 Risks for Terrestrial Plants, Soil Invertebrates and Sediment Invertebrates

For the Tier 1 ERA, HQs were calculated by dividing the maximum concentration in soil anywhere on the site by the Eco-SSL or ORNL benchmark for plants or soil invertebrates as defined in Table B-15. For benthic invertebrates, HQs were based on a comparison of the COPEC concentrations in the drainage channel to sediment benchmarks. Analytes were identified as Tier 1 COPECs if their maximum concentration in site soil exceeded a receptor-specific benchmark (i.e., a HQ greater than 1).

As noted in Table B-18, the plant COPECs are antimony, arsenic, chromium, cobalt, copper, lead, mercury, selenium, vanadium and zinc. The plant HQs elevated above 1 ranged from 1.1 to 517. HQs greater than 100 were noted for antimony (HQ of 140), copper (HQ of 171) and lead (HQ of 517).

As noted in Table B-19, the soil invertebrate COPECs are antimony, arsenic, chromium, copper, lead, mercury, selenium, vanadium and zinc. The soil invertebrate HQs elevated above 1 ranged from 1.1 to 150. An HQ greater than 100 was noted for lead (HQ of 150).

As noted in Table B-20, the benthic invertebrate COPECs are antimony, arsenic, beryllium, cadmium, copper, lead, mercury, selenium and zinc. The benthic invertebrate Low-TRV HQs elevated above 1 ranged from 1.2 to 198, with lead being the only COPEC with a Low-TRV HQ greater than 100 (HQ of 198). For High-TRV HQs elevated above 1, antimony, beryllium, copper, lead, selenium and zinc were identified as COPECs with a range of HQs of 1.2 to 55.

B-2.4.5.2 Risks for Amphibians and Reptiles

No sensitive reptiles are known to occur on the site, although it is possible for 1 to be present. Two - and state protected amphibians (listed as threatened) have been identified in the general area of IR Site 24A. The California tiger salamander and California red-legged frog have been sighted within a 1-mile radius of IR Site 24A. The rodent burrows and drainage channel could potentially offer seasonal habitat for these amphibian species. Recent surveys have not indicated highly suitable habitat exists at the site (EDAW 2008).

In 2004, the Navy published a protocol document to address risk to amphibians entitled *Development of a Standardized Approach for Assessing Potential Risks to Amphibians Exposed to Sediment and Hydric Soils* (ENSR 2004). In this document, a Tier 1 protocol is recommended to determine whether or not an amphibian ERA is warranted. The critical early stages of development for most amphibians is in a submerged aquatic environment (ENSR 2004), a habitat not likely to be present at IR Site 24A. While impacted soils at IR Site 24A are unlikely to pose a significant environmental concern because suitable habitat is unlikely to be present for the majority of the year, the threatened status of this species calls for a conservative approach. Comprehensive surveys for tiger salamander have not identified IR Site 24A as an area where surveys are warranted. Nonetheless, because no observed effect concentration (NOEC) criteria for sediments and hydric soils protective of amphibians are available for four metals (cadmium, copper, lead, and zinc), further evaluation of the potential for the concentrations of these four metals at IR Site 24A to impact amphibians was performed in the Tier 2 BERA.

B-2.4.5.3 Risks for Birds – COPECs

The American robin was selected as a representative species for omnivorous birds. As noted in Table B-21, eight metals and two explosives were selected as COPECs because the Low-TRV HQs were greater than 1. The Low-TRV HQs elevated above 1, ranged from 2.3 to 128,509. Three chemicals (copper, lead, and zinc) had a High-TRV HQ equal to or greater than 1. The High-TRV HQs elevated above 1 ranged from 1.1 to 206.

The red-tailed hawk was selected as a representative species for carnivorous birds. As noted in Table B-22, two metals (copper and lead) and 1 explosive (2,4-dinitrotoluene) were selected as COPECs because the Low-TRV HQs were greater than 1. The Low-TRV HQs elevated above 1 ranged from 2.1 to 3,456. Only lead had a High-TRV HQ greater than 1 (HQ of 5.5).

Because there are no reliable TRVs for PAHs for birds, HQs for this class of chemicals were noted calculated. Rather, the potential hazards to birds exposed to PAHs are addressed qualitatively in the Tier 2 BERA.

B-2.4.5.4 Risks for Birds – Pellet Ingestion

Birds at the site, such as the American robin may be exposed to metals like lead and antimony via pellet ingestion. As noted above, it was presumed that bullets and fragments in the range of sizes suitable for bird ingestion as grit are present at the site and a complete exposure pathway for pellet ingestion is present.

B-2.4.5.5 Risks for Mammals

The California vole was selected as a representative species for herbivorous mammals. As noted in Table B-23, eleven metals in soil were selected as COPECs because the low-TRV HQs were greater than 1. The Low-TRV HQs elevated above 1 ranged from 1.9 to 396. Two chemicals (antimony and lead) had a High-TRV HQ equal to or greater than 1. The High-TRV HQs ranged from 1.6 for lead to 6.9 for antimony.

The western harvest mouse was selected as a representative species for omnivorous mammals. As noted in Table B-24, eleven metals were selected as COPECs because the Low-TRV HQs were greater than 1. The Low-TRV HQs elevated above 1 ranged from 1.2 to 955. Three metals (antimony, copper and lead) had a High-TRV HQ greater than 1. The High-TRV HQs ranged from 1.2 for copper to 70 for antimony.

The grey fox was selected as a representative species for carnivorous mammals. As noted in Table B-25, six metals (antimony, copper, lead, nickel, selenium and vanadium) were selected as COPECs because the Low-TRV HQs were greater than 1. The Low-TRV HQs elevated above 1 ranged from 1.1 to 78. Only antimony had a High-TRV HQ greater than 1 (HQ of 1.8).

B-2.4.6 Exit Criteria Applied to Tier 1 Evaluation

Two decision criteria determine the outcome of the Tier 1 SLERA (Navy 1999; 2004b): 1) existence of a complete exposure pathway from the chemical to the receptor, and, 2) chemical concentrations or doses that exceed screening criteria used for comparison. The following outcomes and conclusions may result from the Tier 1 SLERA:

1. The site ***passes*** the SLERA; either there are no complete exposure pathways to ecological receptors, or there are no unacceptable risks (contaminant concentrations or doses are below benchmarks or TRVs). Under either of these conditions, the site would be considered to pose acceptable risk to ecological receptors and the site would exit the ERA process altogether.

2. The site ***fails*** the SLERA; the site includes complete exposure pathways ***and*** unacceptable risk (contaminant concentrations exceed benchmarks or resulting dose levels greater than TRVs). In this situation, either site remediation would be implemented or the site would proceed to Tier 2 in the ERA process.

IR Site 24A falls into Category 2 because contaminant concentrations were found at concentrations greater than terrestrial plant, soil invertebrate and benthic invertebrate benchmarks and because HQs greater than 1 were noted for birds and mammals. In addition, a complete exposure pathway was identified for pellet ingestion by songbirds and further assessment of impacts to threatened amphibian species was deemed necessary. Therefore, a Tier 2 BERA was performed.

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B-3.0 TIER 2 BASELINE ECOLOGICAL RISK ASSESSMENT – STEP 3A RISK REFINEMENT

COPECs identified as risk drivers in the Tier 1 SLERA and those that do not have TRVs were further evaluated in this Tier 2 BERA (Step 3a). The purpose of the Tier 2 BERA is to evaluate the COPECs retained from Tier 1 based on site-specific site conditions and physiochemical conditions that affect the bioavailability of chemicals. The frequency and magnitude of chemical detection are also considered in Step 3a. Although the basic dose equations and risk estimation calculations from Tier 1 were used, less conservative, but more realistic and site-specific, assumptions are used in the Tier 2 BERA (USEPA 2001). The Step 3a re-evaluation followed these steps:

3. A comparison to background concentrations was conducted for metals to evaluate whether site concentrations of COPECs were comparable to background levels (Navy 2004b). Site-specific background values for IR Site 24A were used in this comparison (Tetra Tech 1997).

4. Spatial variations in the EPCs for terrestrial plants and soil invertebrates were evaluated quantitatively by using the UCL95 rather than the maximum detected concentration. The UCL95 calculated from seasonal sediment samples collected from the drainage channel was also used as the EPC for sediment-dwelling (i.e., benthic) invertebrates.

5. A semiquantitative evaluation for amphibians was performed using sediment benchmarks developed for the Navy (ENSR 2004), when available (cadmium, copper, lead, and zinc). The purpose of this evaluation is to protect special status amphibian species that may be present at the site and; therefore, the maximum concentration of these metals detected in soil (including drainage channel seasonal sediment samples, but not limited to this exposure unit) was used as the EPC for this receptor group.

6. HQs were revised based on site-specific information and less conservative receptor-specific assumptions. HQs were calculated using the same methodology as in the Tier 1 SLERA. However, alternative values for select parameters (e.g., using a more realistic receptor SUF based on the home range of the receptor compared with the site area) were used in Step 3a. The EPC selected as the lower of the UCL95 or the maximum concentration for any COPEC was also used for birds and mammals.

7. The magnitude of exposure for vertebrate receptors was evaluated by assessing HQs and toxicological information.

8. COPECs with no benchmarks or TRVs were evaluated qualitatively.

9. Bioavailability of COPECs was assumed to be 100 percent in Step 2 and Step 3a (i.e., 100 percent of the ingested dose is available for transfer to the next trophic level [Navy 1999]).

In accordance with Navy guidance, if Step 3a does not support an acceptable risk determination and continues to indicate an unacceptable risk, then the site continues the BERA process at Step 3b. Because a removal action has already been established for this site by the Navy and the purpose of this ERA is to support the EE/CA by providing ecologically protective cleanup goals and recommending areas of remediation to address the exposure pathways demonstrated to require risk management to protect ecological receptors. Therefore, in addition to performing Step 3b, cleanup goals were developed for ecological receptors, Section B4.0 of this appendix provides a description of the selected cleanup goals for ecological receptors and the areas of concern recommended for consideration in the EE/CA. With the possible exception of a postremediation residual ERA to verify success of the removal action, no further risk assessment is anticipated to be needed for IR Site 24A.

B-3.1 BACKGROUND COMPARISONS

For those inorganic COPECs retained for further risk evaluation, a comparison to background concentrations was conducted to evaluate whether site concentrations of COPECs were comparable to background levels (Navy 2004b). The background data set for Site 24 consisted of four samples from IR Site 24A and 12 samples from Site 17. For molybdenum, selenium, silver and thallium, no detectable levels were noted in the background data set. Therefore, these metals were automatically retained for further evaluation because they were detected at least once in site soils. The maximum detected concentrations in the background data set for IR Site 24A (Tetra Tech 1997) were selected to represent background for this site. Therefore, the maximum detected site concentrations were compared to the maximum site-specific background concentrations and no statistical comparisons between background and the site data were performed in Table B-26.

Nickel was reported at concentrations representative of background at the 0 to 2 foot depth interval and was eliminated from further consideration in the Tier 2 ERA. In addition, only one sample result out of 80 samples for barium, chromium and cobalt was greater than background. Because only the maximum detected value exceeded background, the magnitude of the exceedance of the background value was low, and the concentration was expected to fall within

range of normal data variability, these three metals were also considered to be present at levels representative of background.

B-3.2 REFINED RISK ESTIMATES FOR PLANTS, SOIL INVERTEBRATES AND BENTHIC INVERTEBRATES

The primary difference between the Tier 1 and Tier 2 BERA for plants, soil invertebrates and benthic invertebrates was that the UCL95 was selected as the EPC (or the maximum concentration if the UCL95 was higher than the maximum) for the Tier 2 ERA.

As indicated previously, the site was delineated into four exposure units. Exposure Unit 1 represents the western half of the target range floor, including the firing line and all site buildings. Exposure Unit 2 represents the eastern half of the target range floor, including the retaining wall and target berm. Exposure Unit 3 represents the 40-mm grenade impact area. Exposure Unit 4 represents the drainage channel that runs along the south end of the range floor and extends to the west of the road.

Plants.

Of the 10 metals originally selected as COPECs for plants in the Tier 1 ERA, 2 were eliminated because their concentrations were less than background (chromium and cobalt). Table B-27 presents the refined risk estimates for plants for the remaining eight metals. Based on the Tier 2 ERA, five of the remaining metals (antimony, copper, lead, selenium, and zinc) had HQs greater than 1 on a site-wide basis with HQs ranging from 1.1 to 85. When evaluated by Exposure Unit, no plant COPECs were selected for Exposure Unit 3, two plant COPECs (selenium and zinc) were selected for Exposure Unit 1 and six plant COPECs (antimony, arsenic, copper, lead, selenium and zinc) had were selected for Exposure Unit 2, indicating localized plant effects were possible in Exposure Unit 2. In the absence of special-status plant species, the screening benchmarks for plants, which are highly uncertain, were not considered in the development of cleanup goals.

Soil Invertebrates

Of the nine metals originally selected as COPECs for soil invertebrates in the Tier 1 ERA, chromium was eliminated on the basis of background.

Table B-28 presents the refined risk estimates for soil invertebrates for the remaining eight metals and summarizes any chemicals (thallium) that did not have an established soil invertebrate benchmark or background value that could be used as a benchmark. Based on the

Tier 2 ERA four metals (antimony, copper, lead, and zinc) had HQs greater than 1 on a site-wide basis with HQs ranging from 1.1 to 14. When evaluated by exposure unit, no soil invertebrate COPECs were selected for Exposure Unit 3, two soil invertebrate COPECs (mercury and zinc) were selected for Exposure Unit 1 and four soil invertebrate COPECs (antimony, copper, lead, and zinc) had were selected for Exposure Unit 2, indicating localized plant effects were possible in Exposure Unit 2. In the absence of special-status soil invertebrate species, the screening benchmarks for these receptors, which are highly uncertain, were not considered in the development of cleanup goals.

Benthic Invertebrates

Table B-29 presents the refined risk estimates for sediment invertebrates for the remaining eight metals and summarizes any chemicals (molybdenum and thallium) that did not have an established soil invertebrate benchmark or background value that could be used as a benchmark. Antimony, cadmium, copper, lead, selenium, and zinc had Low-TRV HQs greater than 1. HQs ranged from 1.2 for copper to 186 for lead. The High-TRV HQs were greater than 1 for five of the six COPECs listed above (not cadmium), with HQs ranging from 1.2 to 52. The sediment benchmarks were not considered in the derivation of cleanup goals for the drainage channel, given that there are no known sensitive benthic species in the channel and this channel is a manmade feature that likely only seasonally contains suitable habitat for benthic species.

Soil and Benthic Invertebrate COPECs Without Benchmarks

Thallium was retained from the Tier 1 ERA because soil or sediment invertebrate benchmark values were not located. In the absence of receptor specific values, the USEPA Region 5 Environmental Screening Levels (ESLs) (USEPA 2003) were used to further evaluate the significance of thallium. The Region 5 soil ESLs are initial screening levels used to focus the investigation on those areas and chemicals that are most likely to pose an unacceptable risk to the environment. For thallium, the maximum detected concentration of 0.51 mg/kg was below the Region 5 ESL of 1.0 mg/kg. In addition, no detections of thallium were noted in Exposure Unit 3, and a 4% detection rate for thallium was noted in Exposure Unit 2, indicating thallium likely poses a low risk to soil invertebrates in these areas. The detection rate of thallium in sediments of the Exposure Unit 4 drainage channel was 58 percent. However, it should be noted that the maximum site detection is lower than the minimum detected value of 0.81 mg/kg used to define background for Sites 13 and 22 of the Inland Area (Tetra Tech 1997). Thus, the thallium concentrations found at Site 24 likely reflect naturally occurring levels and the lack of soil invertebrate and sediment benchmarks is unlikely to affect the conclusions of this ERA.

A sediment benchmark was not available to assess the significant of molybdenum. The UCL95 concentration is 0.3 mg/kg which is lower than the range of MRLs for this site (0.6 to 0.69 mg/kg). Background for molybdenum is set at the detection limit, suggesting that molybdenum at this site is likely representative of background, which minimizes the uncertainty associated with the lack of a TRV for molybdenum for benthic invertebrates.

B-3.3 REFINED RISK ESTIMATES FOR AMPHIBIANS

No sensitive reptiles are known to occur on IR Site 24A, although it is possible for one to be present, and the evaluation conducted for amphibians is assumed to protect reptiles at the site. Because the upland habitat of IR Site 24A could potentially be used seasonally by the California tiger salamander and California red-legged frog, a semiquantitative evaluation of potential impacts to amphibians using the benchmarks for sediments and hydric soils for four metals (cadmium, copper, lead and zinc) presented in the Navy's protocol document (ENSR 2004) was performed in this Tier 2 ERA. The California red-legged frog is a federally listed threatened species and is a state species of special concern. The California tiger salamander is a federally and state listed threatened species at Concord. Because the tiger salamander could use any of the burrows at the site, the maximum detected concentrations site-wide and for each exposure unit were used as the EPC. Table B-30 presents the results of this analysis. Copper, lead, and zinc were identified as COPECs across the site. No HQs greater than 1 were noted for Exposure Unit 3. Copper had an HQ of 60 and was associated with Exposure Unit 2. Lead had HQs ranging from 3 to 26 for Exposure Units 4 and 2, respectively. Zinc had HQs of 1.8, 1.3, and 1.3 for Exposure Units 1, 2, and 4, respectively. Therefore, the amphibian benchmarks were considered in the derivation for risk-based cleanup goals for the EE/CA.

B-3.4 REFINED RISK ESTIMATES FOR BIRDS

The primary difference between the Tier 1 and Tier 2 ERA for the robin was the use of the UCL95 as the EPC instead of the maximum detected concentration. In addition, for the three individual exposure units, the SUFs were adjusted to account for the percentage of each exposure unit relative to the total site area (see Section B3.4.1.1). Alternative body weight, soil and food ingestion rates were also selected for the robin. For the red-tailed hawk, the UCL95 was used as the EPC in the Tier 2 BERA, instead of the maximum detected concentration, and the SUF was modified to reflect the typical foraging range of a hawk relative to the area of IR Site 24A and the three individual exposure units. An evaluation of the Tier 1 COPECs without avian TRVs

(antimony, beryllium, and thallium), as well as a qualitative discussion of the PAHs, are included in the uncertainty section.

B-3.4.1 American Robin

The American robin was selected as a representative species for omnivorous birds for both exposure to COPECs in soils and the diet, as well as for pellet ingestion as grit.

B-3.4.1.1 COPEC Exposure

The exposure parameters for the robin are presented in Table B-7. Eight metals and two explosives were initially selected as COPECs because the Low-TRV HQs were greater 1. Copper, lead and zinc also had High-TRV HQs greater than 1 (Table B-21). For the Tier 2 BERA, chromium and nickel were eliminated as COPECs because their site concentrations were considered representative of background. For the remaining six COPECs, HQs were calculated on a site-wide basis, as well as for the three soil exposure units (Table B-31).

Site-Wide.

Low-TRV HQs greater than 1 were noted for copper, lead and zinc on a site-wide basis. Site-wide Low-TRV HQs ranged from 1.7 for zinc to 20,285 for lead based on the BTAG-TRV. Site-wide High-TRV HQs greater than 1 were noted for copper and lead using the BTAG-TRV and ranged from 1.7 for copper to 32 for lead based on the BTAG-TRV.

Exposure Unit 1.

For Exposure Unit 1, only lead using the Low BTAG-TRV had an HQ greater than 1 (HQ of 14). No COPECs were noted based on the High-TRV HQs.

Exposure Unit 2.

For Exposure Unit 2, copper and lead had Low-TRV HQs greater than 1. The copper Low-TRV HQ was 34, while the Low-TRV HQs for lead ranged from 38 to 4,476. The High-TRV HQs ranged from 1.5 for copper to 7.2 using the High BTAG-TRV for lead.

Exposure Unit 3.

For Exposure Unit 1, only lead using the Low BTAG-TRV had an HQ greater than 1 (HQ of 53). No COPECs were noted based on the High-TRV HQs.

In general, the highest concentrations of copper, lead and zinc are located in Exposure Unit 2. Given the magnitude of the HQs, derivation of risk-based cleanup goals for the EE/CA using the a geometric mean of the Low- and High-TRVs was performed for these three chemicals.

B-3.4.1.2 Pellet Ingestion

Lead pellets of suitable size for grit ingestion of shot for ground-feeding birds such as mourning doves and robins are likely to be present on the site. The literature indicates that a single oral dose of one No. 8 shot (72 mg) administered to mourning doves resulted in 24 percent mortality in 4 weeks (Buerger et al. 1986). In another study, ingestion of two lead pellets noted in the gizzard of a mourning dove was presumed the cause of death (Kendall and Scanlon 1982). Thus, because as little as a single pellet can be lethal, lead pellet ingestion cleanup goals for birds are often expressed as number of lead shot of a given size per square foot. The probability of pellet ingestion is expected to increase with increasing numbers of pellets present on the ground surface (0 to 6 inches). This type of information is not available for this site.

According to the field log in the SI, lead pellets and/or fragments were noted at numerous locations across the site (see red-colored sample locations on Figure B-5). The relative magnitude of the hazard from pellet ingestion and the need for cleanup should also be assessed based on certain mitigating factors. Adverse effects from pellet ingestion may be minimized when alternative grit is readily available because birds naturally ingest and eliminate considerable amounts of grit daily (Stafford and Best 1999). In addition, lead shot retention varies based on bird species, diet, body size, and season. Birds with hard food diets are likely to have increased grit consumption because the food needs more grinding for proper digestion. Nine of ten cowbirds (*Molothrus ater*) dosed with a single size 7.5 lead shot pellet and fed a natural diet excreted the shot within 1 day (Vyas et al. 2001). Because diets higher in protein and calcium reduce the effects of lead poisoning and may reduce weight loss resulting from lead poisoning (Sanderson & Bellrose 1986), omnivorous species such as the robin, may be less susceptible to adverse effects from pellet ingestion, but may more likely to incidentally ingest soils with lead from degraded pellets. The high concentrations of lead found in site soils suggests that lead pellets are degrading and are acting as an on-going source of lead for soils in certain areas of this site.

B-3.4.2 Red-tailed Hawk

The red-tailed hawk was selected as a representative species for carnivorous birds. The exposure parameters for the hawk are presented in Table B-8. Copper, lead, and the explosive 2,4-dinitrotoluene were initially selected as COPECs for the hawk because the Low-TRV HQs were greater than 1. Concentrations of copper and lead were found to be greater than site-specific background levels. Lead also had a High-TRV HQ greater than 1 in the Tier 1 ERA.

For the Tier 2 ERA, the UCL95 was used as the EPC and the SUF was changed from the default assumption of 100 percent site usage to reflect the recommended home area for the hawk. The site usage is based on the acreage of the site as a whole and the three individual exposure units and a median home range area of 531 hectares (214 acres) for a hawk based on the range of values (78 to 984 hectares) provided in Zeiner et al. (1990). HQs were calculated on a site-wide basis, as well as for the three soil exposure units (Table B-32).

Site-Wide.

Only lead using the Low BTAG-TRV had an HQ greater than 1 (HQ of 6.3) on a site-wide basis. No COPECs were noted based on the High-TRV HQs.

Exposure Unit 1.

For Exposure Unit 1, no COPECs were noted based on the Low-TRV HQs or High-TRV HQs.

Exposure Unit 2.

For Exposure Unit 2, only lead using the Low BTAG-TRV had a Low-TRV HQs greater than 1. No COPECs were noted based on the High-TRV HQs.

Exposure Unit 3.

For Exposure Unit 3, no COPECs were noted based on the Low-TRV HQs or High-TRV HQs.

As noted in Table B-32, when these exposure factors are modified to more realistic assumptions, no HQs greater than 1 are calculated based on the Low TRV, except for lead. When the inorganic lead TRV from the Eco-SSL document is used, the Low-TRV HQs are all well below 1. As such, any risk-based cleanup criteria for lead derived for the robin are considered to be protective of predatory birds and calculation of cleanup goals for the red-tailed hawk were not considered necessary.

B-3.5 REFINED RISK ESTIMATES FOR MAMMALS

The primary difference between the Tier 1 and Tier 2 ERA for the vole, western harvest mouse, and the grey fox was the use of the UCL95 as the EPC instead of the maximum detected concentration. In addition, the body weight for the vole was adjusted to the lower value of the upper range of body weights for adult and juvenile female voles (Table B-9). For the grey fox, the SUF was modified to reflect the typical foraging range of a fox relative to the site area of IR Site 24A (Table B-11).

B-3.5.1 California Vole

The California vole was selected as a representative species for herbivorous mammals. Of the 11 metals that were initially selected as COPECs because the Low-TRV HQs were greater than 1, barium and nickel were eliminated as COPECs because their site concentrations were considered representative of background (Table B-26). The exposure parameters for the California vole are presented in Table B-9. For the Tier 2, the EPC was modified to the UCL95 and the body weight was adjusted to the lower value of the upper range of body weights for adult and juvenile females in Office of Environmental Health Hazard Assessment (1999). For the remaining nine COPECs, HQs were calculated on a site-wide basis, as well as for the three soil exposure units (Table B-33).

Site-Wide

Antimony, copper, and lead using both the Low BTAG-TRV and the Eco-SSL TRV had HQs greater than 1 on a site-wide basis. HQs ranged from 1.8 to 38. No COPECs were noted based on the High-TRV HQs.

Exposure Unit 1

Selenium, vanadium and zinc had Low-TRV HQs greater than 1 at Exposure Unit 1, ranging from 1.1 to 1.7. No COPECs were noted based on the High-TRV HQs.

Exposure Unit 2

Antimony, copper, and lead using both the Low BTAG-TRV and the Eco-SSL TRV, molybdenum, selenium, and zinc had Low-TRV HQs greater than 1 in Exposure Unit 2. Low-TRV HQs ranged from 1.4 for zinc to 42 for lead using the Low BTAG-TRV. The High-TRV HQ for antimony was 2.0. No other HQs greater than 1 were noted based on the High-TRV HQs.

Exposure Unit 3

For Exposure Unit 3, no COPECs were noted based on the Low-TRV HQs or High-TRV HQs.

Based on these findings, risk-based cleanup criteria were derived for the vole for antimony, copper, molybdenum, selenium, vanadium, and zinc using the geometric mean of the Low- and High-TRVs for these chemicals of concern (COECs), as well as lead using the Eco-SSL TRV.

B-3.5.2 Western Harvest Mouse

The western harvest mouse was selected as a representative species for omnivorous mammals. The exposure parameters for the western harvest mouse are presented in Table B-10. Of the 11 metals that were initially selected as COPECs because their Tier 1 Low-TRV HQs were greater than 1, barium and nickel were eliminated as COPECs because their site concentrations were considered representative of background (Table B-26). For the remaining nine COPECs, HQs were calculated on a site-wide basis, as well as for the three soil exposure units (Table B-34).

Site-Wide

Antimony, cadmium, copper, and lead using both the Low BTAG-TRV and the Eco-SSL TRV, selenium, vanadium and zinc had HQs greater than 1 on a site-wide basis. HQs ranged from 1.4 for selenium to 163 for lead using the Low BTAG-TRV. Only antimony had an HQ greater than 1 based on the High-TRV HQs.

Exposure Unit 1

Antimony, cadmium, copper, and lead using both the Low BTAG-TRV and the Eco-SSL TRV, selenium, vanadium and zinc had Low-TRV HQs greater than 1. Low-TRV HQs ranged from 2.4 for selenium to 4.6 for cadmium. No High-TRV HQs greater than 1 were noted for Exposure Unit 1.

Exposure Unit 2

Eight metals (all but molybdenum) had Low-TRV HQs greater than 1 for Exposure Unit 2. Low-TRV HQs ranged from 1.8 for vanadium to 350 for antimony. Only antimony had an HQ greater than 1 (HQ of 35) based on the High-TRV HQs.

Exposure Unit 3

Antimony, cadmium, selenium, and vanadium had Low-TRV HQs greater than 1. Low-TRV HQs ranged from 1.2 for selenium to 2.2 for antimony. No High-TRV HQs greater than 1 were noted for Exposure Unit 3.

Based on these findings, risk-based cleanup criteria were derived for the mouse for antimony, arsenic, cadmium, copper, and lead using the Eco-SSL TRV, selenium, vanadium and zinc using the geometric mean of the Low- and High-TRVs for these COECs, as well as lead using the Eco-SSL TRV.

B-3.5.3 Grey Fox

The grey fox was selected as a representative species for carnivorous mammals. As noted in Table B-25, six metals were initially selected as COPECs because the Low-TRV HQs were greater than 1. Nickel was eliminated as COPECs because the site concentration was considered representative of background at the 0 to 2 foot depth (Table B-26). For the remaining five COPECs, HQs were calculated on a site-wide basis (Table B-35).

The exposure parameters for the grey fox are presented in Table B-11. Based on 2.5 acres of total site foraging area and a median home range of 120 hectares (48.6 acres) for a grey fox (Brant 1962 and Meserve 1977 as cited in Zeiner et al. 1990), IR Site 24A represents only 5 percent of the area likely utilized by the grey fox. When the SUF is adjusted to 5 percent (0.05) and the EPC is adjusted to the 95UCL, the Low-TRV HQs for the grey fox are all less than 1 (Table B-35) and derivation of risk-based cleanup criteria for the grey fox was not considered necessary. Due to the higher HQs generated for the vole and mouse, remediation to protect these more sensitive receptors is expected to protect the fox.

B-3.5.4 Summary of Chemicals of Ecological Concern

Based on the Tier 2 BERA, a final list of COECs were selected that required development of risk-based cleanup goals to assist in the remedial decisions for this EE/CA. The following table summarizes the COECs by receptor group.

Amphibians	American Robin	California Vole	Western Harvest Mouse
Copper Lead Zinc	Copper Lead Zinc	Antimony Copper Lead Molybdenum Selenium Vanadium Zinc	Antimony Arsenic Cadmium Copper Lead Selenium Vanadium Zinc

B-3.6 UNCERTAINTIES

The ERA process unavoidably involves assumptions and uncertainties that may underestimate or overestimate the potential for adverse effects. However, in general, the process is more likely to overestimate risk. This tendency is intentional, especially for a screening-level risk assessment. The sources of uncertainty that occur during each phase of the ERA process are discussed in the following sections.

B-3.6.1 Uncertainties in Site Characterization and Data Quality

During the data collection and evaluation phase, variations in the field collection of samples and in the analytical methods may introduce some uncertainty in the identification of COPECs. This type of uncertainty is reduced by a well-designed and representative sampling plan, collection of duplicate samples and by the quality assurance/quality control (QA/QC) programs that are a standard part of laboratory and project protocols. Validation of the analytical data by an outside validator further improves the quality of the data. All data used in the ERA were collected under strict QA/QC programs and validated by a third party validator. The following paragraphs describe specific site characterization and data quality uncertainties.

A mound of soil was noted outside the boundary line that was being utilized by several ground squirrels (Photo B-12). It is unclear if this soil originated at IR Site 24A.

USEPA (1989) states that those chemicals that are detected in less than 5 percent of soil samples may be eliminated as COPCs. This criterion is potentially applicable for those chemicals with a minimum of 20 results, but was not applied to this site, as all detected chemicals were retained. Only the two detected explosives, 2,4-dinitrotoluene and 4-nitrotoluene had detection frequencies less than 5 percent, but these compounds were not selected as final COECs.

Sample BAI-24A-44 is a wood chip sample and was not included in the ERA data set. Inclusion of the data would have likely overestimated the risk for PAHs since ingestion of wood chips by ecological receptors is unlikely.

ProUCL inputs for nondetect results were represented by the MDL. The MDL is the lower limit concentration at which a chemical can be positively identified, but there is some uncertainty associated with the true concentration. The MRL Limit is the lowest concentration at which the chemical can be positively identified *and* the concentration is reliably estimated. Replacing nondetects with the MDL provides a reasonable approach for more-sensitive analytical limits and is the commonly used approach. “J flagged” (detected above the MDL, but below the MRL) data

were treated as detects. If MRLs are used in the generation of UCL calculations, J flagged data are often presumed to be nondetect. However, this approach would have resulted in the elimination of thallium as a COPEC. Nonetheless, some uncertainty remains in the values comprising the lower end of a site's concentration data set.

Sampling density for the inorganic constituents was relatively robust, with 80 samples collected across the site for the 0 to 2 feet bgs depth interval. For PAH analyses, there were 10 samples collected from the relatively small area where creosote-treated timbers were used as a retaining wall. However, PAHs were not retained as COECs limiting the impact of the uncertainty from the PAH data set.

For the purposes of the statistical analysis, data from the 0 to 0.5 foot and 1.5 to 2.0 feet were considered discrete samples at a given sampling location. All locations had depth data at both intervals which minimizes the introduction of bias toward any location that might have occurred if the data set had contained some locations with only surface data and other locations with multiple depth data. In general, the highest concentrations were located at the surface where the greatest potential for exposure exists. Thus, averaging the data from the two depths would have resulted in the potential to underestimate risk, whereas selection of the maximum concentration has the potential to overestimate risk for burrowing species that reside at deeper depths. Thus, this method to address the varying soil depth data has the potential to underestimate or overestimate risk.

The adequacy of detection limits for the 0 to 2 foot depth for soil was evaluated as part of this uncertainty evaluation. Table B-36 presents the analysis of both the MRLs and MDLs for soil data for the 0 to 2 foot depth based on comparisons to screening benchmarks for plants and invertebrates. With the exception of selenium where the MRL exceeded the plant benchmark, 1,3-dinitrobenzene and nitrobenzene where the MRL exceeded the benthic invertebrate benchmarks, and 2,6-dinitrobenzene where the MRL exceeded all three benchmarks (plant and invertebrates), MRLs did not exceed soil screening benchmarks for plants or invertebrates. Based on a comparison of the benchmarks to MDLs, 1,3-dinitrobenzene exceeded the benthic invertebrate benchmark and 2,6-dinitrobenzene exceeded all three benchmarks (plant, soil invertebrates, and benthic invertebrates). However, this data quality issue is unlikely to affect the results of this ERA or the derivation of cleanup goals because these chemicals were not selected as final COECs and benchmarks for these receptors were not used in the derivation of final cleanup goals.

Selenium was detected in the 0 to 2 foot depth at 38 percent. The selenium MRLs ranged from 0.52 to 0.62 mg/kg and were only slightly greater than the plant benchmark of 0.52 mg/kg. In addition, selenium was retained as plant, benthic invertebrate, mouse and vole COPEC and a cleanup goal was derived for based on these upper trophic level species, minimizing this uncertainty.

The compounds 1,3-dinitrobenzene, 2,6-dinitrobenzene, and nitrobenzene were not detected in any of 80 samples. The MRLs for these explosives were nearly identical and ranged from 202 to 255. These exceedances are considered insignificant for two reasons: explosives are generally not persistent or bioaccumulative in soils and in some cases, the benchmarks are so low as to be difficult for analytical methods to achieve or the utility of the benchmark to predict toxicity.

Several explosives did not have established plant or invertebrate benchmarks and a high degree of uncertainty exists as to whether the MRLs were adequate for these chemicals.

In summary, the data evaluated in the ERA were considered to be of adequate quality and representative of current conditions at the site.

B-3.6.2 Uncertainties in Exposure Characterization

In the exposure characterization phase, risk is most likely overestimated because the selected EPCs and exposure assumptions are meant to be protective of all species that could utilize the site and, therefore, conservative assumptions are made. The following paragraphs describe the exposure characterization uncertainties specific to the site.

With the possible exception of plants and some soil and benthic invertebrates, it is unlikely that most receptors would be consistently exposed to the maximum or the upper-bound estimate of the average concentration (i.e., the UCL95) for long periods. However, use of these EPCs is intentionally conservative and follows regulatory guidelines.

A screening evaluation of chemical levels in soil in the drainage channel against sediment benchmarks was performed. Based on the UCL95 concentrations, antimony, copper, lead, selenium, and zinc concentrations in soil were greater than both low and high sediment benchmarks. To the extent that benthic invertebrates are capable of surviving in dry months, risks may be overestimated or underestimated to this receptor group.

In some cases, avian or mammalian exposure parameters were modeled on the basis of allometric relationships (e.g., food ingestion rates) or were based on data from these or similar species from the literature (e.g., soil ingestion rates). Risks may be overestimated or underestimated.

UCL95 soil data were used as the EPC in the Tier 2 BERA for plants and invertebrates. While these species may be more likely to have limited distributions across the site, the measurement endpoint of concern is at the population level and use of UCL95, rather than the maximum concentration, as the EPC was considered appropriate.

ProUCL Version 4.00.04 was used in the calculation of the EPCs. Version 4.00.05 has since been released. A comparison was performed for the soil EPCs for the 0 to 0.5 and 0 to 2 foot depths. For the 0 to 0.5 foot depth, differences in the EPCs varied for five chemicals (antimony, arsenic, copper, lead, and zinc). Four of these EPC differences (antimony, copper, lead, and zinc) were based on the site-wide exposure unit, while the remaining EPC (arsenic) demonstrated a difference for the Area 2 exposure unit. For the 0 to 2 foot depth, which was the data set used to develop the EPCs for thiss, differences were noted for three COPCs (antimony, copper, and lead) in either Area 2 or the site-wide exposure unit (see summary table below). In all cases, the EPCs were greater using Version 4.00.04, indicating the ERA would not under-estimate risk and would not have a significant impact on the remedial boundaries already defined in this report.

The following table summarizes the differences for the 0 to 2 foot depth:

COPC	UCL95 Version .04	UCL95 Version .05
Antimony – Area 2	352	187
Copper – site-wide	1,123	840
Copper – Area 2	5,106	2,540
Lead – site-wide	10,212	5,400

Units are in mg/kg

Prey tissue data were not collected for this EE/CA, rather chemical levels in plant, invertebrate and mammal tissue were estimated using literature-based BAFs and tissue regression models. The suitability of these bioaccumulation models to site conditions is unknown. Additionally, when uptake factors were not available for a specific medium and analyte, a default value of 1 was used. In general, the use of literature-based BAFs tends to over-estimate hazards.

The size distribution of lead pellets was not noted. The size of the pellets may be too big for some songbirds to ingest. However, this data gap was not deemed significant given that the pellets appear to be degrading due to the high concentrations of lead found in soils. As such, removal of the pellets as a source of lead would be recommended regardless of whether pellet ingestion by birds is occurring.

Not all potential exposure routes were quantified in this ERA, including inhalation of volatiles for birds, inhalation of particulates, and dermal contact for birds and mammals. With the possible exception of particulate inhalation exposure by burrowing species, exposure by these routes is expected to be minor, but still contributes to the overall exposure of the receptor. This may result in underestimation of risk.

Cattle grazing occurs at the site and with the future land use designation remaining as open space, grazing is expected to continue. Although potentially complete pathways exist for cows, domestic animals are typically not evaluated in risk assessment because they are not members of natural communities, which are the focus of an ERA. The wild mammal receptors selected for the ERA are assumed to be protective of ruminants that may utilize the site. Often, receptors that primarily eat earthworms and soil invertebrates are found to be the most sensitive to chemical exposure, as is demonstrated in USEPA's Eco-SSL document for lead (USEPA 2005-2009). Out of the three feeding guilds USEPA evaluated in the development of the Eco-SSLs (herbivores, invertivores, and carnivores), the most sensitive group of mammals was found to be the invertivores. The western harvest mouse is the indicator species assumed to eat plants and soil invertebrates in this ERA. Cattle solely eat plants and foliage from the site, and the diet of the mouse is comprised of 60 percent invertebrates. The plant BAF and soil invertebrate BAF for lead calculated from USEPA's Eco-SSL guidance are 0.0021 and 0.01, respectively, indicating higher lead accumulation in soil invertebrate tissue (USEPA 2005-2009). In addition, livestock studies are generally scarcer than those for rodents and are not usually indicative of ecologically-significant endpoints (e.g., reproduction and growth endpoints). Those few TRVs for cattle shown in USEPA's Eco-SSL report for inorganic lead are generally higher than the TRV used to derive the Eco-SSL for mammals (USEPA 2005-2009). Furthermore, in reality the cattle would likely be receiving their daily food intake needs from other sources (feed, hay, *etc.* .) in addition to the grasses at the site, resulting in much less exposure to site-related COPECs than wild mammals living at the site and fulfilling all of their food requirements within the site boundaries.

In summary, the approach used to characterize ecological exposures at the site is consistent with regulatory guidance and the assumptions incorporated into this phase of the ERA are expected to be reasonably protective of all potential receptors.

B-3.6.3 Uncertainty in Effects Assessment

The selected screening benchmarks and TRVs are generally conservative values developed from the primary literature. TRVs are usually selected from the lowest effect levels and no effect levels of doses from a variety of toxicity studies. Numerous other factors that may reduce the potential for effects are not considered at all or assumed to operate at maximum levels in the derivation of TRVs, e.g., assumption of 100 percent bioavailability of the accumulated intake, no consideration of digestion and elimination mechanisms, and no consideration of detoxification or metabolic mechanisms. Additionally, uncertainties may be introduced by a lack of similarity and relevance in applicability between the study on which the benchmark or TRV is based and the actual conditions at the site. The following paragraphs describe the effects assessment uncertainties specific to the site.

TRVs were not available for thallium for soil and sediment invertebrates. Because no detections of thallium were noted in Exposure Unit 3, and a 4 percent detection rate for thallium was noted in Exposure Unit 2, thallium likely poses a low risk to soil invertebrates in these areas. The detection rate of thallium in sediments of the Exposure Unit 4 drainage channel was 58 percent. However, it should be noted that the maximum site detection is lower than the minimum detected value of 0.81 mg/kg used to define background for IR Sites 13 and 22 of the Inland Area (Tetra Tech 1997). Thus, the thallium found at IR Site 24 is likely to naturally occurring and the lack of soil invertebrate and sediment benchmarks is unlikely to affect the conclusions of this ERA.

A TRV was not available for molybdenum for benthic invertebrates. The UCL95 concentration is 0.3 mg/kg which is lower than the range of MRLs for this site (0.6 to 0.69 mg/kg). Background for molybdenum is set at the detection limit, suggesting that molybdenum at this site is likely representative of background which minimizes the uncertainty associated with the lack of a TRV for molybdenum for benthic invertebrates.

TRVs for the bird species were not available for antimony, beryllium, and thallium. Antimony concentrations at IR Site 24A were consistently above background concentrations (Table B-26) in the Exposure Unit 2 and the lack of a TRV for birds contributes to the uncertainty of the Tier 2 ERA findings for birds. However, antimony was retained as a COPEC for mammals and a cleanup goal was derived for mammals which minimizes the significance of the lack of a TRV

for birds because some action will be taken. The range of maximum concentrations of beryllium in the various subareas (0.6 to 0.98 mg/kg) were similar to or slightly less than twice as high as the background level of 0.56 mg/kg, and may be within range of natural data variability for background, suggesting that the lack of a beryllium TRV would not significantly impact the findings of the Tier 2 ERA for birds. There is no established background level for thallium for IR Site 24A because it was not detected in the background study. However, the maximum detected concentration of thallium of 0.51 mg/kg is lower than the 95th percentile background level for thallium of 1.9 mg/kg established for other inland areas of the former NAVWPNSTA Concord (Tetra Tech 1997).

In the absence of reliable PAH toxicity data for birds, the potential hazards to birds exposed to PAHs are addressed qualitatively. Because PAHs accumulate in earthworms, the potential for PAH exposure by the American robin is of greater concern than for predatory birds. However, the chemical behavior of PAHs may impact the bioavailability of PAHs and overall exposure. In general, both low molecular weight and high molecular weight PAHs are expected to significantly adsorb to soil due to their strong affinity for organically enriched substrates (i.e., organic carbon) and other ligands (e.g., sulfides) (Eisler 1987). In addition, significant bioaccumulation of PAHs by vertebrate species has not been reported in the literature (Hartung 1995) most likely due to the rapid metabolism of PAHs.

As noted in the Eco-SSL document for PAHs (USEPA 2005-2009), the recommended BAF for PAHs is zero for estimating PAH concentrations in mammalian prey tissue because of the rapid metabolism of these compounds after ingestion by birds and mammals. Therefore, ingestion of PAHs in prey items for the red-tailed hawk is likely to be minimal and the lack of PAH TRVs for birds would not significantly impact the findings of the Tier 2 ERA for carnivorous birds. Although field-collected mammalian tissues at a southern California site has shown that PAHs do sometimes bioaccumulate into rodent tissues, the small size of the site relative to the home range for birds of prey or other predators consuming small mammals were considered sufficient evidence to show that the lack of quantitative evaluation of PAHs for predators would not significantly impact the conclusions of the ERA.

Literature-derived toxicity data, based on laboratory studies, were used to evaluate risk to many of the receptor groups. Effects observed in laboratory species were assumed to be indicative of effects that would occur in wild species. The suitability of this assumption is unknown. Therefore, risk may be either overestimated or underestimated.

Dose-response data for reptile species is very limited and risks to this receptor group were addressed qualitatively. Addressing risks to amphibian species is likely protective of reptile species given that no sensitive reptiles are likely to occur on the site. Nonetheless, the lack of reptilian toxicity data contributes to the uncertainty of this risk assessment.

There are no amphibian benchmarks for explosives and all but four metals detected on the site. Despite the fact that copper, lead, and zinc concentrations in site soils exceed the NOEC for sediments for amphibians, the consideration of these values to evaluate hazards to amphibian species is highly uncertain given the site is seasonally dry.

In summary, the available toxicity data for the receptors at the site are believed to address the primary COPECs, which were evaluated quantitatively in the ERA. Lack of TRVs or screening benchmarks for some chemicals detected at the site presents an uncertainty that is unlikely to influence the overall findings and recommendations.

B-3.6.4 Uncertainties in Risk Characterization

The risk characterization process incorporates uncertainties that may over- or under-estimate risk. The exceedance of a screening level or TRV by the corresponding EPC or average daily does does not necessarily mean that there is a threat to the referenced receptor. It means only that the potential for adverse effects may exist, but the likelihood of overestimating or underestimating risk may be further explored to gain a better understanding of the confidence placed in the assumptions (exposure and effects) used to calculate risk. However, the magnitude of the HQs, especially for lead, suggests that the site may pose a threat to ecological receptors and remediation may be warranted.

Because of inherent uncertainties in the exposure-estimation calculation, risk as measured by the HQ is discussed in broad terms in Section B2.4.3. In general, an HQ of less than 1 signifies that risks are unlikely. An HQ greater than 10 typically indicates that a hazard is probable, depending on the conservatism of the TRV and the magnitude of the HQ. A range of hazards based on Low-TRVs and High-TRVs are presented in the Tier 2 BERA. All HQs greater than 1 are evaluated using various lines of evidence that consider both the magnitude of the hazard estimates and the uncertainties and spatial distribution of the exceedances. A range of HQs is provided for each receptor to account for the uncertainties in the ERA process and to provide risk managers with a range of possible scenarios. However, cleanup goals were derived for all COPECs that had an HQ greater than 1 based on the Low-TRV.

The sediment benchmarks protective of a benthic community were not considered in the derivation of cleanup goals for the drainage channel, given that there are no known sensitive benthic species in the channel and this channel is a man-made feature that likely only seasonally contains suitable habitat for benthic species. However, the majority of this channel has been targeted for further action based on the final cleanup goals which reduces this uncertainty.

The plant and soil invertebrate benchmarks were not used to define the final cleanup goal. There are no sensitive plants or soil invertebrates on the site, and cattle grazing occurs resulting in a plant community primarily comprised of ruderal species. In addition, the site is bordered by undeveloped areas such that impacts to populations of soil invertebrates are unlikely. Nonetheless, a large portion of the site has been targeted for further action based on the final cleanup goals which reduces this uncertainty.

B-4.0 ECOLOGICAL CLEANUP GOALS AND AREAS OF CONCERN

The purpose of this section is to take the findings of the Tier 2 BERA, Step 3a and formulate a path forward for risk managers to consider during the development of the removal action design in the EE/CA. The findings of the ERA indicate that concentrations of antimony, arsenic, cadmium, copper, lead, molybdenum, selenium, vanadium, and zinc in soil pose an unacceptable risk to wildlife receptors. The most sensitive of these receptors are the terrestrial bird and mammal with the smallest home ranges (i.e., American robin, California vole, and western harvest mouse) that were assumed to primarily consume plants and soil invertebrates. Ecological hazards for protected species of amphibians, such as the California tiger salamander and California red-legged frog, were also found to be present at unacceptable levels. Although these protected amphibian species have not been identified at the site, they have been sighted within a 1-mile radius of the site and were included in the selection of ecological cleanup goals. Due to the low ecological hazards estimated for the red-tailed hawk and gray fox, cleanup goals were not necessary to protect these wide-ranging receptors.

In the absence of sensitive species, the plant and soil invertebrate screening benchmark values were not retained for consideration in the derivation of cleanup goals. Likewise, the sediment benchmarks were not considered in the derivation of cleanup goals for the drainage channel, given that there are no known sensitive benthic species in the channel and this channel is a manmade feature that likely only seasonally contains suitable habitat for benthic species.

The following sections describe the ecologically protective soil cleanup goals that were calculated for the nine metals listed above to help focus the EE/CA on the AOECs that warrant some level of risk reduction.

B-4.1 PRELIMINARY CLEANUP GOALS

Back-calculated preliminary cleanup goals were calculated for the robin, vole, and mouse using the BCFs for plants and soil invertebrates (as applicable) that were used in the Tier 2 screening tables (Tables B-31, B-33, and B-34). The following equation was used in Tables B-37, B-38, and B-39 to calculate the soil cleanup goals for these receptors for antimony, arsenic, cadmium, copper, lead, molybdenum, selenium, vanadium, and zinc:

$$\text{Soil CG} = \frac{TRV \times BW}{\left[\left(\left(CF1 \times IR1 \times PF1\right) + \left(CF2 \times IR2 \times PF2\right) + IR_{\text{Soil}}\right) * SUF\right]}$$

where:

Soil CG	=	Cleanup goal concentration in soil protective of ecological receptor (mg chemical per kg soil dry weight)
TRV	=	Toxicity reference value – geometric mean of high and low values (mg chemical ingested per kg body weight per day)
BW	=	Body weight (kg)
CF1	=	Concentration in dry weight of COPEC in food item 1 (mg/kg)
*PF*1	=	Proportion of diet of food item 1
IR1	=	Ingestion rate of food item 1 (kg/day)
CF2	=	Concentration in dry weight of COPEC in food item 2 (mg/kg)
*PF*2	=	Proportion of diet of food item 2
IRF2	=	Ingestion rate of food item 2 (kg/day)
IR_{soil}	=	Ingestion rate of soil (mg/day)
SUF	=	Site use factor

These parameters are defined for the robin, vole, and mouse in Tables B-37, B-38, and B-39, respectively, including the geometric mean of the Low- and High-TRVs for each metal.

The TRVs protective of amphibians used in the Tier 2 screening and discussed in Section 2.7.2 were selected as the soil cleanup goals for this receptor group. A summary of the cleanup goals for amphibians and the robin, vole, and mouse is presented in Table B-40. The final selected soil cleanup goal for each of the nine metals is provided in the last column of this table and represents the lowest of the receptor-specific cleanup goals.

The lowest cleanup for vanadium, which was calculated for the mouse, is below the site-specific background level. Therefore, the background level was selected as the final cleanup goal for vanadium. In addition, the lowest back-calculated cleanup goal for molybdenum is higher than the maximum detected concentration for this metal. For this reason, molybdenum was dropped as a final COEC. It is possible that concentrations of molybdenum at the site reflect natural variations in background levels, given the relatively tight distribution of the data (0.163 mg/kg to 0.63 mg/kg) and low standard deviation (0.111) (Table B-6). Molybdenum was not detected in the background data set, and the MDL (0.2 mg/kg to 0.23 mg/kg) of the samples collected at the site fall within the range of concentrations detected in site soils.

B-4.2 IDENTIFICATION OF AREAS OF ECOLOGICAL CONCERN

Figure B-5 presents the soil sampling locations with concentrations of antimony, arsenic, cadmium, copper, lead, selenium, vanadium, and zinc above the final selected cleanup goals discussed in Section B4.1 (presented in Table B-40).

Lead – Primary Risk Driver

The results of the Tier 2 BERA, Step 3a demonstrated that lead is the primary risk-driver at the site and, therefore, the final cleanup goal for lead of 59 mg/kg was used a primary guide to identify areas that require risk management (e.g., soil removal). All locations in exceedance of the cleanup goal for lead are included within the boundary of an excavation area. Proposed excavation areas are denoted by either blue hatching, which indicates surface removal (down to 0.5 feet bgs), or pink hatching (or green for the drainage channel), which indicates removal down to 2 feet bgs. The boundaries of the proposed excavation areas on the figure are approximate due to the limitations of the existing data set. The true boundaries will be delineated in the field through confirmation sampling. Areas not shown in hatching on the figure, such as many of the retaining wall locations and those in the eastern portion of the 40-mm grenade impact area, are also not recommended for removal given the lack of elevated metals concentrations.

Lead Pellets

Another indicator used to identify areas that require risk management is the presence of lead pellets, as illustrated on the figure. Due to the potential for risk posed to birds (and other animals) from exposure to lead through ingestion of these pellets, it was assumed that all locations with lead pellets will need to be remediated. Most locations with lead pellets are also co-located with elevated levels of lead, and other metals to a lesser extent. On Figure B-5, the symbology indicates sampled locations with and without the presence of lead pellets and other COECs. As illustrated on the figure, the central area of the site has the highest density of locations with either elevated lead, lead pellets present, or both: retaining wall, target berm, western portion of range floor, below grenade impact area, and western portion of the drainage channel.

As a side note, location BAI-24A-33 was originally designated as a target berm sample in the SI report (BAI 2010). However, due to its close proximity to the drainage channel and because it is characterized by elevated lead and the presence of lead pellets, this location was included within the removal area boundary for the drainage channel shown in green hatching on the figure (recommended removal down to 2 feet bgs).

Other Chemicals of Ecological Concern

Sample locations on the map denoted by the presence of nonlead COECs indicates that lead is not elevated above the cleanup goal at these locations and lead pellets are not present, but concentrations of one or more of the remaining seven metals are elevated above the respective cleanup goals. Most of these locations occur in the eastern portion of the site: firing line, range floor, and eastern portion of the drainage channel.

Locations Not Recommended for Removal

The two locations with nonlead COECs present in the most western stretch of the drainage channel are not recommended for removal: BAI-24A-10 and -11. The only exceedances of cleanup goals at these two locations occur below the surface (2 feet bgs); no elevated metals are present in the 0 to 5 foot bgs samples. Selenium was elevated at 2 feet bgs at both locations, and zinc was elevated at 2 feet bgs at BAI-24A-11. For selenium, the exceedances of the lowest cleanup goal of 2.0 mg/kg are minor: 2.4 mg/kg at BAI-24A-10 and 2.1 mg/kg at BAI-24A-11. No other selenium cleanup goals were exceeded at these locations. The zinc concentration at BAI-24A-11 of 1,300 mg/kg is 1.9 times the lowest cleanup goal of 667 mg/kg, which is protective of a robin. It is unlikely that a robin would be exposed to soil at 2 feet bgs. The elevated zinc concentration at BAI-24A-11 is 1.6 times the cleanup goal for the mouse (830 mg/kg) and 1.1 times the cleanup goal for amphibians (1,200 mg/kg). The cleanup goal for the vole was not exceeded by the zinc concentration at BAI-24A-11. Based on these low exceedances of the cleanup goals for selenium and zinc and lack of elevated concentrations at the surface, no removal is recommended at BAI-24A-10 and -11.

B-5.0 CONCLUSIONS AND RECOMMENDATIONS

A two-tiered approach was used to evaluate ecological hazards to species present at IR Site 24A. The Tier 1 SLERA included a site visit to characterize the plant and animal communities at the site and to evaluate general habitat quality. The SLERA also included the development of an ecological CSM, selection of assessment and measurement endpoints, selection of COPECs and a preliminary evaluation of ecological hazards. The exit criteria for the Tier 1 SLERA fell into Category 2 for IR Site 24A because contaminant concentrations were found at concentrations greater than plant and invertebrate benchmarks and because HQs greater than 1 were noted for birds and mammals. Therefore, a Tier 2 BERA was performed.

The same indicator species identified for the Tier 1 SLERA were retained for the Tier 2 BERA. The primary difference between the Tier 1 and Tier 2 ERAs was the consideration of background levels of metals, the use of the UCL95 as the EPC, refinement of other species-specific exposure parameters, as appropriate, and consideration of the frequency and spatial distribution of chemical detections in assessing the significance of the HQs greater than 1. COECs are those chemicals retained at the conclusion of the Tier 2 BERA that should comprise the focus of the EE/CA to protect ecological receptors. Because a removal action has already been established for this site by the Navy and the purpose of this ERA is to support the EE/CA by providing ecologically protective cleanup goals and recommending areas of remediation to address the exposure pathways demonstrated to require risk management to protect ecological receptors, cleanup goals were developed for ecological receptors and the areas of concern recommended for consideration in the EE/CA were defined. With the possible exception of a post-remediation residual ERA to verify success of the removal action, no further risk assessment is anticipated to be needed for IR Site 24A

The major conclusions and recommendations for IR Site 24A are summarized below:

- The primary COPECs are metals in soil. Explosives and PAHs were generally not noted at ecologically significant concentrations. The presence of lead pellets and fragments also has the potential to pose a hazard to songbirds. The high concentrations of lead found in site soils suggests that lead pellets are degrading and are acting as an ongoing source of lead for soils in many areas of the site.

- No sensitive plant or special-status soil or benthic invertebrate species are noted within a 1-mile radius of this site. Although COPEC concentrations are noted to be greater than plant screening benchmarks, indicating localized plant effects are possible, the plant and

invertebrate benchmarks are generally considered to be highly uncertain. Therefore, in the absence of sensitive species, the plant and soil invertebrate screening benchmark values were not retained for consideration in the derivation of cleanup goals. Likewise, the sediment benchmarks were not considered in the derivation of cleanup goals for the drainage channel, given that there are no known sensitive benthic species in the channel and this channel is a manmade feature that likely only seasonally contains suitable habitat for benthic species.

- Two federally and state protected amphibians (listed as threatened) have been identified in the general area of IR Site 24A: the California red-legged frog and the California tiger salamander. Abandoned ground squirrel and other small rodent burrows or the drainage channel at IR Site 24A could potentially be used seasonally by the California tiger salamander and California red-legged frog (Smallwood and Morrison 2007; EDAW 2008). Copper, lead, and zinc were identified as COECs for amphibians and the NOEC benchmarks were identified as cleanup goals for these receptors. Because lower cleanup goals were noted for other receptors, none of these amphibian benchmarks were retained as final cleanup goals.

- No sensitive reptiles are known to occur on the site, although it is possible for one to be present. Dose-response data for reptile species is very limited and this assessment focused on the evaluation of hazards to amphibians which is likely a conservative indicator species for reptiles. Cleanup goals protective of amphibians were considered in the selection of final cleanup goals for IR Site 24A, and the assumption was made that these cleanup goals will also protect reptiles that may occur at the site.

- No sensitive omnivorous bird species are noted within a 1-mile radius of this site. The American robin was selected as the indicator species for this feeding guild. Cleanup goals for copper and lead, using the Eco-SSL TRV, and zinc were derived for omnivorous birds and were the lowest values for any receptor. These values were used to identify the targeted AOEC for cleanup. In addition, because of the potential for this receptor group to ingest pellets as grit, all locations with visible pellets were targeted for remedial action.

- The Golden eagle and ferruginous hawk are the two sensitive bird species known to occur within a 1-mile radius of IR Site 24A. The red-tailed hawk was selected as an indicator species to evaluate impacts of chemicals on carnivorous birds at IR Site 24A. The red-tailed hawk is a very common resident species (as opposed to the ferruginous hawk which is a winter migrant) with more abundant life history data, is smaller in size, and

has a smaller home range, which makes it an appropriate indicator species for these two species. No HQs greater than 1 were calculated based on the Low-TRV for the hawk (using USEPA's Eco-SSL TRV for inorganic lead) in the Tier 2 BERA. As such, the chemical levels in soil at IR Site 24A do not appear to pose a health threat to predatory birds.

- No sensitive burrowing or herbivorous mammal species are noted within a 1-mile radius of this site. The California vole was selected as a representative species for both herbivorous mammals and burrowing mammals. Seven metals had Low-TRV HQs greater than 1 and cleanup goals were derived for these COECs for the vole. The cleanup goal for molybdenum was the lowest value, but was determined to be lower than background such that molybdenum was not retained as a COEC.

- No sensitive omnivorous mammal species are noted within a 1-mile radius of this site. The western harvest mouse was selected as the indicator species for this feeding guild. Eight metals resulted in HQs greater than 1 based on Low-TRVs and cleanup goals were derived for each of these metals. The cleanup goals for the mouse for antimony, arsenic, cadmium and selenium were the lowest values for any receptor group.

- No sensitive carnivorous mammal species are noted within a 1-mile radius of this site. The grey fox was selected as the indicator species for this feeding guild. No HQs greater than 1 were calculated based on the Low-TRV for the fox in the Tier 2 ERA. As such, the chemical levels in soil at IR Site 24A do not pose a health threat to carnivorous mammals.

In conclusion, selected metals (primarily antimony, lead, copper, and zinc) were found to pose a current or future potential hazard to ecological receptors at the site. Cleanup goals were developed in support of remedial decisions for this EE/CA and recommended areas of cleanup were identified. The presence of lead pellets was also presumed to pose a risk to songbirds and removal of soils containing lead pellets at the site was recommended. The approximate removal area based on the available data, and assuming that ecological risks are address based on the geometric mean of the Low-TRV and High-TRV, is presented on Figure B-5. The cleanup goals based on lead shot density vary according to site conditions, but generally fall in the range of 3 to 13 shot pellets per square foot (MADEP 2009) and this guidance can be used as a target cleanup goal. The approximate areas identified based on protection of ecological receptors assume that removal (excavation) is the preferred remedial action. If removal is selected as the preferred remedial alternative, confirmation samples would need to be collected to confirm that the

selected cleanup goals are met. In addition to the chemical hazards at the site, several site features pose an attractive nuisance at the site, such as unsecured doors/windows in the conex and trailer that attracts nesting songbirds and the woodpile adjacent to one of the conex structures that could attract rodents to the site.

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FIGURES

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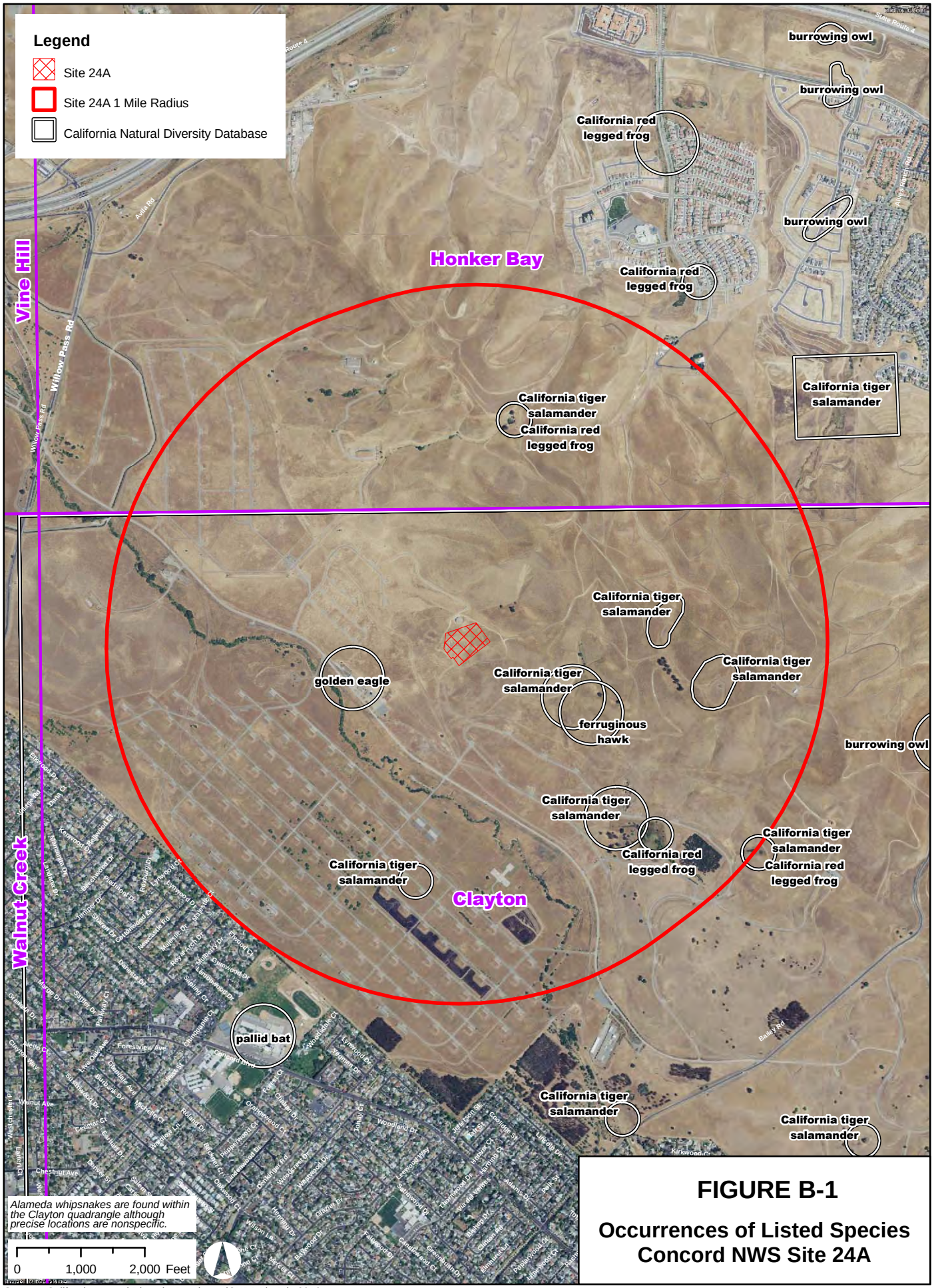

FIGURE B-1

Occurrences of Listed Species Concord NWS Site 24A

Source: California Natural Diversity Database (CNDDB), July 2010

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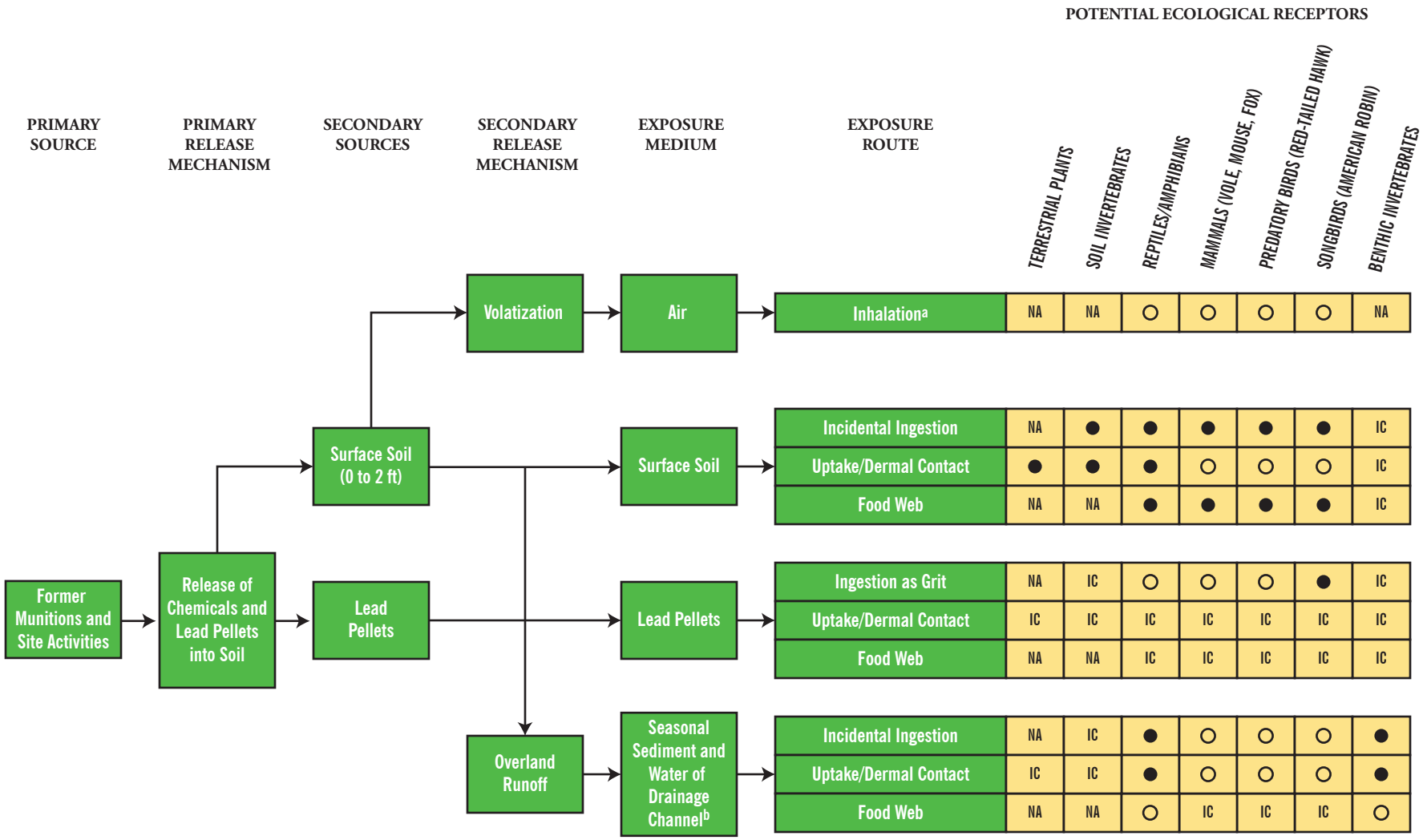

LEGEND

● Potentially complete pathway
○ Minor or insignificant pathway
IC Incomplete Pathway
NA Not an applicable pathway for the particular receptor.
a The inhalation exposure route for all receptors, including burrowing mammals, is minor due to the lack of volatile organic compounds at the site.
b A drainage channel passes around the site perimeter and may be seasonally inundated with rainwater.

Figure B-2 Conceptual Site Model for Ecological Receptors

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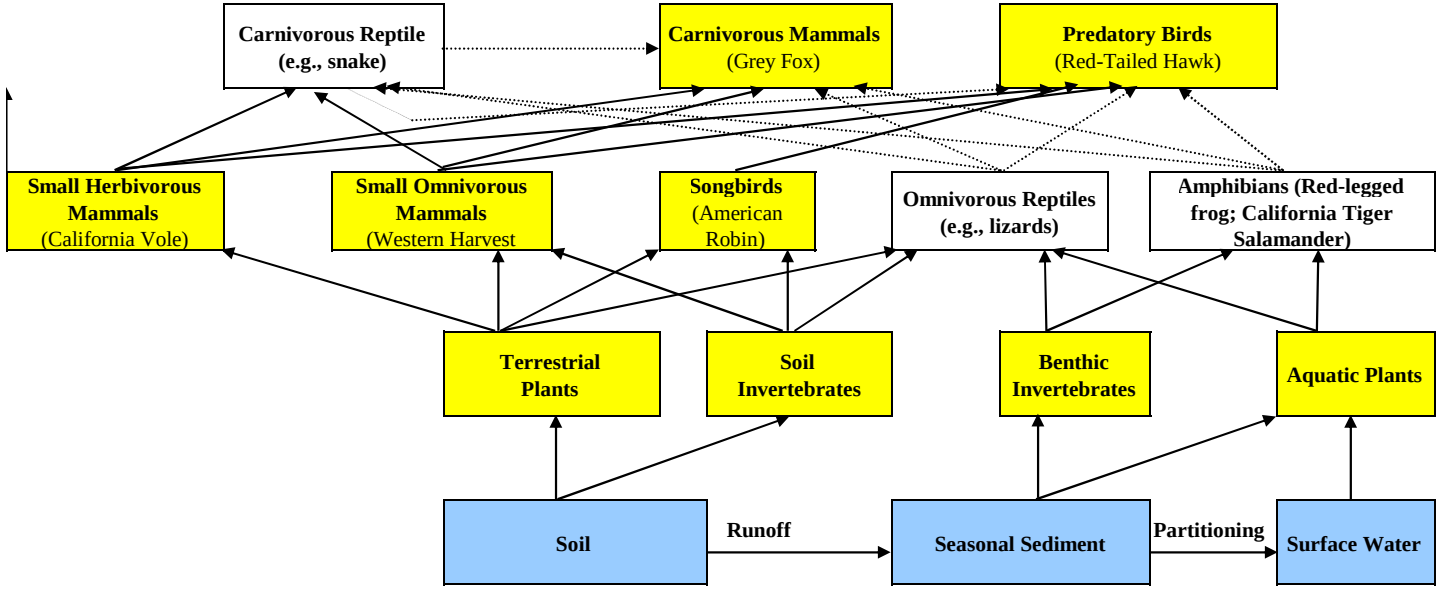
Figure B-3
Simplified Food Web Diagram - IR Site 24A



Notes:

Organisms in yellow-shaded boxes were quantitatively evaluated for risk using the representative species or general receptor categories shown.

Amphibians were evaluated semi-quantitatively in the ERA, and reptiles were evaluated qualitatively. Amphibians and reptiles are also consumed by carnivorous wildlife, but the associated arrows are dashed due to the lack of a full quantitative evaluation for these organisms.

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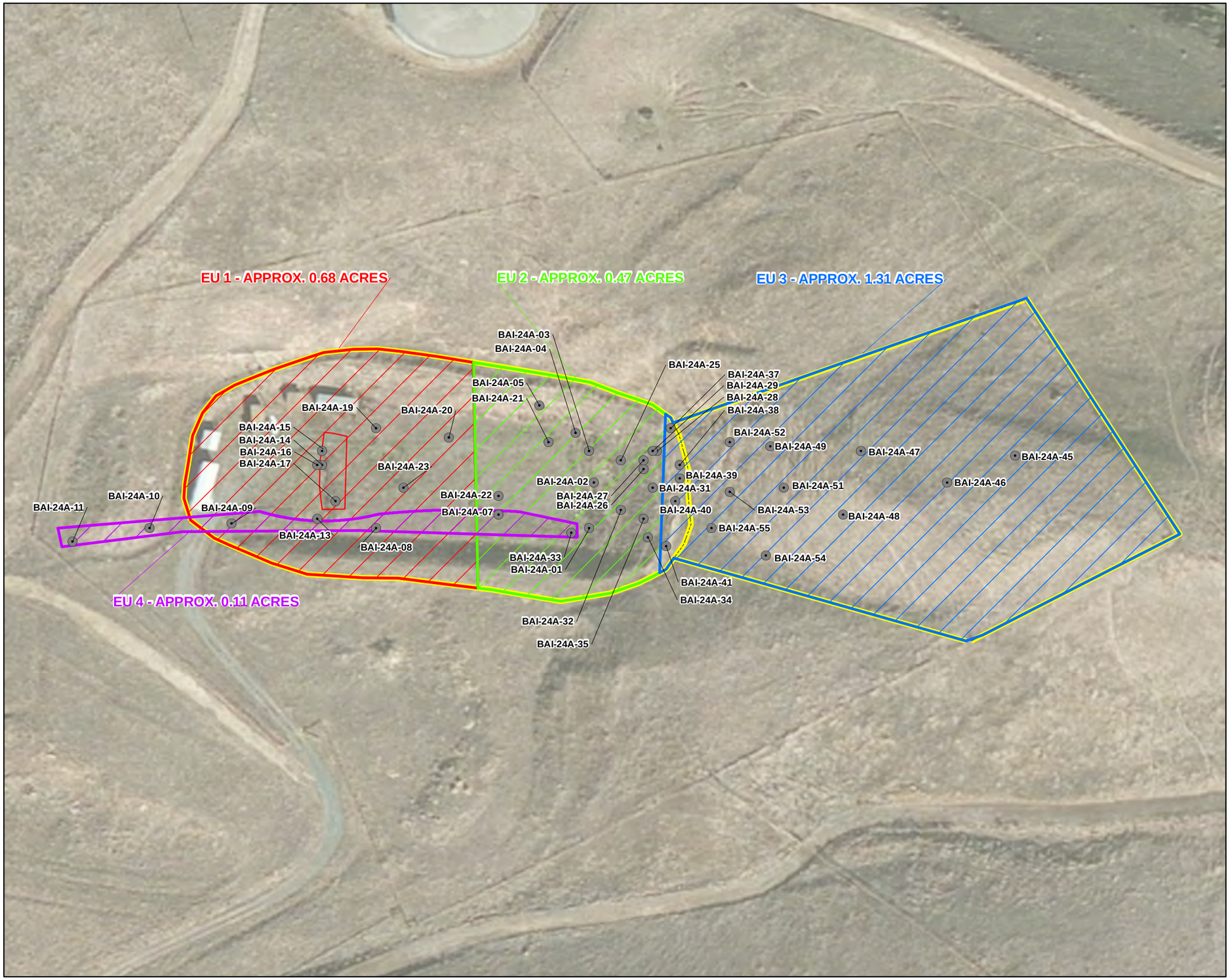

LEGEND

SOIL SAMPLE LOCATION

EXPOSURE UNIT DESCRIPTION

- EXPOSURE UNIT 1
- EXPOSURE UNIT 2
- EXPOSURE UNIT 3
- EXPOSURE UNIT 4
- FIRING LINE
- MUNITIONS RESPONSE SITE (MRS) BOUNDARY

NOTE:
EU - EXPOSURE UNIT

SOURCE:
BING MAPS AERIAL IMAGE, DATE UNKNOWN.
ENVIRONMENTAL SYSTEMS RESEARCH INSTITUTE
(ESRI) USA SPATIAL FEATURE CLASSES

GRAPHIC SCALE

0 40 80 160

(IN FEET)
1 INCH = 80 FEET

DEPARTMENT OF THE NAVY

SAN DIEGO, CALIFORNIA

NAVFAC SOUTHWEST

ECOLOGICAL RISK EVALUATION OF SITE 24A
FORMER NAVAL WEAPONS SEAL BEACH DETACHMENT CONCORD
CONCORD, CALFORNIA

FIGURE B-4

SAMPLE LOCATION AND EXPOSURE UNITS

TREVET

DATE: NOVEMBER 2010

CONTRACT NO.: N62473-10-C-4406

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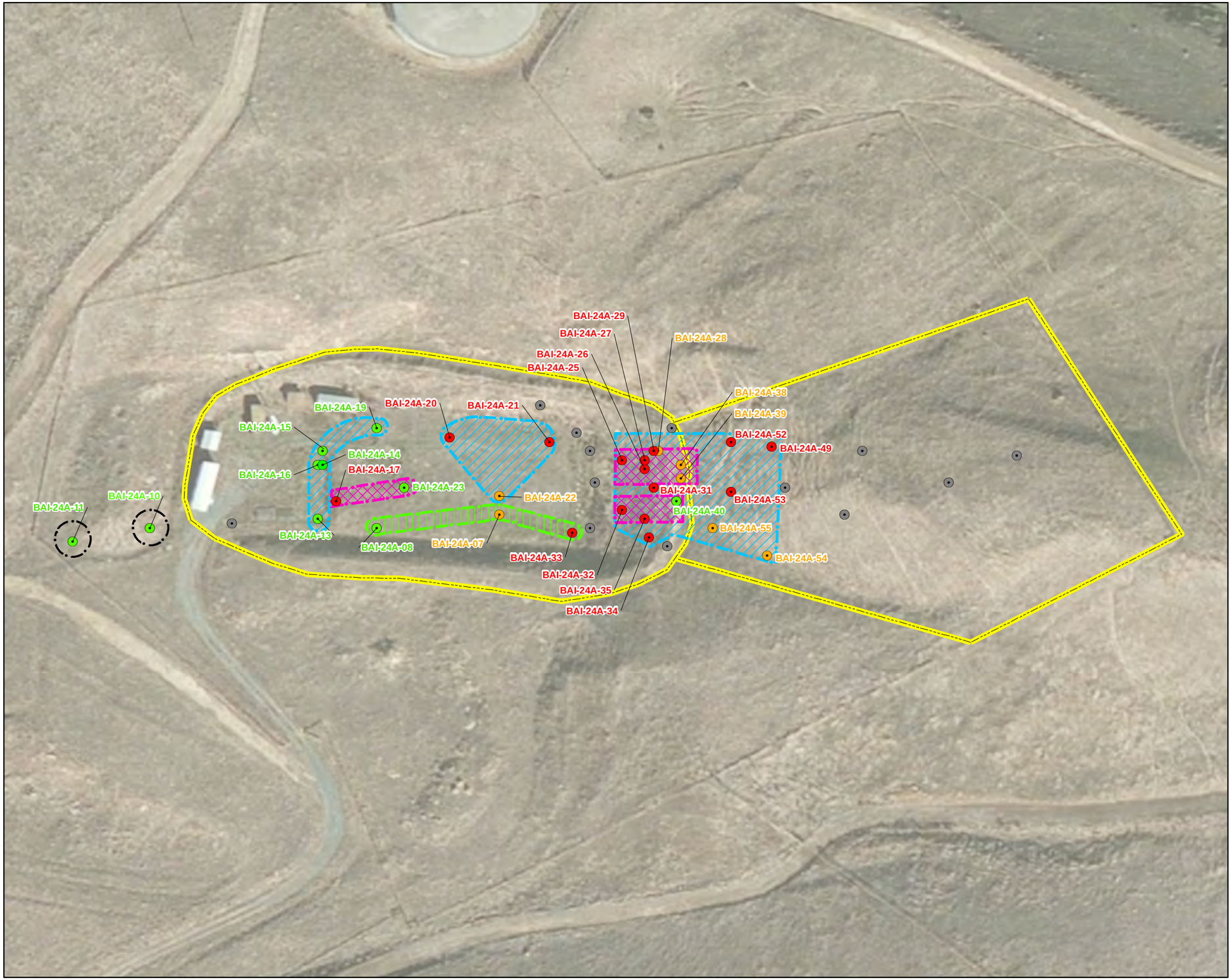

LEGEND

- SOIL SAMPLE LOCATION WITH NO COEC EXCEDENCE
- LEAD PELLETS PRESENT
- NON-LEAD COEC SOIL SAMPLE LOCATION
- LEAD IS A DRIVER AT SOIL SAMPLE LOCATION (NO LEAD PELLETS PRESENT)

EXCAVATION DESCRIPTION

RECOMMENDED EXCAVATION BOUNDARY LINES ARE APPROXIMATE AND ARE DRAWN AROUND LOCATION-SPECIFIC EXCEEDANCES OF RISK-BASED CLEANUP GOALS

- NON-LEAD COEC, BUT CLEAN UP NOT NEEDED
- 0.5' REMOVAL
- 2.0' REMOVAL
- 2.0' REMOVAL - DRAINAGE CHANNEL
- MUNITIONS RESPONSE SITE (MRS) BOUNDARY

NOTES:
COEC - CHEMICAL OF ECOLOGICAL CONCERN
LOCATION BAI-24A-28 ONLY HAD CONTAMINATION TO DEPTH OF 0.5' BUT BECAUSE OF PROXIMITY TO BAI-24A-29, IT IS INCLUDED IN 2.0' EXCAVATION.
EXCAVATION FOR LOCATION BAI-24A-32 IS TARGETED DUE TO THE PRESENCE OF PELLETS IN TEST PIT 4 WHICH IS LOCATED IN THE VICINITY.

SOURCE:
BING MAPS AERIAL IMAGE, DATE UNKNOWN.
ENVIRONMENTAL SYSTEMS RESEARCH INSTITUTE (ESRI) USA SPATIAL FEATURE CLASSES

GRAPHIC SCALE
0 40 80 160
(IN FEET)
1 INCH = 80 FEET

DEPARTMENT OF THE NAVY
SAN DIEGO, CALIFORNIA
NAVFAC SOUTHWEST

ECOLOGICAL RISK EVALUATION OF SITE 24A
FORMER NAVAL WEAPONS SEAL BEACH DETACHMENT CONCORD
CONCORD, CALFORNIA

FIGURE B-5

APPROXIMATE REMOVAL AREAS
BASED ON ECOLOGICAL CLEANUP GOALS

TREVET

DATE: APRIL 2011

CONTRACT NO.: N62473-10-C-4406

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TABLES

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Table B-1: Summary of Species Listed in the California Natural Diversity Database

Species	Quadrant	Status (Federal/State)
Invertebrates		
San Bruno elfin butterfly *Callophrys mossii bayensis*	Clayton	Endangered/None
Bridges' coast range shoulderband *Helminthoglypta nickliniana bridgesi*	Clayton	None/None
vernal pool tadpole shrimp *Lepidurus packardi*	Honker Bay	Endangered/None
Amphibians and Reptiles		
California tiger salamander[+] *Ambystoma californiense*	Clayton, Honker Bay	Threatened/Threatened CDFG: SC
Alameda whipsnake[+] *Masticophis lateralis euryxanthus*	Clayton	Threatened/Threatened
coast horned lizard *Phrynosoma blainvillii*	Clayton	None/None CDFG: SC
California red-legged frog[+] *Rana draytonii*	Clayton, Honker Bay	Threatened/None CDFG: SC
Birds		
tricolored blackbird[++] *Agelaius tricolor*	Honker Bay	None/None CDFG: SC
golden eagle[+] *Aquila chrysaetos*	Clayton	None/None
short-eared owl[++] *Asio flammeus*	Honker Bay	None/None CDFG: SC
burrowing owl[++] *Athene cunicularia*	Clayton, Honker Bay	None/None CDFG: SC
ferruginous hawk[+] *Buteo regalis*	Clayton	None/None
saltmarsh common yellowthroat *Geothlypis trichas sinuosa*	Honker Bay	None/None CDFG: SC
California black rail[++] *Laterallus jamaicensis coturniculus*	Honker Bay	None/Threatened
Suisun song sparrow *Melospiza melodia maxillaries*	Honker Bay	None/None CDFG: SC
California clapper rail[++] *Rallus longirostris obsoletus*	Honker Bay	Endangered/Endangered
California least tern *Sternula antillarum browni*	Honker Bay	Endangered/Endangered

Table B-1: Summary of Species Listed in the California Natural Diversity Database

Species	Quadrant	Status (Federal/State)
Mammals		
pallid bat *Antrozous pallidus*	Clayton	None/None CDFG: SC
Berkeley kangaroo rat *Dipodomys heermanni berkeleyensis*	Clayton	None/None
San Joaquin pocket mouse *Perognathus inornatus inornatus*	Clayton, Honker Bay	None/None
salt-marsh harvest mouse[++] *Reithrodontomys raviventris*	Honker Bay	Endangered/Endangered
San Joaquin kit fox *Vulpes macrotis mutica*	Clayton	Endangered/Threatened
Plants		
large-flowered fiddleneck *Amsinckia grandiflora*	Clayton	Endangerd/Endangered CNPS: 1B.1
slender silver moss *Anomobryum julaceum*	Clayton	None/None CBPS: 2.2
Mt. Diablo manzanita *Arctostaphylos auriculata*	Clayton	None/None CNPS: 1B.3
Contra Costa manzanita *Arctostaphylos manzanita ssp. laevigata*	Clayton	None/None CNPS: 1B.2
big tarplant *Blepharizonia plumosa*	Clayton, Honker Bay	None/None CNPS: 1B.1
round-leaved filaree *California macrophylla*	Clayton	None/None CNPS: 1B.1
Mt. Diablo fairy-lantern *Calochortus pulchellus*	Clayton	None/None CNPS: 1B.2
chaparral harebell *Campanula exigua*	Clayton	None/None CNPS: 1B.2
Mt. Diablo bird's-beak *Cordylanthus nidularius*	Clayton	None/Rare CNPS : 1B.1
Hospital Canyon larkspur *Delphinium californicum ssp. Interius*	Clayton	None/None CNPS : 1B.2
Norris' beard moss *Didymodon norrisii*	Clayton	None/None CNPS : 2.2
Brandegee's eriastrum *Eriastrum brandegeeae*	Clayton	None/None CNPS: 1B.2
Mt. Diablo buckwheat *Eriogonum truncatum*	Clayton	None/None CNPS: 1B.1

Table B-1: Summary of Species Listed in the California Natural Diversity Database

Species	Quadrant	Status (Federal/State)
fragrant fritillary *Fritillaria liliacea*	Clayton	None/None CNPS: 1B.2
Diablo helianthella *Helianthella castanea*	Clayton	None/None CNPS: 1B.2
Brewer's western flax *Hesperolinon breweri*	Clayton	None/None CNPS: 1B.2
showy golden madia *Madia radiata*	Clayton	None/None CNPS: 1B.1
Hall's bush-mallow *Malacothamnus hallii*	Clayton	None/None CNPS: 1B.2
Lime Ridge navarretia *Navarretia gowenii*	Clayton	None/None CNPS: 1B.1
Mt. Diablo phacelia *Phacelia phacelioides*	Clayton	None/None CNPS: 1B.2
slender-leaved pondweed *Potamogeton filiformis*	Clayton	None/None CNPS: 2.2
rock sanicle *Sanicula saxatilis*	Clayton	None/Rare CNPS: 1B.2
chaparral ragwort *Senecio aphanactis*	Clayton	None/None CNPS: 2.2
Serpentine Bunchgrass	Clayton	None/None
most beautiful jewel-flower *Streptanthus albidus ssp. peramoenus*	Clayton	None/None CNPS: 1B.2
Mt. Diablo jewel-flower *Streptanthus hispidus*	Clayton	None/None CNPS: 1B.3
coastal triquetrella *Triquetrella californica*	Clayton	None/None CNPS: 1B.2
caper-fruited tropidocarpum *Tropidocarpum capparideum*	Clayton	None/None CNPS: 1B.1
oval-leaved viburnum *Viburnum ellipticum*	Clayton	None/None CNPS: 2.3

Notes:
This table includes all animal species found within the Clayton and Honker Bay Quads and those plant species that have either been documented on the site or listed under State or Federal protected status or have a listed CNPS status in the Clayton Quad.
+ = known occurrence within 1 mile radius of site based on the CNDDB.
++ = known to have historically occurred within a 1 mile radius of site based on Downard et al. (1999).

Table B-1: Summary of Species Listed in the California Natural Diversity Database

CDFG = California Department of Fish and Game
SC = Species of Concern

CNPS = California Native Plant Society
1B = Rare or Endangered in California and elsewhere
2 = Rare or Endangered in California, more common elsewhere

.1 = Seriously endangered in California

.2 = Fairly endangered in California

.3 = Not very endangered in California

TABLE B-2

Ecological Endpoints for Site 24A

Receptor Group	Assessment Endpoint	Indicator Species	Measurement Endpoints
Terrestrial Plants	Plants form the basis of the food web at the site, and adverse effects on the plant community could reduce the quantity and quality of food available to higher-trophic-level organisms. Therefore, the health of the plant community was considered to be an ecological value to be protected.	Various plant species	Soil concentrations producing adverse effects on growth, survival, or reproduction in plants Comparisons of soil contaminant concentrations against plant benchmarks, such as Eco-SSLs.
Terrestrial Invertebrates	Invertebrates play an important role in nutrient cycling and in the food web at the site. Adverse effects on invertebrates could reduce the quantity and quality of food available to higher trophic-level organisms. Therefore, the health of the invertebrate community was considered to be an ecological value to be protected.	Various soil invertebrates, including earthworms (for measurement endpoints)	Soil concentrations producing low-level effects on growth, survival, or reproduction in toxicological studies on soil invertebrates (e.g., Eisenia). Comparisons of soil concentrations with terrestrial invertebrate benchmarks such as Eco-SSLs.
Sediment Invertebrates	Adverse effects on sediment invertebrates could reduce the quantity and quality of food available to higher trophic-level organisms. Therefore, the health of the sediment invertebrate community was considered to be an ecological value to be protected.	Various sediment invertebrates	Sediment concentrations producing low-level effects on growth, survival, or reproduction in toxicological studies on sediment invertebrates. Comparisons of soil concentrations in the drainage channel with freshwater sediment benchmarks such as threshold effects concentrations (TECs).
Insectivorous amphibians	Amphibians have a unique life history and physiology that distinguishes them from terrestrial or aquatic vertebrate receptors. Amphibians also influence the community structure of invertebrates and provide food for upper-trophic-level organisms. Therefore, the health of insectivorous amphibians was considered an ecological value to be protected.	California Tiger Salamander (*Ambystoma californiense*)	Sediment concentrations producing low-level effects on growth, survival, or reproduction to amphibians. Comparisons of soil concentrations in the drainage channel to toxicity data for various amphibian species.
Omnivorous birds	Secondary avian consumers that provide a food source for upper-trophic-level consumers, such as avian and mammalian carnivores, and influence the abundance and diversity of invertebrates. Adverse effects on these secondary consumers could reduce the amount of food available to higher-trophic-level organisms. The health of secondary avian consumers was, therefore, considered an ecological value to be protected.	American Robin (*Turdus migratorius*)	Observed toxicity from ingested doses that may impact growth, survival, or reproduction in toxicological studies on birds by comparing contaminant dose from diet with toxicity reference values.

TABLE B-2

Ecological Endpoints for Site 24A

Receptor Group	Assessment Endpoint	Indicator Species	Measurement Endpoints
Carnivorous birds	Raptors are important tertiary consumers at the site and are susceptible to the effects of bioaccumulative chemicals. Adverse effects on raptors would be undesirable because the loss of predation could impair lower trophic levels. The health of raptors was, therefore, considered an ecological value to be protected.	Red-tailed hawk (*Buteo jamaicensis*)	Observed toxicity from ingested doses on growth, survival, or reproduction by comparing contaminant dose from diet with toxicity reference values.
Herbivorous and burrowing mammals	Herbivorous mammals influence the community structure of plants and provide food for upper-trophic-level organisms at the site. Adverse effects on these primary consumers could shift the composition of plant communities and reduce the amount of food available to higher-trophic-level organisms. The health of herbivorous mammals was, therefore, considered an ecological value to be protected.	California Vole (*Microtus californicus*)	Observed toxicity from ingested doses on growth, survival, or reproduction by comparing contaminant dose from diet with toxicity reference values. The California vole is a burrowing receptor that will be evaluated for the inhalation pathway as a surrogate for burrowing mammals in addition to the ingestion pathway.
Omnivorous mammals	Omnivorous mammals provide a major source of food for upper-trophic-level consumers. Adverse effects on these secondary consumers could reduce the amount of food available to higher-trophic-level consumers. Therefore, the health of omnivorous mammals is considered ecological resources to be protected.	Western Harvest Mouse (*Reithrodontomys megalotis*)	Observed toxicity from ingested doses on growth, survival, or reproduction by comparing contaminant dose from diet with toxicity reference values.
Carnivorous mammals	Carnivorous mammals are important tertiary consumers at the site and are susceptible to the effects of bioaccumulative chemicals. Negative effects on the carnivorous mammals would be undesirable because the loss of predation could impair lower trophic levels. The health of carnivorous mammals is, therefore, considered ecological resources to be protected.	Grey fox (*Urocyon cinereoargenteus*)	Observed toxicity from ingested doses on growth, survival, or reproduction by comparing contaminant dose from diet with toxicity reference values.

B-3 Exposure Unit Designation

Sample ID	SI Designation	EU Designation
BAI-24A-08	Drainage Channel	1
BAI-24A-09	Drainage Channel	1
BAI-24A-10	Drainage Channel	1
BAI-24A-11	Drainage Channel	1
BAI-24A-12 (Dup BAI-24A-11)	Drainage Channel	1
BAI-24A-13	Firing Line	1
BAI-24A-14	Firing Line	1
BAI-24A-15	Firing Line	1
BAI-24A-16	Firing Line	1
BAI-24A-17	Firing Line	1
BAI-24A-18 (Dup BAI-24A-17)	Firing Line	1
BAI-24A-19	Range Floor	1
BAI-24A-20	Range Floor	1
BAI-24A-23	Range Floor	1
BAI-24A-24 (Dup BAI-24A-23)	Range Floor	1
BAI-24A-01	Retaining Wall	2
BAI-24A-02	Retaining Wall	2
BAI-24A-03	Retaining Wall	2
BAI-24A-04	Retaining Wall	2
BAI-24A-05	Retaining Wall	2
BAI-24A-06 (Dup BAI-24A-05)	Retaining Wall	2
BAI-24A-07	Drainage Channel	2
BAI-24A-21	Range Floor	2
BAI-24A-22	Range Floor	2
BAI-24A-25	Target Berm	2
BAI-24A-26	Target Berm	2
BAI-24A-27	Target Berm	2
BAI-24A-28	Target Berm	2
BAI-24A-29	Target Berm	2
BAI-24A-30 (Dup BAI-24A-29)	Target Berm	2
BAI-24A-31	Target Berm	2
BAI-24A-32	Target Berm	2
BAI-24A-33	Target Berm	2
BAI-24A-34	Target Berm	2
BAI-24A-35	Target Berm	2
BAI-24A-36 (Dup BAI-24A-35)	Target Berm	2
BAI-24A-37	Below Grenade	3
BAI-24A-38	Below Grenade	3
BAI-24A-39	Below Grenade	3
BAI-24A-40	Below Grenade	3
BAI-24A-41	Below Grenade	3
BAI-24A-42 (Dup BAI-24A-41)	Below Grenade	3
BAI-24A-45	Grenade Impact	3
BAI-24A-46	Grenade Impact	3
BAI-24A-47	Grenade Impact	3
BAI-24A-48	Grenade Impact	3

B-3 Exposure Unit Designation

Sample ID	SI Designation	EU Designation
BAI-24A-49	Grenade Impact	3
BAI-24A-50 (Dup BAI-24A-49)	Grenade Impact	3
BAI-24A-51	Grenade Impact	3
BAI-24A-52	Grenade Impact	3
BAI-24A-53	Grenade Impact	3
BAI-24A-54	Grenade Impact	3
BAI-24A-55	Grenade Impact	3
BAI-24A-56 (Dup BAI-24A-55)	Grenade Impact	3
BAI-24A-07	Drainage Channel	4
BAI-24A-08	Drainage Channel	4
BAI-24A-09	Drainage Channel	4
BAI-24A-10	Drainage Channel	4
BAI-24A-11	Drainage Channel	4
BAI-24A-12 (Dup BAI-24A-11)	Drainage Channel	4
BAI-24A-33	Target Berm	4

Notes:
EU = exposure unit
SI = site inspection

Table B-4
Summary Statistics for Chemicals Detected in Soil (0-0.5 feet)

Area		CAS #	No. of Samples	Detection Rate	Summary Statistics		Detected Values		Non-detect Method Detection Limits (MDL)		Goodness-of-Fit Test	Upper Confidence Limit (UCL95)	
					Mean	Std Dev	Min Detected	Max Detected	Min MDL	Max MDL	Distribution	Method of UCL95 Calculation	Assessed UCL95
Inorganics (mg/kg dw)													
Site-wide (All)	Antimony	7440-36-0	40	100%	36.5	124	0.21	700	NA	NA	non-parametric	Use 99% Chebyshev (Mean, Sd) UCL	232
Site-wide (All)	Arsenic	7440-38-2	40	98%	10.5	21	1.155	120	0.0825	0.0825	non-parametric	95% KM (Chebyshev) UCL	25
Site-wide (All)	Barium	7440-39-3	40	100%	112	39	5.5	220	NA	NA	non-parametric	Use 95% Chebyshev (Mean, Sd) UCL	139
Site-wide (All)	Beryllium	7440-41-7	40	100%	0.431	0.0966	0.25	0.595	NA	NA	normal	Use 95% Student's-t UCL	0.46
Site-wide (All)	Cadmium	7440-43-9	40	75%	0.266	0.466	0.061	3	0.052	0.057	non-parametric	95% KM (BCA) UCL	0.44
Site-wide (All)	Chromium	7440-47-3	40	100%	21.7	8.37	14	63	NA	NA	non-parametric	Use 95% Student's-t UCL	24
Site-wide (All)	Cobalt	7440-48-4	40	100%	10.5	4.51	5.9	28.5	NA	NA	non-parametric	Use 95% Student's-t UCL	12
Site-wide (All)	Copper	7440-50-8	40	100%	349	1,892	7.7	12,000	NA	NA	non-parametric	Use 99% Chebyshev (Mean, Sd) UCL	3,325
Site-wide (All)	Lead	7439-92-1	40	100%	3,116	10,738	3.3	62,000	NA	NA	non-parametric	Use 99% Chebyshev (Mean, Sd) UCL	20,010
Site-wide (All)	Mercury	7439-97-6	40	45%	0.0857	0.154	0.01	0.63	0.0068	0.008	gamma	95% KM (t) UCL	0.13
Site-wide (All)	Molybdenum	7439-98-7	40	55%	0.262	0.123	0.163	0.62	0.21	0.23	normal	95% KM (t) UCL	0.30
Site-wide (All)	Nickel	7440-02-0	40	100%	18.1	5.53	10	39	NA	NA	non-parametric	Use 95% Student's-t UCL	20
Site-wide (All)	Selenium	7782-49-2	40	40%	0.372	0.428	0.18	2	0.145	0.17	non-parametric	95% KM (t) UCL	0.49
Site-wide (All)	Silver	7440-22-4	40	40%	0.196	0.333	0.091	2.1	0.052	0.085	non-parametric	95% KM (t) UCL	0.29
Site-wide (All)	Thallium	7440-28-0	40	10%	0.175	0.0654	0.16	0.51	0.15	0.19	normal	95% KM (t) UCL	0.20
Site-wide (All)	Vanadium	7440-62-2	40	100%	44.3	23.4	25	140	NA	NA	non-parametric	Use 95% Student's-t UCL	50
Site-wide (All)	Zinc	7440-66-6	40	100%	210	388	28.5	2,100	NA	NA	non-parametric	Use 99% Chebyshev (Mean, Sd) UCL	821
Explosives (ug/kg dw)													
Site-wide (All)	2,4-Dinitrotoluene	121-14-2	40	3%	NA	NA	253	253	20.2	50.6	NA	NA	NA
Site-wide (All)	4-Nitrotoluene	99-99-0	40	3%	NA	NA	95.1	95.1	27.3	92.0	NA	NA	NA
High Molecular Weight Polyaromatic Hydrocarbons (HMW PAHs) (ug/kg dw)													
Site-wide (All)	Benzo(A)Anthracene	56-55-3	5	100%	NA	NA	2.6	65	NA	NA	NA	NA	NA
Site-wide (All)	Benzo(A)Pyrene	50-32-8	5	100%	NA	NA	2.3	110	NA	NA	NA	NA	NA
Site-wide (All)	Benzo(B)Fluoranthene	205-99-2	5	100%	NA	NA	6.8	280	NA	NA	NA	NA	NA
Site-wide (All)	Benzo(G,H,I)Perylene	191-24-2	5	100%	NA	NA	3.6	110	NA	NA	NA	NA	NA
Site-wide (All)	Benzo(K)Fluoranthene	207-08-9	5	100%	NA	NA	2.3	56	NA	NA	NA	NA	NA
Site-wide (All)	Chrysene	218-01-9	5	100%	NA	NA	7.7	170	NA	NA	NA	NA	NA
Site-wide (All)	Dibenz(A,H)Anthracene	53-70-3	5	80%	NA	NA	20	32	1.2	1.2	NA	NA	NA
Site-wide (All)	Indeno(1,2,3-Cd)Pyrene	193-39-5	5	100%	NA	NA	2.5	110	NA	NA	NA	NA	NA
Site-wide (All)	Pyrene	129-00-0	5	100%	NA	NA	12	110	NA	NA	NA	NA	NA
Low Molecular Weight Polyaromatic Hydrocarbons (LMW PAHs) (ug/kg dw)													
Site-wide (All)	Acenaphthene	83-32-9	5	60%	NA	NA	1.4	4	1.2	1.2	NA	NA	NA
Site-wide (All)	Acenaphthylene	208-96-8	5	80%	NA	NA	22	47	1.2	1.2	NA	NA	NA
Site-wide (All)	Anthracene	120-12-7	5	100%	NA	NA	2.9	110	NA	NA	NA	NA	NA
Site-wide (All)	Fluoranthene	206-44-0	5	100%	NA	NA	21	109	NA	NA	NA	NA	NA
Site-wide (All)	Fluorene	86-73-7	5	80%	NA	NA	1.8	5.1	1.2	1.2	NA	NA	NA
Site-wide (All)	Naphthalene	91-20-3	5	60%	NA	NA	1.15	2.8	1.2	1.2	NA	NA	NA
Site-wide (All)	Phenanthrene	85-01-8	5	100%	NA	NA	3.9	28	NA	NA	NA	NA	NA

Notes:
All analytes are dry weight.
All analytes with at least one detection are shown.
if duplicates exist, the average of the duplicate results is used as a single data point. If one duplicate is detected and the other not, the non-detect MDL was averaged with the detected concentration and treated as detected concentration.

Area	CAS #	No. of Samples	Detection Rate	Summary Statistics		Detected Values		Non-detect Method Detection Limits (MDL)		Goodness-of-Fit Test	Upper Confidence Limit (UCL95)	
				Mean	Std Dev	Min Detected	Max Detected	Min MDL	Max MDL	Distribution	Method of UCL95 Calculation	Assessed UCL95

If the dataset contains nondetects, summary statistics and UCLs are estimated by the Kaplan-Meier (KM) method.
Goodness-of-Fit Test at 5% significance level is used to test for distributional assumption.
The distributional assumption from (3) is used to select the appropriate UCL calculation method. For normal distribution, the UCL is based on the t-statistics. For lognormal distribution, gamma distribution, and non-parametric assumption, the UCL is based on the recommendations from USEPA (2002) and Singh (2007).
CAS # = chemical abstracts services registry number
max = maximum
MDL = method detection limit
min = minimum
No. = number
Std Dev = standard deviation
UCL95 = 95% upper confidence limit

References:

Singh, A., R. Maichle, A.K. Singh, and S.E. Lee. 2007. ProUCL Version 4.0 User Guide. Office of Research and Development, U.S. Environmental Protection Agency, Report No. EPA/600/R-07/038.
United States Environmental Protection Agency (USEPA) 2002. Calculating Upper Confidence Limits for Exposure Point Concentrations at Hazardous Waste Sites. Office of Emergency and Remedial Response, U.S. Environmental Protection Agency, Report No. OSWER 9285.6-10.

Table B-5
Summary Statistics for Chemicals Detected in Soil (1.5-2 feet)

Site-wide (All)		CAS #	No. of Samples	Detection Rate	Summary Statistics		Detected Values		Non-detect Method Detection Limits (MDL)		Goodness-of-Fit Test	Upper Confidence Limit (UCL95)	
					Mean	Std Dev	Min Detected	Max Detected	Min MDL	Max MDL	Distribution	Method of UCL95 Calculation	Assessed UCL95
Inorganics (mg/kg dw)													
Site-wide (All)	Antimony	7440-36-0	40	90%	3.30	7	0.22	44	0.16	0.17	non-parametric	95% KM (Chebyshev) UCL	8.0
Site-wide (All)	Arsenic	7440-38-2	40	100%	4.93	2	2.4	14	NA	NA	non-parametric	Use 95% Student's-t UCL	5.5
Site-wide (All)	Barium	7440-39-3	40	100%	121	33	50	180	NA	NA	normal	Use 95% Student's-t UCL	130
Site-wide (All)	Beryllium	7440-41-7	40	100%	0.465	0.123	0.31	0.98	NA	NA	gamma	Use 95% Approximate Gamma UCL	0.50
Site-wide (All)	Cadmium	7440-43-9	40	73%	0.232	0.454	0.074	3	0.051	0.055	non-parametric	95% KM (BCA) UCL	0.40
Site-wide (All)	Chromium	7440-47-3	40	100%	17.6	3.11	12	26	NA	NA	normal	Use 95% Student's-t UCL	18
Site-wide (All)	Cobalt	7440-48-4	40	100%	8.62	1.43	6	13	NA	NA	gamma	Use 95% Approximate Gamma UCL	9.0
Site-wide (All)	Copper	7440-50-8	40	100%	26.5	41.2	4.9	260	NA	NA	non-parametric	Use 95% Chebyshev (Mean, Sd) UCL	55
Site-wide (All)	Lead	7439-92-1	40	100%	180	554	2.1	3,000	NA	NA	non-parametric	Use 99% Chebyshev (Mean, Sd) UCL	1,051
Site-wide (All)	Mercury	7439-97-6	40	38%	0.0162	0.0271	0.0071	0.17	0.000075	0.0077	lognormal	95% KM (t) UCL	0.024
Site-wide (All)	Molybdenum	7439-98-7	40	43%	0.269	0.0768	0.23	0.63	0.2	0.23	gamma	95% KM (t) UCL	0.29
Site-wide (All)	Nickel	7440-02-0	40	100%	15.8	3.91	11	34	NA	NA	non-parametric	Use 95% Student's-t UCL	17
Site-wide (All)	Selenium	7782-49-2	40	35%	0.685	0.733	0.43	4.4	0.14	0.17	non-parametric	95% KM (t) UCL	0.89
Site-wide (All)	Silver	7440-22-4	40	30%	0.0906	0.0168	0.082	0.15	0.051	0.088	normal	95% KM (t) UCL	0.095
Site-wide (All)	Thallium	7440-28-0	40	8%	0.218	0.0330	0.21	0.38	0.14	0.19	normal	95% KM (t) UCL	0.23
Site-wide (All)	Vanadium	7440-62-2	40	100%	34.0	8.03	20	67	NA	NA	non-parametric	Use 95% Student's-t UCL	36
Site-wide (All)	Zinc	7440-66-6	40	100%	170	333	39	1,600	NA	NA	non-parametric	Use 95% Chebyshev (Mean, Sd) UCL	400
High Molecular Weight Polyaromatic Hydrocarbons (HMW PAHs) (ug/kg dw)													
Site-wide (All)	Benzo(A)Anthracene	56-55-3	5	80%	NA	NA	11	1,000	1.1	1.1	NA	NA	NA
Site-wide (All)	Benzo(A)Pyrene	50-32-8	5	80%	NA	NA	19	680	1.1	1.1	NA	NA	NA
Site-wide (All)	Benzo(B)Fluoranthene	205-99-2	5	100%	NA	NA	1.5	1,500	NA	NA	NA	NA	NA
Site-wide (All)	Benzo(G,H,I)Perylene	191-24-2	5	100%	NA	NA	2.5	270	NA	NA	NA	NA	NA
Site-wide (All)	Benzo(K)Fluoranthene	207-08-9	5	80%	NA	NA	7.8	450	1.1	1.1	NA	NA	NA
Site-wide (All)	Chrysene	218-01-9	5	80%	NA	NA	24	1,400	1.1	1.1	NA	NA	NA
Site-wide (All)	Dibenz(A,H)Anthracene	53-70-3	5	80%	NA	NA	13	120	1.1	1.1	NA	NA	NA
Site-wide (All)	Indeno(1,2,3-Cd)Pyrene	193-39-5	5	100%	NA	NA	1.8	310	NA	NA	NA	NA	NA
Site-wide (All)	Pyrene	129-00-0	5	100%	NA	NA	1.2	1,400	NA	NA	NA	NA	NA
Low Molecular Weight Polyaromatic Hydrocarbons (LMW PAHs) (ug/kg dw)													
Site-wide (All)	Acenaphthene	83-32-9	5	40%	NA	NA	3.7	61	1.1	1.2	NA	NA	NA
Site-wide (All)	Acenaphthylene	208-96-8	5	80%	NA	NA	19	190	1.1	1.1	NA	NA	NA
Site-wide (All)	Anthracene	120-12-7	5	100%	NA	NA	1.5	770	NA	NA	NA	NA	NA
Site-wide (All)	Fluoranthene	206-44-0	5	100%	NA	NA	1.2	1,400	NA	NA	NA	NA	NA
Site-wide (All)	Fluorene	86-73-7	5	80%	NA	NA	1.6	50	1.1	1.1	NA	NA	NA
Site-wide (All)	Naphthalene	91-20-3	5	20%	NA	NA	18	18	1.1	1.2	NA	NA	NA
Site-wide (All)	Phenanthrene	85-01-8	5	80%	NA	NA	1.3	580	1.1	1.1	NA	NA	NA

Notes:
All analytes are dry weight.
All analytes with at least one detection are shown.
If duplicates exist, the average of the duplicate results is used as a single data point. If one duplicate is detected and the other not, the non-detect MDL was averaged with the detected concentration and treated as detected concentration.
If the dataset contains nondetects, summary statistics and UCLs are estimated by the Kaplan-Meier (KM) method.
Goodness-of-Fit Test at 5% significance level is used to test for distributional assumption.
The distributional assumption from (3) is used to select the appropriate UCL calculation method. For normal distribution, the UCL is based on the t-statistics. For lognormal distribution, gamma distribution, and non-parametric assumption, the UCL is based on the recommendations from USEPA (2002) and Singh (2007).

				Summary Statistics		Detected Values		Non-detect Method Detection Limits (MDL)		Goodness-of-Fit Test	Upper Confidence Limit (UCL95)	
Site-wide (All)	CAS #	No. of Samples	Detection Rate	Mean	Std Dev	Min Detected	Max Detected	Min MDL	Max MDL	Distribution	Method of UCL95 Calculation	Assessed UCL95

CAS # = chemical abstracts services registry number
max = maximum
MDL = method detection limit
min = minimum
No. = number
Std Dev = standard deviation
UCL95 = 95% upper confidence limit

References:

Singh, A., R. Maichle, A.K. Singh, and S.E. Lee. 2007. ProUCL Version 4.0 User Guide. Office of Research and Development, U.S. Environmental Protection Agency, Report No. EPA/600/R-07/038.

United States Environmental Protection Agency (USEPA) 2002. Calculating Upper Confidence Limits for Exposure Point Concentrations at Hazardous Waste Sites. Office of Emergency and Remedial Response, U.S. Environmental Protection Agency, Report No. OSWER 9285.6-10.

Table B-6
Summary Statistics for Chemicals Detected in Soil (0-2 feet)

Area		CAS #	No. of Samples	Detection Rate	Summary Statistics		Detected Values		Non-detect Method Detection Limits (MDL)		Goodness-of-Fit Test	Upper Confidence Limit (UCL95)	
					Mean	Std Dev	Min Detected	Max Detected	Min MDL	Max MDL	Distribution	Method of UCL95 Calculation	Assessed UCL95
Inorganics (mg/kg dw)													
Site-wide (All)	Antimony	7440-36-0	80	95%	19.9	88	0.21	700	0.16	0.17	non-parametric	97.5% KM (Chebyshev) UCL	82
Exposure Unit 1	Antimony	7440-36-0	24	88%	2.72	2	0.21	6.7	0.16	0.16	normal	95% KM (t) UCL	3.4
Exposure Unit 2	Antimony	7440-36-0	26	100%	57.2	151	1.6	700	NA	NA	non-parametric	Use 99% Chebyshev (Mean, Sd) UCL	352
Exposure Unit 3	Antimony	7440-36-0	30	97%	1.33	1	0.22	4.5	0.17	0.17	gamma	95% KM (Chebyshev) UCL	2.2
Exposure Unit 4	Antimony	7440-36-0	12	75%	5.26	12	0.21	45	0.16	0.16	gamma	95% KM (Chebyshev) UCL	22
Site-wide (All)	Arsenic	7440-38-2	80	99%	7.72	15	1.155	120	0.0825	0.0825	non-parametric	95% KM (BCA) UCL	11
Exposure Unit 1	Arsenic	7440-38-2	24	96%	4.55	2	1.155	10	0.0825	0.0825	gamma	95% KM (BCA) UCL	5.4
Exposure Unit 2	Arsenic	7440-38-2	26	100%	14.0	26	2.8	120	NA	NA	non-parametric	Use 95% Chebyshev (Mean, Sd) UCL	36
Exposure Unit 3	Arsenic	7440-38-2	30	100%	4.80	2	2.7	14	NA	NA	non-parametric	Use 95% Student's-t UCL	5.4
Exposure Unit 4	Arsenic	7440-38-2	12	100%	7.89	4	4.4	18	NA	NA	gamma	Use 95% Approximate Gamma UCL	10.0
Site-wide (All)	Barium	7440-39-3	80	100%	116	36	5.5	220	NA	NA	non-parametric	Use 95% Chebyshev (Mean, Sd) UCL	134
Exposure Unit 1	Barium	7440-39-3	24	100%	110	49	5.5	180	NA	NA	normal	Use 95% Student's-t UCL	127
Exposure Unit 2	Barium	7440-39-3	26	100%	107	24	47	170	NA	NA	normal	Use 95% Student's-t UCL	115
Exposure Unit 3	Barium	7440-39-3	30	100%	130	29	61	220	NA	NA	non-parametric	Use 95% Student's-t UCL	139
Exposure Unit 4	Barium	7440-39-3	12	100%	104	38	50	170	NA	NA	normal	Use 95% Student's-t UCL	124
Site-wide (All)	Beryllium	7440-41-7	80	100%	0.448	0.111	0.25	0.98	NA	NA	normal	Use 95% Student's-t UCL	0.47
Exposure Unit 1	Beryllium	7440-41-7	24	100%	0.403	0.105	0.25	0.69	NA	NA	lognormal	Use 95% Student's-t UCL	0.44
Exposure Unit 2	Beryllium	7440-41-7	26	100%	0.467	0.0964	0.26	0.595	NA	NA	non-parametric	Use 95% Student's-t UCL	0.50
Exposure Unit 3	Beryllium	7440-41-7	30	100%	0.468	0.120	0.27	0.98	NA	NA	gamma	Use 95% Approximate Gamma UCL	0.50
Exposure Unit 4.	Beryllium	7440-41-7	12	100%	0.396	0.116	0.26	0.69	NA	NA	normal	Use 95% Student's-t UCL	0.46
Site-wide (All)	Cadmium	7440-43-9	80	74%	0.247	0.461	0.061	3	0.051	0.057	non-parametric	95% KM (BCA) UCL	0.35
Exposure Unit 1	Cadmium	7440-43-9	24	88%	0.271	0.175	0.1	0.84	0.054	0.057	gamma	95% KM (BCA) UCL	0.34
Exposure Unit 2	Cadmium	7440-43-9	26	96%	0.388	0.758	0.074	3	0.057	0.057	non-parametric	95% KM (Chebyshev) UCL	1.1
Exposure Unit 3	Cadmium	7440-43-9	30	43%	0.111	0.0796	0.061	0.42	0.051	0.055	gamma	95% KM (t) UCL	0.14
Exposure Unit 4	Cadmium	7440-43-9	12	67%	0.412	0.785	0.11	3	0.054	0.057	non-parametric	97.5% KM (Chebyshev) UCL	1.9
Site-wide (All)	Chromium	7440-47-3	80	100%	19.6	6.61	12	63	NA	NA	non-parametric	Use 95% Student's-t UCL	21
Exposure Unit 1	Chromium	7440-47-3	24	100%	21.1	4.93	13	34.5	NA	NA	normal	Use 95% Student's-t UCL	23
Exposure Unit 2	Chromium	7440-47-3	26	100%	20.4	10.1	12	63	NA	NA	non-parametric	Use 95% Student's-t UCL	24
Exposure Unit 3	Chromium	7440-47-3	30	100%	17.8	2.30	13	23	NA	NA	normal	Use 95% Student's-t UCL	18
Exposure Unit 4	Chromium	7440-47-3	12	100%	20.0	4.81	13	31	NA	NA	normal	Use 95% Student's-t UCL	22
Site-wide (All)	Cobalt	7440-48-4	80	100%	9.54	3.45	5.9	28.5	NA	NA	non-parametric	Use 95% Student's-t UCL	10
Exposure Unit 1	Cobalt	7440-48-4	24	100%	10.7	5.01	7	28.5	NA	NA	non-parametric	Use 95% Student's-t UCL	12
Exposure Unit 2	Cobalt	7440-48-4	26	100%	9.72	3.08	7	23	NA	NA	non-parametric	Use 95% Student's-t UCL	11
Exposure Unit 3	Cobalt	7440-48-4	30	100%	8.50	1.45	5.9	13	NA	NA	normal	Use 95% Student's-t UCL	8.9
Exposure Unit 4	Cobalt	7440-48-4	12	100%	8.90	1.85	7	14	NA	NA	gamma	Use 95% Approximate Gamma UCL	9.9
Site-wide (All)	Copper	7440-50-8	80	100%	188	1,339	4.9	12,000	NA	NA	non-parametric	Use 97.5% Chebyshev (Mean, Sd) UCL	1,123
Exposure Unit 1	Copper	7440-50-8	24	100%	19.3	10.1	4.9	46	NA	NA	normal	Use 95% Student's-t UCL	23
Exposure Unit 2	Copper	7440-50-8	26	100%	539	2,340	6.7	12,000	NA	NA	non-parametric	Use 99% Chebyshev (Mean, Sd) UCL	5,106
Exposure Unit 3	Copper	7440-50-8	30	100%	17.6	7.18	7.7	37	NA	NA	gamma	Use 95% Approximate Gamma UCL	20
Exposure Unit 4	Copper	7440-50-8	12	100%	47.0	51.0	10	190	NA	NA	gamma	Use 95% Approximate Gamma UCL	79

Table B-6
Summary Statistics for Chemicals Detected in Soil (0-2 feet)

Area		CAS #	No. of Samples	Detection Rate	Summary Statistics		Detected Values		Non-detect Method Detection Limits (MDL)		Goodness-of-Fit Test	Upper Confidence Limit (UCL95)	
					Mean	Std Dev	Min Detected	Max Detected	Min MDL	Max MDL	Distribution	Method of UCL95 Calculation	Assessed UCL95
Site-wide (All)	Lead	7439-92-1	80	100%	1,648	7,698	2.1	62,000	NA	NA	non-parametric	Use 99% Chebyshev (Mean, Sd) UCL	10,212
Exposure Unit 1	Lead	7439-92-1	24	100%	18.3	21.7	2.1	110	NA	NA	gamma	Use 95% Approximate Gamma UCL	26
Exposure Unit 2	Lead	7439-92-1	26	100%	5,014	13,031	3.8	62,000	NA	NA	gamma	Use 95% Adjusted Gamma UCL	11,266
Exposure Unit 3	Lead	7439-92-1	30	100%	35.0	41.0	3.1	180	NA	NA	gamma	Use 95% Approximate Gamma UCL	50
Exposure Unit 4	Lead	7439-92-1	12	100%	843	2,028	2.1	7,100	NA	NA	lognormal	Use 99% Chebyshev (Mean, Sd) UCL	6,667
Site-wide (All)	Mercury	7439-97-6	80	41%	0.0501	0.116	0.0071	0.63	0.000075	0.008	non-parametric	95% KM (BCA) UCL	0.073
Exposure Unit 1	Mercury	7439-97-6	24	67%	0.124	0.180	0.0071	0.63	0.0069	0.0075	gamma	95% KM (BCA) UCL	0.19
Exposure Unit 2	Mercury	7439-97-6	26	54%	0.0318	0.0636	0.0091	0.25	0.000075	0.0079	non-parametric	97.5% KM (Chebyshev) UCL	0.11
Exposure Unit 3	Mercury	7439-97-6	30	10%	0.0114	0.00135	0.011	0.0175	0.0062	0.008	normal	95% KM (t) UCL	0.012
Exposure Unit 4	Mercury	7439-97-6	12	42%	0.0628	0.0679	0.032	0.25	0.0067	0.0075	normal	95% KM (t) UCL	0.10
Site-wide (All)	Molybdenum	7439-98-7	80	49%	0.249	0.111	0.163	0.63	0.2	0.23	gamma	95% KM (t) UCL	0.27
Exposure Unit 1	Molybdenum	7439-98-7	24	50%	0.238	0.109	0.175	0.63	0.21	0.23	gamma	95% KM (t) UCL	0.28
Exposure Unit 2	Molybdenum	7439-98-7	26	73%	0.318	0.0945	0.238	0.62	0.2	0.23	gamma	95% KM (Percentile Bootstrap) UCL	0.35
Exposure Unit 3	Molybdenum	7439-98-7	30	27%	0.208	0.0959	0.163	0.53	0.2	0.23	normal	95% KM (t) UCL	0.24
Exposure Unit 4	Molybdenum	7439-98-7	12	25%	0.254	0.0653	0.225	0.41	0.21	0.23	normal	95% KM (t) UCL	0.30
Site-wide (All)	Nickel	7440-02-0	80	100%	16.9	4.90	10	39	NA	NA	non-parametric	Use 95% Student's-t UCL	18
Exposure Unit 1	Nickel	7440-02-0	24	100%	17.8	4.95	12	34	NA	NA	gamma	Use 95% Approximate Gamma UCL	20
Exposure Unit 2	Nickel	7440-02-0	26	100%	18.6	6.14	12	39	NA	NA	non-parametric	Use 95% Student's-t UCL	21
Exposure Unit 3	Nickel	7440-02-0	30	100%	14.9	2.50	10	21	NA	NA	normal	Use 95% Student's-t UCL	16
Exposure Unit 4	Nickel	7440-02-0	12	100%	16.3	2.96	13	23	NA	NA	normal	Use 95% Student's-t UCL	18
Site-wide (All)	Selenium	7782-49-2	80	38%	0.447	0.644	0.18	4.4	0.14	0.17	non-parametric	95% KM (t) UCL	0.57
Exposure Unit 1	Selenium	7782-49-2	24	33%	0.716	0.690	0.325	2.4	0.145	0.17	normal	95% KM (t) UCL	0.97
Exposure Unit 2	Selenium	7782-49-2	26	8%	0.621	0.756	0.47	4.4	0.14	0.17	non-parametric	97.5% KM (Chebyshev) UCL	1.9
Exposure Unit 3	Selenium	7782-49-2	30	67%	0.390	0.233	0.18	1.3	0.15	0.17	non-parametric	95% KM (BCA) UCL	0.50
Exposure Unit 4	Selenium	7782-49-2	12	83%	1.46	1.17	0.325	4.4	0.15	0.17	normal	95% KM (t) UCL	2.1
Site-wide (All)	Silver	7440-22-4	80	35%	0.140	0.242	0.082	2.1	0.051	0.088	non-parametric	95% KM (t) UCL	0.19
Exposure Unit 1	Silver	7440-22-4	24	33%	0.114	0.0658	0.083	0.3	0.054	0.088	gamma	95% KM (t) UCL	0.14
Exposure Unit 2	Silver	7440-22-4	26	69%	0.228	0.405	0.082	2.1	0.053	0.085	non-parametric	95% KM (BCA) UCL	0.38
Exposure Unit 3	Silver	7440-22-4	30	7%	0.131	0.00359	0.13	0.15	0.051	0.086	non-parametric	95% KM (t) UCL	0.13
Site-wide (All)	Thallium	7440-28-0	80	9%	0.173	0.0559	0.16	0.51	0.14	0.19	normal	95% KM (t) UCL	0.18
Exposure Unit 1	Thallium	7440-28-0	24	25%	0.194	0.0861	0.16	0.51	0.15	0.19	normal	95% KM (t) UCL	0.23
Exposure Unit 2	Thallium	7440-28-0	26	4%	NA	NA	0.4	0.4	0.15	0.19	NA	NA	NA
Exposure Unit 4	Thallium	7440-28-0	12	58%	0.248	0.119	0.16	0.51	0.15	0.18	normal	95% KM (t) UCL	0.32
Site-wide (All)	Vanadium	7440-62-2	80	100%	39.1	18.1	20	140	NA	NA	non-parametric	Use 95% Student's-t UCL	43
Exposure Unit 1	Vanadium	7440-62-2	24	100%	47.8	28.2	26	140	NA	NA	non-parametric	Use 95% Student's-t UCL	58
Exposure Unit 2	Vanadium	7440-62-2	26	100%	36.4	11.8	20	81	NA	NA	non-parametric	Use 95% Student's-t UCL	40
Exposure Unit 3	Vanadium	7440-62-2	30	100%	34.6	7.43	24	67	NA	NA	non-parametric	Use 95% Student's-t UCL	37
Exposure Unit 4	Vanadium	7440-62-2	12	100%	35.9	10.1	26	64	NA	NA	non-parametric	Use 95% Student's-t UCL	41
Site-wide (All)	Zinc	7440-66-6	80	100%	190	360	28.5	2,100	NA	NA	non-parametric	Use 95% Chebyshev (Mean, Sd) UCL	366
Exposure Unit 1	Zinc	7440-66-6	24	100%	364	472	28.5	2,100	NA	NA	gamma	Use 95% Approximate Gamma UCL	552
Exposure Unit 2	Zinc	7440-66-6	26	100%	183	392	43	1,600	NA	NA	non-parametric	Use 95% Chebyshev (Mean, Sd) UCL	519
Exposure Unit 3	Zinc	7440-66-6	30	100%	56.9	12.1	33	88	NA	NA	normal	Use 95% Student's-t UCL	61
Exposure Unit 4	Zinc	7440-66-6	12	100%	456	524	45	1,600	NA	NA	gamma	Use 95% Approximate Gamma UCL	901

Table B-6
Summary Statistics for Chemicals Detected in Soil (0-2 feet)

Area		CAS #	No. of Samples	Detection Rate	Summary Statistics		Detected Values		Non-detect Method Detection Limits (MDL)		Goodness-of-Fit Test	Upper Confidence Limit (UCL95)	
					Mean	Std Dev	Min Detected	Max Detected	Min MDL	Max MDL	Distribution	Method of UCL95 Calculation	Assessed UCL95
Explosives (ug/kg dw)													
Site-wide (All)	2,4-Dinitrotoluene	121-14-2	80	1%	NA	NA	253	253	19.8	51.8	NA	NA	NA
Exposure Unit 2	2,4-Dinitrotoluene	121-14-2	26	4%	NA	NA	253	253	19.8	50.6	NA	NA	NA
Site-wide (All)	4-Nitrotoluene	99-99-0	80	1%	NA	NA	95.1	95.1	26.4	92.0	NA	NA	NA
Exposure Unit 2	4-Nitrotoluene	99-99-0	26	4%	NA	NA	95.1	95.1	19.8	50.6	NA	NA	NA
High Molecular Weight Polyaromatic Hydrocarbons (HMW PAHs) (ug/kg dw)													
Site-wide (All)	Benzo(A)Anthracene	56-55-3	10	90%	125	293	2.6	1,000	1.1	1.1	lognormal	99% KM (Chebyshev) UCL	1,101
Exposure Unit 2	Benzo(A)Anthracene	56-55-3	10	90%	125	293	2.6	1,000	1.1	1.1	lognormal	99% KM (Chebyshev) UCL	1,101
Site-wide (All)	Benzo(A)Pyrene	50-32-8	10	90%	104	195	2.3	680	1.1	1.1	gamma	95% KM (Chebyshev) UCL	389
Exposure Unit 2	Benzo(A)Pyrene	50-32-8	10	90%	104	195	2.3	680	1.1	1.1	gamma	95% KM (Chebyshev) UCL	389
Site-wide (All)	Benzo(B)Fluoranthene	205-99-2	10	100%	244	450	1.5	1,500	NA	NA	gamma	Use 95% Approximate Gamma UCL	693
Exposure Unit 2	Benzo(B)Fluoranthene	205-99-2	10	100%	244	450	1.5	1,500	NA	NA	gamma	Use 95% Approximate Gamma UCL	693
Site-wide (All)	Benzo(G,H,I)Perylene	191-24-2	10	100%	89.5	76.4	2.5	270	NA	NA	normal	Use 95% Student's-t UCL	134
Exposure Unit 2	Benzo(G,H,I)Perylene	191-24-2	10	100%	89.5	76.4	2.5	270	NA	NA	normal	Use 95% Student's-t UCL	134
Site-wide (All)	Benzo(K)Fluoranthene	207-08-9	10	90%	68.5	129	2.3	450	1.1	1.1	gamma	95% KM (Chebyshev) UCL	257
Exposure Unit 2	Benzo(K)Fluoranthene	207-08-9	10	90%	68.5	129	2.3	450	1.1	1.1	gamma	95% KM (Chebyshev) UCL	257
Site-wide (All)	Chrysene	218-01-9	10	90%	199	404	7.7	1,400	1.1	1.1	gamma	95% KM (Chebyshev) UCL	790
Exposure Unit 2	Chrysene	218-01-9	10	90%	199	404	7.7	1,400	1.1	1.1	gamma	95% KM (Chebyshev) UCL	790
Site-wide (All)	Dibenz(A,H)Anthracene	53-70-3	10	80%	28.9	30.9	13	120	1.1	1.2	non-parametric	95% KM (BCA) UCL	51
Exposure Unit 2	Dibenz(A,H)Anthracene	53-70-3	10	80%	28.9	30.9	13	120	1.1	1.2	non-parametric	95% KM (BCA) UCL	51
Site-wide (All)	Indeno(1,2,3-Cd)Pyrene	193-39-5	10	100%	80.2	87.1	1.8	310	NA	NA	gamma	Use 95% Approximate Gamma UCL	177
Exposure Unit 2	Indeno(1,2,3-Cd)Yrene	193-39-5	10	100%	80.2	87.1	1.8	310	NA	NA	gamma	Use 95% Approximate Gamma UCL	177
Site-wide (All)	Pyrene	129-00-0	10	100%	180	430	1.2	1,400	NA	NA	lognormal	Use 99% Chebyshev (Mean, Sd) UCL	1,534
Exposure Unit 2	Pyrene	129-00-0	10	100%	180	430	1.2	1,400	NA	NA	lognormal	Use 99% Chebyshev (Mean, Sd) UCL	1,534
Low Molecular Weight Polyaromatic Hydrocarbons (LMW PAHs) (ug/kg dw)													
Site-wide (All)	Acenaphthene	83-32-9	10	50%	8.05	17.7	1.4	61	1.1	1.2	lognormal	95% KM (BCA) UCL	21
Exposure Unit 2	Acenaphthene	83-32-9	10	50%	8.05	17.7	1.4	61	1.1	1.2	lognormal	95% KM (BCA) UCL	21
Site-wide (All)	Acenaphthylene	208-96-8	10	80%	42.3	49.9	19	190	1.1	1.2	non-parametric	95% KM (BCA) UCL	77
Exposure Unit 2	Acenaphthylene	208-96-8	10	80%	42.3	49.9	19	190	1.1	1.2	non-parametric	95% KM (BCA) UCL	76
Site-wide (All)	Anthracene	120-12-7	10	100%	127	228	1.5	770	NA	NA	gamma	Use 95% Approximate Gamma UCL	333
Exposure Unit 2	Anthracene	120-12-7	10	100%	127	228	1.5	770	NA	NA	gamma	Use 95% Approximate Gamma UCL	333
Site-wide (All)	Fluoranthene	206-44-0	10	100%	176	431	1.2	1,400	NA	NA	lognormal	Use 99% Chebyshev (Mean, Sd) UCL	1,533
Exposure Unit 2	Fluoranthene	206-44-0	10	100%	176	431	1.2	1,400	NA	NA	lognormal	Use 99% Chebyshev (Mean, Sd) UCL	1,533
Site-wide (All)	Fluorene	86-73-7	10	80%	7.43	14.3	1.6	50	1.1	1.2	non-parametric	97.5% KM (Chebyshev) UCL	38
Exposure Unit 2	Fluorene	86-73-7	10	80%	7.43	14.3	1.6	50	1.1	1.2	non-parametric	97.5% KM (Chebyshev) UCL	38
Site-wide (All)	Naphthalene	91-20-3	10	40%	3.03	5.02	1.15	18	1.1	1.2	gamma	95% KM (t) UCL	6.4
Exposure Unit 2	Naphthalene	91-20-3	10	40%	3.03	5.02	1.15	18	1.1	1.2	gamma	95% KM (t) UCL	6.4
Site-wide (All)	Phenanthrene	85-01-8	10	90%	68.9	171	1.3	580	1.1	1.1	lognormal	99% KM (Chebyshev) UCL	638
Exposure Unit 2	Phenanthrene	85-01-8	10	90%	68.9	171	1.3	580	1.1	1.1	lognormal	99% KM (Chebyshev) UCL	638

Notes:
All analytes are dry weight.
All analytes with at least one detection are shown.
If duplicates exist, the average of the duplicate results is used as a single data point. If one duplicate is detected and the other not, the non-detect MDL was averaged with the detected concentration and treated as detected concentration.

Table B-6
Summary Statistics for Chemicals Detected in Soil (0-2 feet)

				Summary Statistics		Detected Values		Non-detect Method Detection Limits (MDL)		Goodness-of-Fit Test	Upper Confidence Limit (UCL95)	
Area	CAS #	No. of Samples	Detection Rate	Mean	Std Dev	Min Detected	Max Detected	Min MDL	Max MDL	Distribution	Method of UCL95 Calculation	Assessed UCL95

If the dataset contains nondetects, summary statistics and UCLs are estimated by the Kaplan-Meier (KM) method.
Goodness-of-Fit Test at 5% significance level is used to test for distributional assumption.
The distributional assumption from (3) is used to select the appropriate UCL calculation method. For normal distribution, the UCL is based on the t-statistics. For lognormal distribution, gamma distribution, and non-parametric assumption, the UCL is based on the recommendations from USEPA (2002) and Singh (2007).
CAS # = chemical abstracts services registry number
max = maximum
MDL = method detection limit
min = minimum
No. = number
Std Dev = standard deviation
UCL95 = 95% upper confidence limit

References:

Singh, A., R. Maichle, A.K. Singh, and S.E. Lee. 2007. ProUCL Version 4.0 User Guide. Office of Research and Development, U.S. Environmental Protection Agency, Report No. EPA/600/R-07/038.
United States Environmental Protection Agency (USEPA) 2002. Calculating Upper Confidence Limits for Exposure Point Concentrations at Hazardous Waste Sites. Office of Emergency and Remedial Response, U.S. Environmental Protection Agency, Report No. OSWER 9285.6-10.

Table B-7
Exposure Assumptions and Dose Equations for the American Robin (*Turdus migratorius*)

Equation:

$$D = \frac{SUF^* (C_{F1} \times P_{F1} \times IR_F) + (C_{F2} \times P_{F2} \times IR_F) + (C_S \times IR_S)}{BW}$$

Where:

D = Chemical dose (mg/kg-day)
C_{F1} = Cs * invertebrate BAF where Cs is the chemical concentration
C_{F2} = Cs * plant BAF where Cs is the chemical concentration
IR_F = 0.63 x BW in grams ^0.683 *0.001 [a]
IR_S = 0.1 x IR_F

Parameter	Definition	Value	Units	Source
C_{F1}	Chemical concentration in food item 1 (invertebrates)	food chain model	mg/kg dry	Food concentrations were estimated on a dry weight basis using uptake models using concentrations at the site or by multiplying concentrations in soil at the site by BAFs for soil invertebrates.
C_{F2}	Chemical concentration in food item 2 (plants)	food chain model	mg/kg dry	Food concentrations were estimated on a dry weight basis using uptake models using concentrations at the site or by multiplying concentrations in soil at the site by BAFs for plants.
C_s	Tier 1: Maximum chemical concentration in soil (0-2 feet)	chemical-specific	mg/kg dry	Analytical data
	Tier 2: 95% UCL or maximum chemical concentration in soil (0-2 feet)			
SUF [a]	Site Use Factor - Tier 1 and Tier 2 Site-wide (All)	1	unitless	Assumed present 100% of the time. Foraging range of adult robins around nest sites is 0.1 to 0.3 acre (EPA, 1993)
	Site Use Factor - Tier 2 Exposure Unit 1	0.28	unitless	Represents approximately 0.68 acres of total 2.46 acre site.
	Site Use Factor - Tier 2 Exposure Unit 2	0.19	unitless	Represents approximately 0.47 acres of total 2.46 acre site.
	Site Use Factor - Tier 2 Exposure Unit 3	0.53	unitless	Represents approximately 1.31 acres of total 2.46 acre site.
P_{F1}	Proportion of food item 1 - invertebrates	0.75	unitless	Diet assumed 75% invertebrates
P_{F2}	Proportion of food item 2 - plants	0.25	unitless	Diet assumed 25% plants
IRs	Tier 1: Ingestion Rate - soil	0.00107	kg dry/day	Based on 10% of total food ingestion rate for turkey and woodcock (Beyer et al., 1994)
	Tier 2: Ingestion Rate - soil	0.00122	kg dry/day	
IR_F	Tier 1: Ingestion Rate - all food	0.0107	kg dry/day	Nagy (2001) for all passerines
	Tier 2: Ingestion Rate - all food	0.0122	kg dry/day	Nagy (2001) for all passerines
BW	Tier 1: Body weight	0.0635	kg	Minimum body weight of adults (Clench and Leberman as cited in EPA, 1993)
	Tier 2: Body weight	0.077	kg	Lower range of reported weights by Cornell Laboratory of Ornithology (www.allaboutbirds.org/guide/American_Robin/lifehistory)

Notes:
a) Allometric relationships with gram body weight.
b) Site 24A represents low quality breeding habitat for robins and other invertivore/omnivorous birds that are likely to feed on earthworms. Site use factors of less than one are justified for smaller site areas because in California, only 7-13 male robins are noted per 100 acres of riparian habitat in California's Central Valley (CDFG 2005).
BAF = bioaccumulation factor
BW = body weight
USEPA = United States Environmental Protection Agency
kg = kilograms
kg dry/day = kilograms per day in dry weight
mg/kg dry = milligrams per kilograms in dry weight

References:

Beyer, W.N., Connor, E.E. and Gerould, S. 1994. Estimates of soil ingestion by wildlife. *J. Wildl. Manage* . 58:375-382.
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The Cornell Lab of Ornithology 2009. Available on-line at:
http://www.allaboutbirds.org/guide/American_Robin/lifehistory
Nagy, K.A. 2001. Food requirements of wild animals: predictive equations for free-living mammals, reptiles, and birds. Nutrition Abstracts and Reviews, Series B 71, 21R-31R.
United States Environmental Protection Agency (USEPA) 1993. "Wildlife Exposure Factors Handbook." December. 1993

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Table B-8
Exposure Assumptions and Dose Equations for the Red-Tailed Hawk (*Buteo jamaicensis*)

Equation:

$$D = \frac{SUF * (C_{F1} \times P_{F1} \times IR_F) + (C_S \times IR_S)}{BW}$$

Where:

D = Chemical intake (mg/kg-day)

$IR_{F\,(b)}$ = 0.849 x BW (in grams) ^0.663 *0.001 [a]

IR_S = 0.007 x IR_F

Parameter	Definition	Value	Units	Source
C_{F1}	Chemical concentration in food (small mammals)	food chain model	mg/kg dry	Food concentrations were estimated on a dry weight basis using uptake models using concentrations at the site or by multiplying concentrations in soil at the site by BAFs for small mammals.
C_s	Tier 1: Maximum chemical concentration in soil (0-2 feet)	chemical-specific	mg/kg dry	Analytical data
	Tier 2: 95% UCL or maximum chemical concentration in soil (0-2 feet)			
SUF	Tier 1 Site Use Factor	1	unitless	Assumed present 100% of the time
	Tier 2 Site Use Factor - Site-wide (All)	0.011	unitless	Based on 2.46 acres of site foraging area (open grassy area and a median foraging area of 531 hectares (214 acres) of range of values (78-984 hectares) provided in Zeiner et al. (1990)
	Site Use Factor - Tier 2 Exposure Unit 1	0.003	unitless	Represents approximately 0.68 acres of total 214 acre foraging range.
	Site Use Factor - Tier 2 Exposure Unit 2	0.002	unitless	Represents approximately 0.47 acres of total 214 acre foraging range.
	Site Use Factor - Tier 2 Exposure Unit 3	0.006	unitless	Represents approximately 1.31 acres of total 214 acre foraging range.
P_{F1}	Proportion of food item 1	1	unitless	100% small mammal diet
IR_F	Food ingestion rate	0.0804	kg dry /day	Nagy (2001) for carnivorous birds
IR_S	Soil ingestion rate	0.000563	kg dry/day	Pascoe et al. (1996) for bald eagle (0.7% soil in diet)
BW	Body weight	0.957	kg	Average of males (Steenhof 1983 as cited in EPA, 1993)

Notes:

a) Allometric relationships with gram body weight.

BAF = bioaccumulation factor

BW = body weight

USEPA = United States Environmental Protection Agency

kg = kilograms

kg dry/day = kilograms per day in dry weight

mg/kg dry = milligrams per kilograms in dry weight

References:

Nagy, K.A. 2001. Food requirements of wild animals: predictive equations for free-living mammals, reptiles, and birds. Nutrition Abstracts and Reviews, Series B 71, 21R-31R.

Pascoe, G.A., R.J. Blanchet, and G. Linder. 1996. "Food-Chain Analysis of Exposures and Risks to Wildlife at a Metals-Contaminated Wetland." Archives of Environmental Contamination and Toxicology. Volume 30. Pages 306-318.

United States Environmental Protection Agency (USEPA) 1993. "Wildlife Exposure Factors Handbook." December. 1993

Zeiner, D.C., W.F. Laudenslayer, Jr., K.E. Mayer, and M. White. 1990. "California's Wildlife: Volume II, Birds." CWHR System. State of California, the Resource Agency, CDFG. Sacramento, California.

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Table B-9
Exposure Assumptions and Dose Equations For the California Vole (*Microtus californicus*)

Equation:

$$D = \frac{SUF * (C_{F1} \times P_{F1} \times IR_F) + (C_S \times IR_S)}{BW}$$

Where:

D = Chemical dose (mg/kg-day)

$IR_S = 0.024 \times IR_F$

Parameter	Definition	Value	Units	Source
C_{F1}	Chemical concentration in food (plants)	food chain model	mg/kg dry	Food concentrations were estimated on a dry weight basis using uptake models using concentrations at the site or by multiplying concentrations in soil at the site by BAFs for plants.
C_s	Tier 1: Maximum chemical concentration in soil (0-6 feet)	chemical specific	mg/kg dry	Analytical data
	Tier 2: 95% UCL or maximum chemical concentration in soil (0-6 feet)			
SUF	Site Use Factor	1	unitless	Assumed present 100% of the time; home range less than site and all subareas based on median of home range of 0.0095 hectare or (0.004 acres) (range of 0.00875-0.0103 hectares) provided in Heske (1987) and Ostfield (1986) as cited in Zeiner et al. (1990)
P_{F1}	Proportion of food item 1	1	-	100% plant diet
IR_F	Food ingestion rate	0.005	kg dry /day	Based on the ingestion rates of grass-fed voles in a study by Batxli and Cole (1979) (as cited in OEHHA 1999)
IR_S	Soil ingestion rate	0.00012	kg dry /day	Based on 2.4% of total food ingestion rate for meadow vole (Beyer et al., 1994)
BW	Tier 1: Body weight	0.0204	kg	Low body weight reported in OEHHA (1999)
	Tier 2: Body weight	0.035	kg	Lower range of upper body weights reported for adult and juvenile females in OEHHA (1999).

Notes:

BAF = bioaccumulation factor

BW = body weight

kg = kilograms

kg dry/day = kilograms per day in dry weight

mg/kg dry = milligrams per kilograms in dry weight

References:

Beyer, W.N., Connor, E.E. and Gerould, S. 1994. Estimates of soil ingestion by wildlife. *J. Wildl. Manage*. 58:375-382.

California Office of Environmental Heath Hazard Assessment (OEHHA) 1999. Cal/Ecotox Exposure Parameters for California Vole (*Microtus californicus*). Available on-line at: http://www.oehha.ca.gov/cal_ecotox/species_reports.htm

Zeiner, D.C., W.F. Laudenslayer, Jr., K.E. Mayer, and M. White. 1990. "California's Wildlife: Volume II, Mammals." CWHR System. State of California, the Resource Agency, CDFG. Sacramento, California.

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Table B-10
Exposure Assumptions and Dose Equations for the Western Harvest Mouse (*Reithrodontomys megalotis*)

Equation:

$$D = \frac{SUF^* (C_{F1} \times P_{F1} \times IR_F) + (C_{F2} \times P_{F2} \times IR_F) + (C_S \times IR_S)}{BW}$$

Where:

D = Chemical dose (mg/kg-day)
C_{F1} = Cs * invertebrate BAF where Cs is the chemical concentration
C_{F2} = Cs * plant BAF where Cs is the chemical concentration
IR_F = 0.332 x BW in grams ^0.774 *0.001 [a]
IR_S = 0.02 x IR_F

Parameter	Definition	Value	Units	Source
C_{F1}	Chemical concentration in food item 1 (invertebrates)	food chain model	mg/kg dry	Food concentrations were estimated on a dry weight basis using uptake models using concentrations at the site or by multiplying concentrations in soil at the site by BAFs for soil invertebrates.
C_{F2}	Chemical concentration in food item 2 (plants)	food chain model	mg/kg dry	Food concentrations were estimated on a dry weight basis using uptake models using concentrations at the site or by multiplying concentrations in soil at the site by BAFs for plants.
C_s	Tier 1: Maximum chemical concentration in soil (0-2 feet)	chemical-specific	mg/kg dry	Analytical data
	Tier 2: 95% UCL or maximum chemical concentration in soil (0-2 feet)			
SUF	Site Use Factor	1	unitless	Assumed present 100% of the time; home range less than all site areas based on median of home range of 0.48 hectares (0.2 acres) from Brant 1962 and Meserve 1977 as cited in Zeiner (1990).
P_{F1}	Proportion of food item 1 - invertebrates	0.6	unitless	Diet assumed 60% invertebrates
P_{F2}	Proportion of food item 2 - plants	0.4	unitless	Diet assumed 40% plants
IRs	Ingestion Rate - soil	0.00004	kg dry/day	Based on 2% of total food ingestion rate for white-footed mouse (Beyer et al., 1994)
IR_F	Ingestion Rate - all food	0.00197	kg dry/day	Nagy (2001) for rodents
BW	Body weight	0.01	kg	Minimum body weight of adults (Clench and Leberman as cited in EPA, 1993)

Notes:

a) Allometric relationships with gram body weight.

BAF = bioaccumulation factor
BW = body weight
kg = kilograms
kg dry/day = kilograms per day in dry weight
mg/kg dry = milligrams per kilograms in dry weight

References:

Beyer, W.N., Connor, E.E. and Gerould, S. 1994. Estimates of soil ingestion by wildlife. *J. Wildl. Manage* . 58:375-382.
Nagy, K.A. 2001. Food requirements of wild animals: predictive equations for free-living mammals, reptiles, and birds. Nutrition Abstracts and Reviews, Series B 71, 21R-31R.
United States Environmental Protection Agency (USEPA) 1993. "Wildlife Exposure Factors Handbook." December. 1993
Zeiner, D.C., W.F. Laudenslayer, Jr., K.E. Mayer, and M. White. 1990. "California's Wildlife: Volume II, Mammals." CWHR System. State of California, the Resource Agency, CDFG. Sacramento, California.

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Table B-11
Exposure Assumptions and Dose Equations For the Grey Fox (*Urocyon cinereoargenteus*)

Equation:

$$D = \frac{SUF * (C_{F1} \times P_{F1} \times IR_F) + (C_S \times IR_S)}{BW}$$

Where:

D = Chemical dose (mg/kg-day)

IR_F = 0.323 x BW (in grams) ^0.744 *0.001 [a]

IR_S = 0.028 x IR_F

Parameter	Definition	Value	Units	Source
C_{F1}	Chemical concentration in food (small mammals)	food chain model	mg/kg dry	Food concentrations were estimated on a dry weight basis using uptake models using concentrations at the site or by multiplying concentrations in soil at the site by BAFs for small mammals.
C_s	Tier 1: Maximum chemical concentration in soil (0-2 feet)	chemical specific	mg/kg dry	Analytical data
	Tier 2: 95% UCL or maximum chemical concentration in soil (0-2 feet)			
SUF	Tier 1: Site Use Factor	1	unitless	Assumed present 100% of the time
	Tier 2: Site Use Factor [b]	0.05	unitless	Based on 2.45 acres of site foraging area and a median range of 120 hectares (48.6 acres) from Brant 1962 and Meserve 1977 as cited in Zeiner et al., 1990
P_{F1}	Proportion of food item 1	1	unitless	100% small mammal diet
IR_F	Food ingestion rate	0.125	kg dry /day	(b) Nagy, 2001 for carnivorous mammals
IR_S	Soil ingestion rate	0.0035	kg dry /day	Based on 2.8% of total food ingestion rate for red fox (Beyer et al., 1994)
BW	Body weight	3	kg	Low body weight from Davis and Schmidly (1994).

Notes:

a) Allometric relationships with gram body weight.

b) SUFs for smaller exposure areas not calculated given the lack of site risk using the site-wide SUF.

BAF = bioaccumulation factor

BW = body weight

kg = kilograms

kg dry/day = kilograms per day in dry weight

mg/kg dry = milligrams per kilograms in dry weight

References:

Beyer, W.N., Connor, E.E. and Gerould, S. 1994. Estimates of soil ingestion by wildlife. *J. Wildl. Manage* . 58:375-382.

Davis, W.B. , and D.J. Schmidly. 1994. The Mammals of Texas. Austin, Texas: Texas Parks & Wildlife, Nongame and Urban Program: Distributed by University of Texas Press, 338 pages.

Nagy, K.A. 2001. Food requirements of wild animals: predictive equations for free-living mammals, reptiles, and birds. Nutrition Abstracts and Reviews, Series B 71, 21R-31R.

Zeiner, D.C., W.F. Laudenslayer, Jr., K.E. Mayer, and M. White. 1990. "California's Wildlife: Volume II, Mammals." CWHR System. State of California, the Resource Agency, CDFG. Sacramento, California.

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Table B-12: Soil to Plant Tissue Bioaccumulation Factors

Analyte	Maximum Concentration in Soil (0-2 feet) (mg/kg dry weight)	BAF plant (kg tissue/kg soil) [a]	Source [b]	Regression Slope [c]	Regression Intercept [c]
Inorganics					
Antimony	700	0.026	EcoSSL regression	0.938	-3.233
Arsenic	120	0.038	EcoSSL	--	--
Barium	220	0.16	EcoSSL	--	--
Beryllium	0.98	0.59	EcoSSL regression	0.7345	-0.5361
Cadmium	3	0.38	EcoSSL regression	0.546	-0.475
Chromium	63	0.041	EcoSSL	--	--
Cobalt	28.5	0.0075	EcoSSL	--	--
Copper	12,000	0.0066	EcoSSL regression	0.394	0.668
Lead	62,000	0.0021	EcoSSL regression	0.561	-1.328
Mercury	0.63	0.65	Bechtel-Jacobs, 1998 median (Table 6)	--	--
Molybdenum	0.63	6.1	Vandenberg regression (TetraTech, 2003)	0.79	1.71
Nickel	39	0.043	EcoSSL regression	0.748	-2.223
Selenium	4.4	0.59	EcoSSL regression	1.104	-0.677
Silver	2.1	0.014	EcoSSL	--	--
Thallium	0.51	1.0	default	--	--
Vanadium	140	0.0049	EcoSSL	--	--
Zinc	2,100	0.16	EcoSSL regression	0.554	1.575
Explosives					
2,4-Dinitrotoluene	0.25	1.0	default	--	--
4-Nitrotoluene	0.095	1.0	default	--	--
Polycyclic Aromatic Hydrocarbons (PAHs)					
HMW PAHs					
Benzo(a)anthracene	1.0	0.067	EcoSSL regression	0.5944	-2.7078
Benzo(a)pyrene	0.68	0.13	EcoSSL regression	0.9750	-2.0615
Benzo(b)fluoranthene	1.5	0.31	EcoSSL	--	--
Benzo(g,h,i)perylene	0.27	0.31	EcoSSL regression	1.1829	-0.9313
Benzo(k)fluoranthene	0.45	0.13	EcoSSL regression	0.8595	-2.1579
Chrysene	1.4	0.058	EcoSSL regression	0.5944	-2.7078
Dibenzo(a,h)anthracene	0.12	0.13	EcoSSL	--	--
Indeno(1,2,3-cd)pyrene	0.31	0.11	EcoSSL	--	--
Pyrene	1.4	0.72	EcoSSL	--	--
LMW PAHs					
Acenaphthene	0.061	0.69	EcoSSL regression	-0.8556	-5.562
Acenaphthylene	0.19	0.45	EcoSSL regression	0.7910	-1.144
Anthracene	0.77	0.39	EcoSSL regression	0.7784	-0.9887
Fluoranthene	1.4	0.50	EcoSSL	--	--
Fluorene	0.05	1.0	EcoSSL regression	-0.8556	-5.562
Naphthalene	0.018	12	EcoSSL	--	--
Phenanthrene	0.58	1.0	EcoSSL regression	0.6203	-0.1665

Notes:

a) Used for the robin, vole and harvest mouse dose calculations.

b) EcoSSL was preferentially chosen.

c) Regression Formula: ln (tissue concentration) = Y- intercept + slope * (ln [soil concentration]).

-- = No Data

BAF = bioaccumulation factor

EcoSSL = ecological soil screening level

HMW = high molecular weight

kg = kilogram

LMW = low molecular weight

mg/kg = milligrams per kilogram

PAHs = polycyclic aromatic hydrocarbons

Table B-12: Soil to Plant Tissue Bioaccumulation Factors

References:

Bechtel-Jacobs, 1998. Empirical Models for the Uptake of Inorganic Chemicals from Soil by Plants, Oak Ridge National Laboratory, Oak Ridge TN. 116 pp BJC/OR-13.

Tetra Tech Inc. 2003. Final Report for the Validation Study in Support of the Ecological Risk Assessments for Vandenberg Air Force Base, Prepared for 30 CES/CEV Vandenberg Air Force Base, California. January.

United States Environmental Protection Agency (USEPA) 2005-2009. Interim Ecological Soil Screening Levels (EcoSSL). Available on-line at: http://www.epa.gov/ecotox/ecossl/

Table B-13: Soil to Soil Invertebrate Tissue Bioaccumulation Factors

Analyte	Maximum Concentration in Soil (0-2 feet) (mg/kg dry weight)	BAF invertebrate (kg tissue/kg soil) [a]	Source [b]	Regression Slope [c]	Regression Intercept [c]
Inorganics					
Antimony	700	1.0	EcoSSL	--	--
Arsenic	120	0.059	EcoSSL regression	0.706	-1.421
Barium	220	0.091	EcoSSL	--	--
Beryllium	0.98	0.045	EcoSSL	--	--
Cadmium	3	6.6	EcoSSL regression	0.795	2.114
Chromium	63	0.31	EcoSSL	--	--
Cobalt	28.5	0.12	EcoSSL	--	--
Copper	12,000	0.52	EcoSSL	--	--
Lead	62,000	0.10	EcoSSL regression	0.807	-0.218
Mercury	0.63	1.7	Sample et al., 1998b median	--	--
Molybdenum	0.63	1.0	Vandenberg regression (TetraTech, 2003)	0.298	-0.2771
Nickel	39	1.1	Sample et al., 1998b median	--	--
Selenium	4.4	0.62	EcoSSL regression	0.733	-0.075
Silver	2.1	2.0	EcoSSL	--	--
Thallium	0.51	1.0	default	--	--
Vanadium	140	0.042	EcoSSL	--	--
Zinc	2,100	0.50	EcoSSL regression	0.328	4.449
Explosives					
2,4-Dinitrotoluene	0.25	1.0	default	--	--
4-Nitrotoluene	0.095	1.0	default	--	--
Polycyclic Aromatic Hydrocarbons (PAHs)					
HMW PAHs					
Benzo(a)anthracene	1.0	1.6	EcoSSL	--	--
Benzo(a)pyrene	0.68	1.3	EcoSSL	--	--
Benzo(b)fluoranthene	1.5	2.6	EcoSSL	--	--
Benzo(g,h,i)perylene	0.27	2.9	EcoSSL	--	--
Benzo(k)fluoranthene	0.45	2.6	EcoSSL	--	--
Chrysene	1.4	2.3	EcoSSL	--	--
Dibenz(a,h)anthracene	0.12	2.3	EcoSSL	--	--
Indeno(1,2,3-cd)pyrene	0.31	2.9	EcoSSL	--	--
Pyrene	1.4	1.8	EcoSSL	--	--
LMW PAHs					
Acenaphthene	0.061	1.5	EcoSSL	--	--
Acenaphthylene	0.19	23	EcoSSL	--	--
Anthracene	0.77	2.4	EcoSSL	--	--
Fluoranthene	1.4	3.0	EcoSSL	--	--
Fluorene	0.05	9.6	EcoSSL	--	--
Naphthalene	0.018	4.4	EcoSSL	--	--
Phenanthrene	0.58	1.7	EcoSSL	--	--

Notes:

a) Used for the robin and harvest mouse dose calculations.

b) EcoSSL was preferentially chosen.

c) Regression Formula: ln (tissue concentration) = Y- intercept + slope * (ln [soil concentration]).

-- = no data

BAF = bioaccumulation factor in kilograms of soil per kilograms of tissue

EcoSSL = ecological soil screening level

HMW = high molecular weight

kg = kilogram

LMW = low molecular weight

mg/kg = milligrams per kilogram

Table B-13: Soil to Soil Invertebrate Tissue Bioaccumulation Factors

PAHs = polycyclic aromatic hydrocarbons

References:

Sample, B.E., J.J. Beauchamp, R.A. Efroymson, G.W. Suter, II, and T.L. Ashwood. 1998b. Development and Validation of Bioaccumulation Models for Earthworms. Oak Ridge National Laboratory, Oak Ridge TN. 93 pp, ES/ER/TM-220

Tetra Tech Inc. 2003. Final Report for the Validation Study in Support of the Ecological Risk Assessments for Vandenberg Air Force Base, Prepared for 30 CES/CEV Vandenberg Air Force Base, California. January.

United States Environmental Protection Agency (USEPA) 2005-2009. Interim Ecological Soil Screening Levels (EcoSSL). Available on-line at: http://www.epa.gov/ecotox/ecossl/

Table B-14: Soil to Mammal Tissue Bioaccumulation Factors

Analyte	Maximum Chemical Concentration in Soil (0-2 feet) (mg/kg dry weight)	BAF mammal (kg tissue/kg soil) [a]	Source [b]	Regression Slope [c]	Regression Intercept [c]
Inorganics					
Antimony	700	0.050	EcoSSL	--	--
Arsenic	120	0.0033	EcoSSL regression	0.8188	-4.8471
Barium	220	0.00068	EcoSSL	--	--
Beryllium	0.98	0.0023	EcoSSL	--	--
Cadmium	3	0.16	EcoSSL regression	0.4723	-1.2571
Chromium	63	0.077	EcoSSL regression	0.7338	-1.4599
Cobalt	28.5	0.032	EcoSSL regression	1.307	-4.4669
Copper	12,000	0.0025	EcoSSL regression	0.1444	2.042
Lead	62,000	0.0023	EcoSSL regression	0.4422	0.0761
Mercury	0.63	0.054	Sample et al., 1998a median general	--	--
Molybdenum	0.63	1.0	default	--	--
Nickel	39	0.11	EcoSSL regression	0.4658	-0.2462
Selenium	4.4	0.26	EcoSSL regression	0.3764	-0.4158
Silver	2.1	0.0040	EcoSSL	--	--
Thallium	0.51	0.11	Sample et al., 1998a median general	--	--
Vanadium	140	0.012	EcoSSL	--	--
Zinc	2,100	0.064	EcoSSL regression	0.0706	4.3632
Explosives					
2,4-Dinitrotoluene	0.25	1.0	default	--	--
4-Nitrotoluene	0.095	1.0	default	--	--
Polycyclic Aromatic Hydrocarbons (PAHs)					
HMW PAHs					
Benz(a)anthracene	1.0	0	EcoSSL	--	--
Benzo(a)pyrene	0.68	0	EcoSSL	--	--
Benzo(b)fluoranthene	1.5	0	EcoSSL	--	--
Benzo(g,h,i)perylene	0.27	0	EcoSSL	--	--
Benzo(k)fluoranthene	0.45	0	EcoSSL	--	--
Chrysene	1.4	0	EcoSSL	--	--
Dibenz(a,h)anthracene	0.12	0	EcoSSL	--	--
Indeno(1,2,3-cd)pyrene	0.31	0	EcoSSL	--	--
Pyrene	1.4	0	EcoSSL	--	--
LMW PAHs					
Acenaphthene	0.061	0	EcoSSL	--	--
Acenaphthylene	0.19	0	EcoSSL	--	--
Anthracene	0.77	0	EcoSSL	--	--
Fluoranthene	1.4	0	EcoSSL	--	--
Fluorene	0.05	0	EcoSSL	--	--
Naphthalene	0.018	0	EcoSSL	--	--
Phenanthrene	0.58	0	EcoSSL	--	--

Notes:

a) Used for the red-tailed hawk and grey fox dose calculations.

b) EcoSSL was preferentially chosen.

c) Regression Formula: *ln* (tissue concentration) = *Y*- intercept + slope * (*ln* [soil concentration]).

The recommended BAF for PAHs is zero because of the rapid metabolism of these compounds after ingestion by birds and mammals.

-- = no data

BAF = bioaccumulation factor

EcoSSL = ecological soil screening level

HMW = high molecular weight

kg = kilogram

LMW = low molecular weight

Table B-14: Soil to Mammal Tissue Bioaccumulation Factors

Analyte	Maximum Chemical Concentration in Soil (0-2 feet) (mg/kg dry weight)	BAF mammal (kg tissue/kg soil) [a]	Source [b]	Regression Slope [c]	Regression Intercept [c]

mg/kg = milligrams per kilogram
PAHs = polycyclic aromatic hydrocarbons

References:

Sample, B.E., J.J. Beauchamp, R.A. Efroymson, G W. Suter II, and T.L. Ashwood. 1998a. Development and Validation of Bioaccumulation Models for Small Mammals, ES/ER/TM-219, Oak Ridge National Laboratory, Oak Ridge, TN.

United States Environmental Protection Agency (USEPA) 2005-2009. Interim Ecological Soil Screening Levels (EcoSSL). Available on-line http://www.epa.gov/ecotox/ecossl/

Table B-15: Plant and Invertebrate Toxicity Benchmarks

Analyte	Eco-SSL Plant Screening Benchmark [a] (mg/kg)	ORNL Plant Screening Benchmark [a,b] (mg/kg)	Alternative Plant Soil Screening Benchmark [c] (mg/kg)	Eco-SSL Invertebrate Soil Screening Benchmark [a] (mg/kg)	ORNL Invertebrate Soil Screening Benchmark [a,d] (mg/kg)	Alternative Invertebrate Soil Screening Benchmark [e] (mg/kg)	Low Sediment Screening Benchmark [f] (mg/kg)	High Sediment Screening Benchmark [k] (mg/kg)
Detected Chemicals								
Antimony	NA	5	NA	78	NA	NA	3.0 [g]	3.0 [g]
Arsenic	18	10	NA	NA	60	NA	9.79	33
Barium	NA	500	NA	330	NA	NA	48 [h]	48 [h]
Beryllium	NA	10	NA	40	NA	NA	NA	NA
Cadmium	32	4	NA	140	20	NA	0.99	4.98
Chromium	NA	1	NA	NA	0.4	NA	43.4	111
Cobalt	13	20	NA	NA	NA	1,000	50 [i]	50 [i]
Copper	70	100	NA	80	50	NA	31.6	149
Lead	120	50	NA	1,700	500	NA	35.8	128
Mercury	NA	0.3	NA	NA	0.1	NA	0.18	1.06
Molybdenum	NA	2	NA	NA	NA	200	NA	NA
Nickel	38	30	NA	280	200	NA	22.7	48.6
Selenium	0.52	1	NA	4.1	70	NA	1.0 [h]	1.0 [h]
Silver	560	2	NA	NA	NA	50	0.733 [j]	1.77 [j]
Thallium	NA	1	NA	NA	NA	NA	NA	NA
Vanadium	NA	2	NA	NA	NA	20	57 [h]	57 [h]
Zinc	160	50	NA	120	100	NA	121	459
2,4-Dinitrotoluene	NA	NA	1.28	NA	NA	1.28	NA	NA
4-Nitrotoluene	NA	NA	1.28	NA	NA	1.28	NA	NA
Low-Molecular Weight PAHs	NA	20	NA	29	30	NA	--	--
High-Molecular Weight PAHs	NA	NA	86	18	NA	NA	--	--
Benchmarks Only Used for MRL Comparisons								
1,3,5-Trinitrobenzene	NA	NA	0.376	NA	NA	0.376	NA	NA
1,3-Dinitrobenzene	NA	NA	0.655	NA	NA	0.655	0.00861 [i]	NA
2,4,6-Trinitrotoluene	NA	NA	30	NA	NA	140	NA	NA
2,6-Dinitrotoluene	NA	NA	0.0328	NA	NA	0.0328	0.0398 [i]	NA
2-Amino-4,6-dinitrotoluene	NA	NA	80	NA	NA	NA	NA	NA
2-Nitrotoluene	NA	NA	NA	NA	NA	NA	NA	NA
3-Nitrotoluene	NA	NA	NA	NA	NA	NA	NA	NA
4-Amino-2,6-dinitrotoluene	NA	NA	NA	NA	NA	NA	NA	NA
HMX	NA	NA	NA	NA	NA	NA	NA	NA
Nitrobenzene	NA	NA	1.31	NA	40	1.31	0.145 [i]	NA
RDX	NA	NA	100	NA	NA	NA	NA	NA
Tetryl	NA	NA	25	NA	NA	NA	NA	NA

Notes:

a) EPA Eco-SSLs were used for screening purposes whenever available. If no Eco-SSL is available, the ORNL benchmark was used for screening soil concentrations. If neither Eco-SSL nor ORNL benchmarks are available, an alternative benchmark was used, as appropriate.

b) The ORNL plant toxicity benchmark for acenaphthene were used as a surrogate for all low-molecular weight PAHs.

c) For high-molecular weight PAH, based on a no-effect concentration for benzo(a)pyrene value reported for reduced growth in *Brassica alba* in Sverdrup et al. 2007. For alternative benchmarks for all other chemicals, EPA Region 5 ESLs (http://www.epa.gov/reg5rcra/ca/ESL.pdf) were used. For nitrotoluenes and other explosives, the sources were Talmage et al. (1999) and U.S. Army Corp of Engineers (2009). 2,4-Dinitrotoluene benchmarks were used as a surrogate for 4-nitrotoluene.

d) The ORNL invertebrate toxicity benchmark for fluorene was used as a surrogate for all low-molecular weight PAHs.

e) The ORNL microbial benchmark was selected as the alternative benchmark, except for explosive chemicals where the EPA Region 5 ESLs (http://www.epa.gov/reg5rcra/ca/ESL.pdf) were used .

f) Threshold Effects Concentration, MacDonald et al. (2000), including 2002 updates in Buchman (2008); unless otherwise indicated.

g) Upper Effects Threshold, Buchman (2008)

h) Apparent effects threshold, marine, Buchman (2008)

i) EPA Region 5 Sediment Ecological Screening Level, Buchman (2008).

j) Florida TEL or PEL from Buchman (2008).

k) Probable Effects Concentration, MacDonald et al. (2000), including 2002 updates in Buchman (2008); unless otherwise indicated.

Gray shading indicates background is higher than benchmark.

-- = Benchmarks not listed because PAHs were not analyzed for in the drainage ditch.

EcoSSL = ecological soil screening level

mg/kg = milligrams per kilogram

NA = no available benchmark

ORNL = Oak Ridge National Laboratory

Table B-15: Plant and Invertebrate Toxicity Benchmarks

PAHs = polycyclic aromatic hydrocarbons

References:

Efroymson, R.A., M.E. Will, G.W. Suter II, and A.C. Wooten. 1997a. "Toxicological Benchmarks for Screening COPECs of Potential Concern for Effects on Terrestrial Plants: 1997 Revision." Oak Ridge National Laboratory. Oak Ridge, Tennessee. ES/Gr/TM-85. 128 pages.

Efroymson, R.A., M.E. Will, and G.W. Suter II. 1997b. "Toxicological Benchmarks for COPECs of Potential Concern for Effects on Soil and Litter Invertebrates and Heterotrophic Processes: 1997 Revision." Oak Ridge National Laboratory, Oak Ridge Tennessee. ES/ER/TM-126/R2.

Sverdrup, LE, Hagen, SB, Krogh, PH, van Gestel, CAM. 2007. Benzo(a)pyrene shows low toxicity to three species of terrestrial plants, two soil invertebrates, and soil-nitrifying bacteria. Ecotoxicology and Environmental Safety, 66: 362-368.

Talmage S.S., D.M. Opresko, C.J. Maxwell, C.J.E. Welsh, F.M. Cretella, P.H. Reno, and F.B. Daniel. 1999. Nitroaromatic munition compounds: environmental effects and screening values. *Rev. Environ. Contam. Toxicol.* 161:1-156.

United States Environmental Protection Agency (USEPA) 2005-2009. Interim Ecological Soil Screening Levels (EcoSSL). Available on-line at:
http://www.epa.gov/ecotox/ecossl/

Table B-16: Amphibian Toxicity Benchmarks

Analyte	Amphibian Screening Benchmark [a] (mg/kg)
Antimony	NA
Arsenic	NA
Barium	NA
Beryllium	NA
Cadmium	110 [b]
Chromium	NA
Cobalt	NA
Copper	200
Lead	2,400
Mercury	NA
Molybdenum	NA
Nickel	NA
Selenium	NA
Silver	NA
Thallium	NA
Vanadium	NA
Zinc	1,200
2,4-Dinitrotoluene	NA
4-Nitrotoluene	NA
Low-Molecular Weight PAHs	NA
High-Molecular Weight PAHs	NA

Notes:

a) ENSR (2004) The range of NOECs are the same for lethality and growth endpoints and the highest NOEC was selected (Tables 3-6 and 3-7) except for cadmium.

b) Lower range of LOEC for growth is lower than the higher range of the NOEC for lethality.

For cadmium, the lower ranges for growth presented in Table 3-7 are from control treatments and suggests that non-chemical related factors may have affected the toxic response observed in this test. Therefore, the lowest LOEC for cadmium was used.

LOEC = lowest observed effect concentration

mg/kg = milligrams per kilogram

NA = no available benchmark

NOEC = no observed effect concentration

References:

ENSR 2004. Development of a Standardized Approach for Assessing Potential Risks to Amphibians Exposed to Sediment and Hydric Soils.

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Table B-17: Toxicity Reference Values for Birds and Mammals

Analyte	Low-TRV for Birds [a,b] (mg/kg-bw/day)	High-TRV for Birds [a,b] (mg/kg-bw/day)	Low-TRV for Mammals [a,c] (mg/kg-bw/day)	High-TRV for Mammals [a,c] (mg/kg-bw/day)
Antimony	NA	NA	0.125	1.25
Arsenic	5.5	22	0.32	4.7
Barium	20.8	41.7	5.1	19.8
Beryllium	NA	NA	0.66	6.6
Cadmium	0.7	10.43	0.06	2.64
Chromium III	1	5	2,737	27,370
Cobalt	7.61	76.1	1.2	20
Copper	2.3	52.3	2.67	632
Lead	0.014	8.75	1	241
Mercury (methyl)	0.039	0.18	0.25	4
Molybdenum	3.5	35.3	0.26	2.6
Nickel	1.38	56.3	0.133	31.6
Selenium	0.23	0.93	0.05	1.21
Silver	2.02	20.2	6.02	60.2
Thallium	NA	NA	0.48	1.43
Vanadium	11.4	114	0.21	2.1
Zinc	17.2	172	9.6	411
2,4-Dinitrotoluene	0.01	1.3	0.67	1.4
4-Nitrotoluene [d]	0.01	1.3	0.67	1.4
Low Molecular Weight PAHs (Naphthalene)	NA	NA	50	150
High-Molecular Weight PAHs (Benzo(a)pyrene)	NA	NA	1.31	32.8

Notes:

a) TRVs for mammals and for birds are from DTSC (2009). If no DTSC TRV was available, the TRV was derived from Sample, Opresko, and Suter (1996). TRVs for chemicals without DTSC or Sample et al. TRVs were derived from the Eco-SSL TRVs (USEPA, 2005-2009).

b) BTAG TRVs for birds are from DTSC (2009) for arsenic, cadmium, copper, lead, mercury, nickel, selenium and zinc; TRVs for birds for barium, chromium III, inorganic mercury, molybdenum, and vanadium are from Sample, Opresko and Suter (1996); TRVs for birds for silver and cobalt are from USEPA (2005-2009). For 2,4-dinitrotoluene, the TRVs are from (http://www.srs.gov/general/programs/soil/ffa/rdh/p73.PDF) based on quail.

c) TRVs for mammals are from DTSC (2009) for arsenic, benzo(a)pyrene (high molecular weight PAHs), cadmium, cobalt, copper, lead, mercury, naphthalene (low molecular weight PAHs), nickel, selenium, thallium, and zinc; TRVs for mammals for antimony, barium, beryllium, chromium III, inorganic mercury, molybdenum, and vanadium are from Sample, Opresko, and Suter (1996); TRV for mammals for silver is from USEPA (2005-2009). For 2,4-dinitrotoluene, the TRVs are from (http://www.srs.gov/general/programs/soil/ffa/rdh/p73.PDF) based on beagle toxicity studies.

d) The TRVs for 2,4-dinitrotoluene used as surrogates for 4-nitrotoluene.

If there is a low-TRV but a high-TRV is unavailable, the low-TRV was multiplied by a factor of 10.

mg/kg-bw/day = milligrams per kilogram body weight per day
NA = no available TRV
PAHs = polycyclic aromatic hydrocarbons
TRV = toxicity reference value

References:

Department of Toxic Substances Control (DTSC) 2009. Biological Technical Assistance Group (BTAG)-Recommended Toxicity Reference Values for Birds and Mammals. Available Online at:
http://www.dtsc.ca.gov/AssessingRisk/upload/Eco_Btag-mammal-bird-TRV-table.pdf

Sample, B.E., D.M. Opresko, and G.W. Suter, II. 1996. "Toxicological Benchmarks for Wildlife: 1996 Revision." ES/ER/TM-86/R3. Oak Ridge National Laboratory. Oak Ridge, Tennessee.

Savannah River Site 1999. Regulatory Document Handbook. Environmental Restoration Division. ERD-AG-003. Available on-line at:
http://www.srs.gov/general/programs/soil/ffa/rdh/p73.PDF

United States Environmental Protection Agency (USEPA) 2005-2009. Interim Ecological Soil Screening Levels (EcoSSL). Available on-line at:
http://www.epa.gov/ecotox/ecossl/

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Table B-18
Tier 1 - Hazard Quotients for Terrestrial Plants

Chemical	Maximum Concentration in Soil (0-2 feet) (mg/kg dry weight)	Plant Benchmark (mg/kg dry weight) [a]	Hazard Quotient
Inorganics			
Antimony	**700**	**5**	**140**
Arsenic	**120**	**18**	**6.7**
Barium	220	500	0.44
Beryllium	0.98	10	0.10
Cadmium	3.0	32	0.094
Chromium [b]	**63**	**55**	**1.1**
Cobalt [b]	**28.5**	**24**	**1.2**
Copper	**12,000**	**70**	**171**
Lead	**62,000**	**120**	**517**
Mercury	**0.63**	**0.3**	**2.1**
Molybdenum	0.63	2	0.32
Nickel [b]	39	86	0.45
Selenium	**4.4**	**0.52**	**8.5**
Silver	2.1	560	0.0038
Thallium	0.51	1	0.51
Vanadium [b]	**140**	**86**	**1.6**
Zinc	**2,100**	**160**	**13**
Explosives			
2,4-Dinitrotoluene	0.25	1.28	0.20
4-Nitrotoluene	0.095	1.28	0.07
Polycyclic Aromatic Hydrocarbons (PAHs)			
HMW PAHs			
Benzo(a)anthracene	1.0	86	0.012
Benzo(a)pyrene	0.68	86	0.0079
Benzo(b)fluoranthene	1.5	86	0.017
Benzo(g,h,i)perylene	0.27	86	0.0031
Benzo(k)fluoranthene	0.45	86	0.0052
Chrysene	1.4	86	0.016
Dibenz(a,h)anthracene	0.12	86	0.0014
Indeno(1,2,3-cd)pyrene	0.31	86	0.0036
Pyrene	1.4	86	0.016
LMW PAHs			
Acenaphthene	0.061	20	0.0031
Acenaphthylene	0.19	20	0.010
Anthracene	0.77	20	0.039
Fluoranthene	1.4	20	0.070
Fluorene	0.05	20	0.0025
Naphthalene	0.018	20	0.00090
Phenanthrene	0.58	20	0.029

Notes:
a) Sources listed on Table B-15.
b) The background concentration is higher than the risk-based screening criteria and background

Table B-18
Tier 1 - Hazard Quotients for Terrestrial Plants

Chemical	Maximum Concentration in Soil (0-2 feet) (mg/kg dry weight)	Plant Benchmark (mg/kg dry weight) [a]	Hazard Quotient

replaced the plant benchmark in this table.
Bold indicates hazard quotient greater than 1.0.
HMW = high molecular weight
LMW = low molecular weight
mg/kg = milligrams per kilogram
PAHs = polycyclic aromatic hydrocarbons

Table B-19
Tier 1 - Hazard Quotients for Soil Invertebrates

Chemical	Maximum Concentration in Soil (0-2 feet) (mg/kg dry weight)	Invertebrate Soil Benchmark (mg/kg dry weight) [a]	Hazard Quotient
Inorganics			
Antimony	**700**	**78**	**9.0**
Arsenic	**120**	**60**	**2.0**
Barium	220	330	0.67
Beryllium	0.98	40	0.025
Cadmium	3.0	140	0.021
Chromium [b]	**63**	**55**	**1.1**
Cobalt	28.5	1,000	0.029
Copper	**12,000**	**80**	**150**
Lead	**62,000**	**1,700**	**36**
Mercury [b]	**0.63**	**0.14**	**4.5**
Molybdenum	0.63	200	0.0032
Nickel	39	280	0.14
Selenium	**4.4**	**4.1**	**1.1**
Silver	2.1	50	0.042
Thallium	0.51	NA	--
Vanadium [b]	**140**	**86**	**1.6**
Zinc	**2,100**	**120**	**18**
Explosives			
2,4-Dinitrotoluene	0.25	1.28	0.20
4-Nitrotoluene	0.095	1.28	0.07
Polycyclic Aromatic Hydrocarbons (PAHs)			
HMW PAHs			
Benzo(a)anthracene	1.0	NA	--
Benzo(a)pyrene	0.68	NA	--
Benzo(b)fluoranthene	1.5	NA	--
Benzo(g,h,i)perylene	0.27	NA	--
Benzo(k)fluoranthene	0.45	NA	--
Chrysene	1.4	NA	--
Dibenz(a,h)anthracene	0.12	NA	--
Indeno(1,2,3-cd)pyrene	0.31	NA	--
Pyrene	1.4	NA	--
Total HMW PAHs	7.1	18	0.40
LMW PAHs			
Acenaphthene	0.061	NA	--
Acenaphthylene	0.19	NA	--
Anthracene	0.77	NA	--
Fluoranthene	1.4	NA	--
Fluorene	0.05	NA	--
Naphthalene	0.018	NA	--
Phenanthrene	0.58	NA	--
Total LMW PAHs	3.1	29	0.11

Table B-19
Tier 1 - Hazard Quotients for Soil Invertebrates

Chemical	Maximum Concentration in Soil (0-2 feet) (mg/kg dry weight)	Invertebrate Soil Benchmark (mg/kg dry weight) [a]	Hazard Quotient

Notes:
a) Sources listed on Table B-15.
b) The background concentration is higher than the risk-based screening criteria and background replaced the invertebrate soil benchmark in this table.
Bold indicates hazard quotient greater than 1.0.
-- = not calculated
HMW = high molecular weight
LMW = low molecular weight
mg/kg = milligrams per kilogram
NA = not available
PAHs = polycyclic aromatic hydrocarbons

Table B-20
Tier 1 - Hazard Quotients for Benthic Invertebrates Exposed to Sediments in the Drainage Channel

Analyte	Maximum Concentration in Drainage Channel Soil (0-2 feet) (mg/kg dry weight) [a]	Low Invertebrate Sediment Benchmark or Background (mg/kg dry weight) [b]		Low Hazard Quotient	High Invertebrate Sediment Benchmark or Background (mg/kg dry weight) [b]		High Hazard Quotient
Inorganics							
Antimony	**45**	**3.0**		**15**	**3.0**		**15**
Arsenic	**18**	**9.79**		**1.8**	33		0.55
Barium	170	210	c	0.81	210	c	0.81
Beryllium	**0.69**	**0.56**	**c**	**1.2**	**0.56**	**c**	**1.2**
Cadmium	**3**	**0.99**		**3.0**	4.98		0.6
Chromium	31	55	c	0.56	55	c	0.56
Cobalt	14	50		0.28	50		0.28
Copper	**190**	**64**	**c**	**2.97**	**149**		**1.3**
Lead	**7,100**	**35.8**		**198**	**128**		**55**
Mercury	**0.25**	**0.18**		**1.4**	1.06		0.24
Molybdenum	0.41	NA		--	NA		--
Nickel	23	86	c	0.27	86	c	0.27
Selenium	**4.4**	**1.0**		**4.4**	**1.0**		**4.4**
Silver	ND	0.73		--	1.77		--
Thallium	0.51	NA		--	NA		--
Vanadium	64	86	c	0.74	86	c	0.74
Zinc	**1,600**	**121**		**13**	**459**		**3.5**

Notes:
a) Maximum concentration from Exposure Unit 4.
b) All sources shown on Table B-15.
c) The background concentration is higher than the risk-based screening criteria and background replaced the sediment benchmark in this table.
Bold indicates hazard quotient greater than 1.0.
-- = not calculated
mg/kg = milligrams per kilogram
NA = not available
ND = not detected

References:

Buchman, M. 2008. *NOAA Screening Quick Reference Tables, NOAA HAZMAT.* Report 99-1. Seattle, WA. Coastal Protection and Restoration Division, National Oceanic and Atmospheric Administration. 12 pages.

MacDonald, D.D., C.G. Ingersoll, and T.A. Berger. 2000. "Development and Evaluation of Consensus-Based Sediment Quality Guidelines for Freshwater Ecosystems." Archives of Environmental Contam. and Toxicol. 39:20-31.

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Table B-21
Tier 1 - Calculation of Dose and Hazard Quotient for the American Robin (*Turdus migratorius*)

Analyte	Maximum Concentration in Soil (0-2 feet) (mg/kg dry weight)	BAF plant (kg tissue/kg soil) [a]	Plant Concentration (mg/kg dry weight)	BAF invertebrate (kg soil/kg tissue) [a]	Invertebrate Concentration (mg/kg dry weight)	Soil Ingestion Rate (kg-dry/day)	Food Ingestion Rate (kg-dry/day)	PF Plants	PF Invertebrates	SUF	BW (kg)	Dose (mg/kg-bw/day)	Low-TRV (mg/kg-bw/day) [b]	Low-TRV HQ	High-TRV (mg/kg-bw/day) [b]	High-TRV HQ
Inorganics																
Antimony [c]	700	0.026	18	1.0	700	0.00107	0.0107	0.25	0.75	1	0.0635	101	NA	--	NA	--
Arsenic	120	0.038	4.5	0.059	7.1	0.00107	0.0107	0.25	0.75	1	0.0635	3.1	5.5	0.57	22	0.14
Barium	220	0.16	34	0.091	20	0.00107	0.0107	0.25	0.75	1	0.0635	7.7	20.8	0.37	41.7	0.18
Beryllium [c]	0.98	0.59	0.58	0.045	0.044	0.00107	0.0107	0.25	0.75	1	0.0635	0.046	NA	--	NA	--
Cadmium	**3**	**0.38**	**1.1**	**6.6**	**20**	**0.00107**	**0.0107**	**0.25**	**0.75**	**1**	**0.0635**	**2.6**	**0.70**	**3.7**	10.43	0.25
Chromium	**63**	**0.041**	**2.6**	**0.31**	**19**	**0.00107**	**0.0107**	**0.25**	**0.75**	**1**	**0.0635**	**3.6**	**1.00**	**3.6**	5	0.72
Cobalt	28.5	0.0075	0.21	0.12	3.5	0.00107	0.0107	0.25	0.75	1	0.0635	0.93	7.61	0.12	76.1	0.012
Copper	**12,000**	**0.0066**	**79**	**0.52**	**6,180**	**0.00107**	**0.0107**	**0.25**	**0.75**	**1**	**0.0635**	**987**	**2.3**	**429**	**52.3**	**19**
Lead	**62,000**	**0.0021**	**129**	**0.10**	**5,926**	**0.00107**	**0.0107**	**0.25**	**0.75**	**1**	**0.0635**	**1,799**	**0.014**	**128,509**	**8.75**	**206**
Mercury	**0.63**	0.66	**0.42**	**1.7**	**1.1**	**0.00107**	**0.0107**	**0.25**	**0.75**	**1**	**0.0635**	**0.16**	**0.039**	**4.2**	0.18	0.91
Molybdenum	0.63	6.1	3.8	1.0	0.66	0.00107	0.0107	0.25	0.75	1	0.0635	0.26	3.5	0.073	35.3	0.0072
Nickel	**39**	**0.043**	**1.7**	**1.1**	**41**	**0.00107**	**0.0107**	**0.25**	**0.75**	**1**	**0.0635**	**5.9**	**1.38**	**4.3**	56.3	0.11
Selenium	**4.4**	**0.59**	**2.6**	**0.62**	**2.7**	**0.00107**	**0.0107**	**0.25**	**0.75**	**1**	**0.0635**	**0.53**	**0.23**	**2.3**	0.93	0.57
Silver	2.1	0.014	0.029	2.0	4.3	0.00107	0.0107	0.25	0.75	1	0.0635	0.58	2.02	0.29	20.2	0.029
Thallium [c]	0.51	1.0	**0.51**	1.0	**0.5**	0.00107	0.0107	0.25	0.75	1	0.0635	0.095	NA	--	NA	--
Vanadium	140	0.0049	0.68	0.042	5.9	0.00107	0.0107	0.25	0.75	1	0.0635	3.1	11.4	0.27	114	0.027
Zinc	**2,100**	**0.16**	**335**	**0.50**	**1,052**	**0.00107**	**0.0107**	**0.25**	**0.75**	**1**	**0.0635**	**182**	**17.2**	**11**	**172**	**1.1**
Explosives																
2,4-Dinitrotoluene	**0.25**	**1.0**	**0.25**	**1.0**	**0.25**	**0.00107**	**0.0107**	**0.25**	**0.75**	**1**	**0.0635**	**0.047**	**0.01**	**4.7**	1.3	0.036
4-Nitrotoluene	**0.095**	**1.0**	**0.10**	**1.0**	**0.10**	**0.00107**	**0.0107**	**0.25**	**0.75**	**1**	**0.0635**	**0.018**	**0.01**	**1.8**	1.3	0.014
Polycyclic Aromatic Hydrocarbons (PAHs) [c]																

Notes:
a) Sources listed on Table B-12 for plant BAFs and Table B-13 for invertebrate BAFs.
b) Sources listed on Table B-17.
c) These chemicals do not have established TRVs, but will be evaluated in Tier 2.
Bold indicates hazard quotient greater than 1.0.
-- = not calculated
BAF = bioaccumulation factor
BW = body weight
Dose = average daily dose in milligrams per kilogram per day.
HQ = hazard quotient
kg = kilogram
kg- dry/day = kilograms per day in dry weight
mg/kg = milligrams per kilogram
mg/kg-bw/day = milligrams per kilogram body weight per day
NA = not available
PAHs = polycyclic aromatic hydrocarbons
PF = portion of food item
SUF = site use factor
TRV = toxicity reference value

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Table B-22
Tier 1 - Calculation of Dose and Hazard Quotient for the Red-Tailed Hawk (*Buteo jamaicensis*)

Analyte	Maximum Concentration in Soil (0-2 feet) (mg/kg dry weight)	BAF Mammal (kg tissue/kg soil) [a]	Mammal Prey Concentration (mg/kg dry weight)	Soil Ingestion Rate (kg-dry/day)	Food Ingestion Rate (kg-dry/day)	PF mammals	SUF	BW (kg)	Dose (mg/kg-bw/day)	Low-TRV (mg/kg-bw/day) [c]	Low-TRV HQ	High-TRV (mg/kg-bw/day) [c]	High-TRV HQ
Inorganics													
Antimony [b]	700	0.050	35	0.000563	0.0804	1	1	0.957	3.4	NA	--	NA	--
Arsenic	120	0.0033	0.3957	0.000563	0.0804	1	1	0.957	0.104	5.5	0.019	22	0.0047
Barium	220	0.00068	0.15	0.000563	0.0804	1	1	0.957	0.14	20.8	0.0068	41.7	0.0034
Beryllium [b]	0.98	0.0023	0.0022	0.000563	0.0804	1	1	0.957	0.00076	NA	--	NA	--
Cadmium	3	0.16	0.48	0.000563	0.0804	1	1	0.957	0.042	0.7	0.06	10.43	0.0040
Chromium	63	0.077	4.9	0.000563	0.0804	1	1	0.957	0.45	1	0.45	5	0.089
Cobalt	28.5	0.032	0.92	0.000563	0.0804	1	1	0.957	0.094	7.61	0.012	76.1	0.0012
Copper	**12,000**	**0.0025**	**30**	**0.000563**	**0.0804**	**1**	**1**	**0.957**	**9.6**	**2.3**	**4.2**	52.3	0.18
Lead	**62,000**	**0.0023**	**142**	**0.000563**	**0.0804**	**1**	**1**	**0.957**	**48**	**0.014**	**3,456**	**8.75**	**5.5**
Mercury	0.63	0.054	0.034	0.000563	0.0804	1	1	0.957	0.0032	0.039	0.083	0.18	0.018
Molybdenum	0.63	1.0	0.63	0.000563	0.0804	1	1	0.957	0.053	3.5	0.015	35.3	0.0015
Nickel	39	0.11	4.3	0.000563	0.0804	1	1	0.957	0.38	1.38	0.28	56.3	0.0068
Selenium	4.4	0.26	1.2	0.000563	0.0804	1	1	0.957	0.10	0.23	0.43	0.93	0.11
Silver	2.1	0.0040	0.0084	0.000563	0.0804	1	1	0.957	0.0019	2.02	0.00096	20.2	0.000096
Thallium [b]	0.51	0.11	0.057	0.000563	0.0804	1	1	0.957	0.0051	NA	--	NA	--
Vanadium	140	0.012	1.7	0.000563	0.0804	1	1	0.957	0.23	11.4	0.020	114	0.0020
Zinc	2,100	0.064	135	0.000563	0.0804	1	1	0.957	13	17.2	0.73	172	0.073
Explosives													
2,4-Dinitrotoluene	**0.25**	**1.0**	**0.25**	**0.000563**	**0.0804**	**1**	**1**	**0.957**	**0.021**	**0.01**	**2.1**	1.3	0.016
4-Nitrotoluene	0.095	1.0	0.10	0.000563	0.0804	1	1	0.957	0.008	0.01	0.8	1.3	0.006
Polycyclic Aromatic Hydrocarbons (PAHs) [b]													

Notes:
a) Sources listed on Table B-14.
b) These chemicals do not have established TRVs, but will be evaluated in Tier 2.
c) Sources listed on Table B-17.
Bold indicates hazard quotient greater than 1.0.
-- = not calculated
BAF = bioaccumulation factor
BW = body weight
Dose = average daily dose in milligrams per kilogram per day.
HQ = hazard quotient
kg = kilogram
kg- dry/day = kilograms per day in dry weight
mg/kg = milligrams per kilogram
mg/kg-bw/day = milligrams per kilogram body weight per day
NA = not available
PAHs = polycyclic aromatic hydrocarbons
PF = portion of food item
SUF = site use factor
TRV = toxicity reference value

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Table B-23
Tier 1 - Calculation of Dose and Hazard Quotient for the California Vole (*Microtus californicus*)

Analyte	Maximum Concentration in Soil (0-2 feet) (mg/kg dry weight)	BAF Plant (kg tissue/kg soil) [a]	Plant Concentration (mg/kg dry weight)	Soil Ingestion Rate (kg-dry/day)	Food Ingestion Rate (kg-dry/day)	PF Plants	SUF	BW (kg)	Dose (mg/kg-bw/day)	Low-TRV (mg/kg-bw/day) [b]	Low-TRV HQ	High-TRV (mg/kg-bw/day) [b]	High-TRV HQ
Inorganics													
Antimony	**700**	**0.026**	**18**	**0.00012**	**0.005**	**1**	**1**	**0.0204**	**8.6**	**0.125**	**69**	**1.25**	**6.9**
Arsenic	**120**	**0.038**	**4.5**	**0.00012**	**0.005**	**1**	**1**	**0.0204**	**1.8**	**0.32**	**5.7**	4.7	0.38
Barium	**220**	**0.16**	**34**	**0.00012**	**0.005**	**1**	**1**	**0.0204**	**10**	**5.1**	**1.9**	19.8	0.49
Beryllium	0.98	0.59	0.58	0.00012	0.005	1	1	0.0204	0.15	0.66	0.22	6.6	0.022
Cadmium	**3**	**0.38**	**1.1**	**0.00012**	**0.005**	**1**	**1**	**0.0204**	**0.30**	**0.06**	**4.9**	2.64	0.11
Chromium	63	0.041	2.6	0.00012	0.005	1	1	0.0204	1.0	2,737	0.00037	27,370	0.000037
Cobalt	28.5	0.0075	0.21	0.00012	0.005	1	1	0.0204	0.22	1.2	0.18	20	0.011
Copper	**12,000**	**0.0066**	**79**	**0.00012**	**0.005**	**1**	**1**	**0.0204**	**90**	**2.67**	**34**	632	0.14
Lead	**62,000**	**0.0021**	**129**	**0.00012**	**0.005**	**1**	**1**	**0.0204**	**396**	**1**	**396**	**241**	**1.6**
Mercury	0.63	0.66	0.42	0.00012	0.005	1	1	0.0204	0.11	0.25	0.42	4	0.027
Molybdenum	**0.63**	**6.1**	**3.8**	**0.00012**	**0.005**	**1**	**1**	**0.0204**	**0.94**	**0.26**	**3.6**	2.6	0.36
Nickel	**39**	**0.043**	**1.7**	**0.00012**	**0.005**	**1**	**1**	**0.0204**	**0.64**	**0.133**	**4.8**	31.6	0.020
Selenium	**4.4**	**0.59**	**2.6**	**0.00012**	**0.005**	**1**	**1**	**0.0204**	**0.67**	**0.05**	**13**	1.21	0.55
Silver	2.1	0.014	0.029	0.00012	0.005	1	1	0.0204	0.020	6.02	0.0032	60.2	0.00032
Thallium	0.51	1.0	0.51	0.00012	0.005	1	1	0.0204	0.13	0.48	0.27	1.43	0.090
Vanadium	**140**	**0.0049**	**0.68**	**0.00012**	**0.005**	**1**	**1**	**0.0204**	**0.99**	**0.21**	**4.7**	2.1	0.47
Zinc	**2,100**	**0.16**	**335**	**0.00012**	**0.005**	**1**	**1**	**0.0204**	**94**	**9.6**	**9.8**	411	0.23
Explosives													
2,4-Dinitrotoluene	0.25	1.0	0.25	0.00012	0.005	1	1	0.0204	0.063	0.67	0.09	1.4	0.045
4-Nitrotoluene	0.095	1.0	0.10	0.00012	0.005	1	1	0.0204	0.02	0.67	0.04	1.4	0.017
Polycyclic Aromatic Hydrocarbons (PAHs)													
HMW PAHs													
Benzo(a)anthracene	1.00	0.067	0.067	0.00012	0.005	1	1	0.0204	0.022	1.31	0.017	32.8	0.00068
Benzo(a)pyrene	0.68	0.13	0.087	0.00012	0.005	1	1	0.0204	0.025	1.31	0.019	32.8	0.00077
Benzo(b)fluoranthene	1.5	0.31	0.47	0.00012	0.005	1	1	0.0204	0.12	1.31	0.094	32.8	0.0037
Benzo(g,h,i)perylene	0.27	0.31	0.084	0.00012	0.005	1	1	0.0204	0.022	1.31	0.017	32.8	0.00067
Benzo(k)fluoranthene	0.45	0.13	0.058	0.00012	0.005	1	1	0.0204	0.017	1.31	0.013	32.8	0.00052
Chrysene	1.4	0.058	0.081	0.00012	0.005	1	1	0.0204	0.028	1.31	0.022	32.8	0.00086
Dibenz(a,h)anthracene	0.12	0.13	0.016	0.00012	0.005	1	1	0.0204	0.0045	1.31	0.0035	32.8	0.00014
Indeno(1,2,3-cd)pyrene	0.31	0.11	0.034	0.00012	0.005	1	1	0.0204	0.010	1.31	0.0078	32.8	0.00031
Pyrene	1.4	0.72	1.0	0.00012	0.005	1	1	0.0204	0.26	1.31	0.19	32.8	0.0078
Total HMW PAHs	7.1										0.39		0.015
LMW PAHs													
Acenaphthene	0.061	0.69	0.042	0.00012	0.005	1	1	0.0204	0.011	50	0.00021	150	0.000071
Acenaphthylene	0.19	0.45	0.086	0.00012	0.005	1	1	0.0204	0.022	50	0.00044	150	0.00015
Anthracene	0.77	0.39	0.30	0.00012	0.005	1	1	0.0204	0.079	50	0.0016	150	0.00053
Fluoranthene	1.4	0.50	0.70	0.00012	0.005	1	1	0.0204	0.18	50	0.0036	150	0.0012
Fluorene	0.05	1.0	0.050	0.00012	0.005	1	1	0.0204	0.013	50	0.00025	150	0.000083
Naphthalene	0.018	12	0.22	0.00012	0.005	1	1	0.0204	0.054	50	0.0011	150	0.00036
Phenanthrene	0.58	1.0	0.60	0.00012	0.005	1	1	0.0204	0.1514	50	0.0030	150	0.0010
Total LMW PAHs	3.1										0.010		0.0034

Table B-23
Tier 1 - Calculation of Dose and Hazard Quotient for the California Vole (*Microtus californicus*)

Analyte	Maximum Concentration in Soil (0-2 feet) (mg/kg dry weight)	BAF Plant (kg tissue/kg soil) [a]	Plant Concentration (mg/kg dry weight)	Soil Ingestion Rate (kg-dry/day)	Food Ingestion Rate (kg-dry/day)	PF Plants	SUF	BW (kg)	Dose (mg/kg-bw/day)	Low-TRV (mg/kg-bw/day) [b]	Low-TRV HQ	High-TRV (mg/kg-bw/day) [b]	High-TRV HQ

Notes:
a) Sources listed on Table B-12.
b) Sources listed on Table B-17.
Bold indicates hazard quotient greater than 1.0.
BAF = bioaccumulation factor
BW = body weight
Dose = average daily dose in milligrams per kilogram per day.
HMW = high molecular weight
HQ = hazard quotient
kg = kilogram
kg- dry/day = kilograms per day in dry weight
LMW = low molecular weight
mg/kg = milligrams per kilogram
mg/kg-bw/day = milligrams per kilogram body weight per day
PAHs = polycyclic aromatic hydrocarbons
PF = portion of food item
SUF = site use factor
TRV = toxicity reference value

Table B-24
Tier 1 - Calculation of Dose and Hazard Quotient for the Western Harvest Mouse (*Reithrodontomys megalotis*)

Analyte	Maximum Concentration in Soil (0-2 feet) (mg/kg dry weight)	BAF plant (kg tissue/kg soil) [a]	Plant Concentration (mg/kg dry weight)	BAF invertebrate (kg soil/kg tissue) [a]	Invertebrate Concentration (mg/kg dry weight)	Soil Ingestion Rate (kg-dry/day)	Food Ingestion Rate (kg-dry/day)	PF Plants	PF Invertebrates	SUF	BW (kg)	Dose (mg/kg-bw/day)	Low-TRV (mg/kg-bw/day) [b]	Low-TRV HQ	High-TRV (mg/kg-bw/day) [b]	High-TRV HQ
Inorganics																
Antimony	**700**	**0.026**	**18**	**1.0**	**700**	**0.00004**	**0.00197**	**0.4**	**0.6**	**1**	**0.01**	**87**	**0.125**	**696**	**1.25**	**70**
Arsenic	**120**	**0.038**	**4.5**	**0.059**	**7.1**	**0.00004**	**0.00197**	**0.4**	**0.6**	**1**	**0.01**	**1.7**	**0.32**	**5.2**	4.7	0.35
Barium	**220**	**0.16**	**34**	**0.091**	**20**	**0.00004**	**0.00197**	**0.4**	**0.6**	**1**	**0.01**	**5.9**	**5.1**	**1.2**	19.8	0.30
Beryllium	0.98	0.59	0.58	0.045	0.044	0.00004	0.00197	0.4	0.6	1	0.01	0.054	0.66	0.083	6.6	0.0083
Cadmium	**3**	**0.38**	**1.1**	**6.6**	**20**	**0.00004**	**0.00197**	**0.4**	**0.6**	**1**	**0.01**	**2.4**	**0.06**	**41**	2.64	0.93
Chromium	63	0.041	2.6	0.31	19	0.00004	0.00197	0.4	0.6	1	0.01	2.7	2,737	0.0010	27,370	0.00010
Cobalt	28.5	0.0075	0.21	0.12	3.5	0.00004	0.00197	0.4	0.6	1	0.01	0.54	1.2	0.45	20	0.027
Copper	**12,000**	**0.0066**	**79**	**0.52**	**6,180**	**0.00004**	**0.00197**	**0.4**	**0.6**	**1**	**0.01**	**784**	**2.67**	**294**	**632**	**1.2**
Lead	**62,000**	**0.0021**	**129**	**0.10**	**5,926**	**0.00004**	**0.00197**	**0.4**	**0.6**	**1**	**0.01**	**955**	**1**	**955**	**241**	**4.0**
Mercury	0.63	0.66	0.42	1.7	1.1	0.00004	0.00197	0.4	0.6	1	0.01	0.16	0.25	0.65	4.0	0.040
Molybdenum	**0.63**	**6.1**	**3.8**	**1.0**	**0.66**	**0.00004**	**0.00197**	**0.4**	**0.6**	**1**	**0.01**	**0.38**	**0.26**	**1.5**	2.6	0.15
Nickel	**39**	**0.043**	**1.7**	**1.1**	**41**	**0.00004**	**0.00197**	**0.4**	**0.6**	**1**	**0.01**	**5.2**	**0.133**	**39**	31.6	0.16
Selenium	**4.4**	**0.59**	**2.6**	**0.62**	**2.7**	**0.00004**	**0.00197**	**0.4**	**0.6**	**1**	**0.01**	**0.55**	**0.05**	**11**	1.21	0.45
Silver	2.1	0.014	0.029	2.0	4.3	0.00004	0.00197	0.4	0.6	1	0.01	0.52	6.02	0.086	60.2	0.0086
Thallium	0.51	1.0	0.51	1.0	0.51	0.00004	0.00197	0.4	0.6	1	0.01	0.10	0.48	0.21	1.43	0.072
Vanadium	**140**	**0.0049**	**0.68**	**0.042**	**5.9**	**0.00004**	**0.00197**	**0.4**	**0.6**	**1**	**0.01**	**1.3**	**0.21**	**6.2**	2.1	0.62
Zinc	**2,100**	**0.16**	**335**	**0.50**	**1,052**	**0.00004**	**0.00197**	**0.4**	**0.6**	**1**	**0.01**	**159**	**9.6**	**17**	411	0.39
Explosives																
2,4-Dinitrotoluene	0.25	1.0	0.25	1.0	0.25	0.00004	0.00197	0.4	0.6	1	0.01	0.051	0.67	0.08	1.4	0.036
4-Nitrotoluene	0.095	1.0	0.10	1.0	0.10	0.00004	0.00197	0.4	0.6	1	0.01	0.02	0.67	0.03	1.4	0.014
Polycyclic Aromatic Hydrocarbons (PAHs)																
HMW PAHs																
Benzo(a)anthracene	1.0	0.067	0.067	1.6	1.6	0.00004	0.00197	0.4	0.6	1	0.01	0.20	1.31	0.15	32.8	0.0060
Benzo(a)pyrene	0.68	0.13	0.087	1.3	0.90	0.00004	0.00197	0.4	0.6	1	0.01	0.12	1.31	0.089	32.8	0.0036
Benzo(b)fluoranthene	1.5	0.31	0.47	2.6	3.9	0.00004	0.00197	0.4	0.6	1	0.01	0.50	1.31	0.38	32.8	0.015
Benzo(g,h,i)perylene	0.27	0.31	0.084	2.9	0.79	0.00004	0.00197	0.4	0.6	1	0.01	0.10	1.31	0.077	32.8	0.0031
Benzo(k)fluoranthene	0.45	0.13	0.058	2.6	1.2	0.00004	0.00197	0.4	0.6	1	0.01	0.14	1.31	0.11	32.8	0.0044
Chrysene	1.4	0.058	0.081	2.3	3.2	0.00004	0.00197	0.4	0.6	1	0.01	0.39	1.31	0.30	32.8	0.012
Dibenz(a,h)anthracene	0.12	0.13	0.016	2.3	0.28	0.00004	0.00197	0.4	0.6	1	0.01	0.034	1.31	0.026	32.8	0.0011
Indeno(1,2,3-cd)pyrene	0.31	0.11	0.034	2.9	0.89	0.00004	0.00197	0.4	0.6	1	0.01	0.11	1.31	0.083	32.8	0.0033
Pyrene	1.4	0.72	1.0	1.8	2.5	0.00004	0.00197	0.4	0.6	1	0.01	0.37	1.31	0.29	32.8	0.011
Total HMW PAHs	7.1													1.5		0.060
LMW PAHs																
Acenaphthene	0.061	0.69	0.042	1.5	0.090	0.00004	0.00197	0.4	0.6	1	0.01	0.014	50	0.00028	150	0.000094
Acenaphthylene	0.19	0.45	0.086	23	4.4	0.00004	0.00197	0.4	0.6	1	0.01	0.52	50	0.010	150	0.0035
Anthracene	0.77	0.39	0.30	2.4	1.9	0.00004	0.00197	0.4	0.6	1	0.01	0.25	50	0.0049	150	0.0016
Fluoranthene	1.4	0.50	0.70	3.0	4.3	0.00004	0.00197	0.4	0.6	1	0.01	0.56	50	0.011	150	0.0038
Fluorene	0.05	1.0	0.050	9.6	0.48	0.00004	0.00197	0.4	0.6	1	0.01	0.061	50	0.0012	150	0.00040
Naphthalene	0.018	12	0.22	4.4	0.079	0.00004	0.00197	0.4	0.6	1	0.01	0.027	50	0.00053	150	0.00018
Phenanthrene	0.58	1.0	0.60	1.7	1.0	0.00004	0.00197	0.4	0.6	1	0.01	0.17	50	0.0034	150	0.0011
Total LMW PAHs	3.1													0.032		0.011

Notes:
a) Sources listed on Table B-12 for plant BAFs and Table B-13 for invertebrate BAFs.
b) Sources listed on Table B-17.
Bold indicates hazard quotient greater than 1.0.

Table B-24
Tier 1 - Calculation of Dose and Hazard Quotient for the Western Harvest Mouse (*Reithrodontomys megalotis*)

BAF = bioaccumulation factor
BW = body weight
Dose = average daily dose in milligrams per kilogram per day.
HMW = high molecular weight
HQ = hazard quotient
kg = kilogram
kg- dry/day = kilograms per day in dry weight
LMW = low molecular weight
mg/kg = milligrams per kilogram
mg/kg-bw/day = milligrams per kilogram body weight per day
PAHs = polycyclic aromatic hydrocarbons
PF = portion of food item
SUF = site use factor
TRV = toxicity reference value

Table B-25
Tier 1 - Calculation of Dose and Hazard Quotient for the Grey Fox (*Urocyon cinereoargenteus*)

Analyte	Maximum Concentration in Soil (0-2 feet) (mg/kg dry weight)	BAF mammal (kg tissue/kg soil) [a]	Mammal Prey Concentration (mg/kg dry weight)	Soil Ingestion Rate (kg-dry/day)	Food Ingestion Rate (kg-dry/day)	PF Mammals	SUF	BW (kg)	Dose (mg/kg-bw/day)	Low-TRV (mg/kg-bw/day) [b]	Low-TRV HQ	High-TRV (mg/kg-bw/day) [b]	High-TRV HQ
Inorganics													
Antimony	**700**	**0.050**	**35**	**0.0035**	**0.125**	**1**	**1**	**3**	**2.3**	**0.125**	**18**	**1.25**	**1.8**
Arsenic	120	0.0033	0.3957	0.0035	0.125	1	1	3	0.16	0.32	0.49	4.7	0.033
Barium	220	0.00068	0.15	0.0035	0.125	1	1	3	0.26	5.1	0.052	19.8	0.013
Beryllium	0.98	0.0023	0.0022	0.0035	0.125	1	1	3	0.0012	0.66	0.0019	6.6	0.00019
Cadmium	3	0.16	0.48	0.0035	0.125	1	1	3	0.023	0.06	0.39	2.64	0.0089
Chromium	63	0.077	4.9	0.0035	0.125	1	1	3	0.28	2,737	0.00010	27,370	0.000010
Cobalt	28.5	0.032	0.92	0.0035	0.125	1	1	3	0.071	1.2	0.059	20	0.0036
Copper	**12,000**	**0.0025**	**30**	**0.0035**	**0.125**	**1**	**1**	**3**	**15**	**2.67**	**5.7**	632	0.024
Lead	**62,000**	**0.0023**	**142**	**0.0035**	**0.125**	**1**	**1**	**3**	**78**	**1**	**78**	241	0.32
Mercury	0.63	0.054	0.034	0.0035	0.125	1	1	3	0.0022	0.25	0.0086	4	0.00054
Molybdenum	0.63	1.0	0.63	0.0035	0.125	1	1	3	0.027	0.26	0.10	2.6	0.010
Nickel	**39**	**0.11**	**4.3**	**0.0035**	**0.125**	**1**	**1**	**3**	**0.22**	**0.133**	**1.7**	31.6	0.0071
Selenium	**4.4**	**0.26**	**1.2**	**0.0035**	**0.125**	**1**	**1**	**3**	**0.053**	**0.05**	**1.1**	1.21	0.044
Silver	2.1	0.0040	0.0084	0.0035	0.125	1	1	3	0.0028	6.02	0.00047	60.2	0.000047
Thallium	0.51	0.11	0.057	0.0035	0.125	1	1	3	0.0030	0.48	0.0062	1.43	0.0021
Vanadium	**140**	**0.012**	**1.7**	**0.0035**	**0.125**	**1**	**1**	**3**	0.24	**0.21**	**1.1**	2.1	0.11
Zinc	2,100	0.064	135	0.0035	0.125	1	1	3	8.1	9.6	0.84	411	0.020
Explosives													
2,4-Dinitrotoluene	0.25	1.0	0.25	0.0035	0.125	1	1	3	0.011	0.67	0.016	1.4	0.0077
4-Nitrotoluene	0.095	1.0	0.10	0.0035	0.125	1	1	3	0.004	0.67	0.01	1.4	0.003
Polycyclic Aromatic Hydrocarbons (PAHs)													
HMW PAHs													
Benz(a)anthracene	1.0	0	0	0.0035	0.125	1	1	3	0.0012	1.31	0.00089	32.8	0.000036
Benzo(a)pyrene	0.68	0	0	0.0035	0.125	1	1	3	0.00079	1.31	0.00061	32.8	0.000024
Benzo(b)fluoranthene	1.5	0	0	0.0035	0.125	1	1	3	0.0018	1.31	0.0013	32.8	0.000053
Benzo(g,h,i)perylene	0.27	0	0	0.0035	0.125	1	1	3	0.00032	1.31	0.00024	32.8	0.000010
Benzo(k)fluoranthene	0.45	0	0	0.0035	0.125	1	1	3	0.00053	1.31	0.00040	32.8	0.000016
Chrysene	1.4	0	0	0.0035	0.125	1	1	3	0.0016	1.31	0.0012	32.8	0.000050
Dibenz(a,h)anthracene	0.12	0	0	0.0035	0.125	1	1	3	0.00014	1.31	0.00011	32.8	0.0000043
Indeno(1,2,3-cd)pyrene	0.31	0	0	0.0035	0.125	1	1	3	0.00036	1.31	0.00028	32.8	0.000011
Pyrene	1.4	0	0	0.0035	0.125	1	1	3	0.0016	1.31	0.0012	32.8	0.000050
Total HMW PAHs	7.1										0.0063		0.00025
LMW PAHs													
Acenaphthene	0.061	0	0	0.0035	0.125	1	1	3	0.000071	50	0.0000014	150	0.00000047
Acenaphthylene	0.19	0	0	0.0035	0.125	1	1	3	0.00022	50	0.0000044	150	0.0000015
Anthracene	0.77	0	0	0.0035	0.125	1	1	3	0.00090	50	0.000018	150	0.0000060
Fluoranthene	1.4	0	0	0.0035	0.125	1	1	3	0.0016	50	0.000033	150	0.000011
Fluorene	0.05	0	0	0.0035	0.125	1	1	3	0.000058	50	0.0000012	150	0.00000039
Naphthalene	0.018	0	0	0.0035	0.125	1	1	3	0.000021	50	0.00000042	150	0.00000014
Phenanthrene	0.58	0	0	0.0035	0.125	1	1	3	0.00068	50	0.000014	150	0.0000045
Total LMW PAHs	3.1										0.000072		0.000024

Notes:
a) Sources listed on Table B-14.

Table B-25
Tier 1 - Calculation of Dose and Hazard Quotient for the Grey Fox (*Urocyon cinereoargenteus*)

Analyte	Maximum Concentration in Soil (0-2 feet) (mg/kg dry weight)	BAF mammal (kg tissue/kg soil) [a]	Mammal Prey Concentration (mg/kg dry weight)	Soil Ingestion Rate (kg-dry/day)	Food Ingestion Rate (kg-dry/day)	PF Mammals	SUF	BW (kg)	Dose (mg/kg-bw/day)	Low-TRV (mg/kg-bw/day) [b]	Low-TRV HQ	High-TRV (mg/kg-bw/day) [b]	High-TRV HQ

b) Sources listed on Table B-17.
Bold indicates hazard quotient greater than 1.0.
BAF = bioaccumulation factor
BW = body weight
Dose = average daily dose in milligrams per kilogram per day.
HMW = high molecular weight
HQ = hazard quotient
kg = kilogram
kg- dry/day = kilograms per day in dry weight
LMW = low molecular weight
mg/kg = milligrams per kilogram
mg/kg-bw/day = milligrams per kilogram body weight per day
PAHs = polycyclic aromatic hydrocarbons
PF = portion of food item
SUF = site use factor
TRV = toxicity reference value

Table B-26
Comparison of Inorganic Site Data 0-2 Feet to Naturally-Occurring Background

Analyte	Maximum Concentration in Soil (0-2 feet) (mg/kg dry weight)	UCL95 in Soil (0-2 feet) (mg/kg dry weight)	Background (mg/kg dry weight)	Maximum Site Concentration Exceeds Background?	Number of Site Samples (0-2 feet) Exceeding Background	Retain for Tier 2?
Inorganics						
Antimony	**700**	**82**	**1.2**	**Yes**	**54**	**Yes**
Arsenic	**120**	**11**	**7.3**	**Yes**	**10**	**Yes**
Barium	220	134	210	**Yes**	1	No*
Beryllium	**0.98**	**0.47**	**0.56**	**Yes**	**9**	**Yes**
Cadmium	**3**	**0.35**	**0.15**	**Yes**	**38**	**Yes**
Chromium	63	21	55	**Yes**	1	No*
Cobalt	28.5	10	24	**Yes**	1	No*
Copper	**12,000**	**1,123**	**64**	**Yes**	**10**	**Yes**
Lead	**62,000**	**10,212**	**18**	**Yes**	**48**	**Yes**
Mercury	**0.63**	**0.073**	**0.14**	**Yes**	**9**	**Yes**
Molybdenum	**0.63**	**0.27**	**DL**	**Yes**	**--**	**Yes**
Nickel	39	18	86	No	0	No
Selenium	**4.4**	**0.57**	**DL**	**Yes**	**--**	**Yes**
Silver	**2.1**	**0.19**	**DL**	**Yes**	**--**	**Yes**
Thallium	**0.51**	**0.18**	**DL**	**Yes**	**--**	**Yes**
Vanadium	**140**	**43**	**86**	**Yes**	**3**	**Yes**
Zinc	**2,100**	**366**	**83**	**Yes**	**22**	**Yes**

Notes:
*Only the maximum detected value exceeds background and the magnitude of the exceedance of the background value is low and expected to fall within range of normal data variability.
Duplicates were averaged prior to counting the number of exceedances of background.
Bold indicates analyte is retained for Tier 2 evaluation.
DL = detection limit
mg/kg = milligrams per kilogram
UCL95 = 95 percent upper confidence limit of the mean

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Table B-27
Tier 2 - Hazard Quotients for Terrestrial Plants

COPECs	Plant Benchmark (mg/kg dry weight) [a]	Site-Wide UCL95 or Max Conc in Soil (0-2 feet) (mg/kg dry weight)	Site-Wide HQ	EU 1 UCL95 or Max Conc in Soil (0-2 feet) (mg/kg dry weight)	EU 1 HQ	EU 2 UCL95 or Max Conc in Soil (0-2 feet) (mg/kg dry weight)	EU 2 HQ	EU 3 UCL95 or Max Conc in Soil (0-2 feet) (mg/kg dry weight)	EU 3 HQ
Inorganics									
Antimony	**5.0**	**82**	**16**	3.4	0.68	**352**	**70**	2.2	0.44
Arsenic	18	11	0.61	5.4	0.30	**36**	**2.0**	5.4	0.30
Copper	**70**	**1,123**	**16**	23	0.33	**5,106**	**73**	20	0.28
Lead	**120**	**10,212**	**85**	26	0.21	**11,266**	**94**	50	0.42
Mercury	0.3	0.073	0.24	0.19	0.62	0.11	0.38	0.012	0.040
Selenium	**0.52**	**0.57**	**1.1**	**0.97**	**1.9**	**1.9**	**3.7**	0.50	0.95
Vanadium [b]	86	43	0.49	58	0.67	40	0.47	37	0.43
Zinc	**160**	**366**	**2.3**	**552**	**3.4**	**519**	**3.2**	61	0.38

Notes:
a) Sources listed on Table B-15.
b) Background concentration is higher than the risk-based screening criteria and background replaced the plant benchmark in this table.
Bold indicates hazard quotient greater than 1.0.
Conc = concentration
COPECs = chemical of potential ecological concern
EU = exposure unit
HQ = hazard quotient
Max - maximum
mg/kg = milligrams per kilogram
UCL95 = 95 percent upper confidence limit of the mean

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TableB-28
Tier 2 - Hazard Quotients for Soil Invertebrates

COPECs	Invertebrate Soil Benchmark (mg/kg dry weight) [a]	Site-Wide UCL95 or Max Conc in Soil (0-2 feet) (mg/kg dry weight)	Site-Wide HQ	EU 1 UCL95 or Max Conc in Soil (0-2 feet) (mg/kg dry weight)	EU 1 HQ	EU 2 UCL95 or Max Conc in Soil (0-2 feet) (mg/kg dry weight)	EU 2 HQ	EU 3 UCL95 or Max Conc in Soil (0-2 feet) (mg/kg dry weight)	EU 3 HQ
Inorganics									
Antimony	**78**	**82**	**1.1**	3.4	0.044	**352**	**4.5**	2.2	0.028
Arsenic	60	11	0.18	5.4	0.090	36	0.60	5.4	0.090
Copper	**80**	**1,123**	**14**	23	0.29	**5,106**	**64**	20	0.25
Lead	**1,700**	**10,212**	**6.0**	26	0.015	**11,266**	**6.6**	50	0.029
Mercury [b]	0.14	0.073	0.52	**0.19**	**1.3**	0.11	0.81	0.012	0.085
Selenium	4.10	0.57	0.14	0.97	0.24	1.93	0.47	0.50	0.12
Thallium	NA	0.51	--	0.51	--	0.40	--	ND	--
Vanadium [b]	86	43	0.49	58	0.67	40	0.47	37	0.43
Zinc	**120**	**366**	**3.1**	**552**	**4.6**	**519**	**4.3**	61	0.51

Notes:
a) Sources listed on Table B-15.
b) Background concentration is higher than the risk-based screening criteria and background replaced the plant benchmark in this table.
Bold indicates hazard quotient greater than 1.0.
-- = not calculated.
Conc = concentration
COPECs = chemical of potential ecological concern
EU = exposure unit
HQ = hazard quotient
Max = maximum
mg/kg = milligrams per kilogram
ND = not detected.
UCL95 = 95 percent upper confidence limit of the mean

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Table B29
Tier 2 - Evaluation of the Potential for Chemical Impacts to Benthic Invertebrates from Exposure to Sediments in the Drainage Channel

COPECs	UCL95 Concentration in Drainage Channel Soil (0-2 feet) (mg/kg dry weight) [a]	Low Invertebrate Sediment Benchmark or Background (mg/kg dry weight) [b]	Low Hazard Quotient	High Invertebrate Sediment Benchmark or Background (mg/kg dry weight) [b]	High Hazard Quotient
Inorganics					
Antimony	**22**	**3.0**	**7.2**	**3.0**	**7.2**
Arsenic	10	9.79	1.0	33	0.30
Beryllium	0.46	0.56 c	0.81	0.56 c	0.81
Cadmium	**1.9**	**0.99**	**1.9**	4.98	0.39
Copper	**79**	**64 c**	**1.2**	149	0.53
Lead	**6,667**	**35.8**	**186**	**128**	**52**
Mercury	0.10	0.18	0.57	1.06	0.096
Selenium	**2.1**	**1.0**	**2.1**	**1.0**	**2.1**
Zinc	**901**	**121**	**7.4**	**459**	**2.0**

Notes:
a) UCL95 concentration from Exposure Unit 4.
b) Sources listed on Table B-15.
c) Background concentration is higher than the risk-based screening criteria and background replaced the plant benchmark in this table.
Bold indicates hazard quotient greater than 1.0.
Full list of sources presented on Table B-15.
COPECs = chemical of potential ecological concern
mg/kg = milligrams per kilogram
UCL95 = 95 percent upper confidence limit of the mean

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Table B-30
Tier 2 - Hazard Quotients for Amphibians

COPECs	Amphibian Benchmark (mg/kg dry weight) [a]	Site-Wide Max Conc in Soil (0-2 feet) (mg/kg dry weight)	Site-Wide HQ	EU 1 Max Conc in Soil (0-2 feet) (mg/kg dry weight)	EU 1 HQ	EU 2 Max Conc in Soil (0-2 feet) (mg/kg dry weight)	EU 2 HQ	EU 3 Max Conc in Soil (0-2 feet) (mg/kg dry weight)	EU 3 HQ	EU 4 Max Conc in Soil (0-2 feet) (mg/kg dry weight)	EU 4 HQ
Inorganics											
Cadmium	110	3	0.027	0.84	0.0076	3	0.027	0.42	0.0038	3	0.027
Copper	**200**	**12,000**	**60**	46	0.23	**12,000**	**60**	37	0.19	190	0.95
Lead	**2,400**	**62,000**	**26**	110	0.046	**62,000**	**26**	180	0.075	**7,100**	**3.0**
Zinc	**1,200**	**2,100**	**1.8**	**2,100**	**1.8**	**1,600**	**1.3**	88	0.073	**1,600**	**1.3**

Notes:
a) NAVFAC 2004 maximum No Observed Effect Concentration (NOEC)-sublethal endpoint amphibian benchmark was used for all metals except cadmium where the NOEC was the control treatment. For cadmium, the lowest Low Observed Effect Concentration (LOEC) was used. See also Table B-16.
Bold indicates hazard quotient greater than 1.0.
Conc = concentration
COPECs = chemical of potential ecological concern
EU = exposure unit
HQ = hazard quotient
Max = maximum
mg/kg = milligrams per kilogram

Reference:
Naval Facilities Engineering Command (NAVFAC). 2004. Development of a standardized approach for assessing potential risks to amphibians exposed to sediment and hydric soils. Naval Facilities Engineering Service Center. Port Hueneme, CA. TR-2245-ENV. 340 pages.

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Table B-31
Tier 2 - Calculation of Dose and Hazard Quotient for the American Robin (*Turdus migratorius*)

COPECs	Area	UCL95 or Maximum Concentration in Soil (0-2 feet) (mg/kg dry weight)	BAF plant (kg tissue/kg soil) [a]	Plant Concentration (mg/kg dry weight)	BAF invertebrate (kg tissue/kg soil) [a]	Invertebrate Concentration (mg/kg dry weight)	Soil Ingestion Rate (kg-dry/day)	Food Ingestion Rate (kg-dry/day)	PF Plants	PF Invertebrates	SUF	BW (kg)	Dose (mg/kg-bw/day)	Low-TRV (mg/kg-bw/day) [d]	Low-TRV HQ	High-TRV (mg/kg-bw/day) [b]	High-TRV HQ
Inorganics																	
Antimony [c]	Site-wide (All)	82	0.026	2.2	1.0	82	0.00122	0.0122	0.25	0.75	1	0.077	11	NA	--	NA	--
Beryllium [c]	Site-wide (All)	0.47	0.59	0.28	0.045	0.021	0.00122	0.0122	0.25	0.75	1	0.077	0.021	NA	--	NA	--
Cadmium	Site-wide (All)	0.35	0.38	0.13	6.6	2.3	0.00122	0.0122	0.25	0.75	1	0.077	0.28	0.7	0.40	10.43	0.027
Cadmium	Exposure Unit 1	0.34	0.38	0.13	6.6	2.3	0.00122	0.0122	0.25	0.75	0.28	0.077	0.078	0.7	0.11	10.43	0.0075
Cadmium	Exposure Unit 2	1.1	0.38	0.40	6.6	6.9	0.00122	0.0122	0.25	0.75	0.19	0.077	0.16	0.7	0.23	10.43	0.016
Cadmium	Exposure Unit 3	0.14	0.38	0.052	6.6	0.90	0.00122	0.0122	0.25	0.75	0.53	0.077	0.059	0.7	0.085	10.43	0.0057
Copper	**Site-wide (All)**	**1,123**	**0.0066**	**7.4**	**0.52**	**578**	**0.00122**	**0.0122**	**0.25**	**0.75**	**1**	**0.077**	**87**	**2.3**	**38**	**52.3**	**1.7**
Copper	Exposure Unit 1	23	0.0066	0.15	0.52	12	0.00122	0.0122	0.25	0.75	0.28	0.077	0.49	2.3	0.21	52.3	0.0094
Copper	**Exposure Unit 2**	**5,106**	**0.0066**	**34**	**0.52**	**2,630**	**0.00122**	**0.0122**	**0.25**	**0.75**	**0.19**	**0.077**	**75**	**2.3**	**33**	**52.3**	**1.4**
Copper	Exposure Unit 3	20	0.0066	0.13	0.52	10	0.00122	0.0122	0.25	0.75	0.53	0.077	0.82	2.3	0.35	52.3	0.016
Lead - BTAG TRV	**Site-wide (All)**	**10,212**	**0.0021**	**21**	**0.10**	**1,021**	**0.00122**	**0.0122**	**0.25**	**0.75**	**1**	**0.077**	**284**	**0.014**	**20,285**	**8.75**	**32**
Lead - BTAG TRV	**Exposure Unit 1**	**26**	**0.0021**	**0.053**	**0.10**	**2.6**	**0.00122**	**0.0122**	**0.25**	**0.75**	**0.28**	**0.077**	**0.20**	**0.014**	**14**	8.75	0.023
Lead - BTAG TRV	**Exposure Unit 2**	**11,266**	**0.0021**	**24**	**0.10**	**1,127**	**0.00122**	**0.0122**	**0.25**	**0.75**	**0.19**	**0.077**	**60**	**0.014**	**4,252**	**8.75**	**6.8**
Lead - BTAG TRV	**Exposure Unit 3**	**50**	**0.0021**	**0.10**	**0.10**	**5.0**	**0.00122**	**0.0122**	**0.25**	**0.75**	**0.53**	**0.077**	**0.74**	**0.014**	**53**	8.75	0.084
Lead - Eco-SSL TRV	**Site-wide (All)**	**10,212**	**0.0021**	**21**	**0.10**	**1,021**	**0.00122**	**0.0122**	**0.25**	**0.75**	**1**	**0.077**	**284**	**1.63**	**174**	--	--
Lead - Eco-SSL TRV	Exposure Unit 1	26	0.0021	0.053	0.10	2.6	0.00122	0.0122	0.25	0.75	0.28	0.077	0.20	1.63	0.12	--	--
Lead - Eco-SSL TRV	**Exposure Unit 2**	**11,266**	**0.0021**	**24**	**0.10**	**1,127**	**0.00122**	**0.0122**	**0.25**	**0.75**	**0.19**	**0.077**	**60**	**1.63**	**37**	--	--
Lead - Eco-SSL TRV	Exposure Unit 3	50	0.0021	0.10	0.10	5.0	0.00122	0.0122	0.25	0.75	0.53	0.077	0.74	1.63	0.45	--	--
Mercury	Site-wide (All)	0.073	0.65	0.047	1.7	0.12	0.00122	0.0122	0.25	0.75	1	0.077	0.018	0.039	0.45	0.18	0.099
Mercury	Exposure Unit 1	0.19	0.65	0.12	1.7	0.31	0.00122	0.0122	0.25	0.75	0.28	0.077	0.013	0.039	0.32	0.18	0.070
Mercury	Exposure Unit 2	0.11	0.65	0.074	1.7	0.19	0.00122	0.0122	0.25	0.75	0.19	0.077	0.0052	0.039	0.13	0.18	0.029
Mercury	Exposure Unit 3	0.012	0.65	0.0078	1.7	0.020	0.00122	0.0122	0.25	0.75	0.53	0.077	0.0015	0.039	0.039	0.18	0.009
Selenium	Site-wide (All)	0.57	0.59	0.34	0.62	0.35	0.00122	0.0122	0.25	0.75	1	0.077	0.064	0.23	0.28	0.93	0.069
Selenium	Exposure Unit 1	0.97	0.59	0.58	0.62	0.60	0.00122	0.0122	0.25	0.75	0.28	0.077	0.031	0.23	0.13	0.93	0.033
Selenium	Exposure Unit 2	1.9	0.59	1.1	0.62	1.2	0.00122	0.0122	0.25	0.75	0.19	0.077	0.041	0.23	0.18	0.93	0.045
Selenium	Exposure Unit 3	0.50	0.59	0.29	0.62	0.31	0.00122	0.0122	0.25	0.75	0.53	0.077	0.030	0.23	0.13	0.93	0.032
Thallium [c]	Site-wide (All)	0.18	1.0	0.18	1.0	**0.18**	0.00122	0.0122	0.25	0.75	1	0.077	0.031	NA	--	NA	--
Zinc	**Site-wide (All)**	**366**	**0.16**	**58**	**0.50**	**183**	**0.00122**	**0.0122**	**0.25**	**0.75**	**1**	**0.077**	**30**	**17.2**	**1.7**	172	0.17
Zinc	Exposure Unit 1	552	0.16	88	0.50	276	0.00122	0.0122	0.25	0.75	0.28	0.077	13	17.2	0.73	172	0.073
Zinc	Exposure Unit 2	519	0.16	83	0.50	259	0.00122	0.0122	0.25	0.75	0.19	0.077	8.0	17.2	0.47	172	0.047
Zinc	Exposure Unit 3	61	0.16	10	0.50	30	0.00122	0.0122	0.25	0.75	0.53	0.077	2.6	17.2	0.15	172	0.015
Explosives																	
2,4-Dinitrotoluene [d]	Exposure Unit 2	0.25	1.0	0.25	1.0	0.25	0.00122	0.0122	0.25	0.75	0.19	0.077	0.0084	0.01	0.84	1.3	0.0064
4-Nitrotoluene [d]	Exposure Unit 2	0.095	1.0	0.095	1.0	0.095	0.00122	0.0122	0.25	0.75	0.19	0.077	0.0031	0.01	0.31	1.3	0.0024

Notes:
a) Sources listed on Table B-12 for plant BAFs and Table B-13 for soil invertebrate BAFs.
b) Sources listed on Table B-17.
c) These chemicals do not have established TRVs, and were qualitatively evaluated.
d) Only detections of 2,4-dinitrotoluene are in Exposure Unit 2, and the maximum concentration was selected as the exposure point concentration (EPC), therefore, only Exposure Unit 2 risks are shown.
Bold indicates hazard quotient greater than 1.0.
-- = not calculated
BAF = bioaccumulation factor
BW = body weight
COPECs = chemical of potential ecological concern
Dose = average daily dose in milligrams per kilogram per day.
HQ = hazard quotient
kg = kilogram
kg- dry/day = kilograms per day in dry weight
mg/kg = milligrams per kilogram
mg/kg-bw/day = milligrams per kilogram body weight per day
NA = not available
PF = portion of food item
SUF = Site Use Factor
TRV = toxicity reference value
UCL95 = 95 percent upper confidence limit of the mean

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Table B-32
Tier 2- Calculation of Dose and Hazard Quotient for the Red-Tailed Hawk (*Buteo jamaicensis*)

COPECs	Area	UCL95 or Maximum Concentration in Soil (0-2 feet) (mg/kg dry weight)	BAF Mammal (kg tissue/kg soil) [a]	Mammal Prey Concentration (mg/kg dry weight)	Soil Ingestion Rate (kg-dry/day)	Food Ingestion Rate (kg-dry/day)	PF mammals	SUF	BW (kg)	Dose (mg/kg-bw/day)	Low-TRV (mg/kg-bw/day) [b]	Low-TRV HQ	High-TRV (mg/kg-bw/day) [b]	High-TRV HQ
Inorganics														
Antimony [c]	Site-wide (All)	82	0.050	4.1	0.000563	0.0804	1	0.011	0.957	0.0043	NA	--	NA	--
Beryllium [c]	Site-wide (All)	0.47	0.0023	0.0011	0.000563	0.0804	1	0.011	0.957	0.0000040	NA	--	NA	--
Copper	Site-wide (All)	1,123	0.0025	2.80	0.000563	0.0804	1	0.011	0.957	0.0099	2.3	0.0043	52.3	0.00019
Copper	Exposure Unit 1	23	0.0025	0.057	0.000563	0.0804	1	0.003	0.957	0.000055	2.3	0.000024	52.3	0.0000011
Copper	Exposure Unit 2	5,106	0.0025	13	0.000563	0.0804	1	0.002	0.957	0.0089	2.3	0.0039	52.3	0.00017
Copper	Exposure Unit 3	20	0.0025	0.050	0.000563	0.0804	1	0.006	0.957	0.00010	2.3	0.000042	52.3	0.0000018
Lead - BTAG TRV	**Site-wide (All)**	**10,212**	**0.0023**	**23**	**0.000563**	**0.0804**	**1**	**0.011**	**0.957**	**0.088**	**0.014**	**6.3**	8.75	0.010
Lead - BTAG TRV	Exposure Unit 1	26	0.0023	0.059	0.000563	0.0804	1	0.003	0.957	0.000061	0.014	0.0043	8.75	0.0000069
Lead - BTAG TRV	**Exposure Unit 2**	**11,266**	**0.0023**	**26**	**0.000563**	**0.0804**	**1**	**0.002**	**0.957**	**0.019**	**0.014**	**1.4**	8.75	0.0022
Lead - BTAG TRV	Exposure Unit 3	50	0.0023	0.11	0.000563	0.0804	1	0.006	0.957	0.00024	0.014	0.017	8.75	0.000027
Lead - Eco-SSL TRV	Site-wide (All)	10,212	0.0023	23	0.000563	0.0804	1	0.011	0.957	0.088	1.63	0.054	--	--
Lead - Eco-SSL TRV	Exposure Unit 1	26	0.0023	0.059	0.000563	0.0804	1	0.003	0.957	0.000061	1.63	0.000037	--	--
Lead - Eco-SSL TRV	Exposure Unit 2	11,266	0.0023	26	0.000563	0.0804	1	0.002	0.957	0.019	1.63	0.012	--	--
Lead - Eco-SSL TRV	Exposure Unit 3	50	0.0023	0.11	0.000563	0.0804	1	0.006	0.957	0.00024	1.63	0.00015	--	--
Thallium [c]	Site-wide (All)	0.18	0.11	0.020	0.000563	0.0804	1	0.011	0.957	0.000020	NA	--	NA	--
Explosives														
2,4-Dinitrotoluene [d]	Exposure Unit 2	0.25	1.0	0.25	0.000563	0.0804	1	0.002	0.957	0.00005	0.01	0.005	1.3	0.00004

Notes:
a) Sources listed on Table B-14.
b) Sources listed on Table B-17.
c) These chemicals do not have established TRVs, and were qualitatively evaluated.
d) Only detections of 2,4-dinitrotoluene are in Exposure Unit 2, and the maximum concentration was selected as the exposure point concentration, therefore, only Exposure Unit 2 risks are shown.
Bold indicates hazard quotient greater than 1.0.
-- = not calculated
BAF = bioaccumulation factor
BW = body weight
COPECs = chemical of potential ecological concern
Dose = average daily dose in milligrams per kilogram per day.
HQ = hazard quotient
kg = kilogram
kg- dry/day = kilograms per day in dry weight
mg/kg = milligrams per kilogram
mg/kg-bw/day = milligrams per kilogram body weight per day
NA = not available
PF = portion of food item
SUF = Site Use Factor
TRV = toxicity reference value
UCL95 = 95 percent upper confidence limit of the mean

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Table H-33
Tier 2 - Calculation of Dose and Hazard Quotient for the California Vole (*Microtus californicus*)

COPECs	Area	UCL95 or Maximum Concentration in Soil (0-2 feet) (mg/kg dry weight)	BAF Plant (kg tissue/kg soil) [a]	Plant Concentration (mg/kg dry weight)	Soil Ingestion Rate (kg-dry/day)	Food Ingestion Rate (kg-dry/day)	PF Plants	SUF	BW (kg)	Dose (mg/kg-bw/day)	Low-TRV (mg/kg-bw/day) [b]	Low-TRV HQ	High-TRV (mg/kg-bw/day) [b]	High-TRV HQ
Inorganics														
Antimony	**Site-wide (All)**	**82**	**0.026**	**2.2**	**0.00012**	**0.005**	**1**	**1**	**0.035**	**0.59**	**0.125**	**4.7**	1.25	0.47
Antimony	Exposure Unit 1	3.4	0.026	0.090	0.00012	0.005	1	1	0.035	0.025	0.125	0.20	1.25	0.020
Antimony	**Exposure Unit 2**	**352**	**0.026**	**9.3**	**0.00012**	**0.005**	**1**	**1**	**0.035**	**2.5**	**0.125**	**20**	**1.25**	**2.0**
Antimony	Exposure Unit 3	2.2	0.026	0.058	0.00012	0.005	1	1	0.035	0.016	0.125	0.13	1.25	0.013
Arsenic	Site-wide (All)	11	0.038	0.41	0.00012	0.005	1	1	0.035	0.096	0.32	0.30	4.7	0.020
Arsenic	Exposure Unit 1	5.4	0.038	0.20	0.00012	0.005	1	1	0.035	0.048	0.32	0.15	4.7	0.010
Arsenic	Exposure Unit 2	36	0.038	1.4	0.00012	0.005	1	1	0.035	0.32	0.32	0.99	4.7	0.067
Arsenic	Exposure Unit 3	5.4	0.038	0.20	0.00012	0.005	1	1	0.035	0.047	0.32	0.15	4.7	0.010
Cadmium	Site-wide (All)	0.35	0.38	0.13	0.00012	0.005	1	1	0.035	0.020	0.06	0.33	2.64	0.0075
Cadmium	Exposure Unit 1	0.34	0.38	0.13	0.00012	0.005	1	1	0.035	0.020	0.06	0.33	2.64	0.0075
Cadmium	Exposure Unit 2	1.1	0.38	0.40	0.00012	0.005	1	1	0.035	0.061	0.06	1.0	2.64	0.023
Cadmium	Exposure Unit 3	0.14	0.38	0.052	0.00012	0.005	1	1	0.035	0.0079	0.06	0.13	2.64	0.0030
Copper	**Site-wide (All)**	**1,123**	**0.0066**	**7.4**	**0.00012**	**0.005**	**1**	**1**	**0.035**	**4.9**	**2.67**	**1.8**	632	0.0078
Copper	Exposure Unit 1	23	0.0066	0.15	0.00012	0.005	1	1	0.035	0.100	2.67	0.037	632	0.00016
Copper	**Exposure Unit 2**	**5,106**	**0.0066**	**34**	**0.00012**	**0.005**	**1**	**1**	**0.035**	**22**	**2.67**	**8.4**	632	0.035
Copper	Exposure Unit 3	20	0.0066	0.13	0.00012	0.005	1	1	0.035	0.087	2.67	0.033	632	0.00014
Lead - BTAG TRV	**Site-wide (All)**	**10,212**	**0.0021**	**21**	**0.00012**	**0.005**	**1**	**1**	**0.035**	**38**	**1**	**38**	241	0.16
Lead - BTAG TRV	Exposure Unit 1	26	0.0021	0.053	0.00012	0.005	1	1	0.035	0.095	1	0.095	241	0.00039
Lead - BTAG TRV	**Exposure Unit 2**	**11,266**	**0.0021**	**24**	**0.00012**	**0.005**	**1**	**1**	**0.035**	**42**	**1**	**42**	241	0.17
Lead - BTAG TRV	Exposure Unit 3	50	0.0021	0.10	0.00012	0.005	1	1	0.035	0.19	1	0.19	241	0.00077
Lead - Eco-SSL TRV	**Site-wide (All)**	**10,212**	**0.0021**	**21**	**0.00012**	**0.005**	**1**	**1**	**0.035**	**38**	**4.70**	**8.1**	--	--
Lead - Eco-SSL TRV	Exposure Unit 1	26	0.0021	0.053	0.00012	0.005	1	1	0.035	0.095	4.70	0.020	--	--
Lead - Eco-SSL TRV	**Exposure Unit 2**	**11,266**	**0.0021**	**24**	**0.00012**	**0.005**	**1**	**1**	**0.035**	**42**	**4.70**	**8.9**	--	--
Lead - Eco-SSL TRV	Exposure Unit 3	50	0.0021	0.10	0.00012	0.005	1	1	0.035	0.19	4.70	0.040	--	--
Molybdenum	Site-wide (All)	0.27	6.1	1.6	0.00012	0.005	1	1	0.035	0.24	0.26	0.91	2.6	0.091
Molybdenum	Exposure Unit 1	0.28	6.1	1.7	0.00012	0.005	1	1	0.035	0.24	0.26	0.94	2.6	0.094
Molybdenum	**Exposure Unit 2**	**0.35**	**6.1**	**2.1**	**0.00012**	**0.005**	**1**	**1**	**0.035**	**0.31**	**0.26**	**1.2**	2.6	0.12
Molybdenum	Exposure Unit 3	0.24	6.1	1.5	0.00012	0.005	1	1	0.035	0.21	0.26	0.80	2.6	0.080
Selenium	Site-wide (All)	0.57	0.59	0.34	0.00012	0.005	1	1	0.035	0.050	0.05	1.0	1.21	0.041
Selenium	**Exposure Unit 1**	**0.97**	**0.59**	**0.58**	**0.00012**	**0.005**	**1**	**1**	**0.035**	**0.086**	**0.05**	**1.7**	1.21	0.071
Selenium	**Exposure Unit 2**	**1.9**	**0.59**	**1.1**	**0.00012**	**0.005**	**1**	**1**	**0.035**	**0.17**	**0.05**	**3.4**	1.21	0.14
Selenium	Exposure Unit 3	0.50	0.59	0.29	0.00012	0.005	1	1	0.035	0.044	0.05	0.87	1.21	0.036
Vanadium	Site-wide (All)	43	0.0049	0.21	0.00012	0.005	1	1	0.035	0.18	0.21	0.83	2.1	0.083
Vanadium	**Exposure Unit 1**	**58**	**0.0049**	**0.28**	**0.00012**	**0.005**	**1**	**1**	**0.035**	**0.24**	**0.21**	**1.1**	2.1	0.11
Vanadium	Exposure Unit 2	40	0.0049	0.20	0.00012	0.005	1	1	0.035	0.17	0.21	0.79	2.1	0.079
Vanadium	Exposure Unit 3	37	0.0049	0.18	0.00012	0.005	1	1	0.035	0.15	0.21	0.72	2.1	0.072
Zinc	Site-wide (All)	366	0.16	58	0.00012	0.005	1	1	0.035	9.6	9.6	1.0	411	0.023
Zinc	**Exposure Unit 1**	**552**	**0.16**	**88**	**0.00012**	**0.005**	**1**	**1**	**0.035**	**14**	**9.6**	**1.5**	411	0.035
Zinc	**Exposure Unit 2**	**519**	**0.16**	**83**	**0.00012**	**0.005**	**1**	**1**	**0.035**	**14**	**9.6**	**1.4**	411	0.033
Zinc	Exposure Unit 3	61	0.16	9.7	0.00012	0.005	1	1	0.035	1.6	9.6	0.17	411	0.0039

Notes:
a) Sources listed on Table B-12.
b) Sources listed on Table B-17.
Bold indicates hazard quotient greater than 1.0.
-- = not calculated
BAF = bioaccumulation factor
BW = body weight
COPECs = chemical of potential ecological concern
Dose = average daily dose in milligrams per kilogram per day.
HQ = hazard quotient
kg = kilogram
kg- dry/day = kilograms per day in dry weight
mg/kg = milligrams per kilogram
mg/kg-bw/day = milligrams per kilogram body weight per day
PF = portion of food item
SUF = Site Use Factor
TRV = toxicity reference value
UCL95 = 95 percent upper confidence limit of the mean

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Table B-34
Tier 2 - Calculation of Dose and Hazard Quotient for Western Harvest Mouse (*Reithrodontomys megalotis*)

COPECs	Area	UCL95 or Maximum Concentration in Soil (0-2 feet) (mg/kg dry weight)	BAF plant (kg tissue/kg soil) [a]	Plant Concentration (mg/kg dry weight)	BAF invertebrate (kg tissue/kg soil) [a]	Invertebrate Concentration (mg/kg dry weight)	Soil Ingestion Rate (kg-dry/day)	Food Ingestion Rate (kg-dry/day)	PF Plants	PF Invertebrates	SUF	BW (kg)	Dose (mg/kg-bw/day)	Low-TRV (mg/kg-bw/day) [b]	Low-TRV HQ	High-TRV (mg/kg-bw/day) [b]	High-TRV HQ
Inorganics																	
Antimony	**Site-wide (All)**	**82**	**0.026**	**2.2**	**1.0**	**82**	**0.00004**	**0.00197**	**0.4**	**0.6**	**1**	**0.01**	**10**	**0.125**	**82**	**1.25**	**8.2**
Antimony	**Exposure Unit 1**	**3.4**	**0.026**	**0.090**	**1.0**	**3.4**	**0.00004**	**0.00197**	**0.4**	**0.6**	**1**	**0.01**	**0.42**	**0.125**	**3.4**	1.25	0.34
Antimony	**Exposure Unit 2**	**352**	**0.026**	**9.3**	**1.0**	**352**	**0.00004**	**0.00197**	**0.4**	**0.6**	**1**	**0.01**	**44**	**0.125**	**350**	**1.25**	**35**
Antimony	**Exposure Unit 3**	**2.2**	**0.026**	**0.058**	**1.0**	**2.2**	**0.00004**	**0.00197**	**0.4**	**0.6**	**1**	**0.01**	**0.27**	**0.125**	**2.2**	1.25	0.22
Arsenic	Site-wide (All)	11	0.038	0.41	0.059	0.64	0.00004	0.00197	0.4	0.6	1	0.01	0.15	0.32	0.47	4.7	0.032
Arsenic	Exposure Unit 1	5.4	0.038	0.20	0.059	0.32	0.00004	0.00197	0.4	0.6	1	0.01	0.075	0.32	0.23	4.7	0.016
Arsenic	**Exposure Unit 2**	**36**	**0.038**	**1.4**	**0.059**	**2.1**	**0.00004**	**0.00197**	**0.4**	**0.6**	**1**	**0.01**	**0.50**	**0.32**	**1.6**	4.7	0.11
Arsenic	Exposure Unit 3	5.4	0.038	0.20	0.059	0.32	0.00004	0.00197	0.4	0.6	1	0.01	0.075	0.32	0.23	4.7	0.016
Cadmium	**Site-wide (All)**	**0.35**	**0.38**	**0.13**	**6.6**	**2.3**	**0.00004**	**0.00197**	**0.4**	**0.6**	**1**	**0.01**	**0.28**	**0.06**	**4.7**	2.64	0.11
Cadmium	**Exposure Unit 1**	**0.34**	**0.38**	**0.13**	**6.6**	**2.3**	**0.00004**	**0.00197**	**0.4**	**0.6**	**1**	**0.01**	**0.28**	**0.06**	**4.6**	2.64	0.11
Cadmium	**Exposure Unit 2**	**1.1**	**0.38**	**0.40**	**6.6**	**6.9**	**0.00004**	**0.00197**	**0.4**	**0.6**	**1**	**0.01**	**0.85**	**0.06**	**14**	2.64	0.32
Cadmium	**Exposure Unit 3**	**0.14**	**0.38**	**0.052**	**6.6**	**0.90**	**0.00004**	**0.00197**	**0.4**	**0.6**	**1**	**0.01**	**0.11**	**0.06**	**1.9**	2.64	0.042
Copper	Site-wide (All)	**1,123**	**0.0066**	**7.4**	**0.52**	**578**	**0.00004**	**0.00197**	**0.4**	**0.6**	**1**	**0.01**	**73**	**2.67**	**27**	632	0.12
Copper	Exposure Unit 1	23	0.0066	0.15	0.52	12	0.00004	0.00197	0.4	0.6	1	0.01	1.5	2.67	0.56	632	0.0024
Copper	Exposure Unit 2	**5,106**	**0.0066**	**34**	**0.52**	**2,630**	**0.00004**	**0.00197**	**0.4**	**0.6**	**1**	**0.01**	**334**	**2.67**	**125**	632	0.53
Copper	Exposure Unit 3	20	0.0066	0.13	0.52	10	0.00004	0.00197	0.4	0.6	1	0.01	1.3	2.67	0.49	632	0.0021
Lead - BTAG TRV	**Site-wide (All)**	**10,212**	**0.0021**	**21**	**0.10**	**1,021**	**0.00004**	**0.00197**	**0.4**	**0.6**	**1**	**0.01**	**163**	**1**	**163**	241	0.67
Lead - BTAG TRV	Exposure Unit 1	26	0.0021	0.053	0.10	2.6	0.00004	0.00197	0.4	0.6	1	0.01	0.41	1	0.41	241	0.0017
Lead - BTAG TRV	**Exposure Unit 2**	**11,266**	**0.0021**	**24**	**0.10**	**1,127**	**0.00004**	**0.00197**	**0.4**	**0.6**	**1**	**0.01**	**179**	**1**	**179**	241	0.74
Lead - BTAG TRV	Exposure Unit 3	50	0.0021	0.10	0.10	5.0	0.00004	0.00197	0.4	0.6	1	0.01	0.80	1	0.80	241	0.0033
Lead - Eco-SSL TRV	**Site-wide (All)**	**10,212**	**0.0021**	**21**	**0.10**	**1,021**	**0.00004**	**0.00197**	**0.4**	**0.6**	**1**	**0.01**	**163**	**4.70**	**35**	--	--
Lead - Eco-SSL TRV	Exposure Unit 1	26	0.0021	0.053	0.10	2.6	0.00004	0.00197	0.4	0.6	1	0.01	0.41	4.70	0.087	--	--
Lead - Eco-SSL TRV	**Exposure Unit 2**	**11,266**	**0.0021**	**24**	**0.10**	**1,127**	**0.00004**	**0.00197**	**0.4**	**0.6**	**1**	**0.01**	**179**	**4.70**	**38**	--	--
Lead - Eco-SSL TRV	Exposure Unit 3	50	0.0021	0.10	0.10	5.0	0.00004	0.00197	0.4	0.6	1	0.01	0.80	4.70	0.17	--	--
Molybdenum	Site-wide (All)	0.27	6.1	1.6	1.0	0.27	0.00004	0.00197	0.4	0.6	1	0.01	0.16	0.26	0.63	2.6	0.063
Molybdenum	Exposure Unit 1	0.28	6.1	1.7	1.0	0.28	0.00004	0.00197	0.4	0.6	1	0.01	0.17	0.26	0.64	2.6	0.064
Molybdenum	Exposure Unit 2	0.35	6.1	2.1	1.0	0.35	0.00004	0.00197	0.4	0.6	1	0.01	0.21	0.26	0.81	2.6	0.081
Molybdenum	Exposure Unit 3	0.24	6.1	1.5	1.0	0.24	0.00004	0.00197	0.4	0.6	1	0.01	0.14	0.26	0.55	2.6	0.055
Selenium	**Site-wide (All)**	**0.57**	**0.59**	**0.34**	**0.62**	**0.353**	**0.00004**	**0.00197**	**0.4**	**0.6**	**1**	**0.01**	**0.071**	**0.05**	**1.4**	1.21	0.058
Selenium	**Exposure Unit 1**	**0.97**	**0.59**	**0.58**	0.62	**0.604**	**0.00004**	**0.00197**	**0.4**	**0.6**	**1**	**0.01**	**0.121**	**0.05**	**2.4**	1.21	0.100
Selenium	**Exposure Unit 2**	**1.9**	**0.59**	**1.1**	0.62	**1.20**	**0.00004**	**0.00197**	**0.4**	**0.6**	**1**	**0.01**	**0.24**	**0.05**	**4.8**	1.21	0.198
Selenium	**Exposure Unit 3**	**0.50**	**0.59**	**0.29**	**0.62**	**0.308**	**0.00004**	**0.00197**	**0.4**	**0.6**	**1**	**0.01**	**0.061**	**0.05**	**1.2**	1.21	0.051
Vanadium	**Site-wide (All)**	**43**	**0.0049**	**0.21**	**0.042**	**1.8**	**0.00004**	**0.00197**	**0.4**	**0.6**	**1**	**0.01**	**0.39**	**0.21**	**1.9**	2.1	0.19
Vanadium	**Exposure Unit 1**	**58**	**0.0049**	**0.28**	**0.042**	**2.4**	**0.00004**	**0.00197**	**0.4**	**0.6**	**1**	**0.01**	**0.54**	**0.21**	**2.5**	2.1	0.25
Vanadium	**Exposure Unit 2**	**40**	**0.0049**	**0.20**	**0.042**	**1.7**	**0.00004**	**0.00197**	**0.4**	**0.6**	**1**	**0.01**	**0.38**	**0.21**	**1.8**	2.1	0.18
Vanadium	**Exposure Unit 3**	**37**	**0.0049**	**0.18**	**0.042**	**1.5**	**0.00004**	**0.00197**	**0.4**	**0.6**	**1**	**0.01**	**0.34**	**0.21**	**1.6**	2.1	0.16
Zinc	**Site-wide (All)**	**366**	**0.16**	**58**	**0.50**	**183**	**0.00004**	**0.00197**	**0.4**	**0.6**	**1**	**0.01**	**28**	**9.6**	**2.9**	411	0.067
Zinc	**Exposure Unit 1**	**552**	**0.16**	**88**	**0.50**	**276**	**0.00004**	**0.00197**	**0.4**	**0.6**	**1**	**0.01**	**42**	**9.6**	**4.3**	411	0.10
Zinc	**Exposure Unit 2**	**519**	**0.16**	**83**	**0.50**	**259**	**0.00004**	**0.00197**	**0.4**	**0.6**	**1**	**0.01**	**39**	**9.6**	**4.1**	411	0.10
Zinc	Exposure Unit 3	61	0.16	9.7	0.50	30	0.00004	0.00197	0.4	0.6	1	0.01	4.6	9.6	0.48	411	0.011

Notes:
a) Sources listed on Table B-12 for plant BAFs and Table B-13 for invertebrate BAFs.
b) Sources listed on Table B-17.
Bold indicates hazard quotient greater than 1.0.
-- = not calculated
BAF = bioaccumulation factor
BW = body weight
COPECs = chemical of potential ecological concern
Dose = average daily dose in milligrams per kilogram per day.
HQ = hazard quotient
kg = kilogram
kg- dry/day = kilograms per day in dry weight
mg/kg = milligrams per kilogram
mg/kg-bw/day = milligrams per kilogram body weight per day
PF = portion of food item
SUF = Site Use Factor
TRV = toxicity reference value
UCL95 = 95 percent upper confidence limit of the mean

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Table B-35
Tier 2 - Calculation of Dose and Hazard Quotient for Grey Fox (*Urocyon cinereoargenteus*)

COPECs	Area	UCL95 or Maximum Concentration in Soil (0-2 feet) (mg/kg dry weight)	BAF mammal (kg tissue/kg soil) [a]	Mammal Prey Concentration (mg/kg dry weight)	Soil Ingestion Rate (kg-dry/day)	Food Ingestion Rate (kg-dry/day)	PF Mammals	SUF	BW (kg)	Dose (mg/kg-bw/day)	Low-TRV (mg/kg-bw/day) [b]	Low-TRV HQ	High-TRV (mg/kg-bw/day) [b]	High-TRV HQ
Inorganics														
Antimony	Site-wide (All)	82	0.050	4.1	0.0035	0.125	1	0.05	3	0.013	0.125	0.11	1.25	0.011
Antimony	Exposure Unit 1	3.4	0.050	0.17	0.0035	0.125	1	0.05	3	0.00055	0.125	0.0044	1.25	0.00044
Antimony	Exposure Unit 2	352	0.050	18	0.0035	0.125	1	0.05	3	0.057	0.125	0.46	1.25	0.046
Antimony	Exposure Unit 3	2.2	0.050	0.11	0.0035	0.125	1	0.05	3	0.00036	0.125	0.0029	1.25	0.00029
Copper	Site-wide (All)	1,123	0.0025	2.8	0.0035	0.125	1	0.05	3	0.071	2.67	0.027	632	0.00011
Copper	Exposure Unit 1	23	0.0025	0.057	0.0035	0.125	1	0.05	3	0.0014	2.67	0.00054	632	0.0000023
Copper	Exposure Unit 2	5,106	0.0025	13	0.0035	0.125	1	0.05	3	0.32	2.67	0.12	632	0.00051
Copper	Exposure Unit 3	20	0.0025	0.050	0.0035	0.125	1	0.05	3	0.0013	2.67	0.00047	632	0.0000020
Lead	Site-wide (All)	10,212	0.0023	23	0.0035	0.125	1	0.05	3	0.64	1	0.64	241	0.0027
Lead	Exposure Unit 1	26	0.0023	0.059	0.0035	0.125	1	0.05	3	0.0016	1	0.0016	241	0.0000067
Lead	Exposure Unit 2	11,266	0.0023	26	0.0035	0.125	1	0.05	3	0.71	1	0.71	241	0.0030
Lead	Exposure Unit 3	50	0.0023	0.11	0.0035	0.125	1	0.05	3	0.0032	1	0.0032	241	0.000013
Selenium	Site-wide (All)	0.57	0.26	0.15	0.0035	0.125	1	0.05	3	0.00034	0.05	0.0068	1.21	0.00028
Selenium	Exposure Unit 1	0.97	0.26	0.25	0.0035	0.125	1	0.05	3	0.00058	0.05	0.012	1.21	0.00048
Selenium	Exposure Unit 2	1.9	0.26	0.50	0.0035	0.125	1	0.05	3	0.0012	0.05	0.023	1.21	0.00096
Selenium	Exposure Unit 3	0.50	0.26	0.13	0.0035	0.125	1	0.05	3	0.00030	0.05	0.0060	1.21	0.00025
Vanadium	Site-wide (All)	43	0.012	0.52	0.0035	0.125	1	0.05	3	0.0036	0.21	0.017	2.1	0.0017
Vanadium	Exposure Unit 1	58	0.012	0.71	0.0035	0.125	1	0.05	3	0.0048	0.21	0.023	2.1	0.0023
Vanadium	Exposure Unit 2	40	0.012	0.50	0.0035	0.125	1	0.05	3	0.0034	0.21	0.016	2.1	0.0016
Vanadium	Exposure Unit 3	37	0.012	0.45	0.0035	0.125	1	0.05	3	0.0031	0.21	0.015	2.1	0.0015

Notes:
a) Sources listed on Table B-14.
b) Sources listed on Table B-17.
Bold indicates hazard quotient greater than 1.0.
BAF = bioaccumulation factor
BW = body weight
COPECs = chemical of potential ecological concern
Dose = average daily dose in milligrams per kilogram per day.
HQ = hazard quotient
kg = kilogram
kg- dry/day = kilograms per day in dry weight
mg/kg = milligrams per kilogram
mg/kg-bw/day = milligrams per kilogram body weight per day
PF = portion of food item
SUF = Site Use Factor
TRV = toxicity reference value
UCL95 = 95 percent upper confidence limit of the mean

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Table B-36
Comparison of Method Reporting Limits for Non-Detect Results for Soil (0-2 feet) to Soil Screening Benchmarks

Area	Analyte Name	CAS #	Detected # Samples/ Total # Samples	Detection Rate	MDL		MRL		Eco Benchmark [a]			Max MDL > Lowest Benchmark	Max MRL > Lowest Benchmark
					Min	Max	Min	Max	Plant	Soil Invertebrate	Benthic Invertebrate		
Inorganics (mg/kg dw)													
Site-wide (All)	Antimony	7440-36-0	76/80	95%	0.16	0.17	0.55	0.6	5	78	3	No	No
Site-wide (All)	Arsenic	7440-38-2	79/80	99%	0.0825	0.083	0.27	0.27	18	60	9.79	No	No
Site-wide (All)	Cadmium	7440-43-9	59/80	74%	0.051	0.057	0.26	0.3	32	140	0.99	No	No
Site-wide (All)	Mercury	7439-97-6	33/80	41%	7.5E-05	0.008	0.021	0.03	0.3	0.1	0.18	No	No
Site-wide (All)	Molybdenum	7439-98-7	39/80	49%	0.2	0.23	0.6	0.69	2	200	NA	No	No
Site-wide (All)	**Selenium**	**7782-49-2**	**30/80**	**38%**	0.14	0.17	**0.52**	**0.62**	**0.52**	4.1	1.0	No	**Yes**
Site-wide (All)	Silver	7440-22-4	28/80	35%	0.051	0.088	0.26	0.32	560	50	0.733	No	No
Site-wide (All)	Thallium	7440-28-0	7/80	9%	0.14	0.19	0.52	0.64	1	NA	NA	No	No
Explosives (ug/kg dw)													
Site-wide (All)	1,3,5-Trinitrobenzene	99-35-4	0/80	0%	25	46	202	255	376	376	NA	No	No
Site-wide (All)	**1,3-Dinitrobenzene**	**99-65-0**	**0/80**	**0%**	8.4	**46**	**202**	**255**	655	655	**8.61**	**Yes**	**Yes**
Site-wide (All)	2,4-Dinitrotoluene	121-14-2	1/80	1%	20	52	202	255	1,280	1,280	NA	No	No
Site-wide (All)	2,4,6-Trinitrotoluene	118-96-7	0/80	0%	14	46	202	255	30,000	140,000	NA	No	No
Site-wide (All)	**2,6-Dinitrotoluene**	**606-20-2**	**0/80**	**0%**	19	**60**	**202**	**255**	**32.8**	**32.8**	**39.8**	**Yes**	**Yes**
Site-wide (All)	2-amino-4,6-Dinitrotoluene	35572-78-2	0/80	0%	22	57	202	255	NA	NA	NA	NE	NE
Site-wide (All)	2-Nitrotoluene	88-72-2	0/80	0%	12	92	411	497	NA	NA	NA	NE	NE
Site-wide (All)	3-Nitrotoluene	99-08-1	0/80	0%	20	92	411	497	NA	NA	NA	NE	NE
Site-wide (All)	4-amino-2,6-Dinitrotoluene	19406-51-0	0/80	0%	29	71	202	255	NA	NA	NA	NE	NE
Site-wide (All)	4-Nitrotoluene	99-99-0	1/80	1%	26	92	411	497	NA	NA	NA	NE	NE
Site-wide (All)	HMX	2691-41-0	0/80	0%	13	46	202	255	NA	NA	NA	NE	NE
Site-wide (All)	**Nitrobenzene**	**98-95-3**	**0/80**	**0%**	18	46	**202**	**255**	1,310	40,000	**145**	No	**Yes**
Site-wide (All)	RDX	121-82-4	0/80	0%	12	48	202	255	100,000	NA	NA	No	No
Site-wide (All)	Tetryl	479-45-8	0/80	0%	41	80	202	255	25,000	NA	NA	No	No
High Molecular Weight Polycyclic Aromatic Hydrocarbons (HMW PAHs) (ug/kg dw)													
Site-wide (All)	Benzo(a)anthracene	56-55-3	9/10	90%	1.1	1.1	5.7	5.7	86,000	18,000	NA	No	No
Site-wide (All)	Benzo(a)pyrene	50-32-8	9/10	90%	1.1	1.1	5.7	5.7	86,000	18,000	NA	No	No
Site-wide (All)	Benzo(k)fluoranthene	207-08-9	9/10	90%	1.1	1.1	5.7	5.7	86,000	18,000	NA	No	No
Site-wide (All)	Chrysene	218-01-9	9/10	90%	1.1	1.1	5.7	5.7	86,000	18,000	NA	No	No
Site-wide (All)	Dibenz(a,h)anthracene	53-70-3	8/10	80%	1.1	1.2	5.7	5.8	86,000	18,000	NA	No	No

Table B-36
Comparison of Method Reporting Limits for Non-Detect Results for Soil (0-2 feet) to Soil Screening Benchmarks

Area	Analyte Name	CAS #	Detected # Samples/ Total # Samples	Detection Rate	MDL		MRL		Eco Benchmark [a]			Max MDL > Lowest Benchmark	Max MRL > Lowest Benchmark
					Min	Max	Min	Max	Plant	Soil Invertebrate	Benthic Invertebrate		
Low Molecular Weight Polycyclic Aromatic Hydrocarbons (LMW PAHs) (ug/kg dw)													
Site-wide (All)	Acenaphthene	83-32-9	5/10	50%	1.1	1.2	5.7	6.1	20,000	29,000	NA	No	No
Site-wide (All)	Acenaphthylene	208-96-8	8/10	80%	1.1	1.2	5.7	5.8	20,000	29,000	NA	No	No
Site-wide (All)	Fluorene	86-73-7	8/10	80%	1.1	1.2	5.7	5.8	20,000	29,000	NA	No	No
Site-wide (All)	Naphthalene	91-20-3	4/10	40%	1.1	1.2	5.7	6.1	20,000	29,000	NA	No	No
Site-wide (All)	Phenanthrene	85-01-8	9/10	90%	1.1	1.1	5.7	5.7	20,000	29,000	NA	No	No

Notes:
a) Sources listed on Table B-15.
Analytes with at least one non-detect concentration are displayed.
Bold indicates maximum concentration is greater than benchmark.
= number
CAS # = chemical abstracts services registry number
HMW = high molecular weight
LMW = low molecular weight
Max = maximum
mg/kg dw = milligrams per kilogram dry weight
Min = minimum
MRL = method reporting limit
NA = not available
NE = not established
PAHs = polycyclic aromatic hydrocarbons
ug/kg dw = microgram per kilogram dry weight

Table B-37
Cleanup Goals for the American Robin (*Turdus migratorius*)

COECs	Cleanup Goal (mg/kg dry weight)	BAF plant (kg soil/kg tissue) [a]	Plant Concentration (mg/kg dry weight)	BAF invertebrate (kg soil/kg tissue) [a]	Invertebrate Concentration (mg/kg dry weight)	Soil Ingestion Rate (kg-dry/day)	Food Ingestion Rate (kg-dry/day)	PF Plants	PF Invertebrates	SUF	BW (kg)	Dose (mg/kg-bw/day)	TRV (mg/kg-bw/day) [b]	HQ
Inorganics														
Copper	142	0.0066	1	0.52	73	0.00122	0.0122	0.25	0.75	1	0.077	11	11	1.0
Lead	59	0.0021	0.12	0.10	5.9	0.00122	0.0122	0.25	0.75	1	0.077	2	1.63	1.0
Zinc	667	0.16	107	0.50	333	0.00122	0.0122	0.25	0.75	1	0.077	54	54	1.0

Notes:
a) Sources listed on Table B-12 for plant BAFs and Table B-13 for invertebrate BAFs.
b) Sources listed on Table B-17.
BAF = bioaccumulation factor in kilograms of soil per kilograms of tissue.
BW = body weight
COECs = chemicals of ecological concern
Dose = average daily dose in milligrams per kilogram per day.
HQ = hazard quotient
kg = kilogram
kg- dry/day = kilograms per day in dry weight
mg/kg = milligrams per kilogram
mg/kg-bw/day = milligrams per kilogram body weight per day
NA = not available
PF = portion of food item
SUF = Site Use Factor
TRV = toxicity reference value

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Table B-38
Cleanup Goals for the California Vole (*Microtus californicus*)

COECs	Cleanup Goal (mg/kg dry weight)	BAF Plant (kg soil/kg tissue) [a]	Plant Concentration (mg/kg dry weight)	Soil Ingestion Rate (kg-dry/day)	Food Ingestion Rate (kg-dry/day)	PF Plants	SUF	BW (kg)	Dose (mg/kg-bw/day)	TRV (mg/kg-bw/day) [b]	HQ
Inorganics											
Antimony	55	0.026	1.45	0.00012	0.005	1	1	0.035	0.40	0.40	1.0
Copper	9,397	0.0066	62.0	0.00012	0.005	1	1	0.035	41.08	41.1	1.0
Lead - Eco-SSL TRV	1,261	0.0021	2.63	0.00012	0.005	1	1	0.035	4.70	4.7	1.0
Molybdenum	0.94	6.1	5.73	0.00012	0.005	1	1	0.035	0.82	0.82	1.0
Selenium	2.79	0.59	1.65	0.00012	0.005	1	1	0.035	0.25	0.25	1.0
Vanadium	161	0.0049	0.78	0.00012	0.005	1	1	0.035	0.66	0.66	1.0
Zinc	2,390	0.16	382	0.00012	0.005	1	1	0.035	62.8	62.8	1.0

Notes:
a) Sources listed on Table B-12.
b) Sources listed on Table B-17.
BAF = bioaccumulation factor in kilograms of soil per kilograms of tissue.
BW = body weight
COECs = chemicals of ecological concern
Dose = average daily dose in milligrams per kilogram per day.
Eco-SSL = ecological soil screening level
HQ = hazard quotient
kg = kilogram
kg- dry/day = kilograms per day in dry weight
mg/kg = milligrams per kilogram
mg/kg-bw/day = milligrams per kilogram body weight per day
PF = portion of food item
SUF = Site Use Factor
TRV = toxicity reference value

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Table B-39
Cleanup Goals for the Western Harvest Mouse (*Reithrodontomys megalotis*)

COECs	Cleanup Goal (mg/kg dry weight)	BAF plant (kg soil/kg tissue) [a]	Plant Concentration (mg/kg dry weight)	BAF invertebrate (kg soil/kg tissue) [a]	Invertebrate Concentration (mg/kg dry weight)	Soil Ingestion Rate (kg-dry/day)	Food Ingestion Rate (kg-dry/day)	PF Plants	PF Invertebrates	SUF	BW (kg)	Dose (mg/kg-bw/day)	TRV (mg/kg-bw/day) [b]	HQ
Inorganics														
Antimony	3.2	0.026	0.08	1.0	3	0.00004	0.00197	0.4	0.6	1	0.01	0.40	0.40	1.0
Arsenic	88	0.038	3.32	0.059	5.22	0.00004	0.00197	0.4	0.6	1	0.01	1.23	1.23	1.0
Cadmium	0.49	0.38	0.19	6.6	3.2	0.00004	0.00197	0.4	0.6	1	0.01	0	0.40	1.0
Copper	629	0.0066	4.1	0.52	324	0.00004	0.00197	0.4	0.6	1	0.01	41	41.1	1.0
Lead - Eco-SSL TRV	295	0.0021	1	0.1	30	0.00004	0.00197	0.4	0.6	1	0.01	4.7	4.7	1.0
Selenium	1.98	0.59	1.18	0.620	1.230	0.00004	0.00197	0.4	0.6	1	0.01	0.25	0.25	1.0
Vanadium	71.5	0.0049	0.35	0.042	3.0	0.00004	0.00197	0.4	0.6	1	0.01	0.664	0.66	1.0
Zinc	830	0.16	133	0.50	415	0.00004	0.00197	0.4	0.6	1	0.01	63	62.8	1.0

Notes:
a) Sources listed on Table H-12 for plant BAFs and Table H-13 for invertebrate BAFs.
b) Sources listed on Table B-17.
BAF = bioaccumulation factor in kilograms of soil per kilograms of tissue.
BW = body weight
COECs = chemicals of ecological concern
Dose = average daily dose in milligrams per kilogram per day.
HQ = hazard quotient
kg = kilogram
kg- dry/day = kilograms per day in dry weight
mg/kg = milligrams per kilogram
mg/kg-bw/day = milligrams per kilogram body weight per day
PF = portion of food item
SUF = Site Use Factor
TRV = toxicity reference value

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Table B-40
Summary of CleanUp Goals for Ecological Receptors at Site 24A

COECs	Maximum Concentration in Soil (0-2 feet) (mg/kg dry weight)	Background (mg/kg dry weight)	Amphibian Cleanup Goal (mg/kg dry weight) [a]	Robin Cleanup Goal (mg/kg dry weight) [a]	Vole Cleanup Goal (mg/kg dry weight) [a]	Mouse Cleanup Goal (mg/kg dry weight) [a]	Final Cleanup Goal (mg/kg dry weight)
Inorganics							
Antimony	700	1.2	--	--	55	**3.2**	**3.2**
Arsenic	120	7.3	--	--	--	**88**	**88**
Cadmium	3	0.15	--	--	--	**0.49**	**0.49**
Copper	12,000	64	200	**142**	9,397	629	**142**
Lead - Eco-SSL TRV	62,000	18	2,400	**59**	1,261	295	**59**
Molybdenum [b]	0.63	DL	--	--	**0.94**	--	**0.94**
Selenium	4.4	DL	--	--	2.79	**2.0**	**2.0**
Vanadium	140	**86**	--	--	161	71.5	**86**
Zinc	2,100	83	1,200	**667**	2,390	830	**667**

Notes:
a) Sources listed on Table B-16 for Amphibians, B-37 for Robin, B-38 for Vole, and B-39 for Mouse.
b) The maximum detected concentration is lower than the cleanup goal.
Bold indicates this cleanup goal is the lowest value for any receptor.
-- = not calculated. Not a COEC for this receptor.
COECs = chemicals of ecological concern
mg/kg = milligrams per kilogram

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ATTACHMENT B1
Site Photographs

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URS	29874804	Photo B-1: Photo taken at southwest corner of site facing east.
	Site 24A	Photo B-2: Overview from southeast corner of site above target berm.

URS	29874804	Photo B-3: Conex storage and adjacent woodpile. Active dove nest located on top of white locker inside building.
	Site 24A	Photo B-4: Target berm and grenade launch area.

URS	29874804	Photo B-5: View of drainage channel facing east.
	Site 24A	Photo B-6: View to south of site showing tree line of Seal Creek in the distance.

URS	29874804	B-7: California ground squirrel burrows on berm at south site boundary.
		B-8: Ground squirrel burrow on target berm.

URS	29874804	B-9: California ground squirrel on berm at south site boundary.
	Site 24A	B-10: Darkling beetle.

URS	29874804	B-11: Coyote scat.
	Site 24A	B-12: Soil mound south of site boundary; many ground squirrel burrows present.

ATTACHMENT B2
Biological Survey

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ATTACHMENT B-2
BIOLOGICAL CHARACTERIZATION REPORT

A biological survey was performed by Ms. Jill Hedgecock of URS on August 9, 2010. The survey began at 8:55 a.m. and concluded at 10:55 a.m. Eagle Optics binoculars (10 x 42), a Mirador spotting scope, and a field guide (NGS, 1999) were utilized to assist in mammalian and bird species identification, as needed. The weather at the on-set of the survey was 60 °F, overcast with an approximately 10 mile per hour (mph) wind. The skies had cleared and the temperature had increased to 68 °F by the conclusion of the survey.

The objective of the site visit was to collect the necessary information to perform a biological characterization of IRP Site 24A. This report summarizes the biological observations and documents site conditions relevant to identification of the potentially complete exposure pathways for ecological receptors in support of an ecological risk assessment (ERA). The site consists of a range floor surrounded by berms and a retaining wall and several temporary structures, including an abandoned classroom/office trailer, Conex boxes, storage sheds and an observation canopy.

Vegetation and Habitat. A comprehensive biological survey of the plants noted on the site was not included in this scope of work, nor is this level of detail typically necessary for the performance of an ERA. The berms adjacent to the range floor and structures support ruderal vegetation such as weedy grasses and invasives such as yellow starthistle (*Centaurea solstitialis*). There are no trees within the site boundaries. The skeleton of a shrub on the backstop berm and overhead wires to the west of the range floor near the building structures, and posts offer perching areas for birds of prey and songbirds.

No surface water bodies are located within the area. Seal creek is located approximately 1,800 feet to the south of the site. Drainages surrounding the range floor could potentially result in seasonal standing water. It is unclear whether the drain opening at the southwest corner of this site discharges to a surface water body.

Terrestrial Invertebrates. The scope of the biological survey did not include identification of invertebrates. Paper wasps and/or nests (*Polistes sp.*) were observed in most of the site structures. Grasshoppers, ants and beetles were noted on the berms and range floor. Darkling beetles of the genus (Eleodes) were noted outside the small storage shed.

Reptiles and Amphibians. No reptile or amphibian species were noted on or near the site during the site visit.

Birds. During the site visit, mourning doves (*Zenaida macroura*) were observed on the site. Several inactive mourning dove nests were noted within the site structures and one active dove nest was noted atop a locker within the largest (yellow orange) Conex storage shed. Six intact dead mourning doves, nests, and an unhatched egg were noted within the trailer classroom and the cause of death was not readily apparent. A ripped window screen appears to have allowed the birds access to the building. Because the birds were intact, predation seems an unlikely cause of death, however, possible owl pellets were noted on the trailer floor. A quick examination of one of these scat "pellets" and it was comprised mostly of vegetation and lacked the rodent bones of a typical owl pellet. Discarded chemical containers were noted in the trailer and two of the doves were positioned in such a way that it is possible that humans may have placed them there after shooting the doves for sport. It is also possible that the mortality may be due to lead pellet ingestion as grit. Remains of mourning doves (mounds of feathers) were noted at various locations across the site outside the buildings, indicating that mourning doves were being consumed by predators. In a study by Carrington and Mirarchi (1989), mourning dove mortality due to mammalian predation was responsible for the death of 7 of 11 lead-exposed predator-killed birds as compared to 0 of 7 birds in the control group. Since one of the adverse effects of lead pellet ingestion in birds is increased predation, it is possible the site contamination may be contributing to the dove mortality observations. The overhead wires were utilized by a single American pipit (*Anthus rubescens*) and several mourning doves during the site visit. A red-tailed hawk (*Buteo jamaicensis*) kiting/foraging over the site was observed. Songbird scat was noted underneath atop the metal structure on the pistol range floor and on the bleachers.

Other species observed in the general vicinity included western meadowlarks (*Sterna neglecta*), American kestrel (*Falco sparverius*), rock pigeon (*Columbia livia*), a turkey vulture (*Cathartes aura*), black phoebe (*Sayornis nigricans*), white-tailed kite (*Elanus caeruleus*), northern harrier (*Circus cyaneus*) common crow (*Corvus corax),* barn swallow *(Hirundo rustica)* and cliff swallow (*Hirundo pyrrhonota*). A golden eagle (*Aquila chrysaetos*) nest reportedly occurs to the east of the site in a stand of eucalyptus trees.

Mammals. Numerous burrows typical of the California ground squirrel (*Spermophilus beecheyi*) and more than a dozen ground squirrels were noted in and around the berm areas. A rodent skeleton, most likely a ground squirrel, was noted in the large orange yellow Conex storage shed. Coyote (*Canis latrans*) scat was noted on the range floor and on the southern berm. A coyote was also sighted south of the site in the rangeland used by the cattle. Although no cattle were present on the site itself, evidence of bovine presence in the form of cow patties was prevalent. Although the raised foundation of the building offers potential habitat for rodents and other mammals (e.g., raccoons or skunks) the soils appeared undisturbed and no evidence (scat or burrows) were noted beneath the site structures. A pile of discarded wood adjacent to the Conex where the active mourning dove nest was observed offers suitable habitat for a variety of rodents.

Transport and Exposure Pathways. A drainage surrounding the pistol range floor and and a drain opening at the southwest corner of this site represents a potential transport pathway for impacted surface soils to migrate from the site. While portions of site are highly vegetated such that overland flow of soil during rainstorms from the site and windblown particulates is likely minimized, the backstop area consists of areas of soft soils were overland transport is more likely to occur. With the possible exception of lead, the types of contaminants expected at this site are generally not considered bioaccumulative such that food chain transfer is likely minimized.

References

Carrington, M.E. and R.E. Mirarchi. 1989. Effects of lead shot ingestion on free-ranging mourning doves. *Bull. Environ. Contam. Toxicol.* 43:173-179.

National Geographic Society (NGS). 1999. Field Guide to the Birds of North America, Third Edition, National Geographic Society. Washington D.C.

ATTACHMENT B3
California Natural Diversity Database Output

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Agelaius tricolor

tricolored blackbird

Element Code: ABPBXB0020

Status
Federal: None
State: None

NDDB Element Ranks
Global: G2G3
State: S2

Other Lists
CDFG Status: SC

Habitat Associations
General: HIGHLY COLONIAL SPECIES, MOST NUMBEROUS IN CENTRAL VALLEY & VICINITY. LARGELY ENDEMIC TO CALIFORNIA.
Micro: REQUIRES OPEN WATER, PROTECTED NESTING SUBSTRATE, & FORAGING AREA WITH INSECT PREY WITHIN A FEW KM OF THE COLONY.

Occurrence No. 106 **Map Index:** 10245 **EO Index:** 11811

Occ Rank: None
Origin: Natural/Native occurrence
Presence: Possibly Extirpated
Trend: Unknown

Dates Last Seen
Element: 1932-05-06
Site: 1932-05-06
Record Last Updated: 1991-07-25

Quad Summary: Denverton (3812128/481B), Honker Bay (3812118/481C)
County Summary: Solano

Lat/Long: 38.13519º / -121.90579º
UTM: Zone-10 N4221380 E595893
Radius: 1 mile
Elevation: 10 ft

Mapping PrecisionNON-SPECIFIC
Symbol Type:POINT

Township: 03N
Range: 01E
Section: 06 **Qtr:** XX
Meridian: M

Location: MARSH 2 MI W OF BIRDS LANDING.
Location Detail: SMALL COLONY OF 9 BIRDS OBS BY NEFF IN CATTAILS.
General: PRESUMED EXTIRPATED BY BEEDY 1991.
Owner/Manager: UNKNOWN

Ambystoma californiense

California tiger salamander

Element Code: AAAAA01180

Status	NDDB Element Ranks	Other Lists
Federal: Threatened	**Global:** G2G3	**CDFG Status:** SC
State: Threatened	**State:** S2S3	

Habitat Associations

General: CENTRAL VALLEY DPS FEDERALLY LISTED AS THREATENED. SANTA BARBARA & SONOMA COUNTIES DPS FEDERALLY LISTED AS ENDANGERED.

Micro: NEED UNDERGROUND REFUGES, ESPECIALLY GROUND SQUIRREL BURROWS & VERNAL POOLS OR OTHER SEASONAL WATER SOURCES FOR BREEDING

Occurrence No. 121 **Map Index:** 22716 **EO Index:** 16869

Occ Rank: Good
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 2005-04-11
Site: 2005-04-11
Record Last Updated: 2007-02-27

Quad Summary: Clayton (3712188/464B)
County Summary: Contra Costa

Lat/Long: 37.99218º / -121.96347º
UTM: Zone-10 N4205454 E591014
Area:
Elevation: 500 ft
Mapping Precision NON-SPECIFIC
Symbol Type: POLYGON
Township: 02N
Range: 01W
Section: 27 **Qtr:** NW
Meridian: M

Location: CONCORD NAVAL WEAPONS STATION FROM ABOUT 0.6 TO 1.4 MILES NORTH OF THE JUNCTION OF BAILEY ROAD & KINNE BLVD.

Location Detail: SALAMANDERS OBSERVED AT 2 PONDS IN SECTION 27. PONDS ARE REFERRED TO AS "NORTH HILLTOP POND" AND "SOUTH HILLTOP POND" AND POND NUMBERS 113, 114 & 115.

Ecological: RAIN PONDS SURROUNDED BY HEAVILY GRAZED GRASSLANDS.

Threat: COMMERCIAL/RESIDENTIAL DEVELOPMENT BECAUSE US NAVY IS DISPOSING OF INLAND AREA AT CONCORD.

General: DATE OF OBS UNKNOWN; MAP PREPARED IN 1988. LARVAE OBSERVED FROM DIP-NET SAMPLING ON 11 APR 2005. AVG LARVAE PER SWEEP FOR POND 113 IS 1.76 (53 LARVAE/5 JUV), FOR POND 114 IS 4.66 (192 LARV/1 JUV) & FOR POND 115 IS 3.23 (128 LARV/1 JUV)

Owner/Manager: DOD-CONCORD NWS

Occurrence No. 122 **Map Index:** 22717 **EO Index:** 16867

Occ Rank: Good
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 2005-04-18
Site: 2005-05-05
Record Last Updated: 2007-02-27

Quad Summary: Clayton (3712188/464B)
County Summary: Contra Costa

Lat/Long: 37.97270º / -121.95564º
UTM: Zone-10 N4203300 E591727
Radius: 80 meters
Elevation: 320 ft
Mapping Precision SPECIFIC
Symbol Type: POINT
Township: 02N
Range: 01W
Section: 34 **Qtr:** XX
Meridian: M

Location: CONCORD NAVAL WEAPONS STATION ABOUT 0.4 MILES SOUTHEAST OF THE JUNCTION OF BAILEY ROAD AND KINNE BLVD.

Location Detail: PONDS REFERRED TO AS "5AT-1" OR POND 103 AND POND 104.

Ecological: STOCK PONDS SURROUNDED BY HEAVILY GRAZED GRASSLAND.

Threat: COMMERCIAL/RESIDENTIAL DEVELOPMENT BECAUSE US NAVY IS DISPOSING OF INLAND AREA AT CONCORD.

General: OBS IN SMALL POND, DATE UNKNOWN BUT SOURCE MAP MADE IN 1988. DIPNET SAMPLING ON 18 APR 2005: AVG LARVAE # PER SWEEP IS 0.87 (24 METAMORPHS/3 LARVAE) FOR POND 103 & 1.23 (43 METAMORPHS) FOR POND 104. NONE OBS IN SAMPLING ON 5 MAY 2005.

Owner/Manager: DOD-CONCORD NWS

Ambystoma californiense

California tiger salamander

Element Code: AAAAA01180

Status	NDDB Element Ranks	Other Lists
Federal: Threatened	**Global:** G2G3	**CDFG Status:** SC
State: Threatened	**State:** S2S3	

Habitat Associations

General: CENTRAL VALLEY DPS FEDERALLY LISTED AS THREATENED. SANTA BARBARA & SONOMA COUNTIES DPS FEDERALLY LISTED AS ENDANGERED.

Micro: NEED UNDERGROUND REFUGES, ESPECIALLY GROUND SQUIRREL BURROWS & VERNAL POOLS OR OTHER SEASONAL WATER SOURCES FOR BREEDING

Occurrence No. 382 **Map Index:** 34036 **EO Index:** 12828

Occ Rank: Good
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1995-05-15
Site: 1995-05-15
Record Last Updated: 1996-08-05

Quad Summary: Clayton (3712188/464B)
County Summary: Contra Costa

Lat/Long: 37.99290º / -121.92998º
UTM: Zone-10 N4205567 E593955
Radius: 80 meters
Elevation: 660 ft
Mapping Precision SPECIFIC
Symbol Type: POINT
Township: 02N
Range: 01W
Section: 25 **Qtr:** NW
Meridian: M

Location: KELLER CANYON, 1 AIR MILE EAST OF BAILEY ROAD (LAWLER RAVINE) AND 1.3 AIR MILES WEST OF THE SW BOUNDARY OF PITTSBURG.

Location Detail: UPPER CANYON 2 MITIGATION POND, KELLER CANYON LANDFILL. POND IS APPROXIMATELY 1/4 ACRE IN SIZE.

Ecological: ARTIFICAL WETLAND CREATED AS MITIGATION FOR IMPACTS TO A SEEP. DOMINANT PLANTS: ZANNICHELLA PALUSTRIS, POLYPOGON MONSPLIENSIS, AND LOLIUM MULTIFLORUM

General: 50 JUVENILES OBSERVED ON 15 MAY 1995.

Owner/Manager: UNKNOWN

Occurrence No. 383 **Map Index:** 34037 **EO Index:** 12798

Occ Rank: Good
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1995-08-08
Site: 1995-08-08
Record Last Updated: 1996-08-05

Quad Summary: Clayton (3712188/464B)
County Summary: Contra Costa

Lat/Long: 37.98778º / -121.92515º
UTM: Zone-10 N4205004 E594386
Radius: 80 meters
Elevation: 760 ft
Mapping Precision SPECIFIC
Symbol Type: POINT
Township: 02N
Range: 01W
Section: 25 **Qtr:** SW
Meridian: M

Location: KELLER CANYON, 1.4 MILES EAST OF BAILEY ROAD, 1.3 MILES NORTH OF KIRKER PASS ROAD & 1 MILE WEST SOUTHWEST OF PITTSBURG.

Location Detail: STOCK POND, KELLER CANYON LANDFILL - "CANYON 3"

Ecological: CATTLE POND HEAVILY DEGRADED. DOMINANT PLANTS: POLYPOGON MONSPELIENSIS, RORIPPA NATUSTIUM-AQUATICUM, RANUNCULUS SCLERATUS, COTULA AUSTRALIS, ZANNICHELLA PALUSTRIS.

Threat: GRAZING AFFECTS THE POND MOSTLY AT THE END OF SUMMER. POND IS IN A PROTECTED BUFFER AREA OF LANDFILL PROPERTY

General: 6 JUVENILES WERE OBSERVED (1995). POND WASHES OUT PERIODICALLY, SO BERM NEEDS REBUILDING EVERY FEW YEARS. A SPRING WAS DAMMED TO CREATE THE POND. CALIFORNIA RED-LEGGED FROG ALSO FOUND AT SITE.

Owner/Manager: UNKNOWN

Occurrence No. 398 **Map Index:** 36117 **EO Index:** 31114

Occ Rank: Good
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1995-02-28
Site: 1995-02-28
Record Last Updated: 1997-07-15

Quad Summary: Clayton (3712188/464B)
County Summary: Contra Costa

Lat/Long: 37.97031º / -121.92292º
UTM: Zone-10 N4203068 E594604
Radius: 80 meters
Elevation: 840 ft
Mapping Precision SPECIFIC
Symbol Type: POINT
Township: 02N
Range: 01W
Section: 36 **Qtr:** SE
Meridian: M

Location: NORTH SIDE OF KIRKER PASS ROAD, 1.5 MILES SW OF THE INTERSECTION OF NORTONVILLE ROAD, BETWEEN CONCORD AND PITTSBURG.

Ecological: HABITAT CONSISTS OF A STOCK POND IN GRAZED ANNUAL GRASSLAND; OAK WOODLAND IN DRAINAGE ABOVE POND.

General: 2 ADULTS OBSERVED ON 28 FEB 1995.

Owner/Manager: PVT

Ambystoma californiense

California tiger salamander

Element Code: AAAAA01180

Status	NDDB Element Ranks	Other Lists
Federal: Threatened	**Global:** G2G3	**CDFG Status:** SC
State: Threatened	**State:** S2S3	

Habitat Associations

General: CENTRAL VALLEY DPS FEDERALLY LISTED AS THREATENED. SANTA BARBARA & SONOMA COUNTIES DPS FEDERALLY LISTED AS ENDANGERED.

Micro: NEED UNDERGROUND REFUGES, ESPECIALLY GROUND SQUIRREL BURROWS & VERNAL POOLS OR OTHER SEASONAL WATER SOURCES FOR BREEDING

Occurrence No. 487 **Map Index:** 42799 **EO Index:** 42799

Occ Rank: Good
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1999-05-25
Site: 1999-05-25
Record Last Updated: 2000-04-19

Quad Summary: Clayton (3712188/464B)
County Summary: Contra Costa

Lat/Long: 37.91693º / -121.87995º
UTM: Zone-10 N4197190 E598449
Radius: 80 meters
Elevation: 1,000 ft
Mapping Precision SPECIFIC
Symbol Type: POINT
Township: 01N
Range: 01E
Section: 20 **Qtr:** SE
Meridian: M

Location: 0.5 MILE NORTH OF MARSH CREEK ROAD, 3 MILES SE OF CLAYTON.

Ecological: HABITAT CONSISTS OF A BERMED DRAINAGE POND IN NON-NATIVE GRASSLAND; SURROUNDED BY OAK WOODLAND.

Threat: POSSIBLE THREAT FROM OVER-GRAZING.

General: POND WAS SURVEYED IN 1995 WITH NEGATIVE RESULTS. RANCHER REPORTS THAT THE POND BECAME SEASONAL AFTER THE 1997-98 RAINY SEASON. TWO LARVAE WERE SEINED FROM THE POND ON 25 MAY 1999.

Owner/Manager: PVT

Occurrence No. 575 **Map Index:** 46242 **EO Index:** 46242

Occ Rank: Fair
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 2000-03-08
Site: 2000-03-08
Record Last Updated: 2005-02-07

Quad Summary: Honker Bay (3812118/481C)
County Summary: Contra Costa

Lat/Long: 38.00475º / -121.95601º
UTM: Zone-10 N4206856 E591654
Area:
Elevation: 600 ft
Mapping Precision NON-SPECIFIC
Symbol Type: POLYGON
Township: 02N
Range: 01W
Section: 22 **Qtr:** SE
Meridian: M

Location: 1.3 MILES SW OFTHE INTERSECTION OF BAILEY ROAD AND INDUSTRIAL HIGHWAY, SW OF WEST PITTSBURGH

Ecological: HABITAT CONSISTS OF HILLY, NON-NATIVE GRASSLAND, UPSLOPE OF AN OLD STOCK POND (BERM OF STOCK POND WASHED OUT SOME TIME AGO); LIKELY HISTORIC BREEDING HABITAT.

Threat: THREATENED BY PROPOSED DEVELOPMENT.

General: 2 ADULTS (14CM TL) FOUND UNDER A BOARD ON 8 MAR 2000.

Owner/Manager: PVT

Occurrence No. 700 **Map Index:** 48752 **EO Index:** 48752

Occ Rank: Good
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 2000-03-19
Site: 2000-03-19
Record Last Updated: 2002-09-09

Quad Summary: Clayton (3712188/464B)
County Summary: Contra Costa

Lat/Long: 37.99274º / -121.91402º
UTM: Zone-10 N4205566 E595357
Radius: 80 meters
Elevation: 380 ft
Mapping Precision SPECIFIC
Symbol Type: POINT
Township: 02N
Range: 01E
Section: 30 **Qtr:** NW
Meridian: M

Location: 1.1 MILES NW OF THE INTERSECTION OF KAISER PASS ROAD AND NORTONVILLE ROAD, KELLER CANYON LANDFILL, SW OF PITTSBURG

Ecological: HABITAT CONSISTS OF A STOCK POND IN A HILLY AREA COVERED BY GRASSLANDS, SCATTERED OAKS, AND CHAPARRAL. SURROUNDED BY GRAZING LANDS.

Threat: THREATENED BY LANDFILL EXPANSION, SLUMPING/EROSION DIE TO FLOODING, AND EARTHQUAKES.

General: 2 LARVAE COLLECTED (MRJ #1499) ON 19 MAR 2000 AND DEPOSITED AT CAS.

Owner/Manager: PVT-KELLER CYN LANDFILL

Ambystoma californiense

California tiger salamander

Element Code: AAAAA01180

Status	NDDB Element Ranks	Other Lists
Federal: Threatened	**Global:** G2G3	**CDFG Status:** SC
State: Threatened	**State:** S2S3	

Habitat Associations

General: CENTRAL VALLEY DPS FEDERALLY LISTED AS THREATENED. SANTA BARBARA & SONOMA COUNTIES DPS FEDERALLY LISTED AS ENDANGERED.

Micro: NEED UNDERGROUND REFUGES, ESPECIALLY GROUND SQUIRREL BURROWS & VERNAL POOLS OR OTHER SEASONAL WATER SOURCES FOR BREEDING

Occurrence No. 701 **Map Index:** 48758 **EO Index:** 48758

Occ Rank: Good
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 2000-03-19
Site: 2000-03-19
Record Last Updated: 2002-09-10

Quad Summary: Clayton (3712188/464B)
County Summary: Contra Costa

Lat/Long: 37.97761º / -121.93469º
UTM: Zone-10 N4203866 E593560
Radius: 80 meters
Elevation: 1,075 ft
Mapping Precision SPECIFIC
Symbol Type: POINT
Township: 02N
Range: 01W
Section: 35 **Qtr:** NE
Meridian: M

Location: 0.25 MILE SOUTH OF MULLIGAN HILL, 2 MILES SW OF PITTSBURG

Location Detail: SITE IS LOCATED WITHIN KELLER CANYON LANDFILL.

Ecological: HABITAT CONSISTS OF A STOCK POND IN A GRAZED HILLY AREA COVERED WITH SCATTERED OAKS, GRASSLANDS, AND CHAPARRAL.

Threat: THREATENED BY LANDFILL EXPANSION, SLUMPING/EROSION DUE TO FLOODING, AND EARTHQUAKES.

General: 2 JUVENILES COLLECTED (MRJ #1500) ON 19 MAR 2000 AND DEPOSITED AT CAS.

Owner/Manager: PVT

Occurrence No. 702 **Map Index:** 48759 **EO Index:** 48759

Occ Rank: Good
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 2000-03-19
Site: 2000-03-19
Record Last Updated: 2002-09-10

Quad Summary: Clayton (3712188/464B)
County Summary: Contra Costa

Lat/Long: 37.98659º / -121.94970º
UTM: Zone-10 N4204847 E592231
Radius: 80 meters
Elevation: 755 ft
Mapping Precision SPECIFIC
Symbol Type: POINT
Township: 02N
Range: 01W
Section: 26 **Qtr:** SW
Meridian: M

Location: 0.8 MILE NW OF MULLIGAN HILL, 2.5 MILES SW OF PITTSBURG

Location Detail: SITE IS LOCATED WITHIN KELLER CANYON LANDFILL.

Ecological: HABITAT CONSISTS OF A STOCK POND IN A GRAZED HILLY AREA COVERED WITH SCATTERED OAKS, GRASSLANDS, AND CHAPARRAL.

Threat: THREATENED BY LANDFILL EXPANSION, SLUMPING/EROSION DUE TO FLOODING, AND EARTHQUAKES.

General: 2 LARVAE COLLECTED (MRJ #1503) ON 19 MAR 2000 AND DEPOSITED AT CAS.

Owner/Manager: PVT

Occurrence No. 703 **Map Index:** 48760 **EO Index:** 48760

Occ Rank: Good
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 2000-03-19
Site: 2000-03-19
Record Last Updated: 2002-09-10

Quad Summary: Clayton (3712188/464B)
County Summary: Contra Costa

Lat/Long: 37.98368º / -121.94140º
UTM: Zone-10 N4204533 E592964
Radius: 80 meters
Elevation: 1,140 ft
Mapping Precision SPECIFIC
Symbol Type: POINT
Township: 02N
Range: 01W
Section: 26 **Qtr:** SE
Meridian: M

Location: 0.3 MILE NW OF MULLIGAN HILL, 2.2 MILES SW OF PITTSBURG

Location Detail: SITE IS LOCATED WITHIN KELLER CANYON LANDFILL.

Ecological: HABITAT CONSISTS OF A STOCK POND IN A GRAZED HILLY AREA COVERED WITH SCATTERED OAKS, GRASSLANDS, AND CHAPARRAL.

Threat: THREATENED BY LANDFILL EXPANSION, SLUMPING/EROSION DUE TO FLOODING, AND EARTHQUAKES.

General: 1 LARVA COLLECTED (MRJ #1502) ON 19 MAR 2000 AND DEPOSITED AT CAS.

Owner/Manager: PVT

Ambystoma californiense

California tiger salamander

Element Code: AAAAA01180

Status	NDDB Element Ranks	Other Lists
Federal: Threatened	**Global:** G2G3	**CDFG Status:** SC
State: Threatened	**State:** S2S3	

Habitat Associations

General: CENTRAL VALLEY DPS FEDERALLY LISTED AS THREATENED. SANTA BARBARA & SONOMA COUNTIES DPS FEDERALLY LISTED AS ENDANGERED.

Micro: NEED UNDERGROUND REFUGES, ESPECIALLY GROUND SQUIRREL BURROWS & VERNAL POOLS OR OTHER SEASONAL WATER SOURCES FOR BREEDING

Occurrence No. 704 **Map Index:** 48762 **EO Index:** 48762

Occ Rank: Good
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 2000-03-19
Site: 2000-03-19
Record Last Updated: 2002-09-10

Quad Summary: Clayton (3712188/464B)
County Summary: Contra Costa

Lat/Long: 37.97752º / -121.92829º
UTM: Zone-10 N4203862 E594123
Radius: 80 meters
Elevation: 900 ft
Mapping Precision SPECIFIC
Symbol Type: POINT
Township: 02N
Range: 01W
Section: 36
Qtr: NW
Meridian: M

Location: 0.5 MILE SE OF MULLIGAN HILL, 1.75 MILES SW OF PITTSBURG

Location Detail: SITE IS LOCATED WITHIN KELLER CANYON LANDFILL.

Ecological: HABITAT CONSISTS OF A STOCK POND IN A GRAZED HILLY AREA COVERED WITH SCATTERED OAKS, GRASSLANDS, AND CHAPARRAL.

Threat: THREATENED BY LANDFILL EXPANSION, SLUMPING/EROSION DIE TO FLOODING, AND EARTHQUAKES.

General: 1 JUVENILE COLLECTED (MRJ #1501) ON 19 MAR 2000 AND DEPOSED IN CAS.

Owner/Manager: PVT

Occurrence No. 756 **Map Index:** 53771 **EO Index:** 53776

Occ Rank: Good
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 2003-11-09
Site: 2003-11-09
Record Last Updated: 2005-10-26

Quad Summary: Honker Bay (3812118/481C)
County Summary: Contra Costa

Lat/Long: 38.00380º / -121.97411º
UTM: Zone-10 N4206733 E590066
Radius: 80 meters
Elevation: 590 ft
Mapping Precision SPECIFIC
Symbol Type: POINT
Township: 02N
Range: 01W
Section: 21
Qtr: SE
Meridian: M

Location: 2 MILES SW OF WEST PITTSBURG

Ecological: HABITAT CONSISTS GRAZED NON-NATIVE GRASSLAND AND 2 MITIGATION WETLANDS. WETLANDS SUPPORT TYPHA, SCIRPUS AND SALIX. PONDS ARE FENCED TO EXCLUDE CATTLE. POSSIBLE INTERRUPTION OF WELL WATER TO PONDS MAY IMPACT DURATION OF PONDING.

General: 1 ADULT FEMALE (SVL = 95MM, TL = 178MM) TRAPPED IN DRIFT FENCE/PIT FALL TRAP 15 METERS FROM POTENTIAL BREEDING POND ON 9 NOV 2003. CURRENT SURROUNDING LAND USE: GRAZING.

Owner/Manager: PVT

Occurrence No. 944 **Map Index:** 68261 **EO Index:** 68416

Occ Rank: Good
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 2006-04-12
Site: 2006-04-12
Record Last Updated: 2007-02-27

Quad Summary: Clayton (3712188/464B)
County Summary: Contra Costa

Lat/Long: 37.98666º / -121.96881º
UTM: Zone-10 N4204837 E590552
Radius: 1/10 mile
Elevation: 230 ft
Mapping Precision NON-SPECIFIC
Symbol Type: POINT
Township: 02N
Range: 01W
Section: 27
Qtr: SW
Meridian: M

Location: CONCORD NAVAL WEAPONS STATION, ABOUT 1 MILE NORTH OF INTERSECTION IOF BAILEY RD AND MYRTLE DR.

Location Detail: POND IS ALSO REFERRED TO AS "ROCK QUARRY POND" AND POND 112.

Ecological: RAIN POND SURROUNDED BY GRASSLAND WITH HEAVY GRAZING.

Threat: COMMERCIAL/RESIDENTIAL DEVELOPMENT BECAUSE US NAVY IS DISPOSING OF INLAND AREA AT CONCORD.

General: DATE OF OBSERVATION UNKNOWN; INFORMATION WAS RECEIVED IN 1992. LARVAE OBSERVED FROM DIP-NET SAMPLING ON 3 DAYS; AVG LARVAE # PER SWEEP FOR 4 APR 2005 IS 0.74 (TOTAL 7 LARVAE & 7 METAMORPHS OBS), FOR 5 MAY 2005 IS 2, AND 12 APR 2006 IS 0.77.

Owner/Manager: DOD-CONCORD NWS

Ambystoma californiense

California tiger salamander

Element Code: AAAAA01180

Status	NDDB Element Ranks	Other Lists
Federal: Threatened	**Global:** G2G3	**CDFG Status:** SC
State: Threatened	**State:** S2S3	

Habitat Associations

General: CENTRAL VALLEY DPS FEDERALLY LISTED AS THREATENED. SANTA BARBARA & SONOMA COUNTIES DPS FEDERALLY LISTED AS ENDANGERED.

Micro: NEED UNDERGROUND REFUGES, ESPECIALLY GROUND SQUIRREL BURROWS & VERNAL POOLS OR OTHER SEASONAL WATER SOURCES FOR BREEDING

Occurrence No. 945 **Map Index:** 76391 **EO Index:** 68417

Occ Rank: Good
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 198X-XX-XX
Site: 2005-05-05
Record Last Updated: 2009-10-28

Quad Summary: Clayton (3712188/464B)
County Summary: Contra Costa

Lat/Long: 37.98510º / -121.96110º
UTM: Zone-10 N4204671 E591231
Radius: 80 meters
Elevation: 350 ft
Mapping Precision SPECIFIC
Symbol Type: POINT
Township: 02N
Range: 01W
Section: 27 **Qtr:** SW
Meridian: M

Location: CONCORD NAVAL WEAPONS STATION, ABOUT 1MI NNE OF INTERSECTION OF BAILEY RD AND MYRTLE DR.

Location Detail: POND REFERRED TO AS POND 109 AND UPPER CISTERN POND.

Threat: COMMERCIAL/RESIDENTIAL DEVELOPMENT BECAUSE US NAVY IS DISPOSING OF INLAND AREA AT CONCORD.

General: DATE OF ORIGINAL OBSERVATION UNKNOWN; SOURCE MAP WAS MADE IN 1988. NO CTS WERE FOUND IN 21 DIP-NET SWEEPS ON 31 MAR 2005 OR IN 20 SWEEPS ON 5 MAY 2005.

Owner/Manager: DOD-CONCORD NWS

Occurrence No. 946 **Map Index:** 68263 **EO Index:** 68418

Occ Rank: Good
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 2005-04-11
Site: 2005-04-11
Record Last Updated: 2007-02-27

Quad Summary: Clayton (3712188/464B)
County Summary: Contra Costa

Lat/Long: 37.99188º / -121.97108º
UTM: Zone-10 N4205413 E590347
Radius: 1/10 mile
Elevation: 345 ft
Mapping Precision NON-SPECIFIC
Symbol Type: POINT
Township: 02N
Range: 01W
Section: 28 **Qtr:** NE
Meridian: M

Location: CONCORD NAVAL WEAPONS STATION, ABOUT 1.3MI NNW OF INTERSECTION OF BAILEY RD AND MYRTLE RD.

Location Detail: POND IS REFERRED TO AS "UPPER INDIAN SPRINGS POND" AND POND 116.

Ecological: STOCK POND SURROUNDED BY HEAVILY GRAZED GRASSLAND.

Threat: COMMERCIAL/RESIDENTIAL DEVELOPMENT BECAUSE US NAVY IS DISPOSING OF INLAND AREA AT CONCORD.

General: LARVAE OBSERVED FROM DIP-NET SAMPLING; AVERAGE LARVAE # PER SWEEP IS 0.36 (6 LARVAE AND 2 METAMORPHS OBSERVED) ON 11 APR 2005.

Owner/Manager: DOD-CONCORD NWS

Occurrence No. 947 **Map Index:** 68264 **EO Index:** 68419

Occ Rank: Good
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 2006-03-23
Site: 2006-04-12
Record Last Updated: 2007-02-27

Quad Summary: Clayton (3712188/464B)
County Summary: Contra Costa

Lat/Long: 37.98405º / -121.97977º
UTM: Zone-10 N4204536 E589593
Radius: 80 meters
Elevation: 167 ft
Mapping Precision SPECIFIC
Symbol Type: POINT
Township: 02N
Range: 01W
Section: 28 **Qtr:** XX
Meridian: M

Location: CONCORD NAVAL WEAPONS STATION, 1MI NW OF INTERSECTION OF BAILEY RD AND MYRTLE DR.

Location Detail: SITE REFERRED TO AS "BUNKER CITY BY 6PC32" OR POND 136.

Ecological: CHANNEL SURROUNDED BY GRASSLAND WITH HEAVY GRAZING.

Threat: COMMERCIAL/RESIDENTIAL DEVELOPMENT BECAUSE US NAVY IS DISPOSING OF INLAND AREA AT CONCORD.

General: LARVAE OBSERVED FROM DIP-NET SAMPLING; AVERAGE LARVAE # PER SWEEP FOR 23 MAR 2006 IS 0.05, (1 LARVAE IN 21 SWEEPS) AND NONE WERE FOUND DURING DIPNETTING ON 12 APR 2006.

Owner/Manager: DOD-CONCORD NWS

Ambystoma californiense

California tiger salamander

Element Code: AAAAA01180

Status	NDDB Element Ranks	Other Lists
Federal: Threatened	**Global:** G2G3	**CDFG Status:** SC
State: Threatened	**State:** S2S3	

Habitat Associations

General: CENTRAL VALLEY DPS FEDERALLY LISTED AS THREATENED. SANTA BARBARA & SONOMA COUNTIES DPS FEDERALLY LISTED AS ENDANGERED.

Micro: NEED UNDERGROUND REFUGES, ESPECIALLY GROUND SQUIRREL BURROWS & VERNAL POOLS OR OTHER SEASONAL WATER SOURCES FOR BREEDING

Occurrence No. 948 **Map Index:** 68265 **EO Index:** 68420

Occ Rank: Good
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 2005-03-30
Site: 2005-03-30
Record Last Updated: 2007-02-27

Quad Summary: Clayton (3712188/464B)
County Summary: Contra Costa

Lat/Long: 37.97375º / -121.96867º
UTM: Zone-10 N4203404 E590581
Radius: 80 meters
Elevation: 206 ft
Mapping Precision SPECIFIC
Symbol Type: POINT
Township: 02N
Range: 01W
Section: 34 **Qtr:** SW
Meridian: M

Location: CONCORD NAVAL WEAPONS STATION, AT INTERSECTION OF BAILEY RD AND MYRTLE DR.

Location Detail: POND IS LOCATED AGAINST RAILROAD BERM AND IS REFERRED TO AS POND 105.

Ecological: RAIN POND SURROUNDED BY GRASSLAND WITH HEAVY GRAZING.

Threat: COMMERCIAL/RESIDENTIAL DEVELOPMENT BECAUSE US NAVY IS DISPOSING OF INLAND AREA AT CONCORD.

General: LARVAE OBSERVED DURING DIP-NET SAMPLING; AVERAGE LARVAE # PER SWEEP IS 0.05 (19 SWEEPS AND 1 JUVENILE OBSERVED), 30 MAR 2005.

Owner/Manager: DOD-CONCORD NWS

Occurrence No. 949 **Map Index:** 68266 **EO Index:** 68421

Occ Rank: Good
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 2005-05-05
Site: 2005-05-05
Record Last Updated: 2007-02-27

Quad Summary: Clayton (3712188/464B)
County Summary: Contra Costa

Lat/Long: 37.96826º / -121.94226º
UTM: Zone-10 N4202821 E592907
Radius: 80 meters
Elevation: 502 ft
Mapping Precision SPECIFIC
Symbol Type: POINT
Township: 01N
Range: 01W
Section: 02 **Qtr:** XX
Meridian: M

Location: CONCORD NAVAL WEAPONS STATION, ABOUT 1.4MI ESE OF INTERSECTION OF BAILEY RD AND MYRTLE DR.

Location Detail: SITE REFERRED TO AS "5AT-2" AND POND 101.

Ecological: STOCK POND SURROUNDED BY HEAVILY GRAZED GRASSLAND.

Threat: COMMERCIAL/RESIDENTIAL DEVELOPMENT BECAUSE US NAVY IS DISPOSING OF INLAND AREA AT CONCORD.

General: LARVAE OBSERVED DURING DIPNET SAMPLING; AVERAGE LARVAE # PER SWEEP IS 0.43 FOR 18 APR AND 0.38 FOR 5 MAY 2005. 4 METAMORPHS AND 5 LARVAE OBSERVED ON 18 APR 2005.

Owner/Manager: DOD-CONCORD NWS

Occurrence No. 950 **Map Index:** 68267 **EO Index:** 68422

Occ Rank: Good
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 2005-03-31
Site: 2005-03-31
Record Last Updated: 2007-02-27

Quad Summary: Clayton (3712188/464B)
County Summary: Contra Costa

Lat/Long: 37.97043º / -121.94756º
UTM: Zone-10 N4203057 E592439
Area:
Elevation: 146 ft
Mapping Precision NON-SPECIFIC
Symbol Type: POLYGON
Township: 02N
Range: 01W
Section: 35 **Qtr:** SW
Meridian: M

Location: CONCORD NAVAL WEAPONS STATION, ABOUT 1.1MI ESE OF INTERSECTION OF BAILEY RD AND MYRTLE DR.

Location Detail: PONDS ARE REFERRED TO AS "5ATX59/POND 132" AND "5ATX60/POND133."

Ecological: RAIN PONDS SURROUNDED BY GRASSLAND WITH HEAVY GRAZING.

Threat: COMMERCIAL/RESIDENTIAL DEVELOPMENT BECAUSE US NAVY IS DISPOSING OF INLAND AREA AT CONCORD.

General: LARVAE OBSERVED DURING DIPNET SAMPLING; AVERAGE LARVAE # PER SWEEP IS 0.67 (6 LARVAE) FOR POND 132 AND 1.5 (12 LARVAE) FOR POND 133.

Owner/Manager: DOD-CONCORD NWS

Ambystoma californiense

California tiger salamander

Element Code: AAAAA01180

Status	NDDB Element Ranks	Other Lists
Federal: Threatened	**Global:** G2G3	**CDFG Status:** SC
State: Threatened	**State:** S2S3	

Habitat Associations

General: CENTRAL VALLEY DPS FEDERALLY LISTED AS THREATENED. SANTA BARBARA & SONOMA COUNTIES DPS FEDERALLY LISTED AS ENDANGERED.

Micro: NEED UNDERGROUND REFUGES, ESPECIALLY GROUND SQUIRREL BURROWS & VERNAL POOLS OR OTHER SEASONAL WATER SOURCES FOR BREEDING

Amsinckia grandiflora

large-flowered fiddleneck

Element Code: PDBOR01050

Status	NDDB Element Ranks	Other Lists
Federal: Endangered	**Global:** G1	**CNPS List:** 1B.1
State: Endangered	**State:** S1	

Habitat Associations

General: CISMONTANE WOODLAND, VALLEY AND FOOTHILL GRASSLAND.

Micro: ANNUAL GRASSLAND IN VARIOUS SOILS. 275-550M.

Occurrence No. 9 **Map Index:** 25569 **EO Index:** 9688

Occ Rank: Unknown
Origin: Introduced Back into Native Hab./Range
Presence: Presumed Extant
Trend: Fluctuating

Dates Last Seen
Element: 1996-04-23
Site: 1997-XX-XX
Record Last Updated: 2003-04-16

Quad Summary: Antioch South (3712187/464A), Clayton (3712188/464B)
County Summary: Contra Costa

Lat/Long: 37.96506º / -121.87864º
UTM: Zone-10 N4202531 E598500
Radius: 1/5 mile
Elevation: 750 ft
Mapping Precision NON-SPECIFIC
Symbol Type: POINT
Township: 01S
Range: 01E
Section: 04 **Qtr:** NW
Meridian: M

Location: LOUGHER RIDGE, BLACK DIAMOND MINES REGIONAL PRESERVE.

Location Detail: MAPPED 800 METERS (0.5 MI) DUE NORTH OF NORTONVILLE SITE. ONLY LAT/LONG GIVEN FOR NORTONVILLE SITE: 3757'35", 12151'48".

Ecological: ANNUAL GRASSLAND. ASSOCIATED WITH NON-NATIVE GRASSES, NASSELLA PULCHRA, NATIVE FORBS INCLUDING CHLOROGALUM POMERIDANUM.

Threat: COMPETITION FROM NON-NATIVE GRASSES.

General: POPULATION WAS INTRODUCED INTO HISTORIC HABITAT/RANGE BY PAVLIK IN 1989. 1101 PLANTS IN 1990, 1301 IN `91, 1640 IN `92, 682 IN `93, 1106 IN `94, 442 IN `95, 30 IN '96. FIRE IN 1997, EFFECT UNKNOWN.

Owner/Manager: EBRPD, PVT

Anomobryum julaceum

slender silver moss

Element Code: NBMUS80010

Status
Federal: None
State: None

NDDB Element Ranks
Global: G4G5
State: S2

Other Lists
CNPS List: 2.2

Habitat Associations
General: BROADLEAFED UPLAND FOREST, LOWER MONTANE CONIFEROUS FOREST, NORTH COAST CONIFEROUS FOREST.
Micro: MOSS WHICH GROWS ON DAMP ROCKS AND SOIL; ACIDIC SUBSTRATES. USUALLY SEEN ON ROADCUTS. 100-1000M.

Occurrence No. 7 **Map Index:** 65028 **EO Index:** 65107

Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: XXXX-XX-XX
Site: XXXX-XX-XX

Record Last Updated: 2006-07-06

Quad Summary: Tassajara (3712177/464D), Antioch South (3712187/464A), Las Trampas Ridge (3712271/465D), Clayton (3712188/464B), Walnut Creek (3712281/465A), Diablo (3712178/464C)

County Summary: Contra Costa

Lat/Long: 37.88199º / -121.91422º
UTM: Zone-10 N4193277 E595482
Radius: 5 mile
Elevation:

Mapping PrecisionNON-SPECIFIC
Symbol Type:POINT

Township: 01N
Range: 01W
Section: 36
Qtr: XX
Meridian: M

Location: MOUNT DIABLO STATE PARK.

Location Detail: EXACT LOCATION UNKNOWN. MAPPED BY CNDDB TO ENCOMPASS THE ENTIRE PARK.

General: ONLY SOURCE OF INFORMATION FOR THIS OCCURRENCE IS A COLLECTION BY NORRIS. NEEDS FIELDWORK.

Owner/Manager: DPR-MOUNT DIABLO SP

Antrozous pallidus

pallid bat

Element Code: AMACC10010

Status
Federal: None
State: None

NDDB Element Ranks
Global: G5
State: S3

Other Lists
CDFG Status: SC

Habitat Associations
General: DESERTS, GRASSLANDS, SHRUBLANDS, WOODLANDS & FORESTS. MOST COMMON IN OPEN, DRY HABITATS WITH ROCKY AREAS FOR ROOSTING.
Micro: ROOSTS MUST PROTECT BATS FROM HIGH TEMPERATURES. VERY SENSITIVE TO DISTURBANCE OF ROOSTING SITES.

Occurrence No. 136 **Map Index:** 66481 **EO Index:** 66593

Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1942-01-01
Site: 1942-01-01
Record Last Updated: 2006-09-29

Quad Summary: Clayton (3712188/464B)
County Summary: Contra Costa

Lat/Long: 37.97749º / -121.98813º
UTM: Zone-10 N4203800 E588867
Radius: 1/10 mile
Elevation: 170 ft

Mapping Precision NON-SPECIFIC
Symbol Type: POINT

Township: 02N
Range: 01W
Section: 32 **Qtr:** NE
Meridian: M

Location: CONCORD HIGH SCHOOL.
Location Detail: MAPPED ACCORDING TO LAT/LONG COORDINATES PROVIDED BY MANIS, WITH UNCERTAINTY OF 112.65408M.
General: 1 MALE SPECIMEN COLLECTED BY WALTER W. DALQUEST AND F. MEYER ON 1 JAN 1942, MVZ #97534.
Owner/Manager: UNKNOWN

Occurrence No. 143 **Map Index:** 66487 **EO Index:** 66600

Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1917-04-15
Site: 1917-04-15
Record Last Updated: 2006-10-23

Quad Summary: Clayton (3712188/464B), Diablo (3712178/464C)
County Summary: Contra Costa

Lat/Long: 37.87387º / -121.97409º
UTM: Zone-10 N4192317 E590227
Area:
Elevation:

Mapping Precision NON-SPECIFIC
Symbol Type: POLYGON

Township: 01S
Range: 01W
Section: 04 **Qtr:** XX
Meridian: M

Location: PINE CANYON, NEAR MT. DIABLO.
Location Detail: MAPPED ALONG PINE CANYON VERY GENERALLY; NEEDS FIELDWORK.
General: 1 MALE SPECIMEN COLLECTED 15 APR 1917, CAS #2708.
Owner/Manager: UNKNOWN

Aquila chrysaetos

golden eagle

Element Code: ABNKC22010

Status	NDDB Element Ranks	Other Lists
Federal: None	**Global:** G5	**CDFG Status:**
State: None	**State:** S3	

Habitat Associations

General: ROLLING FOOTHILLS, MOUNTAIN AREAS, SAGE-JUNIPER FLATS, & DESERT.

Micro: CLIFF-WALLED CANYONS PROVIDE NESTING HABITAT IN MOST PARTS OF RANGE; ALSO, LARGE TREES IN OPEN AREAS.

Occurrence No. 136 **Map Index:** 73785 **EO Index:** 74758

Occ Rank: Excellent
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 2008-12-20
Site: 2008-12-20

Record Last Updated: 2009-03-04

Quad Summary: Clayton (3712188/464B)
County Summary: Contra Costa

Lat/Long: 37.99279º / -121.98308º
UTM: Zone-10 N4205503 E589292
Radius: 1/10 mile
Elevation: 155 ft

Mapping Precision NON-SPECIFIC
Symbol Type: POINT

Township: 02N
Range: 01W
Section: 28 **Qtr:** NW
Meridian: M

Location: 1.60 MI NNW OF INTERSECTION OF BAILEY ROAD & MYRTLE DRIVE, CONCORD NAVAL WEAPONS STATION.

Location Detail: MAPPED TO COORDINATES GIVEN. GOEA HAVE CONSISTENTLY BEEN OBS AT THE SITE DURING AUDUBON CHRISTMAS BIRD COUNTS.

Ecological: GRASSLAND.

Threat: INACTIVE NAVEL STATION NOW MOSTLY OPEN SPACE. SITE IS BEING PROPOSED FOR DEVELOPMENT UNDER CONCORD COMMUNITY REUSE PLAN.

General: WINTERING AND FORAGING AREA. 1 INDIVIDUAL OBS SOARING OVERHEAD IN THE VICINITY OF KINNE BLVD & O ST. 2 INDIVIDUALS OBS SOARING OVERHEAD IN THE VICINITY OF "BUNKER CITY".

Owner/Manager: DOD-CONCORD NWS

Arctostaphylos auriculata

Mt. Diablo manzanita

Element Code: PDERI04040

Status
Federal: None
State: None

NDDB Element Ranks
Global: G2
State: S2.2

Other Lists
CNPS List: 1B.3

Habitat Associations
General: CHAPARRAL.
Micro: IN CANYONS AND ON SLOPES. ON SANDSTONE. 120-500M.

Occurrence No. 6 **Map Index:** 09886 **EO Index:** 20269
Occ Rank: Fair
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1998-01-17
Site: 1998-01-17
Record Last Updated: 2005-09-01

Quad Summary: Clayton (3712188/464B)
County Summary: Contra Costa

Lat/Long: 37.93164º / -121.98679º
UTM: Zone-10 N4198714 E589040
Area: 27.1 acres
Elevation: 800 ft
Mapping Precision SPECIFIC
Symbol Type: POLYGON
Township: 01N
Range: 01W
Section: 16 **Qtr:** XX
Meridian: M

Location: LIME RIDGE, ALONG EAST END OF WALNUT CREEK CITY LIMITS, NORTHWEST OF MOUNT DIABLO.

Location Detail: NUMEROUS COLONIES MAPPED ON THE WEST-FACING SLOPE OF RIDGE.

Ecological: GROWING IN CHAPARRAL WITH ADENOSTOMA FASCICULATUM, SALVIA MELLIFERA, HETEROMELES ARBUTIFOLIA, CEANOTHUS CUNEATUS, AESCULUS CALIFORNICA, QUERCUS AGRIFOLIA, ERIODICTYON CALIFORNICUM, RHUS TRILOBATA, ET AL.

Threat: GRAZING, VANDAL FIRES, OFF-TRAIL BIKE USE, DUMPING, TRANSMISSION LINE R-O-W.

General: 850+ PLANTS REPORTED IN 1989. VICINITY KNOWN HISTORICALLY FROM COLLECTIONS BY BOWERMAN AND MCHENRY.

Owner/Manager: CITY OF WALNUT CREEK, EBRPD

Occurrence No. 7 **Map Index:** 10275 **EO Index:** 20267
Occ Rank: Fair
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1991-05-05
Site: 1991-05-05
Record Last Updated: 2005-09-07

Quad Summary: Clayton (3712188/464B)
County Summary: Contra Costa

Lat/Long: 37.94809º / -121.89433º
UTM: Zone-10 N4200632 E597144
Area: 1.7 acres
Elevation: 1,560 ft
Mapping Precision SPECIFIC
Symbol Type: POLYGON
Township: 01N
Range: 01E
Section: 08 **Qtr:** NW
Meridian: M

Location: ABOUT 1 MILE SE OF NORTONVILLE (SITE), NEAR TRANSMISSION LINES 0.5 MILE SOUTH OF NORTONVILLE RD, NORTH OF MT DIABLO.

Location Detail: TWO COLONIES; AT INTERSECTION OF BLACK DIAMOND WAY AND TRAIL, AND ABOVE ON KNOB WITH TRANSMISSION TOWER. MAPPED WITHIN THE SW 1/4 NW 1/4 SECTION 8.

Ecological: CHAPARRAL WITH ADENOSTOMA FASCICULATUM, SALVIA MELLIFERA, HETEROMELES ARBUTIFOLIA, QUERCUS AGRIFOLIA, AND ZIGADENUS FREMONTII. S-FACING SANDSTONE WITH 10-30% SLOPE.

General: 41 PLANTS IN TWO COLONIES REPORTED IN 1991. PLANTS FROM "AROUND JIM'S PLACE" REPORTED BY J. DEAN IN 1981 ARE ATTRIBUTED TO THIS SITE. INCLUDES FORMER OCCURRENCE #11.

Owner/Manager: EBRPD-BLACK DIAMOND MINES RP

Occurrence No. 8 **Map Index:** 37109 **EO Index:** 262
Occ Rank: Fair
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1991-05-05
Site: 1991-05-05
Record Last Updated: 1999-09-30

Quad Summary: Clayton (3712188/464B)
County Summary: Contra Costa

Lat/Long: 37.95270º / -121.88767º
UTM: Zone-10 N4201150 E597723
Area: 6.9 acres
Elevation: 1,300 ft
Mapping Precision SPECIFIC
Symbol Type: POLYGON
Township: 01N
Range: 01E
Section: 08 **Qtr:** N
Meridian: M

Location: ALONG UPPER KIRKER CREEK CANYON, ABOUT 0.5 MILE SOUTHWEST OF NORTONVILLE (SITE), NORTH OF MOUNT DIABLO.

Location Detail: SEVERAL COLONIES MAPPED NEAR THE CENTER OF THE N 1/4 SECTION 8.

Ecological: COAST LIVE OAK WOODLAND AND CHAMISE CHAPARRAL WITH ARCTOSTAPHYLOS MANZANITA, HETEROMELES ARBUTIFOLIA, MIMULUS AURANTIACUS, ANNUAL GRASSES, ET AL.

Threat: TRAIL MAINTENANCE AND USE, FIRE SUPPRESSION, GRAZING.

General: 29 PLANTS IN 2 COLONIES IN 1990; 27 PLANTS IN 2 NEW COLONIES IN 1991. HISTORIC COLLECTION BY LEE (#1713 RSA) FROM "SOUTH OF NORTONVILLE" IS ATTRIBUTED TO THIS SITE.

Arctostaphylos auriculata

Mt. Diablo manzanita

Element Code: PDERI04040

Status
Federal: None
State: None

NDDB Element Ranks
Global: G2
State: S2.2

Other Lists
CNPS List: 1B.3

Habitat Associations
General: CHAPARRAL.
Micro: IN CANYONS AND ON SLOPES. ON SANDSTONE. 120-500M.

Owner/Manager: EBRPD

Occurrence No. 9 **Map Index:** 10373 **EO Index:** 20268

Occ Rank: Good
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1995-03-04
Site: 1995-03-04
Record Last Updated: 2005-09-01

Quad Summary: Antioch South (3712187/464A), Clayton (3712188/464B)
County Summary: Contra Costa

Lat/Long: 37.95176º / -121.86494º
UTM: Zone-10 N4201070 E599722
Area: 100.3 acres
Elevation: 1,100 ft
Mapping PrecisionSPECIFIC
Symbol Type:POLYGON
Township: 01N
Range: 01E
Section: 09 **Qtr:** N
Meridian: M

Location: ALONG RIDGE JUST SOUTH OF SOMERSVILLE AT HEAD OF MARKLEY CANYON, NNE OF MOUNT DIABLO.

Location Detail: MAPPED ALONG THE RIDGETOP AND N-FACING SLOPES; MOSTLY WITHIN THE N 1/2 OF SECTION 9.

Ecological: CHAPARRAL WITH ARCTOSTAPHYLOS SPP, ADENOSTOMA FASCICULATUM, PINUS COULTERI, P. SABINIANA, QUERCUS SPP, ERIODICTYON CALIFORNICUM, ERIOGONUM LATIFOLIUM, ET AL.

Threat: FIRE (TOO FREQUENT / INFREQUENT), TRAIL MAINTENANCE, OFF-TRAIL USE.

General: TENS OF THOUSANDS OF PLANTS REPORTED IN 1989 AND 1991.

Owner/Manager: EBRPD-BLACK DIAMOND MINES RP

Occurrence No. 20 **Map Index:** 62470 **EO Index:** 62507

Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1998-XX-XX
Site: 1998-XX-XX
Record Last Updated: 2005-09-01

Quad Summary: Antioch South (3712187/464A), Clayton (3712188/464B)
County Summary: Contra Costa

Lat/Long: 37.91510º / -121.87327º
UTM: Zone-10 N4196994 E599038
Radius: 3/5 mile
Elevation:
Mapping PrecisionNON-SPECIFIC
Symbol Type:POINT
Township: 01N
Range: 01E
Section: 21 **Qtr:** XX
Meridian: M

Location: CLAYTON RANCH. NORTH OF MARSH CREEK ROAD.

Location Detail: EXACT LOCATION UNKNOWN. MAPPED BY CNDDB AS BEST GUESS.

General: SITE DESCRIBED AS BOTH "JUST E OF CHAPARRAL SPRINGS" AND "JUST S OF CHAPARRAL SPRINGS." SEEN IN 1998 BY BRAD OLSEN. ADDITIONAL INFORMATION OR ADDITIONAL FIELDWORK NEEDED.

Owner/Manager: EBRPD

Arctostaphylos manzanita ssp. laevigata

Contra Costa manzanita

Element Code: PDERI04273

Status
Federal: None
State: None

NDDB Element Ranks
Global: G5T2
State: S2

Other Lists
CNPS List: 1B.2

Habitat Associations
General: CHAPARRAL.
Micro: ROCKY SLOPES. 500-1100M.

Occurrence No. 7 **Map Index:** 42176 **EO Index:** 42176

Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: XXXX-XX-XX
Site: XXXX-XX-XX
Record Last Updated: 2000-01-18

Quad Summary: Clayton (3712188/464B)
County Summary: Contra Costa

Lat/Long: 37.89432º / -121.99028º
UTM: Zone-10 N4194570 E588778
Radius: 2/5 mile
Elevation: 500 ft
Mapping Precision NON-SPECIFIC
Symbol Type: POINT
Township: 01N
Range: 01W
Section: 32 **Qtr:** XX
Meridian: M

Location: WEST SLOPE OF MOUNT DIABLO, MOUTH OF PINE CANYON, SOUTHWEST OF CLAYTON.

Location Detail: EXACT LOCATION NOT KNOWN; COLLECTION MADE AT 2000' ELEVATION. OTHER INFO: "NEAR MOST NORTHERLY WEST-HEADING STREAMLET ON TOPO MAP."

Ecological: CHAPARRAL. TYPICAL ASSOCIATES INCLUDE ARCTOSTAPHYLOS AURICULATA AND ADENOSTOMA FASCICULATUM.

General: ONLY SOURCE OF INFORMATION FOR THIS OCCURRENCE IS SITE NAME NOTED IN "THE FLOWERING PLANTS AND FERNS OF MT DIABLO" BY M. BOWERMAN (1944).

Owner/Manager: DPR-MOUNT DIABLO SP

Occurrence No. 8 **Map Index:** 42177 **EO Index:** 42177

Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1991-05-05
Site: 1991-05-05
Record Last Updated: 2005-09-07

Quad Summary: Clayton (3712188/464B)
County Summary: Contra Costa

Lat/Long: 37.95316º / -121.88845º
UTM: Zone-10 N4201200 E597654
Area: 2.5 acres
Elevation: 1,240 ft
Mapping Precision SPECIFIC
Symbol Type: POLYGON
Township: 01N
Range: 01E
Section: 08 **Qtr:** NE
Meridian: M

Location: ABOUT 0.5 MILE SOUTHWEST OF NORTONVILLE, EAST OF CLAYTON AND NORTH OF MOUNT DIABLO.

Location Detail: SITE IS ABOUT 0.4 MILE WEST OF NORTONVILLE ON COAL CANYON TRAIL. MAPPED WITHIN THE NW 1/4 NE 1/4 SECTION 8.

Ecological: CHAMISE CHAPARRAL WITH ADENOSTOMA FASCICULATUM, HETEROMELES ARBUTIFOLIA, QUERCUS AGRIFOLIA, Q. WISLIZENII, MIMULUS AURANTIACUS, ARCTOSTAPHYLOS AURICULATA, AND A. MANZANITA SSP. MANZANITA. SANDY SOIL.

Threat: TRAIL MAINTENANCE, FIRE SUPPRESSION.

General: INFO FOR THIS OCCURRENCE IS BASED UPON CO-OCCURRENCE WITH A. AURICULATA DURING 1991 SURVEY. 1936 COLLECTION BY LEE FROM CANYON BOTTOM IMMEDIATELY SOUTH OF NORTONVILLE & ROOF COLLECTION FROM ALONG BLACK DIAMOND TRAIL ATTRIBUTED HERE.

Owner/Manager: EBRPD

Asio flammeus

short-eared owl

Element Code: ABNSB13040

Status
Federal: None
State: None

NDDB Element Ranks
Global: G5
State: S3

Other Lists
CDFG Status: SC

Habitat Associations
General: FOUND IN SWAMP LANDS, BOTH FRESH AND SALT; LOWLAND MEADOWS; IRRIGATED ALFALFA FIELDS.
Micro: TULE PATCHES/TALL GRASS NEEDED FOR NESTING/DAYTIME SECLUSION. NESTS ON DRY GROUND IN DEPRESSION CONCEALED IN VEGETATION.

Occurrence No. 12 **Map Index:** 10076 **EO Index:** 14706

Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1987-XX-XX
Site: 1987-XX-XX
Record Last Updated: 1989-08-10

Quad Summary: Fairfield South (3812221/482A), Honker Bay (3812118/481C), Denverton (3812128/481B)
County Summary: Solano

Lat/Long: 38.13569º / -121.97352º
UTM: Zone-10 N4221368 E589957
Area: 19,083.4 acres
Elevation:

Mapping PrecisionSPECIFIC
Symbol Type:POLYGON

Township: 04N
Range: 01W
Section: 4 **Qtr:** XX
Meridian: M

Location: GRIZZLY ISLAND WILDLIFE AREA.
Ecological: HABITAT IS COASTAL MARSH AND FLAT GRASSLAND.
General: 39 NESTS AND 130 INDIVIDUALLS OBSERVED BY ROBERT MCLANDRESS DURING THE 1987 BREEDING SEASON.
Owner/Manager: DFG-GRIZZLY ISLAND WA

Athene cunicularia

burrowing owl

Element Code: ABNSB10010

Status
Federal: None
State: None

NDDB Element Ranks
Global: G4
State: S2

Other Lists
CDFG Status: SC

Habitat Associations
General: OPEN, DRY ANNUAL OR PERENIAL GRASSLANDS, DESERTS & SCRUBLANDS CHARACTERIZED BY LOW-GROWING VEGETATION.
Micro: SUBTERRANEAN NESTER, DEPENDENT UPON BURROWING MAMMALS, MOST NOTABLY, THE CALIFORNIA GROUND SQUIRREL.

Occurrence No. 337 **Map Index:** 41726 **EO Index:** 41726

Occ Rank: Good
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1999-09-28
Site: 1999-09-28
Record Last Updated: 1999-10-12

Quad Summary: Clayton (3712188/464B)
County Summary: Contra Costa

Lat/Long: 37.98976º / -121.95092º
UTM: Zone-10 N4205198 E592120
Radius: 1/10 mile
Elevation: 725 ft

Mapping PrecisionNON-SPECIFIC
Symbol Type:POINT

Township: 02N
Range: 01W
Section: 26 **Qtr:** SW
Meridian: M

Location: WEST SIDE OF BAILEY ROAD, JUST NORTH OF THE BOUNDARY OF CONCORD NAVAL WEAPONS STATION, 2 MILES SOUTH OF WEST PITTSBURG.

Ecological: HABITAT CONSISTS OF STEEP TO ROLLING HILLS, VEGETATED BY GRAZED ANNUAL GRASSLAND.

Threat: POSSIBLE THREAT FROM OVERGRAZING BY CATTLE.

General: ACTIVE BURROW, WITH FRESH PELLETS AND DROPPINGS, OBSERVED ON 28 SEP 1999.

Owner/Manager: PVT

Occurrence No. 432 **Map Index:** 47106 **EO Index:** 47106

Occ Rank: Good
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 2000-03-XX
Site: 2000-03-XX
Record Last Updated: 2002-01-28

Quad Summary: Honker Bay (3812118/481C)
County Summary: Solano

Lat/Long: 38.10419º / -121.88196º
UTM: Zone-10 N4217965 E598023
Radius: 80 meters
Elevation: 1 ft

Mapping PrecisionSPECIFIC
Symbol Type:POINT

Township: 03N
Range: 01E
Section: 17 **Qtr:** XX
Meridian: M

Location: BETWEEN MONTEZUMA SLOUGH AND COLLINSVILLE ROAD, 2.5 MILES NW OF COLLINSVILLE

Ecological: HABITAT CONSISTS OF DIKED, FORMER TIDAL MARSH, CONVERTED TO AGRICULTURE EARLY IN THE 20TH CENTURY; DOMINATED BY EXOTIC ANNUAL GRASSES. TULE-LINED PONDS, RIPARIAN CORRIDORS, AND PICKLEWEED PATCHES ARE ALSO FOUND ACROSS THIS FRAGMENTED SITE.

Threat: THREATENED BY "RESTORATION," WHICH INCLUDES COVERING THE AREA WITH DREDGE SEDIMENTS.

General: 1 PAIR OBSERVED IN MAR 2000.

Owner/Manager: PVT

Occurrence No. 472 **Map Index:** 48638 **EO Index:** 48638

Occ Rank: Good
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1991-01-18
Site: 1991-01-18
Record Last Updated: 2002-08-21

Quad Summary: Walnut Creek (3712281/465A), Clayton (3712188/464B)
County Summary: Contra Costa

Lat/Long: 37.93175º / -122.00406º
UTM: Zone-10 N4198710 E587523
Radius: 1/5 mile
Elevation: 120 ft

Mapping PrecisionNON-SPECIFIC
Symbol Type:POINT

Township: 01N
Range: 01W
Section: 17 **Qtr:** XX
Meridian: M

Location: WALNUT CREEK; NW THE INTERSECT OF OAK GROVE RD/YGNACIO VALLEY RD, BETWEEN YGNACIO VALLEY RD & THE CONTRA COSTA CANAL.

Ecological: HABITAT CONSISTS OF GRAZED ANNUAL GRASSLAND COMPRISED OF NON-NATIVE GRASSES AND HERBS. VEGETATION IS TALL/DENSE DURING SPRING/SUMMER. TOPOGRAPHY IS MODERATE TO STEEP.

Threat: PROPOSED FOR DEVELOPMENT (PORTOFINO SENIOR HOUSING PROJECT).

General: 1 OWL AND 6 ACTIVE BURROWS (WITH SIGN) OBSERVED ON 18 JAN 1991. SITE IS MOST LIKELY ONLY SUITABLE AS WINTERING HABITAT.

Owner/Manager: PVT

Athene cunicularia

burrowing owl

Element Code: ABNSB10010

Status
Federal: None
State: None

NDDB Element Ranks
Global: G4
State: S2

Other Lists
CDFG Status: SC

Habitat Associations
General: OPEN, DRY ANNUAL OR PERENIAL GRASSLANDS, DESERTS & SCRUBLANDS CHARACTERIZED BY LOW-GROWING VEGETATION.
Micro: SUBTERRANEAN NESTER, DEPENDENT UPON BURROWING MAMMALS, MOST NOTABLY, THE CALIFORNIA GROUND SQUIRREL.

Occurrence No. 754 **Map Index:** 62711 **EO Index:** 62748
Occ Rank: Excellent
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 2005-01-04
Site: 2005-01-04
Record Last Updated: 2005-09-26

Quad Summary: Honker Bay (3812118/481C)
County Summary: Contra Costa

Lat/Long: 38.01230º / -121.95705º
UTM: Zone-10 N4207693 E591553
Area: 12.4 acres
Elevation: 250 ft

Mapping PrecisionSPECIFIC
Symbol Type:POLYGON

Township: 02N
Range: 01W
Section: 15 **Qtr:** XX
Meridian: M

Location: SOUTH SIDE OF HIGHWAY 4, 0.8 MILE WEST OF BAILEY ROAD, SW OF PITTSBURG

Ecological: HABITAT CONSISTS OF NON0NATIVE GRASSLAND, DOMINATED BY LOLIUM MULTIFLORUM, BROMUS HORDACEUS, AVENA FATUA, AND HORDEUM MURINUM SSP. LEPORINUM. THIS SITE CONTAINS AN ABUNDANCE OF GROUND SQUIRRELS AND BURROWS.

Threat: THREATENED BY CURRENT DEVELOPMENT, LEADING TO LOSS OF FORAGING AND NESTING HABITAT.

General: AT LEAST 4 ADULTS OBSERVED IN 3 AREAS BETWEEN 4 JAN-28 FEB 2005, DURING WINTER CTS TRAPPING; 1 BURROW FOUND UNDER A LOG. NO OWLS OBSERVED AFTER APR 2005, PRESUMABLY DUE TO INCREASED HEIGHT OF VEGETATION.

Owner/Manager: PVT

Blepharizonia plumosa

big tarplant

Element Code: PDAST1C011

Status
Federal: None
State: None

NDDB Element Ranks
Global: G1
State: S1

Other Lists
CNPS List: 1B.1

Habitat Associations
General: VALLEY AND FOOTHILL GRASSLAND.
Micro: DRY HILLS & PLAINS IN ANNUAL GRASSLAND. CLAY TO CLAY-LOAM SOILS; USUALLY ON SLOPES AND OFTEN IN BURNED AREAS. 15-455M.

Occurrence No. 2 **Map Index:** 31493 **EO Index:** 2728
Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1937-08-31
Site: 1937-08-31
Record Last Updated: 2006-11-15

Quad Summary: Honker Bay (3812118/481C), Antioch North (3812117/481D)
County Summary: Contra Costa

Lat/Long: 38.02206º / -121.89008º
UTM: Zone-10 N4208844 E597420
Radius: 1 mile
Elevation: 50 ft
Mapping Precision NON-SPECIFIC
Symbol Type: POINT
Township: 02N
Range: 01E
Section: 17 **Qtr:** XX
Meridian: M

Location: PITTSBURG.

General: ONLY SOURCE OF INFORMATION FOR THIS SITE IS 1937 COLLECTION BY HOOVER. ORIGINAL LABEL "BLEPHARIZONIA PLUMOSA" ANNOTATED TO "B. PLUMOSA PLUMOSA" BY THOMPSON IN 1983.

Owner/Manager: UNKNOWN

Occurrence No. 44 **Map Index:** 51068 **EO Index:** 51068
Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1994-09-11
Site: 1994-09-11
Record Last Updated: 2006-11-07

Quad Summary: Clayton (3712188/464B)
County Summary: Contra Costa

Lat/Long: 37.91473º / -121.88574º
UTM: Zone-10 N4196939 E597943
Area:
Elevation: 1,000 ft
Mapping Precision NON-SPECIFIC
Symbol Type: POLYGON
Township: 01N
Range: 01E
Section: 20 **Qtr:** S
Meridian: M

Location: MT. DIABLO STATE PARK, NORTH SIDE OF MARSH CREEK ROAD SUMMIT.

Location Detail: MAPPED FROM T-R-S PROVIDED IN SOUTH 1/2 OF SECTION 20.

Ecological: OPEN OAK WOODLAND INCLUDING CANYON LIVE OAK, BLUE OAK, AND BUCKEYE. HEAVILY GRAZED ANNUAL GRASSLAND ON CLAY SOIL BASE OF SOUTH-FACING SLOPE.

General: INCLUDES 1994 OBSERVATION BY ERTTER. NEEDS FIELDWORK FOR LOCATION CONFIRMATION.

Owner/Manager: DPR-MOUNT DIABLO SP

Occurrence No. 55 **Map Index:** 67033 **EO Index:** 67183
Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1996-XX-XX
Site: 1996-XX-XX
Record Last Updated: 2006-11-09

Quad Summary: Clayton (3712188/464B)
County Summary: Contra Costa

Lat/Long: 37.93330º / -121.98108º
UTM: Zone-10 N4198904 E589540
Radius: 1 mile
Elevation:
Mapping Precision NON-SPECIFIC
Symbol Type: POINT
Township: 01N
Range: 01W
Section: 16 **Qtr:** XX
Meridian: M

Location: LIME RIDGE AREA NEAR MT. ZION, NEAR CSU HAYWARD'S CONTRA COSTA CAMPUS IN CONCORD, OFF OF YGNACIO VALLEY ROAD.

Location Detail: MAPPED AS BEST GUESS BY CNDDB NE OF MT. ZION, SOUTH OF YGNACIO VALLEY ROAD.

General: ONLY SOURCE OF INFORMATION FOR THIS OCCURRENCE IS 1996 OBSERVATION BY WOOD. NEEDS FIELDWORK.

Owner/Manager: UNKNOWN

Buteo regalis

ferruginous hawk

Element Code: ABNKC19120

Status
Federal: None
State: None

NDDB Element Ranks
Global: G4
State: S3S4

Other Lists
CDFG Status:

Habitat Associations
General: OPEN GRASSLANDS, SAGEBRUSH FLATS, DESERT SCRUB, LOW FOOTHILLS & FRINGES OF PINYON-JUNIPER HABITATS.
Micro: EATS MOSTLY LAGOMORPHS, GROUND SQUIRRELS, AND MICE. POPULATION TRENDS MAY FOLLOW LAGOMORPH POPULATION CYCLES.

Occurrence No. 68 **Map Index:** 71219 **EO Index:** 72124

Occ Rank: Excellent
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 2006-12-20
Site: 2006-12-20
Record Last Updated: 2008-04-29

Quad Summary: Clayton (3712188/464B)
County Summary: Contra Costa

Lat/Long: 37.99119º / -121.97011º
UTM: Zone-10 N4205338 E590433
Radius: 1/10 mile
Elevation: 400 ft

Mapping Precision NON-SPECIFIC
Symbol Type: POINT

Township: 02N
Range: 01W
Section: 28 **Qtr:** E
Meridian: M

Location: 1.25 MILES NORTH OF INTERSECTION OF BAILEY ROAD AND MYRTLE DRIVE, CONCORD NAVAL WEAPONS STATION.

Location Detail: MAPPED TO COORDINATES GIVEN.

Ecological: HABITAT STATED AS: GRASSLAND. WEST FACING SLOPE. OTHER SPECIES: 3 GOLDEN EAGLES (AQUILA CHRYSAETOS) SEEN SOARING AT TOP OF SLOPE (ALONG RIDGELINE). IMMEDIATE LAND USE: OPEN SPACE.

Threat: THREATENED BY "HABITAT CONVERSION".

General: 1 ADULT, WINTERING ON 20 DEC 2006. BIRD SEEN RIDING THERMALS APPROXIMATELY HALF-WAY UP SLOPE. PREVIOUS SIGHTINGS OF BUTEO REGALIS IN SAME GENERAL AREA IN DECEMBER OF 2003 OR 2002.

Owner/Manager: DOD-CONCORD NWS

California macrophylla

round-leaved filaree

Element Code: PDGER01070

Status
Federal: None
State: None

NDDB Element Ranks
Global: G2
State: S2

Other Lists
CNPS List: 1B.1

Habitat Associations
General: CISMONTANE WOODLAND, VALLEY AND FOOTHILL GRASSLAND.
Micro: CLAY SOILS. 15-1200M.

Occurrence No. 50 **Map Index:** 45812 **EO Index:** 45812
Occ Rank: None
Origin: Natural/Native occurrence
Presence: Possibly Extirpated
Trend: Unknown

Dates Last Seen
Element: 1862-05-10
Site: 1862-05-10
Record Last Updated: 2009-06-02

Quad Summary: Clayton (3712188/464B)
County Summary: Contra Costa

Lat/Long: 37.96127º / -121.92250º
UTM: Zone-10 N4202065 E594652
Radius: 1/5 mile
Elevation:
Mapping Precision NON-SPECIFIC
Symbol Type: POINT
Township: 01N
Range: 01W
Section: 01 **Qtr:** SE
Meridian: M

Location: NEAR KIRKER PASS.
Location Detail: EXACT LOCATION UNKNOWN. MAPPED BY CNDDB IN VICINITY OF COMMUNITY OF KIRKER PASS.
General: OCCURRENCE KNOWN ONLY FROM TWO COLLECTIONS FROM 1862. OCCURRENCE IS POSSIBLY EXTIRPATED.
Owner/Manager: UNKNOWN

Callophrys mossii bayensis

San Bruno elfin butterfly

Element Code: IILEPE2202

Status	NDDB Element Ranks	Other Lists
Federal: Endangered	**Global:** G4T1	**CDFG Status:**
State: None	**State:** S1	

Habitat Associations

General: COASTAL, MOUNTAINOUS AREAS WITH GRASSY GROUND COVER, MAINLY IN THE VICINITY OF SAN BRUNO MOUNTAIN, SAN MATEO COUNTY.

Micro: COLONIES ARE LOCATED ON STEEP, NORTH-FACING SLOPES WITHIN THE FOG BELT. LARVAL HOST PLANT IS SEDUM SPATHULIFOLIUM.

Occurrence No. 18 **Map Index:** 60588 **EO Index:** 61769

Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: XXXX-XX-XX
Site: XXXX-XX-XX

Record Last Updated: 2005-06-23

Quad Summary: Clayton (3712188/464B), Diablo (3712178/464C)

County Summary: Contra Costa

Lat/Long: 37.88772º / -121.90687º
UTM: Zone-10 N4193921 E596120
Radius: 1 mile
Elevation:

Mapping Precision NON-SPECIFIC
Symbol Type: POINT

Township: 01N
Range: 01E
Section: 31 **Qtr:** XX
Meridian: M

Location: MOUNT DIABLO.

Location Detail: SPECIFIC LOCALITY DATA NOT GIVEN, MAPPED AROUND SUMMIT.

Owner/Manager: DPR-MOUNT DIABLO SP

Calochortus pulchellus

Mt. Diablo fairy-lantern

Element Code: PMLIL0D160

Status
Federal: None
State: None

NDDB Element Ranks
Global: G2
State: S2.1

Other Lists
CNPS List: 1B.2

Habitat Associations
General: CHAPARRAL, CISMONTANE WOODLAND, RIPARIAN WOODLAND, VALLEY AND FOOTHILL GRASSLAND.
Micro: ON WOODED AND BRUSHY SLOPES. 200-800M.

Occurrence No. 5 **Map Index:** 28562 **EO Index:** 29979

Occ Rank: Good
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1995-05-13
Site: 1995-05-13
Record Last Updated: 1997-01-03

Quad Summary: Clayton (3712188/464B)
County Summary: Contra Costa

Lat/Long: 37.88021º / -121.93486º
UTM: Zone-10 N4193059 E593669
Area: 10.7 acres
Elevation: 2,900 ft
Mapping Precision SPECIFIC
Symbol Type: POLYGON
Township: 01S
Range: 01W
Section: 02 **Qtr:** NE
Meridian: M

Location: MOSES ROCK RIDGE NORTHWEST OF JUNIPER CAMP, MOUNT DIABLO STATE PARK.

Location Detail: THREE COLONIES CLOSE TOGETHER ALONG TRAIL BETWEEN JUNIPER CAMP AND DEER FLAT. SITES ARE ABOUT 1200 FEET WEST OF TRAIL HEAD AT JUNIPER CAMP.

Ecological: ALONG TRAIL/FIRE ROAD WITHIN OAK/BAY/PINE WOODLAND WITH GALIUM ANDREWSII, TAUSCHIA HARTWEGII, RHAMNUS ILLICIFOIA, MELICA TORREYANA, ERIOPHYLLUM LANATUM, ERODIUM, ACHYRACHAENA, TRIFOLIUM TRIDENTATUM, PHACELIA BREWERI, HELIANTHELLA CASTANEA.

Threat: ROAD MAINTENANCE.

General: ABOUT 260 PLANTS OBSERVED IN THREE COLONIES IN 1991.

Owner/Manager: DPR-MOUNT DIABLO SP

Occurrence No. 6 **Map Index:** 28563 **EO Index:** 29951

Occ Rank: Fair
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1991-04-14
Site: 1991-04-14
Record Last Updated: 1996-12-03

Quad Summary: Clayton (3712188/464B)
County Summary: Contra Costa

Lat/Long: 37.88512º / -121.96295º
UTM: Zone-10 N4193575 E591193
Radius: 80 meters
Elevation: 1,440 ft
Mapping Precision SPECIFIC
Symbol Type: POINT
Township: 01N
Range: 01W
Section: 34 **Qtr:** XX
Meridian: M

Location: ALONG DRAW ON SOUTH-SIDE OF LONG RIDGE, ABOUT 0.7 MILE WEST OF MOSES ROCK SPRING, MOUNT DIABLO STATE PARK.

Location Detail: MAPPED ABOUT 300 METERS WEST OF THE TRAIL WHICH CROSSES LONG RIDGE; OPPOSITE TRAIL TO MOSES SPRING.

Ecological: GROWING WITH PINUS SABINIANA (DOMINANT), LASTHENIA CALIFORNICA, BRODIAEA PULCHELLA, AND LAYIA GAILLARIOIDES.

General: 10 PLANTS OBSERVED IN 1991.

Owner/Manager: DPR-MOUNT DIABLO SP

Occurrence No. 7 **Map Index:** 28564 **EO Index:** 29950

Occ Rank: Good
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1991-03-31
Site: 1991-03-31
Record Last Updated: 1996-12-10

Quad Summary: Clayton (3712188/464B)
County Summary: Contra Costa

Lat/Long: 37.89233º / -121.97100º
UTM: Zone-10 N4194368 E590476
Radius: 80 meters
Elevation: 800 ft
Mapping Precision SPECIFIC
Symbol Type: POINT
Township: 01N
Range: 01W
Section: 33 **Qtr:** XX
Meridian: M

Location: ARROYO DEL CERRO ABOUT 1 MILE EAST OF TRAILHEAD AT NORTH GATE ROAD, ADJACENT TO MOUNT DIABLO STATE PARK.

Location Detail: MAPPED ALONG SOUTH SIDE OF ARROYO DEL CERRO, JUST NW OF 1083' RIDGETOP.

Ecological: OAK WOODLAND WITH QUERCUS LOBATA, Q. DOUGLASII, AESCULUS, UMBELLULARIA, PINUS SABINIANA, RHAMNUS ILICIFOLIA, ARTEMISIA CALIFORNICA, MONTIA PERFOLIATA, PHACELIA CALIFORNICA, AND NEMOPHILA HETEROPHYLLA. ON NNW FACING SANDSTONE SLOPE.

Threat: GRAZING.

General: 150 PLANTS OBSERVED IN 1991.

Owner/Manager: PVT

Calochortus pulchellus

Mt. Diablo fairy-lantern

Element Code: PMLIL0D160

Status
Federal: None
State: None

NDDB Element Ranks
Global: G2
State: S2.1

Other Lists
CNPS List: 1B.2

Habitat Associations
General: CHAPARRAL, CISMONTANE WOODLAND, RIPARIAN WOODLAND, VALLEY AND FOOTHILL GRASSLAND.
Micro: ON WOODED AND BRUSHY SLOPES. 200-800M.

Occurrence No. 8 **Map Index:** 28557 **EO Index:** 29947

Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1985-04-18
Site: 1985-04-18
Record Last Updated: 1996-12-03

Quad Summary: Antioch South (3712187/464A), Clayton (3712188/464B)
County Summary: Contra Costa

Lat/Long: 37.89254º / -121.87665º
UTM: Zone-10 N4194487 E598772
Radius: 80 meters
Elevation: 900 ft
Mapping Precision SPECIFIC
Symbol Type: POINT
Township: 01N
Range: 01E
Section: 32 **Qtr:** NE
Meridian: M

Location: NEAR MOUTH OF PERKINS CREEK ABOUT 1.3 MILES EAST OF NORTH PEAK, MOUNT DIABLO STATE PARK.
Location Detail: IN THE VICINITY OF LOWER DAM.
Ecological: GROWING ON NE-FACING SLOPES IN GRASSLAND UNDER OAKS. ASSOCIATED WITH QUERCUS DOUGLASII, Q. CHRYSOLEPIS, UMBELLULARIA, AVENA, BROMUS, AND DELPHINIUM CARDINALE.
General: LESS THAN 100 PLANTS OBSERVED IN 1985.
Owner/Manager: DPR-MOUNT DIABLO SP

Occurrence No. 9 **Map Index:** 28556 **EO Index:** 29946

Occ Rank: Good
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1993-05-08
Site: 1993-05-08
Record Last Updated: 1996-12-10

Quad Summary: Clayton (3712188/464B)
County Summary: Contra Costa

Lat/Long: 37.90364º / -121.88649º
UTM: Zone-10 N4195708 E597892
Area: 48.2 acres
Elevation: 1,200 ft
Mapping Precision SPECIFIC
Symbol Type: POLYGON
Township: 01N
Range: 01E
Section: 29 **Qtr:** S
Meridian: M

Location: ALONG THREE SPRINGS TRAIL ABOUT 1 MILE NORTHEAST OF NORTH PEAK, MOUNT DIABLO STATE PARK.
Location Detail: SCATTERED ALONG THE TRAIL.
Ecological: GROWING IN QUERCUS WISLIZENII AND Q.. DOUGLASII WOODLAND.
General: 51 PLANTS OBSERVED IN 1993.
Owner/Manager: DPR-MOUNT DIABLO SP

Occurrence No. 10 **Map Index:** 28558 **EO Index:** 29980

Occ Rank: Good
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1991-04-21
Site: 1991-04-21
Record Last Updated: 1997-01-03

Quad Summary: Clayton (3712188/464B)
County Summary: Contra Costa

Lat/Long: 37.88824º / -121.91687º
UTM: Zone-10 N4193968 E595241
Area: 37.5 acres
Elevation: 3,280 ft
Mapping Precision SPECIFIC
Symbol Type: POLYGON
Township: 01N
Range: 01E
Section: 31 **Qtr:** SW
Meridian: M

Location: NORTH SLOPE OF SUMMIT OF MOUNT DIABLO, ALONG TRAIL BETWEEN DEVILS POINT AND BALD RIDGE, MOUNT DIABLO STATE PARK.
Location Detail: SEVERAL COLONIES ALONG THE BALD RIDGE TRAIL AND NORTH PEAK TRAIL, MOSTLY WITHIN THE SW 1/4 OF SECTION 31 AND EXTENDING INTO THE E 1/2 OF SECTION 36 (T 01N R 01W).
Ecological: GROWING IN CHAPARRAL, GRASSLAND, AND OAK/FOOTHILL PINE WOODLAND. ASSOCIATED WITH HAPLOPAPPUS LINEARIFOLIUS, QUERCUS WISLIZENII, Q. CHRYSOLEPIS, TOXICODENDRON, CERCOCARPUS BETULOIDES, DODECATHEON HENDERSONII, DELPHINIUM NUDICAULE, ET AL.
Threat: OFF-TRAIL TRAVEL, TRAIL MAINTENANCE.
General: 300+ PLANTS OBSERVED IN 1989; ABOUT 380 PLANTS OBSERVED IN 1991.
Owner/Manager: DPR-MOUNT DIABLO SP

Calochortus pulchellus

Mt. Diablo fairy-lantern

Element Code: PMLIL0D160

Status
Federal: None
State: None

NDDB Element Ranks
Global: G2
State: S2.1

Other Lists
CNPS List: 1B.2

Habitat Associations
General: CHAPARRAL, CISMONTANE WOODLAND, RIPARIAN WOODLAND, VALLEY AND FOOTHILL GRASSLAND.
Micro: ON WOODED AND BRUSHY SLOPES. 200-800M.

Occurrence No. 11 **Map Index:** 10139 **EO Index:** 29949

Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1985-05-23
Site: 1985-05-23
Record Last Updated: 1998-01-02

Quad Summary: Clayton (3712188/464B)
County Summary: Contra Costa

Lat/Long: 37.89183º / -121.92424º
UTM: Zone-10 N4194359 E594588
Radius: 80 meters
Elevation: 2,600 ft
Mapping Precision SPECIFIC
Symbol Type: POINT
Township: 01N
Range: 01W
Section: 36 **Qtr:** NW
Meridian: M

Location: BALD RIDGE, ABOUT 0.5 MI SOUTHEAST OF JUNCTION OF BALD RIDGE TRAIL AND MURCHIO GAP FIRE TRAIL, MOUNT DIABLO STATE PARK.

Location Detail: MAPPED WITHIN THE SE 1/4 OF THE NW 1/4 OF SECTION 36.

Ecological: SCATTERED AMONG ROCK OUTCROPS IN SERPENTINE GRASSLAND/CHAPARRAL. ASSOCIATED WITH ARCTOSTAPHYLOS GLAUCA, QUERCUS DURATA, CALYSTEGIA MALACOPHYLLA, GALIUM ANDREWSII, ASTRAGALUS GAMBELIANUS, MELICA TORREYANA, AND HESPEROLINON BREWERI.

General: FEWER THAN 50 PLANTS OBSERVED IN 1985.

Owner/Manager: DPR-MOUNT DIABLO SP

Occurrence No. 12 **Map Index:** 28560 **EO Index:** 29948

Occ Rank: Good
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1991-04-07
Site: 1991-04-07
Record Last Updated: 1997-03-26

Quad Summary: Clayton (3712188/464B)
County Summary: Contra Costa

Lat/Long: 37.89313º / -121.93034º
UTM: Zone-10 N4194497 E594050
Area: 5.8 acres
Elevation: 2,000 ft
Mapping Precision SPECIFIC
Symbol Type: POLYGON
Township: 01N
Range: 01W
Section: 36 **Qtr:** NW
Meridian: M

Location: BALD RIDGE, EAST AND WEST OF MURCHIO GAP, ABOUT 1.2 MILES NORTHWEST OF SUMMIT OF MOUNT DIABLO, MOUNT DIABLO STATE PARK.

Location Detail: TWO COLONIES; ONE IS 100' FROM TOP OF BACK CANYON TRAIL, THE SECOND IS ON DEER FLAT TRAIL JUST BELOW JCT WITH MURCHIO

Ecological: GROWING IN CHAPARRAL AND SERPENTINE CHAPARRAL. ASSOCIATED WITH PICKERINGIA MONTANA, QUERCUS DURATA, LOMATIUM SPP., GALIUM NUTTALLII, CALYSTEGIA MALACOPHYLLA, ADENOSTOMA, HETEROMELES, ARCTOSTAPHYLOS GLAUCA, ERIODICTYON CALIFORNICUM, ET AL.

Threat: TRAIL CONSTRUCTION, OFF-TRAIL TRAVEL.

General: 100 PLANTS AT DEER FLAT TRAIL SITE AND 3 PLANTS AT BACK CANYON TRAIL SITE IN 1991.

Owner/Manager: DPR-MOUNT DIABLO SP

Occurrence No. 13 **Map Index:** 28561 **EO Index:** 29978

Occ Rank: Good
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1990-05-06
Site: 1990-05-06
Record Last Updated: 1996-12-10

Quad Summary: Clayton (3712188/464B)
County Summary: Contra Costa

Lat/Long: 37.89265º / -121.93896º
UTM: Zone-10 N4194435 E593293
Area: 22.1 acres
Elevation: 1,200 ft
Mapping Precision SPECIFIC
Symbol Type: POLYGON
Township: 01N
Range: 01W
Section: 35 **Qtr:** NE
Meridian: M

Location: ALONG ROAD AT HEAD OF MITCHELL CANYON, ABOUT 0.6 MILE SOUTH OF EAGLE PEAK, MOUNT DIABLO STATE PARK.

Location Detail: SEVERAL COLONIES ALONG MITCHELL CANYON ROAD, 1.75-2.3 MILES FROM MITCHELL CANYON TRAILHEAD.

Ecological: MOSTLY IN TRANSITION ZONE BETWEEN OAK/BAY WOODLAND AND CHAPARRAL.

Threat: OFF-TRAIL TRAVEL AND TRAIL MAINTENANCE.

General: 240+ PLANTS OBSERVED IN FIVE COLONIES IN 1990.

Owner/Manager: DPR-MOUNT DIABLO SP

Calochortus pulchellus

Mt. Diablo fairy-lantern

Element Code: PMLIL0D160

Status
Federal: None
State: None

NDDB Element Ranks
Global: G2
State: S2.1

Other Lists
CNPS List: 1B.2

Habitat Associations
General: CHAPARRAL, CISMONTANE WOODLAND, RIPARIAN WOODLAND, VALLEY AND FOOTHILL GRASSLAND.
Micro: ON WOODED AND BRUSHY SLOPES. 200-800M.

Occurrence No. 14 **Map Index:** 28553 **EO Index:** 29943

Occ Rank: Good
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1991-04-06
Site: 1991-04-06
Record Last Updated: 1996-12-10

Quad Summary: Clayton (3712188/464B)
County Summary: Contra Costa

Lat/Long: 37.91033º / -121.95053º
UTM: Zone-10 N4196385 E592253
Area: 33.1 acres
Elevation: 800 ft

Mapping PrecisionSPECIFIC
Symbol Type:POLYGON

Township: 01N
Range: 01W
Section: 26 **Qtr:** W
Meridian: M

Location: MITCHELL CANYON ROAD, FROM MOUTH OF UNCLE SAM CANYON UPSTREAM ABOUT 1 MILE, MOUNT DIABLO STATE PARK.

Location Detail: MANY COLONIES SCATTERED ALONG ROAD IN CANYON BOTTOM. MAPPED FROM SW CORNER OF SECTION 23 SOUTH TO THE SW CORNER OF SECTION 26. INCLUDES COLONY JUST UP WHITE CANYON ALONG RED ROAD.

Ecological: EDGE BETWEEN RIPARIAN AND OAK/BAY WOODLAND. ASSOCIATED WITH PINUS SABINIANA, QUERCUS AGRIFOLIA, Q. DOUGLASII, HETEROMELES, TOXICODENDRON, ADENOSTOMA, ARTEMISIA CALIFORNICA, WYETHIA HELENOIDES, PEDICULARIS DENSIFLORA, GALIUM NUTTALLII, ETC.

Threat: BRUSHING, ROAD MAINTENANCE, OFF-TRAIL TRAVEL, AND EROSION.

General: EO INCLUDES SEVERAL SUBPOPULATIONS; DIFFERENT ONES COUNTED AT DIFFERENT TIMES. 136 PLANTS OBSERVED IN 11 COLONIES IN 1990; 5000+ PLANTS OBSERVED IN THREE COLONIES IN 1991.

Owner/Manager: DPR-MOUNT DIABLO SP

Occurrence No. 15 **Map Index:** 28552 **EO Index:** 29942

Occ Rank: Excellent
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1991-04-06
Site: 1991-04-06
Record Last Updated: 1996-12-03

Quad Summary: Clayton (3712188/464B)
County Summary: Contra Costa

Lat/Long: 37.91400º / -121.95594º
UTM: Zone-10 N4196787 E591773
Area: 3.5 acres
Elevation: 1,400 ft

Mapping PrecisionSPECIFIC
Symbol Type:POLYGON

Township: 01N
Range: 01W
Section: 22 **Qtr:** SE
Meridian: M

Location: BLACK POINT TRAIL, JUST NE OF BLACK POINT, MOUNT DIABLO STATE PARK.

Location Detail: MAPPED NEAR THE CENTER OF THE S 1/2 OF THE SE 1/4 OF SECTION 22.

Ecological: OAK WOODLAND WITH BUNCHGRASS UNDERSTORY. ASSOCIATED WITH QUERCUS AGRIFOLIA, PINUS SABINIANA, TOXICODENDRON, PTELEA CRENULATA, ROSO GYMNOCARPHA, FESTUCA CALIFORNICA, ELYMUS GLAUCUS, MELICA TORREYANA, DODECATHEON HENDERSONII, ETC.

Threat: COLLECTION, OFF-TRAIL TRAVEL, AND TRAIL MAINTENANCE.

General: 300 PLANTS OBSERVED IN 1991.

Owner/Manager: DPR-MOUNT DIABLO SP

Calochortus pulchellus

Mt. Diablo fairy-lantern

Element Code: PMLIL0D160

Status
Federal: None
State: None

NDDB Element Ranks
Global: G2
State: S2.1

Other Lists
CNPS List: 1B.2

Habitat Associations
General: CHAPARRAL, CISMONTANE WOODLAND, RIPARIAN WOODLAND, VALLEY AND FOOTHILL GRASSLAND.
Micro: ON WOODED AND BRUSHY SLOPES. 200-800M.

Occurrence No. 16 **Map Index:** 28550 **EO Index:** 29940

Occ Rank: Good
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1985-04-17
Site: 1985-04-17
Record Last Updated: 1996-12-10

Quad Summary: Clayton (3712188/464B)
County Summary: Contra Costa

Lat/Long: 37.91617º / -121.94676º
UTM: Zone-10 N4197036 E592577
Radius: 80 meters
Elevation: 600 ft
Mapping Precision SPECIFIC
Symbol Type: POINT
Township: 01N
Range: 01W
Section: 23 **Qtr:** SW
Meridian: M

Location: ALONG MITCHELL CANYON ROAD ABOUT 0.75 AIR MILE SOUTHWEST OF PARK BOUNDARY, MOUNT DIABLO STATE PARK.
Location Detail: MAPPED WITHIN THE SW 1/4 OF THE SW 1/4 OF SECTION 23.
Ecological: GROWING IN GRASSY UNDERSTORY OF QUERCUS AGRIFOLIA WOODLAND. ASSOCIATED WITH PLECTRITIS, ADIANTUM JORDANII, AVENA, AND SISYRINCHIUM.
General: FEWER THAN 10 PLANTS OBSERVED IN 1985.
Owner/Manager: DPR-MOUNT DIABLO SP

Occurrence No. 17 **Map Index:** 28551 **EO Index:** 29939

Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1985-04-17
Site: 1985-04-17
Record Last Updated: 1997-03-26

Quad Summary: Clayton (3712188/464B)
County Summary: Contra Costa

Lat/Long: 37.92040º / -121.94046º
UTM: Zone-10 N4197512 E593126
Radius: 80 meters
Elevation: 500 ft
Mapping Precision SPECIFIC
Symbol Type: POINT
Township: 01N
Range: 01W
Section: 23 **Qtr:** NE
Meridian: M

Location: EAST OF MITCHELL CANYON ROAD ABOUT 0.4 MILE SOUTH OF PARK BOUNDARY, MOUNT DIABLO STATE PARK.
Location Detail: MAPPED ABOUT 100-150 METERS EAST OF ROAD.
Ecological: GRASSLAND IN QUERCUS AGRIFOLIA WOODLAND. ASSOCIATED WITH SISYRINCHIUM BELLUM, CHLOROGALUM, PLECTRITIIS, AVENA, AND BROMUS.
General: FEWER THAN 10 PLANTS OBSERVED IN 1985.
Owner/Manager: DPR-MOUNT DIABLO SP

Occurrence No. 18 **Map Index:** 28554 **EO Index:** 29944

Occ Rank: Fair
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1990-05-06
Site: 1990-05-06
Record Last Updated: 1996-12-10

Quad Summary: Clayton (3712188/464B)
County Summary: Contra Costa

Lat/Long: 37.90980º / -121.93099º
UTM: Zone-10 N4196346 E593972
Area: 4.3 acres
Elevation: 900 ft
Mapping Precision SPECIFIC
Symbol Type: POLYGON
Township: 01N
Range: 01W
Section: 25 **Qtr:** NW
Meridian: M

Location: BACK CREEK TRAIL, BELOW MERIDIAN RIDGE AND NORTHWEST OF EAGLE PEAK, MOUNT DIABLO STATE PARK.
Location Detail: TWO COLONIES MAPPED AS ONE POLYGON, ABOUT 1.3 MILES AND 1.5 MILES NORTH OF MURCHIO GAP.
Ecological: GROWING IN TRANSITION BETWEEN RIPARIAN AND QUERCUS DOUGLASII WOODLAND AND IN GRASSY RIPARIAN CLEARING.
Threat: OFF-TRAIL TRAVEL AND TRAIL MAINTENANCE.
General: 4 PLANTS OBSERVED BETWEEN THE TWO COLONIES IN 1990. 1980 OBSERVATION BY S. LOWENS WITHIN BACK CREEK CANYON "A FEW HUNDRED FEET BEYOND GATE" IS UNMAPPABLE, BUT HAS BEEN ATTRIBUTED TO THIS SITE.
Owner/Manager: DPR-MOUNT DIABLO SP

Calochortus pulchellus

Mt. Diablo fairy-lantern

Element Code: PMLIL0D160

Status
Federal: None
State: None

NDDB Element Ranks
Global: G2
State: S2.1

Other Lists
CNPS List: 1B.2

Habitat Associations
General: CHAPARRAL, CISMONTANE WOODLAND, RIPARIAN WOODLAND, VALLEY AND FOOTHILL GRASSLAND.
Micro: ON WOODED AND BRUSHY SLOPES. 200-800M.

Occurrence No. 19 **Map Index:** 28555 **EO Index:** 29945

Occ Rank: Good
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 2002-05-06
Site: 2002-05-06
Record Last Updated: 2004-09-30

Quad Summary: Clayton (3712188/464B)
County Summary: Contra Costa

Lat/Long: 37.90859º / -121.92167º
UTM: Zone-10 N4196221 E594793
Area: 27.6 acres
Elevation: 720 ft
Mapping Precision SPECIFIC
Symbol Type: POLYGON
Township: 01N
Range: 01W
Section: 25 **Qtr:** NE
Meridian: M

Location: DONNER CANYON BELOW MERIDIAN RIDGE, MOUNT DIABLO STATE PARK.
Location Detail: ALONG HETHERINGTON LOOP WITHIN THE NE 1/4 OF SECTION 25.
Ecological: GROWING IN OAK WOODLAND.
Threat: FOOT TRAFFIC.
General: 145 PLANTS OBSERVED IN 1995. UNKNOWN NUMBER OF PLANTS SEEN DURING 2002 SURVEY FOR GALIUM ANDREWSII SSP. GATENSE.
Owner/Manager: DPR-MOUNT DIABLO SP

Occurrence No. 20 **Map Index:** 28548 **EO Index:** 29938

Occ Rank: Fair
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1996-04-18
Site: 1996-04-18
Record Last Updated: 1996-12-10

Quad Summary: Clayton (3712188/464B)
County Summary: Contra Costa

Lat/Long: 37.92311º / -121.99420º
UTM: Zone-10 N4197761 E588399
Radius: 80 meters
Elevation: 400 ft
Mapping Precision SPECIFIC
Symbol Type: POINT
Township: 01N
Range: 01W
Section: 20 **Qtr:** XX
Meridian: M

Location: WEST SLOPE OF LIME RIDGE JUST SOUTHEAST OF BOUNDARY OAKS GOLF COURSE, EAST OF WALNUT CREEK.
Location Detail: WITHIN LIME RIDGE OPEN SPACE RECREATION AREA. IN SE1/4 OF NE1/4 OF PROJECTED SECTION 19.
Ecological: GROWING ON SOUTH-FACING SLOPE WITH CHAPARRAL AND MIXED SCRUB.
General: 2 PLANTS OBSERVED IN 1996.
Owner/Manager: CITY OF WALNUT CREEK

Occurrence No. 21 **Map Index:** 28549 **EO Index:** 29941

Occ Rank: Fair
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1991-07-22
Site: 1991-07-22
Record Last Updated: 1996-12-10

Quad Summary: Clayton (3712188/464B)
County Summary: Contra Costa

Lat/Long: 37.92391º / -121.98864º
UTM: Zone-10 N4197854 E588887
Radius: 80 meters
Elevation: 680 ft
Mapping Precision SPECIFIC
Symbol Type: POINT
Township: 01N
Range: 01W
Section: 20 **Qtr:** XX
Meridian: M

Location: WEST SLOPE OF LIME RIDGE ABOUT 0.7 MILE SSW OF HIGH POINT ON RIDGE (VABM 1001), EAST OF WALNUT CREEK.
Location Detail: ALONG UNNAMED DIRT ROAD ABOUT 0.8 MILE DUE EAST OF THE END OF VALLEY VISTA ROAD (BOUNDARY OAKS GOLF COURSE). SITE IS WITHIN THE LIME RIDGE OPEN SPACE RECREATIONAL AREA.
Ecological: TOP OF CUT ABOVE ROAD IN CHAPARRAL. ASSOCIATED WITH ADENTOSTOMA, ARTEMSISA CALIFORNICA, QUERCUS AGRIFOLIA, MONARDELLA VILLOSA, BROMUS DIANDRUS, AVENA, AND HELIANTHELLA CASTANEA.
Threat: GRAZING, FIRE VANDALISM, AND ROAD MAINTENANCE.
General: 18 PLANTS OBSERVED IN 1991.
Owner/Manager: CITY OF WALNUT CREEK

Campanula exigua

chaparral harebell

Element Code: PDCAM020A0

Status
Federal: None
State: None

NDDB Element Ranks
Global: G2
State: S2.2

Other Lists
CNPS List: 1B.2

Habitat Associations
General: CHAPARRAL.
Micro: ROCKY SITES, USUALLY ON SERPENTINE IN CHAPARRAL. 300-1250M.

Occurrence No. 24 **Map Index:** 56402 **EO Index:** 56418

Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1975-06-01
Site: 1975-06-01
Record Last Updated: 2004-08-18

Quad Summary: Clayton (3712188/464B)
County Summary: Contra Costa

Lat/Long: 37.90046º / -121.91551º
UTM: Zone-10 N4195326 E595345
Radius: 2/5 mile
Elevation: 1,100 ft
Mapping Precision NON-SPECIFIC
Symbol Type: POINT
Township: 01N
Range: 01W
Section: 25 **Qtr:** XX
Meridian: M

Location: UPPER FALLS TRAIL A FEW FEET BELOW REAL FIRST CREEK COMING FROM HORSEMEN'S, MOUNT DIABLO STATE PARK.

Location Detail: EXACT LOCATION UNKNOWN. MAPPED AS BEST GUESS BY CNDDB, IN THE VICINITY OF UPPER FALLS IN DONNER CANYON, SE OF MERIDIAN RIDGE.

Ecological: UNDER HETEROMELES ARBUTIFOLIA, CLEMATIS, AND RHAMNUS CALIFORNICA, ON CHERTY, ROCKY SLOPE WITH INTRODUCED GRASSES.

General: PER BOWERMAN, 1975, PLANT IS "VERY RARE HERE, ONLY A SMALL PATCH". UNKNOWN NUMBER OF PLANTS SEEN IN 1930 AND 1975. NEEDS FIELDWORK.

Owner/Manager: DPR-MOUNT DIABLO SP

Occurrence No. 25 **Map Index:** 10105 **EO Index:** 56419

Occ Rank: Excellent
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1985-05-23
Site: 1985-05-23
Record Last Updated: 2004-08-18

Quad Summary: Clayton (3712188/464B)
County Summary: Contra Costa

Lat/Long: 37.89716º / -121.93392º
UTM: Zone-10 N4194940 E593730
Radius: 80 meters
Elevation: 2,040 ft
Mapping Precision SPECIFIC
Symbol Type: POINT
Township: 01N
Range: 01W
Section: 35 **Qtr:** NE
Meridian: M

Location: LOWER SE SLOPE OF EAGLE PEAK, ABOUT 0.5 MILE FROM SUMMIT, ALONG TRAIL FROM MURCHIO GAP, MOUNT DIABLO STATE PARK.

Location Detail: ONE POLYGON MAPPED IN THE NE 1/4 OF THE NE 1/4 OF SECTION 35.

Ecological: ON LOOSE, FRIABLE TALUS.

General: 1978 COLLECTION BY HANNAN "MITCHELL CANYON" ATTRIBUTED TO THIS SITE. UNKNOWN NUMBER OF PLANTS SEEN IN 1978. LESS THAN 50 PLANTS SEEN IN 1985. OTHER RARE PLANTS AT THIS SITE: HESPEROLINON BREWERI AND SANICULA SAXATALIS.

Owner/Manager: DPR-MOUNT DIABLO SP

Occurrence No. 26 **Map Index:** 56405 **EO Index:** 56421

Occ Rank: Good
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1995-06-27
Site: 1995-06-27
Record Last Updated: 2007-03-07

Quad Summary: Clayton (3712188/464B)
County Summary: Contra Costa

Lat/Long: 37.88552º / -121.91085º
UTM: Zone-10 N4193672 E595773
Area:
Elevation: 3,200 ft
Mapping Precision NON-SPECIFIC
Symbol Type: POLYGON
Township: 01N
Range: 01E
Section: 31 **Qtr:** XX
Meridian: M

Location: MOUNT DIABLO SUMMIT TO NORTH PEAK.

Location Detail: EXACT LOCATION(S) UNKNOWN. SITE DESCRIPTIONS INCLUDE: FIRE INTERPRETIVE TRAIL; PROSPECTORS GAP; BETWEEN PROSPECTORS GAP AND NORTH PEAK; BALD RIDGE TRAIL AT T1N R1E SW1/4 SW 1/4 SEC 31; AND ROCK SLIDE IN ROCK GORGE IN RHINE CANYON AT 3000'.

Ecological: TALUS SLOPES. ASSOCIATED WITH ALLIUM FALEIFOLIUM, SANICULA SAXATALIS, COLLINSIA TINCTORIA, AND PINUS SABINIANA.

General: ~100 PLANTS SEEN IN 1992. MANY DIFFERENT VAGUE SITE DESCRIPTIONS ATTRIBUTED HERE, POSSIBLY INDICATING THAT THERE ARE MULTIPLE INDIVIDUAL COLONIES IN THIS AREA. INCLUDES FORMER OCCURRENCE #28. DETAILED LOCATION INFORMATION NEEDED.

Owner/Manager: DPR-MOUNT DIABLO SP

Campanula exigua

chaparral harebell

Element Code: PDCAM020A0

Status
Federal: None
State: None

NDDB Element Ranks
Global: G2
State: S2.2

Other Lists
CNPS List: 1B.2

Habitat Associations
General: CHAPARRAL.
Micro: ROCKY SITES, USUALLY ON SERPENTINE IN CHAPARRAL. 300-1250M.

Occurrence No. 27 **Map Index:** 56406 **EO Index:** 56422

Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1945-05-30
Site: 1945-05-30
Record Last Updated: 2004-08-18

Quad Summary: Diablo (3712178/464C), Clayton (3712188/464B)
County Summary: Contra Costa

Lat/Long: 37.87646º / -121.92918º
UTM: Zone-10 N4192648 E594173
Radius: 2/5 mile
Elevation: 3,200 ft
Mapping Precision NON-SPECIFIC
Symbol Type: POINT
Township: 01S
Range: 01W
Section: 01 **Qtr:** NW
Meridian: M

Location: JUNIPER CAMP, MOUNT DIABLO STATE PARK.

Location Detail: EXACT LOCATION UNKNOWN. MAPPED AS BEST GUESS BY CNDDB, IN THE VICINITY OF JUNIPER CAMP, APPROX. 1.0 MILE WSW OF THE OBSERVATION TOWER ON MT. DIABLO.

General: ONLY INFORMATION FOR THIS SITE IS REFERENCE TO THIS COLLECTION IN 1980 MADRONO. UNKNOWN NUMBER OF PLANTS SEEN. NEEDS FIELDWORK.

Owner/Manager: DPR-MOUNT DIABLO SP

Occurrence No. 29 **Map Index:** 51646 **EO Index:** 56428

Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1930-06-14
Site: 1930-06-14
Record Last Updated: 2004-08-18

Quad Summary: Clayton (3712188/464B)
County Summary: Contra Costa

Lat/Long: 37.90753º / -121.92712º
UTM: Zone-10 N4196098 E594314
Radius: 1/5 mile
Elevation:
Mapping Precision NON-SPECIFIC
Symbol Type: POINT
Township: 01N
Range: 01W
Section: 25 **Qtr:** NW
Meridian: M

Location: MERIDIAN PEAK SUMMIT, MOUNT DIABLO STATE PARK.

Location Detail: EXACT LOCATION UNKNOWN. MAPPED AS BEST GUESS BY CNDDB, IN THE VICINITY OF THE PEAK OF MERIDIAN RIDGE.

Ecological: OPEN PLACES IN ROCKY, N-FACING SLOPE, WHERE THERE IS NO CHAPARRAL.

General: UNKNOWN NUMBER OF PLANTS SEEN IN 1930. NEEDS FIELDWORK.

Owner/Manager: DPR-MOUNT DIABLO SP

Cicuta maculata var. bolanderi

Bolander's water-hemlock

Element Code: PDAPI0M051

Status
Federal: None
State: None

NDDB Element Ranks
Global: G5T3T4
State: S2

Other Lists
CNPS List: 2.1

Habitat Associations
General: MARSHES, FRESH OR BRACKISH WATER.
Micro: 0-200M.

Occurrence No. 2 **Map Index:** 10358 **EO Index:** 75858

Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1978-09-05
Site: 1978-09-05
Record Last Updated: 2009-04-28

Quad Summary: Honker Bay (3812118/481C), Antioch North (3812117/481D)
County Summary: Contra Costa

Lat/Long: 38.03947º / -121.86579º
UTM: Zone-10 N4210801 E599528
Area:
Elevation: 5 ft

Mapping PrecisionNON-SPECIFIC
Symbol Type:POLYGON

Township: 02N
Range: 01E
Section: 9 **Qtr:** XX
Meridian: M

Location: BROWNS ISLAND. CROOKED SLOUGH.
Location Detail: CROOKED SLOUGH NOT ON TOPO; MAPPED GENERALLY AROUND BROWNS ISLAND; NEEDS FIELDWORK.
General: ONLY SOURCE OF INFORMATION FOR THIS OCCURRENCE IS A 1978 COLLECTION BY KNIGHT.
Owner/Manager: UNKNOWN

Coastal Brackish Marsh

Element Code: CTT52200CA

Status
Federal: None
State: None

NDDB Element Ranks
Global: G2
State: S2.1

Other Lists

Habitat Associations
General:
Micro:

Occurrence No. 6 **Map Index:** 09989 **EO Index:** 16107

Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1977-06-XX
Site: 1977-06-XX
Record Last Updated: 1998-07-16

Quad Summary: Fairfield South (3812221/482A), Vine Hill (3812211/482D), Honker Bay (3812118/481C), Denverton (3812128/481B)
County Summary: Solano

Lat/Long: 38.11017º / -121.98551º
UTM: Zone-10 N4218524 E588937
Area: 3,093.8 acres
Elevation:
Mapping PrecisionSPECIFIC
Symbol Type:POLYGON
Township: 03N
Range: 01W
Section: 16 **Qtr:** XX
Meridian: M

Location: SIMMONS ISLAND NEAR GRIZZLY BAY.
Location Detail: FRINGES & POCKETS ALONG ISL & BAY SHORE.
Ecological: UNABLE TO CONVERT TO FLORISTIC CLASSIFICATION, LACKS SPP. INFO
Owner/Manager: UNKNOWN

Occurrence No. 7 **Map Index:** 09777 **EO Index:** 30357

Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1977-06-XX
Site: 1977-06-XX
Record Last Updated: 1998-07-16

Quad Summary: Vine Hill (3812211/482D), Honker Bay (3812118/481C)
County Summary: Solano

Lat/Long: 38.08437º / -122.02287º
UTM: Zone-10 N4215627 E585691
Area:
Elevation:
Mapping PrecisionNON-SPECIFIC
Symbol Type:POLYGON
Township: 02N
Range: 02W
Section: 19 **Qtr:** XX
Meridian: M

Location: RYER ISLAND IN SUISUN BAY.
Ecological: FRINGE ON N & S OF ISLAND. UNABLE TO CONVERT TO FLORISTIC CLASSIFICATION, LACKS SPP. INFO.
Threat: ADJACENT AREAS ARE DUCK CLUBS.
Owner/Manager: UNKNOWN

Occurrence No. 9 **Map Index:** 10235 **EO Index:** 4580

Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1977-06-XX
Site: 1977-06-XX
Record Last Updated: 1998-07-16

Quad Summary: Honker Bay (3812118/481C)
County Summary: Solano

Lat/Long: 38.06767º / -121.91543º
UTM: Zone-10 N4213878 E595136
Area:
Elevation:
Mapping PrecisionNON-SPECIFIC
Symbol Type:POLYGON
Township: 03N
Range: 01E
Section: 36 **Qtr:** XX
Meridian: M

Location: HONKER BAY.
Location Detail: FRINGE OF ISLAND AND BAY.
Ecological: UNABLE TO CONVERT TO FLORISTIC CLASSIFICATION, LACKS SPP. INFO
Threat: NEXT TO DUCK CLUBS.
Owner/Manager: DFG-GRIZZLY ISLAND WA, PVT

Coastal Brackish Marsh

Element Code: CTT52200CA

Status
Federal: None
State: None

NDDB Element Ranks
Global: G2
State: S2.1

Other Lists

Habitat Associations
General:
Micro:

Occurrence No. 10 **Map Index:** 10197 **EO Index:** 8468

Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1977-06-XX
Site: 1977-06-XX
Record Last Updated: 1998-07-16

Quad Summary: Honker Bay (3812118/481C)
County Summary: Contra Costa

Lat/Long: 38.04199º / -121.91974º
UTM: Zone-10 N4211024 E594791
Area: 75.2 acres
Elevation:
Mapping Precision SPECIFIC
Symbol Type: POLYGON
Township: 02N
Range: 01W
Section: 1 **Qtr:** XX
Meridian: M

Location: MALLARD ISLAND NEAR PITTSBURG.
Location Detail: COVERAGE OVER ENTIRE ISLAND.
Ecological: UNABLE TO CONVERT TO FLORISTIC CLASSIFICATION, LACKS SPP. INFO.
Owner/Manager: UNKNOWN

Occurrence No. 11 **Map Index:** 10001 **EO Index:** 16105

Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1977-06-XX
Site: 1977-06-XX
Record Last Updated: 1998-07-16

Quad Summary: Vine Hill (3812211/482D), Honker Bay (3812118/481C)
County Summary: Contra Costa

Lat/Long: 38.04592º / -121.98162º
UTM: Zone-10 N4211399 E589356
Area: 1,098.4 acres
Elevation:
Mapping Precision SPECIFIC
Symbol Type: POLYGON
Township: 02N
Range: 01W
Section: 04 **Qtr:** SE
Meridian: M

Location: MCAVOY HARBOR, S SUISUN BAY.
Ecological: UNABLE TO CONVERT TO FLORISTIC CLASSIFICATION, LACKS SPP. INFO
Threat: PARTIALLY IN NAVAL RES IN INDUSTRIAL AREA.
Owner/Manager: UNKNOWN

Occurrence No. 12 **Map Index:** 10397 **EO Index:** 16104

Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1977-06-XX
Site: 1977-06-XX
Record Last Updated: 1998-07-16

Quad Summary: Antioch North (3812117/481D), Honker Bay (3812118/481C)
County Summary: Contra Costa

Lat/Long: 38.04443º / -121.85946º
UTM: Zone-10 N4211358 E600077
Area: 1,029.8 acres
Elevation:
Mapping Precision SPECIFIC
Symbol Type: POLYGON
Township: 02N
Range: 01E
Section: 3 **Qtr:** XX
Meridian: M

Location: BROWNS ISL & FRINGE OF WINTERS ISL, SUISUN BAY.
Ecological: UNABLE TO CONVERT TO FLORISTIC CLASSIFICATION, LACKS SPP. INFO

Owner/Manager: UNKNOWN

Cordylanthus mollis ssp. mollis

soft bird's-beak

Element Code: PDSCR0J0D2

Status	NDDB Element Ranks	Other Lists
Federal: Endangered	**Global:** G2T1	**CNPS List:** 1B.2
State: Rare	**State:** S1.1	

Habitat Associations

General: COASTAL SALT MARSH.

Micro: IN COASTAL SALT MARSH WITH DISTICHLIS, SALICORNIA, FRANKENIA, ETC. 0-3M.

Occurrence No. 7 **Map Index:** 10053 **EO Index:** 20377

Occ Rank: Fair
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Fluctuating

Dates Last Seen
Element: 1999-11-05
Site: 1999-11-05
Record Last Updated: 2009-09-03

Quad Summary: Honker Bay (3812118/481C)
County Summary: Contra Costa

Lat/Long: 38.04364º / -121.95451º
UTM: Zone-10 N4211173 E591737
Area: 6.5 acres
Elevation: 3 ft
Mapping Precision SPECIFIC
Symbol Type: POLYGON
Township: 02N
Range: 01W
Section: 03 **Qtr:** SW
Meridian: M

Location: NORTH OF MCAVOY BOAT HARBOR AND NORTHEAST OF SHORE ACRES, ABOUT 0.5 MILE NORTH OF RR TRACKS, WEST OF PITTSBURG.

Location Detail: COLONIES MAPPED ALONG EITHER SIDE OF LEVEE. A 1979 SAVAGE COLLECTION FROM "100' W OF HARRIS HARBOR CHANNEL, 0.25 MI N OF HARRIS HARBOR" ALSO ATTRIBUTED TO THIS SITE BUT MAY BE LOCATED FURTHER TO THE W.

Ecological: IN TIDAL BRACKISH MARSH WITH DISTICHLIS SPICATA, SALICORNIA VIRGINICA, ATRIPLEX PATULA HASTATA, SCIRPUS OLNEYI, LOTUS CORNICULATUS, AND JAUMEA.

Threat: HEAVILY GRAZED & TRAMPLED, NEAR ERODING LEVEE, JUNK PILES NEARBY.

General: 100-200 PLANTS IN 1978, <10 IN 1979, 200 PLANTS OBSERVED BY PATTERSON IN 1984, NONE SEEN IN 1986, FEWER THAN 20 IN 1989, 23 IN 1993, 72 IN 1999. INCLUDES FORMER EO #24.

Owner/Manager: PVT-PGE

Occurrence No. 17 **Map Index:** 22181 **EO Index:** 7978

Occ Rank: Good
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 2002-10-08
Site: 2002-10-08
Record Last Updated: 2003-02-12

Quad Summary: Honker Bay (3812118/481C)
County Summary: Contra Costa

Lat/Long: 38.05090º / -121.99427º
UTM: Zone-10 N4211940 E588240
Area: 20.1 acres
Elevation: 0 ft
Mapping Precision SPECIFIC
Symbol Type: POLYGON
Township: 02N
Range: 01W
Section: 05 **Qtr:** N
Meridian: M

Location: SUISUN BAY, FROM 0.3 MI W OF MIDDLE POINT TO 0.3 MI E OF MIDDLE POINT.

Location Detail: PLANTS AT EDGE OF MARSH AND 0.3 MI INLAND. OCCURRENCE MODIFIED TO INCLUDE 1996 SURVEY INFO ON CONCORD NAVAL WEAPONS STATION LAND (EASTERN AND WESTERNMOST POLYGONS). OCCURRENCE CONSISTS OF FIVE POLYGONS CURRENTLY.

Ecological: TIDAL SALT MARSH DOMINATED BY SALICORNIA VIRGINICA, AND DISTICHLIS SPICATA STOLONIFERA, JAUMEA CARNOSA, ACHILLEA MILLEFOLIUM. OTHER RARE PLANTS NEARBY: LILAEOPSIS MASONII AND LATHYRUS JEPSONII VAR. JEPSONII.

Threat: MOSQUITO ABATEMENT CHANNELS DUG IN MARSH.

General: OVER 12,000 PLANTS SEEN IN 1992 IN 5 GROUPS, 61,925 IN 1994, 16 PLANTS IN 1996 ON CONCORD NWS LAND. UNKNOWN NUMBER OF PLANTS AT WEST POLY DURING ASTER LENTUS SURVEY IN 2002.

Owner/Manager: PVT, DOD-CONCORD NWS

Cordylanthus nidularius

Mt. Diablo bird's-beak

Element Code: PDSCR0J0F0

Status	NDDB Element Ranks	Other Lists
Federal: None	**Global:** G1	**CNPS List:** 1B.1
State: Rare	**State:** S1.2	

Habitat Associations

General: CHAPARRAL.

Micro: GRASSY OR ROCKS AREAS WITHIN SERPENTINE CHAPARRAL. ONE SITE KNOWN: 765M.

Occurrence No. 1 **Map Index:** 10132 **EO Index:** 8720

Occ Rank: Good
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1994-07-26
Site: 1994-07-26
Record Last Updated: 1996-12-03

Quad Summary: Clayton (3712188/464B)
County Summary: Contra Costa

Lat/Long: 37.89359º / -121.92994º
UTM: Zone-10 N4194548 E594085
Area: 51.8 acres
Elevation: 2,520 ft

Mapping PrecisionSPECIFIC
Symbol Type:POLYGON

Township: 01N
Range: 01W
Section: 36 **Qtr:** NW
Meridian: M

Location: APPROX 0.5 AIR MILE NORTHEAST OF DEER FLAT SPRING, ON BALD RIDGE IN MOUNT DIABLO STATE PARK.

Ecological: SERPENTINE CHAPARRAL IN OPEN, ROCKY AREAS IN GRASSLAND BETWEEN SHRUBS OF ARCTOSTAPHYLOS GLAUCA, HESPEROLINON BREWERI, CALOCHORTUS PULCHELLUS, ASTRAGALUS GAMBELLIANUS, STREPTANTHUS ALBIDUS PERAMOENUS. PARTIALLY BURNED IN

Threat: FIRE ROAD BISECTS POPULATION. AREA THREATENED BY FERAL PIGS AND RECREATIONAL USE BY PARK VISITORS.

General: TYPE LOCALITY. SEVERAL POPULATIONS AT SITE. AT LEAST 800 PLANTS AT THIS SITE (1991).

Owner/Manager: DPR-MOUNT DIABLO SP

Delphinium californicum ssp. interius

Hospital Canyon larkspur

Element Code: PDRAN0B0A2

Status
Federal: None
State: None

NDDB Element Ranks
Global: G3T2?
State: S2?

Other Lists
CNPS List: 1B.2

Habitat Associations
General: CISMONTANE WOODLAND, CHAPARRAL.
Micro: IN WET, BOGGY MEADOWS, OPENINGS IN CHAPARRAL AND IN CANYONS. 225-1060M.

Occurrence No. 9 **Map Index:** 13083 **EO Index:** 15178

Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1918-06-03
Site: 1918-06-03
Record Last Updated: 2003-05-30

Quad Summary: Clayton (3712188/464B)
County Summary: Contra Costa

Lat/Long: 37.90633º / -121.91982º
UTM: Zone-10 N4195972 E594958
Area:
Elevation:
Mapping Precision NON-SPECIFIC
Symbol Type: POLYGON
Township: 01N
Range: 01W
Section: 25 **Qtr:** SE
Meridian: M

Location: DONNER CANYON, NORTHERN SLOPE OF MOUNT DIABLO.

Location Detail: BY DEAD (DRY?) STREAMLET IN BOTTOM OF CANYON. MAPPED NONSPECIFICALLY THROUGH MOST OF DONNER CANYON; NEED MORE INFO.

General: ONLY SOURCE OF INFORMATION FOR THIS SITE IS 1918 COLLECTION BY JEPSON. BACIGALUPI IDENTIFIED THIS SPECIMEN AS INTERMEDIATE BETWEEN SSP. CALIFORNICUM & SSP. INTERIUS IN 1958.

Owner/Manager: DPR-MOUNT DIABLO SP

Occurrence No. 11 **Map Index:** 51438 **EO Index:** 51438

Occ Rank: Good
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 2002-05-25
Site: 2002-05-25
Record Last Updated: 2003-05-30

Quad Summary: Clayton (3712188/464B)
County Summary: Contra Costa

Lat/Long: 37.90806º / -121.93439º
UTM: Zone-10 N4196149 E593676
Area: 2.0 acres
Elevation: 1,475 ft
Mapping Precision SPECIFIC
Symbol Type: POLYGON
Township: 01N
Range: 01W
Section: 26 **Qtr:** NE
Meridian: M

Location: 0.5 AIRMILE NNE OF EAGLE PEAK, WEST OF BACK CREEK; MT. DIABLO.

Location Detail: SMALL COLONY MAPPED IN THE SOUTHEAST 1/4 OF THE NORTHEAST 1/4 OF SECTION 26.

Ecological: MESIC AREAS IN CHAPARRAL, ON EAST-FACING SLOPE WITH PINUS SABINIANA, TOXICODENDRON, ERIDODICTYON, CEANOTHUS CUNEATUS, PTELEA CRENULATA, SAMBUCUS MEXICANUS.

Threat: TRAIL THRU POPULATION.

General: 50+ INDIVIDUALS OBSERVED IN 2002.

Owner/Manager: DPR-MOUNT DIABLO SP

Didymodon norrisii

Norris' beard moss

Element Code: NBMUS2C0H0

Status
Federal: None
State: None

NDDB Element Ranks
Global: G3G4
State: S3S4

Other Lists
CNPS List: 2.2

Habitat Associations
General: CISMONTANE WOODLAND, LOWER MONTANE CONIFEROUS FOREST.
Micro: MOSS FROM SEASONALLY WET SHEET DRAINAGES ON EXPOSED ROCK SLABS OR TERRACES THAT COMPLETELY DRY IN SUMMER. LESS FREQUENTL

Occurrence No. 14 **Map Index:** 65322 **EO Index:** 65401
Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 2001-02-03
Site: 2001-02-03
Record Last Updated: 2010-04-14

Quad Summary: Clayton (3712188/464B), Diablo (3712178/464C)
County Summary: Contra Costa

Lat/Long: 37.87570º / -121.97850º
UTM: Zone-10 N4192516 E589837
Area:
Elevation: 650 ft
Mapping Precision NON-SPECIFIC
Symbol Type: POLYGON
Township: 01S
Range: 01W
Section: 04 **Qtr:** XX
Meridian: M

Location: PINE CANYON ALONG TRAIL TO CASTLE ROCKS.
Location Detail: EXACT LOCATION UNKNOWN. MAPPED AS BEST GUESS BY CNDDB ALONG ROAD IN PINE CANYON IN SECTION 4 ACCORDING TO T-R-S PROVIDED BY SHEVOCK.
Ecological: ON SANDSTONE ROCKSLAB OF DRY STREAMLET IN A BLUE OAK WOODLAND.
General: ONLY SOURCE OF INFORMATION FOR THIS OCCURRENCE IS A 2001 COLLECTION BY SHEVOCK. NEEDS FIELDWORK.
Owner/Manager: DPR-MOUNT DIABLO SP

Occurrence No. 35 **Map Index:** 78555 **EO Index:** 79475
Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 2004-02-22
Site: 2004-02-22
Record Last Updated: 2010-04-13

Quad Summary: Clayton (3712188/464B)
County Summary: Contra Costa

Lat/Long: 37.89877º / -121.91103º
UTM: Zone-10 N4195143 E595741
Radius: 1/5 mile
Elevation: 1,650 ft
Mapping Precision NON-SPECIFIC
Symbol Type: POINT
Township: 01N
Range: 01E
Section: 30 **Qtr:** SW
Meridian: M

Location: DONNER CANYON, TRAIL TO THE WATERFALLS BELOW MT. DIABLO PEAK IN WILD OAT CANYON AREA.
Location Detail: EXACT LOCATION UNKNOWN. MAPPED AS BEST GUESS BY CNDDB IN VICINITY OF WILD OAT CANYON ACCORDING TO T-R-S AND ELEVATION PROVIDED BY SHEVOCK: T1N R1E SECTION 30, 1650 FT.
Ecological: SEEP-LIKE AREA OF METAMORPHIC ROCK OUTCROP ABOVE STREAM WITH WATERFALL IN AN UMBELLULARIA AND QUERCUS WOODLAND.
General: ONLY SOURCE OF INFORMATION FOR THIS OCCURRENCE IS A 2004 COLLECTION BY SHEVOCK. NEEDS FIELDWORK.
Owner/Manager: DPR-MOUNT DIABLO SP

Occurrence No. 36 **Map Index:** 78557 **EO Index:** 79477
Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 2004-01-25
Site: 2004-01-25
Record Last Updated: 2010-04-13

Quad Summary: Clayton (3712188/464B)
County Summary: Contra Costa

Lat/Long: 37.88021º / -121.90872º
UTM: Zone-10 N4193085 E595968
Area:
Elevation: 3,390 ft
Mapping Precision NON-SPECIFIC
Symbol Type: POLYGON
Township: 01S
Range: 01E
Section: 06 **Qtr:** NW
Meridian: M

Location: MT DIABLO STATE PARK: DEVILS ELBOW SECTION OF THE NORTH PEAK TRAIL BELOW DEVILS PULPIT.
Location Detail: MAPPED AS BEST GUESS BY CNDDB ALONG ELBOW OF TRAIL IN VICINITY OF DEVILS PULPIT.
Ecological: ON CHERT-LIKE ROCK IN AN INTERMITTENT STREAMLET AREA WITH SCATTERED JUNIPER.
General: ONLY SOURCE OF INFORMATION FOR THIS OCCURRENCE IS A 2004 COLLECTION BY SHEVOCK. NEEDS FIELDWORK.
Owner/Manager: DPR-MOUNT DIABLO SP

Dipodomys heermanni berkeleyensis

Berkeley kangaroo rat

Element Code: AMAFD03061

Status
Federal: None
State: None

NDDB Element Ranks
Global: G3G4T1
State: S1

Other Lists
CDFG Status:

Habitat Associations
General: OPEN GRASSY HILLTOPS & OPEN SPACES IN CHAPARRAL & BLUE OAK/DIGGER PINE WOODLANDS.
Micro: NEEDS FINE, DEEP, WELL-DRAINED SOIL FOR BURROWING.

Occurrence No. 4 **Map Index:** 10138 **EO Index:** 24074

Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1936-03-22
Site: 1936-03-22
Record Last Updated: 1999-01-08

Quad Summary: Diablo (3712178/464C), Clayton (3712188/464B)
County Summary: Contra Costa

Lat/Long: 37.87939º / -121.93530º
UTM: Zone-10 N4192967 E593631
Radius: 1 mile
Elevation: 3,200 ft

Mapping PrecisionNON-SPECIFIC
Symbol Type:POINT

Township: 01S
Range: 01W
Section: 02 **Qtr:** XX
Meridian: M

Location: WEST SIDE OF MT. DIABLO.

Location Detail: 10 SPECIMENS COLLECTED "1 MILE WEST OF THE SUMMIT OF MT. DIABLO" AND 2 SPECIMENS COLLECTED ON THE "WEST SIDE OF MT. DIABLO".

General: MVZ #69961-62 COLLECTED 5 FEB 1936 BY R.T. ORR. #69963-64 COLLECTED 19 FEB 1936 BY D.H. JOHNSON. #70232-39 COLLECTED 22 MARCH 1936 BY E.T. HOOPER.

Owner/Manager: DPR-MOUNT DIABLO SP

Eriastrum brandegeeae

Brandegee's eriastrum

Element Code: PDPLM03020

Status
Federal: None
State: None

NDDB Element Ranks
Global: G3
State: S3.2

Other Lists
CNPS List: 1B.2

Habitat Associations
General: CHAPARRAL, CISMONTANE WOODLAND.
Micro: ON BARREN VOLCANIC SOILS; OFTEN IN OPEN AREAS. 345-1000M.

Occurrence No. 58 **Map Index:** 57193 **EO Index:** 57209

Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 2003-06-14
Site: 2003-06-14
Record Last Updated: 2004-10-04

Quad Summary: Clayton (3712188/464B)
County Summary: Contra Costa

Lat/Long: 37.93189º / -121.98552º
UTM: Zone-10 N4198743 E589151
Radius: 1/5 mile
Elevation: 920 ft

Mapping Precision NON-SPECIFIC
Symbol Type: POINT

Township: 01N
Range: 01W
Section: 16 **Qtr:** SW
Meridian: M

Location: LIME RIDGE OPEN SPACE, SADDLE SOUTHEAST OF SUMMIT, EAST OF WALNUT CREEK.

Location Detail: PLANTS FOUND IN SADDLE SOUTHEAST OR SUMMIT IN 1998 AND ON SANDY FIRE ROAD AND TRAIL NEAR TRANSMISSION TOWERS IN 2003.

Ecological: SANDY PATCHES IN CHAPARRAL. WITH NAVARRETIA ATRACTYLOIDES.

General: PLANTS LOCAL AND RARE IN 1998. FLOWERS BLUE IN 2003. NEEDS FIELDWORK TO REFINE LOCATION.

Owner/Manager: UNKNOWN

Eriogonum truncatum

Mt. Diablo buckwheat

Element Code: PDPGN085Z0

Status
Federal: None
State: None

NDDB Element Ranks
Global: G1
State: S1.1

Other Lists
CNPS List: 1B.1

Habitat Associations
General: CHAPARRAL, COASTAL SCRUB, VALLEY AND FOOTHILL GRASSLAND.
Micro: DRY, EXPOSED CLAY OR SANDY SUBSTRATES. 100-600M.

Occurrence No. 1 **Map Index:** 60588 **EO Index:** 60624

Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1888-05-XX
Site: 1888-05-XX
Record Last Updated: 2005-03-16

Quad Summary: Clayton (3712188/464B), Diablo (3712178/464C)
County Summary: Contra Costa

Lat/Long: 37.88772º / -121.90687º
UTM: Zone-10 N4193921 E596120
Radius: 1 mile
Elevation:

Mapping Precision NON-SPECIFIC
Symbol Type: POINT

Township: 01N
Range: 01E
Section: 31 **Qtr:** XX
Meridian: M

Location: MT. DIABLO AND EAST OF MT. DIABLO.

Location Detail: BASED ON TWO COLLECTIONS: "MT. DIABLO" (PARRY SN) AND "EAST OF MT. DIABLO" (GREENE SN). MAPPED AS BEST GUESS AROUND SUMMIT MT. DIABLO AND NORTH PEAK; UNKNOWN WHERE PLANTS ACTUALLY SEEN.

General: ONLY SOURCES ARE 1883 AND 1888 COLLECTIONS; NEEDS FIELDWORK.

Owner/Manager: DPR-MOUNT DIABLO SP

Occurrence No. 2 **Map Index:** 10007 **EO Index:** 21078

Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1936-06-20
Site: 1936-06-20
Record Last Updated: 1996-12-26

Quad Summary: Clayton (3712188/464B)
County Summary: Contra Costa

Lat/Long: 37.92241º / -121.96718º
UTM: Zone-10 N4197709 E590775
Radius: 1/5 mile
Elevation: 1,150 ft

Mapping Precision NON-SPECIFIC
Symbol Type: POINT

Township: 01N
Range: 01W
Section: 22 **Qtr:** NW
Meridian: M

Location: KNOLL WEST OF MOUNT ZION, NORTH END, NORTHWEST OF MOUNT DIABLO.

Ecological: FOUND ON STEEP HILLSIDE, WEST EXPOSURE. ASSOCIATED WITH RHUS, ERIOPHYLLUM JEPSONII, ARTEMISIA CALIFORNICA.

Owner/Manager: PVT

Fritillaria liliacea

fragrant fritillary

Element Code: PMLIL0V0C0

Status	NDDB Element Ranks	Other Lists
Federal: None	**Global:** G2	**CNPS List:** 1B.2
State: None	**State:** S2.2	

Habitat Associations

General: COASTAL SCRUB, VALLEY AND FOOTHILL GRASSLAND, COASTAL PRAIRIE.

Micro: OFTEN ON SERPENTINE; VARIOUS SOILS REPORTED THOUGH USUALLY CLAY, IN GRASSLAND. 3-410M.

Occurrence No. 34 **Map Index:** 25570 **EO Index:** 14266

Occ Rank: Good
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 2002-XX-XX
Site: 2002-XX-XX
Record Last Updated: 2007-04-02

Quad Summary: Clayton (3712188/464B)
County Summary: Contra Costa

Lat/Long: 37.87865º / -121.99429º
UTM: Zone-10 N4192827 E588444
Radius: 80 meters
Elevation: 850 ft

Mapping PrecisionSPECIFIC
Symbol Type:POINT

Township: 01S
Range: 01W
Section: 5 **Qtr:** NE
Meridian: M

Location: DIABLO FOOTHILLS REGIONAL PARK, SOUTHEAST END OF SHELL RIDGE.

Location Detail: IN SADDLE OF HILLS, ABOUT 1000 FEET EAST OF POND ON NORTHEAST FACING SLOPE.

Ecological: GRASSLAND ON NORTH-FACING SLOPE. ASSOCIATED WITH ANNUAL GRASSES, WYETHIA ANGUSTIFOLIA, CHLOROGALUM POMERIDIANUM, DICHELOSTEMMA PULCHELLA, ACHILLEA MILLEFOLIUM, DODECATHEON HENDERSONII, RANUNCULUS CALIFORNICA, AMSINCKIA INTERMEDIA, LUPINUS.

Threat: CATTLE GRAZING, OFF TRAIL TRAVEL, AND POSSIBLY COLLECTION ARE THREATS. PROPER GRAZING REGIME IS NEEDED AT THIS SITE.

General: 400 PLANTS OBSERVED IN 1990 BY COPPE, 690+ OBSERVED BY LAKE IN 1991, 1 PLANT OBSERVED IN 1997 BY ZAVATSKY, 20 PLANTS IN 2000 BY ARREAS, 500+ PLANTS IN 2002 BY ZAVATSKY. INCLUDES 1979 BOWERMAN COLLECTION.

Owner/Manager: EBRPD-DIABLO FOOTHILLS RP

Geothlypis trichas sinuosa

saltmarsh common yellowthroat

Element Code: ABPBX1201A

Status
Federal: None
State: None

NDDB Element Ranks
Global: G5T2
State: S2

Other Lists
CDFG Status: SC

Habitat Associations
General: RESIDENT OF THE SAN FRANCISCO BAY REGION, IN FRESH AND SALT WATER MARSHES.
Micro: REQUIRES THICK, CONTINUOUS COVER DOWN TO WATER SURFACE FOR FORAGING; TALL GRASSES, TULE PATCHES, WILLOWS FOR NESTING.

Occurrence No. 65 **Map Index:** 24890 **EO Index:** 24801
Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: XXXX-XX-XX
Site: 1985-09-09
Record Last Updated: 1999-01-14

Quad Summary: Honker Bay (3812118/481C), Vine Hill (3812211/482D)
County Summary: Solano

Lat/Long: 38.08449º / -122.02019º
UTM: Zone-10 N4215643 E585927
Area:
Elevation: 5 ft

Mapping PrecisionNON-SPECIFIC
Symbol Type:POLYGON

Township: 03N
Range: 02W
Section: 19 **Qtr:** XX
Meridian: M

Location: RYER ISLAND, SUISUN BAY.

General: OBSERVED BY U.S. FISH & WILDLIFE SERVICE REFUGE PERSONNEL IN THE PAST (R. LOWE, PERS COMM). NOT OBSERVED DURING 1985 SURVEY.

Owner/Manager: DOD-CONCORD NWS

Helianthella castanea

Diablo helianthella

Element Code: PDAST4M020

Status
Federal: None
State: None

NDDB Element Ranks
Global: G3
State: S3.2

Other Lists
CNPS List: 1B.2

Habitat Associations
General: BROADLEAVED UPLAND FOREST, CHAPARRAL, CISMONTANE WDLND, COASTAL SCRUB, RIPARIAN WOODLAND, VALLEY & FOOTHILL GRASSLAND.
Micro: USUALLY IN CHAPARRAL/OAK WOODLAND INTERFACE IN ROCKY, AZONAL SOILS. OFTEN IN PARTIAL SHADE. 25-1150M.

Occurrence No. 1 **Map Index:** 10088 **EO Index:** 791

Occ Rank: Good
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1994-XX-XX
Site: 1994-XX-XX
Record Last Updated: 2006-08-22

Quad Summary: Clayton (3712188/464B)
County Summary: Contra Costa

Lat/Long: 37.89247º / -121.93920º
UTM: Zone-10 N4194415 E593272
Area: 87.2 acres
Elevation: 1,400 ft

Mapping PrecisionSPECIFIC
Symbol Type:POLYGON

Township: 01N
Range: 01W
Section: 35 **Qtr:** E
Meridian: M

Location: MITCHELL CANYON, SOUTH OF EAGLE PEAK, MOUNT DIABLO STATE PARK.

Location Detail: SEVERAL COLONIES MAPPED ALONG MITCHELL CANYON ROAD FROM MITCHELL CANYON SOUTH ABOUT 0.75 MILES AND ON THE NORTH SIDE OF MITCHELL CANYON IN AN OLD BURN AREA (THIS SITE NOT REPORTED ON SINCE 1979).

Ecological: MITCHELL CANYON ROAD COLONIES ARE WITHIN CHAPARRAL AND TRANSITION ZONES BETWEEN CHAPARRAL AND RIPARIAN/OAK/BAY WOODLANDS. ASSOCIATED WITH HAPLOPAPPUS LINEARIFOLIUS, TOXICODENDRON, PINUS SABINIANA, QUERCUS LOBATA, UMBELLULARIA ET AL.

Threat: ROAD CONSTRUCTION AND MAINTENANCE, OFF-TRAIL TRAVEL.

General: 450+ PLANTS OBSERVED IN 1990; 10 IN 1991 IN A SMALL AREA. LARGE FLOWERING COLONY MAY 6, 1979, N SIDE OF CANYON; UNKNOWN IF IT STILL EXISTS OR HAS BEEN AFFECTED BY CANOPY CLOSURE. 1994 SIGHTING BY HINTSA ALSO ATTRIBUTED TO THIS OCCURRENCE.

Owner/Manager: DPR-MOUNT DIABLO SP

Occurrence No. 2 **Map Index:** 10178 **EO Index:** 787

Occ Rank: Good
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1994-XX-XX
Site: 1994-XX-XX
Record Last Updated: 2006-08-25

Quad Summary: Clayton (3712188/464B)
County Summary: Contra Costa

Lat/Long: 37.88722º / -121.91393º
UTM: Zone-10 N4193858 E595501
Area: 33.2 acres
Elevation: 3,800 ft

Mapping PrecisionSPECIFIC
Symbol Type:POLYGON

Township: 01N
Range: 01E
Section: 31 **Qtr:** SW
Meridian: M

Location: SUMMIT AND NORTH SLOPE OF MOUNT DIABLO, MOUNT DIABLO STATE PARK.

Location Detail: SEVERAL COLONIES ALONG THE TRAILS AND ROADS BETWEEN THE OBSERVATION TOWER EAST TO TO DEVILS PULPIT, NORTH TO PROSPECTORS GAP, AND NORTHWEST TOWARDS BALD RIDGE.

Ecological: OAK WOODLAND/BAY-OAK WOODLAND/CHAPARRAL. ASSOCIATED WITH QUERCUS CHRYSOLEPIS, Q. WISLIZENII, UMBELLULARIA, TOXICODENDRON, CEANOTHUS CUNEATUS, CERCOCARPUS BETULOIDES, HOLODISCUS DISCOLOR, RHAMNUS CROCEA, SOLANUM UMBELLIFERUM, ET AL.

Threat: OFF-TRAIL USE AND TRAIL CONSTRUCTION.

General: 126 PLANTS OBSERVED IN 2 COLONIES IN 1990, 175+ OBSERVED IN 6 COLONIES IN 1991. 1916 COLLECTION BY HALL, 1922 COLLECTION BY JEPSON, 1994 SIGHTING BY HINTSA, AND FORMER EO #34 ALSO ATTRIBUTED TO THIS OCCURRENCE.

Owner/Manager: DPR-MOUNT DIABLO SP

Helianthella castanea

Diablo helianthella

Element Code: PDAST4M020

Status
Federal: None
State: None

NDDB Element Ranks
Global: G3
State: S3.2

Other Lists
CNPS List: 1B.2

Habitat Associations
General: BROADLEAVED UPLAND FOREST, CHAPARRAL, CISMONTANE WDLND, COASTAL SCRUB, RIPARIAN WOODLAND, VALLEY & FOOTHILL GRASSLAND.
Micro: USUALLY IN CHAPARRAL/OAK WOODLAND INTERFACE IN ROCKY, AZONAL SOILS. OFTEN IN PARTIAL SHADE. 25-1150M.

Occurrence No. 3 **Map Index:** 27839 **EO Index:** 792
Occ Rank: Poor
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1992-03-23
Site: 1992-03-23
Record Last Updated: 1998-11-20

Quad Summary: Clayton (3712188/464B)
County Summary: Contra Costa

Lat/Long: 37.88318º / -121.98616º
UTM: Zone-10 N4193338 E589154
Radius: 80 meters
Elevation: 720 ft
Mapping PrecisionSPECIFIC
Symbol Type:POINT
Township: 01S
Range: 01W
Section: 33 **Qtr:** XX
Meridian: M

Location: PINE CANYON, AT THE FOOT OF CASTLE ROCK, MOUNT DIABLO STATE PARK (OR WITHIN DIABLO FOOTHILLS REGIONAL PARK?).

Location Detail: NORTHWEST OF CASTLE ROCK ON SLOPE ABOUT 0.35 MILE SOUTHEAST OF SULFUR SPRING.

Ecological: IN CLEFT IN SANDSTONE OUTCROPPING. IN OAK WOODLAND ASSOCIATED WITH QUERCUS DOUGLASII, Q. AGRIFOLIA, SALVIA SPATHACEA, DELPHINIUM PATENS, BRODIAEA PULCHELLA, AVENA, BROMUS DIANDRUS, AND LOTUS SCOPARIUS. SITE IS ON WEST-FACING 100% SLOPE.

Threat: OFF-TRAIL TRAVEL, EROSION, AND GRAZING THREATEN.

General: 1 PLANT IN 1990, 30 IN 1992. VICINITY FIRST NOTED IN 1940 COLLECTION BY HOWELL (#15398, CAS) FROM PINE CANYON. MAPPED WHERE SEEN IN 1990; NO MAP REC'D. IN 1992, BUT LAT/LONG SAME. (1990 INFO SAYS STATE PARK, 1992 SAYS REG. PARK).

Owner/Manager: DPR-MOUNT DIABLO SP

Occurrence No. 5 **Map Index:** 10312 **EO Index:** 799
Occ Rank: Good
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1991-05-05
Site: 1991-05-05
Record Last Updated: 1996-02-29

Quad Summary: Clayton (3712188/464B)
County Summary: Contra Costa

Lat/Long: 37.95240º / -121.88871º
UTM: Zone-10 N4201116 E597632
Area: 17.0 acres
Elevation: 1,300 ft
Mapping PrecisionSPECIFIC
Symbol Type:POLYGON
Township: 01N
Range: 01E
Section: 08 **Qtr:** N
Meridian: M

Location: 0.4 MILE SOUTHWEST OF NORTONVILLE, BLACK DIAMOND REGIONAL PARK.

Location Detail: SEVERAL COLONIES MAPPED ALONG CREEK THAT DRAINS FROM THE NW 1/4 OF SECTION 8 TOWARDS NORTONVILLE. MOST COLONIES ARE NEAR THE CENTER OF THE N 1/4 OF SECTION 8.

Ecological: USUALLY AT EDGE BETWEEN WOODLAND/RIPARIAN AND CHAPARRAL. ASSOCIATED WITH QUERCUS SPP., PTELEA CRENULATA, ANNUAL GRASSES, WYETHIA GLABRA, W. HELENOIDES, NEMOPHILIA HETEROPHYLA, CALOCHORTUS PULCHELLUS, GALIUM APARINE, MELICA TORREYANA, ETC.

Threat: GRAZING, TRAIL MAINTENANCE, FIRE SUPPRESSION, AND COMPETITION W/ PTELEA CRENULATA.

General: APPROX. 100 PLANTS IN 5 COLONIES OBSERVED IN 1990, 260+ PLANTS IN 5 COLONIES IN 1991. 1974 COLLECTION BY HOWELL (#6475, RSA) FROM NORTONVILLE IS ATTRIBUTED TO THIS SITE.

Owner/Manager: EBRPD-BLACK DIAMOND MINES RP

Helianthella castanea

Diablo helianthella

Element Code: PDAST4M020

Status
Federal: None
State: None

NDDB Element Ranks
Global: G3
State: S3.2

Other Lists
CNPS List: 1B.2

Habitat Associations
General: BROADLEAVED UPLAND FOREST, CHAPARRAL, CISMONTANE WDLND, COASTAL SCRUB, RIPARIAN WOODLAND, VALLEY & FOOTHILL GRASSLAND.
Micro: USUALLY IN CHAPARRAL/OAK WOODLAND INTERFACE IN ROCKY, AZONAL SOILS. OFTEN IN PARTIAL SHADE. 25-1150M.

Occurrence No. 26 **Map Index:** 27835 **EO Index:** 797
Occ Rank: Fair
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1998-05-10
Site: 1998-05-10
Record Last Updated: 2006-08-04

Quad Summary: Clayton (3712188/464B)
County Summary: Contra Costa

Lat/Long: 37.93205º / -121.99486º
UTM: Zone-10 N4198752 E588331
Radius: 80 meters
Elevation: 580 ft
Mapping Precision SPECIFIC
Symbol Type: POINT
Township: 01N
Range: 01W
Section: 17 **Qtr:** SE
Meridian: M

Location: WESTERN SLOPE OF LIME RIDGE, ABOUT 0.5 MILES WEST OF RIDGE SUMMIT, WEST OF CLAYTON.

Location Detail: ON WEST-FACING CUT OF OLD QUARRY, ABOUT 0.75 MILE SOUTH OF YGNACIO VALLEY ROAD AT THE CORPORATE BOUNDARY BETWEEN WALNUT CREEK AND CONCORD.

Ecological: FACE OF QUARRY CUT. GRASSLAND AT BASE, OAK WOODLAND AT TOP, FRAGEMENT OF CHAPARRAL ON FACE. ASSOCIATED WITH PTELEA CRENULATA, ARTEMISIA CALIFORNICA, HETEROMELES, QUERCUS DOUGLASII, AVENA, AND ERIOPHYLLUM CONFERTIFOLIUM.

General: 41 PLANTS OBSERVED IN 1990. POPULATION HAS LIMITED CHANCE TO SPREAD. SITE IS WITHIN CITY OF WALNUT CREEK OPEN SPACE DISTRICT. 1998 SIGHTING BY ERTTER AT "LIME RIDGE: W SIDE...BETWEEN QUARRY AREAS" ALSO ATTRIBUTED TO THIS OCCURRENCE.

Owner/Manager: CITY OF WALNUT CREEK

Occurrence No. 27 **Map Index:** 27836 **EO Index:** 796
Occ Rank: Fair
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 2000-05-14
Site: 2000-05-14
Record Last Updated: 2003-07-01

Quad Summary: Clayton (3712188/464B)
County Summary: Contra Costa

Lat/Long: 37.92959º / -121.98532º
UTM: Zone-10 N4198488 E589171
Area: 37.1 acres
Elevation: 1,000 ft
Mapping Precision SPECIFIC
Symbol Type: POLYGON
Township: 01N
Range: 01W
Section: 16 **Qtr:** XX
Meridian: M

Location: LIME RIDGE, WEST OF CLAYTON.

Location Detail: MULTIPLE COLONIES MAPPED AS FOUR POLYGONS, 1) ALONG ROAD (SUMMIT) AT, AND JUST SOUTH OF VABM 1001; 2) IN GULLY 0.3 AIRMILE DUE SOUTH OF VABM; 3) SLOPE ABOVE GOLF COURSE, ~0.7 MI SSW OF RIDGE SUMMIT.

Ecological: CHAPARRAL, OAK WOODLAND & INTERFACE W/ ADENOSTOMA FACSICULATUM, TOXICODENDRON, RHUS TRILOBATA, ERIODICTYON CALIFORNICA, QUERCUS DOUGLASII, Q. AGRIFOLIA, MONARDELLA VILLOSA, ACHILLEA MILLEFOLIUM, WYETHIA HELENOIDES, STIPA LEPIDA, ET AL.

Threat: MOUNTAIN BIKES, HIKING, GRAZING, DUMPING, VANDALISM FIRES, TRANSMISSION TOWER MAINTENANCE, AND ROAD MAINTENANCE.

General: N POLY: 490 PLANTS IN 1990; CENTER POLY: UNK # PLANTS IN 2000; S POLYS 47 PLANTS IN 1991, 10 IN PART IN 1996. SITE IS W/IN CITY OF WALNUT CREEK OPEN SPACE (PUBLIC OWNRSHP) & SHOULD REC'V HIGHER DEGREE OF PROTECTION. FMR EO 28 LUMPED HERE.

Owner/Manager: CITY OF WALNUT CREEK

Helianthella castanea

Diablo helianthella

Element Code: PDAST4M020

Status
Federal: None
State: None

NDDB Element Ranks
Global: G3
State: S3.2

Other Lists
CNPS List: 1B.2

Habitat Associations
General: BROADLEAVED UPLAND FOREST, CHAPARRAL, CISMONTANE WDLND, COASTAL SCRUB, RIPARIAN WOODLAND, VALLEY & FOOTHILL GRASSLAND.
Micro: USUALLY IN CHAPARRAL/OAK WOODLAND INTERFACE IN ROCKY, AZONAL SOILS. OFTEN IN PARTIAL SHADE. 25-1150M.

Occurrence No. 29 **Map Index:** 27834 **EO Index:** 798
Occ Rank: Good
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1991-05-05
Site: 1991-05-05
Record Last Updated: 1996-02-29

Quad Summary: Clayton (3712188/464B)
County Summary: Contra Costa

Lat/Long: 37.94824º / -121.89424º
UTM: Zone-10 N4200648 E597152
Radius: 80 meters
Elevation: 1,560 ft
Mapping Precision SPECIFIC
Symbol Type: POINT
Township: 01N
Range: 01E
Section: 08 **Qtr:** NW
Meridian: M

Location: BLACK DIAMOND REGIONAL PARK, ABOUT 1 MILE SOUTHWEST OF NORTONVILLE.

Location Detail: ABOVE INTERSECTION OF BLACK DIAMOND WAY AND TRAIL ON KNOB WITH TRANSMISSION TOWER NEARBY. SITE IS MAPPED SOUTH OF MINES WITHIN THE SW 1/4 OF THE NW 1/4 OF SECTION 8.

Ecological: CHAPARRAL ON SANDSTONE. WITH ADENOSTOMA FASCICULATUM, SALVIA MELLIFERA, QUERCUS AGRIFOLIA, PTELEA CRENULATA, HOLODISCUS DISCOLORY, BROMUS MADRATENSIS, B. DIANDRUS, ZIGADENUS FREMONTII, CALOCHORTUS PULCHELLUS, AND ERIOPHYLLUM LANATUM.

General: 91 PLANTS OBSERVED IN 1991. SITE IS WITHIN "YOUNG" CHAPARRAL OF LIMITED EXTENT.

Owner/Manager: EBRPD-BLACK DIAMOND MINES RP

Occurrence No. 30 **Map Index:** 27830 **EO Index:** 794
Occ Rank: Fair
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1991-04-06
Site: 1991-04-06
Record Last Updated: 1996-02-29

Quad Summary: Clayton (3712188/464B)
County Summary: Contra Costa

Lat/Long: 37.90737º / -121.95418º
UTM: Zone-10 N4196053 E591937
Radius: 80 meters
Elevation: 890 ft
Mapping Precision SPECIFIC
Symbol Type: POINT
Township: 01N
Range: 01W
Section: 27 **Qtr:** NE
Meridian: M

Location: MOUNT DIABLO STATE PARK, WHITE CANYON, ABOUT 0.25 MILE WEST OF MITCHELL CANYON.

Location Detail: NORTH SIDE OF RED ROAD 0.2 MILE SW OF MITCHELL CANYON ROAD. ON ROAD BANK ABOUT 50 FT ABOVE ROAD. WITHIN THE SE 1/4 OF THE NW 1/4 OF SECTION 27.

Ecological: CHAPARRAL/OAK WOODLAND WITH QUERCUS AGRIFOLIA, Q. DOUGLASII, HETEROMELES, TOXICODENDRON, ADENOSTOMA, ARTEMISIA CALIFORNICA, WYETHIA HELENOIDES, PEDICULARIS DENSIFLORA, GALIUM NUTALLII, STIPA LEPIDA, MELICA TORREYANA, SANICULA SPP., ET AL.

Threat: BRUSHING. THIS SITE HAS BEEN DRASTICALLY ALTERED; IMPACT IS NOT CLEAR.

General: 42 PLANTS OBSERVED IN 1991.

Owner/Manager: DPR-MOUNT DIABLO SP

Helianthella castanea

Diablo helianthella

Element Code: PDAST4M020

Status
Federal: None
State: None

NDDB Element Ranks
Global: G3
State: S3.2

Other Lists
CNPS List: 1B.2

Habitat Associations
General: BROADLEAVED UPLAND FOREST, CHAPARRAL, CISMONTANE WDLND, COASTAL SCRUB, RIPARIAN WOODLAND, VALLEY & FOOTHILL GRASSLAND.
Micro: USUALLY IN CHAPARRAL/OAK WOODLAND INTERFACE IN ROCKY, AZONAL SOILS. OFTEN IN PARTIAL SHADE. 25-1150M.

Occurrence No. 31 **Map Index:** 27829 **EO Index:** 793
Occ Rank: Good
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1991-03-21
Site: 1991-03-21
Record Last Updated: 1996-02-29

Quad Summary: Clayton (3712188/464B)
County Summary: Contra Costa

Lat/Long: 37.89075º / -121.96366º
UTM: Zone-10 N4194200 E591123
Radius: 80 meters
Elevation: 1,200 ft
Mapping Precision SPECIFIC
Symbol Type: POINT
Township: 01N
Range: 01W
Section: 34 **Qtr:** XX
Meridian: M

Location: MOUNT DIABLO STATE PARK, BETWEEN LONG RIDGE AND UPPER ARROYO DEL CERRO, 0.6 MILE SOUTH OF PEACH TREE SPRINGS.
Location Detail: MAPPED ALONG NORTH SIDE OF ROAD BETWEEN RIDGE AND ARROYO, WEST OF JUNCTION WITH ROAD TO TENDERFOOT FLAT.
Ecological: CHAMISE CHAPARRAL/BLUE OAK WOODLAND. ASSOCIATED WITH ADENOSTOMA FACSICULATUM, QUERCUS DOUGLASII, LEPECHINIA CALYCINIA, SOLANUM UMBELLIFERUM, PEDICULARIS DENSIFLORA, RIBES MALVACEUM, TOXICODENDRON, ACHILLEA, CEANOTHUS CUNEATUS, ET AL.
Threat: GRAZING.
General: 42 PLANTS OBSERVED IN 1991. SITE IS PRIVATE GRAZING LAND.
Owner/Manager: PVT

Occurrence No. 32 **Map Index:** 27831 **EO Index:** 789
Occ Rank: Fair
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1991-05-18
Site: 1991-05-18
Record Last Updated: 1996-02-29

Quad Summary: Clayton (3712188/464B)
County Summary: Contra Costa

Lat/Long: 37.90145º / -121.92012º
UTM: Zone-10 N4195430 E594938
Radius: 80 meters
Elevation: 1,400 ft
Mapping Precision SPECIFIC
Symbol Type: POINT
Township: 01N
Range: 01W
Section: 25 **Qtr:** SE
Meridian: M

Location: MOUNT DIABLO STATE PARK, DONNER CANYON ABOUT 0.7 MILE NORTHEAST OF THE SUMMIT OF BALD RIDGE.
Location Detail: ALONG EDGE OF MIDDLE TRAIL ABOUT 0.2 MILE SOUTH OF INTERSECTION WITH DONNER CANYON ROAD.
Ecological: CLEARING IN CHAPARRAL WITH QUERCUS WISLIZENII, CEANOTHUS SOREDIATUS, HETEROMELES, TOXICODENDRON, ERIODICTYON CALIFORNICA, CLEMATIS LASIANTHUS, MELICA TORREYANA, BROMUS SPP., GALIUM NUTTALLII, AND ALLIUM SERATUM. ON SANDSTONE.
Threat: SMALL SIZE OF POPULATION AND CANOPY CLOSURE.
General: 11 PLANTS OBSERVED IN 1991.
Owner/Manager: DPR-MOUNT DIABLO SP

Occurrence No. 33 **Map Index:** 27838 **EO Index:** 790
Occ Rank: Fair
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1995-05-08
Site: 1995-05-08
Record Last Updated: 1998-11-25

Quad Summary: Clayton (3712188/464B)
County Summary: Contra Costa

Lat/Long: 37.88049º / -121.93563º
UTM: Zone-10 N4193089 E593601
Area: 8.8 acres
Elevation: 2,920 ft
Mapping Precision SPECIFIC
Symbol Type: POLYGON
Township: 01S
Range: 01W
Section: 02 **Qtr:** NE
Meridian: M

Location: MOUNT DIABLO STATE PARK, WESTERN SLOPE OF THE SUMMIT OF MOSES ROCK RIDGE.
Location Detail: ALONG DEER FLAT ROAD ABOUT 0.3-0.5 MI WEST OF JUNIPER CAMP.
Ecological: ALONG ROAD CUT AND FILL FACES WITHIN PINE-OAK WOODLAND. ASSOCIATED W/ERODIUM MOSCHATUM, ACHYRACHAENA MOLLIS, QUERCUS CHRYSOLEPIS, TRIFOLIUM TRIDENTATUM, PHACELIA BREWERI, TAUSCHIA HARTWEGII, AND CALOCHORTUS PULCHELLA. GROWING ON SANDSTONE.
Threat: ROAD MAINTENANCE AND GRAZING.
General: 15 PLANTS OBSERVED IN 1990, 24 IN 1991, 7 IN 1995.

Helianthella castanea

Diablo helianthella

Element Code: PDAST4M020

Status
Federal: None
State: None

NDDB Element Ranks
Global: G3
State: S3.2

Other Lists
CNPS List: 1B.2

Habitat Associations
General: BROADLEAVED UPLAND FOREST, CHAPARRAL, CISMONTANE WDLND, COASTAL SCRUB, RIPARIAN WOODLAND, VALLEY & FOOTHILL GRASSLAND.
Micro: USUALLY IN CHAPARRAL/OAK WOODLAND INTERFACE IN ROCKY, AZONAL SOILS. OFTEN IN PARTIAL SHADE. 25-1150M.

Owner/Manager: DPR-MOUNT DIABLO SP

Occurrence No. 72 **Map Index:** 51646 **EO Index:** 51646

Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1930-06-10
Site: 1930-06-10
Record Last Updated: 2003-06-26

Quad Summary: Clayton (3712188/464B)
County Summary: Contra Costa

Lat/Long: 37.90753º / -121.92712º
UTM: Zone-10 N4196098 E594314
Radius: 1/5 mile
Elevation:

Mapping PrecisionNON-SPECIFIC
Symbol Type:POINT

Township: 01N
Range: 01W
Section: 25 **Qtr:** NW
Meridian: M

Location: MERIDIAN PEAK SUMMIT, MOUNT DIABLO.
Location Detail: EXACT LOCATION UNKNOWN, MAPPED AT SUMMIT OF MERIDIAN RIDGE NNW OF MOUNT DIABLO PEAK.
Ecological: OPEN PLACES OR SEMI-OPEN IN CHAPARRAL
General: ONLY SOURCE OF INFORMATION IS 1930 COLLECTION BY BOWERMAN. NEEDS FIELDWORK.
Owner/Manager: DPR-MOUNT DIABLO SP

Helminthoglypta nickliniana bridgesi

Bridges' coast range shoulderband

Element Code: IMGASC2362

Status
Federal: None
State: None

NDDB Element Ranks
Global: G2T1
State: S1

Other Lists
CDFG Status:

Habitat Associations
General: INHABITS OPEN HILLSIDES OF ALAMEDA AND CONTRA COSTA COUNTIES.
Micro: TENDS TO COLONIZE UNDER TALL GRASSES AND WEEDS.

Occurrence No. 1 **Map Index:** 10274 **EO Index:** 23088

Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: XXXX-XX-XX
Site: XXXX-XX-XX

Record Last Updated: 1995-08-22

Quad Summary: Diablo (3712178/464C), Clayton (3712188/464B), Antioch South (3712187/464A)
County Summary: Contra Costa

Lat/Long: 37.88797º / -121.88884º
UTM: Zone-10 N4193967 E597706
Radius: 1 mile
Elevation: 1,950 ft

Mapping Precision NON-SPECIFIC
Symbol Type: POINT

Township: 01N
Range: 01E
Section: 32 **Qtr:** SW
Meridian: M

Location: PERKINS CANYON, ON THE EAST SLOPE OF MT DIABLO, 4.5 MI SE OF CLAYTON.
Ecological: PREFERS ROCK PILES, BUT SOMETIMES OCCURS IN COLONIES UNDER GRASS AND WEEDS ON OPEN HILLSIDES.
Threat: ENDANGERED BY INDUSTRIAL & BUILDING EXPANSION.
General: PILSBRY MENTIONED THAT HE HAD A LOT OF 4 SHELLS FROM THIS LOCATION.
Owner/Manager: DPR-MOUNT DIABLO SP, PVT

Hesperolinon breweri

Brewer's western flax

Element Code: PDLIN01030

Status
Federal: None
State: None

NDDB Element Ranks
Global: G2
State: S2.2

Other Lists
CNPS List: 1B.2

Habitat Associations
General: CHAPARRAL, CISMONTANE WOODLAND, VALLEY AND FOOTHILL GRASSLAND.
Micro: OFTEN IN ROCKY SERPENTINE SOIL IN SERPENTINE CHAPARRAL AND SERPENTINE GRASSLAND. 30-885M.

Occurrence No. 1 **Map Index:** 13083 **EO Index:** 9321

Occ Rank: Good
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 2002-05-06
Site: 2002-05-06
Record Last Updated: 2003-06-30

Quad Summary: Clayton (3712188/464B)
County Summary: Contra Costa

Lat/Long: 37.90633º / -121.91982º
UTM: Zone-10 N4195972 E594958
Area:
Elevation:
Mapping Precision NON-SPECIFIC
Symbol Type: POLYGON
Township: 01N
Range: 01W
Section: 25 **Qtr:** SE
Meridian: M

Location: DONNER CANYON, MOUNT DIABLO STATE PARK.

Location Detail: AREA MAPPED AS ENTIRE CANYON. THREE VERY SMALL COLONIES LOCATED AT THE TOP OF THE SOUTH END OF HETHERINGTON LOOP, TOP OF DONNER CANYON ROAD, BEGINNING OF MIDDLE TRAIL.

Ecological: CHAPARRAL.

General: PRIMARY SOURCES INCLUDE COLLECTIONS FROM: RATTAN (SN DS) IN 1886, MEIRERE (SN CAS) IN 1916, & JEPSON (#7568 JEPS) IN 1918. UNK # OF PLANTS OBS IN 2002 FROM LIMITED SURVEY AREA. NEEDS FIELDWORK TO IDENTIFY EXTENT.

Owner/Manager: DPR-MOUNT DIABLO SP

Occurrence No. 2 **Map Index:** 10067 **EO Index:** 18647

Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1930-06-22
Site: 1930-06-22
Record Last Updated: 2003-06-30

Quad Summary: Clayton (3712188/464B)
County Summary: Contra Costa

Lat/Long: 37.90673º / -121.94890º
UTM: Zone-10 N4195987 E592401
Area:
Elevation:
Mapping Precision NON-SPECIFIC
Symbol Type: POLYGON
Township: 01N
Range: 01W
Section: 26 **Qtr:** SW
Meridian: M

Location: MITCHELL CANYON, MOUNT DIABLO STATE PARK.

Location Detail: MAPPED ALONG MAIN CANYON.

Ecological: OPEN OR SEMI-OPEN GRASSY PLACES OR BANKS.

General: ONLY SOURCE OF INFORMATION FOR THIS SITE IS 1930 COLLECTION BY BOWERMAN. NEEDS FIELDWORK TO DETERMINE EXTENT OF POPULATION IN THIS AREA.

Owner/Manager: DPR-MOUNT DIABLO SP

Occurrence No. 3 **Map Index:** 10203 **EO Index:** 18648

Occ Rank: Good
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1951-06-04
Site: 1951-06-04
Record Last Updated: 1997-12-31

Quad Summary: Clayton (3712188/464B)
County Summary: Contra Costa

Lat/Long: 37.88692º / -121.91090º
UTM: Zone-10 N4193827 E595768
Radius: 80 meters
Elevation: 2,900 ft
Mapping Precision SPECIFIC
Symbol Type: POINT
Township: 01N
Range: 01E
Section: 31 **Qtr:** SW
Meridian: M

Location: MOUNT DIABLO STATE PARK; DEVILS ELBOW TRAIL NEAR PROSPECTORS GAP & MIMULUS SPRING.

Ecological: TRANSITION BETWEEN ANNUAL GRASSLAND & MIXED CHAPARRAL. WITH PINUS SABINIANA, CEANOTHUS CUNEATUS, HAPLOPAPPUS LINEARIFOLIUS, AVENA BARBATA, POA SCABRELLA, MONARDELLA DOUGLASII, CALOCHORTUS VENUSTUS, & ACHILLEA MILLEFOLIUM.

General: 500 PLANTS ESTIMATED IN 1992. SITE PROBABLY INCLUDES THESE HISTORICAL COLLECTIONS: "SADDLE BETWEEN MAIN & NORTH PEAKS, 2900 FT, MOUNT DIABLO" (BACIGALUPI 1951 #3360 UC) & "NORTH PEAK RIDGE, EXPOSURE SOUTH, 3300 FT" (BOWERMAN 1933 #2254 DS).

Owner/Manager: DPR-MOUNT DIABLO SP

Hesperolinon breweri

Brewer's western flax

Element Code: PDLIN01030

Status
Federal: None
State: None

NDDB Element Ranks
Global: G2
State: S2.2

Other Lists
CNPS List: 1B.2

Habitat Associations
General: CHAPARRAL, CISMONTANE WOODLAND, VALLEY AND FOOTHILL GRASSLAND.
Micro: OFTEN IN ROCKY SERPENTINE SOIL IN SERPENTINE CHAPARRAL AND SERPENTINE GRASSLAND. 30-885M.

Occurrence No. 4 **Map Index:** 10093 **EO Index:** 18649

Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1935-05-22
Site: 1935-05-22
Record Last Updated: 1995-08-23

Quad Summary: Clayton (3712188/464B)
County Summary: Contra Costa

Lat/Long: 37.91186º / -121.93885º
UTM: Zone-10 N4196566 E593278
Radius: 1/5 mile
Elevation: 1,450 ft
Mapping Precision NON-SPECIFIC
Symbol Type: POINT
Township: 01N
Range: 01W
Section: 26 **Qtr:** NE
Meridian: M

Location: SADDLE WEST OF TWIN PEAKS, MOUNT DIABLO STATE PARK.
Ecological: NEAR SHRUBS ON MARGINS OF CHAPARRAL. ASSOCIATED WITH STIPA LEPIDA AND LINUM CALIFORNICUM.
Owner/Manager: DPR-MOUNT DIABLO SP

Occurrence No. 5 **Map Index:** 10102 **EO Index:** 13808

Occ Rank: Excellent
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1991-05-26
Site: 1991-05-26
Record Last Updated: 2003-06-30

Quad Summary: Clayton (3712188/464B)
County Summary: Contra Costa

Lat/Long: 37.89372º / -121.93045º
UTM: Zone-10 N4194562 E594040
Area: 107.2 acres
Elevation: 2,200 ft
Mapping Precision SPECIFIC
Symbol Type: POLYGON
Township: 01N
Range: 01W
Section: 36 **Qtr:** NW
Meridian: M

Location: MOUNT DIABLO STATE PARK, NORTHWEST SLOPES OF BALD RIDGE, POINTS ALONG RIDGETOP, & WESTWARD TO DEER FLAT CREEK.
Location Detail: ABOVE AND BELOW MURCHIO GAP AND DEER FLAT TRAIL.
Ecological: ROCKY OPENINGS IN GRASSLAND BETWEEN SHRUBS. ASSOC: ARCTOSTAPHYLOS GLAUCA, QUERCUS DURATA, CORDYLANTHUS NIDULARIUS, CALOCHORTUS PULCHELLUS, CEANOTHUS CUNEATUS, STREPTANTHUS ALBIDUS PERAMOENUS, S. GLANDULOSUS, ASTRAGALUS GAMBELLIANUS, ET AL.
Threat: RECREATIONAL USES, FOOT TRAFFIC & TRAIL MAINTENANCE THREATEN.
General: LESS THAN 1000 PLANTS IN 1985, THOUSANDS IN 1988, AT LEAST 10,000 IN 1991. PART BURNED IN 1977. FORMER OCCURRENCES 6, 21 & 22 LUMPED HERE.
Owner/Manager: DPR-MOUNT DIABLO SP

Isocoma arguta

Carquinez goldenbush

Element Code: PDAST57050

Status
Federal: None
State: None

NDDB Element Ranks
Global: G1
State: S1.1

Other Lists
CNPS List: 1B.1

Habitat Associations
General: VALLEY AND FOOTHILL GRASSLAND.
Micro: ALKALINE SOILS, FLATS, LOWER HILLS. ON LOW BENCHES NEAR DRAINAGES & ON TOPS & SIDES OF MOUNDS IN SWALE HABITAT. 1-20M.

Occurrence No. 7 **Map Index:** 41667 **EO Index:** 42728

Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1933-09-17
Site: 1933-09-17
Record Last Updated: 2000-05-04

Quad Summary: Antioch North (3812117/481D), Birds Landing (3812127/481A), Honker Bay (3812118/481C), Jersey Island (3812116/480C), Rio Vista (3812126/480B), Denverton (3812128/481B)

County Summary: Solano, Sacramento

Lat/Long: 38.12619º / -121.78745º
UTM: Zone-10 N4220510 E606277
Radius: 5 mile
Elevation: 200 ft

Mapping PrecisionNON-SPECIFIC
Symbol Type:POINT

Township: 03N
Range: 02E
Section: 05
Qtr: XX
Meridian: M

Location: MONTEZUMA HILLS, WEST OF RIO VISTA.

Location Detail: EXACT LOCATION NOT KNOWN. SITE MAPPED TO INCLUDE GENERAL AREA OF THE MONTEZUMA HILLS.

General: ONLY SOURCE OF INFORMATION FOR THIS SITE IS 1933 COLLECTION BY HOWELL.

Owner/Manager: UNKNOWN

Laterallus jamaicensis coturniculus

California black rail

Element Code: ABNME03041

Status
Federal: None
State: Threatened

NDDB Element Ranks
Global: G4T1
State: S1

Other Lists
CDFG Status:

Habitat Associations
General: INHABITS FRESHWATER MARTSHES, WET MEADOWS & SHALLOW MARGINS OF SALTWATER MARSHES BORDERING LARGER BAYS.
Micro: NEEDS WATER DEPTHS OF ABOUT 1 INCH THAT DOES NOT FLUCTUATE DURING THE YEAR & DENSE VEGETATION FOR NESTING HABITAT.

Occurrence No. 34 **Map Index:** 10197 **EO Index:** 25802
Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1988-10-XX
Site: 1988-10-XX
Record Last Updated: 2007-12-14

Quad Summary: Honker Bay (3812118/481C)
County Summary: Contra Costa

Lat/Long: 38.04199º / -121.91974º
UTM: Zone-10 N4211024 E594791
Area: 75.2 acres
Elevation:
Mapping Precision SPECIFIC
Symbol Type: POLYGON
Township: 02N
Range: 01W
Section: 1 **Qtr:** XX
Meridian: M

Location: MALLARD ISLAND, HONKER BAY.
Ecological: HABITAT IS MARSH CONSISTING OF SCIRPUS, JUNCUS, DISTICHLIS, AND TYPHA.
General: 2-3 RAILS OBSERVED ON 2 JUL 1977. UNKNOWN NUMBER OF BIRDS DETECTED IN THE SPRING & FALL OF 1988.
Owner/Manager: UNKNOWN

Occurrence No. 35 **Map Index:** 09889 **EO Index:** 25800
Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Decreasing

Dates Last Seen
Element: 1994-04-XX
Site: 1994-04-XX
Record Last Updated: 1999-01-14

Quad Summary: Honker Bay (3812118/481C), Vine Hill (3812211/482D)
County Summary: Contra Costa

Lat/Long: 38.05223º / -122.00525º
UTM: Zone-10 N4212077 E587275
Area:
Elevation: 3 ft
Mapping Precision NON-SPECIFIC
Symbol Type: POLYGON
Township: 02N
Range: 01W
Section: 05 **Qtr:** XX
Meridian: M

Location: AVON-PORT CHICAGO MARSH BETWEEN PILES AT RR YARD AND MIDDLE POINT.
Location Detail: 1994, 3 PAIRS DETECTED IN MARSH OFF WHITE ROAD NEAR PIER 3 AND 1 IN MARSH OFF FROID STREET. RED FOX PREDATATION MAY BE PART OF THE REASON FOR THE POPULATION DECLINE.
General: RAILS OBSERVED BY DFG PERSONNEL IN 1976. 21 RAILS RESPONDED TO TAPED CALLS IN 1982. 5 PAIRS IDENTIFIED BY CALLS IN 1994.
Owner/Manager: DOD-CONCORD NWS

Occurrence No. 77 **Map Index:** 10024 **EO Index:** 25789
Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1982-06-27
Site: 1982-06-27
Record Last Updated: 1996-01-05

Quad Summary: Honker Bay (3812118/481C)
County Summary: Contra Costa

Lat/Long: 38.04685º / -121.96774º
UTM: Zone-10 N4211516 E590572
Radius: 1/5 mile
Elevation:
Mapping Precision NON-SPECIFIC
Symbol Type: POINT
Township: 02N
Range: 01W
Section: 3 **Qtr:** XX
Meridian: M

Location: AVON-PORT CHICAGO MARSH; E OF FILTRATION PLANT, W OF MCAVOY BOAT HARBOR & N OF RR TRACKS.
General: 3 RAILS RESPONDED TO TAPED CALLS.
Owner/Manager: DOD-NAVY

Laterallus jamaicensis coturniculus

California black rail

Element Code: ABNME03041

Status
Federal: None
State: Threatened

NDDB Element Ranks
Global: G4T1
State: S1

Other Lists
CDFG Status:

Habitat Associations
General: INHABITS FRESHWATER MARTSHES, WET MEADOWS & SHALLOW MARGINS OF SALTWATER MARSHES BORDERING LARGER BAYS.
Micro: NEEDS WATER DEPTHS OF ABOUT 1 INCH THAT DOES NOT FLUCTUATE DURING THE YEAR & DENSE VEGETATION FOR NESTING HABITAT.

Occurrence No. 112 **Map Index:** 38622 **EO Index:** 33629
Occ Rank: Good
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1998-04-02
Site: 1998-04-02
Record Last Updated: 1998-04-20

Quad Summary: Honker Bay (3812118/481C)
County Summary: Contra Costa

Lat/Long: 38.04564º / -121.94496º
UTM: Zone-10 N4211404 E592573
Radius: 1/10 mile
Elevation: 1 ft

Mapping PrecisionNON-SPECIFIC
Symbol Type:POINT

Township: 02N
Range: 01W
Section: 02 **Qtr:** XX
Meridian: M

Location: SOUTH SIDE OF SUISUN BAY, 0.5 MILE SSE OF STAKE POINT, 3 MILES WEST OF PITTSBURG.

Ecological: HABITAT CONSISTS OF TIDAL SALT MARSH, DOMINATED BY TYPHA LATIFOLIA AND SCIRPUS ACUTUS, INDICATING A STRONG FRESHWATER INFLUENCE. HIGH MARSH AREAS HAVE SCATTERED PICKLEWEED, WITH A DOMINANT COVER OF JUNCUS MEXICANA.

Threat: THREATENED BY POLLUTION BY TRAIN TRACK AND PIPELINE MAINTENANCE PROJECTS.

General: 2 ADULTS HEARD VOCALIZING AT ABOUT MID-DAY ON 2 APRIL 1998.

Owner/Manager: PVT-PGE

Lathyrus jepsonii var. jepsonii

Delta tule pea

Element Code: PDFAB250D2

Status
Federal: None
State: None

NDDB Element Ranks
Global: G5T2
State: S2.2

Other Lists
CNPS List: 1B.2

Habitat Associations
General: FRESHWATER AND BRACKISH MARSHES.
Micro: OFTEN FOUND W/ TYPHA, ASTER LENTUS, ROSA CALIF., JUNCUS SPP., SCIRPUS, ETC. USUALLY ON MARSH AND SLOUGH EDGES.

Occurrence No. 1 **Map Index:** 10358 **EO Index:** 6426

Dates Last Seen
Element: 1992-XX-XX
Site: 1992-XX-XX
Record Last Updated: 1995-10-30

Occ Rank: Good
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Quad Summary: Honker Bay (3812118/481C), Antioch North (3812117/481D)
County Summary: Contra Costa

Lat/Long: 38.03947º / -121.86579º
UTM: Zone-10 N4210801 E599528
Area:
Elevation: 5 ft
Mapping Precision NON-SPECIFIC
Symbol Type: POLYGON
Township: 02N
Range: 01E
Section: 9 **Qtr:** XX
Meridian: M

Location: BROWNS ISLAND.
Location Detail: THROUGHOUT THE ISLAND.
Ecological: GROWING WITH THE FOLLOWING ASSOCIATES: TYPHA SP., ASTER LENTUS, ROSA CALIFORNICA, JUNCUS, AND BACCHARIS DOUGLASII.
General: HUNDREDS OF PLANTS ON THE ISLAND. IN PROFUSION ON WEST AND CENTRAL PART OF ISLAND. 200 PLANTS LINING CROOKED SLOUGH FOR 1 MILE. 40 PLANTS OBSERVED ON SOUTHWEST SIDE OF ISLAND ALONG WEST SIDE OF STRAIGHT SLOUGH IN 1991.
Owner/Manager: PVT, EBRPD

Occurrence No. 10 **Map Index:** 10179 **EO Index:** 19242

Dates Last Seen
Element: 1978-10-XX
Site: 1978-10-XX
Record Last Updated: 1989-08-11

Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Quad Summary: Honker Bay (3812118/481C)
County Summary: Contra Costa

Lat/Long: 38.04213º / -121.91996º
UTM: Zone-10 N4211040 E594771
Radius: 1/5 mile
Elevation:
Mapping Precision NON-SPECIFIC
Symbol Type: POINT
Township: 02N
Range: 01W
Section: 1 **Qtr:** XX
Meridian: M

Location: MALLARD ISLAND.
General: SEVERAL PLANTS SEEN CLIMBING ON TULES ALONG RIVERBANK, JUNE-OCTOBER 1978.
Owner/Manager: PVT

Occurrence No. 28 **Map Index:** 09958 **EO Index:** 20547

Dates Last Seen
Element: 1985-09-09
Site: 1985-09-09
Record Last Updated: 1996-01-05

Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Quad Summary: Honker Bay (3812118/481C)
County Summary: Solano

Lat/Long: 38.08019º / -121.98651º
UTM: Zone-10 N4215197 E588885
Area:
Elevation: 5 ft
Mapping Precision NON-SPECIFIC
Symbol Type: POLYGON
Township: 03N
Range: 01W
Section: 28 **Qtr:** XX
Meridian: M

Location: SUISUN BAY; FREEMAN ISLAND.
Location Detail: COMMON ALONG MOST OF THE SLOUGH EDGES.
General: OBSERVED DURING 1985 BIOLOGICAL SURVEY BY TOM HARVEY AND LEE ROBINSON, SF BAY NATIONAL WILDLIFE REFUGE AND JIM PARKER, NWS CONCORD.
Owner/Manager: DOD-NAVY

Lathyrus jepsonii var. jepsonii

Delta tule pea

Element Code: PDFAB250D2

Status
Federal: None
State: None

NDDB Element Ranks
Global: G5T2
State: S2.2

Other Lists
CNPS List: 1B.2

Habitat Associations
General: FRESHWATER AND BRACKISH MARSHES.
Micro: OFTEN FOUND W/ TYPHA, ASTER LENTUS, ROSA CALIF., JUNCUS SPP., SCIRPUS, ETC. USUALLY ON MARSH AND SLOUGH EDGES.

Occurrence No. 29 **Map Index:** 09995 **EO Index:** 4578

Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1985-09-09
Site: 1985-09-09
Record Last Updated: 1996-01-05

Quad Summary: Honker Bay (3812118/481C)
County Summary: Solano

Lat/Long: 38.07376º / -121.97586º
UTM: Zone-10 N4214494 E589827
Area:
Elevation: 5 ft

Mapping PrecisionNON-SPECIFIC
Symbol Type:POLYGON

Township: 03N
Range: 01W
Section: 28 **Qtr:** XX
Meridian: M

Location: SUISUN BAY; SNAG ISLAND.
Location Detail: COMMON ALONG MOST SLOUGH EDGES.
General: OBSERVED DURING 1985 BIOLOGICAL SURVEY BY TOM HARVEY AND LEE ROBINSON, SF BAY NATIONAL WILDLIFE REFUGE; AND JIM PARKER, NWS CONCORD.
Owner/Manager: DOD-NAVY

Occurrence No. 34 **Map Index:** 24893 **EO Index:** 6438

Occ Rank: Fair
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1992-XX-XX
Site: 1992-XX-XX
Record Last Updated: 1997-12-09

Quad Summary: Honker Bay (3812118/481C), Antioch North (3812117/481D)
County Summary: Solano

Lat/Long: 38.07997º / -121.88531º
UTM: Zone-10 N4215274 E597762
Area: 142.0 acres
Elevation: 10 ft

Mapping PrecisionSPECIFIC
Symbol Type:POLYGON

Township: 03N
Range: 01E
Section: 28 **Qtr:** XX
Meridian: M

Location: MONTEZUMA SLOUGH, FROM MOUTH AT SUISUN BAY NORTH TO RIVER SLOUGH.
Location Detail: SEVERAL COLONIES MAPPED ALONG BOTH SIDES OF SLOUGH.
Ecological: COASTAL SALT MARSH/TIDAL ESTUARY. ASSOCIATED WITH SCIRPUS ACUTUS, ROSA CALIFORNICA, AND LEPIDIUM LATIFOLIUM. LILAEOPSIS MASONII IS ALSO FOUND HERE.
Threat: LEVEE WORK, RIP-RAP, AND MONTEZUMA WETLANDS RESTORATION PROJECT MAY IMPACT THIS POPULATION.
General: 35 PLANTS OBSERVED IN TWO COLONIES NEAR MOUTH IN 1991. MORE COLONIES REPORTED IN 1992. 1940 COLLECTION BY ALEXANDER AND KELLOGG FROM BORDERS OF MONTEZUMA SLOUGH ATTRIBUTED TO THIS SITE.
Owner/Manager: PVT

Occurrence No. 36 **Map Index:** 21626 **EO Index:** 6408

Occ Rank: Fair
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1990-08-20
Site: 1990-08-20
Record Last Updated: 1994-01-14

Quad Summary: Honker Bay (3812118/481C)
County Summary: Contra Costa

Lat/Long: 38.04048º / -121.88563º
UTM: Zone-10 N4210892 E597786
Area: 3.9 acres
Elevation: 10 ft

Mapping PrecisionSPECIFIC
Symbol Type:POLYGON

Township: 02N
Range: 01E
Section: 8 **Qtr:** XX
Meridian: M

Location: PITTSBURG MARINA BREAKWATER, NEAR NEW YORK POINT.
Location Detail: ALONG TOP OF BREAKWATER.
Ecological: GROWING AMONG AND OVER CHRYSOPSIS, BIDENS, AND LEPIDIUM LATIFOLIUM. LILAEOPSIS MASONII AND ASTER LENTUS ARE ALSO FOUND ALONG THIS BREAKWATER.
Threat: BREAKWATER MAINTENANCE IS POTENTIAL THREAT TO THIS SITE.
General: APPROX. 10 PLANTS SEEN IN 1990. PLANTS WERE NOT IN BLOOM; OBSERVER IS ONLY 90% CERTAIN OF IDENTIFICATION.
Owner/Manager: CITY OF PITTSBURG

Lathyrus jepsonii var. jepsonii

Delta tule pea

Element Code: PDFAB250D2

Status
Federal: None
State: None

NDDB Element Ranks
Global: G5T2
State: S2.2

Other Lists
CNPS List: 1B.2

Habitat Associations
General: FRESHWATER AND BRACKISH MARSHES.
Micro: OFTEN FOUND W/ TYPHA, ASTER LENTUS, ROSA CALIF., JUNCUS SPP., SCIRPUS, ETC. USUALLY ON MARSH AND SLOUGH EDGES.

Occurrence No. 47 **Map Index:** 21929 **EO Index:** 8490

Dates Last Seen
Element: 1991-06-03
Site: 1991-06-03
Record Last Updated: 1997-12-09

Occ Rank: Fair
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Quad Summary: Honker Bay (3812118/481C), Denverton (3812128/481B)
County Summary: Solano

Lat/Long: 38.12377º / -121.88897º
UTM: Zone-10 N4220131 E597382
Area: 49.0 acres
Elevation: 5 ft
Mapping Precision SPECIFIC
Symbol Type: POLYGON
Township: 03N
Range: 01E
Section: 08
Qtr: NE
Meridian: M

Location: MONTEZUMA SLOUGH, ALONG BEND ON EAST SIDE OF GRIZZLY ISLAND ABOUT 2 MILES NORTH OF GRIZZLY SLOUGH.

Location Detail: ALONG BOTH SIDES OF SLOUGH AT THE WEST END OF DINKELSPIEL ROAD; ABOUT 0.6 MILE (1 KM) SOUTH OF BIRD'S LANDING.

Ecological: GROWING IN ESTUARINE SALT MARSH ALONG THE BANK OF LEVEE. ASSOCIATED WITH PHRAGMITES, DISTICHLIS SPICATA, SCIRPUS ACUTUS, RUMEX CRISPUS, AND JUNCUS. LILAEOPSIS MASONII, A STATE LISTED RARE PLANT, GROWS ALONG THE WATER'S EDGE.

Threat: GRAZING AND FISHING ARE PRESENT THREATS; POSSIBLE IMPACTS FROM BANK MODIFICATION FOR WETLAND RESTORATION PROJECT.

General: APPROX. 25 PLANTS OBSERVED IN 1991. ADDITIONAL PLANTS OBSERVED IN 1992. SITE HAS SOME RIP-RAP, FISHING MAY LEAD TO TRAMPLING, AND GRAZING OCCURS. OWNED BY CATELLUS CORPORATION.

Owner/Manager: PVT

Occurrence No. 68 **Map Index:** 37664 **EO Index:** 32666

Dates Last Seen
Element: 1992-XX-XX
Site: 1992-XX-XX
Record Last Updated: 1997-12-09

Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Quad Summary: Honker Bay (3812118/481C)
County Summary: Solano

Lat/Long: 38.10152º / -121.89287º
UTM: Zone-10 N4217658 E597070
Area: 108.3 acres
Elevation: 5 ft
Mapping Precision SPECIFIC
Symbol Type: POLYGON
Township: 03N
Range: 01E
Section: 17
Qtr: XX
Meridian: M

Location: MONTEZUMA SLOUGH ALONG EAST SIDE OF GRIZZLY ISLAND, FROM RIVER SLOUGH NORTH ABOUT 1.5 MILES.

Location Detail: NUMEROUS COLONIES MAPPED ALONG BOTH SIDES OF THE SLOUGH AS ONE LONG POLYGON.

General: ONLY SOURCE OF INFORMATION FOR THIS SITE IS MAP FROM 1994 REPORT "SUMMARY OF SENSITIVE PLANT AND WILDLIFE RESOURCES IN SUISUN MARSH DURING WATER YEARS 1984-1994 (DWR).

Owner/Manager: UNKNOWN

Occurrence No. 69 **Map Index:** 37665 **EO Index:** 32667

Dates Last Seen
Element: 1992-XX-XX
Site: 1992-XX-XX
Record Last Updated: 1997-12-09

Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Quad Summary: Honker Bay (3812118/481C)
County Summary: Solano

Lat/Long: 38.11923º / -121.90697º
UTM: Zone-10 N4219608 E595811
Area: 32.2 acres
Elevation: 5 ft
Mapping Precision SPECIFIC
Symbol Type: POLYGON
Township: 03N
Range: 01E
Section: 07
Qtr: XX
Meridian: M

Location: MONTEZUMA SLOUGH ALONG EAST SIDE OF GRIZZLY ISLAND, ALONG BEND IN SLOUGH ABOUT 1.7 MILES WEST OF MOLENA.

Location Detail: SEVERAL COLONIES MAPPED ALONG BOTH SIDES OF THE SLOUGH AS ONE POLYGON.

General: ONLY SOURCE OF INFORMATION FOR THIS SITE IS MAP FROM 1994 REPORT "SUMMARY OF SENSITIVE PLANT AND WILDLIFE RESOURCES IN SUISUN MARSH DURING WATER YEARS 1984-1994 (DWR).

Owner/Manager: UNKNOWN

Lathyrus jepsonii var. jepsonii

Delta tule pea

Element Code: PDFAB250D2

Status
Federal: None
State: None

NDDB Element Ranks
Global: G5T2
State: S2.2

Other Lists
CNPS List: 1B.2

Habitat Associations
General: FRESHWATER AND BRACKISH MARSHES.
Micro: OFTEN FOUND W/ TYPHA, ASTER LENTUS, ROSA CALIF., JUNCUS SPP., SCIRPUS, ETC. USUALLY ON MARSH AND SLOUGH EDGES.

Occurrence No. 70 **Map Index:** 37666 **EO Index:** 32668

Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1992-XX-XX
Site: 1992-XX-XX
Record Last Updated: 1997-12-09

Quad Summary: Honker Bay (3812118/481C)
County Summary: Solano

Lat/Long: 38.05405º / -121.88869º
UTM: Zone-10 N4212395 E597500
Radius: 1/10 mile
Elevation: 5 ft
Mapping Precision NON-SPECIFIC
Symbol Type: POINT
Township: 03N
Range: 01E
Section: 32 **Qtr:** XX
Meridian: M

Location: SOUTHWEST END OF VAN SICKLE ISLAND NEAR POINT WALL, SUISUN BAY.
Location Detail: SINGLE COLONY REPORTED IN 1992.
General: ONLY SOURCE OF INFORMATION FOR THIS SITE IS MAP FROM 1994 REPORT "SUMMARY OF SENSITIVE PLANT AND WILDLIFE RESOURCES IN SUISUN MARSH DURING WATER YEARS 1984-1994 (DWR).
Owner/Manager: UNKNOWN

Occurrence No. 71 **Map Index:** 37667 **EO Index:** 32669

Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1992-XX-XX
Site: 1992-XX-XX
Record Last Updated: 1997-12-09

Quad Summary: Honker Bay (3812118/481C)
County Summary: Solano

Lat/Long: 38.05060º / -121.90204º
UTM: Zone-10 N4211998 E596333
Radius: 1/10 mile
Elevation: 5 ft
Mapping Precision NON-SPECIFIC
Symbol Type: POINT
Township: 02N
Range: 01E
Section: 6 **Qtr:** XX
Meridian: X

Location: SOUTH SIDE OF CHIPPS ISLAND, ABOUT 0.2 MILE WEST OF POINT WISE, SUISUN BAY.
Location Detail: SINGLE COLONY REPORTED IN 1992.
General: ONLY SOURCE OF INFORMATION FOR THIS SITE IS MAP FROM 1994 REPORT "SUMMARY OF SENSITIVE PLANT AND WILDLIFE RESOURCES IN SUISUN MARSH DURING WATER YEARS 1984-1994 (DWR).
Owner/Manager: UNKNOWN

Occurrence No. 72 **Map Index:** 37668 **EO Index:** 32670

Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1992-XX-XX
Site: 1992-XX-XX
Record Last Updated: 1997-12-09

Quad Summary: Honker Bay (3812118/481C)
County Summary: Solano

Lat/Long: 38.05041º / -121.91143º
UTM: Zone-10 N4211967 E595509
Radius: 1/10 mile
Elevation: 5 ft
Mapping Precision NON-SPECIFIC
Symbol Type: POINT
Township: 03N
Range: 01E
Section: 31 **Qtr:** XX
Meridian: M

Location: SOUTH SIDE OF CHIPPS ISLAND, ABOUT 0.7 MILE WEST OF POINT WISE, SUISUN BAY.
Location Detail: SINGLE COLONY REPORTED IN 1992.
General: ONLY SOURCE OF INFORMATION FOR THIS SITE IS MAP FROM 1994 REPORT "SUMMARY OF SENSITIVE PLANT AND WILDLIFE RESOURCES IN SUISUN MARSH DURING WATER YEARS 1984-1994 (DWR).
Owner/Manager: UNKNOWN

Lathyrus jepsonii var. jepsonii

Delta tule pea

Element Code: PDFAB250D2

Status	NDDB Element Ranks	Other Lists
Federal: None	**Global:** G5T2	**CNPS List:** 1B.2
State: None	**State:** S2.2	

Habitat Associations

General: FRESHWATER AND BRACKISH MARSHES.

Micro: OFTEN FOUND W/ TYPHA, ASTER LENTUS, ROSA CALIF., JUNCUS SPP., SCIRPUS, ETC. USUALLY ON MARSH AND SLOUGH EDGES.

Occurrence No. 73 **Map Index:** 37669 **EO Index:** 32671

Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1992-XX-XX
Site: 1992-XX-XX
Record Last Updated: 1997-12-09

Quad Summary: Honker Bay (3812118/481C)
County Summary: Contra Costa

Lat/Long: 38.05250º / -121.98769º
UTM: Zone-10 N4212124 E588815
Radius: 1/10 mile
Elevation: 5 ft
Mapping Precision NON-SPECIFIC
Symbol Type: POINT
Township: 02N
Range: 01W
Section: 04 **Qtr:** XX
Meridian: M

Location: NORTHWEST OF SHORE ACRES ABOUT 0.3 MILE ESE OF MIDDLE POINT, SUISUN BAY.

Location Detail: SINGLE COLONY REPORTED ALONG THE SHORE IN 1992.

General: ONLY SOURCE OF INFORMATION FOR THIS SITE IS MAP FROM 1994 REPORT "SUMMARY OF SENSITIVE PLANT AND WILDLIFE RESOURCES IN SUISUN MARSH DURING WATER YEARS 1984-1994 (DWR).

Owner/Manager: UNKNOWN

Occurrence No. 74 **Map Index:** 37670 **EO Index:** 32672

Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1992-XX-XX
Site: 1992-XX-XX
Record Last Updated: 1997-12-09

Quad Summary: Honker Bay (3812118/481C)
County Summary: Contra Costa

Lat/Long: 38.05053º / -121.99555º
UTM: Zone-10 N4211897 E588128
Radius: 1/10 mile
Elevation: 5 ft
Mapping Precision NON-SPECIFIC
Symbol Type: POINT
Township: 02N
Range: 01W
Section: 05 **Qtr:** XX
Meridian: M

Location: NORTHWEST OF SHORE ACRES ABOUT 0.3 MILE SSW OF MIDDLE POINT, SUISUN BAY.

Location Detail: SINGLE COLONY REPORTED IN MARSH IN 1992.

General: ONLY SOURCE OF INFORMATION FOR THIS SITE IS MAP FROM 1994 REPORT "SUMMARY OF SENSITIVE PLANT AND WILDLIFE RESOURCES IN SUISUN MARSH DURING WATER YEARS 1984-1994 (DWR).

Owner/Manager: UNKNOWN

Occurrence No. 75 **Map Index:** 37673 **EO Index:** 32675

Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1992-XX-XX
Site: 1992-XX-XX
Record Last Updated: 1997-12-09

Quad Summary: Denverton (3812128/481B), Honker Bay (3812118/481C)
County Summary: Solano

Lat/Long: 38.12548º / -121.91601º
UTM: Zone-10 N4220292 E595010
Radius: 1/10 mile
Elevation: 5 ft
Mapping Precision NON-SPECIFIC
Symbol Type: POINT
Township: 03N
Range: 01W
Section: 12 **Qtr:** XX
Meridian: M

Location: MONTEZUMA SLOUGH ALONG EAST SIDE OF GRIZZLY ISLAND, WEST SIDE OF SLOUGH ABOUT 1.2 MILES SOUTH OF MEINS LANDING.

Location Detail: SINGLE COLONY MAPPED IN 1994.

General: ONLY SOURCE OF INFORMATION FOR THIS SITE IS MAP FROM 1994 REPORT "SUMMARY OF SENSITIVE PLANT AND WILDLIFE RESOURCES IN SUISUN MARSH DURING WATER YEARS 1984-1994 (DWR).

Owner/Manager: UNKNOWN

Lathyrus jepsonii var. jepsonii

Delta tule pea

Element Code: PDFAB250D2

Status
Federal: None
State: None

NDDB Element Ranks
Global: G5T2
State: S2.2

Other Lists
CNPS List: 1B.2

Habitat Associations
General: FRESHWATER AND BRACKISH MARSHES.
Micro: OFTEN FOUND W/ TYPHA, ASTER LENTUS, ROSA CALIF., JUNCUS SPP., SCIRPUS, ETC. USUALLY ON MARSH AND SLOUGH EDGES.

Occurrence No. 131 **Map Index:** 49485 **EO Index:** 49485
Occ Rank: Poor
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 2002-10-08
Site: 2002-10-08
Record Last Updated: 2002-11-26

Quad Summary: Honker Bay (3812118/481C), Vine Hill (3812211/482D)
County Summary: Contra Costa

Lat/Long: 38.05244º / -122.00191º
UTM: Zone-10 N4212103 E587568
Radius: 80 meters
Elevation: 5 ft
Mapping Precision SPECIFIC
Symbol Type: POINT
Township: 02N
Range: 01W
Section: 05 **Qtr:** XX
Meridian: M

Location: CONCORD NAVAL WEAPONS STATION, ALONG UNNAMED SLOUGH ABOUT 1 MILE EAST OF BELLOMA SLOUGH, SOUTH OF RYER ISLAND.
Location Detail: ON WEST BANK OF UNNAMED SLOUGH SOUTH OF PIER 4, ABOUT 0.125 MILES SOUTH OF BRIDGE ON ROAD.
Ecological: IN BRACKISH MARSH.
General: 1 PLANT OBSERVED IN 2002.
Owner/Manager: DOD-NAVY

Occurrence No. 135 **Map Index:** 59294 **EO Index:** 59330
Occ Rank: Fair
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 2004-05-25
Site: 2004-05-25
Record Last Updated: 2005-01-12

Quad Summary: Honker Bay (3812118/481C)
County Summary: Contra Costa

Lat/Long: 38.04333º / -121.94082º
UTM: Zone-10 N4211152 E592939
Radius: 80 meters
Elevation: 0 ft
Mapping Precision SPECIFIC
Symbol Type: POINT
Township: 02N
Range: 01W
Section: 02 **Qtr:** SE
Meridian: M

Location: CHEVRON REPAIR SITE, 0.75 MILE SOUTHEAST OF STAKE POINT, NORTH OF WEST PITTSBURG.
Location Detail: INDUSTRIAL AREA. LOCATED ALONG AN ABANDONED ACCESS ROAD.
Ecological: BRACKISH MARSH HABITAT DOMINATED BY TYPHA AND SCRIPUS. AREA EXPERIENCES TIDAL INFLUENCES.
Threat: INFREQUENT DISTURBANCE FROM MAINTENANCE CREWS. THATCH BUILD-UP, LEPIDIUM INVASION, & LACK OF NATURAL DISTURBANCE.
General: ABOUT 100 PLANTS SEEN IN 2004.
Owner/Manager: PVT-CHEVRON

Lepidurus packardi

vernal pool tadpole shrimp

Element Code: ICBRA10010

Status	NDDB Element Ranks	Other Lists
Federal: Endangered	**Global:** G3	**CDFG Status:**
State: None	**State:** S2S3	

Habitat Associations

General: INHABITS VERNAL POOLS AND SWALES IN THE SACRAMENTO VALLEY CONTAINING CLEAR TO HIGHLY TURBID WATER.

Micro: POOLS COMMONLY FOUND IN GRASS BOTTOMED SWALES OF UNPLOWED GRASSLANDS. SOME POOLS ARE MUD-BOTTOMED & HIGHLY TURBID.

Occurrence No. 161 **Map Index:** 43813 **EO Index:** 43813

Occ Rank: Excellent
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 2000-03-24
Site: 2000-03-24
Record Last Updated: 2001-08-09

Quad Summary: Honker Bay (3812118/481C), Antioch North (3812117/481D)
County Summary: Solano

Lat/Long: 38.09397º / -121.87538º
UTM: Zone-10 N4216838 E598613
Radius: 80 meters
Elevation: 0 ft
Mapping Precision SPECIFIC
Symbol Type: POINT
Township: 03N
Range: 01E
Section: 21 **Qtr:** NW
Meridian: M

Location: MONTEZUMA, 1 MILE WEST OF THE INTERSECTION OF TALBERT LANE AND COLLINSVILLE ROAD.

Location Detail: HUGE VERNAL POOL, 4+ ACRES WITHIN A 20+ VERNAL POOL COMPLEX.

Ecological: HABITAT CONSISTS OF A HUGE VERNAL POOL (~4 FEET DEEP); SURROUNDING AGRICULTURAL FIELD PRIMARILY USED FOR GRAZING LIVESTOCK, RIMMED WITH ANNUAL EXOTIC GRASSES.

Threat: THREATENED BY A RESTORATION PROJECT WHICH COULD IMPACT THE POND AND ITS HYDROLOGY.

General: 100+ ADULTS OBSERVED ON 14 MAR 2000; 6 OBSERVED ON 23 MAR 2000; 15+ BREEDING ADULTS, TOTAL OF 100'S OBSERVED, ON 24 MAR 2000. COLLECTIONS DEPOSITED IN CAS (GEF#326 AND GEF#327).

Owner/Manager: PVT

Lilaeopsis masonii

Mason's lilaeopsis

Element Code: PDAPI19030

Status
Federal: None
State: Rare

NDDB Element Ranks
Global: G3
State: S3.1

Other Lists
CNPS List: 1B.1

Habitat Associations
General: FRESHWATER AND BRACKISH MARSHES, RIPARIAN SCRUB.
Micro: TIDAL ZONES, IN MUDDY OR SILTY SOIL FORMED THROUGH RIVER DEPOSITION OR RIVER BANK EROSION. 0-10M.

Occurrence No. 15 **Map Index:** 22567 **EO Index:** 8370

Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1992-06-16
Site: 1992-06-16
Record Last Updated: 2006-10-11

Quad Summary: Antioch North (3812117/481D), Honker Bay (3812118/481C)
County Summary: Sacramento, Solano

Lat/Long: 38.07183º / -121.86269º
UTM: Zone-10 N4214395 E599756
Area: 32.0 acres
Elevation: 5 ft
Mapping PrecisionSPECIFIC
Symbol Type:POLYGON
Township: 03N
Range: 01E
Section: 28 **Qtr:** XX
Meridian: M

Location: 0.1 TO 1.5 MILES WEST OF COLLINSVILLE, ALONG MONTEZUMA SLOUGH AND ON NEARBY ISLANDS.

Location Detail: ON MAINLAND, ON CHAIN ISLAND AND SPINNER ISLAND, AND ALONG MONTEZUMA SLOUGH NEAR THE MOUTH OF THE SLOUGH.

Ecological: GROWING ON MUDDY SHORES, INTERTIDAL BANKS, AND AMONG RIP-RAP IN ASSOCIATION WITH TRIGLOCHIN STRIATA, HYDROCOTYLE VERTICILLATA, ATRIPLEX PATULA, PLANTAGO LANCEOLATA, CONVOLVULUS ARVENSE, SCIRPUS CALIFORNICUS, S. ACUTUS, AND S. CERNUUS.

Threat: THREATENED BY LEVEE WORK, RIP-RAP, AND DAMAGE DUE TO LOADING SITE / PUMPING STATION FOR WETLANDS RESTORATION PROJECT.

General: MANY SMALL POPULATIONS REPORTED HERE IN 1990 BY FIEDLER & GOLDEN AND IN 1992 BY DWR. INCLUDES FORMER OCCURRENCES #61 AND 152.

Owner/Manager: PVT

Occurrence No. 21 **Map Index:** 66794 **EO Index:** 6425

Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1995-09-22
Site: 1995-09-22
Record Last Updated: 2006-10-26

Quad Summary: Antioch North (3812117/481D), Honker Bay (3812118/481C)
County Summary: Contra Costa

Lat/Long: 38.03500º / -121.87240º
UTM: Zone-10 N4210298 E598954
Area: 106.0 acres
Elevation: 0 ft
Mapping PrecisionSPECIFIC
Symbol Type:POLYGON
Township: 02N
Range: 01E
Section: 09 **Qtr:** XX
Meridian: M

Location: ALONG SHORES OF BROWNS ISLAND AND ON THE PITTSBURG MARINA BREAKWATER.

Ecological: AT THE WATERS EDGE IN MOIST AREAS WITH FIRM SUBSTRATUM INCLUDING PILINGS AND PEAT HUMMOCKS. ASSOCIATED VEGETATION INCLUDES TULES AND RUSHES. ANOTHER RARE PLANT: LATHYRUS JEPSONII JEPSONII ALSO OCCURS HERE; BUT IT EXISTS THROUGHOUT ISLAND.

Threat: BREAKWATER MAINTENANCE IS A THREAT TO THE POPULATION ON THE BREAKWATER.

General: THOUSANDS OF PLANTS OBSERVED IN 1978 AROUND THE ENTIRE PERIMETER OF THE ISLAND. ALSO OBSERVED ON THE ISLAND IN 1977, 1979, 1991, AND 1995. ~1000 SEEN AT THE MARINA BREAKWATER IN 1990. INCLUDES FORMER OCCURRENCE #67.

Owner/Manager: UNKNOWN

Lilaeopsis masonii

Mason's lilaeopsis

Element Code: PDAPI19030

Status
Federal: None
State: Rare

NDDB Element Ranks
Global: G3
State: S3.1

Other Lists
CNPS List: 1B.1

Habitat Associations
General: FRESHWATER AND BRACKISH MARSHES, RIPARIAN SCRUB.
Micro: TIDAL ZONES, IN MUDDY OR SILTY SOIL FORMED THROUGH RIVER DEPOSITION OR RIVER BANK EROSION. 0-10M.

Occurrence No. 81 **Map Index:** 21928 **EO Index:** 4579
Occ Rank: Good
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1992-08-19
Site: 1992-08-19
Record Last Updated: 2006-11-07

Quad Summary: Honker Bay (3812118/481C)
County Summary: Contra Costa

Lat/Long: 38.04731º / -121.94192º
UTM: Zone-10 N4211593 E592837
Area: 155.0 acres
Elevation: 0 ft
Mapping PrecisionSPECIFIC
Symbol Type:POLYGON
Township: 02N
Range: 01W
Section: 02 **Qtr:** XX
Meridian: M

Location: S SHORE OF SUISUN BAY, FROM JUST E OF MIDDLE POINT TO JUST E OF MALLARD ISLAND.
Location Detail: SCATTERED COLONIES LOCATED EVERY 20-200 FEET.
Ecological: GROWING ON CLAY SUBSTRATE WITH DISTICHLIS SPICATA, JUNCUS BUFONIUS, SCIRPUS SP., JUNCUS BALTICUS, ATRIPLEX PATULA VAR. HASTATA, POTENTILLA SP., AND MOSS.
Threat: CATTLE GRAZING/TRAMPLING AND BANK EROSION APPEAR TO THREATEN THIS POPULATION.
General: 50+ COLONIES OF SIZE GREATER THAN 5 SQUARE METERS (MCCARTEN AND FRASER, 1992).
Owner/Manager: PVT-PGE

Occurrence No. 113 **Map Index:** 24969 **EO Index:** 25461
Occ Rank: Good
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1991-06-XX
Site: 1991-06-XX
Record Last Updated: 1996-01-05

Quad Summary: Honker Bay (3812118/481C)
County Summary: Contra Costa

Lat/Long: 38.05471º / -121.99284º
UTM: Zone-10 N4212364 E588361
Radius: 80 meters
Elevation: 5 ft
Mapping PrecisionSPECIFIC
Symbol Type:POINT
Township: 02N
Range: 01W
Section: 32 **Qtr:** XX
Meridian: M

Location: TIP OF MIDDLE POINT ON SUISUN BAY, CONCORD NAVAL WEAPONS STATION.
Location Detail: THREE COLONIES ALONG THE NORTHWEST FACE OF THE POINT.
Ecological: ON WATERS EDGE WHERE FREQUENT WAVE ACTION SATURATES THE SUBSTRATE. GROWING NEAR LEPIDIUM LATIFOLIUM, JUNCUS BALTICUS, AND TYPHA ANGUSTIFOLIA. CORDYLANTHUS MOLLIS SSP. MOLLIS OCCURS ABOUT 600' TO THE SOUTH.
Threat: DRAINAGE DITCHES FOR MOSQUITO ABATEMENT PURPOSES ARE PRESENT, IMPACT TO RARE PLANTS IS UNKNOWN.
General: THREE COLONIES, EACH ABOUT 1/2 SQUARE METER IN SIZE.
Owner/Manager: DOD-CONCORD NWS

Occurrence No. 135 **Map Index:** 03573 **EO Index:** 13573
Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1992-09-29
Site: 1992-09-29
Record Last Updated: 2006-10-19

Quad Summary: Vine Hill (3812211/482D), Honker Bay (3812118/481C)
County Summary: Solano

Lat/Long: 38.08504º / -122.02237º
UTM: Zone-10 N4215701 E585734
Area: 40.0 acres
Elevation: 5 ft
Mapping PrecisionSPECIFIC
Symbol Type:POLYGON
Township: 03N
Range: 01W
Section: 19 **Qtr:** XX
Meridian: M

Location: ALONG SHORE OF RYER ISLAND, NAVAL WEAPONS CENTER-CONCORD, SUISUN BAY.
Location Detail: MAPPED AT SCATTERED LOCATIONS ALONG PERIMETER OF ISLAND.
General: MAP DETAIL IS ONLY SOURCE OF INFORMATION FOR THIS OCCURRENCE.
Owner/Manager: DOD-CONCORD NWS

Lilaeopsis masonii

Mason's lilaeopsis

Element Code: PDAPI19030

Status
Federal: None
State: Rare

NDDB Element Ranks
Global: G3
State: S3.1

Other Lists
CNPS List: 1B.1

Habitat Associations
General: FRESHWATER AND BRACKISH MARSHES, RIPARIAN SCRUB.
Micro: TIDAL ZONES, IN MUDDY OR SILTY SOIL FORMED THROUGH RIVER DEPOSITION OR RIVER BANK EROSION. 0-10M.

Occurrence No. 136 **Map Index:** 26539 **EO Index:** 5216

Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1992-06-17
Site: 1992-06-17
Record Last Updated: 2000-09-01

Quad Summary: Honker Bay (3812118/481C), Vine Hill (3812211/482D)
County Summary: Solano

Lat/Long: 38.10194º / -122.00241º
UTM: Zone-10 N4217595 E587465
Area: 72.5 acres
Elevation: 5 ft
Mapping PrecisionSPECIFIC
Symbol Type:POLYGON
Township: 03N
Range: 01W
Section: 17 **Qtr:** XX
Meridian: M

Location: WEST END OF SIMMONS ISLAND, GRIZZLY BAY.
Location Detail: SEVERAL COLONIES MAPPED ALONG LENGTH OF SUISUN CUTOFF AND ALONG GRIZZLY BAY SHORELINE FROM PT. BUCKLER EAST TO ROARING RIVER.
General: MAP DETAIL IS ONLY SOURCE OF INFORMATION FOR THIS OCCURRENCE.
Owner/Manager: UNKNOWN

Occurrence No. 137 **Map Index:** 16362 **EO Index:** 6362

Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1992-06-15
Site: 1992-06-15
Record Last Updated: 2006-10-20

Quad Summary: Honker Bay (3812118/481C)
County Summary: Solano

Lat/Long: 38.07651º / -121.98156º
UTM: Zone-10 N4214794 E589324
Area: 12.0 acres
Elevation: 5 ft
Mapping PrecisionSPECIFIC
Symbol Type:POLYGON
Township: 03N
Range: 01W
Section: 28 **Qtr:** XX
Meridian: M

Location: EAST END OF SUISUN CUTOFF.
Location Detail: ALONG THE SHORELINES OF SNAG ISLAND, FREEMAN ISLAND, AND THE PORTION OF SIMMONS ISLAND JUST WEST OF FREEMAN ISLAND.
General: MAP DETAIL IS ONLY SOURCE OF INFORMATION FOR THIS OCCURRENCE. INCLUDES FORMER OCCURRENCES #138 AND 139.
Owner/Manager: DOD-CONCORD NWS

Occurrence No. 140 **Map Index:** 13577 **EO Index:** 4577

Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1992-06-15
Site: 1992-06-15
Record Last Updated: 2007-11-27

Quad Summary: Honker Bay (3812118/481C)
County Summary: Solano

Lat/Long: 38.07504º / -121.96451º
UTM: Zone-10 N4214647 E590821
Area: 9.0 acres
Elevation:
Mapping PrecisionSPECIFIC
Symbol Type:POLYGON
Township: 03N
Range: 01W
Section: 27 **Qtr:** XX
Meridian: M

Location: SE SIDE OF DUTTON ISLAND, HONKER BAY.
Location Detail: TWO COLONIES MAPPED ACCORDING TO DWR MAP.
General: MAP DETAIL IS ONLY SOURCE OF INFORMATION FOR THIS OCCURRENCE.
Owner/Manager: UNKNOWN

Lilaeopsis masonii

Mason's lilaeopsis

Element Code: PDAPI19030

Status
Federal: None
State: Rare

NDDB Element Ranks
Global: G3
State: S3.1

Other Lists
CNPS List: 1B.1

Habitat Associations
General: FRESHWATER AND BRACKISH MARSHES, RIPARIAN SCRUB.
Micro: TIDAL ZONES, IN MUDDY OR SILTY SOIL FORMED THROUGH RIVER DEPOSITION OR RIVER BANK EROSION. 0-10M.

Occurrence No. 149 **Map Index:** 43706 **EO Index:** 43706

Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1992-06-16
Site: 1992-06-16
Record Last Updated: 2000-08-31

Quad Summary: Honker Bay (3812118/481C)
County Summary: Contra Costa

Lat/Long: 38.05126º / -121.98567º
UTM: Zone-10 N4211988 E588994
Area: 1.4 acres
Elevation: 5 ft
Mapping PrecisionSPECIFIC
Symbol Type:POLYGON
Township: 02N
Range: 01W
Section: 04 **Qtr:** XX
Meridian: M

Location: SOUTH SIDE OF SUISUN BAY ABOUT 0.4 MILE EAST OF MIDDLE POINT, SUISUN MARSH.
Location Detail: SINGLE COLONY MAPPED NORTH OF CHEMICAL PLANT.
General: ONLY SOURCE OF INFORMATION FOR THIS SITE IS MAP DETAIL.
Owner/Manager: UNKNOWN

Occurrence No. 150 **Map Index:** 43707 **EO Index:** 43707

Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1992-06-16
Site: 1992-06-16
Record Last Updated: 2000-08-31

Quad Summary: Honker Bay (3812118/481C)
County Summary: Contra Costa

Lat/Long: 38.04031º / -121.94613º
UTM: Zone-10 N4210811 E592477
Area: 1.7 acres
Elevation: 5 ft
Mapping PrecisionSPECIFIC
Symbol Type:POLYGON
Township: 02N
Range: 01W
Section: 11 **Qtr:** XX
Meridian: M

Location: CHANNEL ABOUT 0.5 MILE EAST OF MCAVOY BOAT HARBOR, NORTH OF WEST PITTSBURG, SUISUN MARSH.
Location Detail: SINGLE COLONY MAPPED ALONG EAST SIDE OF CHANNEL, ABOUT 0.75 MILE SSE OF STAKE POINT.
General: ONLY SOURCE OF INFORMATION FOR THIS SITE IS MAP DETAIL.
Owner/Manager: UNKNOWN

Occurrence No. 151 **Map Index:** 43708 **EO Index:** 43708

Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1992-06-17
Site: 1992-06-17
Record Last Updated: 2006-10-19

Quad Summary: Honker Bay (3812118/481C)
County Summary: Solano

Lat/Long: 38.08481º / -121.99342º
UTM: Zone-10 N4215703 E588273
Area: 1.0 acres
Elevation: 5 ft
Mapping PrecisionSPECIFIC
Symbol Type:POLYGON
Township: 03N
Range: 01W
Section: 20 **Qtr:** SE
Meridian: M

Location: SOUTH SIDE OF SIMMONS ISLAND NEAR EAST END OF SUISUN CUTOFF, NORTHWEST OF FREEMAN ISLAND, SUISUN MARSH.
Location Detail: TWO COLONIES MAPPED ALONG ISLANDS ADJACENT TO SOUTH SIDE OF SIMMONS ISLAND AT MOUTH OF SUISUN CUTOFF.
General: ONLY SOURCE OF INFORMATION FOR THIS SITE IS MAP DETAIL.
Owner/Manager: UNKNOWN

Lilaeopsis masonii

Mason's lilaeopsis

Element Code: PDAPI19030

Status
Federal: None
State: Rare

NDDB Element Ranks
Global: G3
State: S3.1

Other Lists
CNPS List: 1B.1

Habitat Associations
General: FRESHWATER AND BRACKISH MARSHES, RIPARIAN SCRUB.
Micro: TIDAL ZONES, IN MUDDY OR SILTY SOIL FORMED THROUGH RIVER DEPOSITION OR RIVER BANK EROSION. 0-10M.

Occurrence No. 180 **Map Index:** 70531 **EO Index:** 71432
Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1992-06-15
Site: 1992-06-15
Record Last Updated: 2007-11-27

Quad Summary: Honker Bay (3812118/481C)
County Summary: Solano

Lat/Long: 38.07982º / -121.93687º
UTM: Zone-10 N4215205 E593239
Area: 33.0 acres
Elevation:
Mapping Precision SPECIFIC
Symbol Type: POLYGON
Township: 03N
Range: 01W
Section: 26 **Qtr:** XX
Meridian: M

Location: S SIDE OF WHEELER ISLAND, HONKER BAY.
Location Detail: 8 COLONIES MAPPED ACCORDING TO DWR MAP.
General: MAP DETAIL IS ONLY SOURCE OF INFORMATION FOR THIS OCCURRENCE.
Owner/Manager: UNKNOWN

Occurrence No. 181 **Map Index:** 70529 **EO Index:** 71433
Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1992-06-15
Site: 1992-06-15
Record Last Updated: 2007-11-27

Quad Summary: Honker Bay (3812118/481C)
County Summary: Solano

Lat/Long: 38.06441º / -121.91016º
UTM: Zone-10 N4213522 E595602
Area: 38.0 acres
Elevation: 3 ft
Mapping Precision SPECIFIC
Symbol Type: POLYGON
Township: 03N
Range: 01E
Section: 31 **Qtr:** XX
Meridian: M

Location: N AND NE SIDE OF CHIPPS ISLAND AND W SIDE OF VAN SICKLE ISLAND, HONKER BAY.
Location Detail: 9 COLONIES MAPPED ACCORDING TO DWR MAP.
General: MAP DETAIL IS ONLY SOURCE OF INFORMATION FOR THIS OCCURRENCE.
Owner/Manager: UNKNOWN

Occurrence No. 182 **Map Index:** 70528 **EO Index:** 71434
Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1992-06-15
Site: 1992-06-15
Record Last Updated: 2007-11-27

Quad Summary: Honker Bay (3812118/481C)
County Summary: Solano

Lat/Long: 38.05038º / -121.91426º
UTM: Zone-10 N4211961 E595260
Area: 44.0 acres
Elevation: 4 ft
Mapping Precision SPECIFIC
Symbol Type: POLYGON
Township: 02N
Range: 01E
Section: 06 **Qtr:** XX
Meridian: M

Location: S SIDE OF CHIPPS ISLAND, SUISUN BAY.
Location Detail: 10 COLONIES MAPPED ACCORDING TO DWR MAP.
General: MAP DETAIL IS ONLY SOURCE OF INFORMATION FOR THIS OCCURRENCE.
Owner/Manager: UNKNOWN

Lilaeopsis masonii

Mason's lilaeopsis

Element Code: PDAPI19030

Status	NDDB Element Ranks	Other Lists
Federal: None	**Global:** G3	**CNPS List:** 1B.1
State: Rare	**State:** S3.1	

Habitat Associations

General: FRESHWATER AND BRACKISH MARSHES, RIPARIAN SCRUB.

Micro: TIDAL ZONES, IN MUDDY OR SILTY SOIL FORMED THROUGH RIVER DEPOSITION OR RIVER BANK EROSION. 0-10M.

Occurrence No. 184 **Map Index:** 70546 **EO Index:** 71452

Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1992-XX-XX
Site: 1992-XX-XX
Record Last Updated: 2007-11-28

Quad Summary: Honker Bay (3812118/481C)
County Summary: Solano

Lat/Long: 38.11905º / -121.90822º
UTM: Zone-10 N4219587 E595701
Area: 59.0 acres
Elevation:
Mapping Precision SPECIFIC
Symbol Type: POLYGON
Township: 03N
Range: 01E
Section: 07 **Qtr:** N
Meridian: M

Location: MONTEZUMA SLOUGH, ABOUT 1.5 MILES S OF MEINS LANDING, SUISUN MARSH.

Location Detail: MAPPED BY CNDDB AS MULTIPLE COLONIES ALONG BOTH SIDES OF SLOUGH ACCORDING TO A 1992 MAP IN A 1994 DWR REPORT.

General: MAP DETAIL IS ONLY SOURCE OF INFORMATION FOR THIS OCCURRENCE.

Owner/Manager: UNKNOWN

Occurrence No. 185 **Map Index:** 70547 **EO Index:** 71453

Occ Rank: Fair
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1992-XX-XX
Site: 1992-XX-XX
Record Last Updated: 2007-11-28

Quad Summary: Honker Bay (3812118/481C), Denverton (3812128/481B)
County Summary: Solano

Lat/Long: 38.10333º / -121.89075º
UTM: Zone-10 N4217861 E597253
Area: 199.0 acres
Elevation: 5 ft
Mapping Precision SPECIFIC
Symbol Type: POLYGON
Township: 03N
Range: 01E
Section: 17 **Qtr:** XX
Meridian: M

Location: MONTEZUMA SLOUGH, FROM NEAR MOLENA TO NEAR MONTEZUMA, SUISUN MARSH.

Location Detail: MAPPED BY CNDDB AS MULTIPLE COLONIES ALONG BOTH SIDES OF SLOUGH ACCORDING TO A 1992 MAP IN A 1994 DWR REPORT AND 2 RUYGT FIELD SURVEY FORMS. COLONIES SCATTERED ALONG A 4 MILE STRETCH OF THE SLOUGH.

Ecological: ESTUARINE, SALT MARSH/BANK OF LEVEE, INTERTIDAL. DOMINANTS: SCIRPUS ACUTUS, PHRAGMITES COMMUNIS, JUNCUS LESUEURII. ALSO ASSOCIATED: SOLDIAGO OCCIDENTALIS, LATHYRUS JEPSONII JEPSONII, DESCHAMPSIA CESPITOSA.

Threat: AT LEAST SOME PORTIONS OF POPULATION HAVE SOME RIP-RAP AND ARE INVADED BY PHRAGMITES.

General: INCLUDES FORMER OCCURRENCE #66.

Owner/Manager: PVT-CATELLUS CORP, OTHER?

Limosella subulata

Delta mudwort

Element Code: PDSCR10050

Status
Federal: None
State: None

NDDB Element Ranks
Global: G4?Q
State: S2.1

Other Lists
CNPS List: 2.1

Habitat Associations
General: RIPARIAN SCRUB, FRESHWATER MARSH, BRACKISH MARSH. PROBABLY THE RAREST OF THE SUITE OF DELTA RARE PLANTS.
Micro: USUALLY ON MUD BANKS OF THE DELTA IN MARSHY OR SCRUBBY RIPARIAN ASSOCIATIONS; OFTEN WITH LILAEOPSIS MASONII. 0-3M.

Occurrence No. 9 **Map Index:** 21603 **EO Index:** 6439

Occ Rank: Excellent
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1991-05-10
Site: 1991-05-10
Record Last Updated: 1992-08-06

Quad Summary: Honker Bay (3812118/481C), Antioch North (3812117/481D)
County Summary: Solano

Lat/Long: 38.07315º / -121.87687º
UTM: Zone-10 N4214526 E598511
Radius: 80 meters
Elevation: 0 ft

Mapping PrecisionSPECIFIC
Symbol Type:POINT

Township: 03N
Range: 01E
Section: 28 **Qtr:** XX
Meridian: M

Location: ALONG MONTEZUMA SLOUGH, APPROX. 0.45 MILE SOUTHEAST OF DUTTON.

Ecological: ESTUARINE-SALT MARSH; INTERTIDAL BANK. SCIRPUS ACUTUS, DESCHAMPSIA CESPITOSA BERINGENSIS, HELENUIM BIGELOVII DOMINANTS OTHER SP. INCLUDE LILAEOPSIS MASONII, SCIRPUS KOLIOLEPIS AND HYDROCOTYLE VERTICULATA.

Threat: TRAMPLING DUE TO FISHING ACCESS AND POSSIBLY FROM ADJACENT GRAZING. WETLANDS RESTORATION PROJECT MAY IMPACT SITE.

General: OWNED BY CATELLUS CORPORATION.

Owner/Manager: PVT

Madia radiata

showy golden madia

Element Code: PDAST650E0

Status
Federal: None
State: None

NDDB Element Ranks
Global: G2
State: S2.1

Other Lists
CNPS List: 1B.1

Habitat Associations
General: VALLEY AND FOOTHILL GRASSLAND, CISMONTANE WOODLAND, CHENOPOD SCRUB.
Micro: MOSTLY ON ADOBE CLAY IN GRASSLAND OR AMONG SHRUBS. 25-1125M.

Occurrence No. 27 **Map Index:** 24821 **EO Index:** 6396

Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1938-04-09
Site: 1938-04-09
Record Last Updated: 2009-05-15

Quad Summary: Antioch South (3712187/464A), Clayton (3712188/464B)
County Summary: Contra Costa

Lat/Long: 37.96754º / -121.86340º
UTM: Zone-10 N4202823 E599835
Radius: 1 mile
Elevation:

Mapping PrecisionNON-SPECIFIC
Symbol Type:POINT

Township: 01N
Range: 01E
Section: 04 **Qtr:** XX
Meridian: M

Location: 3 MILES SOUTHWEST OF ANTIOCH.

Location Detail: MAPPED BY CNDDB AS BEST GUESS ABOUT 3 RD MI SW OF ANTIOCH ALONG SOMERSVILLE RD. VAGUE LATE 1800S AND EARLY 1900S COLLECTIONS FROM "NEAR ANTIOCH" ALSO ATTRIBUTED TO THIS SITE.

Ecological: GROWING ON EDGE OF A CULTIVATED GRAIN FIELD IN ADOBE SOIL.

General: PROBABLE TYPE LOCALITY ("MOUTH OF SAN JOAQUIN RIVER"). SITE BASED MAINLY ON A 1938 HELLER COLLECTION. NEEDS FIELDWORK.

Owner/Manager: UNKNOWN

Malacothamnus hallii

Hall's bush-mallow

Element Code: PDMAL0Q0F0

Status
Federal: None
State: None

NDDB Element Ranks
Global: G1Q
State: S1.2

Other Lists
CNPS List: 1B.2

Habitat Associations
General: CHAPARRAL.
Micro: SOME POPULATIONS ON SERPENTINE. 10-550M.

Occurrence No. 13 **Map Index:** 28964 **EO Index:** 30501

Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1996-05-02
Site: 1996-05-02
Record Last Updated: 2007-02-07

Quad Summary: Clayton (3712188/464B)
County Summary: Contra Costa

Lat/Long: 37.88192º / -121.96958º
UTM: Zone-10 N4193215 E590613
Area:
Elevation: 600 ft
Mapping Precision NON-SPECIFIC
Symbol Type: POLYGON
Township: 01N
Range: 01W
Section: 34 **Qtr:** XX
Meridian: M

Location: 2.5 MILES NORTH OF TURTLE ROCK, MOUNT DIABLO.

Location Detail: MAPPED 2.5 MILES ALONG NORTH GATE ROAD FROM TURTLE ROCK.

Ecological: MIXED SCRUB.

General: 1995 OBSERVATION BY K. HINTSA FROM NORTH GATE RD ACROSS FROM 1.95 MILE MARKER, NEAR WALNUT TREE, AND 1996 COLLECTION BY ERTTER AND DELENDICK FROM NORTHGATE RD NEAR BASE OF LONG RIDGE, AT OLD DEVELOPED SPRING, ALSO ATTRIBUTED HERE.

Owner/Manager: DPR-MOUNT DIABLO SP

Occurrence No. 19 **Map Index:** 51807 **EO Index:** 51807

Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1998-05-10
Site: 1998-05-10
Record Last Updated: 2005-11-17

Quad Summary: Clayton (3712188/464B), Walnut Creek (3712281/465A)
County Summary: Contra Costa

Lat/Long: 37.93097º / -121.99357º
UTM: Zone-10 N4198634 E588445
Radius: 3/5 mile
Elevation:
Mapping Precision NON-SPECIFIC
Symbol Type: POINT
Township: 01N
Range: 01W
Section: 17 **Qtr:** XX
Meridian: M

Location: LIME RIDGE, WALNUT CREEK OPEN SPACE ABOVE COUNTRY CLUB.

Location Detail: EXACT LOCATION UNKNOWN. MAPPED IN VICINITY OF LIME RIDGE, ABOVE THE GOLF COURSE, PRIMARILY WITHIN THE WALNUT CREEK CORPORATE BOUNDARY.

Ecological: FULL SUN IN THIN SANDY SOIL, SOUTH-FACING SLOPE. EDGE OF CHAPARRAL.

General: 2 COLLECTIONS BY BOWERMAN ALSO ATTRIBUTED HERE: IN 1936: FROM W SIDE LIME RIDGE, N OF UPPER FARM, ON COWELL CEMENT PROPERTY AT 450' ELEV, ALSO IN 1938: FROM LIME RIDGE, CREST OF RIDGE S OF "1004" AT 950' ELEV. NEEDS FIELDWORK.

Owner/Manager: UNKNOWN

Occurrence No. 21 **Map Index:** 63188 **EO Index:** 63280

Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1886-XX-XX
Site: 1886-XX-XX
Record Last Updated: 2005-11-21

Quad Summary: Clayton (3712188/464B), Walnut Creek (3712281/465A)
County Summary: Contra Costa

Lat/Long: 37.89655º / -121.99620º
UTM: Zone-10 N4194812 E588255
Radius: 3/5 mile
Elevation:
Mapping Precision NON-SPECIFIC
Symbol Type: POINT
Township: 01N
Range: 01W
Section: 32 **Qtr:** XX
Meridian: M

Location: MOUTH OF PINE CANYON.

Location Detail: EXACT LOCATION UNKNOWN. MAPPED BY CNDDB AS BEST GUESS. UNCERTAIN IF COLLECTION WAS FROM NEAR THE CONFLUENCE OF PINE CREEK & LITTLE PINE CREEK OR DOWSTREAM WHERE PINE CREEK ENTERS YGNACIO VALLEY.

General: ONLY SOURCE OF INFORMATION FOR THIS OCCURRENCE IS AN 1886 COLLECTION BY RATTAN. NEEDS FIELDWORK.

Owner/Manager: DPR-MOUNT DIABLO SP

Malacothamnus hallii

Hall's bush-mallow

Element Code: PDMAL0Q0F0

Status
Federal: None
State: None

NDDB Element Ranks
Global: G1Q
State: S1.2

Other Lists
CNPS List: 1B.2

Habitat Associations
General: CHAPARRAL.
Micro: SOME POPULATIONS ON SERPENTINE. 10-550M.

Occurrence No. 22 **Map Index:** 63189 **EO Index:** 63281

Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1932-09-24
Site: 1932-09-24
Record Last Updated: 2005-11-21

Quad Summary: Clayton (3712188/464B)
County Summary: Contra Costa

Lat/Long: 37.91195º / -121.94248º
UTM: Zone-10 N4196573 E592958
Radius: 2/5 mile
Elevation: 1,100 ft

Mapping PrecisionNON-SPECIFIC
Symbol Type:POINT

Township: 01N
Range: 01W
Section: 26 **Qtr:** XX
Meridian: M

Location: RIDGE RUNNING WEST FROM TWIN PEAK.

General: ONLY SOURCE OF INFORMATION FOR THIS OCCURRENCE IS A 1932 COLLECTION BY BOWERMAN. NEEDS FIELDWORK.

Owner/Manager: DPR-MOUNT DIABLO SP

Masticophis lateralis euryxanthus

Alameda whipsnake

Element Code: ARADB21031

Status	NDDB Element Ranks	Other Lists
Federal: Threatened	**Global:** G4T2	**CDFG Status:**
State: Threatened	**State:** S2	

Habitat Associations

General: TYPICALLY FOUND IN CHAPARRAL AND SCRUB HABITATS BUT WILL ALSO USE ADJACENT GRASSLAND, OAK SAVANNA AND WOODLAND HABITATS.

Micro: MOSTLY SOUTH-FACING SLOPES & RAVINES, WITH ROCK OUTCROPS, DEEP CREVICES OR ABUNDANT RODENT BURROWS, WHERE SHRUBS FORM A

Occurrence No. 9 **Map Index:** 10131 **EO Index:** 27621

Dates Last Seen
Element: 1998-07-20
Site: 1998-07-20
Record Last Updated: 2009-01-15

*** SENSITIVE ***

Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Quad Summary: Clayton (3712188/464B)
County Summary: Contra Costa

*** SENSITIVE ***

Lat/Long:
UTM:
Radius:
Elevation:
Mapping Precision:
Symbol Type:
Township:
Range:
Section:
Meridian:
Qtr:

Location: *SENSITIVE* Location information suppressed.

Location Detail: Please contact the California Natural Diversity Database, California Department of Fish and Game, for more information: (916) 324-3812.

Ecological: PRESERVED STATE PARK LANDS USED FOR RECREATION AND CONSERVATION. HABITAT APPEARS TO BE A MIX OF OPEN GRASSLANDS & OAK WOODLANDS IN 2007 AERIAL IMAGE.

Owner/Manager:

Occurrence No. 10 **Map Index:** 10211 **EO Index:** 27617

Dates Last Seen
Element: 1974-04-28
Site: 1974-04-28
Record Last Updated: 2009-01-15

*** SENSITIVE ***

Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Quad Summary: Clayton (3712188/464B), Diablo (3712178/464C)
County Summary: Contra Costa

*** SENSITIVE ***

Lat/Long:
UTM:
Radius:
Elevation:
Mapping Precision:
Symbol Type:
Township:
Range:
Section:
Meridian:
Qtr:

Location: *SENSITIVE* Location information suppressed.

Location Detail: Please contact the California Natural Diversity Database, California Department of Fish and Game, for more information: (916) 324-3812.

Owner/Manager:

Occurrence No. 11 **Map Index:** 10195 **EO Index:** 27615

Dates Last Seen
Element: 2003-05-22
Site: 2003-05-22
Record Last Updated: 2009-01-15

*** SENSITIVE ***

Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Quad Summary: Clayton (3712188/464B)
County Summary: Contra Costa

*** SENSITIVE ***

Lat/Long:
UTM:
Radius:
Elevation:
Mapping Precision:
Symbol Type:
Township:
Range:
Section:
Meridian:
Qtr:

Location: *SENSITIVE* Location information suppressed.

Location Detail: Please contact the California Natural Diversity Database, California Department of Fish and Game, for more information: (916) 324-3812.

Owner/Manager:

Masticophis lateralis euryxanthus

Alameda whipsnake

Element Code: ARADB21031

Status	NDDB Element Ranks	Other Lists
Federal: Threatened	**Global:** G4T2	**CDFG Status:**
State: Threatened	**State:** S2	

Habitat Associations

General: TYPICALLY FOUND IN CHAPARRAL AND SCRUB HABITATS BUT WILL ALSO USE ADJACENT GRASSLAND, OAK SAVANNA AND WOODLAND HABITATS.

Micro: MOSTLY SOUTH-FACING SLOPES & RAVINES, WITH ROCK OUTCROPS, DEEP CREVICES OR ABUNDANT RODENT BURROWS, WHERE SHRUBS FORM A

Occurrence No. 18 **Map Index:** 10194 **EO Index:** 27616

Dates Last Seen
Element: 1998-06-13
Site: 1998-06-13
Record Last Updated: 2009-01-14

*** SENSITIVE ***

Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Quad Summary: Clayton (3712188/464B)
County Summary: Contra Costa

*** SENSITIVE ***

Lat/Long:
UTM:
Radius:
Elevation:
Mapping Precision:
Symbol Type:
Township:
Range:
Section:
Meridian:
Qtr:

Location: *SENSITIVE* Location information suppressed.

Location Detail: Please contact the California Natural Diversity Database, California Department of Fish and Game, for more information: (916) 324-3812.

Owner/Manager:

Occurrence No. 29 **Map Index:** 17074 **EO Index:** 12279

Dates Last Seen
Element: 1998-07-19
Site: 1998-07-19
Record Last Updated: 2009-12-30

*** SENSITIVE ***

Occ Rank: Excellent
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Quad Summary: Clayton (3712188/464B)
County Summary: Contra Costa

*** SENSITIVE ***

Lat/Long:
UTM:
Radius:
Elevation:
Mapping Precision:
Symbol Type:
Township:
Range:
Section:
Meridian:
Qtr:

Location: *SENSITIVE* Location information suppressed.

Location Detail: Please contact the California Natural Diversity Database, California Department of Fish and Game, for more information: (916) 324-3812.

Ecological: HILLSIDE OF DIABLO SAGE SCRUB ON STEEP (40 DEG) SW FACE. SCRUB OF CHAMISE. VALLEY FLOOR IS OAK TREE RIPARIAN HABITAT WITH SOME GRASSLAND.

Threat: POTENTIAL THREAT FROM RECREATIONAL USE (ROCK CLIMBING AND HIKING).

Owner/Manager:

Occurrence No. 30 **Map Index:** 17077 **EO Index:** 12275

Dates Last Seen
Element: 2004-04-26
Site: 2004-04-26
Record Last Updated: 2009-02-19

*** SENSITIVE ***

Occ Rank: Excellent
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Quad Summary: Clayton (3712188/464B)
County Summary: Contra Costa

*** SENSITIVE ***

Lat/Long:
UTM:
Radius:
Elevation:
Mapping Precision:
Symbol Type:
Township:
Range:
Section:
Meridian:
Qtr:

Location: *SENSITIVE* Location information suppressed.

Location Detail: Please contact the California Natural Diversity Database, California Department of Fish and Game, for more information: (916) 324-3812.

Ecological: TRANSITION ZONES OF MITCHELL CYN (WILLOW/ALDER RIPARIAN & CHAPARRAL/GRASSLAND, FOOTHILL-PINE/CHAPARRAL/GRASSLAND) & WHITE CYN (CHAMISE CHAPARRAL & OAK, RIPARIAN). RIPARIAN WOODLAND ON BOTTOM OF CANYONS.

Threat: RECREATIONAL USE.

Owner/Manager:

Masticophis lateralis euryxanthus

Alameda whipsnake

Element Code: ARADB21031

Status	NDDB Element Ranks	Other Lists
Federal: Threatened	**Global:** G4T2	**CDFG Status:**
State: Threatened	**State:** S2	

Habitat Associations

General: TYPICALLY FOUND IN CHAPARRAL AND SCRUB HABITATS BUT WILL ALSO USE ADJACENT GRASSLAND, OAK SAVANNA AND WOODLAND HABITATS.

Micro: MOSTLY SOUTH-FACING SLOPES & RAVINES, WITH ROCK OUTCROPS, DEEP CREVICES OR ABUNDANT RODENT BURROWS, WHERE SHRUBS FORM A

Occurrence No. 52 **Map Index:** 42098 **EO Index:** 42098

Dates Last Seen
Element: 1999-06-03
Site: 1999-06-03
Record Last Updated: 2010-06-03

*** SENSITIVE ***

Occ Rank: Good
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Quad Summary: Clayton (3712188/464B), Antioch South (3712187/464A)
County Summary: Contra Costa

*** SENSITIVE ***

Lat/Long:
UTM:
Radius:
Elevation:
Mapping Precision:
Symbol Type:
Township:
Range:
Section:
Meridian:
Qtr:

Location: *SENSITIVE* Location information suppressed.
Location Detail: Please contact the California Natural Diversity Database, California Department of Fish and Game, for more information: (916) 324-3812.
Ecological: HABITAT CONSISTS OF A CHAPARRAL/GRASSLAND/WOODLAND MOSAIC.
Owner/Manager:

Occurrence No. 54 **Map Index:** 44257 **EO Index:** 44257

Dates Last Seen
Element: 1992-07-02
Site: 1992-07-02
Record Last Updated: 2010-06-03

*** SENSITIVE ***

Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Quad Summary: Clayton (3712188/464B)
County Summary: Contra Costa

*** SENSITIVE ***

Lat/Long:
UTM:
Radius:
Elevation:
Mapping Precision:
Symbol Type:
Township:
Range:
Section:
Meridian:
Qtr:

Location: *SENSITIVE* Location information suppressed.
Location Detail: Please contact the California Natural Diversity Database, California Department of Fish and Game, for more information: (916) 324-3812.
Ecological: MAJOR SPECIES: ARTEMISIA CALIFORNICA, SALVIA MELLIFERA, ADENOSTOMA FASCICULATUM. SHARP-SHINNED HAWK, COOPER'S HAWK, & GOLDEN EAGLE WERE OBSERVED DURING 1992 SURVEYS.
Threat: DEVELOPMENT, EXOTIC PLANTS, OUTDOOR OPEN FIRES, HERBICIDES.
Owner/Manager:

Occurrence No. 61 **Map Index:** 52042 **EO Index:** 52042

Dates Last Seen
Element: 2003-06-14
Site: 2003-06-14
Record Last Updated: 2003-08-07

*** SENSITIVE ***

Occ Rank: Good
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Quad Summary: Clayton (3712188/464B)
County Summary: Contra Costa

*** SENSITIVE ***

Lat/Long:
UTM:
Radius:
Elevation:
Mapping Precision:
Symbol Type:
Township:
Range:
Section:
Meridian:
Qtr:

Location: *SENSITIVE* Location information suppressed.
Location Detail: Please contact the California Natural Diversity Database, California Department of Fish and Game, for more information: (916) 324-3812.
Ecological: HABITAT CONSISTS OF CHAPARRAL, DOMINATED BY ARCTOSTAPHYLOS, ADENOSTOMA, AND SALVIA MELLIFERA ON A WEST-FACING SLOPE; OAK GRASSLAND DOMINATE THE EAST-FACING SLOPE. SOILS ARE HARD-PACKED SAND/SANDSTONE, PROVIDING BARE AREAS IN THE UNDERSTORY.
Threat: THREATENED BY ENCROACHING DEVELOPMENT.
Owner/Manager:

Masticophis lateralis euryxanthus

Alameda whipsnake

Element Code: ARADB21031

Status

Federal: Threatened
State: Threatened

NDDB Element Ranks

Global: G4T2
State: S2

Other Lists

CDFG Status:

Habitat Associations

General: TYPICALLY FOUND IN CHAPARRAL AND SCRUB HABITATS BUT WILL ALSO USE ADJACENT GRASSLAND, OAK SAVANNA AND WOODLAND HABITATS.

Micro: MOSTLY SOUTH-FACING SLOPES & RAVINES, WITH ROCK OUTCROPS, DEEP CREVICES OR ABUNDANT RODENT BURROWS, WHERE SHRUBS FORM A

Occurrence No. 86 **Map Index:** 68817 **EO Index:** 69343

Dates Last Seen

Element: 2006-09-23
Site: 2006-09-23

Record Last Updated: 2008-07-29

*** SENSITIVE ***

Occ Rank: Excellent
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Quad Summary: Clayton (3712188/464B)
County Summary: Contra Costa

*** SENSITIVE ***

Lat/Long:
UTM:
Radius:
Elevation:
Mapping Precision:
Symbol Type:
Township:
Range:
Section:
Meridian:
Qtr:

Location: *SENSITIVE* Location information suppressed.

Location Detail: Please contact the California Natural Diversity Database, California Department of Fish and Game, for more information: (916) 324-3812.

Ecological: HABITAT CONSISTS OF OAK WOODLAND, WITHIN LARGER GRASSLAND.

Owner/Manager:

Melospiza melodia maxillaris

Suisun song sparrow

Element Code: ABPBXA301K

Status
Federal: None
State: None

NDDB Element Ranks
Global: G5T2
State: S2

Other Lists
CDFG Status: SC

Habitat Associations
General: RESIDENT OF BRACKISH-WATER MARSHES SURROUNDING SUISUN BAY.
Micro: INHABITS CATTAILS, TULES AND OTHER SEDGES, AND SALICORNIA; ALSO KNOWN TO FREQUENT TANGLES BORDERING SLOUGHS.

Occurrence No. 1 **Map Index:** 10002 **EO Index:** 24624

Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1982-XX-XX
Site: 1982-XX-XX
Record Last Updated: 1989-08-10

Quad Summary: Honker Bay (3812118/481C)
County Summary: Contra Costa

Lat/Long: 38.04519º / -121.97357º
UTM: Zone-10 N4211326 E590063
Radius: 1/5 mile
Elevation: 3 ft

Mapping PrecisionNON-SPECIFIC
Symbol Type:POINT

Township: 02N
Range: 01W
Section: 04 **Qtr:** XX
Meridian: M

Location: MARSH AREA ALONG PORT CHICAGO HWY, JUST N OF SHORE ACRES
General: OBSERVATION.
Owner/Manager: UNKNOWN

Occurrence No. 2 **Map Index:** 09908 **EO Index:** 24620

Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1982-XX-XX
Site: 1982-XX-XX
Record Last Updated: 1989-08-10

Quad Summary: Honker Bay (3812118/481C)
County Summary: Contra Costa

Lat/Long: 38.04574º / -121.99579º
UTM: Zone-10 N4211365 E588113
Radius: 1/5 mile
Elevation: 5 ft

Mapping PrecisionNON-SPECIFIC
Symbol Type:POINT

Township: 02N
Range: 01W
Section: 05 **Qtr:** SE
Meridian: M

Location: JUST NORTH OF PORT CHICAGO HWY, BETWEEN SOUTHERN PACIFIC RAILROAD AND SACRAMENTO NORTHERN RAILROAD TRACKS, NW NICHOLS
General: OBSERVATION.
Owner/Manager: UNKNOWN

Occurrence No. 5 **Map Index:** 09889 **EO Index:** 14645

Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1982-XX-XX
Site: 1982-XX-XX
Record Last Updated: 1999-01-14

Quad Summary: Honker Bay (3812118/481C), Vine Hill (3812211/482D)
County Summary: Contra Costa

Lat/Long: 38.05223º / -122.00525º
UTM: Zone-10 N4212077 E587275
Area:
Elevation: 3 ft

Mapping PrecisionNON-SPECIFIC
Symbol Type:POLYGON

Township: 02N
Range: 01W
Section: 05 **Qtr:** XX
Meridian: M

Location: CONCORD NAVAL WEAPONS STATION, SUISUN BAY; BETWEEN BELLOMA SLOUGH AND CHEMICAL PLANT.
General: 4 OBSERVATIONS.
Owner/Manager: DOD-CONCORD NWS

Melospiza melodia maxillaris

Suisun song sparrow

Element Code: ABPBXA301K

Status
Federal: None
State: None

NDDB Element Ranks
Global: G5T2
State: S2

Other Lists
CDFG Status: SC

Habitat Associations
General: RESIDENT OF BRACKISH-WATER MARSHES SURROUNDING SUISUN BAY.
Micro: INHABITS CATTAILS, TULES AND OTHER SEDGES, AND SALICORNIA; ALSO KNOWN TO FREQUENT TANGLES BORDERING SLOUGHS.

Occurrence No. 13 **Map Index:** 10235 **EO Index:** 4576

Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Increasing

Dates Last Seen
Element: 1986-XX-XX
Site: 1986-XX-XX
Record Last Updated: 2005-04-05

Quad Summary: Honker Bay (3812118/481C)
County Summary: Solano

Lat/Long: 38.06767º / -121.91543º
UTM: Zone-10 N4213878 E595136
Area:
Elevation:
Mapping Precision NON-SPECIFIC
Symbol Type: POLYGON
Township: 03N
Range: 01E
Section: 36 **Qtr:** XX
Meridian: M

Location: CHIPPS ISLAND MARSH AND EDGE OF WHEELER ISLAND, SURROUNDING HONKER BAY, NNW OF PITTSBURG.

Location Detail: 1964: LOCATION GIVEN AS " SUISUN MARSH; WHEELER ISLAND".

General: 12 COLLECTED (MVZ# 155429-155440) ON 23 MAY 1964. 1041 PAIRS ESTIMATED TO OCCURR IN COASTAL BRACKISH MARSH. COMPILATION OF 1976-86 DATA.

Owner/Manager: DFG-GRIZZLY ISLAND WA, PVT

Occurrence No. 16 **Map Index:** 09989 **EO Index:** 13339

Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Increasing

Dates Last Seen
Element: 1986-XX-XX
Site: 1986-XX-XX
Record Last Updated: 2005-04-04

Quad Summary: Fairfield South (3812221/482A), Vine Hill (3812211/482D), Honker Bay (3812118/481C), Denverton (3812128/481B)
County Summary: Solano

Lat/Long: 38.11017º / -121.98551º
UTM: Zone-10 N4218524 E588937
Area: 3,093.8 acres
Elevation:
Mapping Precision SPECIFIC
Symbol Type: POLYGON
Township: 03N
Range: 01W
Section: 16 **Qtr:** XX
Meridian: M

Location: GRIZZLY BAY SHORE ISLANDS AT SUISUN CUTOFF, SUISUN AND GRIZZLY BAYS.

Location Detail: 1913: LOCATION GIVEN AS "SUISUN BAY". 1947: LOCATION GIVEN AS "SUISUN BAY SHORE, 3 MI S GRIZZLY ISLAND FERRY; GRIZZLY ISLAND".

General: 8 COLL. (CAS) IN 1913. 10 COLL. (MVZ) IN 1947. GRIZZLY BAY SHORE 433 PRS EST IN 412 ACRES OF FORMER MUD FLATS NOW COVERED W/MARSH VEGETATION. 854 PRS EST ON 813 ACRES OF TIDAL HABITAT ON ISLANDS AT SUISUN CUTOFF.COMPILATION OF 1976-86 DATA.

Owner/Manager: UNKNOWN

Occurrence No. 17 **Map Index:** 09978 **EO Index:** 24618

Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1986-XX-XX
Site: 1986-XX-XX
Record Last Updated: 1999-01-14

Quad Summary: Honker Bay (3812118/481C)
County Summary: Solano

Lat/Long: 38.06297º / -121.98175º
UTM: Zone-10 N4213291 E589324
Area:
Elevation: 5 ft
Mapping Precision NON-SPECIFIC
Symbol Type: POLYGON
Township: 03N
Range: 01W
Section: 33 **Qtr:** XX
Meridian: X

Location: ISLANDS AT SUISUN CUTOFF: FREEMAN ISLAND, SNAG ISLAND, AND MIDDLE GROUND ISLAND, IN SUISUN BAY.

Location Detail: ESTIMATE OF 813 ACRES OF TIDAL HABITAT AND 854 PAIRS.

Ecological: HABITAT IS COASTAL BRACKISH MARSH. THESE THREE ISLANDS ON THE EAST SIDE OF SUISUN CUTOFF ARE WITHIN FLIGHT RANGE OF EACH OTHER AND OF HABITAT ALONG GRIZZLY BAY RIM.

General: FROM COMPILATION OF 1976-86 DATA.

Owner/Manager: UNKNOWN

Melospiza melodia maxillaris

Suisun song sparrow

Element Code: ABPBXA301K

Status
Federal: None
State: None

NDDB Element Ranks
Global: G5T2
State: S2

Other Lists
CDFG Status: SC

Habitat Associations
General: RESIDENT OF BRACKISH-WATER MARSHES SURROUNDING SUISUN BAY.
Micro: INHABITS CATTAILS, TULES AND OTHER SEDGES, AND SALICORNIA; ALSO KNOWN TO FREQUENT TANGLES BORDERING SLOUGHS.

Occurrence No. 38 **Map Index:** 60868 **EO Index:** 60904

Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1946-09-22
Site: 1946-09-22
Record Last Updated: 2005-04-06

Quad Summary: Honker Bay (3812118/481C)
County Summary: Contra Costa

Lat/Long: 38.03819º / -121.93132º
UTM: Zone-10 N4210591 E593779
Radius: 3/5 mile
Elevation: 5 ft
Mapping Precision NON-SPECIFIC
Symbol Type: POINT
Township: 02N
Range: 01W
Section: 12 **Qtr:** XX
Meridian: M

Location: MARSH LOCATED DIRECTLY NORTH OF WEST PITTSBURG, 2.5 MILES WEST OF PITTSBURG.
Location Detail: 1946: LOCATION GIVEN AS "2.5 MI W PITTSBURG".
General: 10 COLLECTED (MVZ# 96500-96509) ON 22 SEP 1946.
Owner/Manager: UNKNOWN

Occurrence No. 39 **Map Index:** 31493 **EO Index:** 60918

Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1924-02-24
Site: 1924-02-24
Record Last Updated: 2005-04-07

Quad Summary: Honker Bay (3812118/481C), Antioch North (3812117/481D)
County Summary: Contra Costa

Lat/Long: 38.02206º / -121.89008º
UTM: Zone-10 N4208844 E597420
Radius: 1 mile
Elevation: 50 ft
Mapping Precision NON-SPECIFIC
Symbol Type: POINT
Township: 02N
Range: 01E
Section: 17 **Qtr:** XX
Meridian: M

Location: PITTSBURG.
Location Detail: LOCATION GIVEN ONLY AS "PITTSBURG".
General: 1 COLLECTED (MVZ# 148124) ON 24 FEB 1924.
Owner/Manager: UNKNOWN

Navarretia gowenii

Lime Ridge navarretia

Element Code: PDPLM0C120

Status
Federal: None
State: None

NDDB Element Ranks
Global: G1
State: S1

Other Lists
CNPS List: 1B.1

Habitat Associations
General: CHAPARRAL
Micro: ON CALCIUM CARBONATE-RICH SOIL WITH HIGH CLAY CONTENT. 180-305M

Occurrence No. 2 **Map Index:** 72039 **EO Index:** 72960

Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 2005-05-25
Site: 2005-05-25
Record Last Updated: 2008-09-17

Quad Summary: Clayton (3712188/464B)
County Summary: Contra Costa

Lat/Long: 37.93048º / -121.99293º
UTM: Zone-10 N4198580 E588502
Area: 9.0 acres
Elevation: 600 ft
Mapping Precision SPECIFIC
Symbol Type: POLYGON
Township: 01N
Range: 01W
Section: 17 **Qtr:** SE
Meridian: M

Location: ON N SIDE JUST SE OF ONE OF THE QUARRIES, LIME RIDGE OPEN SPACE.

Location Detail: MAPPED BY CNDDB ACCORDING TO GPS COORDINATES PROVIDED BY BARTOSH (2008).

Ecological: CLAY SOIL. AREA BURNED IN 2003.

Threat: OPEN SPACE FREQUENTLY USED.

General: UNK # OF PLANTS SEEN IN 2004 & 2005. JOHNSON (2007) MENTIONS THAT SINCE 2003, THE POPS AT LIME RIDGE HAVE FLUCTUATED IN RESPONSE TO MOISTURE AVAILABILITY; ESTIMATE SEVERAL HUNDRED IND PER POP TO <50 IND IN DRY YEARS. NEED MORE INFO.

Owner/Manager: CITY OF WALNUT CREEK

Occurrence No. 3 **Map Index:** 72040 **EO Index:** 72962

Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 2004-05-11
Site: 2004-05-11
Record Last Updated: 2008-09-17

Quad Summary: Clayton (3712188/464B)
County Summary: Contra Costa

Lat/Long: 37.93312º / -121.98644º
UTM: Zone-10 N4198879 E589069
Radius: 80 meters
Elevation: 1,000 ft
Mapping Precision SPECIFIC
Symbol Type: POINT
Township: 01N
Range: 01W
Section: 16 **Qtr:** SW
Meridian: M

Location: SUMMIT AREA JUST S OF THE ANTENNA FACILITY, LIME RIDGE OPEN SPACE.

Location Detail: MAPPED BY CNDDB ACCORDING TO GPS COORDINATES PROVIDED BY BARTOSH (2008).

Ecological: GROWING WITH ERYNGIUM AND HESPEROLINON CALIFORNICUM. CLAY SOIL.

Threat: OPEN SPACE FREQUENTLY USED. RADIO TOWER SITE ACCESSED FOR MAINTENACE & VEG MGMNT, LEASE FOR TOWER BEING RE-NEGOTIATED.

General: UNK # OF PLANTS SEEN IN 2004. JOHNSON (2007) MENTIONS THAT SINCE 2003, THE POPS AT LIME RIDGE HAVE FLUCTUATED IN RESPONSE TO MOISTURE AVAILABILITY, W/ EST OF SEVERAL HUNDRED IND PER POP TO <50 IND IN DRY YEARS. NEED MORE INFO.

Owner/Manager: CITY OF WALNUT CREEK

Oenothera deltoides ssp. howellii

Antioch Dunes evening-primrose

Element Code: PDONA0C0B4

Status	NDDB Element Ranks	Other Lists
Federal: Endangered	**Global:** G5T1	**CNPS List:** 1B.1
State: Endangered	**State:** S1.1	

Habitat Associations

General: INTERIOR DUNES.

Micro: REMNANT RIVER BLUFFS AND SAND DUNES EAST OF ANTIOCH. 0-30M.

Occurrence No. 8 **Map Index:** 10328 **EO Index:** 18814

Occ Rank: Unknown
Origin: Transplant Outside of Native Hab./Range
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1984-XX-XX
Site: 1984-XX-XX
Record Last Updated: 1995-12-29

Quad Summary: Honker Bay (3812118/481C), Antioch North (3812117/481D)
County Summary: Contra Costa

Lat/Long: 38.03964º / -121.87773º
UTM: Zone-10 N4210807 E598480
Radius: 1/5 mile
Elevation:
Mapping Precision NON-SPECIFIC
Symbol Type: POINT
Township: 02N
Range: 01E
Section: 9 **Qtr:** XX
Meridian: M

Location: ON THE WEST END OF BROWN'S ISLAND.

Ecological: IN SAND DUNES. ASSOCIATED WITH PHYLLA, RUBUS, CYNODON DACTYLON, AND ENCROACHING WETLAND PERENNIALS (I.E. JUNCUS).

Threat: ONLY APPARENT THREAT IS FROM ENCROACHING VEGETATION (WEEDS IN ADDITION TO WETLAND SP.).

General: 10 PLANTS SUCCESSFULLY TRANSPLANTED IN 1978, 10 PLANTS OBSERVED THRIVING IN 1979. 6 PLANTS SEEN IN 1984, 1985, OR 1986 BY HAVLIK. IN 1978.

Owner/Manager: PVT, REG PARKS, STATE?

Perognathus inornatus inornatus

San Joaquin pocket mouse

Element Code: AMAFD01061

Status
Federal: None
State: None

NDDB Element Ranks
Global: G4T2T3
State: S2S3

Other Lists
CDFG Status:

Habitat Associations
General: TYPICALLY FOUND IN GRASSLANDS AND BLUE OAK SAVANNAS.
Micro: NEEDS FRIABLE SOILS.

Occurrence No. 49 **Map Index:** 25569 **EO Index:** 260

Occ Rank: Excellent
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1992-08-12
Site: 1992-08-12
Record Last Updated: 1998-05-11

Quad Summary: Antioch South (3712187/464A), Clayton (3712188/464B)
County Summary: Contra Costa

Lat/Long: 37.96506º / -121.87864º
UTM: Zone-10 N4202531 E598500
Radius: 1/5 mile
Elevation: 750 ft
Mapping Precision NON-SPECIFIC
Symbol Type: POINT
Township: 01S
Range: 01E
Section: 04 **Qtr:** NW
Meridian: M

Location: BLACK DIAMOND MINES REGIONAL PRESERVE, 1.6 MILES SE OF JUNCTION OF KIRKER PASS ROAD AND NORTONVILLE ROAD.

Location Detail: OLD MUSEUM RECORD FROM 1940 DESCRIBED ONLY AS, "5 MILES SOUTH OF PITTSBURG," HAS BEEN COMBINED WITH THIS LOCATION.

Ecological: ANNUAL INTRODUCED GRASSLAND. SEASONALLY GRAZED. OAK & EUCALYPTUS. NO GROUND SQUIRRELS.

Threat: CATTLE GRAZING, DEVELOPMENT.

General: 7 INDIVIDUALS (2 ADULTS, 3 JUVENILES AND 2 AGE UNDETERMINED) CAPTURED DURING SMALL MAMMAL TRAPPING 12 AUG 1992. MVZ #94764 COLLECTED 14 APR 1940 FROM "5 MILES S OF PITTSBURG".

Owner/Manager: EBRPD, PVT

Occurrence No. 74 **Map Index:** 38751 **EO Index:** 33758

Occ Rank: Excellent
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1991-06-XX
Site: 1991-06-XX
Record Last Updated: 1998-05-12

Quad Summary: Honker Bay (3812118/481C)
County Summary: Contra Costa

Lat/Long: 38.04170º / -121.98035º
UTM: Zone-10 N4210932 E589473
Radius: 1/10 mile
Elevation: 20 ft
Mapping Precision NON-SPECIFIC
Symbol Type: POINT
Township: 02N
Range: 01W
Section: 04 **Qtr:** SW
Meridian: M

Location: N SIDE OF & 0.1 MILE FROM INTERSECTION OF PORT CHICAGO HWY & AMBROSE ROAD, 0.5 MILE SE OF BM 10 (RR TRACKS INTERSECT).

Location Detail: BETWEEN RR TRACTS AND PORT CHICAGO HIGHWAY.

Ecological: MIXTURE OF GRASSLAND AND SCRUB.

Threat: HEAVY METAL POLLUTION.

General: 6 INDIVIDUALS WERE CAPTURED AND PRESERVED. ORIGINALLY IDENTIFIED AS P. CALIFORNICUS, BIOLOGISTS AT THE MVZ IN BERKELEY IDENTIFIED THEM AS P. INORNATUS INORNATUS.

Owner/Manager: DOD-CONCORD NWS

Phacelia phacelioides

Mt. Diablo phacelia

Element Code: PDHYD0C3Q0

Status	NDDB Element Ranks	Other Lists
Federal: None	**Global:** G1	**CNPS List:** 1B.2
State: None	**State:** S1.2	

Habitat Associations

General: CHAPARRAL, CISMONTANE WOODLAND.

Micro: ADJACENT TO TRAILS, ON ROCK OUTCROPS AND TALUS SLOPES; SOMETIMES ON SERPENTINE. 500-1370M.

Occurrence No. 1 **Map Index:** 20375 **EO Index:** 9858

Occ Rank: Good
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1993-05-22
Site: 1993-05-22
Record Last Updated: 1995-08-23

Quad Summary: Clayton (3712188/464B)
County Summary: Contra Costa

Lat/Long: 37.88130º / -121.91660º
UTM: Zone-10 N4193198 E595273
Area: 125.9 acres
Elevation: 3,400 ft
Mapping Precision SPECIFIC
Symbol Type: POLYGON
Township: 01S
Range: 01W
Section: 01 **Qtr:** NE
Meridian: M

Location: MT. DIABLO, FROM NEAR MUIR CAMP TO SUMMIT; ALSO ALONG TRAIL BETWEEN DEVIL'S PULPIT AND PROSPECTORS GAP.

Location Detail: FOUND ALONG SIDE OF TRAILS. ALSO IN NW 1/4 OF SECTION 6.

Ecological: FOUND GROWING WITH UMBELLULARIA CALIFORNICA, ADENOSTOMA FASICULATUM, ERIODYCTION CALIFORNICA, CEANOTHUS CUNEATUS. APPEARS TO DO WELL IN DISTURBED OR BURNED SITES. MOSTLY ON SOUTH SLOPES.

Threat: POSSIBLE IMPACTS BY FOOT TRAFFIC AND TRAIL WORK.

General: 1000+ PLANTS OBSERVED IN 1982, 130 PLANTS SEEN IN 1991 IN PARTIAL SURVEY.

Owner/Manager: DPR-MOUNT DIABLO SP

Occurrence No. 2 **Map Index:** 20374 **EO Index:** 9212

Occ Rank: Fair
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1991-04-28
Site: 1991-04-28
Record Last Updated: 1995-08-23

Quad Summary: Clayton (3712188/464B)
County Summary: Contra Costa

Lat/Long: 37.89194º / -121.90739º
UTM: Zone-10 N4194388 E596070
Area: 7.2 acres
Elevation: 3,250 ft
Mapping Precision SPECIFIC
Symbol Type: POLYGON
Township: 01N
Range: 01E
Section: 31 **Qtr:** NW
Meridian: M

Location: MT. DIABLO. FROM 0.25 MILE W TO ABOUT 0.5 MILE SW OF NORTH PEAK SUMMIT ALONG TRAIL TO TOWERS.

Location Detail: FIRE TRAIL TO NORTH PEAK, FROM 3/8 MILE NORTH OF PROSPECTORS GAP INTERSECTION TO SHED NEAR INTERSECTION OF TRAIL TO FIRST TOWER.

Ecological: IN DISTURBED ROADSIDE AREA GROWING WITH SALVIA COLUMBARIAE, HOLODISCUS DISCOLOR, CHORIZANTHE MEMBRANACEA, ERIODYCTION CALIFORNICA, BROMUS RUBENS, PHACELIA DISTANS, STREPTANTHUS HISPIDUS, LEWISIA REDIVIVA, AND ALLIUM

Threat: POSSIBLE IMPACTS BY FOOT TRAFFIC OR TRAIL WORK.

General: ONE PLANT SEEN IN 1984, 10 PLANTS SEEN IN 1991.

Owner/Manager: DPR-MOUNT DIABLO SP

Occurrence No. 3 **Map Index:** 20377 **EO Index:** 13985

Occ Rank: Poor
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1995-05-08
Site: 1995-05-08
Record Last Updated: 2000-10-26

Quad Summary: Clayton (3712188/464B)
County Summary: Contra Costa

Lat/Long: 37.88123º / -121.93731º
UTM: Zone-10 N4193169 E593453
Area: 1.9 acres
Elevation: 2,700 ft
Mapping Precision SPECIFIC
Symbol Type: POLYGON
Township: 01S
Range: 01W
Section: 02 **Qtr:** NW
Meridian: M

Location: MOSES ROCK RIDGE, ALONG TRAIL BETWEEN JUNIPER CAMP AND DEER FLAT, ABOUT 1.3 AIRMILES WEST OF MOUNT DIABLO SUMMIT.

Location Detail: IN BANK ALONG FIRE ROAD ABOUT 0.25 MILE FROM END OF JUNIPER CAMPGROUND. MAPPED WITHIN THE NE 1/4 OF THE NW 1/4 OF SECTION 2.

Ecological: ON ROAD BANK AT EDGE OF SMALL WOODLAND. GROWING WITH UMBELLULARIA CALIFORNICA, QUERCUS WISLIZENII, JUNIPERUS SP, ERYSIMUM CAPITATUM, CLEMATIS LASIANTHA. IN MOIST METAMORPHIC SOIL.

Threat: ROAD IS DISKED TO ABOUT 1.5 FEET BELOW THE PHACELIA. ROAD BANK IS ERODING.

General: UNKNOWN NUMBER OF PLANTS OBSERVED IN 1940. 1 PLANT OBSERVED IN 1995.

Phacelia phacelioides

Mt. Diablo phacelia

Element Code: PDHYD0C3Q0

Status
Federal: None
State: None

NDDB Element Ranks
Global: G1
State: S1.2

Other Lists
CNPS List: 1B.2

Habitat Associations
General: CHAPARRAL, CISMONTANE WOODLAND.
Micro: ADJACENT TO TRAILS, ON ROCK OUTCROPS AND TALUS SLOPES; SOMETIMES ON SERPENTINE. 500-1370M.

Owner/Manager: DPR-MOUNT DIABLO SP

Occurrence No. 4 **Map Index:** 20376 **EO Index:** 24015

Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1933-04-26
Site: 1933-04-26
Record Last Updated: 1995-08-23

Quad Summary: Clayton (3712188/464B)
County Summary: Contra Costa

Lat/Long: 37.88555º / -121.88961º
UTM: Zone-10 N4193698 E597642
Radius: 2/5 mile
Elevation: 2,000 ft

Mapping PrecisionNON-SPECIFIC
Symbol Type:POINT

Township: 01N
Range: 01E
Section: 32 **Qtr:** SW
Meridian: M

Location: MT. DIABLO, ABOUT 1.4 AIR MILES ENE OF SUMMIT.

Ecological: AREA WAS SITE OF CHAPARRAL-BURN TWO YEARS PREVIOUS TO VISIT.

General: HERBARIUM DATA WAS ONLY INFORMATION; NEEDS FIELDWORK.

Owner/Manager: DPR-MOUNT DIABLO SP

Occurrence No. 5 **Map Index:** 20378 **EO Index:** 9542

Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1932-04-16
Site: 1932-04-16
Record Last Updated: 1995-08-23

Quad Summary: Clayton (3712188/464B)
County Summary: Contra Costa

Lat/Long: 37.90425º / -121.93795º
UTM: Zone-10 N4195723 E593367
Radius: 1/5 mile
Elevation: 2,200 ft

Mapping PrecisionNON-SPECIFIC
Symbol Type:POINT

Township: 01N
Range: 01W
Section: 26 **Qtr:** E
Meridian: M

Location: MT. DIABLO; EAGLE PEAK, NORTH SIDE.

Ecological: ROCKY BANK WITH NORTH EAST EXPOSURE, PARTIALLY SHADED BY JUNIPERUS CALIFORNICA. ASSOCIATES INCLUDE TRIFOLIUM TRIDENTATUM, NEMOPHILA HETEROPHYLLA, PHACELIA BREWERI.

General: HERBARIUM DATA WAS ONLY INFORMATION; NEEDS FIELDWORK.

Owner/Manager: DPR-MOUNT DIABLO SP

Phrynosoma blainvillii

coast horned lizard

Element Code: ARACF12100

Status
Federal: None
State: None

NDDB Element Ranks
Global: G4G5
State: S3S4

Other Lists
CDFG Status: SC

Habitat Associations
General: FREQUENTS A WIDE VARIETY OF HABITATS, MOST COMMON IN LOWLANDS ALONG SANDY WASHES WITH SCATTERED LOW BUSHES.
Micro: OPEN AREAS FOR SUNNING, BUSHES FOR COVER, PATCHES OF LOOSE SOIL FOR BURIAL, & ABUNDANT SUPPLY OF ANTS & OTHER INSECTS.

Occurrence No. 618 **Map Index:** 48126 **EO Index:** 48126

Occ Rank: Excellent
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 2002-05-25
Site: 2002-05-25
Record Last Updated: 2002-06-17

Quad Summary: Clayton (3712188/464B)
County Summary: Contra Costa

Lat/Long: 37.90756º / -121.93383º
UTM: Zone-10 N4196094 E593725
Radius: 80 meters
Elevation: 1,462 ft

Mapping Precision SPECIFIC
Symbol Type: POINT

Township: 01N
Range: 01W
Section: 26 **Qtr:** NE
Meridian: M

Location: 0.5 MILE NNE OF EAGLE PEAK, MOUNT DIABLO STATE PARK
Ecological: HABITAT CONSISTS OF CHAMISE CHAPARRAL.
General: 1 ADULT OBSERVED ON 25 MAY 2002.
Owner/Manager: DPR-MOUNT DIABLO SP

Occurrence No. 644 **Map Index:** 66058 **EO Index:** 66137

Occ Rank: Good
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 2005-06-06
Site: 2005-06-06
Record Last Updated: 2006-08-24

Quad Summary: Clayton (3712188/464B)
County Summary: Contra Costa

Lat/Long: 37.92455º / -121.95949º
UTM: Zone-10 N4197954 E591448
Radius: 1/5 mile
Elevation: 1,224 ft

Mapping Precision NON-SPECIFIC
Symbol Type: POINT

Township: 01N
Range: 01W
Section: 22 **Qtr:** NE
Meridian: M

Location: SW OF CLAYTON, JUST W OF MOUNT ZION PEAK.
Location Detail: MAPPED IN NW1/4 OF NE1/4 SEC 22.
Ecological: OPEN CHAPARRAL HABITAT.
Threat: MINING IN SURROUNDING AREA, BUT THIS SITE APPARENTLY PRESERVED.
General: 1 ADULT OBSERVED ON 6 JUN 2005.
Owner/Manager: PVT

Potamogeton filiformis

slender-leaved pondweed

Element Code: PMPOT03090

Status
Federal: None
State: None

NDDB Element Ranks
Global: G5
State: S1S2

Other Lists
CNPS List: 2.2

Habitat Associations
General: MARSHES AND SWAMPS.
Micro: SHALLOW, CLEAR WATER OF LAKES AND DRAINAGE CHANNELS. 15-2310M.

Occurrence No. 16 **Map Index:** 73369 **EO Index:** 74339

Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1996-05-11
Site: 1996-05-11
Record Last Updated: 2009-01-12

Quad Summary: Walnut Creek (3712281/465A), Clayton (3712188/464B), Diablo (3712178/464C)
County Summary: Contra Costa

Lat/Long: 37.88519º / -121.98576º
UTM: Zone-10 N4193561 E589186
Radius: 1 mile
Elevation: 600 ft

Mapping PrecisionNON-SPECIFIC
Symbol Type:POINT

Township: 01N
Range: 01W
Section: 33 **Qtr:** XX
Meridian: M

Location: NORTH GATE RD AT NW BASE OF MOUNT DIABLO.

Location Detail: "TICK POND" WEST OF ROAD TOWARD CASTLE ROCK. EXACT LOCATION UNKNOWN; UNABLE TO LOCATE TICK POND. MAPPED BY CNDDB AS BEST GUESS IN VICINITY OF NORTH GATE RD AND CASTLE ROCK.

General: ONLY SOURCE OF INFORMATION FOR THIS SITE IS A 1996 ERTTER ET AL COLLECTION. NEEDS FIELDWORK.

Owner/Manager: UNKNOWN

Rallus longirostris obsoletus

California clapper rail

Element Code: ABNME05016

Status	NDDB Element Ranks	Other Lists
Federal: Endangered	**Global:** G5T1	**CDFG Status:**
State: Endangered	**State:** S1	

Habitat Associations

General: SALT-WATER & BRACKISH MARSHES TRAVERSED BY TIDAL SLOUGHS IN THE VICINITY OF SAN FRANCISCO BAY.

Micro: ASSOCIATED WITH ABUNDANT GROWTHS OF PICKLEWEED, BUT FEEDS AWAY FROM COVER ON INVERTEBRATES FROM MUD-BOTTOMED SLOUGHS.

Occurrence No. 102 **Map Index:** 59534 **EO Index:** 59570

Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1994-XX-XX
Site: 1994-XX-XX
Record Last Updated: 2005-01-24

Quad Summary: Honker Bay (3812118/481C)
County Summary: Contra Costa

Lat/Long: 38.05153º / -121.99450º
UTM: Zone-10 N4212010 E588218
Area:
Elevation: 4 ft

Mapping PrecisionNON-SPECIFIC
Symbol Type:POLYGON

Township: 02N
Range: 01W
Section: 05 **Qtr:** N
Meridian: M

Location: JUST SOUTH AND SOUTHWEST OF MIDDLE POINT, SOUTH OF SUISUN BAY.

General: CLAPPER RAILS DETECTED AT 2 LOCATIONS SOMETIME BETWEEN 1991 AND 1994.

Owner/Manager: UNKNOWN

Rana draytonii

California red-legged frog

Element Code: AAABH01022

Status
Federal: Threatened
State: None

NDDB Element Ranks
Global: G4T2T3
State: S2S3

Other Lists
CDFG Status: SC

Habitat Associations
General: LOWLANDS & FOOTHILLS IN OR NEAR PERMANENT SOURCES OF DEEP WATER WITH DENSE, SHRUBBY OR EMERGENT RIPARIAN VEGETATION.
Micro: REQUIRES 11-20 WEEKS OF PERMANENT WATER FOR LARVAL DEVELOPMENT. MUST HAVE ACCESS TO ESTIVATION HABITAT.

Occurrence No. 42 **Map Index:** 21559 **EO Index:** 15141

Occ Rank: Fair
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1991-09-13
Site: 1991-09-13
Record Last Updated: 1992-06-23

Quad Summary: Honker Bay (3812118/481C)
County Summary: Contra Costa

Lat/Long: 38.00963º / -121.96401º
UTM: Zone-10 N4207389 E590946
Radius: 80 meters
Elevation: 350 ft
Mapping Precision SPECIFIC
Symbol Type: POINT
Township: 02N
Range: 01W
Section: 22 **Qtr:** NW
Meridian: M

Location: APPROXIMATELY ONE MI SOUTH OF THE INTERSECTION OF WILLOW PASS ROAD AND HWY 4, SW OF WEST PITTSBURG.

Ecological: HABITAT IS A SMALL, INTERMITTENT STREAM (PORTIONS APPEAR PERMANENTLY WET), SURROUNDED BY GRASSLAND.

Threat: SITE IS PROPOSED FOR DEVELOPMENT.

General: CURRENTLY USED FOR CATTLE GRAZING. RIPARIAN TREES AND SHRUBS HAVE RECENTLY BEEN RIPPED OUT BY LANDOWNER. ONE ADULT FROG OBSERVED.

Owner/Manager: PVT

Occurrence No. 164 **Map Index:** 34037 **EO Index:** 12816

Occ Rank: Good
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1995-08-08
Site: 1995-08-08
Record Last Updated: 1996-08-05

Quad Summary: Clayton (3712188/464B)
County Summary: Contra Costa

Lat/Long: 37.98778º / -121.92515º
UTM: Zone-10 N4205004 E594386
Radius: 80 meters
Elevation: 760 ft
Mapping Precision SPECIFIC
Symbol Type: POINT
Township: 02N
Range: 01W
Section: 25 **Qtr:** SW
Meridian: M

Location: KELLER CANYON, 1.4 MILES EAST OF BAILEY ROAD, 1.3 MILES NORTH OF KIRKER PASS ROAD, AND 1 MILES WSW OF PITTSBURG.

Location Detail: STOCK POND, KELLER CANYON LANDFILL - "CANYON 3"

Ecological: HABITAT CONSISTS OF A HEAVILY DEGRADED CATTLE POND. DOMINANT PLANTS INCLUDE POLYPOGON MONSPELIENSIS, RORIPPA NATURTIUM-AQUATICUM, RANUNCULUS SCERATUS, AND ZANNICHELLA PALUSTRIS.

General: 6 ADULTS AND 3 JUVENILES OBSERVED, ALONG WITH CTS, ON 8 AUGUST 1995.

Owner/Manager: UNKNOWN

Occurrence No. 194 **Map Index:** 33466 **EO Index:** 1571

Occ Rank: Good
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1994-05-16
Site: 1994-05-16
Record Last Updated: 1996-09-03

Quad Summary: Clayton (3712188/464B)
County Summary: Contra Costa

Lat/Long: 37.94801º / -121.88491º
UTM: Zone-10 N4200633 E597972
Radius: 80 meters
Elevation: 1,420 ft
Mapping Precision SPECIFIC
Symbol Type: POINT
Township: 01N
Range: 01E
Section: 08 **Qtr:** NE
Meridian: M

Location: 0.75 MILE SSW OF NORTONVILLE (SITE), BLACK DIAMOND MINES REGIONAL PARK.

Ecological: HABITAT CONSISTS OF A STOCK POND.

Threat: POSSIBLE THREAT FROM INTRODUCED GAMBUSIA.

General: 1 ADULT AND 10 LARVAE OBSERVED ON 16 MAY 1994.

Owner/Manager: EBRPD-BLACK DIAMOND MINES RP

Rana draytonii

California red-legged frog

Element Code: AAABH01022

Status
Federal: Threatened
State: None

NDDB Element Ranks
Global: G4T2T3
State: S2S3

Other Lists
CDFG Status: SC

Habitat Associations
General: LOWLANDS & FOOTHILLS IN OR NEAR PERMANENT SOURCES OF DEEP WATER WITH DENSE, SHRUBBY OR EMERGENT RIPARIAN VEGETATION.
Micro: REQUIRES 11-20 WEEKS OF PERMANENT WATER FOR LARVAL DEVELOPMENT. MUST HAVE ACCESS TO ESTIVATION HABITAT.

Occurrence No. 219 **Map Index:** 36119 **EO Index:** 31116

Occ Rank: Good
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1995-01-07
Site: 1995-01-07
Record Last Updated: 1997-07-15

Quad Summary: Clayton (3712188/464B)
County Summary: Contra Costa

Lat/Long: 37.97413º / -121.91587º
UTM: Zone-10 N4203499 E595218
Area:
Elevation: 600 ft
Mapping Precision NON-SPECIFIC
Symbol Type: POLYGON
Township: 02N
Range: 01W
Section: 36 **Qtr:** SE
Meridian: M

Location: DRAINAGE ALONG KIRKER PASS ROAD, APPROXIMATELY 1 MILE WEST OF THE INTERSECTION OF NORTONVILLE ROAD, SW OF PITTS BURG

Ecological: HABITAT CONSISTS OF SPRING-FED STOCK PONDS AND ASSOCIATED DRAINAGES SURROUNDED BY ANNUAL GRASSLAND. WESTERN TOAD AND PACIFIC CHORUS FROG ALSO OBSERVED.

Threat: THREATENED BY A PROPOSED RECYCLING FACILITY.

General: AS MANY AS 6 ADULTS OBSERVED AT THE UPPER STOCK POND BETWEEN 7 JAN-2 MAR 1995. JUVENILES OBSERVED ON 27 DEC 1994, 7 JAN, 28 FEB AND 10 APR 1995. LARVAE OBSERVED AT A SMALL POND IN THE LOWER DRAINAGE ON 10 APRIL 1995.

Owner/Manager: PVT

Occurrence No. 255 **Map Index:** 38862 **EO Index:** 33869

Occ Rank: Excellent
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 2000-04-18
Site: 2000-04-18
Record Last Updated: 2000-05-22

Quad Summary: Honker Bay (3812118/481C)
County Summary: Contra Costa

Lat/Long: 38.00181º / -121.92492º
UTM: Zone-10 N4206561 E594388
Radius: 80 meters
Elevation: 350 ft
Mapping Precision SPECIFIC
Symbol Type: POINT
Township: 02N
Range: 01W
Section: 24 **Qtr:** SW
Meridian: M

Location: KELLER CANYON, 1.25 MILES SOUTH OF HWY 4 AND 1 MILE ESE OF BAILEY ROAD, WSW OF PITTSBURG.

Location Detail: 2000 OBSERVATION IS THE FIRST JUVENILE FOUND IN THESE CREATED PERENNIAL WETLANDS; UNKNOWN IF THIS IS THE RESULT OF BREEDING OR MIGRATION FROM AN UPSTREAM POND.

Ecological: HABITAT CONSISTS OF 6 LARGE, BASIN-LIKE, CREATED PERENNIAL WETALNDS; CREATED IN 1992 AS MITIGATION FOR IMPACTS TO SEEPS/SPRINGS UPSTREAM.

Threat: THREATS INCLUDE SILTATION AND LAND SLUMPING, EVENTUALLY FILLING IN THESE WETALNDS OVER TIME.

General: 2 ADULT FROGS OBSERVED ON 21 APRIL 1998. 1 JUVENILE FROG (2.25" SNU) OBSERVED ON 18 APR 2000.

Owner/Manager: PVT

Occurrence No. 434 **Map Index:** 45406 **EO Index:** 45406

Occ Rank: Excellent
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 2001-03-27
Site: 2001-03-27
Record Last Updated: 2001-08-07

Quad Summary: Honker Bay (3812118/481C)
County Summary: Contra Costa

Lat/Long: 38.01560º / -121.96569º
UTM: Zone-10 N4208050 E590791
Radius: 1/10 mile
Elevation: 250 ft
Mapping Precision NON-SPECIFIC
Symbol Type: POINT
Township: 02N
Range: 01W
Section: 15 **Qtr:** SW
Meridian: M

Location: 0.5 MILE SOUTH OF THE WILLOW PASS ROAD/HIGHWAY 4 INTERCHANGE, NEAR WEST PITTSBURG

Ecological: HABITAT CONSISTS OF 2 LARGE (>ONE-ACRE), PERENNIAL PONDS; SURROUNDED BY COLONIZING CATTAILS AND WILLOWS.

Threat: THREATENED BY DRAINING AND FILLING FOR A DEVELOPMENT PROJECT.

General: 3 ADULTS, 1 JUVENILE AND 12 TADPOLES OBSERVED (MANY MORE PRESUMED) ON 27 MAR 2001.

Owner/Manager: PVT

Rana draytonii

California red-legged frog

Element Code: AAABH01022

Status
Federal: Threatened
State: None

NDDB Element Ranks
Global: G4T2T3
State: S2S3

Other Lists
CDFG Status: SC

Habitat Associations
General: LOWLANDS & FOOTHILLS IN OR NEAR PERMANENT SOURCES OF DEEP WATER WITH DENSE, SHRUBBY OR EMERGENT RIPARIAN VEGETATION.
Micro: REQUIRES 11-20 WEEKS OF PERMANENT WATER FOR LARVAL DEVELOPMENT. MUST HAVE ACCESS TO ESTIVATION HABITAT.

Occurrence No. 536 **Map Index:** 48528 **EO Index:** 48528

Occ Rank: Excellent
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 2002-07-19
Site: 2002-07-19
Record Last Updated: 2002-08-12

Quad Summary: Clayton (3712188/464B)
County Summary: Contra Costa

Lat/Long: 37.98869º / -121.89543º
UTM: Zone-10 N4205135 E596994
Radius: 80 meters
Elevation: 175 ft
Mapping Precision SPECIFIC
Symbol Type: POINT
Township: 02N
Range: 01E
Section: 29 **Qtr:** SW
Meridian: M

Location: KIRKER CREEK, 0.4 MILE NORTH OF THE INTERSECTION OF KIRKER PASS ROAD AND NORTONVILLE ROAD, SOUTH OF PITTSBURG

Ecological: HABITAT CONSISTS OF A PLUNGE POOL AT THE BOTTOM OF A STEEP, ROCKY BANK; OPEN WATER 80%, WITH VEGETATION THAT INCLUDES ZANNICHELLIA PALUSTRIS, SCIRPUS AMERICANUS, AND POLYPOGON MINSPELIENSIS. SURROUNDING AREA IS GRAZED.

Threat: THREATENED BY ROADWAY CONSTRUCTION AND RESIDENTIAL DEVELOPMENT.

General: 1 ADULT AND 2 JUVENILES OBSERVED ON 19 JUL 2002.

Owner/Manager: PVT

Occurrence No. 566 **Map Index:** 36117 **EO Index:** 48751

Occ Rank: Good
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 2000-03-19
Site: 2000-03-19
Record Last Updated: 2002-09-09

Quad Summary: Clayton (3712188/464B)
County Summary: Contra Costa

Lat/Long: 37.97031º / -121.92292º
UTM: Zone-10 N4203068 E594604
Radius: 80 meters
Elevation: 840 ft
Mapping Precision SPECIFIC
Symbol Type: POINT
Township: 02N
Range: 01W
Section: 36 **Qtr:** SE
Meridian: M

Location: NORTH SIDE OF KIRKER PASS ROAD, 1.5 MILES SW OF THE INTERSECTION OF NORTONVILLE ROAD, BETWEEN CONCORD AND PITTSBURG

Ecological: HABITAT CONSISTS OF A STOCK POND/MARSHY AREA IN GRAZED ANNUAL GRASSLAND; OAK WOODLAND IN DRAINAGE ABOVE POND.

Threat: THREATENED BY OVERGRAZING/LIVESTOCK TRAMPLING AND EROSION/SILTATION DUE TO FLOODING.

General: 4 ADULTS AND 5 EGG MASSES OBSERVED ON 19 MAR 2000.

Owner/Manager: PVT

Occurrence No. 675 **Map Index:** 53771 **EO Index:** 53771

Occ Rank: Good
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 2003-01-22
Site: 2003-01-22
Record Last Updated: 2004-01-05

Quad Summary: Honker Bay (3812118/481C)
County Summary: Contra Costa

Lat/Long: 38.00380º / -121.97411º
UTM: Zone-10 N4206733 E590066
Radius: 80 meters
Elevation: 590 ft
Mapping Precision SPECIFIC
Symbol Type: POINT
Township: 02N
Range: 01W
Section: 21 **Qtr:** SE
Meridian: M

Location: 2 MILES SW OF WEST PITTSBURG

Location Detail: 2 ADULTS OBSERVED IN SHALLOW WATER, ALONG THE EDGE OF THE LOWER POND; 1 ADULT HEARD CALLING FURTHER OUT IN THE SAME POND, POSSIBLY FROM AN ISLAND IN THE POND.

Ecological: HABITAT CONSISTS OF 2 FORMER STOCKPONDS CONNECTED BY A RIP-RAP SPILLWAY; LOWER POND IS BORDERED BY WILLOWS AND CATTAILS, AND THE UPPER POND IS DENSELY VEGETATED BY CATTAILS. PONDS ARE FENCED TO EXCLUDE CATTLE. CTS TRAPPED AT THIS SITE.

Threat: THREATENED BY DEVELOPMENT AND INSUFFICIENT WATER LEVELS FOR BREEDING.

General: 3 ADULTS DETECTED (2 OBSERVED, 1 HEARD) ON 22 JAN 2003, DURING NOCTURNAL CTS SURVEYS.

Owner/Manager: PVT

Rana draytonii

California red-legged frog

Element Code: AAABH01022

Status
Federal: Threatened
State: None

NDDB Element Ranks
Global: G4T2T3
State: S2S3

Other Lists
CDFG Status: SC

Habitat Associations
General: LOWLANDS & FOOTHILLS IN OR NEAR PERMANENT SOURCES OF DEEP WATER WITH DENSE, SHRUBBY OR EMERGENT RIPARIAN VEGETATION.
Micro: REQUIRES 11-20 WEEKS OF PERMANENT WATER FOR LARVAL DEVELOPMENT. MUST HAVE ACCESS TO ESTIVATION HABITAT.

Occurrence No. 849 **Map Index:** 63247 **EO Index:** 63339

Occ Rank: Excellent
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 2006-08-04
Site: 2006-08-04
Record Last Updated: 2007-02-09

Quad Summary: Clayton (3712188/464B)
County Summary: Contra Costa

Lat/Long: 37.88380º / -121.98089º
UTM: Zone-10 N4193412 E589616
Radius: 80 meters
Elevation: 570 ft
Mapping Precision SPECIFIC
Symbol Type: POINT
Township: 01N
Range: 01W
Section: 33 **Qtr:** XX
Meridian: M

Location: UNNAMED TRIBUTARY TO LITTLE PINE CREEK, MOUNT DIABLO STATE PARK.

Ecological: HABITAT CONSISTS OF A SMALL CONSTRUCTED POND ON AN INTERMITTENT TRIBUTARY OF LITTLE PINE CREEK; POND MARGINS HAVE CATTAILS, MAXIMUM DEPTH OF 2M. POND IS SURROUNDED BY NON-NATIVE GRASSLAND.

Threat: POSSIBLE THREAT OF EARTHEN DAM FAILURE; DAM MAINTENANCE WILL BE REQUIRED TO PRESERVE POND.

General: 4 JUVENILES OBSERVED ON 18 NOV 2005. 10 ADULTS, 3 JUVENILES, 6 LIVE TADPOLES, AND 4 DEAD TADPOLES OBSERVED ON 4 AUG 2006.

Owner/Manager: DPR-MOUNT DIABLO SP

Occurrence No. 923 **Map Index:** 68032 **EO Index:** 68184

Occ Rank: Good
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 2006-08-04
Site: 2006-08-04
Record Last Updated: 2007-02-06

Quad Summary: Clayton (3712188/464B)
County Summary: Contra Costa

Lat/Long: 37.92127º / -121.93692º
UTM: Zone-10 N4197613 E593436
Radius: 80 meters
Elevation: 602 ft
Mapping Precision SPECIFIC
Symbol Type: POINT
Township: 01N
Range: 01W
Section: 23 **Qtr:** NE
Meridian: M

Location: BRUCE LEE RESERVOIR, WITHIN AN UNNAMED CREEK BETWEEN MITCHELL CREEK AND DONNER CREEK, MOUNT DIABLO STATE PARK.

Ecological: HABITAT CONSISTS OF A CONSTRUCTED CATTLE POND; SURROUNDED BY OAK WOODLAND AND NON-NATIVE GRASSLAND. POND DEPTH ~2 METERS; VEGETATED BY SPIKERUSH AND CATTAIL.

General: BREEDING SITE; 1 JUVENILE FROG AND 1 LARVA OBSERVED ON 4 AUG 2006.

Owner/Manager: DPR-MOUNT DIABLO SP

Occurrence No. 1023 **Map Index:** 74114 **EO Index:** 75110

Occ Rank: Fair
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 2008-12-20
Site: 2008-12-20
Record Last Updated: 2009-09-02

Quad Summary: Clayton (3712188/464B)
County Summary: Contra Costa

Lat/Long: 37.98593º / -121.96668º
UTM: Zone-10 N4204757 E590740
Radius: 80 meters
Elevation: 240 ft
Mapping Precision SPECIFIC
Symbol Type: POINT
Township: 02N
Range: 01W
Section: 27 **Qtr:** SW
Meridian: M

Location: CONCORD NAVAL WEAPONS STATION, ABOUT 1 MILE NORTH OF INTERSECTION IOF BAILEY RD AND MYRTLE DR.

Location Detail: FROGS WERE DETECTED IN & AROUND CONCRETE-LINED, ABOVE GROUND WELL ON E SIDE OF THE POND (UNDER OLD WINDMILL). YEARLY SITE VISITS SUGGEST A GRADUAL LOSS OF OPEN WATER.

Ecological: FRESH EMERGENT WETLAND. CISTERN POND IS ~40% OPEN WATER, WITH THE REMAINDER DOMINATED BY CATTAILS (TYPHA SPP.), TULES (SCIRPUS SPP.), WILLOWS (SALIX SPP.), & SEDGES (CAREX SPP.). FROG DETECTED OUTSIDE OF THE WELL WAS WITHIN DENSE SEDGES.

Threat: VEGETATION ENCROACHMENT, DEGRADATION IN WATER QUALITY FROM GRAZING, & DEVELOPMENT (CISTERN POND WILL BE PROTECTED).

General: 2005: 9 MAR; 29 ADULTS, 16 MAR; ADULTS OBS, 4 APR; 1 ADULT. 2 FROGS DETECTED IN WELL (1 ALIVE & 1 DEAD), DEAD FROG MAY BE RESULT OF WATER LEVEL DROP IN WELL PREVENTING ESCAPE. 1 FROG OUTSIDE OF WELL DETECTED THROUGH CALLS & END GROWL.

Owner/Manager: DOD-CONCORD NWS

Rana draytonii

California red-legged frog

Element Code: AAABH01022

Status
Federal: Threatened
State: None

NDDB Element Ranks
Global: G4T2T3
State: S2S3

Other Lists
CDFG Status: SC

Habitat Associations
General: LOWLANDS & FOOTHILLS IN OR NEAR PERMANENT SOURCES OF DEEP WATER WITH DENSE, SHRUBBY OR EMERGENT RIPARIAN VEGETATION.
Micro: REQUIRES 11-20 WEEKS OF PERMANENT WATER FOR LARVAL DEVELOPMENT. MUST HAVE ACCESS TO ESTIVATION HABITAT.

Occurrence No. 1289 **Map Index:** 76391 **EO Index:** 77354

Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 2005-07-21
Site: 2005-08-03
Record Last Updated: 2009-10-29

Quad Summary: Clayton (3712188/464B)
County Summary: Contra Costa

Lat/Long: 37.98510º / -121.96110º
UTM: Zone-10 N4204671 E591231
Radius: 80 meters
Elevation: 350 ft

Mapping PrecisionSPECIFIC
Symbol Type:POINT

Township: 02N
Range: 01W
Section: 27 **Qtr:** SW
Meridian: M

Location: CONCORD NAVAL WEAPONS STATION, ABOUT 1MI NNE OF INTERSECTION OF BAILEY RD AND MYRTLE DR.

Location Detail: POND REFERRED TO AS UPPER CISTERN POND.

Ecological: GRAZED GRASSLAND.

General: 1 ADULT OBSERVED ON 9 MAR, 28 JUN, AND 21 JUL 2005. AN ADULT AND MANY YOUNG WESTERN TOADS AND PACIFIC TREE FROGS WERE ALSO OBSERVED AT THE POND. NO CRLF WERE OBSERVED AT THE POND ON 3 AUG 2005 ALTHOUGH 6 FEET OF WATER REMAINED.

Owner/Manager: DOD-CONCORD NWS

Reithrodontomys raviventris

salt-marsh harvest mouse

Element Code: AMAFF02040

Status	NDDB Element Ranks	Other Lists
Federal: Endangered	**Global:** G1G2	**CDFG Status:**
State: Endangered	**State:** S1S2	

Habitat Associations

General: ONLY IN THE SALINE EMERGENT WETLANDS OF SAN FRANCISCO BAY AND ITS TRIBUTARIES.

Micro: PICKLEWEED IS PRIMARY HABITAT. DO NOT BURROW, BUILD LOOSELY ORGANIZED NESTS. REQUIRE HIGHER AREAS FOR FLOOD ESCAPE.

Occurrence No. 10 **Map Index:** 09980 **EO Index:** 23879

Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1971-XX-XX
Site: 1971-XX-XX
Record Last Updated: 1989-08-10

Quad Summary: Honker Bay (3812118/481C)
County Summary: Solano

Lat/Long: 38.11074º / -121.98386º
UTM: Zone-10 N4218589 E589081
Radius: 1/5 mile
Elevation:
Mapping Precision NON-SPECIFIC
Symbol Type: POINT
Township: 03N
Range: 01W
Section: 15 **Qtr:** XX
Meridian: M

Location: SIMMONS ISLAND, SE OF GRIZZLY ISL ON E SHORE SUISUN BAY.

Ecological: ONE OF FEW REMAINING NATURAL (UNKIDED) SALT MARSHES. HABITAT CONSISTS OF SPARTINA W/SOME SALICORNIA.

Owner/Manager: UNKNOWN

Occurrence No. 11 **Map Index:** 10035 **EO Index:** 14565

Occ Rank: Good
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Stable

Dates Last Seen
Element: 2003-09-XX
Site: 2003-09-XX
Record Last Updated: 2008-04-08

Quad Summary: Denverton (3812128/481B), Honker Bay (3812118/481C)
County Summary: Solano

Lat/Long: 38.11967º / -121.96797º
UTM: Zone-10 N4219596 E590463
Area: 708.4 acres
Elevation: 3 ft
Mapping Precision SPECIFIC
Symbol Type: POLYGON
Township: 03N
Range: 01E
Section: 10 **Qtr:** XX
Meridian: M

Location: NW PART OF HAMMOND ISLAND, SW CORNER OF GRIZZLY ISLAND WILDLIFE AREA, 10 MILES SSW OF FAIRFIELD.

Location Detail: AREA CONSISTS OF PARTS OF PONDS 14, 15, AND 16. SW PORTION OF AREA TRAPPED BY SCHAUB IN 1971. 12/21-24/87 TRAPPING BY BOTTI SAMPLED ALL VEG TYPES, FROM SALICORNIA TO ANNUAL GRASS/HERB MIX. 1994 REPORT, SAMPLING DONE FROM 1985 TO 1994.

Ecological: HABITAT CONSISTS OF A MANAGED MARSH, DOMINATED BY PICKLEWEED, WITH SOME WEEDY SPECIES AT THE EASTERN END OF POND 15. POND 14 IS MANAGED WITH TALL WHEATGRASS/ANNUAL GRASSES. SURROUNDING AREA MANAGED FOR WATERFOWL AND PHEASANT HUNTING.

General: 15 CAP/5 RECAPS, 1971. 7 CAP, DEC 1987. 2 CAPTURES, 1996. 40 CAPTURED, JUN 2000. 71 CAPTURED, MAY-OCT 2001. 43 CAPTURED, JUN 2002. 1 AD CAPTURED, JUL 2002. 37 CAPTURED, SEP 2002 AT 6 SITES. 151 CAP, MAY-SEP 2003.

Owner/Manager: DFG-GRIZZLY ISLAND WA

Occurrence No. 65 **Map Index:** 09889 **EO Index:** 14553

Occ Rank: Good
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Increasing

Dates Last Seen
Element: 1991-06-XX
Site: 1991-06-XX
Record Last Updated: 1999-01-14

Quad Summary: Honker Bay (3812118/481C), Vine Hill (3812211/482D)
County Summary: Contra Costa

Lat/Long: 38.05223º / -122.00525º
UTM: Zone-10 N4212077 E587275
Area:
Elevation: 3 ft
Mapping Precision NON-SPECIFIC
Symbol Type: POLYGON
Township: 02N
Range: 01W
Section: 05 **Qtr:** XX
Meridian: M

Location: AVON-PORT CHICAGO MARSH, BOUNDED BY BELLOMA SLOUGH ON WEST, ON SOUTH BY SPRR TRACKS, & BY CHEMICAL PLANT ON EAST.

Location Detail: BUFFER ZONE FOR THE CONCORD NAVAL WEAPONS STATION. CAPTURES FROM A 1994 REPORT COVERING RANGE 1985 TO 1994.

Ecological: HABITAT IS COASTAL BRACKISH MARSH GRADING INTO COASTAL SALTMARSH, VEGETATED BY SALICORNIA WITH AN EQUAL AMOUNT OF DISTICHLIS; UPPER EDGES BEING INVADED BY PEPPERGRASS (LEPIDIUM LATIFOLIUM).

Threat: BUFFER ZONE FOR CONORD NWS; EAST PORTION UNDERGOING REMEDIATION FOR EARLIER HEAVY METAL CONTAMINATION.

General: POP DETERMINED BY SHELLHAMMER, 1977. 2 TRAPPED AT 2 PLOTS IN 1982-83; 22 CAPTURES WITH 2 RECAPTURES SEP-OCT 1985; MIDDLE POINT MARSH APRIL-JUNE 1991, 147 CAPTURES IN 1250 TRAPNIGHTS. 53 CAPTURED IN 390 TRAPNIGHTS MAY-JUNE, 1991.

Owner/Manager: DOD-CONCORD NWS

Reithrodontomys raviventris

salt-marsh harvest mouse

Element Code: AMAFF02040

Status	NDDB Element Ranks	Other Lists
Federal: Endangered	**Global:** G1G2	**CDFG Status:**
State: Endangered	**State:** S1S2	

Habitat Associations

General: ONLY IN THE SALINE EMERGENT WETLANDS OF SAN FRANCISCO BAY AND ITS TRIBUTARIES.

Micro: PICKLEWEED IS PRIMARY HABITAT. DO NOT BURROW, BUILD LOOSELY ORGANIZED NESTS. REQUIRE HIGHER AREAS FOR FLOOD ESCAPE.

Occurrence No. 120 **Map Index:** 10240 **EO Index:** 13332

Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 2004-05-XX
Site: 2004-05-XX
Record Last Updated: 2008-06-03

Quad Summary: Honker Bay (3812118/481C)
County Summary: Solano

Lat/Long: 38.07631º / -121.90577º
UTM: Zone-10 N4214847 E595972
Area: 20.5 acres
Elevation: 2 ft
Mapping Precision SPECIFIC
Symbol Type: POLYGON
Township: 03N
Range: 01E
Section: 30 **Qtr:** XX
Meridian: M

Location: W SIDE OF VAN SICKLE ISLAND, ADJACENT TO HONKER BAY, 3.3 MILES NNW OF PITTSBURG AND 1.2 MILES W OF DUTTON, SUISUN MARSH.

Location Detail: 46 SMHM AND ONE SOREX SP (POSSIBLY A SUISUN SHREW-SOREX ORNATUS SINUOSUS) CAPTURED DURING 423.5 TRAPNIGHTS. SMHM WERE RELEASED IN NEARBY HILL SLOUGH WILDLIFE AREA (SEE OCC 121).

Ecological: PICKLEWEED, SOME BARE GROUND. DISPOSAL SITE. AREA TRAPPED IS A REVEGETATED DREDGE SPOILS SITE.

Threat: SMHM WERE RELOCATED BECAUSE THIS SITE WAS SCHEDULED AS A DREDGE SPOIL DISPOSAL SITE.

General: 4 CAPTURED 1995 AND 1994. CAPTURES REPORTED DURING THE 1985 TO 1994 PERIOD. 6 SMHM CAPTURED (128 TRAPNIGHTS) DURING A PRE-PROJECT SURVEY FOR A LEVEE IMPROVEMENT PROJECT, MAY 2004.

Owner/Manager: PVT

Occurrence No. 127 **Map Index:** 24890 **EO Index:** 23828

Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1985-09-09
Site: 1985-09-09
Record Last Updated: 1998-01-07

Quad Summary: Honker Bay (3812118/481C), Vine Hill (3812211/482D)
County Summary: Solano

Lat/Long: 38.08449º / -122.02019º
UTM: Zone-10 N4215643 E585927
Area:
Elevation: 5 ft
Mapping Precision NON-SPECIFIC
Symbol Type: POLYGON
Township: 03N
Range: 02W
Section: 19 **Qtr:** XX
Meridian: M

Location: RYER ISLAND, SUISUN BAY.

Location Detail: ONE CAPTURED DURING 1985 SURVEY.

Ecological: CRITICAL HABITAT IS DENSE COVER OF MARSH VEGETATION AND PRESENCE OF PERIPHERAL HIGH MARSH OR UPLAND REFUGIAL HABITAT DURING HIGH TIDE.

General: 1994 REPORT, SAMPLING DONE FROM 1985 TO 1994, CAPTURES INDICATED ON WEST END OF ISLAND.

Owner/Manager: DOD-CONCORD NWS

Occurrence No. 136 **Map Index:** 37559 **EO Index:** 32561

Occ Rank: Poor
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 2001-05-XX
Site: 2001-05-XX
Record Last Updated: 2008-04-08

Quad Summary: Honker Bay (3812118/481C), Antioch North (3812117/481D)
County Summary: Solano

Lat/Long: 38.08151º / -121.86874º
UTM: Zone-10 N4215463 E599213
Area:
Elevation: 0 ft
Mapping Precision NON-SPECIFIC
Symbol Type: POLYGON
Township: 03N
Range: 01E
Section: 28 **Qtr:** XX
Meridian: M

Location: W OF COLLINSVILLE, BOUNDED ON SOUTH BY SUISUN BAY, S & W BY MONTEZUMA SLOUGH & S MONTEZUMA, 4 MILES N OF PITTSBURG.

Location Detail: 2001: CAPTURES IN DIKED MARSH ADJACENT TO MONTEZUMA SLOUGH & HONKER BAY. 1991: SITE BEING CONSIDERED AS SPOILS DISPOSAL SITE WITH A CHANGE IN FINAL SITE TO TIDAL MARSH (WOULD INCREASE VALUE TO MOUSE). MAPPED TO DESCRIPTION & MAP.

Ecological: DIKED, SPARSE, SALINE PICKLEWEED GRAZED BY CATTLE.

Threat: CATTLE GRAZING, EXTREMES IN MOISTURE, POOR PLANT COVER. 2000: SITE TO BE DESTROYED FOR SMHM FOR A "RESTORATION"

General: 21 CAUGHT IN 800 TRAP NIGHTS AT 4 DIFFERENT SITES WITHIN THIS AREA 10-14 JUNE 1991. UNKNOWN NUMBER CAPTURED AT 3 DIFFERENT SITES BETWEEN 1985 & 1994. APR-MAY 2001: 10 CAPTURED.

Owner/Manager: PVT-LEVINE FRICKE RESTORATION

Reithrodontomys raviventris

salt-marsh harvest mouse

Element Code: AMAFF02040

Status	NDDB Element Ranks	Other Lists
Federal: Endangered	**Global:** G1G2	**CDFG Status:**
State: Endangered	**State:** S1S2	

Habitat Associations

General: ONLY IN THE SALINE EMERGENT WETLANDS OF SAN FRANCISCO BAY AND ITS TRIBUTARIES.

Micro: PICKLEWEED IS PRIMARY HABITAT. DO NOT BURROW, BUILD LOOSELY ORGANIZED NESTS. REQUIRE HIGHER AREAS FOR FLOOD ESCAPE.

Occurrence No. 137 **Map Index:** 37563 **EO Index:** 32565

Occ Rank: Good
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 2004-07-XX
Site: 2004-07-XX
Record Last Updated: 2005-01-13

Quad Summary: Honker Bay (3812118/481C)
County Summary: Solano

Lat/Long: 38.10680º / -121.89449º
UTM: Zone-10 N4218242 E596921
Area: 91.9 acres
Elevation: 0 ft
Mapping PrecisionSPECIFIC
Symbol Type:POLYGON
Township: 03N
Range: 01E
Section: 17 **Qtr:** XX
Meridian: M

Location: DFG POND 1, SE CORNER OF GRIZZLY ISLAND, 5.2 MILES NORTH OF PITTSBURG

Location Detail: DFG POND IS A SMHM SET-ASIDE, GRIZZLY ISLAND WILDLIFE AREA. IN 1999, SMHM WERE CAPTURED UP TO 100 METERS FROM THE PICKLEWEED IN UPLAND GRASSES.

Ecological: HABITAT CONSISTS OF A MANAGED WETLAND, DOMINATED BY PICKLEWEED, INTERSPERSED WITH ANNUAL GRASSES AND BARE GROUND.

Threat: POSSIBLE THREAT FROM FERAL CATS AND DOMESTIC DOGS.

General: 3 CAPTURED 1996. 8 CAPTURES/4 RECAPS DURING 1999. 5 CAPTURES/2 RECAPS DURING 2000. 3 ADULTS CAPTURED IN SEP 2001. 6 CAPTURES/7 RECAPS IN JUL 2004.

Owner/Manager: DFG-GRIZZLY ISLAND WA

Occurrence No. 161 **Map Index:** 41875 **EO Index:** 41875

Occ Rank: Good
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1999-07-27
Site: 1999-07-27
Record Last Updated: 1999-11-10

Quad Summary: Honker Bay (3812118/481C)
County Summary: Solano

Lat/Long: 38.11920º / -121.94678º
UTM: Zone-10 N4219564 E592321
Area: 33.9 acres
Elevation: 0 ft
Mapping PrecisionSPECIFIC
Symbol Type:POLYGON
Township: 03N
Range: 01W
Section: 11 **Qtr:** XX
Meridian: M

Location: GIWA AREA 12, NW OF REDHOUSE ROAD, GRIZZLY ISLAND WILDLIFE AREA.

Ecological: HABITAT CONSISTS OF A MANAGED WETLAND.

General: 21 CAPTURES (PLUS 7 RECAPTURES) DURING 200 TRAPNIGHTS ON 26-27 JUL 1999.

Owner/Manager: DFG-GRIZZLY ISLAND WA

Occurrence No. 162 **Map Index:** 41876 **EO Index:** 41876

Occ Rank: Good
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 2002-11-11
Site: 2002-11-11
Record Last Updated: 2005-01-12

Quad Summary: Honker Bay (3812118/481C)
County Summary: Solano

Lat/Long: 38.11234º / -121.93653º
UTM: Zone-10 N4218813 E593228
Area: 198.5 acres
Elevation: 0 ft
Mapping PrecisionSPECIFIC
Symbol Type:POLYGON
Township: 03N
Range: 01W
Section: 11 **Qtr:** XX
Meridian: M

Location: GIWA AREA 11, SE OF REDHOUSE ROAD ALONG GRIZZLY ISLAND ROAD, GRIZZLY ISLAND WILDLIFE AREA

Location Detail: TRAP GRID LOCATIONS: ALONG REDHOUSE ROAD AND AREA ADJACENT TO PARKING LOT 3.

Ecological: HABITAT CONSISTS OF A NARROW (150 YARDS) STRIP OF ROBUST PICKLEWEED ALONG GRIZZLY ISLAND ROAD.

Threat: THREATENED BY A PROPOSED NATURAL GAS WELL TO BE DRILLED NEAR PARKING LOT #4.

General: 27 CAPTURES DURING 200 TRAPNIGHTS, 12-13 JUL 1999. 22 CAPTURES DURING 100 TRAPNIGHTS, 26 JUL 1999. 34 CAPTURES ON 16 JUL 2001. 1 ADULT OBSERVED AT PARKING LOT #4 ON 11 NOV 2002.

Owner/Manager: DFG-GRIZZLY ISLAND WA

Reithrodontomys raviventris

salt-marsh harvest mouse

Element Code: AMAFF02040

Status	NDDB Element Ranks	Other Lists
Federal: Endangered	**Global:** G1G2	**CDFG Status:**
State: Endangered	**State:** S1S2	

Habitat Associations

General: ONLY IN THE SALINE EMERGENT WETLANDS OF SAN FRANCISCO BAY AND ITS TRIBUTARIES.

Micro: PICKLEWEED IS PRIMARY HABITAT. DO NOT BURROW, BUILD LOOSELY ORGANIZED NESTS. REQUIRE HIGHER AREAS FOR FLOOD ESCAPE.

Occurrence No. 168 **Map Index:** 42116 **EO Index:** 42116

Occ Rank: Fair
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 2006-08-22
Site: 2006-08-22
Record Last Updated: 2007-02-14

Quad Summary: Denverton (3812128/481B), Honker Bay (3812118/481C)
County Summary: Solano

Lat/Long: 38.12877º / -121.90370º
UTM: Zone-10 N4220670 E596084
Area:
Elevation: 0 ft
Mapping Precision NON-SPECIFIC
Symbol Type: POLYGON
Township: 03N
Range: 01E
Section: 06 **Qtr:** SE
Meridian: M

Location: NORTH OF MONTEZUMA SLOUGH AND GRIZZLY ISLAND, SOUTH OF BIRDS LANDING ROAD, WEST OF BIRDS LANDING.

Location Detail: SITE TRAPPED IN 1999 IS WITHIN THE CHEVRON PIPELINE CORRIDOR. SITE WAS PURCHASED BY DWR FOR TIDAL RESTORATION AND IS CURRENTLY LEASED BACK FOR MANAGEMENT AS A DUCK CLUB.

Ecological: A DIKED FIELD VEGETATED BY SALTMARSH VEGETATION. EXCLUSION ZONES DOMINATED BY SALICORNIA VIRGINICA, SCIRPUS SP, JUNCUS SP, ATRIPLEX TRIANGULARIS, AND DISTICHLIS SPICATA. LARGER, MORE VIGOROUS STANDS OF PICKLEWEED OUTSIDE PIPELINE CORRIDOR.

Threat: THREATENED BY REPAIR/MAINTENANCE OF AN EXISTING CHEVRON PIPELINE.

General: 4 ADULTS AND 3 JUVENILES WERE TRAPPED, 19-25 JUL 1999. TWO AREAS WERE SURVEYED FOR SMHM; 7 CAPTURES ON 22 AUG 2006.

Owner/Manager: DWR, DFG

Occurrence No. 169 **Map Index:** 51505 **EO Index:** 51505

Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 2000-05-XX
Site: 2000-05-XX
Record Last Updated: 2003-06-09

Quad Summary: Honker Bay (3812118/481C)
County Summary: Solano

Lat/Long: 38.12313º / -121.88685º
UTM: Zone-10 N4220062 E597569
Radius: 80 meters
Elevation: 0 ft
Mapping Precision SPECIFIC
Symbol Type: POINT
Township: 03N
Range: 01E
Section: 08 **Qtr:** NE
Meridian: M

Location: EAST SIDE OF MONTEZUMA SLOUGH, 1.1 MILES SW OF BIRDS LANDING.

Ecological: REMNANT PICKLEWEED PATCH IN A DIKED MARSH.

General: 4 ADULTS CAPTURED APRIL-MAY 2000.

Owner/Manager: PVT-LEVINE FRICKE RESTORATION

Occurrence No. 174 **Map Index:** 59249 **EO Index:** 59285

Occ Rank: Excellent
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 2004-06-05
Site: 2004-06-05
Record Last Updated: 2005-01-11

Quad Summary: Honker Bay (3812118/481C)
County Summary: Contra Costa

Lat/Long: 38.03767º / -121.91843º
UTM: Zone-10 N4210546 E594911
Area:
Elevation: 0 ft
Mapping Precision NON-SPECIFIC
Symbol Type: POLYGON
Township: 02N
Range: 01W
Section: 12 **Qtr:** XX
Meridian: M

Location: SOUTH OF MALLARD SLOUGH AND NORTH OF WILLOW PASS ROAD, NE OF WEST PITTSBURG

Location Detail: SITE IS LOCATED ON POWER PLANT PROPERTY.

Ecological: HABITAT CONSISTS OF DIKED SALTMARSH WITH A MUTED TIDAL INFLUENCE; DOMINATED BY PICKLEWEED, WITH SOME INTRUSION OF EXOTIC ANNUALS.

General: 14 ADULTS CAPTURED IN TWO TRAP LOCATIONS, BETWEEN 2-5 JUN 2004.

Owner/Manager: PVT

Reithrodontomys raviventris

salt-marsh harvest mouse

Element Code: AMAFF02040

Status	NDDB Element Ranks	Other Lists
Federal: Endangered	**Global:** G1G2	**CDFG Status:**
State: Endangered	**State:** S1S2	

Habitat Associations

General: ONLY IN THE SALINE EMERGENT WETLANDS OF SAN FRANCISCO BAY AND ITS TRIBUTARIES.

Micro: PICKLEWEED IS PRIMARY HABITAT. DO NOT BURROW, BUILD LOOSELY ORGANIZED NESTS. REQUIRE HIGHER AREAS FOR FLOOD ESCAPE.

Occurrence No. 182 **Map Index:** 71124 **EO Index:** 72030

Occ Rank: Good
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 2004-05-XX
Site: 2004-05-XX
Record Last Updated: 2008-04-09

Quad Summary: Honker Bay (3812118/481C)
County Summary: Solano

Lat/Long: 38.05864º / -121.89865º
UTM: Zone-10 N4212894 E596619
Radius: 1/10 mile
Elevation: 2 ft
Mapping Precision NON-SPECIFIC
Symbol Type: POINT
Township: 03N
Range: 01E
Section: 32 **Qtr:** XX
Meridian: M

Location: VAN SICKLE ISLAND, SW SIDE ACROSS FROM CHIPPS ISLAND.

Ecological: HABITAT DOMINATED BY PHRAGMITES AND CATTAILS. ALL LANDS MANAGED FOR WATERFOWL.

General: 7 SMHM CAPTURED (48 TRAPNIGHTS) DURING A PRE-PROJECT SURVEY FOR A LEVEE IMPROVEMENT PROJECT, MAY 2004.

Owner/Manager: PVT

Occurrence No. 183 **Map Index:** 71125 **EO Index:** 72032

Occ Rank: Good
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 2004-05-XX
Site: 2004-05-XX
Record Last Updated: 2008-04-09

Quad Summary: Honker Bay (3812118/481C)
County Summary: Solano

Lat/Long: 38.05487º / -121.89097º
UTM: Zone-10 N4212483 E597297
Radius: 1/10 mile
Elevation: 2 ft
Mapping Precision NON-SPECIFIC
Symbol Type: POINT
Township: 03N
Range: 01E
Section: 32 **Qtr:** XX
Meridian: M

Location: VAN SICKLE ISLAND, S SIDE, NEAR POINT WALL.

Ecological: HABITAT DOMINATED BY PEPPERWEED AND BALTIC RUSH. ALL LANDS MANAGED FOR WATERFOWL.

General: 1 SMHM CAPTURED (64 TRAPNIGHTS) DURING A PRE-PROJECT SURVEY FOR A LEVEE IMPROVEMENT PROJECT, MAY 2004.

Owner/Manager: PVT

Occurrence No. 184 **Map Index:** 71126 **EO Index:** 72034

Occ Rank: Good
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 2004-05-XX
Site: 2004-05-XX
Record Last Updated: 2008-04-09

Quad Summary: Antioch North (3812117/481D), Honker Bay (3812118/481C)
County Summary: Solano

Lat/Long: 38.06120º / -121.87359º
UTM: Zone-10 N4213204 E598814
Area:
Elevation: 2 ft
Mapping Precision NON-SPECIFIC
Symbol Type: POLYGON
Township: 03N
Range: 01E
Section: 33 **Qtr:** XX
Meridian: M

Location: VAN SICKLE ISLAND, SE SIDE OF ISLAND.

Ecological: HABITAT DOMINATED BY PICKLEWEED. ALL LANDS MANAGED FOR WATERFOWL.

General: 17 SMHM CAPTURED AT 2 GRID SITES (128 TRAPNIGHTS AT EACH GRID), DURING A PRE-PROJECT SURVEY FOR A LEVEE IMPROVEMENT PROJECT, MAY 2004.

Owner/Manager: PVT

Sanicula saxatilis

rock sanicle

Element Code: PDAPI1Z0H0

Status
Federal: None
State: Rare

NDDB Element Ranks
Global: G2
State: S2.2

Other Lists
CNPS List: 1B.2

Habitat Associations
General: BROADLEAFED UPLAND FOREST, CHAPARRAL, VALLEY AND FOOTHILL GRASSLAND.
Micro: BEDROCK OUTCROPS AND TALUS SLOPES IN CHAPARRAL OR OAK WOODLAND HABITAT. 615-1215M.

Occurrence No. 1 **Map Index:** 30515 **EO Index:** 4529

Occ Rank: Good
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1992-05-30
Site: 1992-05-30
Record Last Updated: 1995-08-22

Quad Summary: Clayton (3712188/464B)
County Summary: Contra Costa

Lat/Long: 37.88776º / -121.91716º
UTM: Zone-10 N4193914 E595216
Area: 75.1 acres
Elevation: 3,000 ft
Mapping Precision SPECIFIC
Symbol Type: POLYGON
Township: 01N
Range: 01E
Section: 31 **Qtr:** W
Meridian: M

Location: VICINITY OF PROSPECTORS GAP, RANSOM POINT, AND MIMULUS SPRING, MT. DIABLO STATE PARK.

Location Detail: MANY COLONIES ALONG TRAILS AND SCREE/TALUS SLOPES. MAPPED AS ONE LARGE POLYGON AT CNDDB.

Ecological: SCREE AND TALUS ASSOCIATED WITH ALLIUM FALCIFOLIUM, DELPHINIUM NUDICAULE, NEMOPHILA HETEROPHYLLA, MELICA, PHACELIA DISTANS, PTELA, HOLODISCUS DISCOLOR, UMBELLULARIA, QUERCUS CHRYSOLEPIS, AND PINUS SABINIANA.

Threat: TRAIL DISTURBANCE AND OFF TRAIL HIKING.

General: COLONIES RANGE IN SIZE FROM 10-2000. POPULATION ESTIMATE: 1100 IN 1990, 3560 IN 1991. SITE QUALITY OF VARIOUS COLONIES RANGES FROM EXCELLENT TO FAIR. STABILIZATION OF SCREE AND TALUS MAY LEAD TO COMPETITION FROM ADJACENT SPECIES.

Owner/Manager: DPR-MOUNT DIABLO SP

Occurrence No. 2 **Map Index:** 10173 **EO Index:** 20051

Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Decreasing

Dates Last Seen
Element: 1946-XX-XX
Site: 1973-XX-XX
Record Last Updated: 1996-07-03

Quad Summary: Clayton (3712188/464B)
County Summary: Contra Costa

Lat/Long: 37.88103º / -121.91496º
UTM: Zone-10 N4193170 E595418
Radius: 1/5 mile
Elevation: 3,800 ft
Mapping Precision NON-SPECIFIC
Symbol Type: POINT
Township: 01S
Range: 01W
Section: 01 **Qtr:** NE
Meridian: M

Location: SUMMIT OF MT DIABLO, SOUTHWEST OF LOOKOUT. ACROSS ROAD FROM AND A LITTLE EAST OF PARKING LOT.

Ecological: SERPENTINIZED VOLCANIC ROCK. ASSOCIATED WITH ARABIS, VIOLA, STREPTANTHUS, PHACELIA, QUERCUS DUMOSA IN CEANOTHUS-CERCOCARPUS CHAPARRAL.

Threat: PARKING DEVELOPMENT, RADAR STATION DEVELOPMENT, AND HIKER TRAFFIC.

General: NOT SEEN RECENTLY.

Owner/Manager: DPR-MOUNT DIABLO SP

Occurrence No. 4 **Map Index:** 10095 **EO Index:** 4531

Occ Rank: Fair
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1991-04-07
Site: 1991-04-07
Record Last Updated: 1995-08-22

Quad Summary: Clayton (3712188/464B)
County Summary: Contra Costa

Lat/Long: 37.90198º / -121.93761º
UTM: Zone-10 N4195471 E593400
Area: 22.5 acres
Elevation: 2,369 ft
Mapping Precision SPECIFIC
Symbol Type: POLYGON
Township: 01N
Range: 01W
Section: 26 **Qtr:** SE
Meridian: M

Location: EAGLE PEAK, MT DIABLO STATE PARK.

Location Detail: TWO COLONIES; EAGLE PEAK ALONG THE CREST AND 200' DOWN THE EAST SLOPE AND SOUTHEAST OF PEAK ALONG TRAIL FROM MURCHIO GAP. MAPPED AS A SINGLE POLYGON AT CNDDB.

Ecological: ON ROCK OUTCROPS WITH TALUS. ASSOCIATED WITH ERIOGONUM UMBELLATUM, ARABIS BREWERI, HAPPLOPAPPUS LINEARIFOLIUS, ERIOPHYLLUM LANATUM ACHILLAEIODES, PHACELIA DISTANS, ALLIUM FALCIFOLIUM, SITANION JUBATUM, ERYSIMUM CAPITATUM, AND JUNIPERIUS.

Threat: OFF-TRAIL TRAVEL.

General: LESS THAN 10 PLANTS OBSERVED IN SOUTHEASTERN COLONY IN 1985, 1500 SEEN IN COLONY ALONG PEAK IN 1991.

Sanicula saxatilis

rock sanicle

Element Code: PDAPI1Z0H0

Status
Federal: None
State: Rare

NDDB Element Ranks
Global: G2
State: S2.2

Other Lists
CNPS List: 1B.2

Habitat Associations
General: BROADLEAFED UPLAND FOREST, CHAPARRAL, VALLEY AND FOOTHILL GRASSLAND.
Micro: BEDROCK OUTCROPS AND TALUS SLOPES IN CHAPARRAL OR OAK WOODLAND HABITAT. 615-1215M.

Owner/Manager: DPR-MOUNT DIABLO SP

Occurrence No. 5 **Map Index:** 10237 **EO Index:** 4530

Occ Rank: Good
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1991-04-28
Site: 1991-04-28
Record Last Updated: 1995-08-22

Quad Summary: Clayton (3712188/464B)
County Summary: Contra Costa

Lat/Long: 37.89487º / -121.90065º
UTM: Zone-10 N4194720 E596659
Area: 28.0 acres
Elevation: 3,400 ft

Mapping PrecisionSPECIFIC
Symbol Type:POLYGON

Township: 01N
Range: 01E
Section: 31 **Qtr:** NE
Meridian: M

Location: TALUS SLOPES OF NORTH PEAK, MT DIABLO STATE PARK.

Location Detail: SEVERAL COLONIES FROM JUST SOUTH OF PEAK NORTH TO NEAR THE HEAD OF WILD OAT CANYON.

Ecological: ON TALUS WITH PHACELIA DISTANS, ARABIS BREWERI, PINUS SABINIANA, QUERCUS CHRYSOLEPIS, JUNIPERUS, ERIOPHYLLUM LANATUM, PENSTEMON HETEROPHYLLA, DUDLEYA CYMOSA, ERYSIMUM CAPITATUM, CERCOCARPUS, KECKIELLIA CORYMBOSA, MONARDELLA VILLOSA, ET AL.

Threat: OFF TRAIL TRAVEL BY HIKERS AND EXPANSION OF COMMUNICATIONS FACILITY IS THREAT.

General: LESS THAN 50 PLANTS IN SOUTHERNMOST COLONY IN 1985, 300 OVER ENTIRE POPULATION IN 1991. CO-OCCURS WITH THE RARE STREPTANTHUS HISPIDUS JUST SOUTH OF THE PEAK.

Owner/Manager: DPR-MOUNT DIABLO SP

Occurrence No. 8 **Map Index:** 10105 **EO Index:** 9478

Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1985-05-23
Site: 1985-05-23
Record Last Updated: 1996-01-24

Quad Summary: Clayton (3712188/464B)
County Summary: Contra Costa

Lat/Long: 37.89716º / -121.93392º
UTM: Zone-10 N4194940 E593730
Radius: 80 meters
Elevation: 2,040 ft

Mapping PrecisionSPECIFIC
Symbol Type:POINT

Township: 01N
Range: 01W
Section: 35 **Qtr:** NE
Meridian: M

Location: SADDLE BETWEEN EAGLE PEAK AND BALD RIDGE, ALONG TRAIL FROM MURCHIO GAP, MOUNT DIABLO STATE PARK.

Ecological: STEEP VOLCANIC TALUS SLOPE. ASSOCIATED WITH ERIOGONUM UMBELLATUM, ARABIS BREWERI, AND COLLINSIA TINCTORIA.

General: LESS THAN 10 PLANTS. LOOKED FOR AND NOT FOUND IN 1988.

Owner/Manager: DPR-MOUNT DIABLO SP

Senecio aphanactis

chaparral ragwort

Element Code: PDAST8H060

Status	NDDB Element Ranks	Other Lists
Federal: None	**Global:** G3?	**CNPS List:** 2.2
State: None	**State:** S1.2	

Habitat Associations

General: CISMONTANE WOODLAND, COASTAL SCRUB.

Micro: DRYING ALKALINE FLATS. 20-575M.

Occurrence No. 14 **Map Index:** 16029 **EO Index:** 264

Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1933-03-29
Site: 1933-03-29

Record Last Updated: 1996-03-12

Quad Summary: Clayton (3712188/464B), Antioch South (3712187/464A)

County Summary: Contra Costa

Lat/Long: 37.95335º / -121.88593º
UTM: Zone-10 N4201224 E597875
Radius: 1 mile
Elevation: 1,000 ft

Mapping Precision NON-SPECIFIC
Symbol Type: POINT

Township: 01N
Range: 01E
Section: 05 **Qtr:** SE
Meridian: M

Location: NORTONVILLE HILLS.

Location Detail: MAPPED AT CNDDB AT HILLS NEAR NORTONVILLE SITE.

General: ONLY INFO IS ABOVE SITE DESCRIPTION.

Owner/Manager: UNKNOWN

Serpentine Bunchgrass

Element Code: CTT42130CA

Status
Federal: None
State: None

NDDB Element Ranks
Global: G2
State: S2.2

Other Lists

Habitat Associations
General:
Micro:

Occurrence No. 15 **Map Index:** 10122 **EO Index:** 7780

Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1985-05-23
Site: 1985-05-23
Record Last Updated: 1998-07-14

Quad Summary: Clayton (3712188/464B)
County Summary: Contra Costa

Lat/Long: 37.89214º / -121.92913º
UTM: Zone-10 N4194388 E594158
Radius: 1/5 mile
Elevation: 2,000 ft
Mapping Precision NON-SPECIFIC
Symbol Type: POINT
Township: 01N
Range: 01W
Section: 36 **Qtr:** NW
Meridian: M

Location: W SLOPE OF BALD RIDGE, SE OF EAGLE PEAK, MOUNT DIABLO STATE PARK.

Location Detail: LARGER GRASSLAND TO S OFF SERPENTINE W/FEWER NATIVES.

Ecological: SMALL AREA W/ HIGH COVER OF NATIVE PERENNIAL GRASSES INCL NASSELLA PULCHRA, MELICA CALIFORNICA, ELYMUS ELYMOIDES ELYMOIDES, KOELERIA MICRANTHA. NATIVE FORBS PRESENT BUT SOME INTROD ANNUAL GRASSES PRESENT.

Threat: SITE CROSSED BY ROAD BUT IS OUTSIDE GRAZED AREA.

General: THIS WAS OCC #015 OF CTT42130CA.

Owner/Manager: DPR-MOUNT DIABLO SP

Occurrence No. 16 **Map Index:** 10015 **EO Index:** 16261

Occ Rank: Good
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1985-XX-XX
Site: 1990-05-13
Record Last Updated: 1998-07-14

Quad Summary: Clayton (3712188/464B)
County Summary: Contra Costa

Lat/Long: 37.88644º / -121.96114º
UTM: Zone-10 N4193724 E591350
Area: 199.1 acres
Elevation: 1,300 ft
Mapping Precision SPECIFIC
Symbol Type: POLYGON
Township: 01N
Range: 01W
Section: 34 **Qtr:** XX
Meridian: M

Location: LONG RIDGE, FROM NORTH GATE RD TO E OF MOSES ROCK SPRING, WESTERN PORTION MT DIABLO SP.

Location Detail: ADJ TO SERPENTINE CHAPARRAL, BLUE OAK WOODLAND. BOUNDARY INEXACT, MAY INCL AREAS OF SERPENTINE. NEEDS FIELD VISIT TO VERIFY BOUNDARY.

Ecological: NASSELLA PULCHRA, ELYMUS MULTISETUS, MELICA CA, PEDICULARIS DENSIFLORUS, OROBANCHE TUBEROSA, NAVARRETIA PUBESCENS, AVENA FATUA, ALLIUM SP, VULPIA MICROSTACHYS PAUCIFLORA, V. M. CILIATA, LINUM MICRANTHUM, STREPTANTHUS GLANDULOSUS ALBIDUS.

Threat: IN GRAZED AREA. INVADED BY PERENNIAL SHRUBS AND EXOTIC ANNUAL GRASSES.

General: AREA IS SNA. THIS WAS OCC #016 OF CTT42130CA.

Owner/Manager: DPR-MOUNT DIABLO SP

Sternula antillarum browni

California least tern

Element Code: ABNNM08103

Status	NDDB Element Ranks	Other Lists
Federal: Endangered	**Global:** G4T2T3Q	**CDFG Status:**
State: Endangered	**State:** S2S3	

Habitat Associations

General: NESTS ALONG THE COAST FROM SAN FRANCISCO BAY SOUTH TO NORTHERN BAJA CALIFORNIA.

Micro: COLONIAL BREEDER ON BARE OR SPARSELY VEGETATED, FLAT SUBSTRATES: SAND BEACHES, ALKALI FLATS, LAND FILLS, OR PAVED AREAS.

Occurrence No. 61 **Map Index:** 09948 **EO Index:** 25659

Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1983-XX-XX
Site: 1983-XX-XX
Record Last Updated: 1989-08-10

Quad Summary: Honker Bay (3812118/481C)
County Summary: Contra Costa

Lat/Long: 38.05130º / -121.98913º
UTM: Zone-10 N4211989 E588691
Radius: 1/5 mile
Elevation:
Mapping Precision NON-SPECIFIC
Symbol Type: POINT
Township: 02N
Range: 01W
Section: 5 **Qtr:** XX
Meridian: M

Location: AVON-PORT CHICAGO MARSH, BTWN MIDDLE POINT AND CHEMICAL PLANT.

General: DISCOVERED ON 09 AUG 82; MINIMUM OF 2 ADULTS WITH 3 FLEDGED AND ONE UNFLEDGED YOUNG. 1983, 6 PAIRS NESTED; 1987, 2-3 PAIRS FLEDGED 1-2 YOUNG; 1988, 1 PAIR NESTED BUT LATER ABANDONED NEST. AREA NEEDS SUBSTRATE IMPROVEMENT AND VEG CONTROL.

Owner/Manager: PVT-ALLIED CHEMICAL

Occurrence No. 71 **Map Index:** 10190 **EO Index:** 13019

Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1988-07-07
Site: 1988-07-07
Record Last Updated: 1996-02-15

Quad Summary: Honker Bay (3812118/481C)
County Summary: Contra Costa

Lat/Long: 38.03880º / -121.91663º
UTM: Zone-10 N4210674 E595067
Radius: 1/5 mile
Elevation:
Mapping Precision NON-SPECIFIC
Symbol Type: POINT
Township: 02N
Range: 01W
Section: 12 **Qtr:** XX
Meridian: M

Location: PGE PLANT, PITTSBURG.

Ecological: FARTHEST INLAND NESTING SITE IN CALIFORNIA.

General: SITE DISCOVERED IN 1982; 6-7 PAIRS NESTED IN 1982; 3-4 PAIRS FLEDGED 5 YOUNG IN 1987; 3 PAIRS PRODUCED ONLY ONE FLEDGLING IN 1988 DUE TO PREDATION BY A GREAT BLUE HERON.

Owner/Manager: PVT-PGE

Occurrence No. 81 **Map Index:** 65119 **EO Index:** 65198

Occ Rank: Excellent
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 2006-07-08
Site: 2006-07-08
Record Last Updated: 2006-07-13

Quad Summary: Honker Bay (3812118/481C)
County Summary: Solano

Lat/Long: 38.09850º / -121.88909º
UTM: Zone-10 N4217327 E597405
Radius: 80 meters
Elevation: 0 ft
Mapping Precision SPECIFIC
Symbol Type: POINT
Township: 03N
Range: 01E
Section: 17 **Qtr:** SE
Meridian: M

Location: EAST OF MONTEZUMA SLOUGH,

Ecological: COLONY WAS LOCATED IN AN AREA WHERE SHELLS WERE THICKLY-SPREAD ON TOP OF SAND.

General: 110+ BIRDS (ADULTS AND CHICKS) OBSERVED ON 8 JUL 2006; 20+ CHICKS OF VARYING SIZES OBSERVED ON OR NEAR THE COLONY. BIRDS ALSO OBSERVED HERE IN 2005.

Owner/Manager: UNKNOWN

Streptanthus albidus ssp. peramoenus

most beautiful jewel-flower

Element Code: PDBRA2G012

Status
Federal: None
State: None

NDDB Element Ranks
Global: G2T2
State: S2.2

Other Lists
CNPS List: 1B.2

Habitat Associations
General: CHAPARRAL, VALLEY AND FOOTHILL GRASSLAND, CISMONTANE WOODLAND.
Micro: SERPENTINE OUTCROPS, ON RIDGES AND SLOPES. 120-730M.

Occurrence No. 1 **Map Index:** 17137 **EO Index:** 12062

Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1949-04-16
Site: 1949-04-16
Record Last Updated: 2007-02-15

Quad Summary: Clayton (3712188/464B)
County Summary: Contra Costa

Lat/Long: 37.88334º / -121.97246º
UTM: Zone-10 N4193369 E590358
Area:
Elevation: 700 ft
Mapping Precision NON-SPECIFIC
Symbol Type: POLYGON
Township: 01N
Range: 01W
Section: 33 **Qtr:** SE
Meridian: M

Location: 1.9 MILES FROM TOOLBOOTH ALONG NORTH GATE ROAD, MT DIABLO STATE PARK.

Location Detail: HALFWAY UP SLOPE.

Ecological: ON ROCKY SERPENTINE HILLSIDES, SOUTHEAST EXPOSURE. JUST WEST OF CHAPARRAL.

General: SITE KNOWN FROM MULTIPLE COLLECTIONS FROM 1935 TO 1949 AND A REPORT BY MAYER, WRITTEN IN 1992, THAT DESCRIBED SITE BUT DIDN'T GIVE AN OBSERVATION DATE. UNCERTAIN WHETHER MAYER OBSERVED SITE IN 1980S OR 1990S OR REFERRED TO OLD COLLECTIONS.

Owner/Manager: DPR-MOUNT DIABLO SP

Occurrence No. 9 **Map Index:** 20180 **EO Index:** 18964

Occ Rank: Good
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1993-04-04
Site: 1993-04-04
Record Last Updated: 2005-11-14

Quad Summary: Clayton (3712188/464B)
County Summary: Contra Costa

Lat/Long: 37.89332º / -121.92944º
UTM: Zone-10 N4194518 E594129
Area: 19.2 acres
Elevation: 2,400 ft
Mapping Precision SPECIFIC
Symbol Type: POLYGON
Township: 01N
Range: 01W
Section: 36 **Qtr:** NW
Meridian: M

Location: MT. DIABLO STATE PARK. ON BALD RIDGE TRAIL, ABOVE & BELOW MURCHIO GAP.

Location Detail: BOTH SIDES OF DEER FLAT TRAIL 3.

Ecological: SERPENTINE CHAPARRAL IN OPEN, GRAVELLY GROUND WITH NUMEROUS ROCK OUTCROPS. WITH ARCTOSTAPHYLOS GLAUCA, PINUS SABINIANA, ERIODICTYON CALIFORNICUM, PICKERINGIA MONTANA, ERIOPHYLLUM LANATUM, CEANOTHUS CUNEATUS, ETC.

Threat: OFF-TRAIL TRAVEL & COLLECTION THREATEN.

General: 500 PLANTS SEEN IN 1991. UNKNOWN NUMBER SEEN IN 1993.

Owner/Manager: DPR-MOUNT DIABLO SP

Occurrence No. 10 **Map Index:** 21249 **EO Index:** 27657

Occ Rank: Good
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1995-XX-XX
Site: 1995-XX-XX
Record Last Updated: 2005-11-14

Quad Summary: Clayton (3712188/464B)
County Summary: Contra Costa

Lat/Long: 37.88534º / -121.95835º
UTM: Zone-10 N4193605 E591597
Area: 11.4 acres
Elevation: 1,600 ft
Mapping Precision SPECIFIC
Symbol Type: POLYGON
Township: 01N
Range: 01W
Section: 34 **Qtr:** XX
Meridian: M

Location: MT DIABLO STATE PARK; LONG RIDGE AT BURMA ROAD.

Location Detail: ABOVE AND BELOW ROAD ON THE RIDGE CREST. ESTIMATED SECTION: NW 1/4 OF THE SE 1/4 OF SEC 34.

Ecological: SERPENTINE GRASSLAND WITH BROMUS RUBENS, MELICA CALIFORNICA, HOLOCARPHA HEERMANNII, ERIOGONUM GRACILE, CRYPTANTHA FLACCIDA, PLANTAGO ERECTA, ETC. ON W-FACING SLOPE.

Threat: EXOTIC GRASSES, ROADCUTS, AND GRAZING THREATEN.

General: TOTAL OF ABOUT 8000 PLANTS SEEN IN 1991 IN 4 SUBPOPULATIONS. "FIELDS OF THEM" SEEN IN 1995.

Owner/Manager: DPR-MOUNT DIABLO SP

Streptanthus albidus ssp. peramoenus

most beautiful jewel-flower

Element Code: PDBRA2G012

Status
Federal: None
State: None

NDDB Element Ranks
Global: G2T2
State: S2.2

Other Lists
CNPS List: 1B.2

Habitat Associations
General: CHAPARRAL, VALLEY AND FOOTHILL GRASSLAND, CISMONTANE WOODLAND.
Micro: SERPENTINE OUTCROPS, ON RIDGES AND SLOPES. 120-730M.

Occurrence No. 66 **Map Index:** 63177 **EO Index:** 63269

Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 2005-05-06
Site: 2005-05-06
Record Last Updated: 2007-02-14

Quad Summary: Clayton (3712188/464B)
County Summary: Contra Costa

Lat/Long: 37.88017º / -121.89020º
UTM: Zone-10 N4193100 E597596
Area:
Elevation: 1,700 ft

Mapping Precision NON-SPECIFIC
Symbol Type: POLYGON

Township: 01S
Range: 01E
Section: 05 **Qtr:** NW
Meridian: M

Location: NEAR SE END OF PROSPECTORS GAP RD, ABOUT 0.3 MILE FROM ITS JUNCTION WITH RAY MORGAN RD. JUST E OF MT DIABLO STATE PARK.
Location Detail: BELOW SERPENTINE AREA.
General: UNKNOWN NUMBER OF PLANTS OBSERVED BY D. GOWEN IN 2004 AND 2005.
Owner/Manager: UNKNOWN

Streptanthus hispidus

Mt. Diablo jewel-flower

Element Code: PDBRA2G0M0

Status
Federal: None
State: None

NDDB Element Ranks
Global: G1
State: S1.2

Other Lists
CNPS List: 1B.3

Habitat Associations
General: VALLEY AND FOOTHILL GRASSLAND, CHAPARRAL.
Micro: TALUS OR ROCKY OUTCROPS. 275-970M.

Occurrence No. 1 **Map Index:** 10193 **EO Index:** 4878

Occ Rank: Good
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1991-05-27
Site: 1991-05-27
Record Last Updated: 1995-08-22

Quad Summary: Clayton (3712188/464B)
County Summary: Contra Costa

Lat/Long: 37.88622º / -121.91065º
UTM: Zone-10 N4193750 E595790
Area: 211.2 acres
Elevation: 3,200 ft
Mapping Precision SPECIFIC
Symbol Type: POLYGON
Township: 01N
Range: 01E
Section: 31 **Qtr:** SW
Meridian: M

Location: MOUNT DIABLO; FROM SUMMIT NORTHEAST TO NORTH PEAK AND NORTHWEST TO BALD RIDGE.

Location Detail: FOUND ALONG SUMMIT ROAD, HIKING TRAILS, AND FIRE TRAILS IN VICINITY OF SUMMIT. MAPPPED WITHIN PORTIONS OF SECTIONS 1, 6, 31, AND 36.

Ecological: VARIOUS HABITATS INCLUDING GRASSLAND, OPENINGS IN CHAPARRAL, AND TALUS SLOPES. ASSOCIATES INCLUDE ANNUAL GRASSES, SALVIA, ARABIS, VIOLA, ERIOGONUM, BRODIAEA, ALLIUM, LOMATIUM, PINUS, QUERCUS, JUNIPERUS, ETC. FRANCISCAN FORMATION SOILS.

Threat: ACTIVITY AT COMMUNICATIONS TOWERS IS A THREAT; OFF TRAIL TRAVEL, AND ROCK CLIMBING ARE ALSO THREATS.

General: 1000 PLANTS SEEN IN 1982 NEAR SUMMIT/NORTH PEAK; 50-100 PLANTS SEEN IN 1985, 60 IN 1989, AND 90 IN 1990 OBSERVED IN THE RANSOM POINT/BALD RIDGE AREA. ABOUT 1,100 PLANTS SEEN THROUGHOUT OCCURRENCE IN 1991. INCLUDES FORMER OCCURRENCE #6.

Owner/Manager: DPR-MOUNT DIABLO SP

Occurrence No. 2 **Map Index:** 10097 **EO Index:** 14074

Occ Rank: Fair
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1991-05-27
Site: 1991-05-27
Record Last Updated: 1995-08-22

Quad Summary: Clayton (3712188/464B)
County Summary: Contra Costa

Lat/Long: 37.88247º / -121.93400º
UTM: Zone-10 N4193310 E593742
Area: 148.0 acres
Elevation: 2,900 ft
Mapping Precision SPECIFIC
Symbol Type: POLYGON
Township: 01N
Range: 01W
Section: 35 **Qtr:** SE
Meridian: M

Location: MOSES ROCK RIDGE AREA BETWEEN JUNIPER CAMP AND DEER FLAT, MOUNT DIABLO.

Location Detail: ON SOUTH AND WEST SLOPES IN OPEN AREAS.

Ecological: GRASSLAND ON OLD ROADCUT. ASSOCIATED WITH SITANION, MELICA, AVENA, LUPINUS, ERIOPHYLLUM, LOTUS, GALIUM, SALVIA, ZAUSCHNERIA, CLARCIA, AND CONVOLVULUS. SANDSTONE SUBSTRATE.

Threat: ROAD MAINTENANCE, OFF-TRAIL TRAVEL BY HIKERS.

General: OVER 100 PLANTS SEEN IN 1983, 41 OBSERVED IN 1991. WITHIN STATE GAME REFUGE AND MOUNT DIABLO STATE PARK.

Owner/Manager: DPR-MOUNT DIABLO SP

Streptanthus hispidus

Mt. Diablo jewel-flower

Element Code: PDBRA2G0M0

Status	NDDB Element Ranks	Other Lists
Federal: None	**Global:** G1	**CNPS List:** 1B.3
State: None	**State:** S1.2	

Habitat Associations

General: VALLEY AND FOOTHILL GRASSLAND, CHAPARRAL.

Micro: TALUS OR ROCKY OUTCROPS. 275-970M.

Occurrence No. 3 **Map Index:** 10092 **EO Index:** 6738

Occ Rank: Fair
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1991-05-26
Site: 1991-05-26
Record Last Updated: 1995-08-22

Quad Summary: Clayton (3712188/464B)
County Summary: Contra Costa

Lat/Long: 37.89535º / -121.93778º
UTM: Zone-10 N4194736 E593393
Area: 69.6 acres
Elevation: 1,800 ft
Mapping Precision SPECIFIC
Symbol Type: POLYGON
Township: 01N
Range: 01W
Section: 35 **Qtr:** NE
Meridian: M

Location: FROM 0.25 MILE EAST OF THE MOUTH OF DEER FLAT CREEK TO BALD RIDGE, MOUNT DIABLO.

Location Detail: THREE SUBPOPULATIONS MAPPED; ONE IN VICINITY OF UNNAMED SPRING ON DEER FLAT CREEK & TWO ALONG TRAIL ON BALD RIDGE, ABOUT 0.5 & 0.8 MILE SOUTHEAST OF EAGLE PEAK SUMMIT. WITHIN THE NE 1/4 OF SECTION 35 & THE NW 1/4 OF SCETION 36.

Ecological: ULTRAMAFIC CHAPARRAL. ASSOCIATED WITH PICKERINGIA MONTANA, QUERCUS DURATA, ERIODICTYON, PINUS SABINIANA, MELICA, CALYSTEGIA MALACOPHYLLUS, ERIOPHYLLUM LANATUM, HESPEROLINON BREWERI, MALACOTHRIX FLOCCIFERA. PERIDOTITE SOILS.

Threat: OFF-TRAIL TRAVEL BY HIKERS.

General: 10-50 PLANTS OBSERVED NEAR MURCHIO GAP (ALONG RIDGE) IN 1985, 10 PLANTS SEEN THERE IN 1991. MAP IS ONLY SOURCE OF INFORMATION FOR SUBPOPULATION NEAR UNNAMED SPRING; THIS PORTION OF OCC NEEDS BETTER INFO.

Owner/Manager: DPR-MOUNT DIABLO SP

Occurrence No. 7 **Map Index:** 10095 **EO Index:** 25421

Occ Rank: Fair
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1991-04-07
Site: 1991-04-07
Record Last Updated: 2005-04-03

Quad Summary: Clayton (3712188/464B)
County Summary: Contra Costa

Lat/Long: 37.90198º / -121.93761º
UTM: Zone-10 N4195471 E593400
Area: 22.5 acres
Elevation: 2,369 ft
Mapping Precision SPECIFIC
Symbol Type: POLYGON
Township: 01N
Range: 01W
Section: 26 **Qtr:** SE
Meridian: M

Location: EAGLE PEAK (2369 ELEVATION SUMMIT), NORTHWEST OF MOUNT DIABLO.

Location Detail: ALONG THE CREST AND ABOUT 50' DOWN BOTH SIDES OF THE CREST. WITHIN THE CENTER OF THE SE 1/4 OF SECTION 26.

Ecological: ON ROCKY CHERT TALUS. ASSOCIATED WITH ARABIS BREWERI, ALLIUM FALCIFOLIUM, A. SERRATUM, PHACELIA CALIFORNICA, HAPLOPAPPUS LINEARIFOLIUS, ERIOPHYLLUM LANATUM ACHILLAEOIDES, AND JUNIPERUS CALIFORNICUS.

Threat: POSSIBLE TRAMPLING BY HIKERS.

General: 1 PLANT SEEN ON SOUTHERN PEAK IN 1985, ABOUT 400 OBSERVED ALONG ENTIRE CREST IN 1991. INCLUDES COLLECTION FROM "EAST SIDE OF EAGLE PEAK, VERY NEAR THE SUMMIT" (HOFFMAN #2766).

Owner/Manager: DPR-MOUNT DIABLO SP

Streptanthus hispidus

Mt. Diablo jewel-flower

Element Code: PDBRA2G0M0

Status	NDDB Element Ranks	Other Lists
Federal: None	**Global:** G1	**CNPS List:** 1B.3
State: None	**State:** S1.2	

Habitat Associations

General: VALLEY AND FOOTHILL GRASSLAND, CHAPARRAL.

Micro: TALUS OR ROCKY OUTCROPS. 275-970M.

Occurrence No. 8 **Map Index:** 30160 **EO Index:** 4877

Occ Rank: Good
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1991-04-28
Site: 1991-04-28
Record Last Updated: 1995-08-22

Quad Summary: Clayton (3712188/464B)
County Summary: Contra Costa

Lat/Long: 37.90022º / -121.90258º
UTM: Zone-10 N4195312 E596482
Radius: 80 meters
Elevation: 2,950 ft

Mapping PrecisionSPECIFIC
Symbol Type:POINT

Township: 01N
Range: 01E
Section: 30 **Qtr:** SE
Meridian: M

Location: RIDGE ABOUT 0.5 MILE NORTH OF NORTH PEAK, MOUNT DIABLO.

Location Detail: ON SOUTHWEST-FACING SLOPE OF THE LAST KNOB OF MOUNT OLYMPIA. MAPPED NEAR THE CENTER OF THE W 1/2 OF THE SE 1/4 OF SECTION 30.

Ecological: GROWING IN ROCK OUTCROP WITH 10-20% SLOPE. ASSOCIATED WITH UMBELLULARIA, HAPLOPAPPUS LINEARIFOLUIS, CHLOROGALUM POMERIDIANUM, LOMATIUM DASYCARPUM, AND LOTUS HUMISTRATUS.

Threat: OFF-TRAIL TRAVEL BY HIKERS.

General: 4 PLANTS SEEN IN 1991.

Owner/Manager: DPR-MOUNT DIABLO SP

Occurrence No. 9 **Map Index:** 30159 **EO Index:** 4879

Occ Rank: Good
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1994-03-13
Site: 1994-03-13
Record Last Updated: 1995-08-22

Quad Summary: Clayton (3712188/464B)
County Summary: Contra Costa

Lat/Long: 37.90352º / -121.91656º
UTM: Zone-10 N4195663 E595249
Area: 24.7 acres
Elevation: 1,200 ft

Mapping PrecisionSPECIFIC
Symbol Type:POLYGON

Township: 01N
Range: 01W
Section: 25 **Qtr:** SE
Meridian: M

Location: WEST-FACING SLOPE OF DONNER CANYON, ABOUT 1.5 MILES NORTH OF MOUNT DIABLO.

Location Detail: THREE SUBPOPULATIONS MAPPED; THE LARGEST IS ALONG FALLS TRAIL JUST EAST OF DONNER CREEK; THE OTHER TWO ARE ALONG EITHER SIDE OF THE MOUTH OF WILD OAT CANYON. WITHIN THE W 1/2 OF THE SE 1/4 OF SECTION 25.

Ecological: MOST OF POPULATION GROWING IN CHAPARRAL, OTHERS ON SCREE. ASSOCIATED WITH QUERCUS WISLIZENII, HETEROMELES, ERIODICTYON, SAMBUCUS, STYLOMECON CALIFORNICUM, CALOCHORTUS VENUSTUS, C. PULCHELLUS, MELICA, MIMULUS AURANTIACUS, CHLOROGALUM, ETC.

Threat: OFF-TRAIL TRAVEL BY HIKERS.

General: 2500 PLANTS OBSERVED IN TWO OF THE COLONIES IN 1991; 1 PLANT IN THIRD COLONY OBSERVED IN 1994.

Owner/Manager: DPR-MOUNT DIABLO SP

Streptanthus hispidus

Mt. Diablo jewel-flower

Element Code: PDBRA2G0M0

Status
Federal: None
State: None

NDDB Element Ranks
Global: G1
State: S1.2

Other Lists
CNPS List: 1B.3

Habitat Associations
General: VALLEY AND FOOTHILL GRASSLAND, CHAPARRAL.
Micro: TALUS OR ROCKY OUTCROPS. 275-970M.

Occurrence No. 10 **Map Index:** 30158 **EO Index:** 4880

Occ Rank: Poor
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1991-04-07
Site: 1991-04-07
Record Last Updated: 1995-08-22

Quad Summary: Clayton (3712188/464B)
County Summary: Contra Costa

Lat/Long: 37.88970º / -121.92996º
UTM: Zone-10 N4194117 E594088
Radius: 80 meters
Elevation: 2,080 ft
Mapping Precision SPECIFIC
Symbol Type: POINT
Township: 01N
Range: 01W
Section: 36 **Qtr:** NW
Meridian: M

Location: WEST-FACING SLOPES OF DEER FLAT CREEK EAST OF DEER FLAT, MOUNT DIABLO.

Location Detail: MITCHELL CANYON TRAIL, ABOVE THE HEAD OF THE CREEK ON STEEP SLOPE.

Ecological: CHAPARRAL ABOVE RIPARIAN. ASSOCIATED WITH PENSTEMON HETEROPHYLLUS, PHACELIA BREWERI, ALLIUM, PHLOX GRACILIS, ERIODIUM, CHLOROGALUM, LOTUS HUMISTRATUS, SENECIO VULGARIS, AND PELLAEA MUCRONATA. SANDSTONE SUBSTRATE ON 30-50% SLOPE.

General: 3 PLANTS OBSERVED IN 1991.

Owner/Manager: DPR-MOUNT DIABLO SP

Occurrence No. 11 **Map Index:** 30157 **EO Index:** 4881

Occ Rank: Poor
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1991-04-14
Site: 1991-04-14
Record Last Updated: 1995-08-22

Quad Summary: Clayton (3712188/464B)
County Summary: Contra Costa

Lat/Long: 37.88449º / -121.94657º
UTM: Zone-10 N4193522 E592634
Area: 14.6 acres
Elevation: 2,300 ft
Mapping Precision SPECIFIC
Symbol Type: POLYGON
Township: 01N
Range: 01W
Section: 35 **Qtr:** SW
Meridian: M

Location: IN VICINITY OF MOSES ROCK SPRING ALONG BURMA ROAD, MOUNT DIABLO.

Location Detail: THREE SUBPOPULATIONS MAPPED JUST EAST OF THE SPRING ABOVE AND BELOW THE ROAD ON CUTS AND FILL SLOPE.

Ecological: ROAD CUTS AND ANNUAL GRASSLAND. ASSOCIATED WITH ERIOGONUM, ESCHSCHOLZIA, BROMUS, AMSINCKIA, PLAGIOBOTHRYS, ERODIUM, LOTUS, AVENA, LUPINUS, BRODIAEA, CIRSIUM, AND PHACELIA. SANDSTONE SUBSTRATE ON 10-30% SOUTHWEST-FACING SLOPES.

Threat: TRAIL MAINTENANCE AND OFF-TRAIL TRAVEL BY HIKERS.

General: 100+ PLANTS OBSERVED IN 1991 IN THREE SUBPOPULATIONS.

Owner/Manager: DPR-MOUNT DIABLO SP

Occurrence No. 12 **Map Index:** 30156 **EO Index:** 4882

Occ Rank: Good
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1991-04-08
Site: 1991-04-08
Record Last Updated: 1995-08-22

Quad Summary: Diablo (3712178/464C), Clayton (3712188/464B)
County Summary: Contra Costa

Lat/Long: 37.87514º / -121.98198º
UTM: Zone-10 N4192450 E589532
Radius: 80 meters
Elevation: 820 ft
Mapping Precision SPECIFIC
Symbol Type: POINT
Township: 01S
Range: 01W
Section: 4 **Qtr:** XX
Meridian: M

Location: NORTHWEST TIP OF PINE RIDGE ALONG THE SOUTH SIDE OF PINE CANYON, ABOUT 0.5 MILE SSE OF CASTLE ROCK, MOUNT DIABLO.

Location Detail: NEAR THE BORDER BETWEEN MOUNT DIABLO STATE PARK AND DIABLO FOOTHILLS REGIONAL PARK ON SECOND TO LAST CLUSTER OF ROCKS AS APPROACHING TOP OF HILL FROM THE WEST. IN A ROCK DEPRESSION ON ROCK PILE ABOVE STREAM AND GRASSY SLOPE.

Ecological: ASSOCIATED WITH PTEROSTEGIA DRYMARIODES, LACTUCA, ZAUSCHNERIA, CARDUUS, MONTIA PERFOLIATA, THYSANOCARPUS CURVIPES, PTELEA CRENULATA, PHACELIA DISTANS, GALIUM APARINE, AVENA, AND STELLARIA MEDIA. ON SOUTHWEST-FACING SLOPE.

Threat: GRAZING NEARBY, BUT THIS SITE IS PROBABLY TOO ROCKY FOR CATTLE TO GET TO.

General: 13 PLANTS SEEN IN 1991.

Owner/Manager: DPR-MOUNT DIABLO SP

Symphyotrichum lentum

Suisun Marsh aster

Element Code: PDASTE8470

Status	NDDB Element Ranks	Other Lists
Federal: None	**Global:** G2	**CNPS List:** 1B.2
State: None	**State:** S2	

Habitat Associations

General: MARSHES AND SWAMPS (BRACKISH AND FRESHWATER).

Micro: MOST OFTEN SEEN ALONG SLOUGHS WITH PHRAGMITES, SCIRPUS, BLACKBERRY, TYPHA, ETC. 0-3M.

Occurrence No. 3 **Map Index:** 10323 **EO Index:** 17226

Occ Rank: Fair
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1991-08-18
Site: 1991-08-18
Record Last Updated: 2005-09-12

Quad Summary: Honker Bay (3812118/481C)
County Summary: Contra Costa

Lat/Long: 38.04013º / -121.88239º
UTM: Zone-10 N4210857 E598070
Area:
Elevation: 0 ft
Mapping Precision NON-SPECIFIC
Symbol Type: POLYGON
Township: 02N
Range: 01E
Section: 08 **Qtr:** XX
Meridian: M

Location: NORTH OF PITTSBURG. MOUTH OF NEW YORK SLOUGH.

Location Detail: 2 COLONIES. E COLONY IS ON BROWNS ISLAND BETWEEN BOTANY COVE & POINT EMMET. W COLONY IS ALONG THE INLAND SIDE OF THE PITTSBURG MARINA BREAKWATER. POPULATIONS SEPARATED BY NEW YORK SLOUGH.

Ecological: ASSOCIATED WITH SCIRPUS CALIFORNICUS, LEPIDIUM LATIFOLIUM, RUBUS PROCERUS, LATHYRUS JEPSONII SSP. JEPSONII, TULES, AND TYPHA SP.

Threat: BREAKWATER MAINTENANCE COULD THREATEN THE PITTSBURG BREAKWATER COLONY.

General: ~10 X 30 FT POPULATION OBSERVED AT E COLONY IN 1978. W COLONY: 20 IN 1980, ~10 IN 1990. 1000 PLANTS OBSERVED BY KELCH IN 1988. UNKNOWN NUMBER OBSERVED BY ERTTER ET AL IN E COLONY IN 1991. INCLUDES FORMER OCCURRENCES #4 & 38.

Owner/Manager: PVT, CITY OF PITTSBURG

Occurrence No. 40 **Map Index:** 21603 **EO Index:** 6440

Occ Rank: Fair
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1991-09-08
Site: 1991-09-08
Record Last Updated: 1993-12-23

Quad Summary: Honker Bay (3812118/481C), Antioch North (3812117/481D)
County Summary: Solano

Lat/Long: 38.07315º / -121.87687º
UTM: Zone-10 N4214526 E598511
Radius: 80 meters
Elevation: 0 ft
Mapping Precision SPECIFIC
Symbol Type: POINT
Township: 03N
Range: 01E
Section: 28 **Qtr:** XX
Meridian: M

Location: APPROXIMATELY 1/2 MILE SOUTHEAST OF DUTTON, ON NORTH BANK OF MONTEZUMA SLOUGH.

Ecological: RIPARIAN SALT MARSH (?) ALONG BANK OF LEVEE; ASSOCIATES INCLUDE SALIX LASIOLEPIS, OENANTHE SARMENTOSA, AND SCIRPUS ACUTUS IN PARTIAL SHADE OR FULL SUN.

Threat: LEVEE MAINTENANCE.

General: 3 PLANTS SEEN IN 1991. TWO OTHER SENSITIVE PLANTS ALSO SEEN, LATHYRUS JEPSONII SSP. JEPSONII AND LILAEOPSIS MASONII. OWNED BY CATELLUS CORP.

Owner/Manager: PVT

Symphyotrichum lentum

Suisun Marsh aster

Element Code: PDASTE8470

Status
Federal: None
State: None

NDDB Element Ranks
Global: G2
State: S2

Other Lists
CNPS List: 1B.2

Habitat Associations
General: MARSHES AND SWAMPS (BRACKISH AND FRESHWATER).
Micro: MOST OFTEN SEEN ALONG SLOUGHS WITH PHRAGMITES, SCIRPUS, BLACKBERRY, TYPHA, ETC. 0-3M.

Occurrence No. 73 **Map Index:** 37585 **EO Index:** 32587

Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1993-10-XX
Site: 1993-10-XX
Record Last Updated: 1997-11-12

Quad Summary: Honker Bay (3812118/481C)
County Summary: Solano

Lat/Long: 38.08013º / -121.88586º
UTM: Zone-10 N4215292 E597713
Radius: 1/10 mile
Elevation: 0 ft
Mapping Precision NON-SPECIFIC
Symbol Type: POINT
Township: 03N
Range: 01E
Section: 29 **Qtr:** XX
Meridian: M

Location: VAN SICKLE ISLAND, ALONG MONTEZUMA SLOUGH ABOUT 0.3 MILE NORTH OF OLD RR GRADE.

Location Detail: ONE COLONY MAPPED.

Ecological: BRACKISH SLOUGHS AND RIVERBANKS AFFECTED BY TIDAL FLUCTUATIONS. ASSOCIATED WITH SCIRPUS, TYPHA, AND JUNCUS.

General: MAIN SOURCE OF INFORMATION FOR THIS SITE IS MAP DETAIL PROVIDED BY DWR REPORT "SUMMARY OF SENSITIVE PLANT AND WILDLIFE RESOURCES IN SUISUN MARSH DURING WATER YEARS 1984-1994" (1994).

Owner/Manager: UNKNOWN

Occurrence No. 74 **Map Index:** 37586 **EO Index:** 32588

Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1993-10-XX
Site: 1993-10-XX
Record Last Updated: 1997-11-12

Quad Summary: Honker Bay (3812118/481C)
County Summary: Solano

Lat/Long: 38.08673º / -121.88089º
UTM: Zone-10 N4216029 E598140
Radius: 1/10 mile
Elevation: 0 ft
Mapping Precision NON-SPECIFIC
Symbol Type: POINT
Township: 03N
Range: 01E
Section: 20 **Qtr:** XX
Meridian: M

Location: ALONG EAST SIDE OF MONTEZUMA SLOUGH, JUST SOUTHWEST OF MONTEZUMA.

Location Detail: ONE COLONY MAPPED.

Ecological: BRACKISH SLOUGHS AND RIVERBANKS AFFECTED BY TIDAL FLUCTUATIONS. ASSOCIATED WITH SCIRPUS, TYPHA, AND JUNCUS.

General: MAIN SOURCE OF INFORMATION FOR THIS SITE IS MAP DETAIL PROVIDED BY DWR REPORT "SUMMARY OF SENSITIVE PLANT AND WILDLIFE RESOURCES IN SUISUN MARSH DURING WATER YEARS 1984-1994" (1994).

Owner/Manager: UNKNOWN

Occurrence No. 75 **Map Index:** 37587 **EO Index:** 32589

Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1993-10-XX
Site: 1993-10-XX
Record Last Updated: 1997-11-12

Quad Summary: Honker Bay (3812118/481C)
County Summary: Solano

Lat/Long: 38.11598º / -121.88842º
UTM: Zone-10 N4219266 E597441
Area:
Elevation: 0 ft
Mapping Precision NON-SPECIFIC
Symbol Type: POLYGON
Township: 03N
Range: 01E
Section: 08 **Qtr:** XX
Meridian: M

Location: ALONG EAST SIDE OF MONTEZUMA SLOUGH OPPOSITE GRIZZLY ISLAND, ABOUT 1.5 MILE NORTH OF GRIZZLY SLOUGH.

Location Detail: TWO COLONIES MAPPED AS ONE POLYGON AT CNDDB.

Ecological: BRACKISH SLOUGHS AND RIVERBANKS AFFECTED BY TIDAL FLUCTUATIONS. ASSOCIATED WITH SCIRPUS, TYPHA, AND JUNCUS.

General: MAIN SOURCE OF INFORMATION FOR THIS SITE IS MAP DETAIL PROVIDED BY DWR REPORT "SUMMARY OF SENSITIVE PLANT AND WILDLIFE RESOURCES IN SUISUN MARSH DURING WATER YEARS 1984-1994" (1994).

Owner/Manager: UNKNOWN

Symphyotrichum lentum

Suisun Marsh aster

Element Code: PDASTE8470

Status
Federal: None
State: None

NDDB Element Ranks
Global: G2
State: S2

Other Lists
CNPS List: 1B.2

Habitat Associations
General: MARSHES AND SWAMPS (BRACKISH AND FRESHWATER).
Micro: MOST OFTEN SEEN ALONG SLOUGHS WITH PHRAGMITES, SCIRPUS, BLACKBERRY, TYPHA, ETC. 0-3M.

Occurrence No. 76 **Map Index:** 37588 **EO Index:** 32590

Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1998-09-16
Site: 1998-09-16
Record Last Updated: 2001-11-19

Quad Summary: Honker Bay (3812118/481C)
County Summary: Solano

Lat/Long: 38.05536º / -121.89481º
UTM: Zone-10 N4212533 E596960
Area:
Elevation: 0 ft
Mapping Precision NON-SPECIFIC
Symbol Type: POLYGON
Township: 03N
Range: 01E
Section: 32 **Qtr:** XX
Meridian: M

Location: SOUTH END OF VAN SICKLE ISLAND, NEAR MOUTH OF SPOONBILL CREEK AND POINT WALL, SUISUN BAY.

Location Detail: SIX COLONIES MAPPED AS THREE POLYGONS AT CNDDB.

Ecological: BRACKISH SLOUGHS AND RIVERBANKS AFFECTED BY TIDAL FLUCTUATIONS. ASSOCIATED WITH SCIRPUS, TYPHA, AND JUNCUS.

Threat: IN AREAS SUBJECT TO PERPETUAL TIDAL AND RECREATIONAL WAVE FORCES.

General: MAIN SOURCE OF INFORMATION FOR THIS SITE IS MAP DETAIL PROVIDED BY DWR REPORT "SUMMARY OF SENSITIVE PLANT AND WILDLIFE RESOURCES IN SUISUN MARSH DURING WATER YEARS 1984-1994" (1994). UNKNOWN NUMBER OF PLANTS SEEN AT EASTERN COLONY IN 1998.

Owner/Manager: UNKNOWN

Occurrence No. 77 **Map Index:** 37589 **EO Index:** 32591

Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1993-10-XX
Site: 1993-10-XX
Record Last Updated: 1997-11-12

Quad Summary: Honker Bay (3812118/481C)
County Summary: Solano

Lat/Long: 38.07041º / -121.91224º
UTM: Zone-10 N4214186 E595412
Area:
Elevation: 0 ft
Mapping Precision NON-SPECIFIC
Symbol Type: POLYGON
Township: 03N
Range: 01E
Section: 30 **Qtr:** XX
Meridian: M

Location: NORTH END OF CHIPPS ISLAND NEAR SPOONBILL CREEK, HONKER BAY.

Location Detail: THREE COLONIES MAPPED.

Ecological: BRACKISH SLOUGHS AND RIVERBANKS AFFECTED BY TIDAL FLUCTUATIONS. ASSOCIATED WITH SCIRPUS, TYPHA, AND JUNCUS.

General: MAIN SOURCE OF INFORMATION FOR THIS SITE IS MAP DETAIL PROVIDED BY DWR REPORT "SUMMARY OF SENSITIVE PLANT AND WILDLIFE RESOURCES IN SUISUN MARSH DURING WATER YEARS 1984-1994" (1994).

Owner/Manager: UNKNOWN

Occurrence No. 78 **Map Index:** 37590 **EO Index:** 32592

Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1993-10-XX
Site: 1993-10-XX
Record Last Updated: 1997-11-12

Quad Summary: Honker Bay (3812118/481C)
County Summary: Contra Costa

Lat/Long: 38.04604º / -121.96024º
UTM: Zone-10 N4211433 E591232
Area:
Elevation: 0 ft
Mapping Precision NON-SPECIFIC
Symbol Type: POLYGON
Township: 02N
Range: 01W
Section: 03 **Qtr:** XX
Meridian: M

Location: WEST OF PITTSBURG NEAR ENTRANCE TO MCAVOY BOAT HARBOR, SUISUN BAY.

Location Detail: THREE COLONIES MAPPED AS TWO POLYGONS AT CNDDB.

Ecological: BRACKISH SLOUGHS AND RIVERBANKS AFFECTED BY TIDAL FLUCTUATIONS. ASSOCIATED WITH SCIRPUS, TYPHA, AND JUNCUS.

General: MAIN SOURCE OF INFORMATION FOR THIS SITE IS MAP DETAIL PROVIDED BY DWR REPORT "SUMMARY OF SENSITIVE PLANT AND WILDLIFE RESOURCES IN SUISUN MARSH DURING WATER YEARS 1984-1994" (1994).

Owner/Manager: UNKNOWN

Symphyotrichum lentum

Suisun Marsh aster

Element Code: PDASTE8470

Status
Federal: None
State: None

NDDB Element Ranks
Global: G2
State: S2

Other Lists
CNPS List: 1B.2

Habitat Associations
General: MARSHES AND SWAMPS (BRACKISH AND FRESHWATER).
Micro: MOST OFTEN SEEN ALONG SLOUGHS WITH PHRAGMITES, SCIRPUS, BLACKBERRY, TYPHA, ETC. 0-3M.

Occurrence No. 79 **Map Index:** 37591 **EO Index:** 32593

Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1993-10-XX
Site: 1993-10-XX
Record Last Updated: 1997-11-12

Quad Summary: Honker Bay (3812118/481C)
County Summary: Contra Costa

Lat/Long: 38.04696º / -121.97349º
UTM: Zone-10 N4211522 E590068
Radius: 1/10 mile
Elevation: 0 ft
Mapping Precision NON-SPECIFIC
Symbol Type: POINT
Township: 02N
Range: 01W
Section: 04 **Qtr:** XX
Meridian: M

Location: SHORELINE ABOUT 1 MILE EAST OF MIDDLE POINT, WEST OF PITTSBURG ALONG SUISUN BAY.

Location Detail: ONE COLONY MAPPED.

Ecological: BRACKISH SLOUGHS AND RIVERBANKS AFFECTED BY TIDAL FLUCTUATIONS. ASSOCIATED WITH SCIRPUS, TYPHA, AND JUNCUS.

General: MAIN SOURCE OF INFORMATION FOR THIS SITE IS MAP DETAIL PROVIDED BY DWR REPORT "SUMMARY OF SENSITIVE PLANT AND WILDLIFE RESOURCES IN SUISUN MARSH DURING WATER YEARS 1984-1994" (1994).

Owner/Manager: UNKNOWN

Occurrence No. 80 **Map Index:** 37592 **EO Index:** 32594

Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1993-10-XX
Site: 1993-10-XX
Record Last Updated: 1997-11-12

Quad Summary: Honker Bay (3812118/481C)
County Summary: Solano

Lat/Long: 38.07678º / -121.96630º
UTM: Zone-10 N4214838 E590662
Area:
Elevation: 0 ft
Mapping Precision NON-SPECIFIC
Symbol Type: POLYGON
Township: 03N
Range: 01W
Section: 27 **Qtr:** XX
Meridian: M

Location: SOUTHEAST SIDE OF DUTTON ISLAND, SUISUN BAY.

Location Detail: FOUR COLONIES MAPPED AS TWO POLYGONS AT CNDDB.

Ecological: BRACKISH SLOUGHS AND RIVERBANKS AFFECTED BY TIDAL FLUCTUATIONS. ASSOCIATED WITH SCIRPUS, TYPHA, AND JUNCUS.

General: MAIN SOURCE OF INFORMATION FOR THIS SITE IS MAP DETAIL PROVIDED BY DWR REPORT "SUMMARY OF SENSITIVE PLANT AND WILDLIFE RESOURCES IN SUISUN MARSH DURING WATER YEARS 1984-1994" (1994).

Owner/Manager: UNKNOWN

Occurrence No. 88 **Map Index:** 37601 **EO Index:** 32603

Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1993-10-XX
Site: 1993-10-XX
Record Last Updated: 1997-11-12

Quad Summary: Denverton (3812128/481B), Honker Bay (3812118/481C)
County Summary: Solano

Lat/Long: 38.12608º / -121.88995º
UTM: Zone-10 N4220386 E597293
Radius: 1/10 mile
Elevation: 0 ft
Mapping Precision NON-SPECIFIC
Symbol Type: POINT
Township: 03N
Range: 01E
Section: 05 **Qtr:** XX
Meridian: M

Location: ALONG THE NORTHEAST SIDE OF MONTEZUMA SLOUGH OPPOSITE GRIZZLY ISLAND, ABOUT 0.6 MILE WEST OF MOLENA.

Location Detail: ONE COLONY MAPPED.

Ecological: BRACKISH SLOUGHS AND RIVERBANKS AFFECTED BY TIDAL FLUCTUATIONS. ASSOCIATED WITH SCIRPUS, TYPHA, AND JUNCUS.

General: MAIN SOURCE OF INFORMATION FOR THIS SITE IS MAP DETAIL PROVIDED BY DWR REPORT "SUMMARY OF SENSITIVE PLANT AND WILDLIFE RESOURCES IN SUISUN MARSH DURING WATER YEARS 1984-1994" (1994).

Owner/Manager: UNKNOWN

Symphyotrichum lentum

Suisun Marsh aster

Element Code: PDASTE8470

Status	NDDB Element Ranks	Other Lists
Federal: None	**Global:** G2	**CNPS List:** 1B.2
State: None	**State:** S2	

Habitat Associations

General: MARSHES AND SWAMPS (BRACKISH AND FRESHWATER).

Micro: MOST OFTEN SEEN ALONG SLOUGHS WITH PHRAGMITES, SCIRPUS, BLACKBERRY, TYPHA, ETC. 0-3M.

Occurrence No. 89 **Map Index:** 37602 **EO Index:** 32604

Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1993-10-XX
Site: 1993-10-XX
Record Last Updated: 1997-11-12

Quad Summary: Denverton (3812128/481B), Honker Bay (3812118/481C)
County Summary: Solano

Lat/Long: 38.12508º / -121.91551º
UTM: Zone-10 N4220248 E595054
Area:
Elevation: 0 ft
Mapping Precision NON-SPECIFIC
Symbol Type: POLYGON
Township: 03N
Range: 01W
Section: 12 **Qtr:** XX
Meridian: M

Location: EAST SIDE OF GRIZZLY ISLAND ALONG MONTEZUMA SLOUGH, ABOUT 2.1 MILES WEST OF MOLENA.

Location Detail: TWO COLONIES MAPPED.

Ecological: BRACKISH SLOUGHS AND RIVERBANKS AFFECTED BY TIDAL FLUCTUATIONS. ASSOCIATED WITH SCIRPUS, TYPHA, AND JUNCUS.

General: MAIN SOURCE OF INFORMATION FOR THIS SITE IS MAP DETAIL PROVIDED BY DWR REPORT "SUMMARY OF SENSITIVE PLANT AND WILDLIFE RESOURCES IN SUISUN MARSH DURING WATER YEARS 1984-1994" (1994).

Owner/Manager: UNKNOWN

Occurrence No. 131 **Map Index:** 50094 **EO Index:** 50094

Occ Rank: Good
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 2002-10-08
Site: 2002-10-08
Record Last Updated: 2003-02-05

Quad Summary: Vine Hill (3812211/482D), Honker Bay (3812118/481C)
County Summary: Contra Costa

Lat/Long: 38.05135º / -122.00033º
UTM: Zone-10 N4211984 E587708
Area: 6.6 acres
Elevation: 0 ft
Mapping Precision SPECIFIC
Symbol Type: POLYGON
Township: 02N
Range: 01W
Section: 05 **Qtr:** NW
Meridian: M

Location: CONCORD NAVAL WEAPONS STATION, ABOUT 0.5 MILE SOUTHWEST OF MIDDLE POINT, WEST OF SHORE ACRES AND PITTSBURG.

Location Detail: SEVERAL SITES ALONG E-W WATERWAY EAST OF UNNAMED SLOUGH SOUTH OF PIER 4. ALONG SHORE AND IN FIELD SOUTH OF CORDYLANTHUS MOLLIS SSP. MOLLIS POPULATION. MAPPED WITHIN THE SW 1/4 OF THE NW 1/4 OF SECTION 5.

Ecological: BRACKISH MARSH.

General: PLANTS PLENTIFUL IN 2002 ACCORDING TO LAKE. THE RARE CORDYLANTHUS MOLLIS MOLLIS OCCURS TO THE NORTH OF THIS SITE.

Owner/Manager: DOD-NAVY

Triquetrella californica

coastal triquetrella

Element Code: NBMUS7S010

Status
Federal: None
State: None

NDDB Element Ranks
Global: G1
State: S1

Other Lists
CNPS List: 1B.2

Habitat Associations
General: COASTAL BLUFF SCRUB, COASTAL SCRUB VALLEY AND FOOTHILL GRASSLANDS.
Micro: GROWS WITHIN 30M FROM THE COAST IN COASTAL SCRUB, GRASSLANDS AND IN OPEN GRAVELS ON ROADSIDES, HILLSIDES, ROCKY SLOPES,

Occurrence No. 2 **Map Index:** 45728 **EO Index:** 45728

Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: XXXX-XX-XX
Site: XXXX-XX-XX
Record Last Updated: 2009-02-03

Quad Summary: Diablo (3712178/464C), Clayton (3712188/464B)
County Summary: Contra Costa

Lat/Long: 37.88171º / -121.91406º
UTM: Zone-10 N4193246 E595496
Radius: 1 mile
Elevation: 3,849 ft

Mapping PrecisionNON-SPECIFIC
Symbol Type:POINT

Township: 01N
Range: 01E
Section: 31 **Qtr:** XX
Meridian: M

Location: MOUNT DIABLO.
General: NEEDS FIELDWORK.
Owner/Manager: UNKNOWN

Tropidocarpum capparideum

caper-fruited tropidocarpum

Element Code: PDBRA2R010

Status
Federal: None
State: None

NDDB Element Ranks
Global: G1
State: S1.1

Other Lists
CNPS List: 1B.1

Habitat Associations
General: VALLEY AND FOOTHILL GRASSLAND.
Micro: ALKALINE CLAY. 0-455M.

Occurrence No. 10 **Map Index:** 10103 **EO Index:** 20435

Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1896-02-29
Site: 1896-02-29
Record Last Updated: 1989-08-11

Quad Summary: Clayton (3712188/464B)
County Summary: Contra Costa

Lat/Long: 37.94242º / -121.93552º
UTM: Zone-10 N4199961 E593533
Radius: 1 mile
Elevation: 400 ft

Mapping PrecisionNON-SPECIFIC
Symbol Type:POINT

Township: 01N
Range: 01W
Section: 11 **Qtr:** XX
Meridian: M

Location: CLAYTON.

Owner/Manager: PVT

Viburnum ellipticum

oval-leaved viburnum

Element Code: PDCPR07080

Status
Federal: None
State: None

NDDB Element Ranks
Global: G5
State: S2.3

Other Lists
CNPS List: 2.3

Habitat Associations
General: CHAPARRAL, CISMONTANE WOODLAND, LOWER MONTANE CONIFEROUS FOREST.
Micro: 215-1400M.

Occurrence No. 4 **Map Index:** 49956 **EO Index:** 49956

Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1990-XX-XX
Site: 1990-XX-XX
Record Last Updated: 2009-01-02

Quad Summary: Clayton (3712188/464B), Diablo (3712178/464C)
County Summary: Contra Costa

Lat/Long: 37.86601º / -121.89806º
UTM: Zone-10 N4191521 E596924
Radius: 4/5 mile
Elevation: 1,500 ft
Mapping Precision NON-SPECIFIC
Symbol Type: POINT
Township: 01S
Range: 01E
Section: 07 **Qtr:** XX
Meridian: M

Location: ABOVE FROG POND IN SULPHUR SPRINGS CANYON, MOUNT DIABLO.

Location Detail: MAPPED BY CNDDB AS BEST GUESS IN VICINITY OF FROG POND ACCORDING TO A NOTE FROM OLSON (1995) THAT ACC TO BOWERMAN (1940) THE PLANT OCCURS "ABOVE FROG POND IN SULFUR SPRINGS CANYON"; UNABLE TO LOCATE SULPHUR SPRINGS CANYON.

Ecological: ON BRUSHY NORTH-FACING SLOPE.

General: OLSON SAYS THAT HE LOOKED FOR IT BUT DID NOT FIND IT; BUT, HE BELIEVES EDWARDS HAS SEEN IT HERE CA. 1990. IN 2000, WINCHESTER REPORTS THAT MT DIABLO POPS ARE STILL EXTANT; BUT OTHERS HAVE NOT FOUND THEM IN RECENT ATTEMPTS. NEEDS FIELDWORK.

Owner/Manager: UNKNOWN

Occurrence No. 27 **Map Index:** 73314 **EO Index:** 74275

Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1967-11-06
Site: 1967-11-06
Record Last Updated: 2009-01-02

Quad Summary: Tassajara (3712177/464D), Antioch South (3712187/464A), Diablo (3712178/464C), Clayton (3712188/464B)
County Summary: Contra Costa

Lat/Long: 37.87634º / -121.86963º
UTM: Zone-10 N4192697 E599410
Radius: 3/5 mile
Elevation: 1,200 ft
Mapping Precision NON-SPECIFIC
Symbol Type: POINT
Township: 01S
Range: 01E
Section: 04 **Qtr:** XX
Meridian: M

Location: NEAR CURRY PARK-SULPHUR SPRING CANYON, MORGAN TERRITORY.

Location Detail: EXACT LOCATION UNKNOWN. MAPPED BY CNDDB AS BEST GUESS NEAR CURRY CREEK PARK; UNABLE TO LOCATE SULPHUR SPRING CANYON.

General: SITE BASED ON A 1967 BOWERMAN ET AL COLLECTION. ALSO ATTRIBUTED HERE IS A JOHNSON COMM THAT THE PLANT (DATE SEEN UNK) OCCURS "NEAR CURRY CREEK SWIM AREA ON MORGAN TERRITORY RD"; UNABLE TO LOCATE CURRY CREEK SWIM AREA. NEEDS FIELDWORK.

Owner/Manager: UNKNOWN

Vulpes macrotis mutica

San Joaquin kit fox

Element Code: AMAJA03041

Status	NDDB Element Ranks	Other Lists
Federal: Endangered	**Global:** G4T2T3	**CDFG Status:**
State: Threatened	**State:** S2S3	

Habitat Associations

General: ANNUAL GRASSLANDS OR GRASSY OPEN STAGES WITH SCATTERED SHRUBBY VEGETATION.

Micro: NEED LOOSE-TEXTURED SANDY SOILS FOR BURROWING, AND SUITABLE PREY BASE.

Occurrence No. 555 **Map Index:** 67259 **EO Index:** 67419

Occ Rank: Good
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Dates Last Seen
Element: 1992-08-07
Site: 1992-08-07
Record Last Updated: 2006-11-30

Quad Summary: Antioch South (3712187/464A), Clayton (3712188/464B)
County Summary: Contra Costa

Lat/Long: 37.96680º / -121.87591º
UTM: Zone-10 N4202728 E598737
Area:
Elevation: 750 ft

Mapping Precision NON-SPECIFIC
Symbol Type: POLYGON

Township: 01N
Range: 01E
Section: 04 **Qtr:** NW
Meridian: M

Location: ABOUT 2.3 MI SE OF PITTSBURG, 0.75 MI WSW OF SIDNEY FLAT.

Location Detail: MAPPED IN NW 1/4 OF NW 1/4 OF SECTION 4 ACCORDING TO DATA PROVIDED BY SOURCE. LOCATION GIVEN AS "BLACK DIAMOND MINE, NORTHERN BOUNDARY." INCLUDES LOCATION "BLACK DIAMOND STATE PARK."

Ecological: GRAZED ANNUAL GRASSLAND. SEASONAL DRAINAGE WITH OAK AND EUCALYPTUS, HILLY AREA WITH FEW FLAT VALLEYS. NO GROUND SQUIRRELS BUT HEALTHY MOUSE & JACK RABBIT POPULATION.

Threat: MAY GET BOXED IN BY DEVELOPMENT IN ANTIOCH AREA.

General: FORAGING SITE. 2 SIGHTINGS AT "BLACK DIAMOND STATE PARK" DATE UNKNOWN. 1 ADULT OBSERVED ON 7 AUG 1992.

Owner/Manager: EBRPD

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ATTACHMENT B4
Analytical Data Used in the Ecological Risk Assessment

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Attachment B-4.1
Raw Data

SAMPLE_NAME	ANALYTICAL_METHOD	SAMPLE_BASIS	PERCENT_MOISTURE	ANALYTE_ID	ANALYTE NAME	ANALYTE_VALUE	RESULT_UNITS	FINAL_QUALIFIER	DETECTED	MDL	MRL
BAI-24A-01-00	8270C_SIM	DRY	14	91-20-3	Naphthalene	1.4	UG_KG	J	Y	1.2	5.8
BAI-24A-01-00	8270C_SIM	DRY	14	208-96-8	Acenaphthylene	25	UG_KG		Y	1.2	5.8
BAI-24A-01-00	8270C_SIM	DRY	14	83-32-9	Acenaphthene	5.8	UG_KG	U	N	1.2	5.8
BAI-24A-01-00	8270C_SIM	DRY	14	86-73-7	Fluorene	2.5	UG_KG	J	Y	1.2	5.8
BAI-24A-01-00	8270C_SIM	DRY	14	85-01-8	Phenanthrene	14	UG_KG		Y	1.2	5.8
BAI-24A-01-00	8270C_SIM	DRY	14	120-12-7	Anthracene	62	UG_KG		Y	1.2	5.8
BAI-24A-01-00	8270C_SIM	DRY	14	206-44-0	Fluoranthene	63	UG_KG		Y	1.2	5.8
BAI-24A-01-00	8270C_SIM	DRY	14	129-00-0	Pyrene	76	UG_KG		Y	1.2	5.8
BAI-24A-01-00	8270C_SIM	DRY	14	56-55-3	Benzo(a)anthracene	51	UG_KG		Y	1.2	5.8
BAI-24A-01-00	8270C_SIM	DRY	14	218-01-9	Chrysene	170	UG_KG		Y	1.2	5.8
BAI-24A-01-00	8270C_SIM	DRY	14	205-99-2	Benzo(b)fluoranthene	170	UG_KG		Y	1.2	5.8
BAI-24A-01-00	8270C_SIM	DRY	14	207-08-9	Benzo(k)fluoranthene	43	UG_KG		Y	1.2	5.8
BAI-24A-01-00	8270C_SIM	DRY	14	50-32-8	Benzo(a)pyrene	60	UG_KG		Y	1.2	5.8
BAI-24A-01-00	8270C_SIM	DRY	14	193-39-5	Indeno(1,2,3-cd)yrene	64	UG_KG		Y	1.2	5.8
BAI-24A-01-00	8270C_SIM	DRY	14	53-70-3	Dibenz(a,h)anthracene	20	UG_KG		Y	1.2	5.8
BAI-24A-01-00	8270C_SIM	DRY	14	191-24-2	Benzo(g,h,i)perylene	61	UG_KG		Y	1.4	5.8
BAI-24A-01-18	8270C_SIM	DRY	16	91-20-3	Naphthalene	5.9	UG_KG	U	N	1.2	5.9
BAI-24A-01-18	8270C_SIM	DRY	16	208-96-8	Acenaphthylene	34	UG_KG		Y	1.2	5.9
BAI-24A-01-18	8270C_SIM	DRY	16	83-32-9	Acenaphthene	5.9	UG_KG	U	N	1.2	5.9
BAI-24A-01-18	8270C_SIM	DRY	16	86-73-7	Fluorene	2	UG_KG	J	Y	1.2	5.9
BAI-24A-01-18	8270C_SIM	DRY	16	85-01-8	Phenanthrene	1.3	UG_KG	J	Y	1.2	5.9
BAI-24A-01-18	8270C_SIM	DRY	16	120-12-7	Anthracene	57	UG_KG		Y	1.2	5.9
BAI-24A-01-18	8270C_SIM	DRY	16	206-44-0	Fluoranthene	5.8	UG_KG	J	Y	1.2	5.9
BAI-24A-01-18	8270C_SIM	DRY	16	129-00-0	Pyrene	9.4	UG_KG		Y	1.2	5.9
BAI-24A-01-18	8270C_SIM	DRY	16	56-55-3	Benzo(a)anthracene	13	UG_KG		Y	1.2	5.9
BAI-24A-01-18	8270C_SIM	DRY	16	218-01-9	Chrysene	41	UG_KG		Y	1.2	5.9
BAI-24A-01-18	8270C_SIM	DRY	16	205-99-2	Benzo(b)fluoranthene	52	UG_KG		Y	1.2	5.9
BAI-24A-01-18	8270C_SIM	DRY	16	207-08-9	Benzo(k)fluoranthene	13	UG_KG		Y	1.2	5.9
BAI-24A-01-18	8270C_SIM	DRY	16	50-32-8	Benzo(a)pyrene	20	UG_KG		Y	1.2	5.9
BAI-24A-01-18	8270C_SIM	DRY	16	193-39-5	Indeno(1,2,3-cd)yrene	63	UG_KG		Y	1.2	5.9
BAI-24A-01-18	8270C_SIM	DRY	16	53-70-3	Dibenz(a,h)anthracene	16	UG_KG		Y	1.2	5.9
BAI-24A-01-18	8270C_SIM	DRY	16	191-24-2	Benzo(g,h,i)perylene	82	UG_KG		Y	1.5	5.9
BAI-24A-02-00	8270C_SIM	DRY	14	91-20-3	Naphthalene	2.8	UG_KG	J	Y	1.2	5.8
BAI-24A-02-00	8270C_SIM	DRY	14	208-96-8	Acenaphthylene	47	UG_KG		Y	1.2	5.8
BAI-24A-02-00	8270C_SIM	DRY	14	83-32-9	Acenaphthene	4	UG_KG	J	Y	1.2	5.8
BAI-24A-02-00	8270C_SIM	DRY	14	86-73-7	Fluorene	5.1	UG_KG	J	Y	1.2	5.8
BAI-24A-02-00	8270C_SIM	DRY	14	85-01-8	Phenanthrene	24	UG_KG		Y	1.2	5.8
BAI-24A-02-00	8270C_SIM	DRY	14	120-12-7	Anthracene	110	UG_KG		Y	1.2	5.8
BAI-24A-02-00	8270C_SIM	DRY	14	206-44-0	Fluoranthene	71	UG_KG		Y	1.2	5.8
BAI-24A-02-00	8270C_SIM	DRY	14	129-00-0	Pyrene	90	UG_KG		Y	1.2	5.8
BAI-24A-02-00	8270C_SIM	DRY	14	56-55-3	Benzo(a)anthracene	64	UG_KG		Y	1.2	5.8
BAI-24A-02-00	8270C_SIM	DRY	14	218-01-9	Chrysene	140	UG_KG		Y	1.2	5.8
BAI-24A-02-00	8270C_SIM	DRY	14	205-99-2	Benzo(b)fluoranthene	280	UG_KG		Y	1.2	5.8
BAI-24A-02-00	8270C_SIM	DRY	14	207-08-9	Benzo(k)fluoranthene	56	UG_KG		Y	1.2	5.8
BAI-24A-02-00	8270C_SIM	DRY	14	50-32-8	Benzo(a)pyrene	110	UG_KG		Y	1.2	5.8
BAI-24A-02-00	8270C_SIM	DRY	14	193-39-5	Indeno(1,2,3-cd)yrene	110	UG_KG		Y	1.2	5.8
BAI-24A-02-00	8270C_SIM	DRY	14	53-70-3	Dibenz(a,h)anthracene	32	UG_KG		Y	1.2	5.8
BAI-24A-02-00	8270C_SIM	DRY	14	191-24-2	Benzo(g,h,i)perylene	110	UG_KG		Y	1.4	5.8
BAI-24A-03-00	8270C_SIM	DRY	15	91-20-3	Naphthalene	5.8	UG_KG	U	N	1.2	5.8
BAI-24A-03-00	8270C_SIM	DRY	15	208-96-8	Acenaphthylene	22	UG_KG		Y	1.2	5.8

Attachment B-4.1
Raw Data

SAMPLE_NAME	ANALYTICAL_METHOD	SAMPLE_BASIS	PERCENT_MOISTURE	ANALYTE_ID	ANALYTE NAME	ANALYTE_VALUE	RESULT_UNITS	FINAL_QUALIFIER	DETECTED	MDL	MRL
BAI-24A-03-00	8270C_SIM	DRY	15	83-32-9	Acenaphthene	1.4	UG_KG	J	Y	1.2	5.8
BAI-24A-03-00	8270C_SIM	DRY	15	86-73-7	Fluorene	1.8	UG_KG	J	Y	1.2	5.8
BAI-24A-03-00	8270C_SIM	DRY	15	85-01-8	Phenanthrene	10	UG_KG		Y	1.2	5.8
BAI-24A-03-00	8270C_SIM	DRY	15	120-12-7	Anthracene	76	UG_KG		Y	1.2	5.8
BAI-24A-03-00	8270C_SIM	DRY	15	206-44-0	Fluoranthene	31	UG_KG		Y	1.2	5.8
BAI-24A-03-00	8270C_SIM	DRY	15	129-00-0	Pyrene	36	UG_KG		Y	1.2	5.8
BAI-24A-03-00	8270C_SIM	DRY	15	56-55-3	Benzo(a)anthracene	22	UG_KG		Y	1.2	5.8
BAI-24A-03-00	8270C_SIM	DRY	15	218-01-9	Chrysene	41	UG_KG		Y	1.2	5.8
BAI-24A-03-00	8270C_SIM	DRY	15	205-99-2	Benzo(b)fluoranthene	150	UG_KG		Y	1.2	5.8
BAI-24A-03-00	8270C_SIM	DRY	15	207-08-9	Benzo(k)fluoranthene	39	UG_KG		Y	1.2	5.8
BAI-24A-03-00	8270C_SIM	DRY	15	50-32-8	Benzo(a)pyrene	50	UG_KG		Y	1.2	5.8
BAI-24A-03-00	8270C_SIM	DRY	15	193-39-5	Indeno(1,2,3-cd)yrene	67	UG_KG		Y	1.2	5.8
BAI-24A-03-00	8270C_SIM	DRY	15	53-70-3	Dibenz(a,h)anthracene	24	UG_KG		Y	1.2	5.8
BAI-24A-03-00	8270C_SIM	DRY	15	191-24-2	Benzo(g,h,i)perylene	88	UG_KG		Y	1.2	5.8
BAI-24A-03-18	8270C_SIM	DRY	18	91-20-3	Naphthalene	6.1	UG_KG	U	N	1.2	6.1
BAI-24A-03-18	8270C_SIM	DRY	18	208-96-8	Acenaphthylene	19	UG_KG		Y	1.2	6.1
BAI-24A-03-18	8270C_SIM	DRY	18	83-32-9	Acenaphthene	6.1	UG_KG	U	N	1.2	6.1
BAI-24A-03-18	8270C_SIM	DRY	18	86-73-7	Fluorene	1.6	UG_KG	J	Y	1.2	6.1
BAI-24A-03-18	8270C_SIM	DRY	18	85-01-8	Phenanthrene	6.9	UG_KG		Y	1.2	6.1
BAI-24A-03-18	8270C_SIM	DRY	18	120-12-7	Anthracene	59	UG_KG		Y	1.2	6.1
BAI-24A-03-18	8270C_SIM	DRY	18	206-44-0	Fluoranthene	38	UG_KG		Y	1.2	6.1
BAI-24A-03-18	8270C_SIM	DRY	18	129-00-0	Pyrene	42	UG_KG		Y	1.2	6.1
BAI-24A-03-18	8270C_SIM	DRY	18	56-55-3	Benzo(a)anthracene	20	UG_KG		Y	1.2	6.1
BAI-24A-03-18	8270C_SIM	DRY	18	218-01-9	Chrysene	42	UG_KG		Y	1.2	6.1
BAI-24A-03-18	8270C_SIM	DRY	18	205-99-2	Benzo(b)fluoranthene	83	UG_KG		Y	1.2	6.1
BAI-24A-03-18	8270C_SIM	DRY	18	207-08-9	Benzo(k)fluoranthene	23	UG_KG		Y	1.2	6.1
BAI-24A-03-18	8270C_SIM	DRY	18	50-32-8	Benzo(a)pyrene	31	UG_KG		Y	1.2	6.1
BAI-24A-03-18	8270C_SIM	DRY	18	193-39-5	Indeno(1,2,3-cd)yrene	43	UG_KG		Y	1.2	6.1
BAI-24A-03-18	8270C_SIM	DRY	18	53-70-3	Dibenz(a,h)anthracene	13	UG_KG		Y	1.2	6.1
BAI-24A-03-18	8270C_SIM	DRY	18	191-24-2	Benzo(g,h,i)perylene	56	UG_KG		Y	1.2	6.1
BAI-24A-04-00	8270C_SIM	DRY	15	91-20-3	Naphthalene	5.8	UG_KG	U	N	1.2	5.8
BAI-24A-04-00	8270C_SIM	DRY	15	208-96-8	Acenaphthylene	5.8	UG_KG	U	N	1.2	5.8
BAI-24A-04-00	8270C_SIM	DRY	15	83-32-9	Acenaphthene	5.8	UG_KG	U	N	1.2	5.8
BAI-24A-04-00	8270C_SIM	DRY	15	86-73-7	Fluorene	5.8	UG_KG	U	N	1.2	5.8
BAI-24A-04-00	8270C_SIM	DRY	15	85-01-8	Phenanthrene	3.9	UG_KG	J	Y	1.2	5.8
BAI-24A-04-00	8270C_SIM	DRY	15	120-12-7	Anthracene	2.9	UG_KG	J	Y	1.2	5.8
BAI-24A-04-00	8270C_SIM	DRY	15	206-44-0	Fluoranthene	21	UG_KG		Y	1.2	5.8
BAI-24A-04-00	8270C_SIM	DRY	15	129-00-0	Pyrene	12	UG_KG		Y	1.2	5.8
BAI-24A-04-00	8270C_SIM	DRY	15	56-55-3	Benzo(a)anthracene	2.6	UG_KG	J	Y	1.2	5.8
BAI-24A-04-00	8270C_SIM	DRY	15	218-01-9	Chrysene	7.7	UG_KG		Y	1.2	5.8
BAI-24A-04-00	8270C_SIM	DRY	15	205-99-2	Benzo(b)fluoranthene	6.8	UG_KG		Y	1.2	5.8
BAI-24A-04-00	8270C_SIM	DRY	15	207-08-9	Benzo(k)fluoranthene	2.3	UG_KG	J	Y	1.2	5.8
BAI-24A-04-00	8270C_SIM	DRY	15	50-32-8	Benzo(a)pyrene	2.3	UG_KG	J	Y	1.2	5.8
BAI-24A-04-00	8270C_SIM	DRY	15	193-39-5	Indeno(1,2,3-cd)yrene	2.5	UG_KG	J	Y	1.2	5.8
BAI-24A-04-00	8270C_SIM	DRY	15	53-70-3	Dibenz(a,h)anthracene	5.8	UG_KG	U	N	1.2	5.8
BAI-24A-04-00	8270C_SIM	DRY	15	191-24-2	Benzo(g,h,i)perylene	3.6	UG_KG	J	Y	1.2	5.8
BAI-24A-04-18	8270C_SIM	DRY	19	91-20-3	Naphthalene	6.1	UG_KG	U	N	1.2	6.1
BAI-24A-04-18	8270C_SIM	DRY	19	208-96-8	Acenaphthylene	22	UG_KG		Y	1.2	6.1
BAI-24A-04-18	8270C_SIM	DRY	19	83-32-9	Acenaphthene	3.7	UG_KG	J	Y	1.2	6.1
BAI-24A-04-18	8270C_SIM	DRY	19	86-73-7	Fluorene	5.1	UG_KG	J	Y	1.2	6.1

Attachment B-4.1
Raw Data

SAMPLE_NAME	ANALYTICAL_METHOD	SAMPLE_BASIS	PERCENT_MOISTURE	ANALYTE_ID	ANALYTE NAME	ANALYTE_VALUE	RESULT_UNITS	FINAL_QUALIFIER	DETECTED	MDL	MRL
BAI-24A-04-18	8270C_SIM	DRY	19	85-01-8	Phenanthrene	20	UG_KG		Y	1.2	6.1
BAI-24A-04-18	8270C_SIM	DRY	19	120-12-7	Anthracene	63	UG_KG		Y	1.2	6.1
BAI-24A-04-18	8270C_SIM	DRY	19	206-44-0	Fluoranthene	24	UG_KG		Y	1.2	6.1
BAI-24A-04-18	8270C_SIM	DRY	19	129-00-0	Pyrene	25	UG_KG		Y	1.2	6.1
BAI-24A-04-18	8270C_SIM	DRY	19	56-55-3	Benzo(a)anthracene	11	UG_KG		Y	1.2	6.1
BAI-24A-04-18	8270C_SIM	DRY	19	218-01-9	Chrysene	24	UG_KG		Y	1.2	6.1
BAI-24A-04-18	8270C_SIM	DRY	19	205-99-2	Benzo(b)fluoranthene	32	UG_KG		Y	1.2	6.1
BAI-24A-04-18	8270C_SIM	DRY	19	207-08-9	Benzo(k)fluoranthene	7.8	UG_KG		Y	1.2	6.1
BAI-24A-04-18	8270C_SIM	DRY	19	50-32-8	Benzo(a)pyrene	19	UG_KG		Y	1.2	6.1
BAI-24A-04-18	8270C_SIM	DRY	19	193-39-5	Indeno(1,2,3-cd)yrene	65	UG_KG		Y	1.2	6.1
BAI-24A-04-18	8270C_SIM	DRY	19	53-70-3	Dibenz(a,h)anthracene	15	UG_KG		Y	1.2	6.1
BAI-24A-04-18	8270C_SIM	DRY	19	191-24-2	Benzo(g,h,i)perylene	140	UG_KG		Y	1.2	6.1
BAI-24A-05-00	8270C_SIM	DRY	15	91-20-3	Naphthalene	5.9	UG_KG	U	N	1.2	5.9
BAI-24A-05-00	8270C_SIM	DRY	15	208-96-8	Acenaphthylene	17	UG_KG		Y	1.2	5.9
BAI-24A-05-00	8270C_SIM	DRY	15	83-32-9	Acenaphthene	2.3	UG_KG	J	Y	1.2	5.9
BAI-24A-05-00	8270C_SIM	DRY	15	86-73-7	Fluorene	1.5	UG_KG	J	Y	1.2	5.9
BAI-24A-05-00	8270C_SIM	DRY	15	85-01-8	Phenanthrene	15	UG_KG		Y	1.2	5.9
BAI-24A-05-00	8270C_SIM	DRY	15	120-12-7	Anthracene	38	UG_KG		Y	1.2	5.9
BAI-24A-05-00	8270C_SIM	DRY	15	206-44-0	Fluoranthene	48	UG_KG		Y	1.2	5.9
BAI-24A-05-00	8270C_SIM	DRY	15	129-00-0	Pyrene	50	UG_KG		Y	1.2	5.9
BAI-24A-05-00	8270C_SIM	DRY	15	56-55-3	Benzo(a)anthracene	30	UG_KG		Y	1.2	5.9
BAI-24A-05-00	8270C_SIM	DRY	15	218-01-9	Chrysene	50	UG_KG		Y	1.2	5.9
BAI-24A-05-00	8270C_SIM	DRY	15	205-99-2	Benzo(b)fluoranthene	87	UG_KG		Y	1.2	5.9
BAI-24A-05-00	8270C_SIM	DRY	15	207-08-9	Benzo(k)fluoranthene	28	UG_KG		Y	1.2	5.9
BAI-24A-05-00	8270C_SIM	DRY	15	50-32-8	Benzo(a)pyrene	49	UG_KG		Y	1.2	5.9
BAI-24A-05-00	8270C_SIM	DRY	15	193-39-5	Indeno(1,2,3-cd)yrene	68	UG_KG		Y	1.2	5.9
BAI-24A-05-00	8270C_SIM	DRY	15	53-70-3	Dibenz(a,h)anthracene	20	UG_KG		Y	1.2	5.9
BAI-24A-05-00	8270C_SIM	DRY	15	191-24-2	Benzo(g,h,i)perylene	82	UG_KG		Y	1.2	5.9
BAI-24A-05-18	8270C_SIM	DRY	13	91-20-3	Naphthalene	5.7	UG_KG	U	N	1.1	5.7
BAI-24A-05-18	8270C_SIM	DRY	13	208-96-8	Acenaphthylene	5.7	UG_KG	U	N	1.1	5.7
BAI-24A-05-18	8270C_SIM	DRY	13	83-32-9	Acenaphthene	5.7	UG_KG	U	N	1.1	5.7
BAI-24A-05-18	8270C_SIM	DRY	13	86-73-7	Fluorene	5.7	UG_KG	U	N	1.1	5.7
BAI-24A-05-18	8270C_SIM	DRY	13	85-01-8	Phenanthrene	5.7	UG_KG	U	N	1.1	5.7
BAI-24A-05-18	8270C_SIM	DRY	13	120-12-7	Anthracene	1.5	UG_KG	J	Y	1.1	5.7
BAI-24A-05-18	8270C_SIM	DRY	13	206-44-0	Fluoranthene	1.2	UG_KG	J	Y	1.1	5.7
BAI-24A-05-18	8270C_SIM	DRY	13	129-00-0	Pyrene	1.2	UG_KG	J	Y	1.1	5.7
BAI-24A-05-18	8270C_SIM	DRY	13	56-55-3	Benzo(a)anthracene	5.7	UG_KG	U	N	1.1	5.7
BAI-24A-05-18	8270C_SIM	DRY	13	218-01-9	Chrysene	5.7	UG_KG	U	N	1.1	5.7
BAI-24A-05-18	8270C_SIM	DRY	13	205-99-2	Benzo(b)fluoranthene	1.5	UG_KG	J	Y	1.1	5.7
BAI-24A-05-18	8270C_SIM	DRY	13	207-08-9	Benzo(k)fluoranthene	5.7	UG_KG	U	N	1.1	5.7
BAI-24A-05-18	8270C_SIM	DRY	13	50-32-8	Benzo(a)pyrene	5.7	UG_KG	U	N	1.1	5.7
BAI-24A-05-18	8270C_SIM	DRY	13	193-39-5	Indeno(1,2,3-cd)yrene	1.8	UG_KG	J	Y	1.1	5.7
BAI-24A-05-18	8270C_SIM	DRY	13	53-70-3	Dibenz(a,h)anthracene	5.7	UG_KG	U	N	1.1	5.7
BAI-24A-05-18	8270C_SIM	DRY	13	191-24-2	Benzo(g,h,i)perylene	2.5	UG_KG	J	Y	1.1	5.7
BAI-24A-01-00	D2216	WET		-86	Percent Moisture	14	PCT		Y		1
BAI-24A-01-18	D2216	WET		-86	Percent Moisture	16	PCT		Y		1
BAI-24A-02-00	D2216	WET		-86	Percent Moisture	14	PCT		Y		1
BAI-24A-02-18	D2216	WET		-86	Percent Moisture	9	PCT		Y		1
BAI-24A-03-00	D2216	WET		-86	Percent Moisture	15	PCT		Y		1
BAI-24A-03-18	D2216	WET		-86	Percent Moisture	18	PCT		Y		1

Attachment B-4.1
Raw Data

SAMPLE_NAME	ANALYTICAL_METHOD	SAMPLE_BASIS	PERCENT_MOISTURE	ANALYTE_ID	ANALYTE NAME	ANALYTE_VALUE	RESULT_UNITS	FINAL_QUALIFIER	DETECTED	MDL	MRL
BAI-24A-04-00	D2216	WET		-86	Percent Moisture	15	PCT		Y		1
BAI-24A-04-18	D2216	WET		-86	Percent Moisture	19	PCT		Y		1
BAI-24A-05-00	D2216	WET		-86	Percent Moisture	15	PCT		Y		1
BAI-24A-05-18	D2216	WET		-86	Percent Moisture	13	PCT		Y		1
BAI-24A-06-00	8270C_SIM	DRY	13	91-20-3	Naphthalene	1.7	UG_KG	J	Y	1.1	5.7
BAI-24A-06-00	8270C_SIM	DRY	13	208-96-8	Acenaphthylene	34	UG_KG		Y	1.1	5.7
BAI-24A-06-00	8270C_SIM	DRY	13	83-32-9	Acenaphthene	4.5	UG_KG	J	Y	1.1	5.7
BAI-24A-06-00	8270C_SIM	DRY	13	86-73-7	Fluorene	4.5	UG_KG	J	Y	1.1	5.7
BAI-24A-06-00	8270C_SIM	DRY	13	85-01-8	Phenanthrene	41	UG_KG		Y	1.1	5.7
BAI-24A-06-00	8270C_SIM	DRY	13	120-12-7	Anthracene	99	UG_KG	J	Y	1.1	5.7
BAI-24A-06-00	8270C_SIM	DRY	13	206-44-0	Fluoranthene	170	UG_KG		Y	1.1	5.7
BAI-24A-06-00	8270C_SIM	DRY	13	129-00-0	Pyrene	170	UG_KG		Y	1.1	5.7
BAI-24A-06-00	8270C_SIM	DRY	13	56-55-3	Benzo(a)anthracene	100	UG_KG		Y	1.1	5.7
BAI-24A-06-00	8270C_SIM	DRY	13	218-01-9	Chrysene	180	UG_KG		Y	1.1	5.7
BAI-24A-06-00	8270C_SIM	DRY	13	205-99-2	Benzo(b)fluoranthene	250	UG_KG		Y	1.1	5.7
BAI-24A-06-00	8270C_SIM	DRY	13	207-08-9	Benzo(k)fluoranthene	70	UG_KG	J	Y	1.1	5.7
BAI-24A-06-00	8270C_SIM	DRY	13	50-32-8	Benzo(a)pyrene	89	UG_KG		Y	1.1	5.7
BAI-24A-06-00	8270C_SIM	DRY	13	193-39-5	Indeno(1,2,3-cd)yrene	83	UG_KG		Y	1.2	5.7
BAI-24A-06-00	8270C_SIM	DRY	13	53-70-3	Dibenz(a,h)anthracene	26	UG_KG		Y	1.2	5.7
BAI-24A-06-00	8270C_SIM	DRY	13	191-24-2	Benzo(g,h,i)perylene	82	UG_KG	J	Y	1.4	5.7
BAI-24A-06-00	D2216	WET		-86	Percent Moisture	13	PCT		Y		1
BAI-24A-12-00	8330	WET		2691-41-0	HMX	200	UG_KG	U	N	15	200
BAI-24A-12-00	8330	WET		121-82-4	RDX	200	UG_KG	U	N	21	200
BAI-24A-12-00	8330	WET		99-35-4	1,3,5-Trinitrobenzene	200	UG_KG	U	N	27	200
BAI-24A-12-00	8330	WET		99-65-0	1,3-Dinitrobenzene	200	UG_KG	U	N	4.6	200
BAI-24A-12-00	8330	WET		98-95-3	Nitrobenzene	200	UG_KG	U	N	16	200
BAI-24A-12-00	8330	WET		479-45-8	Tetryl	200	UG_KG	U	N	56	200
BAI-24A-12-00	8330	WET		118-96-7	2,4,6-Trinitrotoluene	200	UG_KG	U	N	30	200
BAI-24A-12-00	8330	WET		35572-78-2	2-amino-4,6-Dinitrotoluene	200	UG_KG	U	N	18	200
BAI-24A-12-00	8330	WET		19406-51-0	4-amino-2,6-Dinitrotoluene	200	UG_KG	U	N	39	200
BAI-24A-12-00	8330	WET		121-14-2	2,4-Dinitrotoluene	200	UG_KG	U	N	21	200
BAI-24A-12-00	8330	WET		606-20-2	2,6-Dinitrotoluene	200	UG_KG	U	N	22	200
BAI-24A-12-00	8330	WET		88-72-2	2-Nitrotoluene	390	UG_KG	U	N	28	390
BAI-24A-12-00	8330	WET		99-99-0	4-Nitrotoluene	390	UG_KG	U	N	28	390
BAI-24A-12-00	8330	WET		99-08-1	3-Nitrotoluene	390	UG_KG	U	N	40	390
BAI-24A-12-00	6010B	DRY	18	7440-36-0	Antimony	2.9	MG_KG	J	Y	0.18	0.61
BAI-24A-12-00	6010B	DRY	18	7440-38-2	Arsenic	7.4	MG_KG	J	Y	0.095	0.3
BAI-24A-12-00	6010B	DRY	18	7440-39-3	Barium	120	MG_KG	J	Y	0.12	0.35
BAI-24A-12-00	6010B	DRY	18	7440-41-7	Beryllium	0.42	MG_KG		Y	0.023	0.12
BAI-24A-12-00	6010B	DRY	18	7440-43-9	Cadmium	0.24	MG_KG	J	Y	0.058	0.3
BAI-24A-12-00	6010B	DRY	18	7440-47-3	Chromium	22	MG_KG		Y	0.12	0.35
BAI-24A-12-00	6010B	DRY	18	7440-48-4	Cobalt	8.5	MG_KG		Y	0.23	0.69
BAI-24A-12-00	6010B	DRY	18	7440-50-8	Copper	17	MG_KG	J	Y	0.12	0.35
BAI-24A-12-00	6010B	DRY	18	7439-92-1	Lead	25	MG_KG	J	Y	0.084	0.3
BAI-24A-12-00	7470A	DRY	18	7439-97-6	Mercury	0.024	MG_KG	U	N	0.0071	0.024
BAI-24A-12-00	6010B	DRY	18	7439-98-7	Molybdenum	0.34	MG_KG	J	Y	0.23	0.69
BAI-24A-12-00	6010B	DRY	18	7440-02-0	Nickel	15	MG_KG	J	Y	0.23	0.69
BAI-24A-12-00	6010B	DRY	18	7782-49-2	Selenium	0.56	MG_KG	J	Y	0.17	0.61
BAI-24A-12-00	6010B	DRY	18	7440-22-4	Silver	0.3	MG_KG	U	N	0.086	0.3
BAI-24A-12-00	6010B	DRY	18	7440-28-0	Thallium	0.61	MG_KG	U	N	0.19	0.61

Attachment B-4.1
Raw Data

SAMPLE_NAME	ANALYTICAL_METHOD	SAMPLE_BASIS	PERCENT_MOISTURE	ANALYTE_ID	ANALYTE NAME	ANALYTE_VALUE	RESULT_UNITS	FINAL_QUALIFIER	DETECTED	MDL	MRL
BAI-24A-12-00	6010B	DRY	18	7440-62-2	Vanadium	35	MG_KG		Y	0.12	0.35
BAI-24A-12-00	6010B	DRY	18	7440-66-6	Zinc	330	MG_KG	J	Y	0.23	1.2
BAI-24A-12-00	D2216	WET		-86	Percent Moisture	18	PCT		Y		1
BAI-24A-018-00	8330	WET		2691-41-0	HMX	200	UG_KG	U	N	15	200
BAI-24A-018-00	8330	WET		121-82-4	RDX	200	UG_KG	U	N	20	200
BAI-24A-018-00	8330	WET		99-35-4	1,3,5-Trinitrobenzene	200	UG_KG	U	N	27	200
BAI-24A-018-00	8330	WET		99-65-0	1,3-Dinitrobenzene	200	UG_KG	U	N	4.6	200
BAI-24A-018-00	8330	WET		98-95-3	Nitrobenzene	200	UG_KG	U	N	16	200
BAI-24A-018-00	8330	WET		479-45-8	Tetryl	200	UG_KG	U	N	55	200
BAI-24A-018-00	8330	WET		118-96-7	2,4,6-Trinitrotoluene	200	UG_KG	U	N	30	200
BAI-24A-018-00	8330	WET		35572-78-2	2-amino-4,6-Dinitrotoluene	200	UG_KG	U	N	18	200
BAI-24A-018-00	8330	WET		19406-51-0	4-amino-2,6-Dinitrotoluene	200	UG_KG	U	N	39	200
BAI-24A-018-00	8330	WET		121-14-2	2,4-Dinitrotoluene	200	UG_KG	U	N	20	200
BAI-24A-018-00	8330	WET		606-20-2	2,6-Dinitrotoluene	200	UG_KG	U	N	22	200
BAI-24A-018-00	8330	WET		88-72-2	2-Nitrotoluene	390	UG_KG	U	N	28	390
BAI-24A-018-00	8330	WET		99-99-0	4-Nitrotoluene	390	UG_KG	U	N	28	390
BAI-24A-018-00	8330	WET		99-08-1	3-Nitrotoluene	390	UG_KG	U	N	39	390
BAI-24A-018-00	6010B	DRY	8	7440-36-0	Antimony	4.5	MG_KG	J	Y	0.17	0.54
BAI-24A-018-00	6010B	DRY	8	7440-38-2	Arsenic	0.91	MG_KG		Y	0.088	0.27
BAI-24A-018-00	6010B	DRY	8	7440-39-3	Barium	62	MG_KG		Y	0.11	0.32
BAI-24A-018-00	6010B	DRY	8	7440-41-7	Beryllium	0.35	MG_KG		Y	0.021	0.11
BAI-24A-018-00	6010B	DRY	8	7440-43-9	Cadmium	0.34	MG_KG		Y	0.053	0.27
BAI-24A-018-00	6010B	DRY	8	7440-47-3	Chromium	29	MG_KG		Y	0.11	0.32
BAI-24A-018-00	6010B	DRY	8	7440-48-4	Cobalt	17	MG_KG		Y	0.21	0.63
BAI-24A-018-00	6010B	DRY	8	7440-50-8	Copper	23	MG_KG	J	Y	0.11	0.32
BAI-24A-018-00	6010B	DRY	8	7439-92-1	Lead	26	MG_KG		Y	0.077	0.27
BAI-24A-018-00	7470A	DRY	8	7439-97-6	Mercury	0.46	MG_KG		Y	0.0063	0.022
BAI-24A-018-00	6010B	DRY	8	7439-98-7	Molybdenum	0.63	MG_KG	U	N	0.21	0.63
BAI-24A-018-00	6010B	DRY	8	7440-02-0	Nickel	21	MG_KG		Y	0.21	0.63
BAI-24A-018-00	6010B	DRY	8	7782-49-2	Selenium	0.54	MG_KG	U	N	0.15	0.54
BAI-24A-018-00	6010B	DRY	8	7440-22-4	Silver	0.27	MG_KG		Y	0.079	0.27
BAI-24A-018-00	6010B	DRY	8	7440-28-0	Thallium	0.54	MG_KG	U	N	0.17	0.54
BAI-24A-018-00	6010B	DRY	8	7440-62-2	Vanadium	100	MG_KG	J	Y	0.11	0.32
BAI-24A-018-00	6010B	DRY	8	7440-66-6	Zinc	300	MG_KG	J	Y	0.21	1.1
BAI-24A-018-00	D2216	WET		-86	Percent Moisture	8	PCT		Y		1
BAI-24A-07-00	8330	WET		2691-41-0	HMX	200	UG_KG	U	N	12	200
BAI-24A-07-00	8330	WET		121-82-4	RDX	200	UG_KG	U	N	11	200
BAI-24A-07-00	8330	WET		99-35-4	1,3,5-Trinitrobenzene	200	UG_KG	U	N	23	200
BAI-24A-07-00	8330	WET		99-65-0	1,3-Dinitrobenzene	200	UG_KG	U	N	10	200
BAI-24A-07-00	8330	WET		98-95-3	Nitrobenzene	200	UG_KG	U	N	26	200
BAI-24A-07-00	8330	WET		479-45-8	Tetryl	200	UG_KG	U	N	56	200
BAI-24A-07-00	8330	WET		118-96-7	2,4,6-Trinitrotoluene	200	UG_KG	U	N	22	200
BAI-24A-07-00	8330	WET		35572-78-2	2-amino-4,6-Dinitrotoluene	200	UG_KG	U	N	21	200
BAI-24A-07-00	8330	WET		19406-51-0	4-amino-2,6-Dinitrotoluene	200	UG_KG	U	N	51	200
BAI-24A-07-00	8330	WET		121-14-2	2,4-Dinitrotoluene	200	UG_KG	U	N	42	200
BAI-24A-07-00	8330	WET		606-20-2	2,6-Dinitrotoluene	200	UG_KG	U	N	49	200
BAI-24A-07-00	8330	WET		88-72-2	2-Nitrotoluene	400	UG_KG	U	N	11	400
BAI-24A-07-00	8330	WET		99-99-0	4-Nitrotoluene	400	UG_KG	U	N	24	400
BAI-24A-07-00	8330	WET		99-08-1	3-Nitrotoluene	400	UG_KG	U	N	18	400
BAI-24A-07-18	8330	WET		2691-41-0	HMX	200	UG_KG	U	N	12	200

Attachment B-4.1
Raw Data

SAMPLE_NAME	ANALYTICAL_METHOD	SAMPLE_BASIS	PERCENT_MOISTURE	ANALYTE_ID	ANALYTE NAME	ANALYTE_VALUE	RESULT_UNITS	FINAL_QUALIFIER	DETECTED	MDL	MRL
BAI-24A-07-18	8330	WET		121-82-4	RDX	200	UG_KG	U	N	11	200
BAI-24A-07-18	8330	WET		99-35-4	1,3,5-Trinitrobenzene	200	UG_KG	U	N	23	200
BAI-24A-07-18	8330	WET		99-65-0	1,3-Dinitrobenzene	200	UG_KG	U	N	10	200
BAI-24A-07-18	8330	WET		98-95-3	Nitrobenzene	200	UG_KG	U	N	26	200
BAI-24A-07-18	8330	WET		479-45-8	Tetryl	200	UG_KG	U	N	56	200
BAI-24A-07-18	8330	WET		118-96-7	2,4,6-Trinitrotoluene	200	UG_KG	U	N	22	200
BAI-24A-07-18	8330	WET		35572-78-2	2-amino-4,6-Dinitrotoluene	200	UG_KG	U	N	21	200
BAI-24A-07-18	8330	WET		19406-51-0	4-amino-2,6-Dinitrotoluene	200	UG_KG	U	N	51	200
BAI-24A-07-18	8330	WET		121-14-2	2,4-Dinitrotoluene	200	UG_KG	U	N	42	200
BAI-24A-07-18	8330	WET		606-20-2	2,6-Dinitrotoluene	200	UG_KG	U	N	49	200
BAI-24A-07-18	8330	WET		88-72-2	2-Nitrotoluene	400	UG_KG	U	N	11	400
BAI-24A-07-18	8330	WET		99-99-0	4-Nitrotoluene	400	UG_KG	U	N	24	400
BAI-24A-07-18	8330	WET		99-08-1	3-Nitrotoluene	400	UG_KG	U	N	18	400
BAI-24A-08-00	8330	WET		2691-41-0	HMX	200	UG_KG	U	N	12	200
BAI-24A-08-00	8330	WET		121-82-4	RDX	200	UG_KG	U	N	11	200
BAI-24A-08-00	8330	WET		99-35-4	1,3,5-Trinitrobenzene	200	UG_KG	U	N	24	200
BAI-24A-08-00	8330	WET		99-65-0	1,3-Dinitrobenzene	200	UG_KG	U	N	11	200
BAI-24A-08-00	8330	WET		98-95-3	Nitrobenzene	200	UG_KG	U	N	27	200
BAI-24A-08-00	8330	WET		479-45-8	Tetryl	200	UG_KG	U	N	56	200
BAI-24A-08-00	8330	WET		118-96-7	2,4,6-Trinitrotoluene	200	UG_KG	U	N	22	200
BAI-24A-08-00	8330	WET		35572-78-2	2-amino-4,6-Dinitrotoluene	200	UG_KG	U	N	22	200
BAI-24A-08-00	8330	WET		19406-51-0	4-amino-2,6-Dinitrotoluene	200	UG_KG	U	N	51	200
BAI-24A-08-00	8330	WET		121-14-2	2,4-Dinitrotoluene	200	UG_KG	U	N	42	200
BAI-24A-08-00	8330	WET		606-20-2	2,6-Dinitrotoluene	200	UG_KG	U	N	50	200
BAI-24A-08-00	8330	WET		88-72-2	2-Nitrotoluene	400	UG_KG	U	N	11	400
BAI-24A-08-00	8330	WET		99-99-0	4-Nitrotoluene	400	UG_KG	U	N	24	400
BAI-24A-08-00	8330	WET		99-08-1	3-Nitrotoluene	400	UG_KG	U	N	18	400
BAI-24A-08-18	8330	WET		2691-41-0	HMX	200	UG_KG	U	N	12	200
BAI-24A-08-18	8330	WET		121-82-4	RDX	200	UG_KG	U	N	11	200
BAI-24A-08-18	8330	WET		99-35-4	1,3,5-Trinitrobenzene	200	UG_KG	U	N	23	200
BAI-24A-08-18	8330	WET		99-65-0	1,3-Dinitrobenzene	200	UG_KG	U	N	10	200
BAI-24A-08-18	8330	WET		98-95-3	Nitrobenzene	200	UG_KG	U	N	27	200
BAI-24A-08-18	8330	WET		479-45-8	Tetryl	200	UG_KG	U	N	56	200
BAI-24A-08-18	8330	WET		118-96-7	2,4,6-Trinitrotoluene	200	UG_KG	U	N	22	200
BAI-24A-08-18	8330	WET		35572-78-2	2-amino-4,6-Dinitrotoluene	200	UG_KG	U	N	21	200
BAI-24A-08-18	8330	WET		19406-51-0	4-amino-2,6-Dinitrotoluene	200	UG_KG	U	N	51	200
BAI-24A-08-18	8330	WET		121-14-2	2,4-Dinitrotoluene	200	UG_KG	U	N	42	200
BAI-24A-08-18	8330	WET		606-20-2	2,6-Dinitrotoluene	200	UG_KG	U	N	50	200
BAI-24A-08-18	8330	WET		88-72-2	2-Nitrotoluene	400	UG_KG	U	N	11	400
BAI-24A-08-18	8330	WET		99-99-0	4-Nitrotoluene	400	UG_KG	U	N	24	400
BAI-24A-08-18	8330	WET		99-08-1	3-Nitrotoluene	400	UG_KG	U	N	18	400
BAI-24A-09-00	8330	WET		2691-41-0	HMX	200	UG_KG	U	N	12	200
BAI-24A-09-00	8330	WET		121-82-4	RDX	200	UG_KG	U	N	11	200
BAI-24A-09-00	8330	WET		99-35-4	1,3,5-Trinitrobenzene	200	UG_KG	U	N	23	200
BAI-24A-09-00	8330	WET		99-65-0	1,3-Dinitrobenzene	200	UG_KG	U	N	10	200
BAI-24A-09-00	8330	WET		98-95-3	Nitrobenzene	200	UG_KG	U	N	27	200
BAI-24A-09-00	8330	WET		479-45-8	Tetryl	200	UG_KG	U	N	56	200
BAI-24A-09-00	8330	WET		118-96-7	2,4,6-Trinitrotoluene	200	UG_KG	U	N	22	200
BAI-24A-09-00	8330	WET		35572-78-2	2-amino-4,6-Dinitrotoluene	200	UG_KG	U	N	22	200
BAI-24A-09-00	8330	WET		19406-51-0	4-amino-2,6-Dinitrotoluene	200	UG_KG	U	N	51	200

Attachment B-4.1
Raw Data

SAMPLE_NAME	ANALYTICAL_METHOD	SAMPLE_BASIS	PERCENT_MOISTURE	ANALYTE_ID	ANALYTE NAME	ANALYTE_VALUE	RESULT_UNITS	FINAL_QUALIFIER	DETECTED	MDL	MRL
BAI-24A-09-00	8330	WET		121-14-2	2,4-Dinitrotoluene	200	UG_KG	U	N	42	200
BAI-24A-09-00	8330	WET		606-20-2	2,6-Dinitrotoluene	200	UG_KG	U	N	50	200
BAI-24A-09-00	8330	WET		88-72-2	2-Nitrotoluene	400	UG_KG	U	N	11	400
BAI-24A-09-00	8330	WET		99-99-0	4-Nitrotoluene	400	UG_KG	U	N	24	400
BAI-24A-09-00	8330	WET		99-08-1	3-Nitrotoluene	400	UG_KG	U	N	18	400
BAI-24A-09-18	8330	WET		2691-41-0	HMX	200	UG_KG	U	N	12	200
BAI-24A-09-18	8330	WET		121-82-4	RDX	200	UG_KG	U	N	11	200
BAI-24A-09-18	8330	WET		99-35-4	1,3,5-Trinitrobenzene	200	UG_KG	U	N	23	200
BAI-24A-09-18	8330	WET		99-65-0	1,3-Dinitrobenzene	200	UG_KG	U	N	10	200
BAI-24A-09-18	8330	WET		98-95-3	Nitrobenzene	200	UG_KG	U	N	27	200
BAI-24A-09-18	8330	WET		479-45-8	Tetryl	200	UG_KG	U	N	56	200
BAI-24A-09-18	8330	WET		118-96-7	2,4,6-Trinitrotoluene	200	UG_KG	U	N	22	200
BAI-24A-09-18	8330	WET		35572-78-2	2-amino-4,6-Dinitrotoluene	200	UG_KG	U	N	21	200
BAI-24A-09-18	8330	WET		19406-51-0	4-amino-2,6-Dinitrotoluene	200	UG_KG	U	N	51	200
BAI-24A-09-18	8330	WET		121-14-2	2,4-Dinitrotoluene	200	UG_KG	U	N	42	200
BAI-24A-09-18	8330	WET		606-20-2	2,6-Dinitrotoluene	200	UG_KG	U	N	50	200
BAI-24A-09-18	8330	WET		88-72-2	2-Nitrotoluene	400	UG_KG	U	N	11	400
BAI-24A-09-18	8330	WET		99-99-0	4-Nitrotoluene	400	UG_KG	U	N	24	400
BAI-24A-09-18	8330	WET		99-08-1	3-Nitrotoluene	400	UG_KG	U	N	18	400
BAI-24A-10-00	8330	WET		2691-41-0	HMX	200	UG_KG	U	N	12	200
BAI-24A-10-00	8330	WET		121-82-4	RDX	200	UG_KG	U	N	11	200
BAI-24A-10-00	8330	WET		99-35-4	1,3,5-Trinitrobenzene	200	UG_KG	U	N	23	200
BAI-24A-10-00	8330	WET		99-65-0	1,3-Dinitrobenzene	200	UG_KG	U	N	10	200
BAI-24A-10-00	8330	WET		98-95-3	Nitrobenzene	200	UG_KG	U	N	27	200
BAI-24A-10-00	8330	WET		479-45-8	Tetryl	200	UG_KG	U	N	56	200
BAI-24A-10-00	8330	WET		118-96-7	2,4,6-Trinitrotoluene	200	UG_KG	U	N	22	200
BAI-24A-10-00	8330	WET		35572-78-2	2-amino-4,6-Dinitrotoluene	200	UG_KG	U	N	22	200
BAI-24A-10-00	8330	WET		19406-51-0	4-amino-2,6-Dinitrotoluene	200	UG_KG	U	N	51	200
BAI-24A-10-00	8330	WET		121-14-2	2,4-Dinitrotoluene	200	UG_KG	U	N	42	200
BAI-24A-10-00	8330	WET		606-20-2	2,6-Dinitrotoluene	200	UG_KG	U	N	50	200
BAI-24A-10-00	8330	WET		88-72-2	2-Nitrotoluene	400	UG_KG	U	N	11	400
BAI-24A-10-00	8330	WET		99-99-0	4-Nitrotoluene	400	UG_KG	U	N	24	400
BAI-24A-10-00	8330	WET		99-08-1	3-Nitrotoluene	400	UG_KG	U	N	18	400
BAI-24A-10-18	8330	WET		2691-41-0	HMX	200	UG_KG	U	N	12	200
BAI-24A-10-18	8330	WET		121-82-4	RDX	200	UG_KG	U	N	11	200
BAI-24A-10-18	8330	WET		99-35-4	1,3,5-Trinitrobenzene	200	UG_KG	U	N	23	200
BAI-24A-10-18	8330	WET		99-65-0	1,3-Dinitrobenzene	200	UG_KG	U	N	10	200
BAI-24A-10-18	8330	WET		98-95-3	Nitrobenzene	200	UG_KG	U	N	27	200
BAI-24A-10-18	8330	WET		479-45-8	Tetryl	200	UG_KG	U	N	56	200
BAI-24A-10-18	8330	WET		118-96-7	2,4,6-Trinitrotoluene	200	UG_KG	U	N	22	200
BAI-24A-10-18	8330	WET		35572-78-2	2-amino-4,6-Dinitrotoluene	200	UG_KG	U	N	22	200
BAI-24A-10-18	8330	WET		19406-51-0	4-amino-2,6-Dinitrotoluene	200	UG_KG	U	N	51	200
BAI-24A-10-18	8330	WET		121-14-2	2,4-Dinitrotoluene	200	UG_KG	U	N	42	200
BAI-24A-10-18	8330	WET		606-20-2	2,6-Dinitrotoluene	200	UG_KG	U	N	50	200
BAI-24A-10-18	8330	WET		88-72-2	2-Nitrotoluene	400	UG_KG	U	N	11	400
BAI-24A-10-18	8330	WET		99-99-0	4-Nitrotoluene	400	UG_KG	U	N	24	400
BAI-24A-10-18	8330	WET		99-08-1	3-Nitrotoluene	400	UG_KG	U	N	18	400
BAI-24A-11-00	8330	WET		2691-41-0	HMX	200	UG_KG	U	N	12	200
BAI-24A-11-00	8330	WET		121-82-4	RDX	200	UG_KG	U	N	11	200
BAI-24A-11-00	8330	WET		99-35-4	1,3,5-Trinitrobenzene	200	UG_KG	U	N	23	200

Attachment B-4.1
Raw Data

SAMPLE_NAME	ANALYTICAL_METHOD	SAMPLE_BASIS	PERCENT_MOISTURE	ANALYTE_ID	ANALYTE NAME	ANALYTE_VALUE	RESULT_UNITS	FINAL_QUALIFIER	DETECTED	MDL	MRL
BAI-24A-11-00	8330	WET		99-65-0	1,3-Dinitrobenzene	200	UG_KG	U	N	10	200
BAI-24A-11-00	8330	WET		98-95-3	Nitrobenzene	200	UG_KG	U	N	26	200
BAI-24A-11-00	8330	WET		479-45-8	Tetryl	200	UG_KG	U	N	56	200
BAI-24A-11-00	8330	WET		118-96-7	2,4,6-Trinitrotoluene	200	UG_KG	U	N	22	200
BAI-24A-11-00	8330	WET		35572-78-2	2-amino-4,6-Dinitrotoluene	200	UG_KG	U	N	21	200
BAI-24A-11-00	8330	WET		19406-51-0	4-amino-2,6-Dinitrotoluene	200	UG_KG	U	N	51	200
BAI-24A-11-00	8330	WET		121-14-2	2,4-Dinitrotoluene	200	UG_KG	U	N	42	200
BAI-24A-11-00	8330	WET		606-20-2	2,6-Dinitrotoluene	200	UG_KG	U	N	49	200
BAI-24A-11-00	8330	WET		88-72-2	2-Nitrotoluene	390	UG_KG	U	N	11	390
BAI-24A-11-00	8330	WET		99-99-0	4-Nitrotoluene	390	UG_KG	U	N	24	390
BAI-24A-11-00	8330	WET		99-08-1	3-Nitrotoluene	390	UG_KG	U	N	18	390
BAI-24A-11-18	8330	WET		2691-41-0	HMX	200	UG_KG	U	N	12	200
BAI-24A-11-18	8330	WET		121-82-4	RDX	200	UG_KG	U	N	11	200
BAI-24A-11-18	8330	WET		99-35-4	1,3,5-Trinitrobenzene	200	UG_KG	U	N	23	200
BAI-24A-11-18	8330	WET		99-65-0	1,3-Dinitrobenzene	200	UG_KG	U	N	10	200
BAI-24A-11-18	8330	WET		98-95-3	Nitrobenzene	200	UG_KG	U	N	27	200
BAI-24A-11-18	8330	WET		479-45-8	Tetryl	200	UG_KG	U	N	56	200
BAI-24A-11-18	8330	WET		118-96-7	2,4,6-Trinitrotoluene	200	UG_KG	U	N	22	200
BAI-24A-11-18	8330	WET		35572-78-2	2-amino-4,6-Dinitrotoluene	200	UG_KG	U	N	22	200
BAI-24A-11-18	8330	WET		19406-51-0	4-amino-2,6-Dinitrotoluene	200	UG_KG	U	N	51	200
BAI-24A-11-18	8330	WET		121-14-2	2,4-Dinitrotoluene	200	UG_KG	U	N	42	200
BAI-24A-11-18	8330	WET		606-20-2	2,6-Dinitrotoluene	200	UG_KG	U	N	50	200
BAI-24A-11-18	8330	WET		88-72-2	2-Nitrotoluene	400	UG_KG	U	N	11	400
BAI-24A-11-18	8330	WET		99-99-0	4-Nitrotoluene	400	UG_KG	U	N	24	400
BAI-24A-11-18	8330	WET		99-08-1	3-Nitrotoluene	400	UG_KG	U	N	18	400
BAI-24A-07-00	6010B	DRY	17	7440-36-0	Antimony	45	MG_KG	J	Y	0.17	0.6
BAI-24A-07-00	6010B	DRY	17	7440-38-2	Arsenic	18	MG_KG	J	Y	0.083	0.3
BAI-24A-07-00	6010B	DRY	17	7440-39-3	Barium	60	MG_KG		Y	0.11	0.34
BAI-24A-07-00	6010B	DRY	17	7440-41-7	Beryllium	0.26	MG_KG		Y	0.023	0.12
BAI-24A-07-00	6010B	DRY	17	7440-43-9	Cadmium	0.3	MG_KG	U	N	0.057	0.3
BAI-24A-07-00	6010B	DRY	17	7440-47-3	Chromium	31	MG_KG	J	Y	0.11	0.34
BAI-24A-07-00	6010B	DRY	17	7440-48-4	Cobalt	14	MG_KG	J	Y	0.23	0.69
BAI-24A-07-00	7470A	DRY	17	7439-97-6	Mercury	0.25	MG_KG		Y	0.007	0.024
BAI-24A-07-00	6010B	DRY	17	7439-98-7	Molybdenum	0.69	MG_KG	U	N	0.23	0.69
BAI-24A-07-00	6010B	DRY	17	7440-02-0	Nickel	23	MG_KG	J	Y	0.23	0.69
BAI-24A-07-00	6010B	DRY	17	7782-49-2	Selenium	0.47	MG_KG	J	Y	0.18	0.6
BAI-24A-07-00	6010B	DRY	17	7440-22-4	Silver	0.3	MG_KG	U	N	0.057	0.3
BAI-24A-07-00	6010B	DRY	17	7440-28-0	Thallium	0.4	MG_KG	J	Y	0.16	0.6
BAI-24A-07-00	6010B	DRY	17	7440-62-2	Vanadium	64	MG_KG		Y	0.11	0.34
BAI-24A-07-00	6010B	DRY	17	7440-66-6	Zinc	310	MG_KG	J	Y	0.23	1.2
BAI-24A-07-18	6010B	DRY	14	7440-36-0	Antimony	2.5	MG_KG	J	Y	0.16	0.58
BAI-24A-07-18	6010B	DRY	14	7440-38-2	Arsenic	7	MG_KG	J	Y	0.077	0.29
BAI-24A-07-18	6010B	DRY	14	7440-39-3	Barium	170	MG_KG		Y	0.11	0.32
BAI-24A-07-18	6010B	DRY	14	7440-41-7	Beryllium	0.37	MG_KG		Y	0.021	0.12
BAI-24A-07-18	6010B	DRY	14	7440-43-9	Cadmium	3	MG_KG		Y	0.053	0.29
BAI-24A-07-18	6010B	DRY	14	7440-47-3	Chromium	22	MG_KG	J	Y	0.11	0.32
BAI-24A-07-18	6010B	DRY	14	7440-48-4	Cobalt	8.8	MG_KG	J	Y	0.21	0.64
BAI-24A-07-18	6010B	DRY	14	7440-50-8	Copper	75	MG_KG	J	Y	0.11	0.32
BAI-24A-07-18	6010B	DRY	14	7439-92-1	Lead	460	MG_KG	J	Y	0.074	0.29
BAI-24A-07-18	7470A	DRY	14	7439-97-6	Mercury	0.04	MG_KG		Y	0.0068	0.023

Attachment B-4.1
Raw Data

SAMPLE_NAME	ANALYTICAL_METHOD	SAMPLE_BASIS	PERCENT_MOISTURE	ANALYTE_ID	ANALYTE NAME	ANALYTE_VALUE	RESULT_UNITS	FINAL_QUALIFIER	DETECTED	MDL	MRL
BAI-24A-07-18	6010B	DRY	14	7439-98-7	Molybdenum	0.64	MG_KG	U	N	0.21	0.64
BAI-24A-07-18	6010B	DRY	14	7440-02-0	Nickel	20	MG_KG	J	Y	0.21	0.64
BAI-24A-07-18	6010B	DRY	14	7782-49-2	Selenium	4.4	MG_KG		Y	0.17	0.58
BAI-24A-07-18	6010B	DRY	14	7440-22-4	Silver	0.29	MG_KG	U	N	0.053	0.29
BAI-24A-07-18	6010B	DRY	14	7440-28-0	Thallium	0.58	MG_KG	U	N	0.15	0.58
BAI-24A-07-18	6010B	DRY	14	7440-62-2	Vanadium	33	MG_KG		Y	0.11	0.32
BAI-24A-08-00	6010B	DRY	12	7440-36-0	Antimony	0.49	MG_KG	J	Y	0.16	0.57
BAI-24A-08-00	6010B	DRY	12	7440-38-2	Arsenic	10	MG_KG	J	Y	0.079	0.28
BAI-24A-08-00	6010B	DRY	12	7440-39-3	Barium	120	MG_KG		Y	0.11	0.33
BAI-24A-08-00	6010B	DRY	12	7440-41-7	Beryllium	0.36	MG_KG		Y	0.022	0.11
BAI-24A-08-00	6010B	DRY	12	7440-43-9	Cadmium	0.11	MG_KG	J	Y	0.055	0.28
BAI-24A-08-00	6010B	DRY	12	7440-47-3	Chromium	24	MG_KG	J	Y	0.11	0.33
BAI-24A-08-00	6010B	DRY	12	7440-48-4	Cobalt	7.9	MG_KG	J	Y	0.22	0.66
BAI-24A-08-00	6010B	DRY	12	7440-50-8	Copper	23	MG_KG	J	Y	0.11	0.33
BAI-24A-08-00	6010B	DRY	12	7439-92-1	Lead	35	MG_KG	J	Y	0.076	0.28
BAI-24A-08-00	7470A	DRY	12	7439-97-6	Mercury	0.023	MG_KG	U	N	0.0069	0.023
BAI-24A-08-00	6010B	DRY	12	7439-98-7	Molybdenum	0.66	MG_KG	U	N	0.22	0.66
BAI-24A-08-00	6010B	DRY	12	7440-02-0	Nickel	15	MG_KG	J	Y	0.22	0.66
BAI-24A-08-00	6010B	DRY	12	7782-49-2	Selenium	2	MG_KG		Y	0.17	0.57
BAI-24A-08-00	6010B	DRY	12	7440-22-4	Silver	0.28	MG_KG	U	N	0.055	0.28
BAI-24A-08-00	6010B	DRY	12	7440-28-0	Thallium	0.17	MG_KG	J	Y	0.15	0.57
BAI-24A-08-00	6010B	DRY	12	7440-62-2	Vanadium	33	MG_KG		Y	0.11	0.33
BAI-24A-08-00	6010B	DRY	12	7440-66-6	Zinc	270	MG_KG	J	Y	0.22	1.1
BAI-24A-08-18	6010B	DRY	13	7440-36-0	Antimony	0.38	MG_KG	J	Y	0.16	0.57
BAI-24A-08-18	6010B	DRY	13	7440-38-2	Arsenic	5.8	MG_KG	J	Y	0.08	0.29
BAI-24A-08-18	6010B	DRY	13	7440-39-3	Barium	150	MG_KG		Y	0.11	0.33
BAI-24A-08-18	6010B	DRY	13	7440-41-7	Beryllium	0.34	MG_KG		Y	0.022	0.11
BAI-24A-08-18	6010B	DRY	13	7440-43-9	Cadmium	0.24	MG_KG	J	Y	0.055	0.29
BAI-24A-08-18	6010B	DRY	13	7440-47-3	Chromium	17	MG_KG	J	Y	0.11	0.33
BAI-24A-08-18	6010B	DRY	13	7440-48-4	Cobalt	7.8	MG_KG	J	Y	0.22	0.66
BAI-24A-08-18	6010B	DRY	13	7440-50-8	Copper	22	MG_KG	J	Y	0.11	0.33
BAI-24A-08-18	6010B	DRY	13	7439-92-1	Lead	20	MG_KG	J	Y	0.076	0.29
BAI-24A-08-18	7470A	DRY	13	7439-97-6	Mercury	0.023	MG_KG	U	N	0.0071	0.023
BAI-24A-08-18	6010B	DRY	13	7439-98-7	Molybdenum	0.66	MG_KG	U	N	0.22	0.66
BAI-24A-08-18	6010B	DRY	13	7440-02-0	Nickel	15	MG_KG	J	Y	0.22	0.66
BAI-24A-08-18	6010B	DRY	13	7782-49-2	Selenium	0.46	MG_KG	J	Y	0.17	0.57
BAI-24A-08-18	6010B	DRY	13	7440-22-4	Silver	0.29	MG_KG	U	N	0.055	0.29
BAI-24A-08-18	6010B	DRY	13	7440-28-0	Thallium	0.34	MG_KG	J	Y	0.15	0.57
BAI-24A-08-18	6010B	DRY	13	7440-62-2	Vanadium	34	MG_KG		Y	0.11	0.33
BAI-24A-09-00	6010B	DRY	12	7440-36-0	Antimony	0.4	MG_KG	J	Y	0.17	0.57
BAI-24A-09-00	6010B	DRY	12	7440-38-2	Arsenic	4.4	MG_KG	J	Y	0.083	0.28
BAI-24A-09-00	6010B	DRY	12	7440-39-3	Barium	55	MG_KG		Y	0.11	0.34
BAI-24A-09-00	6010B	DRY	12	7440-41-7	Beryllium	0.28	MG_KG		Y	0.023	0.11
BAI-24A-09-00	6010B	DRY	12	7440-43-9	Cadmium	0.28	MG_KG	U	N	0.057	0.28
BAI-24A-09-00	6010B	DRY	12	7440-47-3	Chromium	15	MG_KG	J	Y	0.11	0.34
BAI-24A-09-00	6010B	DRY	12	7440-48-4	Cobalt	7	MG_KG	J	Y	0.23	0.68
BAI-24A-09-00	6010B	DRY	12	7440-50-8	Copper	11	MG_KG	J	Y	0.11	0.34
BAI-24A-09-00	6010B	DRY	12	7439-92-1	Lead	5	MG_KG	J	Y	0.079	0.28
BAI-24A-09-00	7470A	DRY	12	7439-97-6	Mercury	0.024	MG_KG	U	N	0.0074	0.024
BAI-24A-09-00	6010B	DRY	12	7439-98-7	Molybdenum	0.68	MG_KG	U	N	0.23	0.68

SAMPLE_NAME	ANALYTICAL_METHOD	SAMPLE_BASIS	PERCENT_MOISTURE	ANALYTE_ID	ANALYTE NAME	ANALYTE_VALUE	RESULT_UNITS	FINAL_QUALIFIER	DETECTED	MDL	MRL
BAI-24A-09-00	6010B	DRY	12	7440-02-0	Nickel	13	MG_KG	J	Y	0.23	0.68
BAI-24A-09-00	6010B	DRY	12	7782-49-2	Selenium	1.5	MG_KG		Y	0.18	0.57
BAI-24A-09-00	6010B	DRY	12	7440-22-4	Silver	0.28	MG_KG	U	N	0.057	0.28
BAI-24A-09-00	6010B	DRY	12	7440-28-0	Thallium	0.16	MG_KG	J	Y	0.16	0.57
BAI-24A-09-00	6010B	DRY	12	7440-62-2	Vanadium	28	MG_KG		Y	0.11	0.34
BAI-24A-09-00	6010B	DRY	12	7440-66-6	Zinc	51	MG_KG	J	Y	0.23	1.1
BAI-24A-09-18	6010B	DRY	9	7440-36-0	Antimony	0.55	MG_KG	UJ	N	0.16	0.55
BAI-24A-09-18	6010B	DRY	9	7440-38-2	Arsenic	4.9	MG_KG	J	Y	0.078	0.27
BAI-24A-09-18	6010B	DRY	9	7440-39-3	Barium	50	MG_KG		Y	0.11	0.32
BAI-24A-09-18	6010B	DRY	9	7440-41-7	Beryllium	0.32	MG_KG		Y	0.022	0.11
BAI-24A-09-18	6010B	DRY	9	7440-43-9	Cadmium	0.27	MG_KG	U	N	0.054	0.27
BAI-24A-09-18	6010B	DRY	9	7440-47-3	Chromium	13	MG_KG	J	Y	0.11	0.32
BAI-24A-09-18	6010B	DRY	9	7440-48-4	Cobalt	7.4	MG_KG	J	Y	0.22	0.65
BAI-24A-09-18	6010B	DRY	9	7440-50-8	Copper	10	MG_KG	J	Y	0.11	0.32
BAI-24A-09-18	6010B	DRY	9	7439-92-1	Lead	2.1	MG_KG	J	Y	0.075	0.27
BAI-24A-09-18	7470A	DRY	9	7439-97-6	Mercury	0.022	MG_KG	U	N	0.0071	0.022
BAI-24A-09-18	6010B	DRY	9	7439-98-7	Molybdenum	0.65	MG_KG	U	N	0.22	0.65
BAI-24A-09-18	6010B	DRY	9	7440-02-0	Nickel	13	MG_KG	J	Y	0.22	0.65
BAI-24A-09-18	6010B	DRY	9	7782-49-2	Selenium	1.3	MG_KG		Y	0.17	0.55
BAI-24A-09-18	6010B	DRY	9	7440-22-4	Silver	0.27	MG_KG	U	N	0.054	0.27
BAI-24A-09-18	6010B	DRY	9	7440-28-0	Thallium	0.55	MG_KG	U	N	0.15	0.55
BAI-24A-09-18	6010B	DRY	9	7440-62-2	Vanadium	26	MG_KG		Y	0.11	0.32
BAI-24A-09-18	6010B	DRY	9	7440-66-6	Zinc	45	MG_KG	J	Y	0.22	1.1
BAI-24A-10-00	6010B	DRY	14	7440-36-0	Antimony	0.21	MG_KG	J	Y	0.17	0.58
BAI-24A-10-00	6010B	DRY	14	7440-38-2	Arsenic	6.7	MG_KG	J	Y	0.083	0.29
BAI-24A-10-00	6010B	DRY	14	7440-39-3	Barium	90	MG_KG		Y	0.11	0.34
BAI-24A-10-00	6010B	DRY	14	7440-41-7	Beryllium	0.41	MG_KG		Y	0.023	0.12
BAI-24A-10-00	6010B	DRY	14	7440-43-9	Cadmium	0.2	MG_KG	J	Y	0.057	0.29
BAI-24A-10-00	6010B	DRY	14	7440-47-3	Chromium	19	MG_KG	J	Y	0.11	0.34
BAI-24A-10-00	6010B	DRY	14	7440-48-4	Cobalt	9.4	MG_KG	J	Y	0.23	0.68
BAI-24A-10-00	6010B	DRY	14	7440-50-8	Copper	27	MG_KG	J	Y	0.11	0.34
BAI-24A-10-00	6010B	DRY	14	7439-92-1	Lead	14	MG_KG	J	Y	0.079	0.29
BAI-24A-10-00	7470A	DRY	14	7439-97-6	Mercury	0.032	MG_KG		Y	0.0076	0.024
BAI-24A-10-00	6010B	DRY	14	7439-98-7	Molybdenum	0.68	MG_KG	U	N	0.23	0.68
BAI-24A-10-00	6010B	DRY	14	7440-02-0	Nickel	17	MG_KG	J	Y	0.23	0.68
BAI-24A-10-00	6010B	DRY	14	7782-49-2	Selenium	1.9	MG_KG		Y	0.18	0.58
BAI-24A-10-00	6010B	DRY	14	7440-22-4	Silver	0.29	MG_KG	U	N	0.057	0.29
BAI-24A-10-00	6010B	DRY	14	7440-28-0	Thallium	0.51	MG_KG	J	Y	0.16	0.58
BAI-24A-10-00	6010B	DRY	14	7440-62-2	Vanadium	38	MG_KG		Y	0.11	0.34
BAI-24A-10-00	6010B	DRY	14	7440-66-6	Zinc	490	MG_KG	J	Y	0.23	1.2
BAI-24A-10-18	6010B	DRY	16	7440-36-0	Antimony	0.6	MG_KG	UJ	N	0.16	0.6
BAI-24A-10-18	6010B	DRY	16	7440-38-2	Arsenic	9.9	MG_KG	J	Y	0.08	0.3
BAI-24A-10-18	6010B	DRY	16	7440-39-3	Barium	91	MG_KG		Y	0.11	0.33
BAI-24A-10-18	6010B	DRY	16	7440-41-7	Beryllium	0.69	MG_KG		Y	0.022	0.12
BAI-24A-10-18	6010B	DRY	16	7440-43-9	Cadmium	0.3	MG_KG	U	N	0.055	0.3
BAI-24A-10-18	6010B	DRY	16	7440-47-3	Chromium	22	MG_KG	J	Y	0.11	0.33
BAI-24A-10-18	6010B	DRY	16	7440-48-4	Cobalt	10	MG_KG	J	Y	0.22	0.66
BAI-24A-10-18	6010B	DRY	16	7440-50-8	Copper	35	MG_KG	J	Y	0.11	0.33
BAI-24A-10-18	6010B	DRY	16	7439-92-1	Lead	7.4	MG_KG	J	Y	0.077	0.3
BAI-24A-10-18	7470A	DRY	16	7439-97-6	Mercury	0.037	MG_KG		Y	0.0068	0.024

Attachment B-4.1
Raw Data

SAMPLE_NAME	ANALYTICAL_METHOD	SAMPLE_BASIS	PERCENT_MOISTURE	ANALYTE_ID	ANALYTE NAME	ANALYTE_VALUE	RESULT_UNITS	FINAL_QUALIFIER	DETECTED	MDL	MRL
BAI-24A-10-18	6010B	DRY	16	7439-98-7	Molybdenum	0.66	MG_KG	U	N	0.22	0.66
BAI-24A-10-18	6010B	DRY	16	7440-02-0	Nickel	18	MG_KG	J	Y	0.22	0.66
BAI-24A-10-18	6010B	DRY	16	7782-49-2	Selenium	2.4	MG_KG		Y	0.18	0.6
BAI-24A-10-18	6010B	DRY	16	7440-22-4	Silver	0.3	MG_KG	U	N	0.055	0.3
BAI-24A-10-18	6010B	DRY	16	7440-28-0	Thallium	0.21	MG_KG	J	Y	0.15	0.6
BAI-24A-10-18	6010B	DRY	16	7440-62-2	Vanadium	45	MG_KG		Y	0.11	0.33
BAI-24A-10-18	6010B	DRY	16	7440-66-6	Zinc	65	MG_KG	J	Y	0.22	1.2
BAI-24A-11-00	6010B	DRY	13	7440-36-0	Antimony	0.19	MG_KG	J	Y	0.17	0.57
BAI-24A-11-00	6010B	DRY	13	7440-38-2	Arsenic	8.1	MG_KG	J	Y	0.08	0.29
BAI-24A-11-00	6010B	DRY	13	7440-39-3	Barium	110	MG_KG		Y	0.11	0.33
BAI-24A-11-00	6010B	DRY	13	7440-41-7	Beryllium	0.36	MG_KG		Y	0.022	0.11
BAI-24A-11-00	6010B	DRY	13	7440-43-9	Cadmium	0.13	MG_KG	J	Y	0.055	0.29
BAI-24A-11-00	6010B	DRY	13	7440-47-3	Chromium	20	MG_KG	J	Y	0.11	0.33
BAI-24A-11-00	6010B	DRY	13	7440-48-4	Cobalt	7.9	MG_KG	J	Y	0.22	0.66
BAI-24A-11-00	6010B	DRY	13	7440-50-8	Copper	21	MG_KG	J	Y	0.11	0.33
BAI-24A-11-00	6010B	DRY	13	7439-92-1	Lead	23	MG_KG	J	Y	0.077	0.29
BAI-24A-11-00	7470A	DRY	13	7439-97-6	Mercury	0.023	MG_KG	U	N	0.0067	0.023
BAI-24A-11-00	6010B	DRY	13	7439-98-7	Molybdenum	0.66	MG_KG	U	N	0.22	0.66
BAI-24A-11-00	6010B	DRY	13	7440-02-0	Nickel	14	MG_KG	J	Y	0.22	0.66
BAI-24A-11-00	6010B	DRY	13	7782-49-2	Selenium	0.57	MG_KG	U	N	0.18	0.57
BAI-24A-11-00	6010B	DRY	13	7440-22-4	Silver	0.29	MG_KG	U	N	0.055	0.29
BAI-24A-11-00	6010B	DRY	13	7440-28-0	Thallium	0.57	MG_KG	U	N	0.16	0.57
BAI-24A-11-00	6010B	DRY	13	7440-62-2	Vanadium	32	MG_KG		Y	0.11	0.33
BAI-24A-11-00	6010B	DRY	13	7440-66-6	Zinc	350	MG_KG	J	Y	0.22	1.1
BAI-24A-11-18	6010B	DRY	14	7440-36-0	Antimony	0.58	MG_KG	UJ	N	0.16	0.58
BAI-24A-11-18	6010B	DRY	14	7440-38-2	Arsenic	5.8	MG_KG	J	Y	0.079	0.29
BAI-24A-11-18	6010B	DRY	14	7440-39-3	Barium	86	MG_KG		Y	0.11	0.33
BAI-24A-11-18	6010B	DRY	14	7440-41-7	Beryllium	0.36	MG_KG		Y	0.022	0.12
BAI-24A-11-18	6010B	DRY	14	7440-43-9	Cadmium	0.44	MG_KG		Y	0.054	0.29
BAI-24A-11-18	6010B	DRY	14	7440-47-3	Chromium	16	MG_KG	J	Y	0.11	0.33
BAI-24A-11-18	6010B	DRY	14	7440-48-4	Cobalt	7.7	MG_KG	J	Y	0.22	0.65
BAI-24A-11-18	6010B	DRY	14	7440-50-8	Copper	17	MG_KG	J	Y	0.11	0.33
BAI-24A-11-18	6010B	DRY	14	7439-92-1	Lead	6.6	MG_KG	J	Y	0.076	0.29
BAI-24A-11-18	7470A	DRY	14	7439-97-6	Mercury	0.17	MG_KG		Y	0.0076	0.024
BAI-24A-11-18	6010B	DRY	14	7439-98-7	Molybdenum	0.65	MG_KG	U	N	0.22	0.65
BAI-24A-11-18	6010B	DRY	14	7440-02-0	Nickel	14	MG_KG	J	Y	0.22	0.65
BAI-24A-11-18	6010B	DRY	14	7782-49-2	Selenium	2.1	MG_KG		Y	0.17	0.58
BAI-24A-11-18	6010B	DRY	14	7440-22-4	Silver	0.29	MG_KG	U	N	0.054	0.29
BAI-24A-11-18	6010B	DRY	14	7440-28-0	Thallium	0.38	MG_KG	J	Y	0.15	0.58
BAI-24A-11-18	6010B	DRY	14	7440-62-2	Vanadium	29	MG_KG		Y	0.11	0.33
BAI-24A-07-00	D2216	WET		-86	Percent Moisture	17	PCT		Y		1
BAI-24A-07-18	D2216	WET		-86	Percent Moisture	14	PCT		Y		1
BAI-24A-08-00	D2216	WET		-86	Percent Moisture	12	PCT		Y		1
BAI-24A-08-18	D2216	WET		-86	Percent Moisture	13	PCT		Y		1
BAI-24A-09-00	D2216	WET		-86	Percent Moisture	12	PCT		Y		1
BAI-24A-09-18	D2216	WET		-86	Percent Moisture	9	PCT		Y		1
BAI-24A-10-00	D2216	WET		-86	Percent Moisture	14	PCT		Y		1
BAI-24A-10-18	D2216	WET		-86	Percent Moisture	16	PCT		Y		1
BAI-24A-11-00	D2216	WET		-86	Percent Moisture	13	PCT		Y		1
BAI-24A-11-18	D2216	WET		-86	Percent Moisture	14	PCT		Y		1

Attachment B-4.1
Raw Data

SAMPLE_NAME	ANALYTICAL_METHOD	SAMPLE_BASIS	PERCENT_MOISTURE	ANALYTE_ID	ANALYTE NAME	ANALYTE_VALUE	RESULT_UNITS	FINAL_QUALIFIER	DETECTED	MDL	MRL
BAI-24A-013-00	8330	WET		2691-41-0	HMX	200	UG_KG	U	N	12	200
BAI-24A-013-00	8330	WET		121-82-4	RDX	200	UG_KG	U	N	11	200
BAI-24A-013-00	8330	WET		99-35-4	1,3,5-Trinitrobenzene	200	UG_KG	U	N	24	200
BAI-24A-013-00	8330	WET		99-65-0	1,3-Dinitrobenzene	200	UG_KG	U	N	11	200
BAI-24A-013-00	8330	WET		98-95-3	Nitrobenzene	200	UG_KG	U	N	27	200
BAI-24A-013-00	8330	WET		479-45-8	Tetryl	200	UG_KG	U	N	57	200
BAI-24A-013-00	8330	WET		118-96-7	2,4,6-Trinitrotoluene	200	UG_KG	U	N	22	200
BAI-24A-013-00	8330	WET		35572-78-2	2-amino-4,6-Dinitrotoluene	200	UG_KG	U	N	22	200
BAI-24A-013-00	8330	WET		19406-51-0	4-amino-2,6-Dinitrotoluene	200	UG_KG	U	N	52	200
BAI-24A-013-00	8330	WET		121-14-2	2,4-Dinitrotoluene	200	UG_KG	U	N	43	200
BAI-24A-013-00	8330	WET		606-20-2	2,6-Dinitrotoluene	200	UG_KG	U	N	51	200
BAI-24A-013-00	8330	WET		88-72-2	2-Nitrotoluene	400	UG_KG	U	N	11	400
BAI-24A-013-00	8330	WET		99-99-0	4-Nitrotoluene	400	UG_KG	U	N	24	400
BAI-24A-013-00	8330	WET		99-08-1	3-Nitrotoluene	400	UG_KG	U	N	19	400
BAI-24A-013-18	8330	WET		2691-41-0	HMX	200	UG_KG	U	N	12	200
BAI-24A-013-18	8330	WET		121-82-4	RDX	200	UG_KG	U	N	11	200
BAI-24A-013-18	8330	WET		99-35-4	1,3,5-Trinitrobenzene	200	UG_KG	U	N	24	200
BAI-24A-013-18	8330	WET		99-65-0	1,3-Dinitrobenzene	200	UG_KG	U	N	11	200
BAI-24A-013-18	8330	WET		98-95-3	Nitrobenzene	200	UG_KG	U	N	27	200
BAI-24A-013-18	8330	WET		479-45-8	Tetryl	200	UG_KG	U	N	57	200
BAI-24A-013-18	8330	WET		118-96-7	2,4,6-Trinitrotoluene	200	UG_KG	U	N	22	200
BAI-24A-013-18	8330	WET		35572-78-2	2-amino-4,6-Dinitrotoluene	200	UG_KG	U	N	22	200
BAI-24A-013-18	8330	WET		19406-51-0	4-amino-2,6-Dinitrotoluene	200	UG_KG	U	N	51	200
BAI-24A-013-18	8330	WET		121-14-2	2,4-Dinitrotoluene	200	UG_KG	U	N	43	200
BAI-24A-013-18	8330	WET		606-20-2	2,6-Dinitrotoluene	200	UG_KG	U	N	50	200
BAI-24A-013-18	8330	WET		88-72-2	2-Nitrotoluene	400	UG_KG	U	N	11	400
BAI-24A-013-18	8330	WET		99-99-0	4-Nitrotoluene	400	UG_KG	U	N	24	400
BAI-24A-013-18	8330	WET		99-08-1	3-Nitrotoluene	400	UG_KG	U	N	18	400
BAI-24A-014-00	8330	WET		2691-41-0	HMX	200	UG_KG	U	N	12	200
BAI-24A-014-00	8330	WET		121-82-4	RDX	200	UG_KG	U	N	11	200
BAI-24A-014-00	8330	WET		99-35-4	1,3,5-Trinitrobenzene	200	UG_KG	U	N	24	200
BAI-24A-014-00	8330	WET		99-65-0	1,3-Dinitrobenzene	200	UG_KG	U	N	11	200
BAI-24A-014-00	8330	WET		98-95-3	Nitrobenzene	200	UG_KG	U	N	27	200
BAI-24A-014-00	8330	WET		479-45-8	Tetryl	200	UG_KG	U	N	57	200
BAI-24A-014-00	8330	WET		118-96-7	2,4,6-Trinitrotoluene	200	UG_KG	U	N	22	200
BAI-24A-014-00	8330	WET		35572-78-2	2-amino-4,6-Dinitrotoluene	200	UG_KG	U	N	22	200
BAI-24A-014-00	8330	WET		19406-51-0	4-amino-2,6-Dinitrotoluene	200	UG_KG	U	N	52	200
BAI-24A-014-00	8330	WET		121-14-2	2,4-Dinitrotoluene	200	UG_KG	U	N	43	200
BAI-24A-014-00	8330	WET		606-20-2	2,6-Dinitrotoluene	200	UG_KG	U	N	51	200
BAI-24A-014-00	8330	WET		88-72-2	2-Nitrotoluene	400	UG_KG	U	N	11	400
BAI-24A-014-00	8330	WET		99-99-0	4-Nitrotoluene	400	UG_KG	U	N	24	400
BAI-24A-014-00	8330	WET		99-08-1	3-Nitrotoluene	400	UG_KG	U	N	19	400
BAI-24A-014-18	8330	WET		2691-41-0	HMX	200	UG_KG	U	N	12	200
BAI-24A-014-18	8330	WET		121-82-4	RDX	200	UG_KG	U	N	11	200
BAI-24A-014-18	8330	WET		99-35-4	1,3,5-Trinitrobenzene	200	UG_KG	U	N	24	200
BAI-24A-014-18	8330	WET		99-65-0	1,3-Dinitrobenzene	200	UG_KG	U	N	11	200
BAI-24A-014-18	8330	WET		98-95-3	Nitrobenzene	200	UG_KG	U	N	27	200
BAI-24A-014-18	8330	WET		479-45-8	Tetryl	200	UG_KG	U	N	58	200
BAI-24A-014-18	8330	WET		118-96-7	2,4,6-Trinitrotoluene	200	UG_KG	U	N	22	200
BAI-24A-014-18	8330	WET		35572-78-2	2-amino-4,6-Dinitrotoluene	200	UG_KG	U	N	22	200

SAMPLE_NAME	ANALYTICAL_METHOD	SAMPLE_BASIS	PERCENT_MOISTURE	ANALYTE_ID	ANALYTE NAME	ANALYTE_VALUE	RESULT_UNITS	FINAL_QUALIFIER	DETECTED	MDL	MRL
BAI-24A-014-18	8330	WET		19406-51-0	4-amino-2,6-Dinitrotoluene	200	UG_KG	U	N	52	200
BAI-24A-014-18	8330	WET		121-14-2	2,4-Dinitrotoluene	200	UG_KG	U	N	43	200
BAI-24A-014-18	8330	WET		606-20-2	2,6-Dinitrotoluene	200	UG_KG	U	N	51	200
BAI-24A-014-18	8330	WET		88-72-2	2-Nitrotoluene	410	UG_KG	U	N	11	410
BAI-24A-014-18	8330	WET		99-99-0	4-Nitrotoluene	410	UG_KG	U	N	24	410
BAI-24A-014-18	8330	WET		99-08-1	3-Nitrotoluene	410	UG_KG	U	N	19	410
BAI-24A-015-00	8330	WET		2691-41-0	HMX	200	UG_KG	U	N	12	200
BAI-24A-015-00	8330	WET		121-82-4	RDX	200	UG_KG	U	N	11	200
BAI-24A-015-00	8330	WET		99-35-4	1,3,5-Trinitrobenzene	200	UG_KG	U	N	24	200
BAI-24A-015-00	8330	WET		99-65-0	1,3-Dinitrobenzene	200	UG_KG	U	N	11	200
BAI-24A-015-00	8330	WET		98-95-3	Nitrobenzene	200	UG_KG	U	N	27	200
BAI-24A-015-00	8330	WET		479-45-8	Tetryl	200	UG_KG	U	N	58	200
BAI-24A-015-00	8330	WET		118-96-7	2,4,6-Trinitrotoluene	200	UG_KG	U	N	22	200
BAI-24A-015-00	8330	WET		35572-78-2	2-amino-4,6-Dinitrotoluene	200	UG_KG	U	N	22	200
BAI-24A-015-00	8330	WET		19406-51-0	4-amino-2,6-Dinitrotoluene	200	UG_KG	U	N	52	200
BAI-24A-015-00	8330	WET		121-14-2	2,4-Dinitrotoluene	200	UG_KG	U	N	43	200
BAI-24A-015-00	8330	WET		606-20-2	2,6-Dinitrotoluene	200	UG_KG	U	N	51	200
BAI-24A-015-00	8330	WET		88-72-2	2-Nitrotoluene	410	UG_KG	U	N	11	410
BAI-24A-015-00	8330	WET		99-99-0	4-Nitrotoluene	410	UG_KG	U	N	24	410
BAI-24A-015-00	8330	WET		99-08-1	3-Nitrotoluene	410	UG_KG	U	N	19	410
BAI-24A-015-18	8330	WET		2691-41-0	HMX	200	UG_KG	U	N	12	200
BAI-24A-015-18	8330	WET		121-82-4	RDX	200	UG_KG	U	N	11	200
BAI-24A-015-18	8330	WET		99-35-4	1,3,5-Trinitrobenzene	200	UG_KG	U	N	24	200
BAI-24A-015-18	8330	WET		99-65-0	1,3-Dinitrobenzene	200	UG_KG	U	N	11	200
BAI-24A-015-18	8330	WET		98-95-3	Nitrobenzene	200	UG_KG	U	N	27	200
BAI-24A-015-18	8330	WET		479-45-8	Tetryl	200	UG_KG	U	N	57	200
BAI-24A-015-18	8330	WET		118-96-7	2,4,6-Trinitrotoluene	200	UG_KG	U	N	22	200
BAI-24A-015-18	8330	WET		35572-78-2	2-amino-4,6-Dinitrotoluene	200	UG_KG	U	N	22	200
BAI-24A-015-18	8330	WET		19406-51-0	4-amino-2,6-Dinitrotoluene	200	UG_KG	U	N	51	200
BAI-24A-015-18	8330	WET		121-14-2	2,4-Dinitrotoluene	200	UG_KG	U	N	43	200
BAI-24A-015-18	8330	WET		606-20-2	2,6-Dinitrotoluene	200	UG_KG	U	N	50	200
BAI-24A-015-18	8330	WET		88-72-2	2-Nitrotoluene	400	UG_KG	U	N	11	400
BAI-24A-015-18	8330	WET		99-99-0	4-Nitrotoluene	400	UG_KG	U	N	24	400
BAI-24A-015-18	8330	WET		99-08-1	3-Nitrotoluene	400	UG_KG	U	N	18	400
BAI-24A-016-00	8330	WET		2691-41-0	HMX	210	UG_KG	U	N	12	210
BAI-24A-016-00	8330	WET		121-82-4	RDX	210	UG_KG	U	N	11	210
BAI-24A-016-00	8330	WET		99-35-4	1,3,5-Trinitrobenzene	210	UG_KG	U	N	24	210
BAI-24A-016-00	8330	WET		99-65-0	1,3-Dinitrobenzene	210	UG_KG	U	N	11	210
BAI-24A-016-00	8330	WET		98-95-3	Nitrobenzene	210	UG_KG	U	N	28	210
BAI-24A-016-00	8330	WET		479-45-8	Tetryl	210	UG_KG	U	N	58	210
BAI-24A-016-00	8330	WET		118-96-7	2,4,6-Trinitrotoluene	210	UG_KG	U	N	23	210
BAI-24A-016-00	8330	WET		35572-78-2	2-amino-4,6-Dinitrotoluene	210	UG_KG	U	N	22	210
BAI-24A-016-00	8330	WET		19406-51-0	4-amino-2,6-Dinitrotoluene	210	UG_KG	U	N	53	210
BAI-24A-016-00	8330	WET		121-14-2	2,4-Dinitrotoluene	210	UG_KG	U	N	44	210
BAI-24A-016-00	8330	WET		606-20-2	2,6-Dinitrotoluene	210	UG_KG	U	N	51	210
BAI-24A-013-00	6010B	DRY	14	7440-36-0	Antimony	4.9	MG_KG	J	Y	0.18	0.58
BAI-24A-013-00	6010B	DRY	14	7440-38-2	Arsenic	3.2	MG_KG		Y	0.095	0.29
BAI-24A-013-00	6010B	DRY	14	7440-39-3	Barium	140	MG_KG		Y	0.11	0.34
BAI-24A-013-00	6010B	DRY	14	7440-41-7	Beryllium	0.43	MG_KG		Y	0.023	0.12
BAI-24A-013-00	6010B	DRY	14	7440-43-9	Cadmium	0.61	MG_KG		Y	0.057	0.29

SAMPLE_NAME	ANALYTICAL_METHOD	SAMPLE_BASIS	PERCENT_MOISTURE	ANALYTE_ID	ANALYTE NAME	ANALYTE_VALUE	RESULT_UNITS	FINAL_QUALIFIER	DETECTED	MDL	MRL
BAI-24A-013-00	6010B	DRY	14	7440-47-3	Chromium	23	MG_KG		Y	0.11	0.34
BAI-24A-013-00	6010B	DRY	14	7440-48-4	Cobalt	11	MG_KG		Y	0.23	0.68
BAI-24A-013-00	6010B	DRY	14	7440-50-8	Copper	21	MG_KG	J	Y	0.11	0.34
BAI-24A-013-00	6010B	DRY	14	7439-92-1	Lead	30	MG_KG		Y	0.083	0.29
BAI-24A-013-00	7470A	DRY	14	7439-97-6	Mercury	0.26	MG_KG	J	Y	0.0066	0.023
BAI-24A-013-00	6010B	DRY	14	7439-98-7	Molybdenum	0.68	MG_KG	U	N	0.23	0.68
BAI-24A-013-00	6010B	DRY	14	7440-02-0	Nickel	22	MG_KG		Y	0.23	0.68
BAI-24A-013-00	6010B	DRY	14	7782-49-2	Selenium	0.58	MG_KG	U	N	0.17	0.58
BAI-24A-013-00	6010B	DRY	14	7440-22-4	Silver	0.13	MG_KG	J	Y	0.085	0.29
BAI-24A-013-00	6010B	DRY	14	7440-28-0	Thallium	0.58	MG_KG	U	N	0.19	0.58
BAI-24A-013-00	6010B	DRY	14	7440-62-2	Vanadium	55	MG_KG	J	Y	0.11	0.34
BAI-24A-013-00	6010B	DRY	14	7440-66-6	Zinc	520	MG_KG	J	Y	0.23	1.2
BAI-24A-013-18	6010B	DRY	17	7440-36-0	Antimony	2.9	MG_KG	J	Y	0.19	0.6
BAI-24A-013-18	6010B	DRY	17	7440-38-2	Arsenic	7.2	MG_KG		Y	0.098	0.3
BAI-24A-013-18	6010B	DRY	17	7440-39-3	Barium	140	MG_KG		Y	0.12	0.35
BAI-24A-013-18	6010B	DRY	17	7440-41-7	Beryllium	0.68	MG_KG		Y	0.024	0.12
BAI-24A-013-18	6010B	DRY	17	7440-43-9	Cadmium	0.34	MG_KG		Y	0.059	0.3
BAI-24A-013-18	6010B	DRY	17	7440-47-3	Chromium	25	MG_KG		Y	0.12	0.35
BAI-24A-013-18	6010B	DRY	17	7440-48-4	Cobalt	11	MG_KG		Y	0.24	0.71
BAI-24A-013-18	6010B	DRY	17	7440-50-8	Copper	22	MG_KG	J	Y	0.12	0.35
BAI-24A-013-18	6010B	DRY	17	7439-92-1	Lead	9.3	MG_KG		Y	0.086	0.3
BAI-24A-013-18	7470A	DRY	17	7439-97-6	Mercury	0.016	MG_KG	J	Y	0.0076	0.024
BAI-24A-013-18	6010B	DRY	17	7439-98-7	Molybdenum	0.63	MG_KG	J	Y	0.24	0.71
BAI-24A-013-18	6010B	DRY	17	7440-02-0	Nickel	20	MG_KG		Y	0.24	0.71
BAI-24A-013-18	6010B	DRY	17	7782-49-2	Selenium	0.6	MG_KG	U	N	0.17	0.6
BAI-24A-013-18	6010B	DRY	17	7440-22-4	Silver	0.3	MG_KG	U	N	0.088	0.3
BAI-24A-013-18	6010B	DRY	17	7440-28-0	Thallium	0.6	MG_KG	U	N	0.19	0.6
BAI-24A-013-18	6010B	DRY	17	7440-62-2	Vanadium	53	MG_KG	J	Y	0.12	0.35
BAI-24A-016-00	8330	WET		88-72-2	2-Nitrotoluene	410	UG_KG	U	N	11	410
BAI-24A-016-00	8330	WET		99-99-0	4-Nitrotoluene	410	UG_KG	U	N	25	410
BAI-24A-016-00	8330	WET		99-08-1	3-Nitrotoluene	410	UG_KG	U	N	19	410
BAI-24A-016-18	8330	WET		2691-41-0	HMX	210	UG_KG	U	N	12	210
BAI-24A-016-18	8330	WET		121-82-4	RDX	210	UG_KG	U	N	11	210
BAI-24A-016-18	8330	WET		99-35-4	1,3,5-Trinitrobenzene	210	UG_KG	U	N	24	210
BAI-24A-016-18	8330	WET		99-65-0	1,3-Dinitrobenzene	210	UG_KG	U	N	11	210
BAI-24A-016-18	8330	WET		98-95-3	Nitrobenzene	210	UG_KG	U	N	27	210
BAI-24A-016-18	8330	WET		479-45-8	Tetryl	210	UG_KG	U	N	58	210
BAI-24A-016-18	8330	WET		118-96-7	2,4,6-Trinitrotoluene	210	UG_KG	U	N	23	210
BAI-24A-016-18	8330	WET		35572-78-2	2-amino-4,6-Dinitrotoluene	210	UG_KG	U	N	22	210
BAI-24A-016-18	8330	WET		19406-51-0	4-amino-2,6-Dinitrotoluene	210	UG_KG	U	N	53	210
BAI-24A-016-18	8330	WET		121-14-2	2,4-Dinitrotoluene	210	UG_KG	U	N	44	210
BAI-24A-016-18	8330	WET		606-20-2	2,6-Dinitrotoluene	210	UG_KG	U	N	51	210
BAI-24A-016-18	8330	WET		88-72-2	2-Nitrotoluene	410	UG_KG	U	N	11	410
BAI-24A-016-18	8330	WET		99-99-0	4-Nitrotoluene	410	UG_KG	U	N	24	410
BAI-24A-016-18	8330	WET		99-08-1	3-Nitrotoluene	410	UG_KG	U	N	19	410
BAI-24A-017-00	8330	WET		2691-41-0	HMX	200	UG_KG	U	N	12	200
BAI-24A-017-00	8330	WET		121-82-4	RDX	200	UG_KG	U	N	11	200
BAI-24A-017-00	8330	WET		99-35-4	1,3,5-Trinitrobenzene	200	UG_KG	U	N	24	200
BAI-24A-017-00	8330	WET		99-65-0	1,3-Dinitrobenzene	200	UG_KG	U	N	11	200
BAI-24A-017-00	8330	WET		98-95-3	Nitrobenzene	200	UG_KG	U	N	27	200

SAMPLE_NAME	ANALYTICAL_METHOD	SAMPLE_BASIS	PERCENT_MOISTURE	ANALYTE_ID	ANALYTE NAME	ANALYTE_VALUE	RESULT_UNITS	FINAL_QUALIFIER	DETECTED	MDL	MRL
BAI-24A-017-00	8330	WET		479-45-8	Tetryl	200	UG_KG	U	N	57	200
BAI-24A-017-00	8330	WET		118-96-7	2,4,6-Trinitrotoluene	200	UG_KG	U	N	22	200
BAI-24A-017-00	8330	WET		35572-78-2	2-amino-4,6-Dinitrotoluene	200	UG_KG	U	N	22	200
BAI-24A-017-00	8330	WET		19406-51-0	4-amino-2,6-Dinitrotoluene	200	UG_KG	U	N	52	200
BAI-24A-017-00	8330	WET		121-14-2	2,4-Dinitrotoluene	200	UG_KG	U	N	43	200
BAI-24A-017-00	8330	WET		606-20-2	2,6-Dinitrotoluene	200	UG_KG	U	N	51	200
BAI-24A-017-00	8330	WET		88-72-2	2-Nitrotoluene	400	UG_KG	U	N	11	400
BAI-24A-017-00	8330	WET		99-99-0	4-Nitrotoluene	400	UG_KG	U	N	24	400
BAI-24A-017-00	8330	WET		99-08-1	3-Nitrotoluene	400	UG_KG	U	N	19	400
BAI-24A-017-18	8330	WET		2691-41-0	HMX	200	UG_KG	U	N	12	200
BAI-24A-017-18	8330	WET		121-82-4	RDX	200	UG_KG	U	N	11	200
BAI-24A-017-18	8330	WET		99-35-4	1,3,5-Trinitrobenzene	200	UG_KG	U	N	24	200
BAI-24A-017-18	8330	WET		99-65-0	1,3-Dinitrobenzene	200	UG_KG	U	N	11	200
BAI-24A-017-18	8330	WET		98-95-3	Nitrobenzene	200	UG_KG	U	N	27	200
BAI-24A-017-18	8330	WET		479-45-8	Tetryl	200	UG_KG	U	N	57	200
BAI-24A-017-18	8330	WET		118-96-7	2,4,6-Trinitrotoluene	200	UG_KG	U	N	22	200
BAI-24A-017-18	8330	WET		35572-78-2	2-amino-4,6-Dinitrotoluene	200	UG_KG	U	N	22	200
BAI-24A-017-18	8330	WET		19406-51-0	4-amino-2,6-Dinitrotoluene	200	UG_KG	U	N	52	200
BAI-24A-017-18	8330	WET		121-14-2	2,4-Dinitrotoluene	200	UG_KG	U	N	43	200
BAI-24A-017-18	8330	WET		606-20-2	2,6-Dinitrotoluene	200	UG_KG	U	N	51	200
BAI-24A-017-18	8330	WET		88-72-2	2-Nitrotoluene	410	UG_KG	U	N	11	410
BAI-24A-017-18	8330	WET		99-99-0	4-Nitrotoluene	410	UG_KG	U	N	24	410
BAI-24A-017-18	8330	WET		99-08-1	3-Nitrotoluene	410	UG_KG	U	N	19	410
BAI-24A-013-18	6010B	DRY	17	7440-66-6	Zinc	230	MG_KG	J	Y	0.24	1.2
BAI-24A-014-00	6010B	DRY	13	7440-36-0	Antimony	3.4	MG_KG	J	Y	0.17	0.57
BAI-24A-014-00	6010B	DRY	13	7440-38-2	Arsenic	3.5	MG_KG		Y	0.091	0.29
BAI-24A-014-00	6010B	DRY	13	7440-39-3	Barium	150	MG_KG		Y	0.11	0.33
BAI-24A-014-00	6010B	DRY	13	7440-41-7	Beryllium	0.42	MG_KG		Y	0.022	0.11
BAI-24A-014-00	6010B	DRY	13	7440-43-9	Cadmium	0.36	MG_KG		Y	0.055	0.29
BAI-24A-014-00	6010B	DRY	13	7440-47-3	Chromium	22	MG_KG		Y	0.11	0.33
BAI-24A-014-00	6010B	DRY	13	7440-48-4	Cobalt	9.2	MG_KG		Y	0.22	0.66
BAI-24A-014-00	6010B	DRY	13	7440-50-8	Copper	15	MG_KG	J	Y	0.11	0.33
BAI-24A-014-00	6010B	DRY	13	7439-92-1	Lead	13	MG_KG		Y	0.08	0.29
BAI-24A-014-00	7470A	DRY	13	7439-97-6	Mercury	0.21	MG_KG	J	Y	0.0068	0.023
BAI-24A-014-00	6010B	DRY	13	7439-98-7	Molybdenum	0.66	MG_KG	U	N	0.22	0.66
BAI-24A-014-00	6010B	DRY	13	7440-02-0	Nickel	18	MG_KG		Y	0.22	0.66
BAI-24A-014-00	6010B	DRY	13	7782-49-2	Selenium	0.57	MG_KG	U	N	0.16	0.57
BAI-24A-014-00	6010B	DRY	13	7440-22-4	Silver	0.1	MG_KG	J	Y	0.082	0.29
BAI-24A-014-00	6010B	DRY	13	7440-28-0	Thallium	0.57	MG_KG	U	N	0.18	0.57
BAI-24A-014-00	6010B	DRY	13	7440-62-2	Vanadium	44	MG_KG	J	Y	0.11	0.33
BAI-24A-014-00	6010B	DRY	13	7440-66-6	Zinc	400	MG_KG	J	Y	0.22	1.1
BAI-24A-014-18	6010B	DRY	12	7440-36-0	Antimony	3	MG_KG	J	Y	0.18	0.57
BAI-24A-014-18	6010B	DRY	12	7440-38-2	Arsenic	3.8	MG_KG		Y	0.092	0.28
BAI-24A-014-18	6010B	DRY	12	7440-39-3	Barium	69	MG_KG		Y	0.11	0.33
BAI-24A-014-18	6010B	DRY	12	7440-41-7	Beryllium	0.39	MG_KG		Y	0.022	0.11
BAI-24A-014-18	6010B	DRY	12	7440-43-9	Cadmium	0.1	MG_KG	J	Y	0.055	0.28
BAI-24A-014-18	6010B	DRY	12	7440-47-3	Chromium	17	MG_KG		Y	0.11	0.33
BAI-24A-014-18	6010B	DRY	12	7440-48-4	Cobalt	9.2	MG_KG		Y	0.22	0.66
BAI-24A-014-18	6010B	DRY	12	7440-50-8	Copper	8.2	MG_KG	J	Y	0.11	0.33
BAI-24A-014-18	6010B	DRY	12	7439-92-1	Lead	4.5	MG_KG		Y	0.081	0.28

Attachment B-4.1
Raw Data

SAMPLE_NAME	ANALYTICAL_METHOD	SAMPLE_BASIS	PERCENT_MOISTURE	ANALYTE_ID	ANALYTE NAME	ANALYTE_VALUE	RESULT_UNITS	FINAL_QUALIFIER	DETECTED	MDL	MRL
BAI-24A-014-18	7470A	DRY	12	7439-97-6	Mercury	0.054	MG_KG	J	Y	0.0073	0.023
BAI-24A-014-18	6010B	DRY	12	7439-98-7	Molybdenum	0.28	MG_KG	J	Y	0.22	0.66
BAI-24A-014-18	6010B	DRY	12	7440-02-0	Nickel	15	MG_KG		Y	0.22	0.66
BAI-24A-014-18	6010B	DRY	12	7782-49-2	Selenium	0.57	MG_KG	U	N	0.16	0.57
BAI-24A-014-18	6010B	DRY	12	7440-22-4	Silver	0.28	MG_KG	U	N	0.082	0.28
BAI-24A-014-18	6010B	DRY	12	7440-28-0	Thallium	0.57	MG_KG	U	N	0.18	0.57
BAI-24A-014-18	6010B	DRY	12	7440-62-2	Vanadium	30	MG_KG	J	Y	0.11	0.33
BAI-24A-014-18	6010B	DRY	12	7440-66-6	Zinc	59	MG_KG	J	Y	0.22	1.1
BAI-24A-015-00	6010B	DRY	13	7440-36-0	Antimony	4.2	MG_KG	J	Y	0.17	0.57
BAI-24A-015-00	6010B	DRY	13	7440-38-2	Arsenic	3.6	MG_KG		Y	0.088	0.29
BAI-24A-015-00	6010B	DRY	13	7440-39-3	Barium	150	MG_KG		Y	0.11	0.32
BAI-24A-015-00	6010B	DRY	13	7440-41-7	Beryllium	0.42	MG_KG		Y	0.021	0.11
BAI-24A-015-00	6010B	DRY	13	7440-43-9	Cadmium	0.84	MG_KG		Y	0.053	0.29
BAI-24A-015-00	6010B	DRY	13	7440-47-3	Chromium	23	MG_KG		Y	0.11	0.32
BAI-24A-015-00	6010B	DRY	13	7440-48-4	Cobalt	11	MG_KG		Y	0.21	0.64
BAI-24A-015-00	6010B	DRY	13	7440-50-8	Copper	29	MG_KG	J	Y	0.11	0.32
BAI-24A-015-00	6010B	DRY	13	7439-92-1	Lead	24	MG_KG		Y	0.078	0.29
BAI-24A-015-00	7470A	DRY	13	7439-97-6	Mercury	0.63	MG_KG	J	Y	0.0072	0.023
BAI-24A-015-00	6010B	DRY	13	7439-98-7	Molybdenum	0.22	MG_KG	J	Y	0.21	0.64
BAI-24A-015-00	6010B	DRY	13	7440-02-0	Nickel	24	MG_KG		Y	0.21	0.64
BAI-24A-015-00	6010B	DRY	13	7782-49-2	Selenium	0.57	MG_KG	U	N	0.16	0.57
BAI-24A-015-00	6010B	DRY	13	7440-22-4	Silver	0.13	MG_KG	J	Y	0.08	0.29
BAI-24A-015-00	6010B	DRY	13	7440-28-0	Thallium	0.57	MG_KG	U	N	0.17	0.57
BAI-24A-015-00	6010B	DRY	13	7440-62-2	Vanadium	55	MG_KG	J	Y	0.11	0.32
BAI-24A-015-18	6010B	DRY	12	7440-36-0	Antimony	2.8	MG_KG	J	Y	0.17	0.57
BAI-24A-015-18	6010B	DRY	12	7440-38-2	Arsenic	2.4	MG_KG		Y	0.091	0.28
BAI-24A-015-18	6010B	DRY	12	7440-39-3	Barium	80	MG_KG		Y	0.11	0.33
BAI-24A-015-18	6010B	DRY	12	7440-41-7	Beryllium	0.36	MG_KG		Y	0.022	0.11
BAI-24A-015-18	6010B	DRY	12	7440-43-9	Cadmium	0.11	MG_KG	J	Y	0.055	0.28
BAI-24A-015-18	6010B	DRY	12	7440-47-3	Chromium	19	MG_KG		Y	0.11	0.33
BAI-24A-015-18	6010B	DRY	12	7440-48-4	Cobalt	7	MG_KG		Y	0.22	0.66
BAI-24A-015-18	6010B	DRY	12	7440-50-8	Copper	4.9	MG_KG	J	Y	0.11	0.33
BAI-24A-015-18	6010B	DRY	12	7439-92-1	Lead	3.7	MG_KG		Y	0.08	0.28
BAI-24A-015-18	7470A	DRY	12	7439-97-6	Mercury	0.023	MG_KG	U	N	0.0073	0.023
BAI-24A-015-18	6010B	DRY	12	7439-98-7	Molybdenum	0.66	MG_KG	U	N	0.22	0.66
BAI-24A-015-18	6010B	DRY	12	7440-02-0	Nickel	12	MG_KG		Y	0.22	0.66
BAI-24A-015-18	6010B	DRY	12	7782-49-2	Selenium	0.57	MG_KG	U	N	0.16	0.57
BAI-24A-015-18	6010B	DRY	12	7440-22-4	Silver	0.28	MG_KG	U	N	0.082	0.28
BAI-24A-015-18	6010B	DRY	12	7440-28-0	Thallium	0.57	MG_KG	U	N	0.18	0.57
BAI-24A-015-18	6010B	DRY	12	7440-62-2	Vanadium	32	MG_KG	J	Y	0.11	0.33
BAI-24A-015-18	6010B	DRY	12	7440-66-6	Zinc	58	MG_KG	J	Y	0.22	1.1
BAI-24A-016-00	6010B	DRY	12	7440-36-0	Antimony	4	MG_KG	J	Y	0.17	0.57
BAI-24A-016-00	6010B	DRY	12	7440-38-2	Arsenic	3.2	MG_KG		Y	0.087	0.28
BAI-24A-016-00	6010B	DRY	12	7440-39-3	Barium	130	MG_KG		Y	0.11	0.32
BAI-24A-016-00	6010B	DRY	12	7440-41-7	Beryllium	0.42	MG_KG		Y	0.021	0.11
BAI-24A-016-00	6010B	DRY	12	7440-43-9	Cadmium	0.32	MG_KG		Y	0.053	0.28
BAI-24A-016-00	6010B	DRY	12	7440-47-3	Chromium	21	MG_KG		Y	0.11	0.32
BAI-24A-016-00	6010B	DRY	12	7440-48-4	Cobalt	9.5	MG_KG		Y	0.21	0.63
BAI-24A-016-00	6010B	DRY	12	7440-50-8	Copper	15	MG_KG	J	Y	0.11	0.32
BAI-24A-016-00	6010B	DRY	12	7439-92-1	Lead	27	MG_KG		Y	0.077	0.28

SAMPLE_NAME	ANALYTICAL_METHOD	SAMPLE_BASIS	PERCENT_MOISTURE	ANALYTE_ID	ANALYTE NAME	ANALYTE_VALUE	RESULT_UNITS	FINAL_QUALIFIER	DETECTED	MDL	MRL
BAI-24A-016-00	7470A	DRY	12	7439-97-6	Mercury	0.095	MG_KG	J	Y	0.0073	0.023
BAI-24A-016-00	6010B	DRY	12	7439-98-7	Molybdenum	0.63	MG_KG	U	N	0.21	0.63
BAI-24A-016-00	6010B	DRY	12	7440-02-0	Nickel	17	MG_KG		Y	0.21	0.63
BAI-24A-016-00	6010B	DRY	12	7782-49-2	Selenium	0.57	MG_KG	U	N	0.15	0.57
BAI-24A-016-00	6010B	DRY	12	7440-22-4	Silver	0.28	MG_KG	U	N	0.079	0.28
BAI-24A-016-00	6010B	DRY	12	7440-28-0	Thallium	0.57	MG_KG	U	N	0.17	0.57
BAI-24A-016-00	6010B	DRY	12	7440-62-2	Vanadium	45	MG_KG	J	Y	0.11	0.32
BAI-24A-016-00	6010B	DRY	12	7440-66-6	Zinc	300	MG_KG	J	Y	0.21	1.1
BAI-24A-016-18	6010B	DRY	11	7440-36-0	Antimony	3.2	MG_KG	J	Y	0.17	0.56
BAI-24A-016-18	6010B	DRY	11	7440-38-2	Arsenic	3.3	MG_KG		Y	0.09	0.28
BAI-24A-016-18	6010B	DRY	11	7440-39-3	Barium	150	MG_KG		Y	0.11	0.32
BAI-24A-016-18	6010B	DRY	11	7440-41-7	Beryllium	0.4	MG_KG		Y	0.022	0.11
BAI-24A-016-18	6010B	DRY	11	7440-43-9	Cadmium	0.29	MG_KG		Y	0.054	0.28
BAI-24A-016-18	6010B	DRY	11	7440-47-3	Chromium	20	MG_KG		Y	0.11	0.32
BAI-24A-016-18	6010B	DRY	11	7440-48-4	Cobalt	8.1	MG_KG		Y	0.22	0.65
BAI-24A-016-18	6010B	DRY	11	7440-50-8	Copper	11	MG_KG	J	Y	0.11	0.32
BAI-24A-016-18	6010B	DRY	11	7439-92-1	Lead	8.4	MG_KG		Y	0.079	0.28
BAI-24A-016-18	7470A	DRY	11	7439-97-6	Mercury	0.0071	MG_KG	J	Y	0.0071	0.022
BAI-24A-016-18	6010B	DRY	11	7439-98-7	Molybdenum	0.24	MG_KG	J	Y	0.22	0.65
BAI-24A-016-18	6010B	DRY	11	7440-02-0	Nickel	16	MG_KG		Y	0.22	0.65
BAI-24A-016-18	6010B	DRY	11	7782-49-2	Selenium	0.56	MG_KG	U	N	0.16	0.56
BAI-24A-016-18	6010B	DRY	11	7440-22-4	Silver	0.083	MG_KG	J	Y	0.081	0.28
BAI-24A-016-18	6010B	DRY	11	7440-28-0	Thallium	0.56	MG_KG	U	N	0.18	0.56
BAI-24A-016-18	6010B	DRY	11	7440-62-2	Vanadium	36	MG_KG	J	Y	0.11	0.32
BAI-24A-016-18	6010B	DRY	11	7440-66-6	Zinc	260	MG_KG	J	Y	0.22	1.1
BAI-24A-017-00	6010B	DRY	7	7440-36-0	Antimony	6.3	MG_KG	J	Y	0.15	0.54
BAI-24A-017-00	6010B	DRY	7	7440-38-2	Arsenic	1.4	MG_KG		Y	0.08	0.27
BAI-24A-017-00	6010B	DRY	7	7440-39-3	Barium	55	MG_KG		Y	0.097	0.29
BAI-24A-017-00	6010B	DRY	7	7440-41-7	Beryllium	0.3	MG_KG		Y	0.019	0.11
BAI-24A-017-00	6010B	DRY	7	7440-43-9	Cadmium	0.33	MG_KG		Y	0.048	0.27
BAI-24A-017-00	6010B	DRY	7	7440-47-3	Chromium	27	MG_KG		Y	0.097	0.29
BAI-24A-017-00	6010B	DRY	7	7440-48-4	Cobalt	15	MG_KG		Y	0.19	0.58
BAI-24A-017-00	6010B	DRY	7	7440-50-8	Copper	15	MG_KG	J	Y	0.097	0.29
BAI-24A-017-00	6010B	DRY	7	7439-92-1	Lead	24	MG_KG		Y	0.071	0.27
BAI-24A-017-00	7470A	DRY	7	7439-97-6	Mercury	0.48	MG_KG	J	Y	0.0061	0.022
BAI-24A-017-00	6010B	DRY	7	7439-98-7	Molybdenum	0.25	MG_KG	J	Y	0.19	0.58
BAI-24A-017-00	6010B	DRY	7	7440-02-0	Nickel	20	MG_KG		Y	0.19	0.58
BAI-24A-017-00	6010B	DRY	7	7782-49-2	Selenium	0.54	MG_KG	U	N	0.14	0.54
BAI-24A-017-00	6010B	DRY	7	7440-22-4	Silver	0.25	MG_KG	J	Y	0.072	0.27
BAI-24A-017-00	6010B	DRY	7	7440-28-0	Thallium	0.54	MG_KG	U	N	0.16	0.54
BAI-24A-017-00	6010B	DRY	7	7440-62-2	Vanadium	93	MG_KG	J	Y	0.097	0.29
BAI-24A-017-00	6010B	DRY	7	7440-66-6	Zinc	220	MG_KG	J	Y	0.19	1.1
BAI-24A-017-18	6010B	DRY	11	7440-36-0	Antimony	3.3	MG_KG	J	Y	0.17	0.56
BAI-24A-017-18	6010B	DRY	11	7440-38-2	Arsenic	3.6	MG_KG		Y	0.091	0.28
BAI-24A-017-18	6010B	DRY	11	7440-39-3	Barium	150	MG_KG		Y	0.11	0.33
BAI-24A-017-18	6010B	DRY	11	7440-41-7	Beryllium	0.44	MG_KG		Y	0.022	0.11
BAI-24A-017-18	6010B	DRY	11	7440-43-9	Cadmium	0.19	MG_KG	J	Y	0.055	0.28
BAI-24A-017-18	6010B	DRY	11	7440-47-3	Chromium	20	MG_KG		Y	0.11	0.33
BAI-24A-017-18	6010B	DRY	11	7440-48-4	Cobalt	8.5	MG_KG		Y	0.22	0.65
BAI-24A-017-18	6010B	DRY	11	7440-50-8	Copper	10	MG_KG	J	Y	0.11	0.33

Attachment B-4.1
Raw Data

SAMPLE_NAME	ANALYTICAL_METHOD	SAMPLE_BASIS	PERCENT_MOISTURE	ANALYTE_ID	ANALYTE NAME	ANALYTE_VALUE	RESULT_UNITS	FINAL_QUALIFIER	DETECTED	MDL	MRL
BAI-24A-017-18	6010B	DRY	11	7439-92-1	Lead	8.1	MG_KG		Y	0.08	0.28
BAI-24A-017-18	7470A	DRY	11	7439-97-6	Mercury	0.024	MG_KG	U	N	0.0075	0.024
BAI-24A-017-18	6010B	DRY	11	7439-98-7	Molybdenum	0.65	MG_KG	U	N	0.22	0.65
BAI-24A-017-18	6010B	DRY	11	7440-02-0	Nickel	15	MG_KG		Y	0.22	0.65
BAI-24A-017-18	6010B	DRY	11	7782-49-2	Selenium	0.56	MG_KG	U	N	0.16	0.56
BAI-24A-017-18	6010B	DRY	11	7440-22-4	Silver	0.12	MG_KG	J	Y	0.082	0.28
BAI-24A-017-18	6010B	DRY	11	7440-28-0	Thallium	0.56	MG_KG	U	N	0.18	0.56
BAI-24A-017-18	6010B	DRY	11	7440-62-2	Vanadium	36	MG_KG	J	Y	0.11	0.33
BAI-24A-017-18	6010B	DRY	11	7440-66-6	Zinc	100	MG_KG	J	Y	0.22	1.1
BAI-24A-013-00	D2216	WET		-86	Percent Moisture	14	PCT		Y		1
BAI-24A-013-18	D2216	WET		-86	Percent Moisture	17	PCT		Y		1
BAI-24A-014-00	D2216	WET		-86	Percent Moisture	13	PCT		Y		1
BAI-24A-014-18	D2216	WET		-86	Percent Moisture	12	PCT		Y		1
BAI-24A-015-00	D2216	WET		-86	Percent Moisture	13	PCT		Y		1
BAI-24A-015-18	D2216	WET		-86	Percent Moisture	12	PCT		Y		1
BAI-24A-016-00	D2216	WET		-86	Percent Moisture	12	PCT		Y		1
BAI-24A-016-18	D2216	WET		-86	Percent Moisture	11	PCT		Y		1
BAI-24A-017-00	D2216	WET		-86	Percent Moisture	7	PCT		Y		1
BAI-24A-017-18	D2216	WET		-86	Percent Moisture	11	PCT		Y		1
BAI-24A-021-18	6010B	DRY	13	7440-22-4	Silver	0.29	MG_KG	U	N	0.085	0.29
BAI-24A-021-18	6010B	DRY	13	7440-28-0	Thallium	0.57	MG_KG	U	N	0.19	0.57
BAI-24A-021-18	6010B	DRY	13	7440-62-2	Vanadium	26	MG_KG		Y	0.11	0.34
BAI-24A-021-18	6010B	DRY	13	7440-66-6	Zinc	43	MG_KG		Y	0.23	1.1
BAI-24A-022-00	6010B	DRY	13	7440-36-0	Antimony	10	MG_KG	J	Y	0.16	0.57
BAI-24A-022-00	6010B	DRY	13	7440-38-2	Arsenic	9.3	MG_KG		Y	0.085	0.29
BAI-24A-022-00	6010B	DRY	13	7440-39-3	Barium	85	MG_KG		Y	0.1	0.31
BAI-24A-022-00	6010B	DRY	13	7440-41-7	Beryllium	0.32	MG_KG		Y	0.021	0.11
BAI-24A-022-00	6010B	DRY	13	7440-43-9	Cadmium	0.13	MG_KG	J	Y	0.051	0.29
BAI-24A-022-00	6010B	DRY	13	7440-47-3	Chromium	30	MG_KG		Y	0.1	0.31
BAI-24A-022-00	6010B	DRY	13	7440-48-4	Cobalt	11	MG_KG		Y	0.21	0.62
BAI-24A-022-00	6010B	DRY	13	7440-50-8	Copper	48	MG_KG		Y	0.1	0.31
BAI-24A-022-00	7470A	DRY	13	7439-97-6	Mercury	0.046	MG_KG	J	Y	0.0072	0.023
BAI-24A-022-00	6010B	DRY	13	7439-98-7	Molybdenum	0.31	MG_KG	J	Y	0.21	0.62
BAI-24A-022-00	6010B	DRY	13	7440-02-0	Nickel	36	MG_KG		Y	0.21	0.62
BAI-24A-022-00	6010B	DRY	13	7782-49-2	Selenium	0.57	MG_KG	U	N	0.15	0.57
BAI-24A-022-00	6010B	DRY	13	7440-22-4	Silver	0.091	MG_KG	J	Y	0.077	0.29
BAI-24A-022-00	6010B	DRY	13	7440-28-0	Thallium	0.57	MG_KG	U	N	0.17	0.57
BAI-24A-022-00	6010B	DRY	13	7440-62-2	Vanadium	41	MG_KG		Y	0.1	0.31
BAI-24A-022-00	6010B	DRY	13	7440-66-6	Zinc	81	MG_KG		Y	0.21	1.1
BAI-24A-022-18	6010B	DRY	11	7440-36-0	Antimony	1.6	MG_KG	J	Y	0.18	0.56
BAI-24A-022-18	6010B	DRY	11	7440-38-2	Arsenic	3.1	MG_KG		Y	0.091	0.28
BAI-24A-022-18	6010B	DRY	11	7440-39-3	Barium	120	MG_KG		Y	0.11	0.33
BAI-24A-022-18	6010B	DRY	11	7440-41-7	Beryllium	0.31	MG_KG		Y	0.022	0.11
BAI-24A-022-18	6010B	DRY	11	7440-43-9	Cadmium	0.074	MG_KG	J	Y	0.055	0.28
BAI-24A-022-18	6010B	DRY	11	7440-47-3	Chromium	12	MG_KG		Y	0.11	0.33
BAI-24A-022-18	6010B	DRY	11	7440-48-4	Cobalt	7	MG_KG		Y	0.22	0.66
BAI-24A-022-18	6010B	DRY	11	7440-50-8	Copper	6.7	MG_KG		Y	0.11	0.33
BAI-24A-022-18	6010B	DRY	11	7439-92-1	Lead	3.8	MG_KG		Y	0.08	0.28
BAI-24A-022-18	7470A	DRY	11	7439-97-6	Mercury	0.023	MG_KG	UJ	N	0.0072	0.023
BAI-24A-022-18	6010B	DRY	11	7439-98-7	Molybdenum	0.66	MG_KG	U	N	0.22	0.66

Attachment B-4.1
Raw Data

SAMPLE_NAME	ANALYTICAL_METHOD	SAMPLE_BASIS	PERCENT_MOISTURE	ANALYTE_ID	ANALYTE NAME	ANALYTE_VALUE	RESULT_UNITS	FINAL_QUALIFIER	DETECTED	MDL	MRL
BAI-24A-022-18	6010B	DRY	11	7440-02-0	Nickel	12	MG_KG		Y	0.22	0.66
BAI-24A-022-18	6010B	DRY	11	7782-49-2	Selenium	0.56	MG_KG	U	N	0.16	0.56
BAI-24A-022-18	6010B	DRY	11	7440-22-4	Silver	0.28	MG_KG	U	N	0.082	0.28
BAI-24A-022-18	6010B	DRY	11	7440-28-0	Thallium	0.56	MG_KG	U	N	0.18	0.56
BAI-24A-022-18	6010B	DRY	11	7440-62-2	Vanadium	20	MG_KG		Y	0.11	0.33
BAI-24A-022-18	6010B	DRY	11	7440-66-6	Zinc	44	MG_KG		Y	0.22	1.1
BAI-24A-023-00	6010B	DRY	6	7440-36-0	Antimony	6.2	MG_KG	J	Y	0.15	0.53
BAI-24A-023-00	6010B	DRY	6	7440-38-2	Arsenic	0.27	MG_KG	U	N	0.08	0.27
BAI-24A-023-00	6010B	DRY	6	7440-39-3	Barium	5.7	MG_KG		Y	0.096	0.29
BAI-24A-023-00	6010B	DRY	6	7440-41-7	Beryllium	0.29	MG_KG		Y	0.019	0.11
BAI-24A-023-00	6010B	DRY	6	7440-43-9	Cadmium	0.29	MG_KG		Y	0.048	0.27
BAI-24A-023-00	6010B	DRY	6	7440-47-3	Chromium	38	MG_KG		Y	0.096	0.29
BAI-24A-023-00	6010B	DRY	6	7440-48-4	Cobalt	31	MG_KG		Y	0.19	0.58
BAI-24A-019-18	8330	WET		19406-51-0	4-amino-2,6-Dinitrotoluene	200	UG_KG	U	N	28	200
BAI-24A-019-18	8330	WET		121-14-2	2,4-Dinitrotoluene	200	UG_KG	U	N	19	200
BAI-24A-019-18	8330	WET		606-20-2	2,6-Dinitrotoluene	200	UG_KG	U	N	18	200
BAI-24A-019-18	8330	WET		88-72-2	2-Nitrotoluene	390	UG_KG	U	N	16	390
BAI-24A-019-18	8330	WET		99-99-0	4-Nitrotoluene	390	UG_KG	U	N	30	390
BAI-24A-019-18	8330	WET		99-08-1	3-Nitrotoluene	390	UG_KG	U	N	60	390
BAI-24A-020-00	8330	WET		2691-41-0	HMX	200	UG_KG	U	N	26	200
BAI-24A-020-00	8330	WET		121-82-4	RDX	200	UG_KG	U	N	39	200
BAI-24A-020-00	8330	WET		99-35-4	1,3,5-Trinitrobenzene	200	UG_KG	U	N	35	200
BAI-24A-020-00	8330	WET		99-65-0	1,3-Dinitrobenzene	200	UG_KG	U	N	20	200
BAI-24A-020-00	8330	WET		98-95-3	Nitrobenzene	200	UG_KG	U	N	18	200
BAI-24A-020-00	8330	WET		479-45-8	Tetryl	200	UG_KG	U	N	65	200
BAI-24A-020-00	8330	WET		118-96-7	2,4,6-Trinitrotoluene	200	UG_KG	U	N	13	200
BAI-24A-020-00	8330	WET		35572-78-2	2-amino-4,6-Dinitrotoluene	200	UG_KG	U	N	26	200
BAI-24A-020-00	8330	WET		19406-51-0	4-amino-2,6-Dinitrotoluene	200	UG_KG	U	N	28	200
BAI-24A-020-00	8330	WET		121-14-2	2,4-Dinitrotoluene	200	UG_KG	U	N	19	200
BAI-24A-020-00	8330	WET		606-20-2	2,6-Dinitrotoluene	200	UG_KG	U	N	18	200
BAI-24A-020-00	8330	WET		88-72-2	2-Nitrotoluene	400	UG_KG	U	N	16	400
BAI-24A-020-00	8330	WET		99-99-0	4-Nitrotoluene	400	UG_KG	U	N	30	400
BAI-24A-020-00	8330	WET		99-08-1	3-Nitrotoluene	400	UG_KG	U	N	60	400
BAI-24A-020-18	8330	WET		2691-41-0	HMX	200	UG_KG	U	N	26	200
BAI-24A-020-18	8330	WET		121-82-4	RDX	200	UG_KG	U	N	39	200
BAI-24A-020-18	8330	WET		99-35-4	1,3,5-Trinitrobenzene	200	UG_KG	U	N	35	200
BAI-24A-020-18	8330	WET		99-65-0	1,3-Dinitrobenzene	200	UG_KG	U	N	19	200
BAI-24A-020-18	8330	WET		98-95-3	Nitrobenzene	200	UG_KG	U	N	18	200
BAI-24A-020-18	8330	WET		479-45-8	Tetryl	200	UG_KG	U	N	65	200
BAI-24A-020-18	8330	WET		118-96-7	2,4,6-Trinitrotoluene	200	UG_KG	U	N	13	200
BAI-24A-020-18	8330	WET		35572-78-2	2-amino-4,6-Dinitrotoluene	200	UG_KG	U	N	26	200
BAI-24A-020-18	8330	WET		19406-51-0	4-amino-2,6-Dinitrotoluene	200	UG_KG	U	N	28	200
BAI-24A-020-18	8330	WET		121-14-2	2,4-Dinitrotoluene	200	UG_KG	U	N	19	200
BAI-24A-020-18	8330	WET		606-20-2	2,6-Dinitrotoluene	200	UG_KG	U	N	18	200
BAI-24A-020-18	8330	WET		88-72-2	2-Nitrotoluene	390	UG_KG	U	N	16	390
BAI-24A-020-18	8330	WET		99-99-0	4-Nitrotoluene	390	UG_KG	U	N	30	390
BAI-24A-020-18	8330	WET		99-08-1	3-Nitrotoluene	390	UG_KG	U	N	60	390
BAI-24A-021-00	8330	WET		2691-41-0	HMX	200	UG_KG	U	N	26	200
BAI-24A-021-00	8330	WET		121-82-4	RDX	200	UG_KG	U	N	39	200
BAI-24A-021-00	8330	WET		99-35-4	1,3,5-Trinitrobenzene	200	UG_KG	U	N	35	200

Attachment B-4.1
Raw Data

SAMPLE_NAME	ANALYTICAL_METHOD	SAMPLE_BASIS	PERCENT_MOISTURE	ANALYTE_ID	ANALYTE NAME	ANALYTE_VALUE	RESULT_UNITS	FINAL_QUALIFIER	DETECTED	MDL	MRL
BAI-24A-021-00	8330	WET		99-65-0	1,3-Dinitrobenzene	200	UG_KG	U	N	20	200
BAI-24A-021-00	8330	WET		98-95-3	Nitrobenzene	200	UG_KG	U	N	18	200
BAI-24A-021-00	8330	WET		479-45-8	Tetryl	200	UG_KG	U	N	65	200
BAI-24A-021-00	8330	WET		118-96-7	2,4,6-Trinitrotoluene	200	UG_KG	U	N	13	200
BAI-24A-021-00	8330	WET		35572-78-2	2-amino-4,6-Dinitrotoluene	200	UG_KG	U	N	26	200
BAI-24A-021-00	8330	WET		19406-51-0	4-amino-2,6-Dinitrotoluene	200	UG_KG	U	N	28	200
BAI-24A-021-00	8330	WET		121-14-2	2,4-Dinitrotoluene	240	UG_KG		Y	42	200
BAI-24A-021-00	8330	WET		606-20-2	2,6-Dinitrotoluene	200	UG_KG	U	N	50	200
BAI-24A-021-00	8330	WET		88-72-2	2-Nitrotoluene	400	UG_KG	U	N	11	400
BAI-24A-021-00	8330	WET		99-99-0	4-Nitrotoluene	400	UG_KG	U	N	30	400
BAI-24A-021-00	8330	WET		99-08-1	3-Nitrotoluene	400	UG_KG	U	N	60	400
BAI-24A-021-18	8330	WET		2691-41-0	HMX	200	UG_KG	U	N	26	200
BAI-24A-021-18	8330	WET		121-82-4	RDX	200	UG_KG	U	N	39	200
BAI-24A-021-18	8330	WET		99-35-4	1,3,5-Trinitrobenzene	200	UG_KG	U	N	35	200
BAI-24A-021-18	8330	WET		99-65-0	1,3-Dinitrobenzene	200	UG_KG	U	N	20	200
BAI-24A-021-18	8330	WET		98-95-3	Nitrobenzene	200	UG_KG	U	N	18	200
BAI-24A-021-18	8330	WET		479-45-8	Tetryl	200	UG_KG	U	N	65	200
BAI-24A-021-18	8330	WET		118-96-7	2,4,6-Trinitrotoluene	200	UG_KG	U	N	13	200
BAI-24A-021-18	8330	WET		35572-78-2	2-amino-4,6-Dinitrotoluene	200	UG_KG	U	N	26	200
BAI-24A-021-18	8330	WET		19406-51-0	4-amino-2,6-Dinitrotoluene	200	UG_KG	U	N	28	200
BAI-24A-021-18	8330	WET		121-14-2	2,4-Dinitrotoluene	200	UG_KG	U	N	19	200
BAI-24A-021-18	8330	WET		606-20-2	2,6-Dinitrotoluene	200	UG_KG	U	N	18	200
BAI-24A-021-18	8330	WET		88-72-2	2-Nitrotoluene	400	UG_KG	U	N	16	400
BAI-24A-021-18	8330	WET		99-99-0	4-Nitrotoluene	400	UG_KG	U	N	30	400
BAI-24A-021-18	8330	WET		99-08-1	3-Nitrotoluene	400	UG_KG	U	N	60	400
BAI-24A-022-00	8330	WET		2691-41-0	HMX	200	UG_KG	U	N	26	200
BAI-24A-022-00	8330	WET		121-82-4	RDX	200	UG_KG	U	N	39	200
BAI-24A-022-00	8330	WET		99-35-4	1,3,5-Trinitrobenzene	200	UG_KG	U	N	35	200
BAI-24A-022-00	8330	WET		99-65-0	1,3-Dinitrobenzene	200	UG_KG	U	N	19	200
BAI-24A-022-00	8330	WET		98-95-3	Nitrobenzene	200	UG_KG	U	N	18	200
BAI-24A-022-00	8330	WET		479-45-8	Tetryl	200	UG_KG	U	N	65	200
BAI-24A-022-00	8330	WET		118-96-7	2,4,6-Trinitrotoluene	200	UG_KG	U	N	13	200
BAI-24A-022-00	8330	WET		35572-78-2	2-amino-4,6-Dinitrotoluene	200	UG_KG	U	N	26	200
BAI-24A-022-00	8330	WET		19406-51-0	4-amino-2,6-Dinitrotoluene	200	UG_KG	U	N	28	200
BAI-24A-022-00	8330	WET		121-14-2	2,4-Dinitrotoluene	200	UG_KG	U	N	19	200
BAI-24A-022-00	8330	WET		606-20-2	2,6-Dinitrotoluene	200	UG_KG	U	N	18	200
BAI-24A-022-00	8330	WET		88-72-2	2-Nitrotoluene	390	UG_KG	U	N	16	390
BAI-24A-022-00	8330	WET		99-99-0	4-Nitrotoluene	390	UG_KG	U	N	30	390
BAI-24A-022-00	8330	WET		99-08-1	3-Nitrotoluene	390	UG_KG	U	N	60	390
BAI-24A-022-18	8330	WET		2691-41-0	HMX	200	UG_KG	U	N	26	200
BAI-24A-022-18	8330	WET		121-82-4	RDX	200	UG_KG	U	N	39	200
BAI-24A-022-18	8330	WET		99-35-4	1,3,5-Trinitrobenzene	200	UG_KG	U	N	35	200
BAI-24A-022-18	8330	WET		99-65-0	1,3-Dinitrobenzene	200	UG_KG	U	N	20	200
BAI-24A-022-18	8330	WET		98-95-3	Nitrobenzene	200	UG_KG	U	N	18	200
BAI-24A-022-18	8330	WET		479-45-8	Tetryl	200	UG_KG	U	N	65	200
BAI-24A-022-18	8330	WET		118-96-7	2,4,6-Trinitrotoluene	200	UG_KG	U	N	13	200
BAI-24A-022-18	8330	WET		35572-78-2	2-amino-4,6-Dinitrotoluene	200	UG_KG	U	N	26	200
BAI-24A-022-18	8330	WET		19406-51-0	4-amino-2,6-Dinitrotoluene	200	UG_KG	U	N	28	200
BAI-24A-022-18	8330	WET		121-14-2	2,4-Dinitrotoluene	200	UG_KG	U	N	19	200
BAI-24A-022-18	8330	WET		606-20-2	2,6-Dinitrotoluene	200	UG_KG	U	N	18	200

Attachment B-4.1
Raw Data

SAMPLE_NAME	ANALYTICAL_METHOD	SAMPLE_BASIS	PERCENT_MOISTURE	ANALYTE_ID	ANALYTE NAME	ANALYTE_VALUE	RESULT_UNITS	FINAL_QUALIFIER	DETECTED	MDL	MRL
BAI-24A-022-18	8330	WET		88-72-2	2-Nitrotoluene	400	UG_KG	U	N	16	400
BAI-24A-022-18	8330	WET		99-99-0	4-Nitrotoluene	400	UG_KG	U	N	30	400
BAI-24A-022-18	8330	WET		99-08-1	3-Nitrotoluene	400	UG_KG	U	N	60	400
BAI-24A-023-00	8330	WET		2691-41-0	HMX	190	UG_KG	U	N	26	190
BAI-24A-023-00	8330	WET		121-82-4	RDX	190	UG_KG	U	N	39	190
BAI-24A-023-00	8330	WET		99-35-4	1,3,5-Trinitrobenzene	190	UG_KG	U	N	34	190
BAI-24A-023-00	8330	WET		99-65-0	1,3-Dinitrobenzene	190	UG_KG	U	N	19	190
BAI-24A-023-00	8330	WET		98-95-3	Nitrobenzene	190	UG_KG	U	N	18	190
BAI-24A-023-00	8330	WET		479-45-8	Tetryl	190	UG_KG	U	N	64	190
BAI-24A-023-00	8330	WET		118-96-7	2,4,6-Trinitrotoluene	190	UG_KG	U	N	13	190
BAI-24A-023-00	8330	WET		35572-78-2	2-amino-4,6-Dinitrotoluene	190	UG_KG	U	N	26	190
BAI-24A-023-00	8330	WET		19406-51-0	4-amino-2,6-Dinitrotoluene	190	UG_KG	U	N	28	190
BAI-24A-023-00	8330	WET		121-14-2	2,4-Dinitrotoluene	190	UG_KG	U	N	19	190
BAI-24A-023-00	8330	WET		606-20-2	2,6-Dinitrotoluene	190	UG_KG	U	N	18	190
BAI-24A-023-00	8330	WET		88-72-2	2-Nitrotoluene	390	UG_KG	U	N	16	390
BAI-24A-023-00	8330	WET		99-99-0	4-Nitrotoluene	390	UG_KG	U	N	30	390
BAI-24A-023-00	8330	WET		99-08-1	3-Nitrotoluene	390	UG_KG	U	N	59	390
BAI-24A-023-18	8330	WET		2691-41-0	HMX	200	UG_KG	U	N	26	200
BAI-24A-023-18	8330	WET		121-82-4	RDX	200	UG_KG	U	N	39	200
BAI-24A-023-18	8330	WET		99-35-4	1,3,5-Trinitrobenzene	200	UG_KG	U	N	35	200
BAI-24A-023-18	8330	WET		99-65-0	1,3-Dinitrobenzene	200	UG_KG	U	N	20	200
BAI-24A-023-18	8330	WET		98-95-3	Nitrobenzene	200	UG_KG	U	N	18	200
BAI-24A-023-18	8330	WET		479-45-8	Tetryl	200	UG_KG	U	N	65	200
BAI-24A-023-18	8330	WET		118-96-7	2,4,6-Trinitrotoluene	200	UG_KG	U	N	13	200
BAI-24A-023-18	8330	WET		35572-78-2	2-amino-4,6-Dinitrotoluene	200	UG_KG	U	N	26	200
BAI-24A-023-18	8330	WET		19406-51-0	4-amino-2,6-Dinitrotoluene	200	UG_KG	U	N	28	200
BAI-24A-023-18	8330	WET		121-14-2	2,4-Dinitrotoluene	200	UG_KG	U	N	19	200
BAI-24A-023-18	8330	WET		606-20-2	2,6-Dinitrotoluene	200	UG_KG	U	N	18	200
BAI-24A-023-18	8330	WET		88-72-2	2-Nitrotoluene	400	UG_KG	U	N	16	400
BAI-24A-023-18	8330	WET		99-99-0	4-Nitrotoluene	400	UG_KG	U	N	30	400
BAI-24A-023-18	8330	WET		99-08-1	3-Nitrotoluene	400	UG_KG	U	N	60	400
BAI-24A-019-00	6010B	DRY	15	7440-36-0	Antimony	3.6	MG_KG	J	Y	0.17	0.59
BAI-24A-019-00	6010B	DRY	15	7440-38-2	Arsenic	3.6	MG_KG		Y	0.09	0.29
BAI-24A-019-00	6010B	DRY	15	7440-39-3	Barium	150	MG_KG		Y	0.11	0.33
BAI-24A-019-00	6010B	DRY	15	7440-41-7	Beryllium	0.44	MG_KG		Y	0.022	0.12
BAI-24A-019-00	6010B	DRY	15	7440-43-9	Cadmium	0.29	MG_KG	J	Y	0.054	0.29
BAI-24A-019-00	6010B	DRY	15	7440-47-3	Chromium	23	MG_KG		Y	0.11	0.33
BAI-24A-019-00	6010B	DRY	15	7440-48-4	Cobalt	11	MG_KG		Y	0.22	0.65
BAI-24A-019-00	6010B	DRY	15	7440-50-8	Copper	20	MG_KG		Y	0.11	0.33
BAI-24A-019-00	6010B	DRY	15	7439-92-1	Lead	21	MG_KG		Y	0.08	0.29
BAI-24A-019-00	7470A	DRY	15	7439-97-6	Mercury	0.053	MG_KG	J	Y	0.0075	0.024
BAI-24A-019-00	6010B	DRY	15	7439-98-7	Molybdenum	0.49	MG_KG	J	Y	0.22	0.65
BAI-24A-019-00	6010B	DRY	15	7440-02-0	Nickel	23	MG_KG		Y	0.22	0.65
BAI-24A-019-00	6010B	DRY	15	7782-49-2	Selenium	0.59	MG_KG	U	N	0.16	0.59
BAI-24A-019-00	6010B	DRY	15	7440-22-4	Silver	0.29	MG_KG	U	N	0.081	0.29
BAI-24A-019-00	6010B	DRY	15	7440-28-0	Thallium	0.59	MG_KG	U	N	0.18	0.59
BAI-24A-019-00	6010B	DRY	15	7440-62-2	Vanadium	40	MG_KG		Y	0.11	0.33
BAI-24A-019-00	6010B	DRY	15	7440-66-6	Zinc	200	MG_KG		Y	0.22	1.2
BAI-24A-019-18	6010B	DRY	13	7440-36-0	Antimony	2.2	MG_KG	J	Y	0.18	0.57
BAI-24A-019-18	6010B	DRY	13	7440-38-2	Arsenic	3.6	MG_KG		Y	0.094	0.29

Attachment B-4.1
Raw Data

SAMPLE_NAME	ANALYTICAL_METHOD	SAMPLE_BASIS	PERCENT_MOISTURE	ANALYTE_ID	ANALYTE NAME	ANALYTE_VALUE	RESULT_UNITS	FINAL_QUALIFIER	DETECTED	MDL	MRL
BAI-24A-019-18	6010B	DRY	13	7440-39-3	Barium	140	MG_KG		Y	0.11	0.34
BAI-24A-019-18	6010B	DRY	13	7440-41-7	Beryllium	0.41	MG_KG		Y	0.023	0.11
BAI-24A-019-18	6010B	DRY	13	7440-43-9	Cadmium	0.22	MG_KG	J	Y	0.057	0.29
BAI-24A-019-18	6010B	DRY	13	7440-47-3	Chromium	16	MG_KG		Y	0.11	0.34
BAI-24A-019-18	6010B	DRY	13	7440-48-4	Cobalt	8.4	MG_KG		Y	0.23	0.68
BAI-24A-019-18	6010B	DRY	13	7440-50-8	Copper	13	MG_KG		Y	0.11	0.34
BAI-24A-019-18	6010B	DRY	13	7439-92-1	Lead	8.1	MG_KG		Y	0.083	0.29
BAI-24A-019-18	7470A	DRY	13	7439-97-6	Mercury	0.012	MG_KG	J	Y	0.0075	0.024
BAI-24A-019-18	6010B	DRY	13	7439-98-7	Molybdenum	0.25	MG_KG	J	Y	0.23	0.68
BAI-24A-019-18	6010B	DRY	13	7440-02-0	Nickel	16	MG_KG		Y	0.23	0.68
BAI-24A-019-18	6010B	DRY	13	7782-49-2	Selenium	0.57	MG_KG	U	N	0.17	0.57
BAI-24A-019-18	6010B	DRY	13	7440-22-4	Silver	0.29	MG_KG	U	N	0.085	0.29
BAI-24A-019-18	6010B	DRY	13	7440-28-0	Thallium	0.57	MG_KG	U	N	0.19	0.57
BAI-24A-019-18	6010B	DRY	13	7440-62-2	Vanadium	31	MG_KG		Y	0.11	0.34
BAI-24A-019-18	6010B	DRY	13	7440-66-6	Zinc	390	MG_KG		Y	0.23	1.1
BAI-24A-020-00	6010B	DRY	6	7440-36-0	Antimony	6.7	MG_KG	J	Y	0.17	0.53
BAI-24A-020-00	6010B	DRY	6	7440-38-2	Arsenic	2.4	MG_KG		Y	0.087	0.27
BAI-24A-020-00	6010B	DRY	6	7440-39-3	Barium	13	MG_KG		Y	0.1	0.31
BAI-24A-020-00	6010B	DRY	6	7440-41-7	Beryllium	0.25	MG_KG		Y	0.021	0.11
BAI-24A-020-00	6010B	DRY	6	7440-43-9	Cadmium	0.23	MG_KG	J	Y	0.052	0.27
BAI-24A-020-00	6010B	DRY	6	7440-47-3	Chromium	27	MG_KG		Y	0.1	0.31
BAI-24A-020-00	6010B	DRY	6	7440-48-4	Cobalt	22	MG_KG		Y	0.21	0.63
BAI-24A-020-00	6010B	DRY	6	7440-50-8	Copper	46	MG_KG		Y	0.1	0.31
BAI-24A-020-00	6010B	DRY	6	7439-92-1	Lead	110	MG_KG		Y	0.076	0.27
BAI-24A-020-00	7470A	DRY	6	7439-97-6	Mercury	0.52	MG_KG	J	Y	0.0067	0.021
BAI-24A-020-00	6010B	DRY	6	7439-98-7	Molybdenum	0.33	MG_KG	J	Y	0.21	0.63
BAI-24A-020-00	6010B	DRY	6	7440-02-0	Nickel	20	MG_KG		Y	0.21	0.63
BAI-24A-020-00	6010B	DRY	6	7782-49-2	Selenium	0.53	MG_KG	U	N	0.15	0.53
BAI-24A-020-00	6010B	DRY	6	7440-22-4	Silver	0.3	MG_KG		Y	0.078	0.27
BAI-24A-020-00	6010B	DRY	6	7440-28-0	Thallium	0.53	MG_KG	U	N	0.17	0.53
BAI-24A-020-00	6010B	DRY	6	7440-62-2	Vanadium	110	MG_KG		Y	0.1	0.31
BAI-24A-020-00	6010B	DRY	6	7440-66-6	Zinc	33	MG_KG		Y	0.21	1.1
BAI-24A-020-18	6010B	DRY	12	7440-36-0	Antimony	2.3	MG_KG	J	Y	0.16	0.57
BAI-24A-020-18	6010B	DRY	12	7440-38-2	Arsenic	2.9	MG_KG		Y	0.086	0.28
BAI-24A-020-18	6010B	DRY	12	7440-39-3	Barium	180	MG_KG		Y	0.1	0.31
BAI-24A-020-18	6010B	DRY	12	7440-41-7	Beryllium	0.37	MG_KG		Y	0.021	0.11
BAI-24A-020-18	6010B	DRY	12	7440-43-9	Cadmium	0.1	MG_KG	J	Y	0.052	0.28
BAI-24A-020-18	6010B	DRY	12	7440-47-3	Chromium	15	MG_KG		Y	0.1	0.31
BAI-24A-020-18	6010B	DRY	12	7440-48-4	Cobalt	7.8	MG_KG		Y	0.21	0.62
BAI-24A-020-18	6010B	DRY	12	7440-50-8	Copper	7.4	MG_KG		Y	0.1	0.31
BAI-24A-020-18	6010B	DRY	12	7439-92-1	Lead	3.4	MG_KG		Y	0.075	0.28
BAI-24A-020-18	7470A	DRY	12	7439-97-6	Mercury	0.023	MG_KG	UJ	N	0.0073	0.023
BAI-24A-020-18	6010B	DRY	12	7439-98-7	Molybdenum	0.23	MG_KG	J	Y	0.21	0.62
BAI-24A-020-18	6010B	DRY	12	7440-02-0	Nickel	12	MG_KG		Y	0.21	0.62
BAI-24A-020-18	6010B	DRY	12	7782-49-2	Selenium	0.57	MG_KG	U	N	0.15	0.57
BAI-24A-020-18	6010B	DRY	12	7440-22-4	Silver	0.28	MG_KG	U	N	0.077	0.28
BAI-24A-020-18	6010B	DRY	12	7440-28-0	Thallium	0.57	MG_KG	U	N	0.17	0.57
BAI-24A-020-18	6010B	DRY	12	7440-62-2	Vanadium	31	MG_KG		Y	0.1	0.31
BAI-24A-020-18	6010B	DRY	12	7440-66-6	Zinc	43	MG_KG		Y	0.21	1.1
BAI-24A-021-00	6010B	DRY	5	7440-36-0	Antimony	370	MG_KG	J	Y	0.16	0.53

Attachment B-4.1
Raw Data

SAMPLE_NAME	ANALYTICAL_METHOD	SAMPLE_BASIS	PERCENT_MOISTURE	ANALYTE_ID	ANALYTE NAME	ANALYTE_VALUE	RESULT_UNITS	FINAL_QUALIFIER	DETECTED	MDL	MRL
BAI-24A-021-00	6010B	DRY	5	7440-38-2	Arsenic	120	MG_KG		Y	0.086	0.26
BAI-24A-021-00	6010B	DRY	5	7440-39-3	Barium	47	MG_KG		Y	0.1	0.31
BAI-24A-021-00	6010B	DRY	5	7440-41-7	Beryllium	0.27	MG_KG		Y	0.021	0.11
BAI-24A-021-00	6010B	DRY	5	7440-43-9	Cadmium	0.24	MG_KG	J	Y	0.052	0.26
BAI-24A-021-00	6010B	DRY	5	7440-47-3	Chromium	33	MG_KG		Y	0.1	0.31
BAI-24A-021-00	6010B	DRY	5	7440-48-4	Cobalt	23	MG_KG		Y	0.21	0.62
BAI-24A-021-00	6010B	DRY	5	7440-50-8	Copper	120	MG_KG		Y	0.1	0.31
BAI-24A-021-00	7470A	DRY	5	7439-97-6	Mercury	0.25	MG_KG	J	Y	0.0065	0.021
BAI-24A-021-00	6010B	DRY	5	7439-98-7	Molybdenum	0.47	MG_KG	J	Y	0.21	0.62
BAI-24A-021-00	6010B	DRY	5	7440-02-0	Nickel	39	MG_KG		Y	0.21	0.62
BAI-24A-021-00	6010B	DRY	5	7782-49-2	Selenium	0.53	MG_KG	U	N	0.15	0.53
BAI-24A-021-00	6010B	DRY	5	7440-22-4	Silver	0.87	MG_KG		Y	0.077	0.26
BAI-24A-021-00	6010B	DRY	5	7440-28-0	Thallium	0.53	MG_KG	U	N	0.17	0.53
BAI-24A-021-00	6010B	DRY	5	7440-62-2	Vanadium	81	MG_KG		Y	0.1	0.31
BAI-24A-021-00	6010B	DRY	5	7440-66-6	Zinc	76	MG_KG		Y	0.21	1.1
BAI-24A-021-18	6010B	DRY	13	7440-36-0	Antimony	2.6	MG_KG	J	Y	0.18	0.57
BAI-24A-021-18	6010B	DRY	13	7440-38-2	Arsenic	2.8	MG_KG		Y	0.094	0.29
BAI-24A-021-18	6010B	DRY	13	7440-39-3	Barium	120	MG_KG		Y	0.11	0.34
BAI-24A-021-18	6010B	DRY	13	7440-41-7	Beryllium	0.41	MG_KG		Y	0.023	0.11
BAI-24A-021-18	6010B	DRY	13	7440-43-9	Cadmium	0.1	MG_KG	J	Y	0.057	0.29
BAI-24A-021-18	6010B	DRY	13	7440-47-3	Chromium	14	MG_KG		Y	0.11	0.34
BAI-24A-021-18	6010B	DRY	13	7440-48-4	Cobalt	8.5	MG_KG		Y	0.23	0.68
BAI-24A-021-18	6010B	DRY	13	7440-50-8	Copper	9.3	MG_KG		Y	0.11	0.34
BAI-24A-021-18	6010B	DRY	13	7439-92-1	Lead	13	MG_KG		Y	0.083	0.29
BAI-24A-021-18	7470A	DRY	13	7439-97-6	Mercury	0.023	MG_KG	UJ	N	0.0066	0.023
BAI-24A-021-18	6010B	DRY	13	7439-98-7	Molybdenum	0.68	MG_KG	U	N	0.23	0.68
BAI-24A-021-18	6010B	DRY	13	7440-02-0	Nickel	12	MG_KG		Y	0.23	0.68
BAI-24A-021-18	6010B	DRY	13	7782-49-2	Selenium	0.57	MG_KG	U	N	0.17	0.57
BAI-24A-023-00	6010B	DRY	6	7440-50-8	Copper	44	MG_KG		Y	0.096	0.29
BAI-24A-023-00	6010B	DRY	6	7439-92-1	Lead	10	MG_KG		Y	0.07	0.27
BAI-24A-023-00	7470A	DRY	6	7439-97-6	Mercury	0.21	MG_KG	J	Y	0.0064	0.021
BAI-24A-023-00	6010B	DRY	6	7439-98-7	Molybdenum	0.25	MG_KG	J	Y	0.19	0.58
BAI-24A-023-00	6010B	DRY	6	7440-02-0	Nickel	24	MG_KG		Y	0.19	0.58
BAI-24A-023-00	6010B	DRY	6	7782-49-2	Selenium	0.53	MG_KG	U	N	0.14	0.53
BAI-24A-023-00	6010B	DRY	6	7440-22-4	Silver	0.36	MG_KG		Y	0.072	0.27
BAI-24A-023-00	6010B	DRY	6	7440-28-0	Thallium	0.53	MG_KG	U	N	0.16	0.53
BAI-24A-023-00	6010B	DRY	6	7440-62-2	Vanadium	150	MG_KG		Y	0.096	0.29
BAI-24A-023-00	6010B	DRY	6	7440-66-6	Zinc	32	MG_KG		Y	0.19	1.1
BAI-24A-023-18	6010B	DRY	13	7440-36-0	Antimony	3.4	MG_KG	J	Y	0.18	0.57
BAI-24A-023-18	6010B	DRY	13	7440-38-2	Arsenic	5.3	MG_KG		Y	0.094	0.29
BAI-24A-023-18	6010B	DRY	13	7440-39-3	Barium	170	MG_KG		Y	0.11	0.34
BAI-24A-023-18	6010B	DRY	13	7440-41-7	Beryllium	0.49	MG_KG		Y	0.023	0.11
BAI-24A-023-18	6010B	DRY	13	7440-43-9	Cadmium	0.42	MG_KG		Y	0.056	0.29
BAI-24A-023-18	6010B	DRY	13	7440-47-3	Chromium	26	MG_KG		Y	0.11	0.34
BAI-24A-023-18	6010B	DRY	13	7440-48-4	Cobalt	12	MG_KG		Y	0.23	0.68
BAI-24A-023-18	6010B	DRY	13	7440-50-8	Copper	20	MG_KG		Y	0.11	0.34
BAI-24A-023-18	6010B	DRY	13	7439-92-1	Lead	20	MG_KG		Y	0.082	0.29
BAI-24A-023-18	7470A	DRY	13	7439-97-6	Mercury	0.046	MG_KG	J	Y	0.0072	0.023
BAI-24A-023-18	6010B	DRY	13	7439-98-7	Molybdenum	0.32	MG_KG	J	Y	0.23	0.68
BAI-24A-023-18	6010B	DRY	13	7440-02-0	Nickel	34	MG_KG		Y	0.23	0.68

Attachment B-4.1
Raw Data

SAMPLE_NAME	ANALYTICAL_METHOD	SAMPLE_BASIS	PERCENT_MOISTURE	ANALYTE_ID	ANALYTE NAME	ANALYTE_VALUE	RESULT_UNITS	FINAL_QUALIFIER	DETECTED	MDL	MRL
BAI-24A-023-18	6010B	DRY	13	7782-49-2	Selenium	0.57	MG_KG	U	N	0.16	0.57
BAI-24A-023-18	6010B	DRY	13	7440-22-4	Silver	0.29	MG_KG	U	N	0.084	0.29
BAI-24A-023-18	6010B	DRY	13	7440-28-0	Thallium	0.57	MG_KG	U	N	0.18	0.57
BAI-24A-023-18	6010B	DRY	13	7440-62-2	Vanadium	46	MG_KG		Y	0.11	0.34
BAI-24A-023-18	6010B	DRY	13	7440-66-6	Zinc	350	MG_KG		Y	0.23	1.1
BAI-24A-019-00	D2216	WET		-86	Percent Moisture	15	PCT		Y		1
BAI-24A-019-18	D2216	WET		-86	Percent Moisture	13	PCT		Y		1
BAI-24A-020-00	D2216	WET		-86	Percent Moisture	6	PCT		Y		1
BAI-24A-020-18	D2216	WET		-86	Percent Moisture	12	PCT		Y		1
BAI-24A-021-00	D2216	WET		-86	Percent Moisture	5	PCT		Y		1
BAI-24A-021-18	D2216	WET		-86	Percent Moisture	13	PCT		Y		1
BAI-24A-022-00	D2216	WET		-86	Percent Moisture	13	PCT		Y		1
BAI-24A-022-18	D2216	WET		-86	Percent Moisture	11	PCT		Y		1
BAI-24A-023-00	D2216	WET		-86	Percent Moisture	6	PCT		Y		1
BAI-24A-023-18	D2216	WET		-86	Percent Moisture	13	PCT		Y		1
BAI-24A-019-00	8330	WET		2691-41-0	HMX	200	UG_KG	U	N	26	200
BAI-24A-019-00	8330	WET		121-82-4	RDX	200	UG_KG	U	N	39	200
BAI-24A-019-00	8330	WET		99-35-4	1,3,5-Trinitrobenzene	200	UG_KG	U	N	35	200
BAI-24A-019-00	8330	WET		99-65-0	1,3-Dinitrobenzene	200	UG_KG	U	N	20	200
BAI-24A-019-00	8330	WET		98-95-3	Nitrobenzene	200	UG_KG	U	N	18	200
BAI-24A-019-00	8330	WET		479-45-8	Tetryl	200	UG_KG	U	N	65	200
BAI-24A-019-00	8330	WET		118-96-7	2,4,6-Trinitrotoluene	200	UG_KG	U	N	13	200
BAI-24A-019-00	8330	WET		35572-78-2	2-amino-4,6-Dinitrotoluene	200	UG_KG	U	N	26	200
BAI-24A-019-00	8330	WET		19406-51-0	4-amino-2,6-Dinitrotoluene	200	UG_KG	U	N	28	200
BAI-24A-019-00	8330	WET		121-14-2	2,4-Dinitrotoluene	200	UG_KG	U	N	19	200
BAI-24A-019-00	8330	WET		606-20-2	2,6-Dinitrotoluene	200	UG_KG	U	N	18	200
BAI-24A-019-00	8330	WET		88-72-2	2-Nitrotoluene	400	UG_KG	U	N	16	400
BAI-24A-019-00	8330	WET		99-99-0	4-Nitrotoluene	400	UG_KG	U	N	31	400
BAI-24A-019-00	8330	WET		99-08-1	3-Nitrotoluene	400	UG_KG	U	N	61	400
BAI-24A-019-18	8330	WET		2691-41-0	HMX	200	UG_KG	U	N	26	200
BAI-24A-019-18	8330	WET		121-82-4	RDX	200	UG_KG	U	N	39	200
BAI-24A-019-18	8330	WET		99-35-4	1,3,5-Trinitrobenzene	200	UG_KG	U	N	35	200
BAI-24A-019-18	8330	WET		99-65-0	1,3-Dinitrobenzene	200	UG_KG	U	N	19	200
BAI-24A-019-18	8330	WET		98-95-3	Nitrobenzene	200	UG_KG	U	N	18	200
BAI-24A-019-18	8330	WET		479-45-8	Tetryl	200	UG_KG	U	N	65	200
BAI-24A-019-18	8330	WET		118-96-7	2,4,6-Trinitrotoluene	200	UG_KG	U	N	13	200
BAI-24A-019-18	8330	WET		35572-78-2	2-amino-4,6-Dinitrotoluene	200	UG_KG	U	N	26	200
BAI-24A-024-00	8330	WET		2691-41-0	HMX	200	UG_KG	U	N	15	200
BAI-24A-024-00	8330	WET		121-82-4	RDX	200	UG_KG	U	N	21	200
BAI-24A-024-00	8330	WET		99-35-4	1,3,5-Trinitrobenzene	200	UG_KG	U	N	27	200
BAI-24A-024-00	8330	WET		99-65-0	1,3-Dinitrobenzene	200	UG_KG	U	N	4.6	200
BAI-24A-024-00	8330	WET		98-95-3	Nitrobenzene	200	UG_KG	U	N	16	200
BAI-24A-024-00	8330	WET		479-45-8	Tetryl	200	UG_KG	UJ	N	56	200
BAI-24A-024-00	8330	WET		118-96-7	2,4,6-Trinitrotoluene	200	UG_KG	U	N	30	200
BAI-24A-024-00	8330	WET		35572-78-2	2-amino-4,6-Dinitrotoluene	200	UG_KG	U	N	18	200
BAI-24A-024-00	8330	WET		19406-51-0	4-amino-2,6-Dinitrotoluene	200	UG_KG	U	N	39	200
BAI-24A-024-00	8330	WET		121-14-2	2,4-Dinitrotoluene	200	UG_KG	U	N	21	200
BAI-24A-024-00	8330	WET		606-20-2	2,6-Dinitrotoluene	200	UG_KG	U	N	22	200
BAI-24A-024-00	8330	WET		88-72-2	2-Nitrotoluene	400	UG_KG	U	N	28	400
BAI-24A-024-00	8330	WET		99-99-0	4-Nitrotoluene	400	UG_KG	U	N	28	400

Attachment B-4.1
Raw Data

SAMPLE_NAME	ANALYTICAL_METHOD	SAMPLE_BASIS	PERCENT_MOISTURE	ANALYTE_ID	ANALYTE NAME	ANALYTE_VALUE	RESULT_UNITS	FINAL_QUALIFIER	DETECTED	MDL	MRL
BAI-24A-024-00	8330	WET		99-08-1	3-Nitrotoluene	400	UG_KG	U	N	40	400
BAI-24A-024-00	6010B	DRY	6	7440-36-0	Antimony	6.5	MG_KG	J	Y	0.16	0.53
BAI-24A-024-00	6010B	DRY	6	7440-38-2	Arsenic	0.27	MG_KG	U	N	0.085	0.27
BAI-24A-024-00	6010B	DRY	6	7440-39-3	Barium	5.3	MG_KG		Y	0.1	0.31
BAI-24A-024-00	6010B	DRY	6	7440-41-7	Beryllium	0.24	MG_KG		Y	0.02	0.11
BAI-24A-024-00	6010B	DRY	6	7440-43-9	Cadmium	0.26	MG_KG	J	Y	0.051	0.27
BAI-24A-024-00	6010B	DRY	6	7440-47-3	Chromium	31	MG_KG		Y	0.1	0.31
BAI-24A-024-00	6010B	DRY	6	7440-48-4	Cobalt	26	MG_KG		Y	0.2	0.61
BAI-24A-024-00	6010B	DRY	6	7440-50-8	Copper	31	MG_KG	J	Y	0.1	0.31
BAI-24A-024-00	6010B	DRY	6	7439-92-1	Lead	7.4	MG_KG		Y	0.075	0.27
BAI-24A-024-00	7470A	DRY	6	7439-97-6	Mercury	0.4	MG_KG		Y	0.0061	0.021
BAI-24A-024-00	6010B	DRY	6	7439-98-7	Molybdenum	0.61	MG_KG	U	N	0.2	0.61
BAI-24A-024-00	6010B	DRY	6	7440-02-0	Nickel	21	MG_KG		Y	0.2	0.61
BAI-24A-024-00	6010B	DRY	6	7782-49-2	Selenium	0.53	MG_KG	U	N	0.15	0.53
BAI-24A-024-00	6010B	DRY	6	7440-22-4	Silver	0.22	MG_KG	J	Y	0.076	0.27
BAI-24A-024-00	6010B	DRY	6	7440-28-0	Thallium	0.53	MG_KG	U	N	0.17	0.53
BAI-24A-024-00	6010B	DRY	6	7440-62-2	Vanadium	130	MG_KG		Y	0.1	0.31
BAI-24A-024-00	6010B	DRY	6	7440-66-6	Zinc	25	MG_KG		Y	0.2	1.1
BAI-24A-024-00	D2216	WET		-86	Percent Moisture	6	PCT		Y		1
BAI-24A-029-00	6010B	DRY	17	7440-47-3	Chromium	20	MG_KG		Y	0.12	0.36
BAI-24A-029-00	6010B	DRY	17	7440-48-4	Cobalt	11	MG_KG		Y	0.24	0.72
BAI-24A-029-00	6010B	DRY	17	7440-50-8	Copper	81	MG_KG		Y	0.12	0.36
BAI-24A-029-00	7470A	DRY	17	7439-97-6	Mercury	0.024	MG_KG	UJ	N	0.0076	0.024
BAI-24A-029-00	6010B	DRY	17	7439-98-7	Molybdenum	0.28	MG_KG	J	Y	0.24	0.72
BAI-24A-029-00	6010B	DRY	17	7440-02-0	Nickel	19	MG_KG		Y	0.24	0.72
BAI-24A-029-00	6010B	DRY	17	7782-49-2	Selenium	0.6	MG_KG	U	N	0.17	0.6
BAI-24A-029-00	6010B	DRY	17	7440-22-4	Silver	0.34	MG_KG		Y	0.089	0.3
BAI-24A-029-00	6010B	DRY	17	7440-28-0	Thallium	0.6	MG_KG	U	N	0.19	0.6
BAI-24A-029-00	6010B	DRY	17	7440-62-2	Vanadium	40	MG_KG		Y	0.12	0.36
BAI-24A-029-00	6010B	DRY	17	7440-66-6	Zinc	140	MG_KG		Y	0.24	1.2
BAI-24A-029-18	6010B	DRY	6	7440-36-0	Antimony	3.6	MG_KG	J	Y	0.16	0.53
BAI-24A-029-18	6010B	DRY	6	7440-38-2	Arsenic	5.1	MG_KG		Y	0.083	0.27
BAI-24A-029-18	6010B	DRY	6	7440-39-3	Barium	97	MG_KG		Y	0.1	0.3
BAI-24A-029-18	6010B	DRY	6	7440-41-7	Beryllium	0.48	MG_KG		Y	0.02	0.11
BAI-24A-029-18	6010B	DRY	6	7440-43-9	Cadmium	0.13	MG_KG	J	Y	0.05	0.27
BAI-24A-029-18	6010B	DRY	6	7440-47-3	Chromium	16	MG_KG		Y	0.1	0.3
BAI-24A-029-18	6010B	DRY	6	7440-48-4	Cobalt	8	MG_KG		Y	0.2	0.6
BAI-24A-029-18	6010B	DRY	6	7440-50-8	Copper	15	MG_KG		Y	0.1	0.3
BAI-24A-029-18	6010B	DRY	6	7439-92-1	Lead	13	MG_KG		Y	0.073	0.27
BAI-24A-029-18	7470A	DRY	6	7439-97-6	Mercury	0.02	MG_KG	J	Y	0.007	0.022
BAI-24A-029-18	6010B	DRY	6	7439-98-7	Molybdenum	0.6	MG_KG	U	N	0.2	0.6
BAI-24A-029-18	6010B	DRY	6	7440-02-0	Nickel	16	MG_KG		Y	0.2	0.6
BAI-24A-029-18	6010B	DRY	6	7782-49-2	Selenium	0.53	MG_KG	U	N	0.15	0.53
BAI-24A-029-18	6010B	DRY	6	7440-22-4	Silver	0.12	MG_KG	J	Y	0.075	0.27
BAI-24A-029-18	6010B	DRY	6	7440-28-0	Thallium	0.53	MG_KG	U	N	0.16	0.53
BAI-24A-029-18	6010B	DRY	6	7440-62-2	Vanadium	31	MG_KG		Y	0.1	0.3
BAI-24A-029-18	6010B	DRY	6	7440-66-6	Zinc	47	MG_KG		Y	0.2	1.1
BAI-24A-025-00	D2216	WET		-86	Percent Moisture	19	PCT		Y		1
BAI-24A-025-18	D2216	WET		-86	Percent Moisture	12	PCT		Y		1
BAI-24A-026-00	D2216	WET		-86	Percent Moisture	17	PCT		Y		1

Attachment B-4.1
Raw Data

SAMPLE_NAME	ANALYTICAL_METHOD	SAMPLE_BASIS	PERCENT_MOISTURE	ANALYTE_ID	ANALYTE NAME	ANALYTE_VALUE	RESULT_UNITS	FINAL_QUALIFIER	DETECTED	MDL	MRL
BAI-24A-026-18	D2216	WET		-86	Percent Moisture	4	PCT		Y		1
BAI-24A-027-00	D2216	WET		-86	Percent Moisture	16	PCT		Y		1
BAI-24A-027-18	D2216	WET		-86	Percent Moisture	7	PCT		Y		1
BAI-24A-028-00	D2216	WET		-86	Percent Moisture	16	PCT		Y		1
BAI-24A-028-18	D2216	WET		-86	Percent Moisture	6	PCT		Y		1
BAI-24A-029-00	D2216	WET		-86	Percent Moisture	17	PCT		Y		1
BAI-24A-029-18	D2216	WET		-86	Percent Moisture	6	PCT		Y		1
BAI-24A-025-00	8330	WET		2691-41-0	HMX	200	UG_KG	U	N	26	200
BAI-24A-025-00	8330	WET		121-82-4	RDX	200	UG_KG	U	N	39	200
BAI-24A-025-00	8330	WET		99-35-4	1,3,5-Trinitrobenzene	200	UG_KG	U	N	35	200
BAI-24A-025-00	8330	WET		99-65-0	1,3-Dinitrobenzene	200	UG_KG	U	N	20	200
BAI-24A-025-00	8330	WET		98-95-3	Nitrobenzene	200	UG_KG	U	N	18	200
BAI-24A-025-00	8330	WET		479-45-8	Tetryl	200	UG_KG	U	N	65	200
BAI-24A-025-00	8330	WET		118-96-7	2,4,6-Trinitrotoluene	200	UG_KG	U	N	13	200
BAI-24A-025-00	8330	WET		35572-78-2	2-amino-4,6-Dinitrotoluene	200	UG_KG	U	N	26	200
BAI-24A-025-00	8330	WET		19406-51-0	4-amino-2,6-Dinitrotoluene	200	UG_KG	U	N	28	200
BAI-24A-025-00	8330	WET		121-14-2	2,4-Dinitrotoluene	200	UG_KG	U	N	19	200
BAI-24A-025-00	8330	WET		606-20-2	2,6-Dinitrotoluene	200	UG_KG	U	N	18	200
BAI-24A-025-00	8330	WET		88-72-2	2-Nitrotoluene	400	UG_KG	U	N	11	400
BAI-24A-025-00	8330	WET		99-99-0	4-Nitrotoluene	77	UG_KG	J	Y	24	400
BAI-24A-025-00	8330	WET		99-08-1	3-Nitrotoluene	400	UG_KG	U	N	60	400
BAI-24A-025-18	8330	WET		2691-41-0	HMX	200	UG_KG	U	N	26	200
BAI-24A-025-18	8330	WET		121-82-4	RDX	200	UG_KG	U	N	39	200
BAI-24A-025-18	8330	WET		99-35-4	1,3,5-Trinitrobenzene	200	UG_KG	U	N	34	200
BAI-24A-025-18	8330	WET		99-65-0	1,3-Dinitrobenzene	200	UG_KG	U	N	19	200
BAI-24A-025-18	8330	WET		98-95-3	Nitrobenzene	200	UG_KG	U	N	18	200
BAI-24A-025-18	8330	WET		479-45-8	Tetryl	200	UG_KG	U	N	64	200
BAI-24A-025-18	8330	WET		118-96-7	2,4,6-Trinitrotoluene	200	UG_KG	U	N	13	200
BAI-24A-025-18	8330	WET		35572-78-2	2-amino-4,6-Dinitrotoluene	200	UG_KG	U	N	26	200
BAI-24A-025-18	8330	WET		19406-51-0	4-amino-2,6-Dinitrotoluene	200	UG_KG	U	N	28	200
BAI-24A-025-18	8330	WET		121-14-2	2,4-Dinitrotoluene	200	UG_KG	U	N	19	200
BAI-24A-025-18	8330	WET		606-20-2	2,6-Dinitrotoluene	200	UG_KG	U	N	18	200
BAI-24A-025-18	8330	WET		88-72-2	2-Nitrotoluene	390	UG_KG	U	N	16	390
BAI-24A-025-18	8330	WET		99-99-0	4-Nitrotoluene	390	UG_KG	U	N	30	390
BAI-24A-025-18	8330	WET		99-08-1	3-Nitrotoluene	390	UG_KG	U	N	60	390
BAI-24A-026-00	8330	WET		2691-41-0	HMX	200	UG_KG	U	N	26	200
BAI-24A-026-00	8330	WET		121-82-4	RDX	200	UG_KG	U	N	39	200
BAI-24A-026-00	8330	WET		99-35-4	1,3,5-Trinitrobenzene	200	UG_KG	U	N	35	200
BAI-24A-026-00	8330	WET		99-65-0	1,3-Dinitrobenzene	200	UG_KG	U	N	20	200
BAI-24A-026-00	8330	WET		98-95-3	Nitrobenzene	200	UG_KG	U	N	18	200
BAI-24A-026-00	8330	WET		479-45-8	Tetryl	200	UG_KG	U	N	65	200
BAI-24A-026-00	8330	WET		118-96-7	2,4,6-Trinitrotoluene	200	UG_KG	U	N	13	200
BAI-24A-026-00	8330	WET		35572-78-2	2-amino-4,6-Dinitrotoluene	200	UG_KG	U	N	26	200
BAI-24A-026-00	8330	WET		19406-51-0	4-amino-2,6-Dinitrotoluene	200	UG_KG	U	N	28	200
BAI-24A-026-00	8330	WET		121-14-2	2,4-Dinitrotoluene	200	UG_KG	U	N	19	200
BAI-24A-026-00	8330	WET		606-20-2	2,6-Dinitrotoluene	200	UG_KG	U	N	18	200
BAI-24A-026-00	8330	WET		88-72-2	2-Nitrotoluene	400	UG_KG	U	N	16	400
BAI-24A-026-00	8330	WET		99-99-0	4-Nitrotoluene	400	UG_KG	U	N	30	400
BAI-24A-026-00	8330	WET		99-08-1	3-Nitrotoluene	400	UG_KG	U	N	60	400
BAI-24A-026-18	8330	WET		2691-41-0	HMX	200	UG_KG	U	N	26	200

SAMPLE_NAME	ANALYTICAL_METHOD	SAMPLE_BASIS	PERCENT_MOISTURE	ANALYTE_ID	ANALYTE NAME	ANALYTE_VALUE	RESULT_UNITS	FINAL_QUALIFIER	DETECTED	MDL	MRL
BAI-24A-026-18	8330	WET		121-82-4	RDX	200	UG_KG	U	N	39	200
BAI-24A-026-18	8330	WET		99-35-4	1,3,5-Trinitrobenzene	200	UG_KG	U	N	35	200
BAI-24A-026-18	8330	WET		99-65-0	1,3-Dinitrobenzene	200	UG_KG	U	N	20	200
BAI-24A-026-18	8330	WET		98-95-3	Nitrobenzene	200	UG_KG	U	N	18	200
BAI-24A-026-18	8330	WET		479-45-8	Tetryl	200	UG_KG	U	N	66	200
BAI-24A-026-18	8330	WET		118-96-7	2,4,6-Trinitrotoluene	200	UG_KG	U	N	13	200
BAI-24A-026-18	8330	WET		35572-78-2	2-amino-4,6-Dinitrotoluene	200	UG_KG	U	N	26	200
BAI-24A-026-18	8330	WET		19406-51-0	4-amino-2,6-Dinitrotoluene	200	UG_KG	U	N	28	200
BAI-24A-026-18	8330	WET		121-14-2	2,4-Dinitrotoluene	200	UG_KG	U	N	19	200
BAI-24A-026-18	8330	WET		606-20-2	2,6-Dinitrotoluene	200	UG_KG	U	N	18	200
BAI-24A-026-18	8330	WET		88-72-2	2-Nitrotoluene	400	UG_KG	U	N	16	400
BAI-24A-026-18	8330	WET		99-99-0	4-Nitrotoluene	400	UG_KG	U	N	31	400
BAI-24A-026-18	8330	WET		99-08-1	3-Nitrotoluene	400	UG_KG	U	N	61	400
BAI-24A-027-00	8330	WET		2691-41-0	HMX	200	UG_KG	U	N	26	200
BAI-24A-027-00	8330	WET		121-82-4	RDX	200	UG_KG	U	N	40	200
BAI-24A-027-00	8330	WET		99-35-4	1,3,5-Trinitrobenzene	200	UG_KG	U	N	35	200
BAI-24A-027-00	8330	WET		99-65-0	1,3-Dinitrobenzene	200	UG_KG	U	N	20	200
BAI-24A-027-00	8330	WET		98-95-3	Nitrobenzene	200	UG_KG	U	N	18	200
BAI-24A-027-00	8330	WET		479-45-8	Tetryl	200	UG_KG	U	N	66	200
BAI-24A-027-00	8330	WET		118-96-7	2,4,6-Trinitrotoluene	200	UG_KG	U	N	13	200
BAI-24A-027-00	8330	WET		35572-78-2	2-amino-4,6-Dinitrotoluene	200	UG_KG	U	N	26	200
BAI-24A-027-00	8330	WET		19406-51-0	4-amino-2,6-Dinitrotoluene	200	UG_KG	U	N	28	200
BAI-24A-027-00	8330	WET		121-14-2	2,4-Dinitrotoluene	200	UG_KG	U	N	19	200
BAI-24A-027-00	8330	WET		606-20-2	2,6-Dinitrotoluene	200	UG_KG	U	N	18	200
BAI-24A-027-00	8330	WET		88-72-2	2-Nitrotoluene	400	UG_KG	U	N	16	400
BAI-24A-027-00	8330	WET		99-99-0	4-Nitrotoluene	400	UG_KG	U	N	31	400
BAI-24A-027-00	8330	WET		99-08-1	3-Nitrotoluene	400	UG_KG	U	N	61	400
BAI-24A-027-18	8330	WET		2691-41-0	HMX	190	UG_KG	U	N	26	190
BAI-24A-027-18	8330	WET		121-82-4	RDX	190	UG_KG	U	N	38	190
BAI-24A-027-18	8330	WET		99-35-4	1,3,5-Trinitrobenzene	190	UG_KG	U	N	34	190
BAI-24A-027-18	8330	WET		99-65-0	1,3-Dinitrobenzene	190	UG_KG	U	N	19	190
BAI-24A-027-18	8330	WET		98-95-3	Nitrobenzene	190	UG_KG	U	N	18	190
BAI-24A-027-18	8330	WET		479-45-8	Tetryl	190	UG_KG	U	N	64	190
BAI-24A-027-18	8330	WET		118-96-7	2,4,6-Trinitrotoluene	190	UG_KG	U	N	13	190
BAI-24A-027-18	8330	WET		35572-78-2	2-amino-4,6-Dinitrotoluene	190	UG_KG	U	N	26	190
BAI-24A-027-18	8330	WET		19406-51-0	4-amino-2,6-Dinitrotoluene	190	UG_KG	U	N	28	190
BAI-24A-027-18	8330	WET		121-14-2	2,4-Dinitrotoluene	190	UG_KG	U	N	19	190
BAI-24A-027-18	8330	WET		606-20-2	2,6-Dinitrotoluene	190	UG_KG	U	N	18	190
BAI-24A-027-18	8330	WET		88-72-2	2-Nitrotoluene	390	UG_KG	U	N	15	390
BAI-24A-027-18	8330	WET		99-99-0	4-Nitrotoluene	390	UG_KG	U	N	30	390
BAI-24A-027-18	8330	WET		99-08-1	3-Nitrotoluene	390	UG_KG	U	N	59	390
BAI-24A-028-00	8330	WET		2691-41-0	HMX	200	UG_KG	U	N	26	200
BAI-24A-028-00	8330	WET		121-82-4	RDX	200	UG_KG	U	N	39	200
BAI-24A-028-00	8330	WET		99-35-4	1,3,5-Trinitrobenzene	200	UG_KG	U	N	35	200
BAI-24A-028-00	8330	WET		99-65-0	1,3-Dinitrobenzene	200	UG_KG	U	N	20	200
BAI-24A-028-00	8330	WET		98-95-3	Nitrobenzene	200	UG_KG	U	N	18	200
BAI-24A-028-00	8330	WET		479-45-8	Tetryl	200	UG_KG	U	N	65	200
BAI-24A-028-00	8330	WET		118-96-7	2,4,6-Trinitrotoluene	200	UG_KG	U	N	13	200
BAI-24A-028-00	8330	WET		35572-78-2	2-amino-4,6-Dinitrotoluene	200	UG_KG	U	N	26	200
BAI-24A-028-00	8330	WET		19406-51-0	4-amino-2,6-Dinitrotoluene	200	UG_KG	U	N	28	200

Attachment B-4.1
Raw Data

SAMPLE_NAME	ANALYTICAL_METHOD	SAMPLE_BASIS	PERCENT_MOISTURE	ANALYTE_ID	ANALYTE NAME	ANALYTE_VALUE	RESULT_UNITS	FINAL_QUALIFIER	DETECTED	MDL	MRL
BAI-24A-028-00	8330	WET		121-14-2	2,4-Dinitrotoluene	200	UG_KG	U	N	19	200
BAI-24A-028-00	8330	WET		606-20-2	2,6-Dinitrotoluene	200	UG_KG	U	N	18	200
BAI-24A-028-00	8330	WET		88-72-2	2-Nitrotoluene	400	UG_KG	U	N	16	400
BAI-24A-028-00	8330	WET		99-99-0	4-Nitrotoluene	400	UG_KG	U	N	31	400
BAI-24A-028-00	8330	WET		99-08-1	3-Nitrotoluene	400	UG_KG	U	N	61	400
BAI-24A-028-18	8330	WET		2691-41-0	HMX	200	UG_KG	U	N	26	200
BAI-24A-028-18	8330	WET		121-82-4	RDX	200	UG_KG	U	N	39	200
BAI-24A-028-18	8330	WET		99-35-4	1,3,5-Trinitrobenzene	200	UG_KG	U	N	35	200
BAI-24A-028-18	8330	WET		99-65-0	1,3-Dinitrobenzene	200	UG_KG	U	N	20	200
BAI-24A-028-18	8330	WET		98-95-3	Nitrobenzene	200	UG_KG	U	N	18	200
BAI-24A-028-18	8330	WET		479-45-8	Tetryl	200	UG_KG	U	N	65	200
BAI-24A-028-18	8330	WET		118-96-7	2,4,6-Trinitrotoluene	200	UG_KG	U	N	13	200
BAI-24A-028-18	8330	WET		35572-78-2	2-amino-4,6-Dinitrotoluene	200	UG_KG	U	N	26	200
BAI-24A-028-18	8330	WET		19406-51-0	4-amino-2,6-Dinitrotoluene	200	UG_KG	U	N	28	200
BAI-24A-028-18	8330	WET		121-14-2	2,4-Dinitrotoluene	200	UG_KG	U	N	19	200
BAI-24A-028-18	8330	WET		606-20-2	2,6-Dinitrotoluene	200	UG_KG	U	N	18	200
BAI-24A-028-18	8330	WET		88-72-2	2-Nitrotoluene	400	UG_KG	U	N	16	400
BAI-24A-028-18	8330	WET		99-99-0	4-Nitrotoluene	400	UG_KG	U	N	30	400
BAI-24A-028-18	8330	WET		99-08-1	3-Nitrotoluene	400	UG_KG	U	N	60	400
BAI-24A-029-00	8330	WET		2691-41-0	HMX	200	UG_KG	U	N	26	200
BAI-24A-029-00	8330	WET		121-82-4	RDX	200	UG_KG	U	N	40	200
BAI-24A-029-00	8330	WET		99-35-4	1,3,5-Trinitrobenzene	200	UG_KG	U	N	35	200
BAI-24A-029-00	8330	WET		99-65-0	1,3-Dinitrobenzene	200	UG_KG	U	N	20	200
BAI-24A-029-00	8330	WET		98-95-3	Nitrobenzene	200	UG_KG	U	N	18	200
BAI-24A-029-00	8330	WET		479-45-8	Tetryl	200	UG_KG	U	N	66	200
BAI-24A-029-00	8330	WET		118-96-7	2,4,6-Trinitrotoluene	200	UG_KG	U	N	13	200
BAI-24A-029-00	8330	WET		35572-78-2	2-amino-4,6-Dinitrotoluene	200	UG_KG	U	N	26	200
BAI-24A-029-00	8330	WET		19406-51-0	4-amino-2,6-Dinitrotoluene	200	UG_KG	U	N	28	200
BAI-24A-029-00	8330	WET		121-14-2	2,4-Dinitrotoluene	200	UG_KG	U	N	19	200
BAI-24A-029-00	8330	WET		606-20-2	2,6-Dinitrotoluene	200	UG_KG	U	N	18	200
BAI-24A-029-00	8330	WET		88-72-2	2-Nitrotoluene	400	UG_KG	U	N	16	400
BAI-24A-029-00	8330	WET		99-99-0	4-Nitrotoluene	400	UG_KG	U	N	31	400
BAI-24A-029-00	8330	WET		99-08-1	3-Nitrotoluene	400	UG_KG	U	N	61	400
BAI-24A-029-18	8330	WET		2691-41-0	HMX	200	UG_KG	U	N	26	200
BAI-24A-029-18	8330	WET		121-82-4	RDX	200	UG_KG	U	N	39	200
BAI-24A-029-18	8330	WET		99-35-4	1,3,5-Trinitrobenzene	200	UG_KG	U	N	35	200
BAI-24A-029-18	8330	WET		99-65-0	1,3-Dinitrobenzene	200	UG_KG	U	N	20	200
BAI-24A-029-18	8330	WET		98-95-3	Nitrobenzene	200	UG_KG	U	N	18	200
BAI-24A-029-18	8330	WET		479-45-8	Tetryl	200	UG_KG	U	N	65	200
BAI-24A-029-18	8330	WET		118-96-7	2,4,6-Trinitrotoluene	200	UG_KG	U	N	13	200
BAI-24A-029-18	8330	WET		35572-78-2	2-amino-4,6-Dinitrotoluene	200	UG_KG	U	N	26	200
BAI-24A-029-18	8330	WET		19406-51-0	4-amino-2,6-Dinitrotoluene	200	UG_KG	U	N	28	200
BAI-24A-029-18	8330	WET		121-14-2	2,4-Dinitrotoluene	200	UG_KG	U	N	19	200
BAI-24A-029-18	8330	WET		606-20-2	2,6-Dinitrotoluene	200	UG_KG	U	N	18	200
BAI-24A-029-18	8330	WET		88-72-2	2-Nitrotoluene	400	UG_KG	U	N	16	400
BAI-24A-029-18	8330	WET		99-99-0	4-Nitrotoluene	400	UG_KG	U	N	30	400
BAI-24A-029-18	8330	WET		99-08-1	3-Nitrotoluene	400	UG_KG	U	N	60	400
BAI-24A-025-00	6010B	DRY	19	7440-36-0	Antimony	54	MG_KG	J	Y	0.18	0.62
BAI-24A-025-00	6010B	DRY	19	7440-38-2	Arsenic	31	MG_KG		Y	0.094	0.31
BAI-24A-025-00	6010B	DRY	19	7440-39-3	Barium	120	MG_KG		Y	0.11	0.34

Attachment B-4.1
Raw Data

SAMPLE_NAME	ANALYTICAL_METHOD	SAMPLE_BASIS	PERCENT_MOISTURE	ANALYTE_ID	ANALYTE NAME	ANALYTE_VALUE	RESULT_UNITS	FINAL_QUALIFIER	DETECTED	MDL	MRL
BAI-24A-025-00	6010B	DRY	19	7440-41-7	Beryllium	0.47	MG_KG		Y	0.023	0.12
BAI-24A-025-00	6010B	DRY	19	7440-43-9	Cadmium	0.2	MG_KG	J	Y	0.057	0.31
BAI-24A-025-00	6010B	DRY	19	7440-47-3	Chromium	63	MG_KG		Y	0.11	0.34
BAI-24A-025-00	6010B	DRY	19	7440-48-4	Cobalt	9.6	MG_KG		Y	0.23	0.68
BAI-24A-025-00	7470A	DRY	19	7439-97-6	Mercury	0.01	MG_KG	J	Y	0.0076	0.025
BAI-24A-025-00	6010B	DRY	19	7439-98-7	Molybdenum	0.46	MG_KG	J	Y	0.23	0.68
BAI-24A-025-00	6010B	DRY	19	7440-02-0	Nickel	21	MG_KG		Y	0.23	0.68
BAI-24A-025-00	6010B	DRY	19	7782-49-2	Selenium	0.62	MG_KG	U	N	0.17	0.62
BAI-24A-025-00	6010B	DRY	19	7440-22-4	Silver	0.31	MG_KG	J	Y	0.085	0.31
BAI-24A-025-00	6010B	DRY	19	7440-28-0	Thallium	0.62	MG_KG	U	N	0.18	0.62
BAI-24A-025-00	6010B	DRY	19	7440-62-2	Vanadium	36	MG_KG		Y	0.11	0.34
BAI-24A-025-00	6010B	DRY	19	7440-66-6	Zinc	120	MG_KG		Y	0.23	1.2
BAI-24A-025-18	6010B	DRY	12	7440-36-0	Antimony	44	MG_KG	J	Y	0.18	0.57
BAI-24A-025-18	6010B	DRY	12	7440-38-2	Arsenic	5.1	MG_KG		Y	0.092	0.28
BAI-24A-025-18	6010B	DRY	12	7440-39-3	Barium	140	MG_KG		Y	0.11	0.33
BAI-24A-025-18	6010B	DRY	12	7440-41-7	Beryllium	0.38	MG_KG		Y	0.022	0.11
BAI-24A-025-18	6010B	DRY	12	7440-43-9	Cadmium	0.14	MG_KG	J	Y	0.055	0.28
BAI-24A-025-18	6010B	DRY	12	7440-47-3	Chromium	13	MG_KG		Y	0.11	0.33
BAI-24A-025-18	6010B	DRY	12	7440-48-4	Cobalt	7	MG_KG		Y	0.22	0.66
BAI-24A-025-18	6010B	DRY	12	7440-50-8	Copper	260	MG_KG		Y	0.11	0.33
BAI-24A-025-18	7470A	DRY	12	7439-97-6	Mercury	0.011	MG_KG	J	Y	0.0071	0.023
BAI-24A-025-18	6010B	DRY	12	7439-98-7	Molybdenum	0.31	MG_KG	J	Y	0.22	0.66
BAI-24A-025-18	6010B	DRY	12	7440-02-0	Nickel	13	MG_KG		Y	0.22	0.66
BAI-24A-025-18	6010B	DRY	12	7782-49-2	Selenium	0.57	MG_KG	U	N	0.16	0.57
BAI-24A-025-18	6010B	DRY	12	7440-22-4	Silver	0.12	MG_KG	J	Y	0.082	0.28
BAI-24A-025-18	6010B	DRY	12	7440-28-0	Thallium	0.57	MG_KG	U	N	0.18	0.57
BAI-24A-025-18	6010B	DRY	12	7440-62-2	Vanadium	26	MG_KG		Y	0.11	0.33
BAI-24A-025-18	6010B	DRY	12	7440-66-6	Zinc	80	MG_KG		Y	0.22	1.1
BAI-24A-026-00	6010B	DRY	17	7440-38-2	Arsenic	6.5	MG_KG		Y	0.096	0.3
BAI-24A-026-00	6010B	DRY	17	7440-39-3	Barium	99	MG_KG		Y	0.12	0.35
BAI-24A-026-00	6010B	DRY	17	7440-41-7	Beryllium	0.49	MG_KG		Y	0.023	0.12
BAI-24A-026-00	6010B	DRY	17	7440-43-9	Cadmium	3	MG_KG		Y	0.058	0.3
BAI-24A-026-00	6010B	DRY	17	7440-47-3	Chromium	16	MG_KG		Y	0.12	0.35
BAI-24A-026-00	6010B	DRY	17	7440-48-4	Cobalt	9	MG_KG		Y	0.23	0.7
BAI-24A-026-00	7470A	DRY	17	7439-97-6	Mercury	0.016	MG_KG	J	Y	0.0073	0.024
BAI-24A-026-00	6010B	DRY	17	7439-98-7	Molybdenum	0.27	MG_KG	J	Y	0.23	0.7
BAI-24A-026-00	6010B	DRY	17	7440-02-0	Nickel	16	MG_KG		Y	0.23	0.7
BAI-24A-026-00	6010B	DRY	17	7782-49-2	Selenium	0.6	MG_KG	U	N	0.17	0.6
BAI-24A-026-00	6010B	DRY	17	7440-22-4	Silver	2.1	MG_KG		Y	0.087	0.3
BAI-24A-026-00	6010B	DRY	17	7440-28-0	Thallium	0.6	MG_KG	U	N	0.19	0.6
BAI-24A-026-00	6010B	DRY	17	7440-62-2	Vanadium	32	MG_KG		Y	0.12	0.35
BAI-24A-026-18	6010B	DRY	4	7440-36-0	Antimony	7	MG_KG	J	Y	0.15	0.52
BAI-24A-026-18	6010B	DRY	4	7440-38-2	Arsenic	4.9	MG_KG		Y	0.078	0.26
BAI-24A-026-18	6010B	DRY	4	7440-39-3	Barium	96	MG_KG		Y	0.094	0.28
BAI-24A-026-18	6010B	DRY	4	7440-41-7	Beryllium	0.48	MG_KG		Y	0.019	0.1
BAI-24A-026-18	6010B	DRY	4	7440-43-9	Cadmium	0.15	MG_KG	J	Y	0.047	0.26
BAI-24A-026-18	6010B	DRY	4	7440-47-3	Chromium	16	MG_KG		Y	0.094	0.28
BAI-24A-026-18	6010B	DRY	4	7440-48-4	Cobalt	8.4	MG_KG		Y	0.19	0.56
BAI-24A-026-18	6010B	DRY	4	7440-50-8	Copper	43	MG_KG		Y	0.094	0.28
BAI-24A-026-18	7470A	DRY	4	7439-97-6	Mercury	0.0091	MG_KG	J	Y	0.0067	0.021

Attachment B-4.1
Raw Data

SAMPLE_NAME	ANALYTICAL_METHOD	SAMPLE_BASIS	PERCENT_MOISTURE	ANALYTE_ID	ANALYTE NAME	ANALYTE_VALUE	RESULT_UNITS	FINAL_QUALIFIER	DETECTED	MDL	MRL
BAI-24A-026-18	6010B	DRY	4	7439-98-7	Molybdenum	0.27	MG_KG	J	Y	0.19	0.56
BAI-24A-026-18	6010B	DRY	4	7440-02-0	Nickel	15	MG_KG		Y	0.19	0.56
BAI-24A-026-18	6010B	DRY	4	7782-49-2	Selenium	0.52	MG_KG	U	N	0.14	0.52
BAI-24A-026-18	6010B	DRY	4	7440-22-4	Silver	0.082	MG_KG	J	Y	0.07	0.26
BAI-24A-026-18	6010B	DRY	4	7440-28-0	Thallium	0.52	MG_KG	U	N	0.15	0.52
BAI-24A-026-18	6010B	DRY	4	7440-62-2	Vanadium	32	MG_KG		Y	0.094	0.28
BAI-24A-026-18	6010B	DRY	4	7440-66-6	Zinc	53	MG_KG		Y	0.19	1
BAI-24A-027-00	6010B	DRY	16	7440-36-0	Antimony	11	MG_KG	J	Y	0.19	0.6
BAI-24A-027-00	6010B	DRY	16	7440-38-2	Arsenic	5.9	MG_KG		Y	0.097	0.3
BAI-24A-027-00	6010B	DRY	16	7440-39-3	Barium	100	MG_KG		Y	0.12	0.35
BAI-24A-027-00	6010B	DRY	16	7440-41-7	Beryllium	0.51	MG_KG		Y	0.023	0.12
BAI-24A-027-00	6010B	DRY	16	7440-43-9	Cadmium	0.15	MG_KG	J	Y	0.058	0.3
BAI-24A-027-00	6010B	DRY	16	7440-47-3	Chromium	16	MG_KG		Y	0.12	0.35
BAI-24A-027-00	6010B	DRY	16	7440-48-4	Cobalt	8.7	MG_KG		Y	0.23	0.7
BAI-24A-027-00	6010B	DRY	16	7440-50-8	Copper	110	MG_KG		Y	0.12	0.35
BAI-24A-027-00	7470A	DRY	16	7439-97-6	Mercury	0.016	MG_KG	J	Y	0.0072	0.024
BAI-24A-027-00	6010B	DRY	16	7439-98-7	Molybdenum	0.4	MG_KG	J	Y	0.23	0.7
BAI-24A-027-00	6010B	DRY	16	7440-02-0	Nickel	17	MG_KG		Y	0.23	0.7
BAI-24A-027-00	6010B	DRY	16	7782-49-2	Selenium	0.6	MG_KG	U	N	0.17	0.6
BAI-24A-027-00	6010B	DRY	16	7440-22-4	Silver	0.17	MG_KG	J	Y	0.087	0.3
BAI-24A-027-00	6010B	DRY	16	7440-28-0	Thallium	0.6	MG_KG	U	N	0.19	0.6
BAI-24A-027-00	6010B	DRY	16	7440-62-2	Vanadium	35	MG_KG		Y	0.12	0.35
BAI-24A-027-00	6010B	DRY	16	7440-66-6	Zinc	68	MG_KG		Y	0.23	1.2
BAI-24A-027-18	6010B	DRY	7	7440-36-0	Antimony	4.3	MG_KG	J	Y	0.17	0.54
BAI-24A-027-18	6010B	DRY	7	7440-38-2	Arsenic	5.2	MG_KG		Y	0.087	0.27
BAI-24A-027-18	6010B	DRY	7	7440-39-3	Barium	120	MG_KG		Y	0.1	0.31
BAI-24A-027-18	6010B	DRY	7	7440-41-7	Beryllium	0.57	MG_KG		Y	0.021	0.11
BAI-24A-027-18	6010B	DRY	7	7440-43-9	Cadmium	0.14	MG_KG	J	Y	0.052	0.27
BAI-24A-027-18	6010B	DRY	7	7440-47-3	Chromium	18	MG_KG		Y	0.1	0.31
BAI-24A-027-18	6010B	DRY	7	7440-48-4	Cobalt	9.2	MG_KG		Y	0.21	0.63
BAI-24A-027-18	6010B	DRY	7	7440-50-8	Copper	16	MG_KG		Y	0.1	0.31
BAI-24A-027-18	6010B	DRY	7	7439-92-1	Lead	11	MG_KG		Y	0.076	0.27
BAI-24A-027-18	7470A	DRY	7	7439-97-6	Mercury	0.01	MG_KG	J	Y	0.0061	0.022
BAI-24A-027-18	6010B	DRY	7	7439-98-7	Molybdenum	0.27	MG_KG	J	Y	0.21	0.63
BAI-24A-027-18	6010B	DRY	7	7440-02-0	Nickel	18	MG_KG		Y	0.21	0.63
BAI-24A-027-18	6010B	DRY	7	7782-49-2	Selenium	0.54	MG_KG	U	N	0.15	0.54
BAI-24A-027-18	6010B	DRY	7	7440-22-4	Silver	0.1	MG_KG	J	Y	0.078	0.27
BAI-24A-027-18	6010B	DRY	7	7440-28-0	Thallium	0.54	MG_KG	U	N	0.17	0.54
BAI-24A-027-18	6010B	DRY	7	7440-62-2	Vanadium	37	MG_KG		Y	0.1	0.31
BAI-24A-027-18	6010B	DRY	7	7440-66-6	Zinc	51	MG_KG		Y	0.21	1.1
BAI-24A-028-00	6010B	DRY	16	7440-36-0	Antimony	13	MG_KG	J	Y	0.18	0.6
BAI-24A-028-00	6010B	DRY	16	7440-38-2	Arsenic	6.6	MG_KG		Y	0.095	0.3
BAI-24A-028-00	6010B	DRY	16	7440-39-3	Barium	110	MG_KG		Y	0.11	0.34
BAI-24A-028-00	6010B	DRY	16	7440-41-7	Beryllium	0.57	MG_KG		Y	0.023	0.12
BAI-24A-028-00	6010B	DRY	16	7440-43-9	Cadmium	0.17	MG_KG	J	Y	0.057	0.3
BAI-24A-028-00	6010B	DRY	16	7440-47-3	Chromium	18	MG_KG		Y	0.11	0.34
BAI-24A-028-00	6010B	DRY	16	7440-48-4	Cobalt	9.3	MG_KG		Y	0.23	0.69
BAI-24A-028-00	6010B	DRY	16	7440-50-8	Copper	79	MG_KG		Y	0.11	0.34
BAI-24A-028-00	7470A	DRY	16	7439-97-6	Mercury	0.015	MG_KG	J	Y	0.0072	0.024
BAI-24A-028-00	6010B	DRY	16	7439-98-7	Molybdenum	0.38	MG_KG	J	Y	0.23	0.69

SAMPLE_NAME	ANALYTICAL_METHOD	SAMPLE_BASIS	PERCENT_MOISTURE	ANALYTE_ID	ANALYTE NAME	ANALYTE_VALUE	RESULT_UNITS	FINAL_QUALIFIER	DETECTED	MDL	MRL
BAI-24A-028-00	6010B	DRY	16	7440-02-0	Nickel	18	MG_KG		Y	0.23	0.69
BAI-24A-028-00	6010B	DRY	16	7782-49-2	Selenium	0.6	MG_KG	U	N	0.17	0.6
BAI-24A-028-00	6010B	DRY	16	7440-22-4	Silver	0.21	MG_KG	J	Y	0.086	0.3
BAI-24A-028-00	6010B	DRY	16	7440-28-0	Thallium	0.6	MG_KG	U	N	0.19	0.6
BAI-24A-028-00	6010B	DRY	16	7440-62-2	Vanadium	39	MG_KG		Y	0.11	0.34
BAI-24A-028-00	6010B	DRY	16	7440-66-6	Zinc	64	MG_KG		Y	0.23	1.2
BAI-24A-028-18	6010B	DRY	6	7440-36-0	Antimony	2.5	MG_KG	J	Y	0.16	0.53
BAI-24A-028-18	6010B	DRY	6	7440-38-2	Arsenic	4.5	MG_KG		Y	0.083	0.27
BAI-24A-028-18	6010B	DRY	6	7440-39-3	Barium	98	MG_KG		Y	0.1	0.3
BAI-24A-028-18	6010B	DRY	6	7440-41-7	Beryllium	0.47	MG_KG		Y	0.02	0.11
BAI-24A-028-18	6010B	DRY	6	7440-43-9	Cadmium	0.13	MG_KG	J	Y	0.05	0.27
BAI-24A-028-18	6010B	DRY	6	7440-47-3	Chromium	15	MG_KG		Y	0.1	0.3
BAI-24A-028-18	6010B	DRY	6	7440-48-4	Cobalt	7.5	MG_KG		Y	0.2	0.6
BAI-24A-028-18	6010B	DRY	6	7440-50-8	Copper	16	MG_KG		Y	0.1	0.3
BAI-24A-028-18	6010B	DRY	6	7439-92-1	Lead	37	MG_KG		Y	0.073	0.27
BAI-24A-028-18	7470A	DRY	6	7439-97-6	Mercury	0.012	MG_KG	J	Y	0.0068	0.022
BAI-24A-028-18	6010B	DRY	6	7439-98-7	Molybdenum	0.25	MG_KG	J	Y	0.2	0.6
BAI-24A-028-18	6010B	DRY	6	7440-02-0	Nickel	15	MG_KG		Y	0.2	0.6
BAI-24A-028-18	6010B	DRY	6	7782-49-2	Selenium	0.53	MG_KG	U	N	0.15	0.53
BAI-24A-028-18	6010B	DRY	6	7440-22-4	Silver	0.12	MG_KG	J	Y	0.075	0.27
BAI-24A-028-18	6010B	DRY	6	7440-28-0	Thallium	0.53	MG_KG	U	N	0.16	0.53
BAI-24A-028-18	6010B	DRY	6	7440-62-2	Vanadium	31	MG_KG		Y	0.1	0.3
BAI-24A-028-18	6010B	DRY	6	7440-66-6	Zinc	43	MG_KG		Y	0.2	1.1
BAI-24A-029-00	6010B	DRY	17	7440-36-0	Antimony	280	MG_KG	J	Y	0.19	0.6
BAI-24A-029-00	6010B	DRY	17	7440-38-2	Arsenic	140	MG_KG		Y	0.099	0.3
BAI-24A-029-00	6010B	DRY	17	7440-39-3	Barium	120	MG_KG		Y	0.12	0.36
BAI-24A-029-00	6010B	DRY	17	7440-41-7	Beryllium	0.62	MG_KG		Y	0.024	0.12
BAI-24A-029-00	6010B	DRY	17	7440-43-9	Cadmium	0.32	MG_KG		Y	0.06	0.3
BAI-24A-030-00	8330	WET		2691-41-0	HMX	200	UG_KG	U	N	14	200
BAI-24A-030-00	8330	WET		121-82-4	RDX	200	UG_KG	U	N	20	200
BAI-24A-030-00	8330	WET		99-35-4	1,3,5-Trinitrobenzene	200	UG_KG	U	N	27	200
BAI-24A-030-00	8330	WET		99-65-0	1,3-Dinitrobenzene	200	UG_KG	U	N	4.5	200
BAI-24A-030-00	8330	WET		98-95-3	Nitrobenzene	200	UG_KG	U	N	16	200
BAI-24A-030-00	8330	WET		479-45-8	Tetryl	200	UG_KG	U	N	55	200
BAI-24A-030-00	8330	WET		118-96-7	2,4,6-Trinitrotoluene	200	UG_KG	U	N	30	200
BAI-24A-030-00	8330	WET		35572-78-2	2-amino-4,6-Dinitrotoluene	200	UG_KG	U	N	18	200
BAI-24A-030-00	8330	WET		19406-51-0	4-amino-2,6-Dinitrotoluene	200	UG_KG	U	N	39	200
BAI-24A-030-00	8330	WET		121-14-2	2,4-Dinitrotoluene	200	UG_KG	U	N	20	200
BAI-24A-030-00	8330	WET		606-20-2	2,6-Dinitrotoluene	200	UG_KG	U	N	22	200
BAI-24A-030-00	8330	WET		88-72-2	2-Nitrotoluene	390	UG_KG	U	N	28	390
BAI-24A-030-00	8330	WET		99-99-0	4-Nitrotoluene	390	UG_KG	U	N	28	390
BAI-24A-030-00	8330	WET		99-08-1	3-Nitrotoluene	390	UG_KG	U	N	39	390
BAI-24A-030-00	6010B	DRY	17	7440-36-0	Antimony	13	MG_KG	J	Y	0.18	0.6
BAI-24A-030-00	6010B	DRY	17	7440-38-2	Arsenic	6.5	MG_KG		Y	0.094	0.3
BAI-24A-030-00	6010B	DRY	17	7440-39-3	Barium	110	MG_KG		Y	0.11	0.34
BAI-24A-030-00	6010B	DRY	17	7440-41-7	Beryllium	0.57	MG_KG		Y	0.023	0.12
BAI-24A-030-00	6010B	DRY	17	7440-43-9	Cadmium	0.73	MG_KG		Y	0.057	0.3
BAI-24A-030-00	6010B	DRY	17	7440-47-3	Chromium	18	MG_KG		Y	0.11	0.34
BAI-24A-030-00	6010B	DRY	17	7440-48-4	Cobalt	9.6	MG_KG		Y	0.23	0.68
BAI-24A-030-00	6010B	DRY	17	7440-50-8	Copper	44	MG_KG	J	Y	0.11	0.34

Attachment B-4.1
Raw Data

SAMPLE_NAME	ANALYTICAL_METHOD	SAMPLE_BASIS	PERCENT_MOISTURE	ANALYTE_ID	ANALYTE NAME	ANALYTE_VALUE	RESULT_UNITS	FINAL_QUALIFIER	DETECTED	MDL	MRL
BAI-24A-030-00	7470A	DRY	17	7439-97-6	Mercury	0.026	MG_KG	U	N	0.0082	0.026
BAI-24A-030-00	6010B	DRY	17	7439-98-7	Molybdenum	0.35	MG_KG	J	Y	0.23	0.68
BAI-24A-030-00	6010B	DRY	17	7440-02-0	Nickel	18	MG_KG		Y	0.23	0.68
BAI-24A-030-00	6010B	DRY	17	7782-49-2	Selenium	0.6	MG_KG	U	N	0.17	0.6
BAI-24A-030-00	6010B	DRY	17	7440-22-4	Silver	0.17	MG_KG	J	Y	0.085	0.3
BAI-24A-030-00	6010B	DRY	17	7440-28-0	Thallium	0.6	MG_KG	U	N	0.19	0.6
BAI-24A-030-00	6010B	DRY	17	7440-62-2	Vanadium	37	MG_KG		Y	0.11	0.34
BAI-24A-030-00	6010B	DRY	17	7440-66-6	Zinc	55	MG_KG		Y	0.23	1.2
BAI-24A-030-00	D2216	WET		-86	Percent Moisture	17	PCT		Y		1
BAI-24A-031-00	8330	WET		2691-41-0	HMX	200	UG_KG	U	N	26	200
BAI-24A-031-00	8330	WET		121-82-4	RDX	200	UG_KG	U	N	39	200
BAI-24A-031-00	8330	WET		99-35-4	1,3,5-Trinitrobenzene	200	UG_KG	U	N	35	200
BAI-24A-031-00	8330	WET		99-65-0	1,3-Dinitrobenzene	200	UG_KG	U	N	20	200
BAI-24A-031-00	8330	WET		98-95-3	Nitrobenzene	200	UG_KG	U	N	18	200
BAI-24A-031-00	8330	WET		479-45-8	Tetryl	200	UG_KG	U	N	65	200
BAI-24A-031-00	8330	WET		118-96-7	2,4,6-Trinitrotoluene	200	UG_KG	U	N	13	200
BAI-24A-031-00	8330	WET		35572-78-2	2-amino-4,6-Dinitrotoluene	200	UG_KG	U	N	26	200
BAI-24A-031-00	8330	WET		19406-51-0	4-amino-2,6-Dinitrotoluene	200	UG_KG	U	N	28	200
BAI-24A-031-00	8330	WET		121-14-2	2,4-Dinitrotoluene	200	UG_KG	U	N	19	200
BAI-24A-031-00	8330	WET		606-20-2	2,6-Dinitrotoluene	200	UG_KG	U	N	18	200
BAI-24A-031-00	8330	WET		88-72-2	2-Nitrotoluene	400	UG_KG	U	N	16	400
BAI-24A-031-00	8330	WET		99-99-0	4-Nitrotoluene	400	UG_KG	U	N	30	400
BAI-24A-031-00	8330	WET		99-08-1	3-Nitrotoluene	400	UG_KG	U	N	60	400
BAI-24A-031-18	8330	WET		2691-41-0	HMX	200	UG_KG	U	N	26	200
BAI-24A-031-18	8330	WET		121-82-4	RDX	200	UG_KG	U	N	39	200
BAI-24A-031-18	8330	WET		99-35-4	1,3,5-Trinitrobenzene	200	UG_KG	U	N	35	200
BAI-24A-031-18	8330	WET		99-65-0	1,3-Dinitrobenzene	200	UG_KG	U	N	20	200
BAI-24A-031-18	8330	WET		98-95-3	Nitrobenzene	200	UG_KG	U	N	18	200
BAI-24A-031-18	8330	WET		479-45-8	Tetryl	200	UG_KG	U	N	65	200
BAI-24A-031-18	8330	WET		118-96-7	2,4,6-Trinitrotoluene	200	UG_KG	U	N	13	200
BAI-24A-031-18	8330	WET		35572-78-2	2-amino-4,6-Dinitrotoluene	200	UG_KG	U	N	26	200
BAI-24A-031-18	8330	WET		19406-51-0	4-amino-2,6-Dinitrotoluene	200	UG_KG	U	N	28	200
BAI-24A-031-18	8330	WET		121-14-2	2,4-Dinitrotoluene	200	UG_KG	U	N	19	200
BAI-24A-031-18	8330	WET		606-20-2	2,6-Dinitrotoluene	200	UG_KG	U	N	18	200
BAI-24A-031-18	8330	WET		88-72-2	2-Nitrotoluene	400	UG_KG	U	N	16	400
BAI-24A-031-18	8330	WET		99-99-0	4-Nitrotoluene	400	UG_KG	U	N	30	400
BAI-24A-031-18	8330	WET		99-08-1	3-Nitrotoluene	400	UG_KG	U	N	60	400
BAI-24A-032-00	8330	WET		2691-41-0	HMX	190	UG_KG	U	N	26	190
BAI-24A-032-00	8330	WET		121-82-4	RDX	190	UG_KG	U	N	39	190
BAI-24A-032-00	8330	WET		99-35-4	1,3,5-Trinitrobenzene	190	UG_KG	U	N	34	190
BAI-24A-032-00	8330	WET		99-65-0	1,3-Dinitrobenzene	190	UG_KG	U	N	19	190
BAI-24A-032-00	8330	WET		98-95-3	Nitrobenzene	190	UG_KG	U	N	18	190
BAI-24A-032-00	8330	WET		479-45-8	Tetryl	190	UG_KG	U	N	64	190
BAI-24A-032-00	8330	WET		118-96-7	2,4,6-Trinitrotoluene	190	UG_KG	U	N	13	190
BAI-24A-032-00	8330	WET		35572-78-2	2-amino-4,6-Dinitrotoluene	190	UG_KG	U	N	26	190
BAI-24A-032-00	8330	WET		19406-51-0	4-amino-2,6-Dinitrotoluene	190	UG_KG	U	N	28	190
BAI-24A-032-00	8330	WET		121-14-2	2,4-Dinitrotoluene	190	UG_KG	U	N	19	190
BAI-24A-032-00	8330	WET		606-20-2	2,6-Dinitrotoluene	190	UG_KG	U	N	18	190
BAI-24A-032-00	8330	WET		88-72-2	2-Nitrotoluene	390	UG_KG	U	N	15	390
BAI-24A-032-00	8330	WET		99-99-0	4-Nitrotoluene	390	UG_KG	U	N	30	390

Attachment B-4.1
Raw Data

SAMPLE_NAME	ANALYTICAL_METHOD	SAMPLE_BASIS	PERCENT_MOISTURE	ANALYTE_ID	ANALYTE NAME	ANALYTE_VALUE	RESULT_UNITS	FINAL_QUALIFIER	DETECTED	MDL	MRL
BAI-24A-032-00	8330	WET		99-08-1	3-Nitrotoluene	390	UG_KG	U	N	59	390
BAI-24A-032-18	8330	WET		2691-41-0	HMX	200	UG_KG	U	N	26	200
BAI-24A-032-18	8330	WET		121-82-4	RDX	200	UG_KG	U	N	39	200
BAI-24A-032-18	8330	WET		99-35-4	1,3,5-Trinitrobenzene	200	UG_KG	U	N	35	200
BAI-24A-032-18	8330	WET		99-65-0	1,3-Dinitrobenzene	200	UG_KG	U	N	20	200
BAI-24A-032-18	8330	WET		98-95-3	Nitrobenzene	200	UG_KG	U	N	18	200
BAI-24A-032-18	8330	WET		479-45-8	Tetryl	200	UG_KG	U	N	65	200
BAI-24A-032-18	8330	WET		118-96-7	2,4,6-Trinitrotoluene	200	UG_KG	U	N	13	200
BAI-24A-032-18	8330	WET		35572-78-2	2-amino-4,6-Dinitrotoluene	200	UG_KG	U	N	26	200
BAI-24A-032-18	8330	WET		19406-51-0	4-amino-2,6-Dinitrotoluene	200	UG_KG	U	N	28	200
BAI-24A-032-18	8330	WET		121-14-2	2,4-Dinitrotoluene	200	UG_KG	U	N	19	200
BAI-24A-032-18	8330	WET		606-20-2	2,6-Dinitrotoluene	200	UG_KG	U	N	18	200
BAI-24A-032-18	8330	WET		88-72-2	2-Nitrotoluene	400	UG_KG	U	N	16	400
BAI-24A-032-18	8330	WET		99-99-0	4-Nitrotoluene	400	UG_KG	U	N	31	400
BAI-24A-032-18	8330	WET		99-08-1	3-Nitrotoluene	400	UG_KG	U	N	61	400
BAI-24A-033-00	8330	WET		2691-41-0	HMX	200	UG_KG	U	N	26	200
BAI-24A-033-00	8330	WET		121-82-4	RDX	200	UG_KG	U	N	39	200
BAI-24A-033-00	8330	WET		99-35-4	1,3,5-Trinitrobenzene	200	UG_KG	U	N	35	200
BAI-24A-033-00	8330	WET		99-65-0	1,3-Dinitrobenzene	200	UG_KG	U	N	20	200
BAI-24A-033-00	8330	WET		98-95-3	Nitrobenzene	200	UG_KG	U	N	18	200
BAI-24A-033-00	8330	WET		479-45-8	Tetryl	200	UG_KG	U	N	65	200
BAI-24A-033-00	8330	WET		118-96-7	2,4,6-Trinitrotoluene	200	UG_KG	U	N	13	200
BAI-24A-033-00	8330	WET		35572-78-2	2-amino-4,6-Dinitrotoluene	200	UG_KG	U	N	26	200
BAI-24A-033-00	8330	WET		19406-51-0	4-amino-2,6-Dinitrotoluene	200	UG_KG	U	N	28	200
BAI-24A-033-00	8330	WET		121-14-2	2,4-Dinitrotoluene	200	UG_KG	U	N	19	200
BAI-24A-033-00	8330	WET		606-20-2	2,6-Dinitrotoluene	200	UG_KG	U	N	18	200
BAI-24A-033-00	8330	WET		88-72-2	2-Nitrotoluene	400	UG_KG	U	N	16	400
BAI-24A-033-00	8330	WET		99-99-0	4-Nitrotoluene	400	UG_KG	U	N	30	400
BAI-24A-033-00	8330	WET		99-08-1	3-Nitrotoluene	400	UG_KG	U	N	60	400
BAI-24A-033-18	8330	WET		2691-41-0	HMX	200	UG_KG	U	N	26	200
BAI-24A-033-18	8330	WET		121-82-4	RDX	200	UG_KG	U	N	39	200
BAI-24A-033-18	8330	WET		99-35-4	1,3,5-Trinitrobenzene	200	UG_KG	U	N	35	200
BAI-24A-033-18	8330	WET		99-65-0	1,3-Dinitrobenzene	200	UG_KG	U	N	20	200
BAI-24A-033-18	8330	WET		98-95-3	Nitrobenzene	200	UG_KG	U	N	18	200
BAI-24A-033-18	8330	WET		479-45-8	Tetryl	200	UG_KG	U	N	65	200
BAI-24A-033-18	8330	WET		118-96-7	2,4,6-Trinitrotoluene	200	UG_KG	U	N	13	200
BAI-24A-033-18	8330	WET		35572-78-2	2-amino-4,6-Dinitrotoluene	200	UG_KG	U	N	26	200
BAI-24A-033-18	8330	WET		19406-51-0	4-amino-2,6-Dinitrotoluene	200	UG_KG	U	N	28	200
BAI-24A-033-18	8330	WET		121-14-2	2,4-Dinitrotoluene	200	UG_KG	U	N	19	200
BAI-24A-033-18	8330	WET		606-20-2	2,6-Dinitrotoluene	200	UG_KG	U	N	18	200
BAI-24A-033-18	8330	WET		88-72-2	2-Nitrotoluene	400	UG_KG	U	N	16	400
BAI-24A-033-18	8330	WET		99-99-0	4-Nitrotoluene	400	UG_KG	U	N	30	400
BAI-24A-033-18	8330	WET		99-08-1	3-Nitrotoluene	400	UG_KG	U	N	60	400
BAI-24A-034-00	8330	WET		2691-41-0	HMX	200	UG_KG	U	N	26	200
BAI-24A-034-00	8330	WET		121-82-4	RDX	200	UG_KG	U	N	39	200
BAI-24A-034-00	8330	WET		99-35-4	1,3,5-Trinitrobenzene	200	UG_KG	U	N	35	200
BAI-24A-034-00	8330	WET		99-65-0	1,3-Dinitrobenzene	200	UG_KG	U	N	20	200
BAI-24A-034-00	8330	WET		98-95-3	Nitrobenzene	200	UG_KG	U	N	18	200
BAI-24A-034-00	8330	WET		479-45-8	Tetryl	200	UG_KG	U	N	65	200
BAI-24A-034-00	8330	WET		118-96-7	2,4,6-Trinitrotoluene	200	UG_KG	U	N	13	200

Attachment B-4.1
Raw Data

SAMPLE_NAME	ANALYTICAL_METHOD	SAMPLE_BASIS	PERCENT_MOISTURE	ANALYTE_ID	ANALYTE NAME	ANALYTE_VALUE	RESULT_UNITS	FINAL_QUALIFIER	DETECTED	MDL	MRL
BAI-24A-034-00	8330	WET		35572-78-2	2-amino-4,6-Dinitrotoluene	200	UG_KG	U	N	26	200
BAI-24A-034-00	8330	WET		19406-51-0	4-amino-2,6-Dinitrotoluene	200	UG_KG	U	N	28	200
BAI-24A-034-00	8330	WET		121-14-2	2,4-Dinitrotoluene	200	UG_KG	U	N	19	200
BAI-24A-034-00	8330	WET		606-20-2	2,6-Dinitrotoluene	200	UG_KG	U	N	18	200
BAI-24A-034-00	8330	WET		88-72-2	2-Nitrotoluene	400	UG_KG	U	N	16	400
BAI-24A-034-00	8330	WET		99-99-0	4-Nitrotoluene	400	UG_KG	U	N	30	400
BAI-24A-034-00	8330	WET		99-08-1	3-Nitrotoluene	400	UG_KG	U	N	60	400
BAI-24A-034-18	8330	WET		2691-41-0	HMX	200	UG_KG	U	N	26	200
BAI-24A-034-18	8330	WET		121-82-4	RDX	200	UG_KG	U	N	40	200
BAI-24A-034-18	8330	WET		99-35-4	1,3,5-Trinitrobenzene	200	UG_KG	U	N	35	200
BAI-24A-034-18	8330	WET		99-65-0	1,3-Dinitrobenzene	200	UG_KG	U	N	20	200
BAI-24A-034-18	8330	WET		98-95-3	Nitrobenzene	200	UG_KG	U	N	18	200
BAI-24A-034-18	8330	WET		479-45-8	Tetryl	200	UG_KG	U	N	66	200
BAI-24A-034-18	8330	WET		118-96-7	2,4,6-Trinitrotoluene	200	UG_KG	U	N	13	200
BAI-24A-034-18	8330	WET		35572-78-2	2-amino-4,6-Dinitrotoluene	200	UG_KG	U	N	26	200
BAI-24A-034-18	8330	WET		19406-51-0	4-amino-2,6-Dinitrotoluene	200	UG_KG	U	N	28	200
BAI-24A-034-18	8330	WET		121-14-2	2,4-Dinitrotoluene	200	UG_KG	U	N	19	200
BAI-24A-034-18	8330	WET		606-20-2	2,6-Dinitrotoluene	200	UG_KG	U	N	18	200
BAI-24A-034-18	8330	WET		88-72-2	2-Nitrotoluene	400	UG_KG	U	N	16	400
BAI-24A-034-18	8330	WET		99-99-0	4-Nitrotoluene	400	UG_KG	U	N	31	400
BAI-24A-034-18	8330	WET		99-08-1	3-Nitrotoluene	400	UG_KG	U	N	61	400
BAI-24A-035-18	8330	WET		2691-41-0	HMX	200	UG_KG	U	N	26	200
BAI-24A-035-18	8330	WET		121-82-4	RDX	200	UG_KG	U	N	39	200
BAI-24A-035-18	8330	WET		99-35-4	1,3,5-Trinitrobenzene	200	UG_KG	U	N	35	200
BAI-24A-035-18	8330	WET		99-65-0	1,3-Dinitrobenzene	200	UG_KG	U	N	20	200
BAI-24A-035-18	8330	WET		98-95-3	Nitrobenzene	200	UG_KG	U	N	18	200
BAI-24A-035-18	8330	WET		479-45-8	Tetryl	200	UG_KG	U	N	65	200
BAI-24A-035-18	8330	WET		118-96-7	2,4,6-Trinitrotoluene	200	UG_KG	U	N	13	200
BAI-24A-035-18	8330	WET		35572-78-2	2-amino-4,6-Dinitrotoluene	200	UG_KG	U	N	26	200
BAI-24A-035-18	8330	WET		19406-51-0	4-amino-2,6-Dinitrotoluene	200	UG_KG	U	N	28	200
BAI-24A-035-18	8330	WET		121-14-2	2,4-Dinitrotoluene	200	UG_KG	U	N	19	200
BAI-24A-035-18	8330	WET		606-20-2	2,6-Dinitrotoluene	200	UG_KG	U	N	18	200
BAI-24A-035-18	8330	WET		88-72-2	2-Nitrotoluene	400	UG_KG	U	N	16	400
BAI-24A-035-18	8330	WET		99-99-0	4-Nitrotoluene	400	UG_KG	U	N	31	400
BAI-24A-035-18	8330	WET		99-08-1	3-Nitrotoluene	400	UG_KG	U	N	61	400
BAI-24A-036-00	8330	WET		2691-41-0	HMX	200	UG_KG	U	N	26	200
BAI-24A-036-00	8330	WET		121-82-4	RDX	200	UG_KG	U	N	39	200
BAI-24A-036-00	8330	WET		99-35-4	1,3,5-Trinitrobenzene	200	UG_KG	U	N	35	200
BAI-24A-036-00	8330	WET		99-65-0	1,3-Dinitrobenzene	200	UG_KG	U	N	20	200
BAI-24A-036-00	8330	WET		98-95-3	Nitrobenzene	200	UG_KG	U	N	18	200
BAI-24A-036-00	8330	WET		479-45-8	Tetryl	200	UG_KG	U	N	65	200
BAI-24A-036-00	8330	WET		118-96-7	2,4,6-Trinitrotoluene	200	UG_KG	U	N	13	200
BAI-24A-036-00	8330	WET		35572-78-2	2-amino-4,6-Dinitrotoluene	200	UG_KG	U	N	26	200
BAI-24A-036-00	8330	WET		19406-51-0	4-amino-2,6-Dinitrotoluene	200	UG_KG	U	N	28	200
BAI-24A-036-00	8330	WET		121-14-2	2,4-Dinitrotoluene	200	UG_KG	U	N	19	200
BAI-24A-036-00	8330	WET		606-20-2	2,6-Dinitrotoluene	200	UG_KG	U	N	18	200
BAI-24A-036-00	8330	WET		88-72-2	2-Nitrotoluene	400	UG_KG	U	N	16	400
BAI-24A-036-00	8330	WET		99-99-0	4-Nitrotoluene	400	UG_KG	U	N	30	400
BAI-24A-036-00	8330	WET		99-08-1	3-Nitrotoluene	400	UG_KG	U	N	60	400
BAI-24A-031-00	6010B	DRY	15	7440-36-0	Antimony	5.2	MG_KG	J	Y	0.18	0.59

Attachment B-4.1
Raw Data

SAMPLE_NAME	ANALYTICAL_METHOD	SAMPLE_BASIS	PERCENT_MOISTURE	ANALYTE_ID	ANALYTE NAME	ANALYTE_VALUE	RESULT_UNITS	FINAL_QUALIFIER	DETECTED	MDL	MRL
BAI-24A-031-00	6010B	DRY	15	7440-38-2	Arsenic	4.8	MG_KG	J	Y	0.093	0.29
BAI-24A-031-00	6010B	DRY	15	7440-39-3	Barium	97	MG_KG		Y	0.11	0.34
BAI-24A-031-00	6010B	DRY	15	7440-41-7	Beryllium	0.52	MG_KG		Y	0.022	0.12
BAI-24A-031-00	6010B	DRY	15	7440-43-9	Cadmium	0.18	MG_KG	J	Y	0.056	0.29
BAI-24A-031-00	6010B	DRY	15	7440-47-3	Chromium	17	MG_KG		Y	0.11	0.34
BAI-24A-031-00	6010B	DRY	15	7440-48-4	Cobalt	9.6	MG_KG		Y	0.22	0.67
BAI-24A-031-00	6010B	DRY	15	7440-50-8	Copper	23	MG_KG		Y	0.11	0.34
BAI-24A-031-00	6010B	DRY	15	7439-92-1	Lead	410	MG_KG	J	Y	0.082	0.29
BAI-24A-031-00	7470A	DRY	15	7439-97-6	Mercury	0.024	MG_KG	U	N	0.0073	0.024
BAI-24A-031-00	6010B	DRY	15	7439-98-7	Molybdenum	0.62	MG_KG	J	Y	0.22	0.67
BAI-24A-031-00	6010B	DRY	15	7440-02-0	Nickel	18	MG_KG		Y	0.22	0.67
BAI-24A-031-00	6010B	DRY	15	7782-49-2	Selenium	0.59	MG_KG	U	N	0.16	0.59
BAI-24A-031-00	6010B	DRY	15	7440-22-4	Silver	0.095	MG_KG	J	Y	0.084	0.29
BAI-24A-031-00	6010B	DRY	15	7440-28-0	Thallium	0.59	MG_KG	U	N	0.18	0.59
BAI-24A-031-00	6010B	DRY	15	7440-62-2	Vanadium	33	MG_KG		Y	0.11	0.34
BAI-24A-031-00	6010B	DRY	15	7440-66-6	Zinc	53	MG_KG		Y	0.22	1.2
BAI-24A-031-18	6010B	DRY	11	7440-36-0	Antimony	2.4	MG_KG	J	Y	0.17	0.56
BAI-24A-031-18	6010B	DRY	11	7440-38-2	Arsenic	4	MG_KG	J	Y	0.086	0.28
BAI-24A-031-18	6010B	DRY	11	7440-39-3	Barium	110	MG_KG		Y	0.1	0.31
BAI-24A-031-18	6010B	DRY	11	7440-41-7	Beryllium	0.44	MG_KG		Y	0.021	0.11
BAI-24A-031-18	6010B	DRY	11	7440-43-9	Cadmium	0.14	MG_KG	J	Y	0.052	0.28
BAI-24A-031-18	6010B	DRY	11	7440-47-3	Chromium	15	MG_KG		Y	0.1	0.31
BAI-24A-031-18	6010B	DRY	11	7440-48-4	Cobalt	7.9	MG_KG		Y	0.21	0.62
BAI-24A-031-18	6010B	DRY	11	7440-50-8	Copper	12	MG_KG		Y	0.1	0.31
BAI-24A-031-18	6010B	DRY	11	7439-92-1	Lead	5.5	MG_KG	J	Y	0.076	0.28
BAI-24A-031-18	7470A	DRY	11	7439-97-6	Mercury	0.022	MG_KG	U	N	0.000075	0.022
BAI-24A-031-18	6010B	DRY	11	7439-98-7	Molybdenum	0.62	MG_KG	U	N	0.21	0.62
BAI-24A-031-18	6010B	DRY	11	7440-02-0	Nickel	15	MG_KG		Y	0.21	0.62
BAI-24A-031-18	6010B	DRY	11	7782-49-2	Selenium	0.56	MG_KG	U	N	0.15	0.56
BAI-24A-031-18	6010B	DRY	11	7440-22-4	Silver	0.28	MG_KG	U	N	0.078	0.28
BAI-24A-031-18	6010B	DRY	11	7440-28-0	Thallium	0.56	MG_KG	U	N	0.17	0.56
BAI-24A-031-18	6010B	DRY	11	7440-62-2	Vanadium	30	MG_KG		Y	0.1	0.31
BAI-24A-031-18	6010B	DRY	11	7440-66-6	Zinc	44	MG_KG		Y	0.21	1.1
BAI-24A-032-00	6010B	DRY	16	7440-36-0	Antimony	33	MG_KG	J	Y	0.18	0.6
BAI-24A-032-00	6010B	DRY	16	7440-38-2	Arsenic	7.2	MG_KG	J	Y	0.094	0.3
BAI-24A-032-00	6010B	DRY	16	7440-39-3	Barium	110	MG_KG		Y	0.11	0.34
BAI-24A-032-00	6010B	DRY	16	7440-41-7	Beryllium	0.53	MG_KG		Y	0.023	0.12
BAI-24A-032-00	6010B	DRY	16	7440-43-9	Cadmium	0.19	MG_KG	J	Y	0.057	0.3
BAI-24A-032-00	6010B	DRY	16	7440-47-3	Chromium	17	MG_KG		Y	0.11	0.34
BAI-24A-032-00	6010B	DRY	16	7440-48-4	Cobalt	9.1	MG_KG		Y	0.23	0.68
BAI-24A-032-00	6010B	DRY	16	7440-50-8	Copper	110	MG_KG		Y	0.11	0.34
BAI-24A-032-00	7470A	DRY	16	7439-97-6	Mercury	0.024	MG_KG	U	N	0.0076	0.024
BAI-24A-032-00	6010B	DRY	16	7439-98-7	Molybdenum	0.68	MG_KG	U	N	0.23	0.68
BAI-24A-032-00	6010B	DRY	16	7440-02-0	Nickel	18	MG_KG		Y	0.23	0.68
BAI-24A-032-00	6010B	DRY	16	7782-49-2	Selenium	0.6	MG_KG	U	N	0.17	0.6
BAI-24A-032-00	6010B	DRY	16	7440-22-4	Silver	0.18	MG_KG	J	Y	0.085	0.3
BAI-24A-032-00	6010B	DRY	16	7440-28-0	Thallium	0.6	MG_KG	U	N	0.18	0.6
BAI-24A-032-00	6010B	DRY	16	7440-62-2	Vanadium	35	MG_KG		Y	0.11	0.34
BAI-24A-032-00	6010B	DRY	16	7440-66-6	Zinc	64	MG_KG		Y	0.23	1.2
BAI-24A-032-18	6010B	DRY	8	7440-36-0	Antimony	2.7	MG_KG	J	Y	0.16	0.54

Attachment B-4.1
Raw Data

SAMPLE_NAME	ANALYTICAL_METHOD	SAMPLE_BASIS	PERCENT_MOISTURE	ANALYTE_ID	ANALYTE NAME	ANALYTE_VALUE	RESULT_UNITS	FINAL_QUALIFIER	DETECTED	MDL	MRL
BAI-24A-032-18	6010B	DRY	8	7440-38-2	Arsenic	4.2	MG_KG	J	Y	0.081	0.27
BAI-24A-032-18	6010B	DRY	8	7440-39-3	Barium	79	MG_KG		Y	0.098	0.29
BAI-24A-032-18	6010B	DRY	8	7440-41-7	Beryllium	0.5	MG_KG		Y	0.02	0.11
BAI-24A-032-18	6010B	DRY	8	7440-43-9	Cadmium	0.15	MG_KG	J	Y	0.049	0.27
BAI-24A-032-18	6010B	DRY	8	7440-47-3	Chromium	16	MG_KG		Y	0.098	0.29
BAI-24A-032-18	6010B	DRY	8	7440-48-4	Cobalt	8.6	MG_KG		Y	0.2	0.59
BAI-24A-032-18	6010B	DRY	8	7440-50-8	Copper	15	MG_KG		Y	0.098	0.29
BAI-24A-032-18	6010B	DRY	8	7439-92-1	Lead	23	MG_KG	J	Y	0.072	0.27
BAI-24A-032-18	7470A	DRY	8	7439-97-6	Mercury	0.023	MG_KG	U	N	0.0073	0.023
BAI-24A-032-18	6010B	DRY	8	7439-98-7	Molybdenum	0.33	MG_KG	J	Y	0.2	0.59
BAI-24A-032-18	6010B	DRY	8	7440-02-0	Nickel	16	MG_KG		Y	0.2	0.59
BAI-24A-032-18	6010B	DRY	8	7782-49-2	Selenium	0.54	MG_KG	U	N	0.14	0.54
BAI-24A-032-18	6010B	DRY	8	7440-22-4	Silver	0.11	MG_KG	J	Y	0.073	0.27
BAI-24A-032-18	6010B	DRY	8	7440-28-0	Thallium	0.54	MG_KG	U	N	0.16	0.54
BAI-24A-032-18	6010B	DRY	8	7440-62-2	Vanadium	33	MG_KG		Y	0.098	0.29
BAI-24A-032-18	6010B	DRY	8	7440-66-6	Zinc	52	MG_KG		Y	0.2	1.1
BAI-24A-033-00	6010B	DRY	15	7440-36-0	Antimony	4.8	MG_KG	J	Y	0.18	0.59
BAI-24A-033-00	6010B	DRY	15	7440-38-2	Arsenic	9.7	MG_KG	J	Y	0.094	0.29
BAI-24A-033-00	6010B	DRY	15	7440-39-3	Barium	130	MG_KG		Y	0.11	0.34
BAI-24A-033-00	6010B	DRY	15	7440-41-7	Beryllium	0.5	MG_KG		Y	0.023	0.12
BAI-24A-033-00	6010B	DRY	15	7440-43-9	Cadmium	0.18	MG_KG	J	Y	0.057	0.29
BAI-24A-033-00	6010B	DRY	15	7440-47-3	Chromium	22	MG_KG		Y	0.11	0.34
BAI-24A-033-00	6010B	DRY	15	7440-48-4	Cobalt	9.3	MG_KG		Y	0.23	0.68
BAI-24A-033-00	6010B	DRY	15	7440-50-8	Copper	52	MG_KG		Y	0.11	0.34
BAI-24A-033-00	7470A	DRY	15	7439-97-6	Mercury	0.024	MG_KG	U	N	0.0075	0.024
BAI-24A-033-00	6010B	DRY	15	7439-98-7	Molybdenum	0.41	MG_KG	J	Y	0.23	0.68
BAI-24A-033-00	6010B	DRY	15	7440-02-0	Nickel	17	MG_KG		Y	0.23	0.68
BAI-24A-033-00	6010B	DRY	15	7782-49-2	Selenium	0.59	MG_KG	U	N	0.17	0.59
BAI-24A-033-00	6010B	DRY	15	7440-22-4	Silver	0.29	MG_KG	U	N	0.085	0.29
BAI-24A-033-00	6010B	DRY	15	7440-28-0	Thallium	0.59	MG_KG	U	N	0.18	0.59
BAI-24A-033-00	6010B	DRY	15	7440-62-2	Vanadium	34	MG_KG		Y	0.11	0.34
BAI-24A-033-00	6010B	DRY	15	7440-66-6	Zinc	76	MG_KG		Y	0.23	1.2
BAI-24A-033-18	6010B	DRY	6	7440-36-0	Antimony	7.2	MG_KG	J	Y	0.16	0.53
BAI-24A-033-18	6010B	DRY	6	7440-38-2	Arsenic	4.7	MG_KG	J	Y	0.083	0.27
BAI-24A-033-18	6010B	DRY	6	7440-39-3	Barium	130	MG_KG		Y	0.099	0.3
BAI-24A-033-18	6010B	DRY	6	7440-41-7	Beryllium	0.47	MG_KG		Y	0.02	0.11
BAI-24A-033-18	6010B	DRY	6	7440-43-9	Cadmium	0.15	MG_KG	J	Y	0.05	0.27
BAI-24A-033-18	6010B	DRY	6	7440-47-3	Chromium	18	MG_KG		Y	0.099	0.3
BAI-24A-033-18	6010B	DRY	6	7440-48-4	Cobalt	9.3	MG_KG		Y	0.2	0.6
BAI-24A-033-18	6010B	DRY	6	7440-50-8	Copper	83	MG_KG		Y	0.099	0.3
BAI-24A-033-18	7470A	DRY	6	7439-97-6	Mercury	0.021	MG_KG	U	N	0.0067	0.021
BAI-24A-033-18	6010B	DRY	6	7439-98-7	Molybdenum	0.39	MG_KG	J	Y	0.2	0.6
BAI-24A-033-18	6010B	DRY	6	7440-02-0	Nickel	16	MG_KG		Y	0.2	0.6
BAI-24A-033-18	6010B	DRY	6	7782-49-2	Selenium	0.53	MG_KG	U	N	0.15	0.53
BAI-24A-033-18	6010B	DRY	6	7440-22-4	Silver	0.27	MG_KG	U	N	0.074	0.27
BAI-24A-033-18	6010B	DRY	6	7440-28-0	Thallium	0.53	MG_KG	U	N	0.16	0.53
BAI-24A-033-18	6010B	DRY	6	7440-62-2	Vanadium	33	MG_KG		Y	0.099	0.3
BAI-24A-033-18	6010B	DRY	6	7440-66-6	Zinc	71	MG_KG		Y	0.2	1.1
BAI-24A-034-00	6010B	DRY	16	7440-36-0	Antimony	3.1	MG_KG	J	Y	0.18	0.6
BAI-24A-034-00	6010B	DRY	16	7440-38-2	Arsenic	5.8	MG_KG	J	Y	0.092	0.3

Attachment B-4.1
Raw Data

SAMPLE_NAME	ANALYTICAL_METHOD	SAMPLE_BASIS	PERCENT_MOISTURE	ANALYTE_ID	ANALYTE NAME	ANALYTE_VALUE	RESULT_UNITS	FINAL_QUALIFIER	DETECTED	MDL	MRL
BAI-24A-034-00	6010B	DRY	16	7440-39-3	Barium	120	MG_KG		Y	0.11	0.33
BAI-24A-034-00	6010B	DRY	16	7440-41-7	Beryllium	0.59	MG_KG		Y	0.022	0.12
BAI-24A-034-00	6010B	DRY	16	7440-43-9	Cadmium	0.19	MG_KG	J	Y	0.056	0.3
BAI-24A-034-00	6010B	DRY	16	7440-47-3	Chromium	19	MG_KG		Y	0.11	0.33
BAI-24A-034-00	6010B	DRY	16	7440-48-4	Cobalt	12	MG_KG		Y	0.22	0.67
BAI-24A-034-00	6010B	DRY	16	7440-50-8	Copper	19	MG_KG		Y	0.11	0.33
BAI-24A-034-00	6010B	DRY	16	7439-92-1	Lead	120	MG_KG	J	Y	0.081	0.3
BAI-24A-034-00	7470A	DRY	16	7439-97-6	Mercury	0.024	MG_KG	U	N	0.0076	0.024
BAI-24A-034-00	6010B	DRY	16	7439-98-7	Molybdenum	0.25	MG_KG	J	Y	0.22	0.67
BAI-24A-034-00	6010B	DRY	16	7440-02-0	Nickel	20	MG_KG		Y	0.22	0.67
BAI-24A-034-00	6010B	DRY	16	7782-49-2	Selenium	0.6	MG_KG	U	N	0.16	0.6
BAI-24A-034-00	6010B	DRY	16	7440-22-4	Silver	0.3	MG_KG	U	N	0.083	0.3
BAI-24A-034-00	6010B	DRY	16	7440-28-0	Thallium	0.6	MG_KG	U	N	0.18	0.6
BAI-24A-034-00	6010B	DRY	16	7440-62-2	Vanadium	39	MG_KG		Y	0.11	0.33
BAI-24A-034-00	6010B	DRY	16	7440-66-6	Zinc	59	MG_KG		Y	0.22	1.2
BAI-24A-034-18	6010B	DRY	9	7440-36-0	Antimony	2.5	MG_KG	J	Y	0.16	0.55
BAI-24A-034-18	6010B	DRY	9	7440-38-2	Arsenic	5	MG_KG	J	Y	0.084	0.27
BAI-24A-034-18	6010B	DRY	9	7440-39-3	Barium	98	MG_KG		Y	0.1	0.3
BAI-24A-034-18	6010B	DRY	9	7440-41-7	Beryllium	0.54	MG_KG		Y	0.02	0.11
BAI-24A-034-18	6010B	DRY	9	7440-43-9	Cadmium	0.17	MG_KG	J	Y	0.05	0.27
BAI-24A-034-18	6010B	DRY	9	7440-47-3	Chromium	18	MG_KG		Y	0.1	0.3
BAI-24A-034-18	6010B	DRY	9	7440-48-4	Cobalt	8.6	MG_KG		Y	0.2	0.6
BAI-24A-034-18	6010B	DRY	9	7440-50-8	Copper	16	MG_KG		Y	0.1	0.3
BAI-24A-034-18	6010B	DRY	9	7439-92-1	Lead	19	MG_KG	J	Y	0.074	0.27
BAI-24A-034-18	7470A	DRY	9	7439-97-6	Mercury	0.022	MG_KG	U	N	0.0071	0.022
BAI-24A-034-18	6010B	DRY	9	7439-98-7	Molybdenum	0.28	MG_KG	J	Y	0.2	0.6
BAI-24A-034-18	6010B	DRY	9	7440-02-0	Nickel	18	MG_KG		Y	0.2	0.6
BAI-24A-034-18	6010B	DRY	9	7782-49-2	Selenium	0.55	MG_KG	U	N	0.15	0.55
BAI-24A-034-18	6010B	DRY	9	7440-22-4	Silver	0.095	MG_KG	J	Y	0.075	0.27
BAI-24A-034-18	6010B	DRY	9	7440-28-0	Thallium	0.55	MG_KG	U	N	0.16	0.55
BAI-24A-034-18	6010B	DRY	9	7440-62-2	Vanadium	36	MG_KG		Y	0.1	0.3
BAI-24A-034-18	6010B	DRY	9	7440-66-6	Zinc	53	MG_KG		Y	0.2	1.1
BAI-24A-035-18	6010B	DRY	9	7440-36-0	Antimony	5.4	MG_KG	J	Y	0.16	0.55
BAI-24A-035-18	6010B	DRY	9	7440-38-2	Arsenic	5.1	MG_KG	J	Y	0.084	0.27
BAI-24A-035-18	6010B	DRY	9	7440-39-3	Barium	93	MG_KG		Y	0.1	0.3
BAI-24A-035-18	6010B	DRY	9	7440-41-7	Beryllium	0.53	MG_KG		Y	0.02	0.11
BAI-24A-035-18	6010B	DRY	9	7440-43-9	Cadmium	0.2	MG_KG	J	Y	0.05	0.27
BAI-24A-035-18	6010B	DRY	9	7440-47-3	Chromium	18	MG_KG		Y	0.1	0.3
BAI-24A-035-18	6010B	DRY	9	7440-48-4	Cobalt	9.5	MG_KG		Y	0.2	0.6
BAI-24A-035-18	6010B	DRY	9	7440-50-8	Copper	36	MG_KG		Y	0.1	0.3
BAI-24A-035-18	6010B	DRY	9	7439-92-1	Lead	230	MG_KG	J	Y	0.074	0.27
BAI-24A-035-18	7470A	DRY	9	7439-97-6	Mercury	0.023	MG_KG	U	N	0.0072	0.023
BAI-24A-035-18	6010B	DRY	9	7439-98-7	Molybdenum	0.38	MG_KG	J	Y	0.2	0.6
BAI-24A-035-18	6010B	DRY	9	7440-02-0	Nickel	17	MG_KG		Y	0.2	0.6
BAI-24A-035-18	6010B	DRY	9	7782-49-2	Selenium	0.55	MG_KG	U	N	0.15	0.55
BAI-24A-035-18	6010B	DRY	9	7440-22-4	Silver	0.096	MG_KG	J	Y	0.075	0.27
BAI-24A-035-18	6010B	DRY	9	7440-28-0	Thallium	0.55	MG_KG	U	N	0.16	0.55
BAI-24A-035-18	6010B	DRY	9	7440-62-2	Vanadium	35	MG_KG		Y	0.1	0.3
BAI-24A-035-18	6010B	DRY	9	7440-66-6	Zinc	58	MG_KG		Y	0.2	1.1
BAI-24A-036-00	6010B	DRY	14	7440-36-0	Antimony	2.6	MG_KG	J	Y	0.17	0.58

Attachment B-4.1
Raw Data

SAMPLE_NAME	ANALYTICAL_METHOD	SAMPLE_BASIS	PERCENT_MOISTURE	ANALYTE_ID	ANALYTE NAME	ANALYTE_VALUE	RESULT_UNITS	FINAL_QUALIFIER	DETECTED	MDL	MRL
BAI-24A-036-00	6010B	DRY	14	7440-38-2	Arsenic	4.9	MG_KG	J	Y	0.088	0.29
BAI-24A-036-00	6010B	DRY	14	7440-39-3	Barium	120	MG_KG		Y	0.11	0.32
BAI-24A-036-00	6010B	DRY	14	7440-41-7	Beryllium	0.56	MG_KG		Y	0.021	0.12
BAI-24A-036-00	6010B	DRY	14	7440-43-9	Cadmium	0.19	MG_KG	J	Y	0.053	0.29
BAI-24A-036-00	6010B	DRY	14	7440-47-3	Chromium	19	MG_KG		Y	0.11	0.32
BAI-24A-036-00	6010B	DRY	14	7440-48-4	Cobalt	8.9	MG_KG		Y	0.21	0.63
BAI-24A-036-00	6010B	DRY	14	7440-50-8	Copper	17	MG_KG		Y	0.11	0.32
BAI-24A-036-00	6010B	DRY	14	7439-92-1	Lead	8.1	MG_KG	J	Y	0.077	0.29
BAI-24A-036-00	7470A	DRY	14	7439-97-6	Mercury	0.023	MG_KG	U	N	0.0066	0.023
BAI-24A-036-00	6010B	DRY	14	7439-98-7	Molybdenum	0.63	MG_KG	U	N	0.21	0.63
BAI-24A-036-00	6010B	DRY	14	7440-02-0	Nickel	18	MG_KG		Y	0.21	0.63
BAI-24A-036-00	6010B	DRY	14	7782-49-2	Selenium	0.58	MG_KG	U	N	0.15	0.58
BAI-24A-036-00	6010B	DRY	14	7440-22-4	Silver	0.19	MG_KG	J	Y	0.079	0.29
BAI-24A-036-00	6010B	DRY	14	7440-28-0	Thallium	0.58	MG_KG	U	N	0.17	0.58
BAI-24A-036-00	6010B	DRY	14	7440-62-2	Vanadium	37	MG_KG		Y	0.11	0.32
BAI-24A-036-00	6010B	DRY	14	7440-66-6	Zinc	57	MG_KG		Y	0.21	1.2
BAI-24A-031-00	D2216	WET		-86	Percent Moisture	15	PCT		Y		1
BAI-24A-031-18	D2216	WET		-86	Percent Moisture	11	PCT		Y		1
BAI-24A-032-00	D2216	WET		-86	Percent Moisture	16	PCT		Y		1
BAI-24A-032-18	D2216	WET		-86	Percent Moisture	8	PCT		Y		1
BAI-24A-033-00	D2216	WET		-86	Percent Moisture	15	PCT		Y		1
BAI-24A-033-18	D2216	WET		-86	Percent Moisture	6	PCT		Y		1
BAI-24A-034-00	D2216	WET		-86	Percent Moisture	16	PCT		Y		1
BAI-24A-034-18	D2216	WET		-86	Percent Moisture	9	PCT		Y		1
BAI-24A-035-18	D2216	WET		-86	Percent Moisture	9	PCT		Y		1
BAI-24A-036-00	D2216	WET		-86	Percent Moisture	14	PCT		Y		1
BAI-24A-035-00	8330	WET		2691-41-0	HMX	190	UG_KG	U	N	14	190
BAI-24A-035-00	8330	WET		121-82-4	RDX	190	UG_KG	U	N	20	190
BAI-24A-035-00	8330	WET		99-35-4	1,3,5-Trinitrobenzene	190	UG_KG	U	N	27	190
BAI-24A-035-00	8330	WET		99-65-0	1,3-Dinitrobenzene	190	UG_KG	U	N	4.5	190
BAI-24A-035-00	8330	WET		98-95-3	Nitrobenzene	190	UG_KG	U	N	16	190
BAI-24A-035-00	8330	WET		479-45-8	Tetryl	190	UG_KG	U	N	55	190
BAI-24A-035-00	8330	WET		118-96-7	2,4,6-Trinitrotoluene	190	UG_KG	U	N	30	190
BAI-24A-035-00	8330	WET		35572-78-2	2-amino-4,6-Dinitrotoluene	190	UG_KG	U	N	18	190
BAI-24A-035-00	8330	WET		19406-51-0	4-amino-2,6-Dinitrotoluene	190	UG_KG	U	N	38	190
BAI-24A-035-00	8330	WET		121-14-2	2,4-Dinitrotoluene	190	UG_KG	U	N	20	190
BAI-24A-035-00	8330	WET		606-20-2	2,6-Dinitrotoluene	190	UG_KG	U	N	22	190
BAI-24A-035-00	8330	WET		88-72-2	2-Nitrotoluene	390	UG_KG	U	N	28	390
BAI-24A-035-00	8330	WET		99-99-0	4-Nitrotoluene	390	UG_KG	U	N	28	390
BAI-24A-035-00	8330	WET		99-08-1	3-Nitrotoluene	390	UG_KG	U	N	39	390
BAI-24A-035-00	6010B	DRY	14	7440-36-0	Antimony	6.1	MG_KG	J	Y	0.17	0.58
BAI-24A-035-00	6010B	DRY	14	7440-38-2	Arsenic	6.2	MG_KG		Y	0.09	0.29
BAI-24A-035-00	6010B	DRY	14	7440-39-3	Barium	99	MG_KG		Y	0.11	0.33
BAI-24A-035-00	6010B	DRY	14	7440-41-7	Beryllium	0.57	MG_KG		Y	0.022	0.12
BAI-24A-035-00	6010B	DRY	14	7440-43-9	Cadmium	0.18	MG_KG	J	Y	0.054	0.29
BAI-24A-035-00	6010B	DRY	14	7440-47-3	Chromium	19	MG_KG		Y	0.11	0.33
BAI-24A-035-00	6010B	DRY	14	7440-48-4	Cobalt	10	MG_KG		Y	0.22	0.65
BAI-24A-035-00	6010B	DRY	14	7440-50-8	Copper	49	MG_KG		Y	0.11	0.33
BAI-24A-035-00	6010B	DRY	14	7439-92-1	Lead	490	MG_KG	J	Y	0.079	0.29
BAI-24A-035-00	7470A	DRY	14	7439-97-6	Mercury	0.02	MG_KG	J	Y	0.0073	0.023

Attachment B-4.1
Raw Data

SAMPLE_NAME	ANALYTICAL_METHOD	SAMPLE_BASIS	PERCENT_MOISTURE	ANALYTE_ID	ANALYTE NAME	ANALYTE_VALUE	RESULT_UNITS	FINAL_QUALIFIER	DETECTED	MDL	MRL
BAI-24A-035-00	6010B	DRY	14	7439-98-7	Molybdenum	0.37	MG_KG	J	Y	0.22	0.65
BAI-24A-035-00	6010B	DRY	14	7440-02-0	Nickel	18	MG_KG		Y	0.22	0.65
BAI-24A-035-00	6010B	DRY	14	7782-49-2	Selenium	0.58	MG_KG	U	N	0.16	0.58
BAI-24A-035-00	6010B	DRY	14	7440-22-4	Silver	0.1	MG_KG	J	Y	0.081	0.29
BAI-24A-035-00	6010B	DRY	14	7440-28-0	Thallium	0.58	MG_KG	U	N	0.18	0.58
BAI-24A-035-00	6010B	DRY	14	7440-62-2	Vanadium	37	MG_KG		Y	0.11	0.33
BAI-24A-035-00	6010B	DRY	14	7440-66-6	Zinc	61	MG_KG		Y	0.22	1.2
BAI-24A-035-00	D2216	WET		-86	Percent Moisture	14	PCT		Y		1
BAI-24A-051-00	8330	WET		2691-41-0	HMX	200	UG_KG	U	N	26	200
BAI-24A-051-00	8330	WET		121-82-4	RDX	200	UG_KG	U	N	40	200
BAI-24A-051-00	8330	WET		99-35-4	1,3,5-Trinitrobenzene	200	UG_KG	U	N	35	200
BAI-24A-051-00	8330	WET		99-65-0	1,3-Dinitrobenzene	200	UG_KG	U	N	20	200
BAI-24A-051-00	8330	WET		98-95-3	Nitrobenzene	200	UG_KG	U	N	18	200
BAI-24A-051-00	8330	WET		479-45-8	Tetryl	200	UG_KG	U	N	66	200
BAI-24A-051-00	8330	WET		118-96-7	2,4,6-Trinitrotoluene	200	UG_KG	U	N	13	200
BAI-24A-051-00	8330	WET		35572-78-2	2-amino-4,6-Dinitrotoluene	200	UG_KG	U	N	26	200
BAI-24A-051-00	8330	WET		19406-51-0	4-amino-2,6-Dinitrotoluene	200	UG_KG	U	N	28	200
BAI-24A-051-00	8330	WET		121-14-2	2,4-Dinitrotoluene	200	UG_KG	U	N	19	200
BAI-24A-051-00	8330	WET		606-20-2	2,6-Dinitrotoluene	200	UG_KG	U	N	18	200
BAI-24A-051-00	8330	WET		88-72-2	2-Nitrotoluene	400	UG_KG	U	N	16	400
BAI-24A-051-00	8330	WET		99-99-0	4-Nitrotoluene	400	UG_KG	U	N	31	400
BAI-24A-051-00	8330	WET		99-08-1	3-Nitrotoluene	400	UG_KG	U	N	61	400
BAI-24A-051-18	8330	WET		2691-41-0	HMX	190	UG_KG	U	N	26	190
BAI-24A-051-18	8330	WET		121-82-4	RDX	190	UG_KG	U	N	39	190
BAI-24A-051-18	8330	WET		99-35-4	1,3,5-Trinitrobenzene	190	UG_KG	U	N	34	190
BAI-24A-051-18	8330	WET		99-65-0	1,3-Dinitrobenzene	190	UG_KG	U	N	19	190
BAI-24A-051-18	8330	WET		98-95-3	Nitrobenzene	190	UG_KG	U	N	18	190
BAI-24A-051-18	8330	WET		479-45-8	Tetryl	190	UG_KG	U	N	64	190
BAI-24A-051-18	8330	WET		118-96-7	2,4,6-Trinitrotoluene	190	UG_KG	U	N	13	190
BAI-24A-051-18	8330	WET		35572-78-2	2-amino-4,6-Dinitrotoluene	190	UG_KG	U	N	26	190
BAI-24A-051-18	8330	WET		19406-51-0	4-amino-2,6-Dinitrotoluene	190	UG_KG	U	N	28	190
BAI-24A-051-18	8330	WET		121-14-2	2,4-Dinitrotoluene	190	UG_KG	U	N	19	190
BAI-24A-051-18	8330	WET		606-20-2	2,6-Dinitrotoluene	190	UG_KG	U	N	18	190
BAI-24A-051-18	8330	WET		88-72-2	2-Nitrotoluene	390	UG_KG	U	N	16	390
BAI-24A-051-18	8330	WET		99-99-0	4-Nitrotoluene	390	UG_KG	U	N	30	390
BAI-24A-051-18	8330	WET		99-08-1	3-Nitrotoluene	390	UG_KG	U	N	59	390
BAI-24A-052-00	8330	WET		2691-41-0	HMX	200	UG_KG	U	N	26	200
BAI-24A-052-00	8330	WET		121-82-4	RDX	200	UG_KG	U	N	39	200
BAI-24A-052-00	8330	WET		99-35-4	1,3,5-Trinitrobenzene	200	UG_KG	U	N	35	200
BAI-24A-052-00	8330	WET		99-65-0	1,3-Dinitrobenzene	200	UG_KG	U	N	20	200
BAI-24A-052-00	8330	WET		98-95-3	Nitrobenzene	200	UG_KG	U	N	18	200
BAI-24A-052-00	8330	WET		479-45-8	Tetryl	200	UG_KG	U	N	65	200
BAI-24A-052-00	8330	WET		118-96-7	2,4,6-Trinitrotoluene	200	UG_KG	U	N	13	200
BAI-24A-052-00	8330	WET		35572-78-2	2-amino-4,6-Dinitrotoluene	200	UG_KG	U	N	26	200
BAI-24A-052-00	8330	WET		19406-51-0	4-amino-2,6-Dinitrotoluene	200	UG_KG	U	N	28	200
BAI-24A-052-00	8330	WET		121-14-2	2,4-Dinitrotoluene	200	UG_KG	U	N	19	200
BAI-24A-052-00	8330	WET		606-20-2	2,6-Dinitrotoluene	200	UG_KG	U	N	18	200
BAI-24A-052-00	8330	WET		88-72-2	2-Nitrotoluene	400	UG_KG	U	N	16	400
BAI-24A-052-00	8330	WET		99-99-0	4-Nitrotoluene	400	UG_KG	U	N	30	400
BAI-24A-052-00	8330	WET		99-08-1	3-Nitrotoluene	400	UG_KG	U	N	60	400

SAMPLE_NAME	ANALYTICAL_METHOD	SAMPLE_BASIS	PERCENT_MOISTURE	ANALYTE_ID	ANALYTE NAME	ANALYTE_VALUE	RESULT_UNITS	FINAL_QUALIFIER	DETECTED	MDL	MRL
BAI-24A-052-18	8330	WET		2691-41-0	HMX	200	UG_KG	U	N	26	200
BAI-24A-052-18	8330	WET		121-82-4	RDX	200	UG_KG	U	N	39	200
BAI-24A-052-18	8330	WET		99-35-4	1,3,5-Trinitrobenzene	200	UG_KG	U	N	35	200
BAI-24A-052-18	8330	WET		99-65-0	1,3-Dinitrobenzene	200	UG_KG	U	N	19	200
BAI-24A-052-18	8330	WET		98-95-3	Nitrobenzene	200	UG_KG	U	N	18	200
BAI-24A-052-18	8330	WET		479-45-8	Tetryl	200	UG_KG	U	N	65	200
BAI-24A-052-18	8330	WET		118-96-7	2,4,6-Trinitrotoluene	200	UG_KG	U	N	13	200
BAI-24A-052-18	8330	WET		35572-78-2	2-amino-4,6-Dinitrotoluene	200	UG_KG	U	N	26	200
BAI-24A-052-18	8330	WET		19406-51-0	4-amino-2,6-Dinitrotoluene	200	UG_KG	U	N	28	200
BAI-24A-052-18	8330	WET		121-14-2	2,4-Dinitrotoluene	200	UG_KG	U	N	19	200
BAI-24A-052-18	8330	WET		606-20-2	2,6-Dinitrotoluene	200	UG_KG	U	N	18	200
BAI-24A-052-18	8330	WET		88-72-2	2-Nitrotoluene	390	UG_KG	U	N	16	390
BAI-24A-052-18	8330	WET		99-99-0	4-Nitrotoluene	390	UG_KG	U	N	30	390
BAI-24A-052-18	8330	WET		99-08-1	3-Nitrotoluene	390	UG_KG	U	N	60	390
BAI-24A-053-00	8330	WET		2691-41-0	HMX	200	UG_KG	U	N	26	200
BAI-24A-053-00	8330	WET		121-82-4	RDX	200	UG_KG	U	N	39	200
BAI-24A-053-00	8330	WET		99-35-4	1,3,5-Trinitrobenzene	200	UG_KG	U	N	35	200
BAI-24A-053-00	8330	WET		99-65-0	1,3-Dinitrobenzene	200	UG_KG	U	N	20	200
BAI-24A-053-00	8330	WET		98-95-3	Nitrobenzene	200	UG_KG	U	N	18	200
BAI-24A-053-00	8330	WET		479-45-8	Tetryl	200	UG_KG	U	N	66	200
BAI-24A-053-00	8330	WET		118-96-7	2,4,6-Trinitrotoluene	200	UG_KG	U	N	13	200
BAI-24A-053-00	8330	WET		35572-78-2	2-amino-4,6-Dinitrotoluene	200	UG_KG	U	N	26	200
BAI-24A-053-00	8330	WET		19406-51-0	4-amino-2,6-Dinitrotoluene	200	UG_KG	U	N	28	200
BAI-24A-053-00	8330	WET		121-14-2	2,4-Dinitrotoluene	200	UG_KG	U	N	19	200
BAI-24A-053-00	8330	WET		606-20-2	2,6-Dinitrotoluene	200	UG_KG	U	N	18	200
BAI-24A-053-00	8330	WET		88-72-2	2-Nitrotoluene	400	UG_KG	U	N	16	400
BAI-24A-053-00	8330	WET		99-99-0	4-Nitrotoluene	400	UG_KG	U	N	31	400
BAI-24A-053-00	8330	WET		99-08-1	3-Nitrotoluene	400	UG_KG	U	N	61	400
BAI-24A-053-18	8330	WET		2691-41-0	HMX	200	UG_KG	U	N	26	200
BAI-24A-053-18	8330	WET		121-82-4	RDX	200	UG_KG	U	N	39	200
BAI-24A-053-18	8330	WET		99-35-4	1,3,5-Trinitrobenzene	200	UG_KG	U	N	35	200
BAI-24A-053-18	8330	WET		99-65-0	1,3-Dinitrobenzene	200	UG_KG	U	N	19	200
BAI-24A-053-18	8330	WET		98-95-3	Nitrobenzene	200	UG_KG	U	N	18	200
BAI-24A-053-18	8330	WET		479-45-8	Tetryl	200	UG_KG	U	N	65	200
BAI-24A-053-18	8330	WET		118-96-7	2,4,6-Trinitrotoluene	200	UG_KG	U	N	13	200
BAI-24A-053-18	8330	WET		35572-78-2	2-amino-4,6-Dinitrotoluene	200	UG_KG	U	N	26	200
BAI-24A-053-18	8330	WET		19406-51-0	4-amino-2,6-Dinitrotoluene	200	UG_KG	U	N	28	200
BAI-24A-053-18	8330	WET		121-14-2	2,4-Dinitrotoluene	200	UG_KG	U	N	19	200
BAI-24A-053-18	8330	WET		606-20-2	2,6-Dinitrotoluene	200	UG_KG	U	N	18	200
BAI-24A-053-18	8330	WET		88-72-2	2-Nitrotoluene	390	UG_KG	U	N	16	390
BAI-24A-053-18	8330	WET		99-99-0	4-Nitrotoluene	390	UG_KG	U	N	30	390
BAI-24A-053-18	8330	WET		99-08-1	3-Nitrotoluene	390	UG_KG	U	N	60	390
BAI-24A-054-00	8330	WET		2691-41-0	HMX	200	UG_KG	U	N	26	200
BAI-24A-054-00	8330	WET		121-82-4	RDX	200	UG_KG	U	N	39	200
BAI-24A-054-00	8330	WET		99-35-4	1,3,5-Trinitrobenzene	200	UG_KG	U	N	34	200
BAI-24A-054-00	8330	WET		99-65-0	1,3-Dinitrobenzene	200	UG_KG	U	N	19	200
BAI-24A-054-00	8330	WET		98-95-3	Nitrobenzene	200	UG_KG	U	N	18	200
BAI-24A-054-00	8330	WET		479-45-8	Tetryl	200	UG_KG	U	N	64	200
BAI-24A-054-00	8330	WET		118-96-7	2,4,6-Trinitrotoluene	200	UG_KG	U	N	13	200
BAI-24A-054-00	8330	WET		35572-78-2	2-amino-4,6-Dinitrotoluene	200	UG_KG	U	N	26	200

Attachment B-4.1
Raw Data

SAMPLE_NAME	ANALYTICAL_METHOD	SAMPLE_BASIS	PERCENT_MOISTURE	ANALYTE_ID	ANALYTE NAME	ANALYTE_VALUE	RESULT_UNITS	FINAL_QUALIFIER	DETECTED	MDL	MRL
BAI-24A-054-00	8330	WET		19406-51-0	4-amino-2,6-Dinitrotoluene	200	UG_KG	U	N	28	200
BAI-24A-054-00	8330	WET		121-14-2	2,4-Dinitrotoluene	200	UG_KG	U	N	19	200
BAI-24A-054-00	8330	WET		606-20-2	2,6-Dinitrotoluene	200	UG_KG	U	N	18	200
BAI-24A-054-00	8330	WET		88-72-2	2-Nitrotoluene	390	UG_KG	U	N	16	390
BAI-24A-054-00	8330	WET		99-99-0	4-Nitrotoluene	390	UG_KG	U	N	30	390
BAI-24A-054-00	8330	WET		99-08-1	3-Nitrotoluene	390	UG_KG	U	N	60	390
BAI-24A-054-18	8330	WET		2691-41-0	HMX	200	UG_KG	U	N	26	200
BAI-24A-054-18	8330	WET		121-82-4	RDX	200	UG_KG	U	N	39	200
BAI-24A-054-18	8330	WET		99-35-4	1,3,5-Trinitrobenzene	200	UG_KG	U	N	34	200
BAI-24A-054-18	8330	WET		99-65-0	1,3-Dinitrobenzene	200	UG_KG	U	N	19	200
BAI-24A-054-18	8330	WET		98-95-3	Nitrobenzene	200	UG_KG	U	N	18	200
BAI-24A-054-18	6010B	DRY	12	7440-43-9	Cadmium	0.28	MG_KG	U	N	0.055	0.28
BAI-24A-054-18	6010B	DRY	12	7440-47-3	Chromium	19	MG_KG		Y	0.11	0.33
BAI-24A-054-18	6010B	DRY	12	7440-48-4	Cobalt	8.7	MG_KG		Y	0.22	0.66
BAI-24A-054-18	6010B	DRY	12	7440-50-8	Copper	21	MG_KG		Y	0.11	0.33
BAI-24A-054-18	6010B	DRY	12	7439-92-1	Lead	9.7	MG_KG	J	Y	0.076	0.28
BAI-24A-054-18	7470A	DRY	12	7439-97-6	Mercury	0.019	MG_KG	UJ	N	0.007	0.023
BAI-24A-054-18	6010B	DRY	12	7439-98-7	Molybdenum	0.66	MG_KG	U	N	0.22	0.66
BAI-24A-054-18	6010B	DRY	12	7440-02-0	Nickel	15	MG_KG		Y	0.22	0.66
BAI-24A-054-18	6010B	DRY	12	7782-49-2	Selenium	0.52	MG_KG	J	Y	0.17	0.57
BAI-24A-054-18	6010B	DRY	12	7440-22-4	Silver	0.28	MG_KG	U	N	0.055	0.28
BAI-24A-054-18	6010B	DRY	12	7440-28-0	Thallium	0.57	MG_KG	U	N	0.15	0.57
BAI-24A-054-18	6010B	DRY	12	7440-62-2	Vanadium	39	MG_KG		Y	0.11	0.33
BAI-24A-054-18	6010B	DRY	12	7440-66-6	Zinc	53	MG_KG		Y	0.22	1.1
BAI-24A-055-00	6010B	DRY	15	7440-36-0	Antimony	1.5	MG_KG	J	Y	0.16	0.59
BAI-24A-055-00	6010B	DRY	15	7440-38-2	Arsenic	5.5	MG_KG	J	Y	0.077	0.29
BAI-24A-055-00	6010B	DRY	15	7440-39-3	Barium	130	MG_KG		Y	0.11	0.32
BAI-24A-055-00	6010B	DRY	15	7440-41-7	Beryllium	0.51	MG_KG		Y	0.021	0.12
BAI-24A-055-00	6010B	DRY	15	7440-43-9	Cadmium	0.29	MG_KG	U	N	0.053	0.29
BAI-24A-054-18	8330	WET		479-45-8	Tetryl	200	UG_KG	U	N	64	200
BAI-24A-054-18	8330	WET		118-96-7	2,4,6-Trinitrotoluene	200	UG_KG	U	N	13	200
BAI-24A-054-18	8330	WET		35572-78-2	2-amino-4,6-Dinitrotoluene	200	UG_KG	U	N	26	200
BAI-24A-054-18	8330	WET		19406-51-0	4-amino-2,6-Dinitrotoluene	200	UG_KG	U	N	28	200
BAI-24A-054-18	8330	WET		121-14-2	2,4-Dinitrotoluene	200	UG_KG	U	N	19	200
BAI-24A-054-18	8330	WET		606-20-2	2,6-Dinitrotoluene	200	UG_KG	U	N	18	200
BAI-24A-054-18	8330	WET		88-72-2	2-Nitrotoluene	390	UG_KG	U	N	16	390
BAI-24A-054-18	8330	WET		99-99-0	4-Nitrotoluene	390	UG_KG	U	N	30	390
BAI-24A-054-18	8330	WET		99-08-1	3-Nitrotoluene	390	UG_KG	U	N	60	390
BAI-24A-055-00	8330	WET		2691-41-0	HMX	190	UG_KG	U	N	26	190
BAI-24A-055-00	8330	WET		121-82-4	RDX	190	UG_KG	U	N	38	190
BAI-24A-055-00	8330	WET		99-35-4	1,3,5-Trinitrobenzene	190	UG_KG	U	N	34	190
BAI-24A-055-00	8330	WET		99-65-0	1,3-Dinitrobenzene	190	UG_KG	U	N	19	190
BAI-24A-055-00	8330	WET		98-95-3	Nitrobenzene	190	UG_KG	U	N	18	190
BAI-24A-055-00	8330	WET		479-45-8	Tetryl	190	UG_KG	U	N	64	190
BAI-24A-055-00	8330	WET		118-96-7	2,4,6-Trinitrotoluene	190	UG_KG	U	N	13	190
BAI-24A-055-00	8330	WET		35572-78-2	2-amino-4,6-Dinitrotoluene	190	UG_KG	U	N	26	190
BAI-24A-055-00	8330	WET		19406-51-0	4-amino-2,6-Dinitrotoluene	190	UG_KG	U	N	28	190
BAI-24A-055-00	8330	WET		121-14-2	2,4-Dinitrotoluene	190	UG_KG	U	N	19	190
BAI-24A-055-00	8330	WET		606-20-2	2,6-Dinitrotoluene	190	UG_KG	U	N	18	190
BAI-24A-055-00	8330	WET		88-72-2	2-Nitrotoluene	390	UG_KG	U	N	15	390

Attachment B-4.1
Raw Data

SAMPLE_NAME	ANALYTICAL_METHOD	SAMPLE_BASIS	PERCENT_MOISTURE	ANALYTE_ID	ANALYTE NAME	ANALYTE_VALUE	RESULT_UNITS	FINAL_QUALIFIER	DETECTED	MDL	MRL
BAI-24A-055-00	8330	WET		99-99-0	4-Nitrotoluene	390	UG_KG	U	N	30	390
BAI-24A-055-00	8330	WET		99-08-1	3-Nitrotoluene	390	UG_KG	U	N	59	390
BAI-24A-055-18	8330	WET		2691-41-0	HMX	200	UG_KG	U	N	26	200
BAI-24A-055-18	8330	WET		121-82-4	RDX	200	UG_KG	U	N	39	200
BAI-24A-055-18	8330	WET		99-35-4	1,3,5-Trinitrobenzene	200	UG_KG	U	N	35	200
BAI-24A-055-18	8330	WET		99-65-0	1,3-Dinitrobenzene	200	UG_KG	U	N	19	200
BAI-24A-055-18	8330	WET		98-95-3	Nitrobenzene	200	UG_KG	U	N	18	200
BAI-24A-055-18	8330	WET		479-45-8	Tetryl	200	UG_KG	U	N	65	200
BAI-24A-055-18	8330	WET		118-96-7	2,4,6-Trinitrotoluene	200	UG_KG	U	N	13	200
BAI-24A-055-18	8330	WET		35572-78-2	2-amino-4,6-Dinitrotoluene	200	UG_KG	U	N	26	200
BAI-24A-055-18	8330	WET		19406-51-0	4-amino-2,6-Dinitrotoluene	200	UG_KG	U	N	28	200
BAI-24A-055-18	8330	WET		121-14-2	2,4-Dinitrotoluene	200	UG_KG	U	N	19	200
BAI-24A-055-18	8330	WET		606-20-2	2,6-Dinitrotoluene	200	UG_KG	U	N	18	200
BAI-24A-055-18	8330	WET		88-72-2	2-Nitrotoluene	390	UG_KG	U	N	16	390
BAI-24A-055-18	8330	WET		99-99-0	4-Nitrotoluene	390	UG_KG	U	N	30	390
BAI-24A-055-18	8330	WET		99-08-1	3-Nitrotoluene	390	UG_KG	U	N	60	390
BAI-24A-051-00	6010B	DRY	14	7440-36-0	Antimony	1.2	MG_KG	J	Y	0.16	0.58
BAI-24A-051-00	6010B	DRY	14	7440-38-2	Arsenic	5.3	MG_KG	J	Y	0.075	0.29
BAI-24A-051-00	6010B	DRY	14	7440-39-3	Barium	110	MG_KG		Y	0.1	0.31
BAI-24A-051-00	6010B	DRY	14	7440-41-7	Beryllium	0.49	MG_KG		Y	0.021	0.12
BAI-24A-051-00	6010B	DRY	14	7440-43-9	Cadmium	0.29	MG_KG	U	N	0.052	0.29
BAI-24A-051-00	6010B	DRY	14	7440-47-3	Chromium	19	MG_KG		Y	0.1	0.31
BAI-24A-051-00	6010B	DRY	14	7440-48-4	Cobalt	8.7	MG_KG		Y	0.21	0.62
BAI-24A-051-00	6010B	DRY	14	7440-50-8	Copper	21	MG_KG		Y	0.1	0.31
BAI-24A-051-00	6010B	DRY	14	7439-92-1	Lead	58	MG_KG	J	Y	0.072	0.29
BAI-24A-051-00	7470A	DRY	14	7439-97-6	Mercury	0.019	MG_KG	UJ	N	0.0068	0.023
BAI-24A-051-00	6010B	DRY	14	7439-98-7	Molybdenum	0.62	MG_KG	U	N	0.21	0.62
BAI-24A-051-00	6010B	DRY	14	7440-02-0	Nickel	15	MG_KG		Y	0.21	0.62
BAI-24A-051-00	6010B	DRY	14	7782-49-2	Selenium	0.53	MG_KG	J	Y	0.17	0.58
BAI-24A-051-00	6010B	DRY	14	7440-22-4	Silver	0.29	MG_KG	U	N	0.052	0.29
BAI-24A-051-00	6010B	DRY	14	7440-28-0	Thallium	0.58	MG_KG	U	N	0.15	0.58
BAI-24A-051-00	6010B	DRY	14	7440-62-2	Vanadium	36	MG_KG		Y	0.1	0.31
BAI-24A-051-00	6010B	DRY	14	7440-66-6	Zinc	61	MG_KG		Y	0.21	1.2
BAI-24A-051-18	6010B	DRY	6	7440-36-0	Antimony	0.95	MG_KG	J	Y	0.16	0.53
BAI-24A-051-18	6010B	DRY	6	7440-38-2	Arsenic	5.2	MG_KG	J	Y	0.077	0.27
BAI-24A-051-18	6010B	DRY	6	7440-39-3	Barium	99	MG_KG		Y	0.11	0.32
BAI-24A-051-18	6010B	DRY	6	7440-41-7	Beryllium	0.47	MG_KG		Y	0.021	0.11
BAI-24A-051-18	6010B	DRY	6	7440-43-9	Cadmium	0.27	MG_KG	U	N	0.053	0.27
BAI-24A-051-18	6010B	DRY	6	7440-47-3	Chromium	18	MG_KG		Y	0.11	0.32
BAI-24A-051-18	6010B	DRY	6	7440-48-4	Cobalt	8.2	MG_KG		Y	0.21	0.63
BAI-24A-051-18	6010B	DRY	6	7440-50-8	Copper	17	MG_KG		Y	0.11	0.32
BAI-24A-051-18	6010B	DRY	6	7439-92-1	Lead	43	MG_KG	J	Y	0.073	0.27
BAI-24A-051-18	7470A	DRY	6	7439-97-6	Mercury	0.02	MG_KG	UJ	N	0.0073	0.023
BAI-24A-051-18	6010B	DRY	6	7439-98-7	Molybdenum	0.63	MG_KG	U	N	0.21	0.63
BAI-24A-051-18	6010B	DRY	6	7440-02-0	Nickel	14	MG_KG		Y	0.21	0.63
BAI-24A-051-18	6010B	DRY	6	7782-49-2	Selenium	0.53	MG_KG	J	Y	0.17	0.53
BAI-24A-051-18	6010B	DRY	6	7440-22-4	Silver	0.27	MG_KG	U	N	0.053	0.27
BAI-24A-051-18	6010B	DRY	6	7440-28-0	Thallium	0.53	MG_KG	U	N	0.15	0.53
BAI-24A-051-18	6010B	DRY	6	7440-62-2	Vanadium	34	MG_KG		Y	0.11	0.32
BAI-24A-051-18	6010B	DRY	6	7440-66-6	Zinc	53	MG_KG		Y	0.21	1.1

Attachment B-4.1
Raw Data

SAMPLE_NAME	ANALYTICAL_METHOD	SAMPLE_BASIS	PERCENT_MOISTURE	ANALYTE_ID	ANALYTE NAME	ANALYTE_VALUE	RESULT_UNITS	FINAL_QUALIFIER	DETECTED	MDL	MRL
BAI-24A-052-00	6010B	DRY	12	7440-36-0	Antimony	0.99	MG_KG	J	Y	0.16	0.57
BAI-24A-052-00	6010B	DRY	12	7440-38-2	Arsenic	4.5	MG_KG	J	Y	0.076	0.28
BAI-24A-052-00	6010B	DRY	12	7440-39-3	Barium	130	MG_KG		Y	0.11	0.32
BAI-24A-052-00	6010B	DRY	12	7440-41-7	Beryllium	0.42	MG_KG		Y	0.021	0.11
BAI-24A-052-00	6010B	DRY	12	7440-43-9	Cadmium	0.061	MG_KG	J	Y	0.053	0.28
BAI-24A-052-00	6010B	DRY	12	7440-47-3	Chromium	17	MG_KG		Y	0.11	0.32
BAI-24A-052-00	6010B	DRY	12	7440-48-4	Cobalt	8	MG_KG		Y	0.21	0.63
BAI-24A-052-00	6010B	DRY	12	7440-50-8	Copper	17	MG_KG		Y	0.11	0.32
BAI-24A-052-00	6010B	DRY	12	7439-92-1	Lead	37	MG_KG	J	Y	0.073	0.28
BAI-24A-052-00	7470A	DRY	12	7439-97-6	Mercury	0.0088	MG_KG	UJ	N	0.0078	0.025
BAI-24A-052-00	6010B	DRY	12	7439-98-7	Molybdenum	0.63	MG_KG	U	N	0.21	0.63
BAI-24A-052-00	6010B	DRY	12	7440-02-0	Nickel	14	MG_KG		Y	0.21	0.63
BAI-24A-052-00	6010B	DRY	12	7782-49-2	Selenium	0.4	MG_KG	J	Y	0.17	0.57
BAI-24A-052-00	6010B	DRY	12	7440-22-4	Silver	0.28	MG_KG	U	N	0.053	0.28
BAI-24A-052-00	6010B	DRY	12	7440-28-0	Thallium	0.57	MG_KG	U	N	0.15	0.57
BAI-24A-052-00	6010B	DRY	12	7440-62-2	Vanadium	33	MG_KG		Y	0.11	0.32
BAI-24A-052-00	6010B	DRY	12	7440-66-6	Zinc	61	MG_KG		Y	0.21	1.1
BAI-24A-052-18	6010B	DRY	10	7440-36-0	Antimony	0.5	MG_KG	J	Y	0.15	0.56
BAI-24A-052-18	6010B	DRY	10	7440-38-2	Arsenic	4.6	MG_KG	J	Y	0.073	0.28
BAI-24A-052-18	6010B	DRY	10	7440-39-3	Barium	140	MG_KG		Y	0.1	0.3
BAI-24A-052-18	6010B	DRY	10	7440-41-7	Beryllium	0.41	MG_KG		Y	0.02	0.11
BAI-24A-052-18	6010B	DRY	10	7440-43-9	Cadmium	0.28	MG_KG	U	N	0.051	0.28
BAI-24A-052-18	6010B	DRY	10	7440-47-3	Chromium	16	MG_KG		Y	0.1	0.3
BAI-24A-052-18	6010B	DRY	10	7440-48-4	Cobalt	7.5	MG_KG		Y	0.2	0.61
BAI-24A-052-18	6010B	DRY	10	7440-50-8	Copper	14	MG_KG		Y	0.1	0.3
BAI-24A-052-18	6010B	DRY	10	7439-92-1	Lead	7.2	MG_KG	J	Y	0.07	0.28
BAI-24A-052-18	7470A	DRY	10	7439-97-6	Mercury	0.01	MG_KG	UJ	N	0.0065	0.022
BAI-24A-052-18	6010B	DRY	10	7439-98-7	Molybdenum	0.61	MG_KG	U	N	0.2	0.61
BAI-24A-052-18	6010B	DRY	10	7440-02-0	Nickel	13	MG_KG		Y	0.2	0.61
BAI-24A-052-18	6010B	DRY	10	7782-49-2	Selenium	0.47	MG_KG	J	Y	0.16	0.56
BAI-24A-052-18	6010B	DRY	10	7440-22-4	Silver	0.28	MG_KG	U	N	0.051	0.28
BAI-24A-052-18	6010B	DRY	10	7440-28-0	Thallium	0.56	MG_KG	U	N	0.14	0.56
BAI-24A-052-18	6010B	DRY	10	7440-62-2	Vanadium	32	MG_KG		Y	0.1	0.3
BAI-24A-052-18	6010B	DRY	10	7440-66-6	Zinc	47	MG_KG		Y	0.2	1.1
BAI-24A-053-00	6010B	DRY	14	7440-36-0	Antimony	1.4	MG_KG	J	Y	0.17	0.58
BAI-24A-053-00	6010B	DRY	14	7440-38-2	Arsenic	5.3	MG_KG	J	Y	0.08	0.29
BAI-24A-053-00	6010B	DRY	14	7440-39-3	Barium	160	MG_KG		Y	0.11	0.33
BAI-24A-053-00	6010B	DRY	14	7440-41-7	Beryllium	0.49	MG_KG		Y	0.022	0.12
BAI-24A-053-00	6010B	DRY	14	7440-43-9	Cadmium	0.29	MG_KG	U	N	0.055	0.29
BAI-24A-053-00	6010B	DRY	14	7440-47-3	Chromium	18	MG_KG		Y	0.11	0.33
BAI-24A-053-00	6010B	DRY	14	7440-48-4	Cobalt	8.1	MG_KG		Y	0.22	0.66
BAI-24A-053-00	6010B	DRY	14	7440-50-8	Copper	36	MG_KG		Y	0.11	0.33
BAI-24A-053-00	6010B	DRY	14	7439-92-1	Lead	96	MG_KG	J	Y	0.077	0.29
BAI-24A-053-00	7470A	DRY	14	7439-97-6	Mercury	0.014	MG_KG	UJ	N	0.0075	0.024
BAI-24A-053-00	6010B	DRY	14	7439-98-7	Molybdenum	0.66	MG_KG	U	N	0.22	0.66
BAI-24A-053-00	6010B	DRY	14	7440-02-0	Nickel	15	MG_KG		Y	0.22	0.66
BAI-24A-053-00	6010B	DRY	14	7782-49-2	Selenium	0.42	MG_KG	J	Y	0.18	0.58
BAI-24A-053-00	6010B	DRY	14	7440-22-4	Silver	0.29	MG_KG	U	N	0.055	0.29
BAI-24A-053-00	6010B	DRY	14	7440-28-0	Thallium	0.58	MG_KG	U	N	0.16	0.58
BAI-24A-053-00	6010B	DRY	14	7440-62-2	Vanadium	37	MG_KG		Y	0.11	0.33

SAMPLE_NAME	ANALYTICAL_METHOD	SAMPLE_BASIS	PERCENT_MOISTURE	ANALYTE_ID	ANALYTE NAME	ANALYTE_VALUE	RESULT_UNITS	FINAL_QUALIFIER	DETECTED	MDL	MRL
BAI-24A-053-00	6010B	DRY	14	7440-66-6	Zinc	68	MG_KG		Y	0.22	1.2
BAI-24A-053-18	6010B	DRY	8	7440-36-0	Antimony	1	MG_KG	J	Y	0.15	0.54
BAI-24A-053-18	6010B	DRY	8	7440-38-2	Arsenic	5.2	MG_KG	J	Y	0.074	0.27
BAI-24A-053-18	6010B	DRY	8	7440-39-3	Barium	110	MG_KG		Y	0.1	0.31
BAI-24A-053-18	6010B	DRY	8	7440-41-7	Beryllium	0.46	MG_KG		Y	0.021	0.11
BAI-24A-053-18	6010B	DRY	8	7440-43-9	Cadmium	0.27	MG_KG	U	N	0.051	0.27
BAI-24A-053-18	6010B	DRY	8	7440-47-3	Chromium	22	MG_KG		Y	0.1	0.31
BAI-24A-053-18	6010B	DRY	8	7440-48-4	Cobalt	8	MG_KG		Y	0.21	0.62
BAI-24A-053-18	6010B	DRY	8	7440-50-8	Copper	28	MG_KG		Y	0.1	0.31
BAI-24A-053-18	6010B	DRY	8	7439-92-1	Lead	32	MG_KG	J	Y	0.071	0.27
BAI-24A-053-18	7470A	DRY	8	7439-97-6	Mercury	0.011	MG_KG	UJ	N	0.0071	0.023
BAI-24A-053-18	6010B	DRY	8	7439-98-7	Molybdenum	0.62	MG_KG	U	N	0.21	0.62
BAI-24A-053-18	6010B	DRY	8	7440-02-0	Nickel	15	MG_KG		Y	0.21	0.62
BAI-24A-053-18	6010B	DRY	8	7782-49-2	Selenium	0.54	MG_KG		Y	0.16	0.54
BAI-24A-053-18	6010B	DRY	8	7440-22-4	Silver	0.27	MG_KG	U	N	0.051	0.27
BAI-24A-053-18	6010B	DRY	8	7440-28-0	Thallium	0.54	MG_KG	U	N	0.14	0.54
BAI-24A-053-18	6010B	DRY	8	7440-62-2	Vanadium	35	MG_KG		Y	0.1	0.31
BAI-24A-053-18	6010B	DRY	8	7440-66-6	Zinc	81	MG_KG		Y	0.21	1.1
BAI-24A-054-00	6010B	DRY	13	7440-36-0	Antimony	1.2	MG_KG	J	Y	0.16	0.57
BAI-24A-054-00	6010B	DRY	13	7440-38-2	Arsenic	5.1	MG_KG	J	Y	0.077	0.29
BAI-24A-054-00	6010B	DRY	13	7440-39-3	Barium	130	MG_KG		Y	0.11	0.32
BAI-24A-054-00	6010B	DRY	13	7440-41-7	Beryllium	0.49	MG_KG		Y	0.021	0.11
BAI-24A-054-00	6010B	DRY	13	7440-43-9	Cadmium	0.29	MG_KG	U	N	0.053	0.29
BAI-24A-054-00	6010B	DRY	13	7440-47-3	Chromium	19	MG_KG		Y	0.11	0.32
BAI-24A-054-00	6010B	DRY	13	7440-48-4	Cobalt	8	MG_KG		Y	0.21	0.64
BAI-24A-054-00	6010B	DRY	13	7440-50-8	Copper	21	MG_KG		Y	0.11	0.32
BAI-24A-054-00	6010B	DRY	13	7439-92-1	Lead	100	MG_KG	J	Y	0.074	0.29
BAI-24A-054-00	7470A	DRY	13	7439-97-6	Mercury	0.026	MG_KG	UJ	N	0.008	0.026
BAI-24A-054-00	6010B	DRY	13	7439-98-7	Molybdenum	0.64	MG_KG	U	N	0.21	0.64
BAI-24A-054-00	6010B	DRY	13	7440-02-0	Nickel	15	MG_KG		Y	0.21	0.64
BAI-24A-054-00	6010B	DRY	13	7782-49-2	Selenium	0.43	MG_KG	J	Y	0.17	0.57
BAI-24A-054-00	6010B	DRY	13	7440-22-4	Silver	0.29	MG_KG	U	N	0.053	0.29
BAI-24A-054-00	6010B	DRY	13	7440-28-0	Thallium	0.57	MG_KG	U	N	0.15	0.57
BAI-24A-054-00	6010B	DRY	13	7440-62-2	Vanadium	37	MG_KG		Y	0.11	0.32
BAI-24A-054-00	6010B	DRY	13	7440-66-6	Zinc	61	MG_KG		Y	0.21	1.1
BAI-24A-054-18	6010B	DRY	12	7440-36-0	Antimony	0.47	MG_KG	J	Y	0.16	0.57
BAI-24A-054-18	6010B	DRY	12	7440-38-2	Arsenic	6	MG_KG	J	Y	0.079	0.28
BAI-24A-054-18	6010B	DRY	12	7440-39-3	Barium	100	MG_KG		Y	0.11	0.33
BAI-24A-054-18	6010B	DRY	12	7440-41-7	Beryllium	0.54	MG_KG		Y	0.022	0.11
BAI-24A-055-00	6010B	DRY	15	7440-47-3	Chromium	19	MG_KG		Y	0.11	0.32
BAI-24A-055-00	6010B	DRY	15	7440-48-4	Cobalt	9.1	MG_KG		Y	0.21	0.64
BAI-24A-055-00	6010B	DRY	15	7440-50-8	Copper	22	MG_KG		Y	0.11	0.32
BAI-24A-055-00	6010B	DRY	15	7439-92-1	Lead	69	MG_KG	J	Y	0.074	0.29
BAI-24A-055-00	7470A	DRY	15	7439-97-6	Mercury	0.024	MG_KG	UJ	N	0.0075	0.024
BAI-24A-055-00	6010B	DRY	15	7439-98-7	Molybdenum	0.22	MG_KG	J	Y	0.21	0.64
BAI-24A-055-00	6010B	DRY	15	7440-02-0	Nickel	15	MG_KG		Y	0.21	0.64
BAI-24A-055-00	6010B	DRY	15	7782-49-2	Selenium	0.61	MG_KG		Y	0.17	0.59
BAI-24A-055-00	6010B	DRY	15	7440-22-4	Silver	0.29	MG_KG	U	N	0.053	0.29
BAI-24A-055-00	6010B	DRY	15	7440-28-0	Thallium	0.59	MG_KG	U	N	0.15	0.59
BAI-24A-055-00	6010B	DRY	15	7440-62-2	Vanadium	37	MG_KG		Y	0.11	0.32

SAMPLE_NAME	ANALYTICAL_METHOD	SAMPLE_BASIS	PERCENT_MOISTURE	ANALYTE_ID	ANALYTE NAME	ANALYTE_VALUE	RESULT_UNITS	FINAL_QUALIFIER	DETECTED	MDL	MRL
BAI-24A-055-00	6010B	DRY	15	7440-66-6	Zinc	53	MG_KG		Y	0.21	1.2
BAI-24A-055-18	6010B	DRY	10	7440-36-0	Antimony	0.36	MG_KG	J	Y	0.15	0.56
BAI-24A-055-18	6010B	DRY	10	7440-38-2	Arsenic	5.1	MG_KG	J	Y	0.073	0.28
BAI-24A-055-18	6010B	DRY	10	7440-39-3	Barium	61	MG_KG		Y	0.1	0.3
BAI-24A-055-18	6010B	DRY	10	7440-41-7	Beryllium	0.42	MG_KG		Y	0.02	0.11
BAI-24A-055-18	6010B	DRY	10	7440-43-9	Cadmium	0.28	MG_KG	U	N	0.051	0.28
BAI-24A-055-18	6010B	DRY	10	7440-47-3	Chromium	15	MG_KG		Y	0.1	0.3
BAI-24A-055-18	6010B	DRY	10	7440-48-4	Cobalt	7.2	MG_KG		Y	0.2	0.61
BAI-24A-055-18	6010B	DRY	10	7440-50-8	Copper	17	MG_KG		Y	0.1	0.3
BAI-24A-055-18	6010B	DRY	10	7439-92-1	Lead	4.2	MG_KG	J	Y	0.07	0.28
BAI-24A-055-18	7470A	DRY	10	7439-97-6	Mercury	0.013	MG_KG	UJ	N	0.007	0.022
BAI-24A-055-18	6010B	DRY	10	7439-98-7	Molybdenum	0.61	MG_KG	U	N	0.2	0.61
BAI-24A-055-18	6010B	DRY	10	7440-02-0	Nickel	14	MG_KG		Y	0.2	0.61
BAI-24A-055-18	6010B	DRY	10	7782-49-2	Selenium	0.43	MG_KG	J	Y	0.16	0.56
BAI-24A-055-18	6010B	DRY	10	7440-22-4	Silver	0.28	MG_KG	U	N	0.051	0.28
BAI-24A-055-18	6010B	DRY	10	7440-28-0	Thallium	0.56	MG_KG	U	N	0.14	0.56
BAI-24A-055-18	6010B	DRY	10	7440-62-2	Vanadium	28	MG_KG		Y	0.1	0.3
BAI-24A-055-18	6010B	DRY	10	7440-66-6	Zinc	46	MG_KG		Y	0.2	1.1
BAI-24A-051-00	D2216	WET		-86	Percent Moisture	14	PCT		Y		1
BAI-24A-051-18	D2216	WET		-86	Percent Moisture	6	PCT		Y		1
BAI-24A-052-00	D2216	WET		-86	Percent Moisture	12	PCT		Y		1
BAI-24A-052-18	D2216	WET		-86	Percent Moisture	10	PCT		Y		1
BAI-24A-053-00	D2216	WET		-86	Percent Moisture	14	PCT		Y		1
BAI-24A-053-18	D2216	WET		-86	Percent Moisture	8	PCT		Y		1
BAI-24A-054-00	D2216	WET		-86	Percent Moisture	13	PCT		Y		1
BAI-24A-054-18	D2216	WET		-86	Percent Moisture	12	PCT		Y		1
BAI-24A-055-00	D2216	WET		-86	Percent Moisture	15	PCT		Y		1
BAI-24A-055-18	D2216	WET		-86	Percent Moisture	10	PCT		Y		1
BAI-24A-056-00	8330	WET		2691-41-0	HMX	200	UG_KG	U	N	26	200
BAI-24A-056-00	8330	WET		121-82-4	RDX	200	UG_KG	U	N	39	200
BAI-24A-056-00	8330	WET		99-35-4	1,3,5-Trinitrobenzene	200	UG_KG	U	N	35	200
BAI-24A-056-00	8330	WET		99-65-0	1,3-Dinitrobenzene	200	UG_KG	U	N	19	200
BAI-24A-056-00	8330	WET		98-95-3	Nitrobenzene	200	UG_KG	U	N	18	200
BAI-24A-056-00	8330	WET		479-45-8	Tetryl	200	UG_KG	U	N	65	200
BAI-24A-056-00	8330	WET		118-96-7	2,4,6-Trinitrotoluene	200	UG_KG	U	N	13	200
BAI-24A-056-00	8330	WET		35572-78-2	2-amino-4,6-Dinitrotoluene	200	UG_KG	U	N	26	200
BAI-24A-056-00	8330	WET		19406-51-0	4-amino-2,6-Dinitrotoluene	200	UG_KG	U	N	28	200
BAI-24A-056-00	8330	WET		121-14-2	2,4-Dinitrotoluene	200	UG_KG	U	N	19	200
BAI-24A-056-00	8330	WET		606-20-2	2,6-Dinitrotoluene	200	UG_KG	U	N	18	200
BAI-24A-056-00	8330	WET		88-72-2	2-Nitrotoluene	390	UG_KG	U	N	16	390
BAI-24A-056-00	8330	WET		99-99-0	4-Nitrotoluene	390	UG_KG	U	N	30	390
BAI-24A-056-00	8330	WET		99-08-1	3-Nitrotoluene	390	UG_KG	U	N	60	390
BAI-24A-056-00	6010B	DRY	15	7440-36-0	Antimony	1.4	MG_KG	J	Y	0.16	0.59
BAI-24A-056-00	6010B	DRY	15	7440-38-2	Arsenic	5.9	MG_KG	J	Y	0.076	0.29
BAI-24A-056-00	6010B	DRY	15	7440-39-3	Barium	120	MG_KG	J	Y	0.11	0.32
BAI-24A-056-00	6010B	DRY	15	7440-41-7	Beryllium	0.53	MG_KG		Y	0.021	0.12
BAI-24A-056-00	6010B	DRY	15	7440-43-9	Cadmium	0.29	MG_KG	U	N	0.053	0.29
BAI-24A-056-00	6010B	DRY	15	7440-47-3	Chromium	23	MG_KG	J	Y	0.11	0.32
BAI-24A-056-00	6010B	DRY	15	7440-48-4	Cobalt	8.4	MG_KG		Y	0.21	0.63
BAI-24A-056-00	6010B	DRY	15	7440-50-8	Copper	22	MG_KG	J	Y	0.11	0.32

Attachment B-4.1
Raw Data

SAMPLE_NAME	ANALYTICAL_METHOD	SAMPLE_BASIS	PERCENT_MOISTURE	ANALYTE_ID	ANALYTE NAME	ANALYTE_VALUE	RESULT_UNITS	FINAL_QUALIFIER	DETECTED	MDL	MRL
BAI-24A-056-00	6010B	DRY	15	7439-92-1	Lead	55	MG_KG	J	Y	0.073	0.29
BAI-24A-056-00	7470A	DRY	15	7439-97-6	Mercury	0.025	MG_KG	U	N	0.0079	0.025
BAI-24A-056-00	6010B	DRY	15	7439-98-7	Molybdenum	0.63	MG_KG	U	N	0.21	0.63
BAI-24A-056-00	6010B	DRY	15	7440-02-0	Nickel	15	MG_KG	J	Y	0.21	0.63
BAI-24A-056-00	6010B	DRY	15	7782-49-2	Selenium	0.46	MG_KG	J	Y	0.17	0.59
BAI-24A-056-00	6010B	DRY	15	7440-22-4	Silver	0.29	MG_KG	U	N	0.053	0.29
BAI-24A-056-00	6010B	DRY	15	7440-28-0	Thallium	0.59	MG_KG	U	N	0.15	0.59
BAI-24A-056-00	6010B	DRY	15	7440-62-2	Vanadium	42	MG_KG	J	Y	0.11	0.32
BAI-24A-056-00	6010B	DRY	15	7440-66-6	Zinc	55	MG_KG	J	Y	0.21	1.2
BAI-24A-056-00	D2216	WET		-86	Percent Moisture	15	PCT		Y		1
BAI-24A-042-00	8330	WET		99-99-0	4-Nitrotoluene	390	UG_KG	U	N	30	390
BAI-24A-042-00	8330	WET		99-08-1	3-Nitrotoluene	390	UG_KG	U	N	60	390
BAI-24A-037-00	6010B	DRY	13	7440-36-0	Antimony	1.8	MG_KG	J	Y	0.18	0.57
BAI-24A-037-00	6010B	DRY	13	7440-38-2	Arsenic	3	MG_KG	J	Y	0.092	0.29
BAI-24A-037-00	6010B	DRY	13	7440-39-3	Barium	120	MG_KG		Y	0.11	0.33
BAI-24A-037-00	6010B	DRY	13	7440-41-7	Beryllium	0.36	MG_KG		Y	0.022	0.11
BAI-24A-037-00	6010B	DRY	13	7440-43-9	Cadmium	0.14	MG_KG	J	Y	0.055	0.29
BAI-24A-037-00	6010B	DRY	13	7440-47-3	Chromium	14	MG_KG		Y	0.11	0.33
BAI-24A-037-00	6010B	DRY	13	7440-48-4	Cobalt	7.2	MG_KG		Y	0.22	0.66
BAI-24A-038-18	6010B	DRY	13	7439-98-7	Molybdenum	0.41	MG_KG	J	Y	0.21	0.63
BAI-24A-038-18	6010B	DRY	13	7440-02-0	Nickel	17	MG_KG		Y	0.21	0.63
BAI-24A-038-18	6010B	DRY	13	7782-49-2	Selenium	0.57	MG_KG	U	N	0.15	0.57
BAI-24A-038-18	6010B	DRY	13	7440-22-4	Silver	0.13	MG_KG	J	Y	0.078	0.29
BAI-24A-038-18	6010B	DRY	13	7440-28-0	Thallium	0.57	MG_KG	U	N	0.17	0.57
BAI-24A-038-18	6010B	DRY	13	7440-62-2	Vanadium	34	MG_KG		Y	0.1	0.31
BAI-24A-038-18	6010B	DRY	13	7440-66-6	Zinc	58	MG_KG		Y	0.21	1.1
BAI-24A-039-00	6010B	DRY	13	7440-36-0	Antimony	1.9	MG_KG	J	Y	0.18	0.57
BAI-24A-039-00	6010B	DRY	13	7440-38-2	Arsenic	4.2	MG_KG	J	Y	0.094	0.29
BAI-24A-037-00	8330	WET		2691-41-0	HMX	200	UG_KG	U	N	26	200
BAI-24A-037-00	8330	WET		121-82-4	RDX	200	UG_KG	U	N	39	200
BAI-24A-037-00	8330	WET		99-35-4	1,3,5-Trinitrobenzene	200	UG_KG	U	N	35	200
BAI-24A-037-00	8330	WET		99-65-0	1,3-Dinitrobenzene	200	UG_KG	U	N	19	200
BAI-24A-037-00	8330	WET		98-95-3	Nitrobenzene	200	UG_KG	U	N	18	200
BAI-24A-037-00	8330	WET		479-45-8	Tetryl	200	UG_KG	U	N	65	200
BAI-24A-037-00	8330	WET		118-96-7	2,4,6-Trinitrotoluene	200	UG_KG	U	N	13	200
BAI-24A-037-00	8330	WET		35572-78-2	2-amino-4,6-Dinitrotoluene	200	UG_KG	U	N	26	200
BAI-24A-037-00	8330	WET		19406-51-0	4-amino-2,6-Dinitrotoluene	200	UG_KG	U	N	28	200
BAI-24A-037-00	8330	WET		121-14-2	2,4-Dinitrotoluene	200	UG_KG	U	N	19	200
BAI-24A-037-00	8330	WET		606-20-2	2,6-Dinitrotoluene	200	UG_KG	U	N	18	200
BAI-24A-037-00	8330	WET		88-72-2	2-Nitrotoluene	390	UG_KG	U	N	16	390
BAI-24A-037-00	8330	WET		99-99-0	4-Nitrotoluene	390	UG_KG	U	N	30	390
BAI-24A-037-00	8330	WET		99-08-1	3-Nitrotoluene	390	UG_KG	U	N	60	390
BAI-24A-037-18	8330	WET		2691-41-0	HMX	200	UG_KG	U	N	26	200
BAI-24A-037-18	8330	WET		121-82-4	RDX	200	UG_KG	U	N	39	200
BAI-24A-037-18	8330	WET		99-35-4	1,3,5-Trinitrobenzene	200	UG_KG	U	N	35	200
BAI-24A-037-18	8330	WET		99-65-0	1,3-Dinitrobenzene	200	UG_KG	U	N	19	200
BAI-24A-037-18	8330	WET		98-95-3	Nitrobenzene	200	UG_KG	U	N	18	200
BAI-24A-037-18	8330	WET		479-45-8	Tetryl	200	UG_KG	U	N	65	200
BAI-24A-037-18	8330	WET		118-96-7	2,4,6-Trinitrotoluene	200	UG_KG	U	N	13	200
BAI-24A-037-18	8330	WET		35572-78-2	2-amino-4,6-Dinitrotoluene	200	UG_KG	U	N	26	200

Attachment B-4.1
Raw Data

SAMPLE_NAME	ANALYTICAL_METHOD	SAMPLE_BASIS	PERCENT_MOISTURE	ANALYTE_ID	ANALYTE NAME	ANALYTE_VALUE	RESULT_UNITS	FINAL_QUALIFIER	DETECTED	MDL	MRL
BAI-24A-037-18	8330	WET		19406-51-0	4-amino-2,6-Dinitrotoluene	200	UG_KG	U	N	28	200
BAI-24A-037-18	8330	WET		121-14-2	2,4-Dinitrotoluene	200	UG_KG	U	N	19	200
BAI-24A-037-18	8330	WET		606-20-2	2,6-Dinitrotoluene	200	UG_KG	U	N	18	200
BAI-24A-037-18	8330	WET		88-72-2	2-Nitrotoluene	390	UG_KG	U	N	16	390
BAI-24A-037-18	8330	WET		99-99-0	4-Nitrotoluene	390	UG_KG	U	N	30	390
BAI-24A-037-18	8330	WET		99-08-1	3-Nitrotoluene	390	UG_KG	U	N	60	390
BAI-24A-038-00	8330	WET		2691-41-0	HMX	200	UG_KG	U	N	26	200
BAI-24A-038-00	8330	WET		121-82-4	RDX	200	UG_KG	U	N	40	200
BAI-24A-038-00	8330	WET		99-35-4	1,3,5-Trinitrobenzene	200	UG_KG	U	N	35	200
BAI-24A-038-00	8330	WET		99-65-0	1,3-Dinitrobenzene	200	UG_KG	U	N	20	200
BAI-24A-038-00	8330	WET		98-95-3	Nitrobenzene	200	UG_KG	U	N	18	200
BAI-24A-038-00	8330	WET		479-45-8	Tetryl	200	UG_KG	U	N	66	200
BAI-24A-038-00	8330	WET		118-96-7	2,4,6-Trinitrotoluene	200	UG_KG	U	N	13	200
BAI-24A-038-00	8330	WET		35572-78-2	2-amino-4,6-Dinitrotoluene	200	UG_KG	U	N	26	200
BAI-24A-038-00	8330	WET		19406-51-0	4-amino-2,6-Dinitrotoluene	200	UG_KG	U	N	28	200
BAI-24A-038-00	8330	WET		121-14-2	2,4-Dinitrotoluene	200	UG_KG	U	N	19	200
BAI-24A-038-00	8330	WET		606-20-2	2,6-Dinitrotoluene	200	UG_KG	U	N	18	200
BAI-24A-038-00	8330	WET		88-72-2	2-Nitrotoluene	400	UG_KG	U	N	16	400
BAI-24A-038-00	8330	WET		99-99-0	4-Nitrotoluene	400	UG_KG	U	N	24	400
BAI-24A-038-00	8330	WET		99-08-1	3-Nitrotoluene	400	UG_KG	U	N	61	400
BAI-24A-038-18	8330	WET		2691-41-0	HMX	190	UG_KG	U	N	26	190
BAI-24A-038-18	8330	WET		121-82-4	RDX	190	UG_KG	U	N	39	190
BAI-24A-038-18	8330	WET		99-35-4	1,3,5-Trinitrobenzene	190	UG_KG	U	N	34	190
BAI-24A-038-18	8330	WET		99-65-0	1,3-Dinitrobenzene	190	UG_KG	U	N	19	190
BAI-24A-038-18	8330	WET		98-95-3	Nitrobenzene	190	UG_KG	U	N	18	190
BAI-24A-038-18	8330	WET		479-45-8	Tetryl	190	UG_KG	U	N	64	190
BAI-24A-038-18	8330	WET		118-96-7	2,4,6-Trinitrotoluene	190	UG_KG	U	N	13	190
BAI-24A-038-18	8330	WET		35572-78-2	2-amino-4,6-Dinitrotoluene	190	UG_KG	U	N	26	190
BAI-24A-038-18	8330	WET		19406-51-0	4-amino-2,6-Dinitrotoluene	190	UG_KG	U	N	28	190
BAI-24A-038-18	8330	WET		121-14-2	2,4-Dinitrotoluene	190	UG_KG	U	N	19	190
BAI-24A-038-18	8330	WET		606-20-2	2,6-Dinitrotoluene	190	UG_KG	U	N	18	190
BAI-24A-038-18	8330	WET		88-72-2	2-Nitrotoluene	390	UG_KG	U	N	16	390
BAI-24A-038-18	8330	WET		99-99-0	4-Nitrotoluene	390	UG_KG	U	N	30	390
BAI-24A-038-18	8330	WET		99-08-1	3-Nitrotoluene	390	UG_KG	U	N	59	390
BAI-24A-039-00	8330	WET		2691-41-0	HMX	200	UG_KG	U	N	26	200
BAI-24A-039-00	8330	WET		121-82-4	RDX	200	UG_KG	U	N	39	200
BAI-24A-039-00	8330	WET		99-35-4	1,3,5-Trinitrobenzene	200	UG_KG	U	N	35	200
BAI-24A-039-00	8330	WET		99-65-0	1,3-Dinitrobenzene	200	UG_KG	U	N	20	200
BAI-24A-039-00	8330	WET		98-95-3	Nitrobenzene	200	UG_KG	U	N	18	200
BAI-24A-039-00	8330	WET		479-45-8	Tetryl	200	UG_KG	U	N	65	200
BAI-24A-039-00	8330	WET		118-96-7	2,4,6-Trinitrotoluene	200	UG_KG	U	N	22	200
BAI-24A-039-00	8330	WET		35572-78-2	2-amino-4,6-Dinitrotoluene	200	UG_KG	U	N	26	200
BAI-24A-039-00	8330	WET		19406-51-0	4-amino-2,6-Dinitrotoluene	200	UG_KG	U	N	28	200
BAI-24A-039-00	8330	WET		121-14-2	2,4-Dinitrotoluene	200	UG_KG	U	N	19	200
BAI-24A-039-00	8330	WET		606-20-2	2,6-Dinitrotoluene	200	UG_KG	U	N	18	200
BAI-24A-039-00	8330	WET		88-72-2	2-Nitrotoluene	400	UG_KG	U	N	16	400
BAI-24A-039-00	8330	WET		99-99-0	4-Nitrotoluene	400	UG_KG	U	N	30	400
BAI-24A-039-00	8330	WET		99-08-1	3-Nitrotoluene	400	UG_KG	U	N	60	400
BAI-24A-039-18	8330	WET		2691-41-0	HMX	200	UG_KG	U	N	26	200
BAI-24A-039-18	8330	WET		121-82-4	RDX	200	UG_KG	U	N	40	200

Attachment B-4.1
Raw Data

SAMPLE_NAME	ANALYTICAL_METHOD	SAMPLE_BASIS	PERCENT_MOISTURE	ANALYTE_ID	ANALYTE NAME	ANALYTE_VALUE	RESULT_UNITS	FINAL_QUALIFIER	DETECTED	MDL	MRL
BAI-24A-039-18	8330	WET		99-35-4	1,3,5-Trinitrobenzene	200	UG_KG	U	N	35	200
BAI-24A-039-18	8330	WET		99-65-0	1,3-Dinitrobenzene	200	UG_KG	U	N	20	200
BAI-24A-039-18	8330	WET		98-95-3	Nitrobenzene	200	UG_KG	U	N	18	200
BAI-24A-039-18	8330	WET		479-45-8	Tetryl	200	UG_KG	U	N	66	200
BAI-24A-039-18	8330	WET		118-96-7	2,4,6-Trinitrotoluene	200	UG_KG	U	N	13	200
BAI-24A-039-18	8330	WET		35572-78-2	2-amino-4,6-Dinitrotoluene	200	UG_KG	U	N	26	200
BAI-24A-039-18	8330	WET		19406-51-0	4-amino-2,6-Dinitrotoluene	200	UG_KG	U	N	28	200
BAI-24A-039-18	8330	WET		121-14-2	2,4-Dinitrotoluene	200	UG_KG	U	N	19	200
BAI-24A-039-18	8330	WET		606-20-2	2,6-Dinitrotoluene	200	UG_KG	U	N	18	200
BAI-24A-039-18	8330	WET		88-72-2	2-Nitrotoluene	400	UG_KG	U	N	16	400
BAI-24A-039-18	8330	WET		99-99-0	4-Nitrotoluene	400	UG_KG	U	N	31	400
BAI-24A-039-18	8330	WET		99-08-1	3-Nitrotoluene	400	UG_KG	U	N	61	400
BAI-24A-040-00	8330	WET		2691-41-0	HMX	200	UG_KG	U	N	26	200
BAI-24A-040-00	8330	WET		121-82-4	RDX	200	UG_KG	U	N	39	200
BAI-24A-040-00	8330	WET		99-35-4	1,3,5-Trinitrobenzene	200	UG_KG	U	N	34	200
BAI-24A-040-00	8330	WET		99-65-0	1,3-Dinitrobenzene	200	UG_KG	U	N	19	200
BAI-24A-040-00	8330	WET		98-95-3	Nitrobenzene	200	UG_KG	U	N	18	200
BAI-24A-040-00	8330	WET		479-45-8	Tetryl	200	UG_KG	U	N	64	200
BAI-24A-040-00	8330	WET		118-96-7	2,4,6-Trinitrotoluene	200	UG_KG	U	N	13	200
BAI-24A-040-00	8330	WET		35572-78-2	2-amino-4,6-Dinitrotoluene	200	UG_KG	U	N	26	200
BAI-24A-040-00	8330	WET		19406-51-0	4-amino-2,6-Dinitrotoluene	200	UG_KG	U	N	28	200
BAI-24A-040-00	8330	WET		121-14-2	2,4-Dinitrotoluene	200	UG_KG	U	N	19	200
BAI-24A-040-00	8330	WET		606-20-2	2,6-Dinitrotoluene	200	UG_KG	U	N	18	200
BAI-24A-040-00	8330	WET		88-72-2	2-Nitrotoluene	390	UG_KG	U	N	16	390
BAI-24A-040-00	8330	WET		99-99-0	4-Nitrotoluene	390	UG_KG	U	N	30	390
BAI-24A-040-00	8330	WET		99-08-1	3-Nitrotoluene	390	UG_KG	U	N	60	390
BAI-24A-040-18	8330	WET		2691-41-0	HMX	190	UG_KG	U	N	26	190
BAI-24A-040-18	8330	WET		121-82-4	RDX	190	UG_KG	U	N	38	190
BAI-24A-040-18	8330	WET		99-35-4	1,3,5-Trinitrobenzene	190	UG_KG	U	N	34	190
BAI-24A-040-18	8330	WET		99-65-0	1,3-Dinitrobenzene	190	UG_KG	U	N	19	190
BAI-24A-040-18	8330	WET		98-95-3	Nitrobenzene	190	UG_KG	U	N	18	190
BAI-24A-040-18	8330	WET		479-45-8	Tetryl	190	UG_KG	U	N	64	190
BAI-24A-040-18	8330	WET		118-96-7	2,4,6-Trinitrotoluene	190	UG_KG	U	N	13	190
BAI-24A-040-18	8330	WET		35572-78-2	2-amino-4,6-Dinitrotoluene	190	UG_KG	U	N	26	190
BAI-24A-040-18	8330	WET		19406-51-0	4-amino-2,6-Dinitrotoluene	190	UG_KG	U	N	28	190
BAI-24A-040-18	8330	WET		121-14-2	2,4-Dinitrotoluene	190	UG_KG	U	N	19	190
BAI-24A-040-18	8330	WET		606-20-2	2,6-Dinitrotoluene	190	UG_KG	U	N	18	190
BAI-24A-040-18	8330	WET		88-72-2	2-Nitrotoluene	390	UG_KG	U	N	15	390
BAI-24A-040-18	8330	WET		99-99-0	4-Nitrotoluene	390	UG_KG	U	N	30	390
BAI-24A-040-18	8330	WET		99-08-1	3-Nitrotoluene	390	UG_KG	U	N	59	390
BAI-24A-041-18	8330	WET		2691-41-0	HMX	200	UG_KG	U	N	26	200
BAI-24A-041-18	8330	WET		121-82-4	RDX	200	UG_KG	U	N	39	200
BAI-24A-041-18	8330	WET		99-35-4	1,3,5-Trinitrobenzene	200	UG_KG	U	N	35	200
BAI-24A-041-18	8330	WET		99-65-0	1,3-Dinitrobenzene	200	UG_KG	U	N	20	200
BAI-24A-041-18	8330	WET		98-95-3	Nitrobenzene	200	UG_KG	U	N	18	200
BAI-24A-041-18	8330	WET		479-45-8	Tetryl	200	UG_KG	U	N	65	200
BAI-24A-041-18	8330	WET		118-96-7	2,4,6-Trinitrotoluene	200	UG_KG	U	N	13	200
BAI-24A-041-18	8330	WET		35572-78-2	2-amino-4,6-Dinitrotoluene	200	UG_KG	U	N	26	200
BAI-24A-041-18	8330	WET		19406-51-0	4-amino-2,6-Dinitrotoluene	200	UG_KG	U	N	28	200
BAI-24A-041-18	8330	WET		121-14-2	2,4-Dinitrotoluene	200	UG_KG	U	N	19	200

Attachment B-4.1
Raw Data

SAMPLE_NAME	ANALYTICAL_METHOD	SAMPLE_BASIS	PERCENT_MOISTURE	ANALYTE_ID	ANALYTE NAME	ANALYTE_VALUE	RESULT_UNITS	FINAL_QUALIFIER	DETECTED	MDL	MRL
BAI-24A-041-18	8330	WET		606-20-2	2,6-Dinitrotoluene	200	UG_KG	U	N	18	200
BAI-24A-041-18	8330	WET		88-72-2	2-Nitrotoluene	400	UG_KG	U	N	11	400
BAI-24A-041-18	8330	WET		99-99-0	4-Nitrotoluene	400	UG_KG	U	N	30	400
BAI-24A-041-18	8330	WET		99-08-1	3-Nitrotoluene	400	UG_KG	U	N	60	400
BAI-24A-042-00	8330	WET		2691-41-0	HMX	200	UG_KG	U	N	26	200
BAI-24A-042-00	8330	WET		121-82-4	RDX	200	UG_KG	U	N	39	200
BAI-24A-042-00	8330	WET		99-35-4	1,3,5-Trinitrobenzene	200	UG_KG	U	N	34	200
BAI-24A-042-00	8330	WET		99-65-0	1,3-Dinitrobenzene	200	UG_KG	U	N	19	200
BAI-24A-042-00	8330	WET		98-95-3	Nitrobenzene	200	UG_KG	U	N	18	200
BAI-24A-042-00	8330	WET		479-45-8	Tetryl	200	UG_KG	U	N	64	200
BAI-24A-042-00	8330	WET		118-96-7	2,4,6-Trinitrotoluene	200	UG_KG	U	N	13	200
BAI-24A-042-00	8330	WET		35572-78-2	2-amino-4,6-Dinitrotoluene	200	UG_KG	U	N	26	200
BAI-24A-042-00	8330	WET		19406-51-0	4-amino-2,6-Dinitrotoluene	200	UG_KG	U	N	28	200
BAI-24A-042-00	8330	WET		121-14-2	2,4-Dinitrotoluene	200	UG_KG	U	N	19	200
BAI-24A-042-00	8330	WET		606-20-2	2,6-Dinitrotoluene	200	UG_KG	U	N	18	200
BAI-24A-042-00	8330	WET		88-72-2	2-Nitrotoluene	390	UG_KG	U	N	16	390
BAI-24A-037-00	6010B	DRY	13	7440-50-8	Copper	9.3	MG_KG		Y	0.11	0.33
BAI-24A-037-00	6010B	DRY	13	7439-92-1	Lead	28	MG_KG	J	Y	0.081	0.29
BAI-24A-037-00	7470A	DRY	13	7439-97-6	Mercury	0.023	MG_KG	U	N	0.0068	0.023
BAI-24A-037-00	6010B	DRY	13	7439-98-7	Molybdenum	0.25	MG_KG	J	Y	0.22	0.66
BAI-24A-037-00	6010B	DRY	13	7440-02-0	Nickel	12	MG_KG		Y	0.22	0.66
BAI-24A-037-00	6010B	DRY	13	7782-49-2	Selenium	0.57	MG_KG	U	N	0.16	0.57
BAI-24A-037-00	6010B	DRY	13	7440-22-4	Silver	0.29	MG_KG	U	N	0.083	0.29
BAI-24A-037-00	6010B	DRY	13	7440-28-0	Thallium	0.57	MG_KG	U	N	0.18	0.57
BAI-24A-037-00	6010B	DRY	13	7440-62-2	Vanadium	27	MG_KG		Y	0.11	0.33
BAI-24A-037-00	6010B	DRY	13	7440-66-6	Zinc	48	MG_KG		Y	0.22	1.1
BAI-24A-037-18	6010B	DRY	7	7440-36-0	Antimony	0.66	MG_KG	J	Y	0.16	0.54
BAI-24A-037-18	6010B	DRY	7	7440-38-2	Arsenic	2.9	MG_KG	J	Y	0.083	0.27
BAI-24A-037-18	6010B	DRY	7	7440-39-3	Barium	100	MG_KG		Y	0.1	0.3
BAI-24A-037-18	6010B	DRY	7	7440-41-7	Beryllium	0.36	MG_KG		Y	0.02	0.11
BAI-24A-037-18	6010B	DRY	7	7440-43-9	Cadmium	0.14	MG_KG	J	Y	0.05	0.27
BAI-24A-037-18	6010B	DRY	7	7440-47-3	Chromium	13	MG_KG		Y	0.1	0.3
BAI-24A-037-18	6010B	DRY	7	7440-48-4	Cobalt	7	MG_KG		Y	0.2	0.6
BAI-24A-037-18	6010B	DRY	7	7440-50-8	Copper	9	MG_KG		Y	0.1	0.3
BAI-24A-037-18	6010B	DRY	7	7439-92-1	Lead	31	MG_KG	J	Y	0.073	0.27
BAI-24A-037-18	7470A	DRY	7	7439-97-6	Mercury	0.022	MG_KG	U	N	0.0065	0.022
BAI-24A-037-18	6010B	DRY	7	7439-98-7	Molybdenum	0.6	MG_KG	U	N	0.2	0.6
BAI-24A-037-18	6010B	DRY	7	7440-02-0	Nickel	11	MG_KG		Y	0.2	0.6
BAI-24A-037-18	6010B	DRY	7	7782-49-2	Selenium	0.54	MG_KG	U	N	0.15	0.54
BAI-24A-037-18	6010B	DRY	7	7440-22-4	Silver	0.27	MG_KG	U	N	0.074	0.27
BAI-24A-037-18	6010B	DRY	7	7440-28-0	Thallium	0.54	MG_KG	U	N	0.16	0.54
BAI-24A-037-18	6010B	DRY	7	7440-62-2	Vanadium	25	MG_KG		Y	0.1	0.3
BAI-24A-037-18	6010B	DRY	7	7440-66-6	Zinc	44	MG_KG		Y	0.2	1.1
BAI-24A-038-00	6010B	DRY	15	7440-36-0	Antimony	2.6	MG_KG	J	Y	0.17	0.59
BAI-24A-038-00	6010B	DRY	15	7440-38-2	Arsenic	2.7	MG_KG	J	Y	0.09	0.29
BAI-24A-038-00	6010B	DRY	15	7440-39-3	Barium	130	MG_KG		Y	0.11	0.33
BAI-24A-038-00	6010B	DRY	15	7440-41-7	Beryllium	0.42	MG_KG		Y	0.022	0.12
BAI-24A-038-00	6010B	DRY	15	7440-43-9	Cadmium	0.17	MG_KG	J	Y	0.054	0.29
BAI-24A-038-00	6010B	DRY	15	7440-47-3	Chromium	16	MG_KG		Y	0.11	0.33
BAI-24A-038-00	6010B	DRY	15	7440-48-4	Cobalt	8.2	MG_KG		Y	0.22	0.65

Attachment B-4.1
Raw Data

SAMPLE_NAME	ANALYTICAL_METHOD	SAMPLE_BASIS	PERCENT_MOISTURE	ANALYTE_ID	ANALYTE NAME	ANALYTE_VALUE	RESULT_UNITS	FINAL_QUALIFIER	DETECTED	MDL	MRL
BAI-24A-038-00	6010B	DRY	15	7440-50-8	Copper	11	MG_KG		Y	0.11	0.33
BAI-24A-038-00	6010B	DRY	15	7439-92-1	Lead	24	MG_KG	J	Y	0.08	0.29
BAI-24A-038-00	7470A	DRY	15	7439-97-6	Mercury	0.025	MG_KG	U	N	0.0079	0.025
BAI-24A-038-00	6010B	DRY	15	7439-98-7	Molybdenum	0.65	MG_KG	U	N	0.22	0.65
BAI-24A-038-00	6010B	DRY	15	7440-02-0	Nickel	14	MG_KG		Y	0.22	0.65
BAI-24A-038-00	6010B	DRY	15	7782-49-2	Selenium	0.59	MG_KG	U	N	0.16	0.59
BAI-24A-038-00	6010B	DRY	15	7440-22-4	Silver	0.29	MG_KG	U	N	0.081	0.29
BAI-24A-038-00	6010B	DRY	15	7440-28-0	Thallium	0.59	MG_KG	U	N	0.18	0.59
BAI-24A-038-00	6010B	DRY	15	7440-62-2	Vanadium	31	MG_KG		Y	0.11	0.33
BAI-24A-038-00	6010B	DRY	15	7440-66-6	Zinc	53	MG_KG		Y	0.22	1.2
BAI-24A-038-18	6010B	DRY	13	7440-36-0	Antimony	3.1	MG_KG	J	Y	0.17	0.57
BAI-24A-038-18	6010B	DRY	13	7440-38-2	Arsenic	4	MG_KG	J	Y	0.087	0.29
BAI-24A-038-18	6010B	DRY	13	7440-39-3	Barium	120	MG_KG		Y	0.1	0.31
BAI-24A-038-18	6010B	DRY	13	7440-41-7	Beryllium	0.49	MG_KG		Y	0.021	0.11
BAI-24A-038-18	6010B	DRY	13	7440-43-9	Cadmium	0.18	MG_KG	J	Y	0.052	0.29
BAI-24A-038-18	6010B	DRY	13	7440-47-3	Chromium	18	MG_KG		Y	0.1	0.31
BAI-24A-038-18	6010B	DRY	13	7440-48-4	Cobalt	9.1	MG_KG		Y	0.21	0.63
BAI-24A-038-18	6010B	DRY	13	7440-50-8	Copper	18	MG_KG		Y	0.1	0.31
BAI-24A-038-18	6010B	DRY	13	7439-92-1	Lead	180	MG_KG	J	Y	0.076	0.29
BAI-24A-038-18	7470A	DRY	13	7439-97-6	Mercury	0.024	MG_KG	U	N	0.0077	0.024
BAI-24A-039-00	6010B	DRY	13	7440-39-3	Barium	120	MG_KG		Y	0.11	0.34
BAI-24A-039-00	6010B	DRY	13	7440-41-7	Beryllium	0.5	MG_KG		Y	0.023	0.11
BAI-24A-039-00	6010B	DRY	13	7440-43-9	Cadmium	0.19	MG_KG	J	Y	0.056	0.29
BAI-24A-039-00	6010B	DRY	13	7440-47-3	Chromium	18	MG_KG		Y	0.11	0.34
BAI-24A-039-00	6010B	DRY	13	7440-48-4	Cobalt	10	MG_KG		Y	0.23	0.68
BAI-24A-039-00	6010B	DRY	13	7440-50-8	Copper	12	MG_KG		Y	0.11	0.34
BAI-24A-039-00	6010B	DRY	13	7439-92-1	Lead	19	MG_KG	J	Y	0.082	0.29
BAI-24A-039-00	7470A	DRY	13	7439-97-6	Mercury	0.025	MG_KG	U	N	0.0079	0.025
BAI-24A-039-00	6010B	DRY	13	7439-98-7	Molybdenum	0.53	MG_KG	J	Y	0.23	0.68
BAI-24A-039-00	6010B	DRY	13	7440-02-0	Nickel	17	MG_KG		Y	0.23	0.68
BAI-24A-039-00	6010B	DRY	13	7782-49-2	Selenium	0.57	MG_KG	U	N	0.16	0.57
BAI-24A-039-00	6010B	DRY	13	7440-22-4	Silver	0.29	MG_KG	U	N	0.084	0.29
BAI-24A-039-00	6010B	DRY	13	7440-28-0	Thallium	0.57	MG_KG	U	N	0.18	0.57
BAI-24A-039-00	6010B	DRY	13	7440-62-2	Vanadium	36	MG_KG		Y	0.11	0.34
BAI-24A-039-00	6010B	DRY	13	7440-66-6	Zinc	60	MG_KG		Y	0.23	1.1
BAI-24A-039-18	6010B	DRY	13	7440-36-0	Antimony	4.5	MG_KG	J	Y	0.18	0.57
BAI-24A-039-18	6010B	DRY	13	7440-38-2	Arsenic	4.8	MG_KG	J	Y	0.093	0.29
BAI-24A-039-18	6010B	DRY	13	7440-39-3	Barium	140	MG_KG		Y	0.11	0.33
BAI-24A-039-18	6010B	DRY	13	7440-41-7	Beryllium	0.55	MG_KG		Y	0.022	0.11
BAI-24A-039-18	6010B	DRY	13	7440-43-9	Cadmium	0.19	MG_KG	J	Y	0.056	0.29
BAI-24A-039-18	6010B	DRY	13	7440-47-3	Chromium	20	MG_KG		Y	0.11	0.33
BAI-24A-039-18	6010B	DRY	13	7440-48-4	Cobalt	9.7	MG_KG		Y	0.22	0.67
BAI-24A-039-18	6010B	DRY	13	7440-50-8	Copper	28	MG_KG		Y	0.11	0.33
BAI-24A-039-18	6010B	DRY	13	7439-92-1	Lead	120	MG_KG	J	Y	0.081	0.29
BAI-24A-039-18	7470A	DRY	13	7439-97-6	Mercury	0.023	MG_KG	U	N	0.0074	0.023
BAI-24A-039-18	6010B	DRY	13	7439-98-7	Molybdenum	0.25	MG_KG	J	Y	0.22	0.67
BAI-24A-039-18	6010B	DRY	13	7440-02-0	Nickel	19	MG_KG		Y	0.22	0.67
BAI-24A-039-18	6010B	DRY	13	7782-49-2	Selenium	0.57	MG_KG	U	N	0.16	0.57
BAI-24A-039-18	6010B	DRY	13	7440-22-4	Silver	0.15	MG_KG	J	Y	0.083	0.29
BAI-24A-039-18	6010B	DRY	13	7440-28-0	Thallium	0.57	MG_KG	U	N	0.18	0.57

SAMPLE_NAME	ANALYTICAL_METHOD	SAMPLE_BASIS	PERCENT_MOISTURE	ANALYTE_ID	ANALYTE NAME	ANALYTE_VALUE	RESULT_UNITS	FINAL_QUALIFIER	DETECTED	MDL	MRL
BAI-24A-039-18	6010B	DRY	13	7440-62-2	Vanadium	38	MG_KG		Y	0.11	0.33
BAI-24A-039-18	6010B	DRY	13	7440-66-6	Zinc	67	MG_KG		Y	0.22	1.1
BAI-24A-040-00	6010B	DRY	12	7440-36-0	Antimony	2.8	MG_KG	J	Y	0.17	0.57
BAI-24A-040-00	6010B	DRY	12	7440-38-2	Arsenic	3.1	MG_KG	J	Y	0.089	0.28
BAI-24A-040-00	6010B	DRY	12	7440-39-3	Barium	120	MG_KG		Y	0.11	0.32
BAI-24A-040-00	6010B	DRY	12	7440-41-7	Beryllium	0.45	MG_KG		Y	0.021	0.11
BAI-24A-040-00	6010B	DRY	12	7440-43-9	Cadmium	0.18	MG_KG	J	Y	0.054	0.28
BAI-24A-040-00	6010B	DRY	12	7440-47-3	Chromium	16	MG_KG		Y	0.11	0.32
BAI-24A-040-00	6010B	DRY	12	7440-48-4	Cobalt	8.8	MG_KG		Y	0.21	0.64
BAI-24A-040-00	6010B	DRY	12	7440-50-8	Copper	11	MG_KG		Y	0.11	0.32
BAI-24A-040-00	6010B	DRY	12	7439-92-1	Lead	14	MG_KG	J	Y	0.078	0.28
BAI-24A-040-00	7470A	DRY	12	7439-97-6	Mercury	0.023	MG_KG	U	N	0.0069	0.023
BAI-24A-040-00	6010B	DRY	12	7439-98-7	Molybdenum	0.43	MG_KG	J	Y	0.21	0.64
BAI-24A-040-00	6010B	DRY	12	7440-02-0	Nickel	16	MG_KG		Y	0.21	0.64
BAI-24A-040-00	6010B	DRY	12	7782-49-2	Selenium	0.57	MG_KG	U	N	0.16	0.57
BAI-24A-040-00	6010B	DRY	12	7440-22-4	Silver	0.28	MG_KG	U	N	0.08	0.28
BAI-24A-040-00	6010B	DRY	12	7440-28-0	Thallium	0.57	MG_KG	U	N	0.17	0.57
BAI-24A-040-00	6010B	DRY	12	7440-62-2	Vanadium	32	MG_KG		Y	0.11	0.32
BAI-24A-040-00	6010B	DRY	12	7440-66-6	Zinc	52	MG_KG		Y	0.21	1.1
BAI-24A-040-18	6010B	DRY	15	7440-36-0	Antimony	3.4	MG_KG	J	Y	0.18	0.59
BAI-24A-040-18	6010B	DRY	15	7440-38-2	Arsenic	5	MG_KG	J	Y	0.092	0.29
BAI-24A-040-18	6010B	DRY	15	7440-39-3	Barium	130	MG_KG		Y	0.11	0.33
BAI-24A-040-18	6010B	DRY	15	7440-41-7	Beryllium	0.6	MG_KG		Y	0.022	0.12
BAI-24A-040-18	6010B	DRY	15	7440-43-9	Cadmium	0.2	MG_KG	J	Y	0.055	0.29
BAI-24A-040-18	6010B	DRY	15	7440-47-3	Chromium	19	MG_KG		Y	0.11	0.33
BAI-24A-040-18	6010B	DRY	15	7440-48-4	Cobalt	10	MG_KG		Y	0.22	0.67
BAI-24A-040-18	6010B	DRY	15	7440-50-8	Copper	19	MG_KG		Y	0.11	0.33
BAI-24A-040-18	6010B	DRY	15	7439-92-1	Lead	24	MG_KG	J	Y	0.081	0.29
BAI-24A-040-18	7470A	DRY	15	7439-97-6	Mercury	0.015	MG_KG	J	Y	0.008	0.026
BAI-24A-040-18	6010B	DRY	15	7439-98-7	Molybdenum	0.67	MG_KG	U	N	0.22	0.67
BAI-24A-040-18	6010B	DRY	15	7440-02-0	Nickel	19	MG_KG		Y	0.22	0.67
BAI-24A-040-18	6010B	DRY	15	7782-49-2	Selenium	0.59	MG_KG	U	N	0.16	0.59
BAI-24A-040-18	6010B	DRY	15	7440-22-4	Silver	0.29	MG_KG	U	N	0.083	0.29
BAI-24A-040-18	6010B	DRY	15	7440-28-0	Thallium	0.59	MG_KG	U	N	0.18	0.59
BAI-24A-040-18	6010B	DRY	15	7440-62-2	Vanadium	38	MG_KG		Y	0.11	0.33
BAI-24A-040-18	6010B	DRY	15	7440-66-6	Zinc	60	MG_KG		Y	0.22	1.2
BAI-24A-041-18	6010B	DRY	13	7440-36-0	Antimony	2.8	MG_KG	J	Y	0.18	0.57
BAI-24A-041-18	6010B	DRY	13	7440-38-2	Arsenic	5.1	MG_KG	J	Y	0.095	0.29
BAI-24A-041-18	6010B	DRY	13	7440-39-3	Barium	110	MG_KG		Y	0.11	0.34
BAI-24A-041-18	6010B	DRY	13	7440-41-7	Beryllium	0.53	MG_KG		Y	0.023	0.11
BAI-24A-041-18	6010B	DRY	13	7440-43-9	Cadmium	0.22	MG_KG	J	Y	0.057	0.29
BAI-24A-041-18	6010B	DRY	13	7440-47-3	Chromium	19	MG_KG		Y	0.11	0.34
BAI-24A-041-18	6010B	DRY	13	7440-48-4	Cobalt	10	MG_KG		Y	0.23	0.69
BAI-24A-041-18	6010B	DRY	13	7440-50-8	Copper	16	MG_KG		Y	0.11	0.34
BAI-24A-041-18	6010B	DRY	13	7439-92-1	Lead	8.4	MG_KG	J	Y	0.084	0.29
BAI-24A-041-18	7470A	DRY	13	7439-97-6	Mercury	0.011	MG_KG	J	Y	0.0066	0.023
BAI-24A-041-18	6010B	DRY	13	7439-98-7	Molybdenum	0.38	MG_KG	J	Y	0.23	0.69
BAI-24A-041-18	6010B	DRY	13	7440-02-0	Nickel	18	MG_KG		Y	0.23	0.69
BAI-24A-041-18	6010B	DRY	13	7782-49-2	Selenium	0.57	MG_KG	U	N	0.17	0.57
BAI-24A-041-18	6010B	DRY	13	7440-22-4	Silver	0.29	MG_KG	U	N	0.086	0.29

Attachment B-4.1
Raw Data

SAMPLE_NAME	ANALYTICAL_METHOD	SAMPLE_BASIS	PERCENT_MOISTURE	ANALYTE_ID	ANALYTE NAME	ANALYTE_VALUE	RESULT_UNITS	FINAL_QUALIFIER	DETECTED	MDL	MRL
BAI-24A-041-18	6010B	DRY	13	7440-28-0	Thallium	0.57	MG_KG	U	N	0.19	0.57
BAI-24A-041-18	6010B	DRY	13	7440-62-2	Vanadium	36	MG_KG		Y	0.11	0.34
BAI-24A-041-18	6010B	DRY	13	7440-66-6	Zinc	58	MG_KG		Y	0.23	1.1
BAI-24A-042-00	6010B	DRY	23	7440-36-0	Antimony	2.7	MG_KG	J	Y	0.2	0.65
BAI-24A-042-00	6010B	DRY	23	7440-38-2	Arsenic	4.3	MG_KG	J	Y	0.1	0.32
BAI-24A-042-00	6010B	DRY	23	7440-39-3	Barium	240	MG_KG		Y	0.13	0.38
BAI-24A-042-00	6010B	DRY	23	7440-41-7	Beryllium	0.59	MG_KG		Y	0.025	0.13
BAI-24A-042-00	6010B	DRY	23	7440-43-9	Cadmium	0.24	MG_KG	J	Y	0.063	0.32
BAI-24A-042-00	6010B	DRY	23	7440-47-3	Chromium	24	MG_KG		Y	0.13	0.38
BAI-24A-042-00	6010B	DRY	23	7440-48-4	Cobalt	11	MG_KG		Y	0.25	0.76
BAI-24A-042-00	6010B	DRY	23	7440-50-8	Copper	24	MG_KG		Y	0.13	0.38
BAI-24A-042-00	6010B	DRY	23	7439-92-1	Lead	49	MG_KG	J	Y	0.092	0.32
BAI-24A-042-00	7470A	DRY	23	7439-97-6	Mercury	0.017	MG_KG	J	Y	0.0079	0.026
BAI-24A-042-00	6010B	DRY	23	7439-98-7	Molybdenum	0.37	MG_KG	J	Y	0.25	0.76
BAI-24A-042-00	6010B	DRY	23	7440-02-0	Nickel	20	MG_KG		Y	0.25	0.76
BAI-24A-042-00	6010B	DRY	23	7782-49-2	Selenium	0.65	MG_KG	U	N	0.18	0.65
BAI-24A-042-00	6010B	DRY	23	7440-22-4	Silver	0.32	MG_KG	U	N	0.094	0.32
BAI-24A-042-00	6010B	DRY	23	7440-28-0	Thallium	0.65	MG_KG	U	N	0.21	0.65
BAI-24A-042-00	6010B	DRY	23	7440-62-2	Vanadium	40	MG_KG		Y	0.13	0.38
BAI-24A-042-00	6010B	DRY	23	7440-66-6	Zinc	73	MG_KG		Y	0.25	1.3
BAI-24A-037-00	D2216	WET		-86	Percent Moisture	13	PCT		Y		1
BAI-24A-037-18	D2216	WET		-86	Percent Moisture	7	PCT		Y		1
BAI-24A-038-00	D2216	WET		-86	Percent Moisture	15	PCT		Y		1
BAI-24A-038-18	D2216	WET		-86	Percent Moisture	13	PCT		Y		1
BAI-24A-039-00	D2216	WET		-86	Percent Moisture	13	PCT		Y		1
BAI-24A-039-18	D2216	WET		-86	Percent Moisture	13	PCT		Y		1
BAI-24A-040-00	D2216	WET		-86	Percent Moisture	12	PCT		Y		1
BAI-24A-040-18	D2216	WET		-86	Percent Moisture	15	PCT		Y		1
BAI-24A-041-18	D2216	WET		-86	Percent Moisture	13	PCT		Y		1
BAI-24A-042-00	D2216	WET		-86	Percent Moisture	23	PCT		Y		1
BAI-24A-041-00	8330	WET		2691-41-0	HMX	200	UG_KG	U	N	15	200
BAI-24A-041-00	8330	WET		121-82-4	RDX	200	UG_KG	U	N	21	200
BAI-24A-041-00	8330	WET		99-35-4	1,3,5-Trinitrobenzene	200	UG_KG	U	N	27	200
BAI-24A-041-00	8330	WET		99-65-0	1,3-Dinitrobenzene	200	UG_KG	U	N	4.6	200
BAI-24A-041-00	8330	WET		98-95-3	Nitrobenzene	200	UG_KG	U	N	16	200
BAI-24A-041-00	8330	WET		479-45-8	Tetryl	200	UG_KG	U	N	56	200
BAI-24A-041-00	8330	WET		118-96-7	2,4,6-Trinitrotoluene	200	UG_KG	U	N	30	200
BAI-24A-041-00	8330	WET		35572-78-2	2-amino-4,6-Dinitrotoluene	200	UG_KG	U	N	18	200
BAI-24A-041-00	8330	WET		19406-51-0	4-amino-2,6-Dinitrotoluene	200	UG_KG	U	N	39	200
BAI-24A-041-00	8330	WET		121-14-2	2,4-Dinitrotoluene	200	UG_KG	U	N	21	200
BAI-24A-041-00	8330	WET		606-20-2	2,6-Dinitrotoluene	200	UG_KG	U	N	22	200
BAI-24A-041-00	8330	WET		88-72-2	2-Nitrotoluene	390	UG_KG	U	N	28	390
BAI-24A-041-00	8330	WET		99-99-0	4-Nitrotoluene	390	UG_KG	U	N	28	390
BAI-24A-041-00	8330	WET		99-08-1	3-Nitrotoluene	390	UG_KG	U	N	40	390
BAI-24A-041-00	6010B	DRY	20	7440-36-0	Antimony	0.86	MG_KG	J	Y	0.17	0.63
BAI-24A-041-00	6010B	DRY	20	7440-38-2	Arsenic	4.4	MG_KG	J	Y	0.083	0.31
BAI-24A-041-00	6010B	DRY	20	7440-39-3	Barium	200	MG_KG		Y	0.11	0.34
BAI-24A-041-00	6010B	DRY	20	7440-41-7	Beryllium	0.49	MG_KG		Y	0.023	0.13
BAI-24A-041-00	6010B	DRY	20	7440-43-9	Cadmium	0.31	MG_KG	U	N	0.057	0.31
BAI-24A-041-00	6010B	DRY	20	7440-47-3	Chromium	22	MG_KG		Y	0.11	0.34

Attachment B-4.1
Raw Data

SAMPLE_NAME	ANALYTICAL_METHOD	SAMPLE_BASIS	PERCENT_MOISTURE	ANALYTE_ID	ANALYTE NAME	ANALYTE_VALUE	RESULT_UNITS	FINAL_QUALIFIER	DETECTED	MDL	MRL
BAI-24A-041-00	6010B	DRY	20	7440-48-4	Cobalt	8.7	MG_KG		Y	0.23	0.68
BAI-24A-041-00	6010B	DRY	20	7440-50-8	Copper	19	MG_KG		Y	0.11	0.34
BAI-24A-041-00	6010B	DRY	20	7439-92-1	Lead	43	MG_KG	J	Y	0.079	0.31
BAI-24A-041-00	7470A	DRY	20	7439-97-6	Mercury	0.018	MG_KG	J	Y	0.0074	0.025
BAI-24A-041-00	6010B	DRY	20	7439-98-7	Molybdenum	0.68	MG_KG	U	N	0.23	0.68
BAI-24A-041-00	6010B	DRY	20	7440-02-0	Nickel	16	MG_KG		Y	0.23	0.68
BAI-24A-041-00	6010B	DRY	20	7782-49-2	Selenium	0.28	MG_KG	J	Y	0.18	0.63
BAI-24A-041-00	6010B	DRY	20	7440-22-4	Silver	0.31	MG_KG	U	N	0.057	0.31
BAI-24A-041-00	6010B	DRY	20	7440-28-0	Thallium	0.63	MG_KG	U	N	0.16	0.63
BAI-24A-041-00	6010B	DRY	20	7440-62-2	Vanadium	37	MG_KG		Y	0.11	0.34
BAI-24A-041-00	6010B	DRY	20	7440-66-6	Zinc	62	MG_KG		Y	0.23	1.3
BAI-24A-041-00	D2216	WET		-86	Percent Moisture	20	PCT		Y		1
BAI-24A-045-00	8330	WET		2691-41-0	HMX	200	UG_KG	U	N	26	200
BAI-24A-045-00	8330	WET		121-82-4	RDX	200	UG_KG	U	N	39	200
BAI-24A-045-00	8330	WET		99-35-4	1,3,5-Trinitrobenzene	200	UG_KG	U	N	35	200
BAI-24A-045-00	8330	WET		99-65-0	1,3-Dinitrobenzene	200	UG_KG	U	N	20	200
BAI-24A-045-00	8330	WET		98-95-3	Nitrobenzene	200	UG_KG	U	N	18	200
BAI-24A-045-00	8330	WET		479-45-8	Tetryl	200	UG_KG	U	N	65	200
BAI-24A-045-00	8330	WET		118-96-7	2,4,6-Trinitrotoluene	200	UG_KG	U	N	13	200
BAI-24A-045-00	8330	WET		35572-78-2	2-amino-4,6-Dinitrotoluene	200	UG_KG	U	N	26	200
BAI-24A-045-00	8330	WET		19406-51-0	4-amino-2,6-Dinitrotoluene	200	UG_KG	U	N	28	200
BAI-24A-045-00	8330	WET		121-14-2	2,4-Dinitrotoluene	200	UG_KG	U	N	19	200
BAI-24A-045-00	8330	WET		606-20-2	2,6-Dinitrotoluene	200	UG_KG	U	N	18	200
BAI-24A-045-00	8330	WET		88-72-2	2-Nitrotoluene	400	UG_KG	U	N	16	400
BAI-24A-045-00	8330	WET		99-99-0	4-Nitrotoluene	400	UG_KG	U	N	30	400
BAI-24A-045-00	8330	WET		99-08-1	3-Nitrotoluene	400	UG_KG	U	N	60	400
BAI-24A-045-18	8330	WET		2691-41-0	HMX	200	UG_KG	U	N	26	200
BAI-24A-045-18	8330	WET		121-82-4	RDX	200	UG_KG	U	N	39	200
BAI-24A-045-18	8330	WET		99-35-4	1,3,5-Trinitrobenzene	200	UG_KG	U	N	35	200
BAI-24A-045-18	8330	WET		99-65-0	1,3-Dinitrobenzene	200	UG_KG	U	N	20	200
BAI-24A-045-18	8330	WET		98-95-3	Nitrobenzene	200	UG_KG	U	N	18	200
BAI-24A-045-18	8330	WET		479-45-8	Tetryl	200	UG_KG	U	N	65	200
BAI-24A-045-18	8330	WET		118-96-7	2,4,6-Trinitrotoluene	200	UG_KG	U	N	13	200
BAI-24A-045-18	8330	WET		35572-78-2	2-amino-4,6-Dinitrotoluene	200	UG_KG	U	N	26	200
BAI-24A-045-18	8330	WET		19406-51-0	4-amino-2,6-Dinitrotoluene	200	UG_KG	U	N	28	200
BAI-24A-045-18	8330	WET		121-14-2	2,4-Dinitrotoluene	200	UG_KG	U	N	19	200
BAI-24A-045-18	8330	WET		606-20-2	2,6-Dinitrotoluene	200	UG_KG	U	N	18	200
BAI-24A-045-18	8330	WET		88-72-2	2-Nitrotoluene	400	UG_KG	U	N	16	400
BAI-24A-045-18	8330	WET		99-99-0	4-Nitrotoluene	400	UG_KG	U	N	31	400
BAI-24A-045-18	8330	WET		99-08-1	3-Nitrotoluene	400	UG_KG	U	N	61	400
BAI-24A-046-00	8330	WET		2691-41-0	HMX	200	UG_KG	U	N	26	200
BAI-24A-046-00	8330	WET		121-82-4	RDX	200	UG_KG	U	N	39	200
BAI-24A-046-00	8330	WET		99-35-4	1,3,5-Trinitrobenzene	200	UG_KG	U	N	35	200
BAI-24A-046-00	8330	WET		99-65-0	1,3-Dinitrobenzene	200	UG_KG	U	N	19	200
BAI-24A-046-00	8330	WET		98-95-3	Nitrobenzene	200	UG_KG	U	N	18	200
BAI-24A-046-00	8330	WET		479-45-8	Tetryl	200	UG_KG	U	N	65	200
BAI-24A-046-00	8330	WET		118-96-7	2,4,6-Trinitrotoluene	200	UG_KG	U	N	13	200
BAI-24A-046-00	8330	WET		35572-78-2	2-amino-4,6-Dinitrotoluene	200	UG_KG	U	N	26	200
BAI-24A-046-00	8330	WET		19406-51-0	4-amino-2,6-Dinitrotoluene	200	UG_KG	U	N	28	200
BAI-24A-046-00	8330	WET		121-14-2	2,4-Dinitrotoluene	200	UG_KG	U	N	19	200

Attachment B-4.1
Raw Data

SAMPLE_NAME	ANALYTICAL_METHOD	SAMPLE_BASIS	PERCENT_MOISTURE	ANALYTE_ID	ANALYTE NAME	ANALYTE_VALUE	RESULT_UNITS	FINAL_QUALIFIER	DETECTED	MDL	MRL
BAI-24A-046-00	8330	WET		606-20-2	2,6-Dinitrotoluene	200	UG_KG	U	N	18	200
BAI-24A-046-00	8330	WET		88-72-2	2-Nitrotoluene	390	UG_KG	U	N	16	390
BAI-24A-046-00	8330	WET		99-99-0	4-Nitrotoluene	390	UG_KG	U	N	30	390
BAI-24A-046-00	8330	WET		99-08-1	3-Nitrotoluene	390	UG_KG	U	N	60	390
BAI-24A-046-18	8330	WET		2691-41-0	HMX	200	UG_KG	U	N	26	200
BAI-24A-046-18	8330	WET		121-82-4	RDX	200	UG_KG	U	N	39	200
BAI-24A-046-18	8330	WET		99-35-4	1,3,5-Trinitrobenzene	200	UG_KG	U	N	35	200
BAI-24A-046-18	8330	WET		99-65-0	1,3-Dinitrobenzene	200	UG_KG	U	N	20	200
BAI-24A-046-18	8330	WET		98-95-3	Nitrobenzene	200	UG_KG	U	N	18	200
BAI-24A-046-18	8330	WET		479-45-8	Tetryl	200	UG_KG	U	N	65	200
BAI-24A-046-18	8330	WET		118-96-7	2,4,6-Trinitrotoluene	200	UG_KG	U	N	13	200
BAI-24A-046-18	8330	WET		35572-78-2	2-amino-4,6-Dinitrotoluene	200	UG_KG	U	N	26	200
BAI-24A-046-18	8330	WET		19406-51-0	4-amino-2,6-Dinitrotoluene	200	UG_KG	U	N	28	200
BAI-24A-046-18	8330	WET		121-14-2	2,4-Dinitrotoluene	200	UG_KG	U	N	19	200
BAI-24A-046-18	8330	WET		606-20-2	2,6-Dinitrotoluene	200	UG_KG	U	N	18	200
BAI-24A-046-18	8330	WET		88-72-2	2-Nitrotoluene	400	UG_KG	U	N	16	400
BAI-24A-050-00	8330	WET		99-99-0	4-Nitrotoluene	400	UG_KG	U	N	79	400
BAI-24A-050-00	8330	WET		99-08-1	3-Nitrotoluene	400	UG_KG	U	N	79	400
BAI-24A-045-00	6010B	DRY	14	7440-36-0	Antimony	0.42	MG_KG	J	Y	0.16	0.58
BAI-24A-045-00	6010B	DRY	14	7440-38-2	Arsenic	5.3	MG_KG	J	Y	0.079	0.29
BAI-24A-045-00	6010B	DRY	14	7440-39-3	Barium	120	MG_KG		Y	0.11	0.33
BAI-24A-045-00	6010B	DRY	14	7440-41-7	Beryllium	0.45	MG_KG		Y	0.022	0.12
BAI-24A-045-00	6010B	DRY	14	7440-43-9	Cadmium	0.29	MG_KG	U	N	0.054	0.29
BAI-24A-045-00	6010B	DRY	14	7440-47-3	Chromium	18	MG_KG		Y	0.11	0.33
BAI-24A-045-00	6010B	DRY	14	7440-48-4	Cobalt	9	MG_KG		Y	0.22	0.65
BAI-24A-045-00	6010B	DRY	14	7440-50-8	Copper	17	MG_KG		Y	0.11	0.33
BAI-24A-045-00	6010B	DRY	14	7439-92-1	Lead	7.1	MG_KG	J	Y	0.076	0.29
BAI-24A-045-00	7470A	DRY	14	7439-97-6	Mercury	0.0068	MG_KG	UJ	N	0.0068	0.023
BAI-24A-045-00	6010B	DRY	14	7439-98-7	Molybdenum	0.65	MG_KG	U	N	0.22	0.65
BAI-24A-045-00	6010B	DRY	14	7440-02-0	Nickel	16	MG_KG		Y	0.22	0.65
BAI-24A-045-00	6010B	DRY	14	7782-49-2	Selenium	0.18	MG_KG	J	Y	0.17	0.58
BAI-24A-045-00	6010B	DRY	14	7440-22-4	Silver	0.29	MG_KG	U	N	0.054	0.29
BAI-24A-045-00	6010B	DRY	14	7440-28-0	Thallium	0.58	MG_KG	U	N	0.15	0.58
BAI-24A-045-00	6010B	DRY	14	7440-62-2	Vanadium	34	MG_KG		Y	0.11	0.33
BAI-24A-045-00	6010B	DRY	14	7440-66-6	Zinc	64	MG_KG		Y	0.22	1.2
BAI-24A-045-18	6010B	DRY	15	7440-36-0	Antimony	0.59	MG_KG	UJ	N	0.17	0.59
BAI-24A-045-18	6010B	DRY	15	7440-38-2	Arsenic	14	MG_KG	J	Y	0.084	0.29
BAI-24A-045-18	6010B	DRY	15	7440-39-3	Barium	160	MG_KG		Y	0.12	0.35
BAI-24A-045-18	6010B	DRY	15	7440-41-7	Beryllium	0.98	MG_KG		Y	0.023	0.12
BAI-24A-045-18	6010B	DRY	15	7440-43-9	Cadmium	0.42	MG_KG		Y	0.058	0.29
BAI-24A-045-18	6010B	DRY	15	7440-47-3	Chromium	21	MG_KG		Y	0.12	0.35
BAI-24A-045-18	6010B	DRY	15	7440-48-4	Cobalt	13	MG_KG		Y	0.23	0.69
BAI-24A-045-18	6010B	DRY	15	7440-50-8	Copper	37	MG_KG		Y	0.12	0.35
BAI-24A-045-18	6010B	DRY	15	7439-92-1	Lead	6.4	MG_KG	J	Y	0.08	0.29
BAI-24A-045-18	7470A	DRY	15	7439-97-6	Mercury	0.024	MG_KG	UJ	N	0.0067	0.024
BAI-24A-045-18	6010B	DRY	15	7439-98-7	Molybdenum	0.69	MG_KG	U	N	0.23	0.69
BAI-24A-045-18	6010B	DRY	15	7440-02-0	Nickel	21	MG_KG		Y	0.23	0.69
BAI-24A-045-18	6010B	DRY	15	7782-49-2	Selenium	1.3	MG_KG		Y	0.18	0.59
BAI-24A-045-18	6010B	DRY	15	7440-22-4	Silver	0.29	MG_KG	U	N	0.058	0.29
BAI-24A-045-18	6010B	DRY	15	7440-28-0	Thallium	0.59	MG_KG	U	N	0.16	0.59

SAMPLE_NAME	ANALYTICAL_METHOD	SAMPLE_BASIS	PERCENT_MOISTURE	ANALYTE_ID	ANALYTE NAME	ANALYTE_VALUE	RESULT_UNITS	FINAL_QUALIFIER	DETECTED	MDL	MRL
BAI-24A-045-18	6010B	DRY	15	7440-62-2	Vanadium	67	MG_KG		Y	0.12	0.35
BAI-24A-045-18	6010B	DRY	15	7440-66-6	Zinc	77	MG_KG		Y	0.23	1.2
BAI-24A-046-00	6010B	DRY	13	7440-36-0	Antimony	0.62	MG_KG	J	Y	0.15	0.57
BAI-24A-046-00	6010B	DRY	13	7440-38-2	Arsenic	3.5	MG_KG	J	Y	0.075	0.29
BAI-24A-046-00	6010B	DRY	13	7440-39-3	Barium	130	MG_KG		Y	0.1	0.31
BAI-24A-046-00	6010B	DRY	13	7440-41-7	Beryllium	0.27	MG_KG		Y	0.021	0.11
BAI-24A-046-00	6010B	DRY	13	7440-43-9	Cadmium	0.29	MG_KG	U	N	0.052	0.29
BAI-24A-046-00	6010B	DRY	13	7440-47-3	Chromium	15	MG_KG		Y	0.1	0.31
BAI-24A-046-00	6010B	DRY	13	7440-48-4	Cobalt	5.9	MG_KG		Y	0.21	0.62
BAI-24A-046-00	6010B	DRY	13	7440-50-8	Copper	7.7	MG_KG		Y	0.1	0.31
BAI-24A-046-00	6010B	DRY	13	7439-92-1	Lead	3.3	MG_KG	J	Y	0.072	0.29
BAI-24A-046-00	7470A	DRY	13	7439-97-6	Mercury	0.024	MG_KG	UJ	N	0.0077	0.024
BAI-24A-046-00	6010B	DRY	13	7439-98-7	Molybdenum	0.62	MG_KG	U	N	0.21	0.62
BAI-24A-046-00	6010B	DRY	13	7440-02-0	Nickel	10	MG_KG		Y	0.21	0.62
BAI-24A-046-00	6010B	DRY	13	7782-49-2	Selenium	0.46	MG_KG	J	Y	0.17	0.57
BAI-24A-046-00	6010B	DRY	13	7440-22-4	Silver	0.29	MG_KG	U	N	0.052	0.29
BAI-24A-046-00	6010B	DRY	13	7440-28-0	Thallium	0.57	MG_KG	U	N	0.15	0.57
BAI-24A-046-00	6010B	DRY	13	7440-62-2	Vanadium	25	MG_KG		Y	0.1	0.31
BAI-24A-046-00	6010B	DRY	13	7440-66-6	Zinc	33	MG_KG		Y	0.21	1.1
BAI-24A-046-18	6010B	DRY	12	7440-36-0	Antimony	0.55	MG_KG	J	Y	0.16	0.57
BAI-24A-046-18	8330	WET		99-99-0	4-Nitrotoluene	400	UG_KG	U	N	31	400
BAI-24A-046-18	8330	WET		99-08-1	3-Nitrotoluene	400	UG_KG	U	N	61	400
BAI-24A-047-00	8330	WET		2691-41-0	HMX	200	UG_KG	U	N	26	200
BAI-24A-047-00	8330	WET		121-82-4	RDX	200	UG_KG	U	N	39	200
BAI-24A-047-00	8330	WET		99-35-4	1,3,5-Trinitrobenzene	200	UG_KG	U	N	34	200
BAI-24A-047-00	8330	WET		99-65-0	1,3-Dinitrobenzene	200	UG_KG	U	N	19	200
BAI-24A-047-00	8330	WET		98-95-3	Nitrobenzene	200	UG_KG	U	N	18	200
BAI-24A-047-00	8330	WET		479-45-8	Tetryl	200	UG_KG	U	N	64	200
BAI-24A-047-00	8330	WET		118-96-7	2,4,6-Trinitrotoluene	200	UG_KG	U	N	13	200
BAI-24A-047-00	8330	WET		35572-78-2	2-amino-4,6-Dinitrotoluene	200	UG_KG	U	N	26	200
BAI-24A-047-00	8330	WET		19406-51-0	4-amino-2,6-Dinitrotoluene	200	UG_KG	U	N	28	200
BAI-24A-047-00	8330	WET		121-14-2	2,4-Dinitrotoluene	200	UG_KG	U	N	19	200
BAI-24A-047-00	8330	WET		606-20-2	2,6-Dinitrotoluene	200	UG_KG	U	N	18	200
BAI-24A-047-00	8330	WET		88-72-2	2-Nitrotoluene	390	UG_KG	U	N	16	390
BAI-24A-047-00	8330	WET		99-99-0	4-Nitrotoluene	390	UG_KG	U	N	30	390
BAI-24A-047-00	8330	WET		99-08-1	3-Nitrotoluene	390	UG_KG	U	N	60	390
BAI-24A-047-18	8330	WET		2691-41-0	HMX	200	UG_KG	U	N	40	200
BAI-24A-047-18	8330	WET		121-82-4	RDX	200	UG_KG	U	N	40	200
BAI-24A-047-18	8330	WET		99-35-4	1,3,5-Trinitrobenzene	200	UG_KG	U	N	40	200
BAI-24A-047-18	8330	WET		99-65-0	1,3-Dinitrobenzene	200	UG_KG	U	N	40	200
BAI-24A-047-18	8330	WET		98-95-3	Nitrobenzene	200	UG_KG	U	N	40	200
BAI-24A-047-18	8330	WET		479-45-8	Tetryl	200	UG_KG	U	N	40	200
BAI-24A-047-18	8330	WET		118-96-7	2,4,6-Trinitrotoluene	200	UG_KG	U	N	40	200
BAI-24A-047-18	8330	WET		35572-78-2	2-amino-4,6-Dinitrotoluene	200	UG_KG	U	N	50	200
BAI-24A-047-18	8330	WET		19406-51-0	4-amino-2,6-Dinitrotoluene	200	UG_KG	U	N	62	200
BAI-24A-047-18	8330	WET		121-14-2	2,4-Dinitrotoluene	200	UG_KG	U	N	40	200
BAI-24A-047-18	8330	WET		606-20-2	2,6-Dinitrotoluene	200	UG_KG	U	N	40	200
BAI-24A-047-18	8330	WET		88-72-2	2-Nitrotoluene	400	UG_KG	U	N	79	400
BAI-24A-047-18	8330	WET		99-99-0	4-Nitrotoluene	400	UG_KG	U	N	79	400
BAI-24A-047-18	8330	WET		99-08-1	3-Nitrotoluene	400	UG_KG	U	N	79	400

Attachment B-4.1
Raw Data

SAMPLE_NAME	ANALYTICAL_METHOD	SAMPLE_BASIS	PERCENT_MOISTURE	ANALYTE_ID	ANALYTE NAME	ANALYTE_VALUE	RESULT_UNITS	FINAL_QUALIFIER	DETECTED	MDL	MRL
BAI-24A-048-00	8330	WET		2691-41-0	HMX	200	UG_KG	U	N	40	200
BAI-24A-048-00	8330	WET		121-82-4	RDX	200	UG_KG	U	N	40	200
BAI-24A-048-00	8330	WET		99-35-4	1,3,5-Trinitrobenzene	200	UG_KG	U	N	40	200
BAI-24A-048-00	8330	WET		99-65-0	1,3-Dinitrobenzene	200	UG_KG	U	N	40	200
BAI-24A-048-00	8330	WET		98-95-3	Nitrobenzene	200	UG_KG	U	N	40	200
BAI-24A-048-00	8330	WET		479-45-8	Tetryl	200	UG_KG	U	N	40	200
BAI-24A-048-00	8330	WET		118-96-7	2,4,6-Trinitrotoluene	200	UG_KG	U	N	40	200
BAI-24A-048-00	8330	WET		35572-78-2	2-amino-4,6-Dinitrotoluene	200	UG_KG	U	N	50	200
BAI-24A-048-00	8330	WET		19406-51-0	4-amino-2,6-Dinitrotoluene	200	UG_KG	U	N	62	200
BAI-24A-048-00	8330	WET		121-14-2	2,4-Dinitrotoluene	200	UG_KG	U	N	40	200
BAI-24A-048-00	8330	WET		606-20-2	2,6-Dinitrotoluene	200	UG_KG	U	N	40	200
BAI-24A-048-00	8330	WET		88-72-2	2-Nitrotoluene	400	UG_KG	U	N	80	400
BAI-24A-048-00	8330	WET		99-99-0	4-Nitrotoluene	400	UG_KG	U	N	80	400
BAI-24A-048-00	8330	WET		99-08-1	3-Nitrotoluene	400	UG_KG	U	N	80	400
BAI-24A-048-18	8330	WET		2691-41-0	HMX	200	UG_KG	U	N	39	200
BAI-24A-048-18	8330	WET		121-82-4	RDX	200	UG_KG	U	N	39	200
BAI-24A-048-18	8330	WET		99-35-4	1,3,5-Trinitrobenzene	200	UG_KG	U	N	39	200
BAI-24A-048-18	8330	WET		99-65-0	1,3-Dinitrobenzene	200	UG_KG	U	N	39	200
BAI-24A-048-18	8330	WET		98-95-3	Nitrobenzene	200	UG_KG	U	N	39	200
BAI-24A-048-18	8330	WET		479-45-8	Tetryl	200	UG_KG	U	N	39	200
BAI-24A-048-18	8330	WET		118-96-7	2,4,6-Trinitrotoluene	200	UG_KG	U	N	39	200
BAI-24A-048-18	8330	WET		35572-78-2	2-amino-4,6-Dinitrotoluene	200	UG_KG	U	N	49	200
BAI-24A-048-18	8330	WET		19406-51-0	4-amino-2,6-Dinitrotoluene	200	UG_KG	U	N	61	200
BAI-24A-048-18	8330	WET		121-14-2	2,4-Dinitrotoluene	200	UG_KG	U	N	39	200
BAI-24A-048-18	8330	WET		606-20-2	2,6-Dinitrotoluene	200	UG_KG	U	N	39	200
BAI-24A-048-18	8330	WET		88-72-2	2-Nitrotoluene	390	UG_KG	U	N	78	390
BAI-24A-048-18	8330	WET		99-99-0	4-Nitrotoluene	390	UG_KG	U	N	78	390
BAI-24A-048-18	8330	WET		99-08-1	3-Nitrotoluene	390	UG_KG	U	N	78	390
BAI-24A-049-18	8330	WET		2691-41-0	HMX	200	UG_KG	U	N	40	200
BAI-24A-049-18	8330	WET		121-82-4	RDX	200	UG_KG	U	N	40	200
BAI-24A-049-18	8330	WET		99-35-4	1,3,5-Trinitrobenzene	200	UG_KG	U	N	40	200
BAI-24A-049-18	8330	WET		99-65-0	1,3-Dinitrobenzene	200	UG_KG	U	N	40	200
BAI-24A-049-18	8330	WET		98-95-3	Nitrobenzene	200	UG_KG	U	N	40	200
BAI-24A-049-18	8330	WET		479-45-8	Tetryl	200	UG_KG	U	N	40	200
BAI-24A-049-18	8330	WET		118-96-7	2,4,6-Trinitrotoluene	200	UG_KG	U	N	40	200
BAI-24A-049-18	8330	WET		35572-78-2	2-amino-4,6-Dinitrotoluene	200	UG_KG	U	N	50	200
BAI-24A-049-18	8330	WET		19406-51-0	4-amino-2,6-Dinitrotoluene	200	UG_KG	U	N	63	200
BAI-24A-049-18	8330	WET		121-14-2	2,4-Dinitrotoluene	200	UG_KG	U	N	40	200
BAI-24A-049-18	8330	WET		606-20-2	2,6-Dinitrotoluene	200	UG_KG	U	N	40	200
BAI-24A-049-18	8330	WET		88-72-2	2-Nitrotoluene	400	UG_KG	U	N	80	400
BAI-24A-049-18	8330	WET		99-99-0	4-Nitrotoluene	400	UG_KG	U	N	80	400
BAI-24A-049-18	8330	WET		99-08-1	3-Nitrotoluene	400	UG_KG	U	N	80	400
BAI-24A-050-00	8330	WET		2691-41-0	HMX	200	UG_KG	U	N	40	200
BAI-24A-050-00	8330	WET		121-82-4	RDX	200	UG_KG	U	N	40	200
BAI-24A-050-00	8330	WET		99-35-4	1,3,5-Trinitrobenzene	200	UG_KG	U	N	40	200
BAI-24A-050-00	8330	WET		99-65-0	1,3-Dinitrobenzene	200	UG_KG	U	N	40	200
BAI-24A-050-00	8330	WET		98-95-3	Nitrobenzene	200	UG_KG	U	N	40	200
BAI-24A-050-00	8330	WET		479-45-8	Tetryl	200	UG_KG	U	N	40	200
BAI-24A-050-00	8330	WET		118-96-7	2,4,6-Trinitrotoluene	200	UG_KG	U	N	40	200
BAI-24A-050-00	8330	WET		35572-78-2	2-amino-4,6-Dinitrotoluene	200	UG_KG	U	N	50	200

Attachment B-4.1
Raw Data

SAMPLE_NAME	ANALYTICAL_METHOD	SAMPLE_BASIS	PERCENT_MOISTURE	ANALYTE_ID	ANALYTE NAME	ANALYTE_VALUE	RESULT_UNITS	FINAL_QUALIFIER	DETECTED	MDL	MRL
BAI-24A-050-00	8330	WET		19406-51-0	4-amino-2,6-Dinitrotoluene	200	UG_KG	U	N	62	200
BAI-24A-050-00	8330	WET		121-14-2	2,4-Dinitrotoluene	200	UG_KG	U	N	40	200
BAI-24A-050-00	8330	WET		606-20-2	2,6-Dinitrotoluene	200	UG_KG	U	N	40	200
BAI-24A-050-00	8330	WET		88-72-2	2-Nitrotoluene	400	UG_KG	U	N	79	400
BAI-24A-046-18	6010B	DRY	12	7440-38-2	Arsenic	4.2	MG_KG	J	Y	0.076	0.28
BAI-24A-046-18	6010B	DRY	12	7440-39-3	Barium	180	MG_KG		Y	0.11	0.32
BAI-24A-046-18	6010B	DRY	12	7440-41-7	Beryllium	0.4	MG_KG		Y	0.021	0.11
BAI-24A-046-18	6010B	DRY	12	7440-43-9	Cadmium	0.28	MG_KG	U	N	0.053	0.28
BAI-24A-046-18	6010B	DRY	12	7440-47-3	Chromium	17	MG_KG		Y	0.11	0.32
BAI-24A-046-18	6010B	DRY	12	7440-48-4	Cobalt	11	MG_KG		Y	0.21	0.63
BAI-24A-046-18	6010B	DRY	12	7440-50-8	Copper	13	MG_KG		Y	0.11	0.32
BAI-24A-046-18	6010B	DRY	12	7439-92-1	Lead	3.6	MG_KG	J	Y	0.073	0.28
BAI-24A-046-18	7470A	DRY	12	7439-97-6	Mercury	0.014	MG_KG	UJ	N	0.0069	0.023
BAI-24A-050-00	6010B	DRY	11	7440-50-8	Copper	14	MG_KG		Y	0.11	0.32
BAI-24A-050-00	6010B	DRY	11	7439-92-1	Lead	18	MG_KG	J	Y	0.073	0.28
BAI-24A-050-00	7470A	DRY	11	7439-97-6	Mercury	0.011	MG_KG	UJ	N	0.0074	0.023
BAI-24A-050-00	6010B	DRY	11	7439-98-7	Molybdenum	0.63	MG_KG	U	N	0.21	0.63
BAI-24A-050-00	6010B	DRY	11	7440-02-0	Nickel	13	MG_KG		Y	0.21	0.63
BAI-24A-050-00	6010B	DRY	11	7782-49-2	Selenium	0.36	MG_KG	J	Y	0.17	0.56
BAI-24A-050-00	6010B	DRY	11	7440-22-4	Silver	0.28	MG_KG	U	N	0.053	0.28
BAI-24A-050-00	6010B	DRY	11	7440-28-0	Thallium	0.56	MG_KG	U	N	0.15	0.56
BAI-24A-050-00	6010B	DRY	11	7440-62-2	Vanadium	32	MG_KG		Y	0.11	0.32
BAI-24A-050-00	6010B	DRY	11	7440-66-6	Zinc	52	MG_KG		Y	0.21	1.1
BAI-24A-045-00	D2216	WET		-86	Percent Moisture	14	PCT		Y		1
BAI-24A-045-18	D2216	WET		-86	Percent Moisture	15	PCT		Y		1
BAI-24A-046-00	D2216	WET		-86	Percent Moisture	13	PCT		Y		1
BAI-24A-046-18	D2216	WET		-86	Percent Moisture	12	PCT		Y		1
BAI-24A-047-00	D2216	WET		-86	Percent Moisture	13	PCT		Y		1
BAI-24A-047-18	D2216	WET		-86	Percent Moisture	11	PCT		Y		1
BAI-24A-048-00	D2216	WET		-86	Percent Moisture	13	PCT		Y		1
BAI-24A-048-18	D2216	WET		-86	Percent Moisture	5	PCT		Y		1
BAI-24A-049-18	D2216	WET		-86	Percent Moisture	10	PCT		Y		1
BAI-24A-050-00	D2216	WET		-86	Percent Moisture	11	PCT		Y		1
BAI-24A-046-18	6010B	DRY	12	7439-98-7	Molybdenum	0.63	MG_KG	U	N	0.21	0.63
BAI-24A-046-18	6010B	DRY	12	7440-02-0	Nickel	15	MG_KG		Y	0.21	0.63
BAI-24A-046-18	6010B	DRY	12	7782-49-2	Selenium	0.71	MG_KG		Y	0.17	0.57
BAI-24A-046-18	6010B	DRY	12	7440-22-4	Silver	0.28	MG_KG	U	N	0.053	0.28
BAI-24A-046-18	6010B	DRY	12	7440-28-0	Thallium	0.57	MG_KG	U	N	0.15	0.57
BAI-24A-046-18	6010B	DRY	12	7440-62-2	Vanadium	33	MG_KG		Y	0.11	0.32
BAI-24A-046-18	6010B	DRY	12	7440-66-6	Zinc	46	MG_KG		Y	0.21	1.1
BAI-24A-047-00	6010B	DRY	13	7440-36-0	Antimony	0.51	MG_KG	J	Y	0.16	0.57
BAI-24A-047-00	6010B	DRY	13	7440-38-2	Arsenic	4.3	MG_KG	J	Y	0.079	0.29
BAI-24A-047-00	6010B	DRY	13	7440-39-3	Barium	130	MG_KG		Y	0.11	0.33
BAI-24A-047-00	6010B	DRY	13	7440-41-7	Beryllium	0.37	MG_KG		Y	0.022	0.11
BAI-24A-047-00	6010B	DRY	13	7440-43-9	Cadmium	0.067	MG_KG	J	Y	0.054	0.29
BAI-24A-047-00	6010B	DRY	13	7440-47-3	Chromium	16	MG_KG		Y	0.11	0.33
BAI-24A-047-00	6010B	DRY	13	7440-48-4	Cobalt	7.4	MG_KG		Y	0.22	0.65
BAI-24A-047-00	6010B	DRY	13	7440-50-8	Copper	14	MG_KG		Y	0.11	0.33
BAI-24A-047-00	6010B	DRY	13	7439-92-1	Lead	34	MG_KG	J	Y	0.076	0.29
BAI-24A-047-00	7470A	DRY	13	7439-97-6	Mercury	0.014	MG_KG	UJ	N	0.0075	0.024

Attachment B-4.1
Raw Data

SAMPLE_NAME	ANALYTICAL_METHOD	SAMPLE_BASIS	PERCENT_MOISTURE	ANALYTE_ID	ANALYTE NAME	ANALYTE_VALUE	RESULT_UNITS	FINAL_QUALIFIER	DETECTED	MDL	MRL
BAI-24A-047-00	6010B	DRY	13	7439-98-7	Molybdenum	0.65	MG_KG	U	N	0.22	0.65
BAI-24A-047-00	6010B	DRY	13	7440-02-0	Nickel	14	MG_KG		Y	0.22	0.65
BAI-24A-047-00	6010B	DRY	13	7782-49-2	Selenium	0.29	MG_KG	J	Y	0.17	0.57
BAI-24A-047-00	6010B	DRY	13	7440-22-4	Silver	0.29	MG_KG	U	N	0.054	0.29
BAI-24A-047-00	6010B	DRY	13	7440-28-0	Thallium	0.57	MG_KG	U	N	0.15	0.57
BAI-24A-047-00	6010B	DRY	13	7440-62-2	Vanadium	31	MG_KG		Y	0.11	0.33
BAI-24A-047-00	6010B	DRY	13	7440-66-6	Zinc	88	MG_KG		Y	0.22	1.1
BAI-24A-047-18	6010B	DRY	11	7440-36-0	Antimony	0.22	MG_KG	J	Y	0.15	0.56
BAI-24A-047-18	6010B	DRY	11	7440-38-2	Arsenic	3.1	MG_KG	J	Y	0.075	0.28
BAI-24A-047-18	6010B	DRY	11	7440-39-3	Barium	180	MG_KG		Y	0.1	0.31
BAI-24A-047-18	6010B	DRY	11	7440-41-7	Beryllium	0.33	MG_KG		Y	0.021	0.11
BAI-24A-047-18	6010B	DRY	11	7440-43-9	Cadmium	0.28	MG_KG	U	N	0.052	0.28
BAI-24A-047-18	6010B	DRY	11	7440-47-3	Chromium	16	MG_KG		Y	0.1	0.31
BAI-24A-047-18	6010B	DRY	11	7440-48-4	Cobalt	6	MG_KG		Y	0.21	0.62
BAI-24A-047-18	6010B	DRY	11	7440-50-8	Copper	11	MG_KG		Y	0.1	0.31
BAI-24A-047-18	6010B	DRY	11	7439-92-1	Lead	3.1	MG_KG	J	Y	0.072	0.28
BAI-24A-047-18	7470A	DRY	11	7439-97-6	Mercury	0.022	MG_KG	UJ	N	0.0067	0.022
BAI-24A-047-18	6010B	DRY	11	7439-98-7	Molybdenum	0.62	MG_KG	U	N	0.21	0.62
BAI-24A-047-18	6010B	DRY	11	7440-02-0	Nickel	11	MG_KG		Y	0.21	0.62
BAI-24A-047-18	6010B	DRY	11	7782-49-2	Selenium	0.56	MG_KG	U	N	0.16	0.56
BAI-24A-047-18	6010B	DRY	11	7440-22-4	Silver	0.28	MG_KG	U	N	0.052	0.28
BAI-24A-047-18	6010B	DRY	11	7440-28-0	Thallium	0.56	MG_KG	U	N	0.14	0.56
BAI-24A-047-18	6010B	DRY	11	7440-62-2	Vanadium	24	MG_KG		Y	0.1	0.31
BAI-24A-047-18	6010B	DRY	11	7440-66-6	Zinc	39	MG_KG		Y	0.21	1.1
BAI-24A-048-00	6010B	DRY	13	7440-36-0	Antimony	0.66	MG_KG	J	Y	0.16	0.57
BAI-24A-048-00	6010B	DRY	13	7440-38-2	Arsenic	4.8	MG_KG	J	Y	0.077	0.29
BAI-24A-048-00	6010B	DRY	13	7440-39-3	Barium	120	MG_KG		Y	0.11	0.32
BAI-24A-048-00	6010B	DRY	13	7440-41-7	Beryllium	0.45	MG_KG		Y	0.021	0.11
BAI-24A-048-00	6010B	DRY	13	7440-43-9	Cadmium	0.29	MG_KG	U	N	0.053	0.29
BAI-24A-048-00	6010B	DRY	13	7440-47-3	Chromium	18	MG_KG		Y	0.11	0.32
BAI-24A-048-00	6010B	DRY	13	7440-48-4	Cobalt	7.8	MG_KG		Y	0.21	0.64
BAI-24A-048-00	6010B	DRY	13	7440-50-8	Copper	17	MG_KG		Y	0.11	0.32
BAI-24A-048-00	6010B	DRY	13	7439-92-1	Lead	25	MG_KG	J	Y	0.074	0.29
BAI-24A-048-00	7470A	DRY	13	7439-97-6	Mercury	0.017	MG_KG	UJ	N	0.0069	0.023
BAI-24A-048-00	6010B	DRY	13	7439-98-7	Molybdenum	0.64	MG_KG	U	N	0.21	0.64
BAI-24A-048-00	6010B	DRY	13	7440-02-0	Nickel	14	MG_KG		Y	0.21	0.64
BAI-24A-048-00	6010B	DRY	13	7782-49-2	Selenium	0.48	MG_KG	J	Y	0.17	0.57
BAI-24A-048-00	6010B	DRY	13	7440-22-4	Silver	0.29	MG_KG	U	N	0.053	0.29
BAI-24A-048-00	6010B	DRY	13	7440-28-0	Thallium	0.57	MG_KG	U	N	0.15	0.57
BAI-24A-048-00	6010B	DRY	13	7440-62-2	Vanadium	35	MG_KG		Y	0.11	0.32
BAI-24A-048-00	6010B	DRY	13	7440-66-6	Zinc	62	MG_KG		Y	0.21	1.1
BAI-24A-048-18	6010B	DRY	5	7440-36-0	Antimony	0.4	MG_KG	J	Y	0.15	0.53
BAI-24A-048-18	6010B	DRY	5	7440-38-2	Arsenic	4.4	MG_KG	J	Y	0.074	0.26
BAI-24A-048-18	6010B	DRY	5	7440-39-3	Barium	140	MG_KG		Y	0.1	0.31
BAI-24A-048-18	6010B	DRY	5	7440-41-7	Beryllium	0.43	MG_KG		Y	0.02	0.11
BAI-24A-048-18	6010B	DRY	5	7440-43-9	Cadmium	0.26	MG_KG	U	N	0.051	0.26
BAI-24A-048-18	6010B	DRY	5	7440-47-3	Chromium	17	MG_KG		Y	0.1	0.31
BAI-24A-048-18	6010B	DRY	5	7440-48-4	Cobalt	7.8	MG_KG		Y	0.2	0.61
BAI-24A-048-18	6010B	DRY	5	7440-50-8	Copper	15	MG_KG		Y	0.1	0.31
BAI-24A-048-18	6010B	DRY	5	7439-92-1	Lead	3.8	MG_KG	J	Y	0.071	0.26

SAMPLE_NAME	ANALYTICAL_METHOD	SAMPLE_BASIS	PERCENT_MOISTURE	ANALYTE_ID	ANALYTE NAME	ANALYTE_VALUE	RESULT_UNITS	FINAL_QUALIFIER	DETECTED	MDL	MRL
BAI-24A-048-18	7470A	DRY	5	7439-97-6	Mercury	0.018	MG_KG	UJ	N	0.0062	0.021
BAI-24A-048-18	6010B	DRY	5	7439-98-7	Molybdenum	0.61	MG_KG	U	N	0.2	0.61
BAI-24A-048-18	6010B	DRY	5	7440-02-0	Nickel	13	MG_KG		Y	0.2	0.61
BAI-24A-048-18	6010B	DRY	5	7782-49-2	Selenium	0.56	MG_KG		Y	0.16	0.53
BAI-24A-048-18	6010B	DRY	5	7440-22-4	Silver	0.26	MG_KG	U	N	0.051	0.26
BAI-24A-048-18	6010B	DRY	5	7440-28-0	Thallium	0.53	MG_KG	U	N	0.14	0.53
BAI-24A-048-18	6010B	DRY	5	7440-62-2	Vanadium	33	MG_KG		Y	0.1	0.31
BAI-24A-048-18	6010B	DRY	5	7440-66-6	Zinc	46	MG_KG		Y	0.2	1.1
BAI-24A-049-18	6010B	DRY	10	7440-36-0	Antimony	0.47	MG_KG	J	Y	0.16	0.56
BAI-24A-049-18	6010B	DRY	10	7440-38-2	Arsenic	4.3	MG_KG	J	Y	0.077	0.28
BAI-24A-049-18	6010B	DRY	10	7440-39-3	Barium	130	MG_KG		Y	0.11	0.32
BAI-24A-049-18	6010B	DRY	10	7440-41-7	Beryllium	0.42	MG_KG		Y	0.021	0.11
BAI-24A-049-18	6010B	DRY	10	7440-43-9	Cadmium	0.28	MG_KG	U	N	0.053	0.28
BAI-24A-049-18	6010B	DRY	10	7440-47-3	Chromium	16	MG_KG		Y	0.11	0.32
BAI-24A-049-18	6010B	DRY	10	7440-48-4	Cobalt	8.3	MG_KG		Y	0.21	0.63
BAI-24A-049-18	6010B	DRY	10	7440-50-8	Copper	13	MG_KG		Y	0.11	0.32
BAI-24A-049-18	6010B	DRY	10	7439-92-1	Lead	3.2	MG_KG	J	Y	0.074	0.28
BAI-24A-049-18	7470A	DRY	10	7439-97-6	Mercury	0.022	MG_KG	UJ	N	0.0066	0.022
BAI-24A-049-18	6010B	DRY	10	7439-98-7	Molybdenum	0.63	MG_KG	U	N	0.21	0.63
BAI-24A-049-18	6010B	DRY	10	7440-02-0	Nickel	13	MG_KG		Y	0.21	0.63
BAI-24A-049-18	6010B	DRY	10	7782-49-2	Selenium	0.48	MG_KG	J	Y	0.17	0.56
BAI-24A-049-18	6010B	DRY	10	7440-22-4	Silver	0.28	MG_KG	U	N	0.053	0.28
BAI-24A-049-18	6010B	DRY	10	7440-28-0	Thallium	0.56	MG_KG	U	N	0.15	0.56
BAI-24A-049-18	6010B	DRY	10	7440-62-2	Vanadium	33	MG_KG		Y	0.11	0.32
BAI-24A-049-18	6010B	DRY	10	7440-66-6	Zinc	46	MG_KG		Y	0.21	1.1
BAI-24A-050-00	6010B	DRY	11	7440-36-0	Antimony	0.44	MG_KG	J	Y	0.16	0.56
BAI-24A-050-00	6010B	DRY	11	7440-38-2	Arsenic	4.4	MG_KG	J	Y	0.076	0.28
BAI-24A-050-00	6010B	DRY	11	7440-39-3	Barium	120	MG_KG		Y	0.11	0.32
BAI-24A-050-00	6010B	DRY	11	7440-41-7	Beryllium	0.39	MG_KG		Y	0.021	0.11
BAI-24A-050-00	6010B	DRY	11	7440-43-9	Cadmium	0.28	MG_KG	U	N	0.053	0.28
BAI-24A-050-00	6010B	DRY	11	7440-47-3	Chromium	17	MG_KG		Y	0.11	0.32
BAI-24A-050-00	6010B	DRY	11	7440-48-4	Cobalt	7.8	MG_KG		Y	0.21	0.63
BAI-24A-049-00	8330	WET		2691-41-0	HMX	200	UG_KG	U	N	26	200
BAI-24A-049-00	8330	WET		121-82-4	RDX	200	UG_KG	U	N	39	200
BAI-24A-049-00	8330	WET		99-35-4	1,3,5-Trinitrobenzene	200	UG_KG	U	N	35	200
BAI-24A-049-00	8330	WET		99-65-0	1,3-Dinitrobenzene	200	UG_KG	U	N	19	200
BAI-24A-049-00	8330	WET		98-95-3	Nitrobenzene	200	UG_KG	U	N	18	200
BAI-24A-049-00	8330	WET		479-45-8	Tetryl	200	UG_KG	U	N	65	200
BAI-24A-049-00	8330	WET		118-96-7	2,4,6-Trinitrotoluene	200	UG_KG	U	N	13	200
BAI-24A-049-00	8330	WET		35572-78-2	2-amino-4,6-Dinitrotoluene	200	UG_KG	U	N	26	200
BAI-24A-049-00	8330	WET		19406-51-0	4-amino-2,6-Dinitrotoluene	200	UG_KG	U	N	28	200
BAI-24A-049-00	8330	WET		121-14-2	2,4-Dinitrotoluene	200	UG_KG	U	N	19	200
BAI-24A-049-00	8330	WET		606-20-2	2,6-Dinitrotoluene	200	UG_KG	U	N	18	200
BAI-24A-049-00	8330	WET		88-72-2	2-Nitrotoluene	390	UG_KG	U	N	16	390
BAI-24A-049-00	8330	WET		99-99-0	4-Nitrotoluene	390	UG_KG	U	N	30	390
BAI-24A-049-00	8330	WET		99-08-1	3-Nitrotoluene	390	UG_KG	U	N	60	390
BAI-24A-049-00	6010B	DRY	12	7440-36-0	Antimony	1.3	MG_KG	J	Y	0.16	0.57
BAI-24A-049-00	6010B	DRY	12	7440-38-2	Arsenic	5.4	MG_KG	J	Y	0.076	0.28
BAI-24A-049-00	6010B	DRY	12	7440-39-3	Barium	140	MG_KG	J	Y	0.11	0.32
BAI-24A-049-00	6010B	DRY	12	7440-41-7	Beryllium	0.44	MG_KG		Y	0.021	0.11

Attachment B-4.1
Raw Data

SAMPLE_NAME	ANALYTICAL_METHOD	SAMPLE_BASIS	PERCENT_MOISTURE	ANALYTE_ID	ANALYTE NAME	ANALYTE_VALUE	RESULT_UNITS	FINAL_QUALIFIER	DETECTED	MDL	MRL
BAI-24A-049-00	6010B	DRY	12	7440-43-9	Cadmium	0.28	MG_KG	U	N	0.053	0.28
BAI-24A-049-00	6010B	DRY	12	7440-47-3	Chromium	21	MG_KG	J	Y	0.11	0.32
BAI-24A-049-00	6010B	DRY	12	7440-48-4	Cobalt	7.8	MG_KG		Y	0.21	0.63
BAI-24A-049-00	6010B	DRY	12	7440-50-8	Copper	15	MG_KG	J	Y	0.11	0.32
BAI-24A-049-00	6010B	DRY	12	7439-92-1	Lead	14	MG_KG	J	Y	0.073	0.28
BAI-24A-049-00	7470A	DRY	12	7439-97-6	Mercury	0.023	MG_KG	U	N	0.007	0.023
BAI-24A-049-00	6010B	DRY	12	7439-98-7	Molybdenum	0.63	MG_KG	U	N	0.21	0.63
BAI-24A-049-00	6010B	DRY	12	7440-02-0	Nickel	14	MG_KG	J	Y	0.21	0.63
BAI-24A-049-00	6010B	DRY	12	7782-49-2	Selenium	0.52	MG_KG	J	Y	0.17	0.57
BAI-24A-049-00	6010B	DRY	12	7440-22-4	Silver	0.28	MG_KG	U	N	0.053	0.28
BAI-24A-049-00	6010B	DRY	12	7440-28-0	Thallium	0.57	MG_KG	U	N	0.15	0.57
BAI-24A-049-00	6010B	DRY	12	7440-62-2	Vanadium	39	MG_KG	J	Y	0.11	0.32
BAI-24A-049-00	6010B	DRY	12	7440-66-6	Zinc	56	MG_KG	J	Y	0.21	1.1
BAI-24A-049-00	D2216	WET		-86	Percent Moisture	12	PCT		Y		1
BAI-24A-033-00	6010B	DRY	15	7439-92-1	Lead	940	MG_KG	J	Y	0.41	1.2
BAI-24A-033-18	6010B	DRY	6	7439-92-1	Lead	1500	MG_KG	J	Y	0.36	1.1
BAI-24A-02-18	8270C_SIM	DRY	9	91-20-3	Naphthalene	18	UG_KG	J	Y	7.6	38
BAI-24A-02-18	8270C_SIM	DRY	9	208-96-8	Acenaphthylene	190	UG_KG		Y	7.6	38
BAI-24A-02-18	8270C_SIM	DRY	9	83-32-9	Acenaphthene	61	UG_KG		Y	7.6	38
BAI-24A-02-18	8270C_SIM	DRY	9	86-73-7	Fluorene	50	UG_KG		Y	7.6	38
BAI-24A-02-18	8270C_SIM	DRY	9	85-01-8	Phenanthrene	580	UG_KG		Y	7.6	38
BAI-24A-02-18	8270C_SIM	DRY	9	120-12-7	Anthracene	770	UG_KG		Y	7.6	38
BAI-24A-02-18	8270C_SIM	DRY	9	206-44-0	Fluoranthene	1400	UG_KG		Y	7.6	38
BAI-24A-02-18	8270C_SIM	DRY	9	129-00-0	Pyrene	1400	UG_KG		Y	7.6	38
BAI-24A-02-18	8270C_SIM	DRY	9	56-55-3	Benzo(a)anthracene	1000	UG_KG		Y	7.6	38
BAI-24A-02-18	8270C_SIM	DRY	9	218-01-9	Chrysene	1400	UG_KG		Y	7.6	38
BAI-24A-02-18	8270C_SIM	DRY	9	205-99-2	Benzo(b)fluoranthene	1500	UG_KG		Y	7.6	38
BAI-24A-02-18	8270C_SIM	DRY	9	207-08-9	Benzo(k)fluoranthene	450	UG_KG		Y	7.6	38
BAI-24A-02-18	8270C_SIM	DRY	9	50-32-8	Benzo(a)pyrene	680	UG_KG		Y	7.6	38
BAI-24A-02-18	8270C_SIM	DRY	9	193-39-5	Indeno(1,2,3-cd)yrene	310	UG_KG		Y	7.6	38
BAI-24A-02-18	8270C_SIM	DRY	9	53-70-3	Dibenz(a,h)anthracene	120	UG_KG		Y	7.6	38
BAI-24A-02-18	8270C_SIM	DRY	9	191-24-2	Benzo(g,h,i)perylene	270	UG_KG		Y	7.6	38
BAI-24A-015-00	6010B	DRY	13	7440-66-6	Zinc	2100	MG_KG	J	Y	2.1	11
BAI-24A-022-00	6010B	DRY	13	7439-92-1	Lead	630	MG_KG		Y	0.75	2.2
BAI-24A-030-00	6010B	DRY	17	7439-92-1	Lead	1600	MG_KG		Y	0.83	2.5
BAI-24A-032-00	6010B	DRY	16	7439-92-1	Lead	4300	MG_KG	J	Y	0.83	2.5
BAI-24A-07-00	6010B	DRY	17	7440-50-8	Copper	190	MG_KG	J	Y	2.3	6.9
BAI-24A-07-00	6010B	DRY	17	7439-92-1	Lead	7100	MG_KG	J	Y	1.6	4.8
BAI-24A-07-18	6010B	DRY	14	7440-66-6	Zinc	1600	MG_KG	J	Y	4.3	21
BAI-24A-08-18	6010B	DRY	13	7440-66-6	Zinc	850	MG_KG	J	Y	4.4	22
BAI-24A-11-18	6010B	DRY	14	7440-66-6	Zinc	1300	MG_KG	J	Y	4.3	22
BAI-24A-021-00	6010B	DRY	5	7439-92-1	Lead	29000	MG_KG		Y	7.5	23
BAI-24A-029-00	6010B	DRY	17	7439-92-1	Lead	9800	MG_KG		Y	8.7	26
BAI-24A-025-00	6010B	DRY	19	7440-50-8	Copper	560	MG_KG		Y	11	34
BAI-24A-025-00	6010B	DRY	19	7439-92-1	Lead	9500	MG_KG		Y	8.3	25
BAI-24A-025-18	6010B	DRY	12	7439-92-1	Lead	3000	MG_KG		Y	8.1	24
BAI-24A-026-00	6010B	DRY	17	7440-36-0	Antimony	700	MG_KG	J	Y	18	58
BAI-24A-026-00	6010B	DRY	17	7440-50-8	Copper	12000	MG_KG		Y	12	35
BAI-24A-026-00	6010B	DRY	17	7440-66-6	Zinc	1400	MG_KG		Y	23	120
BAI-24A-026-18	6010B	DRY	4	7439-92-1	Lead	1300	MG_KG		Y	6.9	21

Attachment B-4.1
Raw Data

SAMPLE_NAME	ANALYTICAL_METHOD	SAMPLE_BASIS	PERCENT_MOISTURE	ANALYTE_ID	ANALYTE NAME	ANALYTE_VALUE	RESULT_UNITS	FINAL_QUALIFIER	DETECTED	MDL	MRL
BAI-24A-027-00	6010B	DRY	16	7439-92-1	Lead	2300	MG_KG		Y	8.5	26
BAI-24A-028-00	6010B	DRY	16	7439-92-1	Lead	1500	MG_KG		Y	8.4	25
BAI-24A-026-00	6010B	DRY	17	7439-92-1	Lead	62000	MG_KG		Y	17	51

Notes:

J = A “J” qualifier indicates this compound was detected but at a concentration below the quantitation limit. The result is therefore an estimated value.

U = A "U" qualifier indicates this analyte was analyzed for, but not detected at or above the number indicated which is the reporting limit for that sample.

UJ = A “UJ” qualifier indicates that the analyte was not detected above the reported sample quantitation limit (i.e., the laboratory reporting limit), however, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample

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Attachment B-4.2
Processed Data

PARENT_SAMPLE_NAME	SI Designation	Exposure Unit	ANALYTICAL_METHOD	Depth Interval	RESULT_UNITS	Analyte Group	Analyte Name	ANALYTE_ID	dw_Analyte Value	dw_MDL	dw_MRL	DETECTED
BAI-24A-01-00	Retaining Wall	2	8270C_SIM	0-0.5	UG_KG	PAH	Anthracene	120-12-7	62	1.2	5.8	Y
BAI-24A-01-00	Retaining Wall	2	8270C_SIM	0-0.5	UG_KG	PAH	Pyrene	129-00-0	76	1.2	5.8	Y
BAI-24A-01-00	Retaining Wall	2	8270C_SIM	0-0.5	UG_KG	PAH	Benzo(g,h,i)perylene	191-24-2	61	1.4	5.8	Y
BAI-24A-01-00	Retaining Wall	2	8270C_SIM	0-0.5	UG_KG	PAH	Indeno(1,2,3-cd)yrene	193-39-5	64	1.2	5.8	Y
BAI-24A-01-00	Retaining Wall	2	8270C_SIM	0-0.5	UG_KG	PAH	Benzo(b)fluoranthene	205-99-2	170	1.2	5.8	Y
BAI-24A-01-00	Retaining Wall	2	8270C_SIM	0-0.5	UG_KG	PAH	Fluoranthene	206-44-0	63	1.2	5.8	Y
BAI-24A-01-00	Retaining Wall	2	8270C_SIM	0-0.5	UG_KG	PAH	Benzo(k)fluoranthene	207-08-9	43	1.2	5.8	Y
BAI-24A-01-00	Retaining Wall	2	8270C_SIM	0-0.5	UG_KG	PAH	Acenaphthylene	208-96-8	25	1.2	5.8	Y
BAI-24A-01-00	Retaining Wall	2	8270C_SIM	0-0.5	UG_KG	PAH	Chrysene	218-01-9	170	1.2	5.8	Y
BAI-24A-01-00	Retaining Wall	2	8270C_SIM	0-0.5	UG_KG	PAH	Benzo(a)pyrene	50-32-8	60	1.2	5.8	Y
BAI-24A-01-00	Retaining Wall	2	8270C_SIM	0-0.5	UG_KG	PAH	Dibenz(a,h)anthracene	53-70-3	20	1.2	5.8	Y
BAI-24A-01-00	Retaining Wall	2	8270C_SIM	0-0.5	UG_KG	PAH	Benzo(a)anthracene	56-55-3	51	1.2	5.8	Y
BAI-24A-01-00	Retaining Wall	2	8270C_SIM	0-0.5	UG_KG	PAH	Acenaphthene	83-32-9	5.8	1.2	5.8	N
BAI-24A-01-00	Retaining Wall	2	8270C_SIM	0-0.5	UG_KG	PAH	Phenanthrene	85-01-8	14	1.2	5.8	Y
BAI-24A-01-00	Retaining Wall	2	8270C_SIM	0-0.5	UG_KG	PAH	Fluorene	86-73-7	2.5	1.2	5.8	Y
BAI-24A-01-00	Retaining Wall	2	8270C_SIM	0-0.5	UG_KG	PAH	Naphthalene	91-20-3	1.4	1.2	5.8	Y
BAI-24A-01-00	Retaining Wall	2	D2216	0-0.5	PCT	Other	Percent Moisture	-86	16.27906977	0	1.162790698	Y
BAI-24A-01-18	Retaining Wall	2	8270C_SIM	1.5-2	UG_KG	PAH	Anthracene	120-12-7	57	1.2	5.9	Y
BAI-24A-01-18	Retaining Wall	2	8270C_SIM	1.5-2	UG_KG	PAH	Pyrene	129-00-0	9.4	1.2	5.9	Y
BAI-24A-01-18	Retaining Wall	2	8270C_SIM	1.5-2	UG_KG	PAH	Benzo(g,h,i)perylene	191-24-2	82	1.5	5.9	Y
BAI-24A-01-18	Retaining Wall	2	8270C_SIM	1.5-2	UG_KG	PAH	Indeno(1,2,3-cd)yrene	193-39-5	63	1.2	5.9	Y
BAI-24A-01-18	Retaining Wall	2	8270C_SIM	1.5-2	UG_KG	PAH	Benzo(b)fluoranthene	205-99-2	52	1.2	5.9	Y
BAI-24A-01-18	Retaining Wall	2	8270C_SIM	1.5-2	UG_KG	PAH	Fluoranthene	206-44-0	5.8	1.2	5.9	Y
BAI-24A-01-18	Retaining Wall	2	8270C_SIM	1.5-2	UG_KG	PAH	Benzo(k)fluoranthene	207-08-9	13	1.2	5.9	Y
BAI-24A-01-18	Retaining Wall	2	8270C_SIM	1.5-2	UG_KG	PAH	Acenaphthylene	208-96-8	34	1.2	5.9	Y
BAI-24A-01-18	Retaining Wall	2	8270C_SIM	1.5-2	UG_KG	PAH	Chrysene	218-01-9	41	1.2	5.9	Y
BAI-24A-01-18	Retaining Wall	2	8270C_SIM	1.5-2	UG_KG	PAH	Benzo(a)pyrene	50-32-8	20	1.2	5.9	Y
BAI-24A-01-18	Retaining Wall	2	8270C_SIM	1.5-2	UG_KG	PAH	Dibenz(a,h)anthracene	53-70-3	16	1.2	5.9	Y
BAI-24A-01-18	Retaining Wall	2	8270C_SIM	1.5-2	UG_KG	PAH	Benzo(a)anthracene	56-55-3	13	1.2	5.9	Y
BAI-24A-01-18	Retaining Wall	2	8270C_SIM	1.5-2	UG_KG	PAH	Acenaphthene	83-32-9	5.9	1.2	5.9	N
BAI-24A-01-18	Retaining Wall	2	8270C_SIM	1.5-2	UG_KG	PAH	Phenanthrene	85-01-8	1.3	1.2	5.9	Y
BAI-24A-01-18	Retaining Wall	2	8270C_SIM	1.5-2	UG_KG	PAH	Fluorene	86-73-7	2	1.2	5.9	Y
BAI-24A-01-18	Retaining Wall	2	8270C_SIM	1.5-2	UG_KG	PAH	Naphthalene	91-20-3	5.9	1.2	5.9	N
BAI-24A-01-18	Retaining Wall	2	D2216	1.5-2	PCT	Other	Percent Moisture	-86	19.04761905	0	1.19047619	Y
BAI-24A-013-00	Firing Line	1	6010B	0-0.5	MG_KG	Inorganic	Lead	7439-92-1	30	0.083	0.29	Y
BAI-24A-013-00	Firing Line	1	6010B	0-0.5	MG_KG	Inorganic	Molybdenum	7439-98-7	0.68	0.23	0.68	N
BAI-24A-013-00	Firing Line	1	6010B	0-0.5	MG_KG	Inorganic	Nickel	7440-02-0	22	0.23	0.68	Y
BAI-24A-013-00	Firing Line	1	6010B	0-0.5	MG_KG	Inorganic	Silver	7440-22-4	0.13	0.085	0.29	Y
BAI-24A-013-00	Firing Line	1	6010B	0-0.5	MG_KG	Inorganic	Thallium	7440-28-0	0.58	0.19	0.58	N
BAI-24A-013-00	Firing Line	1	6010B	0-0.5	MG_KG	Inorganic	Antimony	7440-36-0	4.9	0.18	0.58	Y
BAI-24A-013-00	Firing Line	1	6010B	0-0.5	MG_KG	Inorganic	Arsenic	7440-38-2	3.2	0.095	0.29	Y
BAI-24A-013-00	Firing Line	1	6010B	0-0.5	MG_KG	Inorganic	Barium	7440-39-3	140	0.11	0.34	Y
BAI-24A-013-00	Firing Line	1	6010B	0-0.5	MG_KG	Inorganic	Beryllium	7440-41-7	0.43	0.023	0.12	Y
BAI-24A-013-00	Firing Line	1	6010B	0-0.5	MG_KG	Inorganic	Cadmium	7440-43-9	0.61	0.057	0.29	Y
BAI-24A-013-00	Firing Line	1	6010B	0-0.5	MG_KG	Inorganic	Chromium	7440-47-3	23	0.11	0.34	Y
BAI-24A-013-00	Firing Line	1	6010B	0-0.5	MG_KG	Inorganic	Cobalt	7440-48-4	11	0.23	0.68	Y
BAI-24A-013-00	Firing Line	1	6010B	0-0.5	MG_KG	Inorganic	Copper	7440-50-8	21	0.11	0.34	Y
BAI-24A-013-00	Firing Line	1	6010B	0-0.5	MG_KG	Inorganic	Vanadium	7440-62-2	55	0.11	0.34	Y
BAI-24A-013-00	Firing Line	1	6010B	0-0.5	MG_KG	Inorganic	Zinc	7440-66-6	520	0.23	1.2	Y

PARENT_SAMPLE_NAME	SI Designation	Exposure Unit	ANALYTICAL_METHOD	Depth Interval	RESULT_UNITS	Analyte Group	Analyte Name	ANALYTE_ID	dw_Analyte Value	dw_MDL	dw_MRL	DETECTED
BAI-24A-013-00	Firing Line	1	6010B	0-0.5	MG_KG	Inorganic	Selenium	7782-49-2	0.58	0.17	0.58	N
BAI-24A-013-00	Firing Line	1	7470A	0-0.5	MG_KG	Inorganic	Mercury	7439-97-6	0.26	0.0066	0.023	Y
BAI-24A-013-00	Firing Line	1	8330	0-0.5	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	232.5581395	25.58139535	232.5581395	N
BAI-24A-013-00	Firing Line	1	8330	0-0.5	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	232.5581395	50	232.5581395	N
BAI-24A-013-00	Firing Line	1	8330	0-0.5	UG_KG	Explosive	RDX	121-82-4	232.5581395	12.79069767	232.5581395	N
BAI-24A-013-00	Firing Line	1	8330	0-0.5	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	232.5581395	60.46511628	232.5581395	N
BAI-24A-013-00	Firing Line	1	8330	0-0.5	UG_KG	Explosive	HMX	2691-41-0	232.5581395	13.95348837	232.5581395	N
BAI-24A-013-00	Firing Line	1	8330	0-0.5	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	232.5581395	25.58139535	232.5581395	N
BAI-24A-013-00	Firing Line	1	8330	0-0.5	UG_KG	Explosive	Tetryl	479-45-8	232.5581395	66.27906977	232.5581395	N
BAI-24A-013-00	Firing Line	1	8330	0-0.5	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	232.5581395	59.30232558	232.5581395	N
BAI-24A-013-00	Firing Line	1	8330	0-0.5	UG_KG	Explosive	2-Nitrotoluene	88-72-2	465.1162791	12.79069767	465.1162791	N
BAI-24A-013-00	Firing Line	1	8330	0-0.5	UG_KG	SVOC	Nitrobenzene	98-95-3	232.5581395	31.39534884	232.5581395	N
BAI-24A-013-00	Firing Line	1	8330	0-0.5	UG_KG	Explosive	3-Nitrotoluene	99-08-1	465.1162791	22.09302326	465.1162791	N
BAI-24A-013-00	Firing Line	1	8330	0-0.5	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	232.5581395	27.90697674	232.5581395	N
BAI-24A-013-00	Firing Line	1	8330	0-0.5	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	232.5581395	12.79069767	232.5581395	N
BAI-24A-013-00	Firing Line	1	8330	0-0.5	UG_KG	Explosive	4-Nitrotoluene	99-99-0	465.1162791	27.90697674	465.1162791	N
BAI-24A-013-00	Firing Line	1	D2216	0-0.5	PCT	Other	Percent Moisture	-86	16.27906977	0	1.162790698	Y
BAI-24A-013-18	Firing Line	1	6010B	1.5-2	MG_KG	Inorganic	Lead	7439-92-1	9.3	0.086	0.3	Y
BAI-24A-013-18	Firing Line	1	6010B	1.5-2	MG_KG	Inorganic	Molybdenum	7439-98-7	0.63	0.24	0.71	Y
BAI-24A-013-18	Firing Line	1	6010B	1.5-2	MG_KG	Inorganic	Nickel	7440-02-0	20	0.24	0.71	Y
BAI-24A-013-18	Firing Line	1	6010B	1.5-2	MG_KG	Inorganic	Silver	7440-22-4	0.3	0.088	0.3	N
BAI-24A-013-18	Firing Line	1	6010B	1.5-2	MG_KG	Inorganic	Thallium	7440-28-0	0.6	0.19	0.6	N
BAI-24A-013-18	Firing Line	1	6010B	1.5-2	MG_KG	Inorganic	Antimony	7440-36-0	2.9	0.19	0.6	Y
BAI-24A-013-18	Firing Line	1	6010B	1.5-2	MG_KG	Inorganic	Arsenic	7440-38-2	7.2	0.098	0.3	Y
BAI-24A-013-18	Firing Line	1	6010B	1.5-2	MG_KG	Inorganic	Barium	7440-39-3	140	0.12	0.35	Y
BAI-24A-013-18	Firing Line	1	6010B	1.5-2	MG_KG	Inorganic	Beryllium	7440-41-7	0.68	0.024	0.12	Y
BAI-24A-013-18	Firing Line	1	6010B	1.5-2	MG_KG	Inorganic	Cadmium	7440-43-9	0.34	0.059	0.3	Y
BAI-24A-013-18	Firing Line	1	6010B	1.5-2	MG_KG	Inorganic	Chromium	7440-47-3	25	0.12	0.35	Y
BAI-24A-013-18	Firing Line	1	6010B	1.5-2	MG_KG	Inorganic	Cobalt	7440-48-4	11	0.24	0.71	Y
BAI-24A-013-18	Firing Line	1	6010B	1.5-2	MG_KG	Inorganic	Copper	7440-50-8	22	0.12	0.35	Y
BAI-24A-013-18	Firing Line	1	6010B	1.5-2	MG_KG	Inorganic	Vanadium	7440-62-2	53	0.12	0.35	Y
BAI-24A-013-18	Firing Line	1	6010B	1.5-2	MG_KG	Inorganic	Zinc	7440-66-6	230	0.24	1.2	Y
BAI-24A-013-18	Firing Line	1	6010B	1.5-2	MG_KG	Inorganic	Selenium	7782-49-2	0.6	0.17	0.6	N
BAI-24A-013-18	Firing Line	1	7470A	1.5-2	MG_KG	Inorganic	Mercury	7439-97-6	0.016	0.0076	0.024	Y
BAI-24A-013-18	Firing Line	1	8330	1.5-2	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	240.9638554	26.5060241	240.9638554	N
BAI-24A-013-18	Firing Line	1	8330	1.5-2	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	240.9638554	51.80722892	240.9638554	N
BAI-24A-013-18	Firing Line	1	8330	1.5-2	UG_KG	Explosive	RDX	121-82-4	240.9638554	13.25301205	240.9638554	N
BAI-24A-013-18	Firing Line	1	8330	1.5-2	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	240.9638554	61.44578313	240.9638554	N
BAI-24A-013-18	Firing Line	1	8330	1.5-2	UG_KG	Explosive	HMX	2691-41-0	240.9638554	14.45783133	240.9638554	N
BAI-24A-013-18	Firing Line	1	8330	1.5-2	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	240.9638554	26.5060241	240.9638554	N
BAI-24A-013-18	Firing Line	1	8330	1.5-2	UG_KG	Explosive	Tetryl	479-45-8	240.9638554	68.6746988	240.9638554	N
BAI-24A-013-18	Firing Line	1	8330	1.5-2	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	240.9638554	60.24096386	240.9638554	N
BAI-24A-013-18	Firing Line	1	8330	1.5-2	UG_KG	Explosive	2-Nitrotoluene	88-72-2	481.9277108	13.25301205	481.9277108	N
BAI-24A-013-18	Firing Line	1	8330	1.5-2	UG_KG	SVOC	Nitrobenzene	98-95-3	240.9638554	32.53012048	240.9638554	N
BAI-24A-013-18	Firing Line	1	8330	1.5-2	UG_KG	Explosive	3-Nitrotoluene	99-08-1	481.9277108	21.68674699	481.9277108	N
BAI-24A-013-18	Firing Line	1	8330	1.5-2	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	240.9638554	28.91566265	240.9638554	N
BAI-24A-013-18	Firing Line	1	8330	1.5-2	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	240.9638554	13.25301205	240.9638554	N
BAI-24A-013-18	Firing Line	1	8330	1.5-2	UG_KG	Explosive	4-Nitrotoluene	99-99-0	481.9277108	28.91566265	481.9277108	N
BAI-24A-013-18	Firing Line	1	D2216	1.5-2	PCT	Other	Percent Moisture	-86	20.48192771	0	1.204819277	Y

PARENT_SAMPLE_NAME	SI Designation	Exposure Unit	ANALYTICAL_METHOD	Depth Interval	RESULT_UNITS	Analyte Group	Analyte Name	ANALYTE_ID	dw_Analyte Value	dw_MDL	dw_MRL	DETECTED
BAI-24A-014-00	Firing Line	1	6010B	0-0.5	MG_KG	Inorganic	Lead	7439-92-1	13	0.08	0.29	Y
BAI-24A-014-00	Firing Line	1	6010B	0-0.5	MG_KG	Inorganic	Molybdenum	7439-98-7	0.66	0.22	0.66	N
BAI-24A-014-00	Firing Line	1	6010B	0-0.5	MG_KG	Inorganic	Nickel	7440-02-0	18	0.22	0.66	Y
BAI-24A-014-00	Firing Line	1	6010B	0-0.5	MG_KG	Inorganic	Silver	7440-22-4	0.1	0.082	0.29	Y
BAI-24A-014-00	Firing Line	1	6010B	0-0.5	MG_KG	Inorganic	Thallium	7440-28-0	0.57	0.18	0.57	N
BAI-24A-014-00	Firing Line	1	6010B	0-0.5	MG_KG	Inorganic	Antimony	7440-36-0	3.4	0.17	0.57	Y
BAI-24A-014-00	Firing Line	1	6010B	0-0.5	MG_KG	Inorganic	Arsenic	7440-38-2	3.5	0.091	0.29	Y
BAI-24A-014-00	Firing Line	1	6010B	0-0.5	MG_KG	Inorganic	Barium	7440-39-3	150	0.11	0.33	Y
BAI-24A-014-00	Firing Line	1	6010B	0-0.5	MG_KG	Inorganic	Beryllium	7440-41-7	0.42	0.022	0.11	Y
BAI-24A-014-00	Firing Line	1	6010B	0-0.5	MG_KG	Inorganic	Cadmium	7440-43-9	0.36	0.055	0.29	Y
BAI-24A-014-00	Firing Line	1	6010B	0-0.5	MG_KG	Inorganic	Chromium	7440-47-3	22	0.11	0.33	Y
BAI-24A-014-00	Firing Line	1	6010B	0-0.5	MG_KG	Inorganic	Cobalt	7440-48-4	9.2	0.22	0.66	Y
BAI-24A-014-00	Firing Line	1	6010B	0-0.5	MG_KG	Inorganic	Copper	7440-50-8	15	0.11	0.33	Y
BAI-24A-014-00	Firing Line	1	6010B	0-0.5	MG_KG	Inorganic	Vanadium	7440-62-2	44	0.11	0.33	Y
BAI-24A-014-00	Firing Line	1	6010B	0-0.5	MG_KG	Inorganic	Zinc	7440-66-6	400	0.22	1.1	Y
BAI-24A-014-00	Firing Line	1	6010B	0-0.5	MG_KG	Inorganic	Selenium	7782-49-2	0.57	0.16	0.57	N
BAI-24A-014-00	Firing Line	1	7470A	0-0.5	MG_KG	Inorganic	Mercury	7439-97-6	0.21	0.0068	0.023	Y
BAI-24A-014-00	Firing Line	1	8330	0-0.5	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	229.8850575	25.28735632	229.8850575	N
BAI-24A-014-00	Firing Line	1	8330	0-0.5	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	229.8850575	49.42528736	229.8850575	N
BAI-24A-014-00	Firing Line	1	8330	0-0.5	UG_KG	Explosive	RDX	121-82-4	229.8850575	12.64367816	229.8850575	N
BAI-24A-014-00	Firing Line	1	8330	0-0.5	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	229.8850575	59.77011494	229.8850575	N
BAI-24A-014-00	Firing Line	1	8330	0-0.5	UG_KG	Explosive	HMX	2691-41-0	229.8850575	13.79310345	229.8850575	N
BAI-24A-014-00	Firing Line	1	8330	0-0.5	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	229.8850575	25.28735632	229.8850575	N
BAI-24A-014-00	Firing Line	1	8330	0-0.5	UG_KG	Explosive	Tetryl	479-45-8	229.8850575	65.51724138	229.8850575	N
BAI-24A-014-00	Firing Line	1	8330	0-0.5	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	229.8850575	58.62068966	229.8850575	N
BAI-24A-014-00	Firing Line	1	8330	0-0.5	UG_KG	Explosive	2-Nitrotoluene	88-72-2	459.7701149	12.64367816	459.7701149	N
BAI-24A-014-00	Firing Line	1	8330	0-0.5	UG_KG	SVOC	Nitrobenzene	98-95-3	229.8850575	31.03448276	229.8850575	N
BAI-24A-014-00	Firing Line	1	8330	0-0.5	UG_KG	Explosive	3-Nitrotoluene	99-08-1	459.7701149	21.83908046	459.7701149	N
BAI-24A-014-00	Firing Line	1	8330	0-0.5	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	229.8850575	27.5862069	229.8850575	N
BAI-24A-014-00	Firing Line	1	8330	0-0.5	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	229.8850575	12.64367816	229.8850575	N
BAI-24A-014-00	Firing Line	1	8330	0-0.5	UG_KG	Explosive	4-Nitrotoluene	99-99-0	459.7701149	27.5862069	459.7701149	N
BAI-24A-014-00	Firing Line	1	D2216	0-0.5	PCT	Other	Percent Moisture	-86	14.94252874	0	1.149425287	Y
BAI-24A-014-18	Firing Line	1	6010B	1.5-2	MG_KG	Inorganic	Lead	7439-92-1	4.5	0.081	0.28	Y
BAI-24A-014-18	Firing Line	1	6010B	1.5-2	MG_KG	Inorganic	Molybdenum	7439-98-7	0.28	0.22	0.66	Y
BAI-24A-014-18	Firing Line	1	6010B	1.5-2	MG_KG	Inorganic	Nickel	7440-02-0	15	0.22	0.66	Y
BAI-24A-014-18	Firing Line	1	6010B	1.5-2	MG_KG	Inorganic	Silver	7440-22-4	0.28	0.082	0.28	N
BAI-24A-014-18	Firing Line	1	6010B	1.5-2	MG_KG	Inorganic	Thallium	7440-28-0	0.57	0.18	0.57	N
BAI-24A-014-18	Firing Line	1	6010B	1.5-2	MG_KG	Inorganic	Antimony	7440-36-0	3	0.18	0.57	Y
BAI-24A-014-18	Firing Line	1	6010B	1.5-2	MG_KG	Inorganic	Arsenic	7440-38-2	3.8	0.092	0.28	Y
BAI-24A-014-18	Firing Line	1	6010B	1.5-2	MG_KG	Inorganic	Barium	7440-39-3	69	0.11	0.33	Y
BAI-24A-014-18	Firing Line	1	6010B	1.5-2	MG_KG	Inorganic	Beryllium	7440-41-7	0.39	0.022	0.11	Y
BAI-24A-014-18	Firing Line	1	6010B	1.5-2	MG_KG	Inorganic	Cadmium	7440-43-9	0.1	0.055	0.28	Y
BAI-24A-014-18	Firing Line	1	6010B	1.5-2	MG_KG	Inorganic	Chromium	7440-47-3	17	0.11	0.33	Y
BAI-24A-014-18	Firing Line	1	6010B	1.5-2	MG_KG	Inorganic	Cobalt	7440-48-4	9.2	0.22	0.66	Y
BAI-24A-014-18	Firing Line	1	6010B	1.5-2	MG_KG	Inorganic	Copper	7440-50-8	8.2	0.11	0.33	Y
BAI-24A-014-18	Firing Line	1	6010B	1.5-2	MG_KG	Inorganic	Vanadium	7440-62-2	30	0.11	0.33	Y
BAI-24A-014-18	Firing Line	1	6010B	1.5-2	MG_KG	Inorganic	Zinc	7440-66-6	59	0.22	1.1	Y
BAI-24A-014-18	Firing Line	1	6010B	1.5-2	MG_KG	Inorganic	Selenium	7782-49-2	0.57	0.16	0.57	N
BAI-24A-014-18	Firing Line	1	7470A	1.5-2	MG_KG	Inorganic	Mercury	7439-97-6	0.054	0.0073	0.023	Y

PARENT_SAMPLE_NAME	SI Designation	Exposure Unit	ANALYTICAL_METHOD	Depth Interval	RESULT_UNITS	Analyte Group	Analyte Name	ANALYTE_ID	dw_Analyte Value	dw_MDL	dw_MRL	DETECTED
BAI-24A-014-18	Firing Line	1	8330	1.5-2	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	227.2727273	25	227.2727273	N
BAI-24A-014-18	Firing Line	1	8330	1.5-2	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	227.2727273	48.86363636	227.2727273	N
BAI-24A-014-18	Firing Line	1	8330	1.5-2	UG_KG	Explosive	RDX	121-82-4	227.2727273	12.5	227.2727273	N
BAI-24A-014-18	Firing Line	1	8330	1.5-2	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	227.2727273	59.09090909	227.2727273	N
BAI-24A-014-18	Firing Line	1	8330	1.5-2	UG_KG	Explosive	HMX	2691-41-0	227.2727273	13.63636364	227.2727273	N
BAI-24A-014-18	Firing Line	1	8330	1.5-2	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	227.2727273	25	227.2727273	N
BAI-24A-014-18	Firing Line	1	8330	1.5-2	UG_KG	Explosive	Tetryl	479-45-8	227.2727273	65.90909091	227.2727273	N
BAI-24A-014-18	Firing Line	1	8330	1.5-2	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	227.2727273	57.95454545	227.2727273	N
BAI-24A-014-18	Firing Line	1	8330	1.5-2	UG_KG	Explosive	2-Nitrotoluene	88-72-2	465.9090909	12.5	465.9090909	N
BAI-24A-014-18	Firing Line	1	8330	1.5-2	UG_KG	SVOC	Nitrobenzene	98-95-3	227.2727273	30.68181818	227.2727273	N
BAI-24A-014-18	Firing Line	1	8330	1.5-2	UG_KG	Explosive	3-Nitrotoluene	99-08-1	465.9090909	21.59090909	465.9090909	N
BAI-24A-014-18	Firing Line	1	8330	1.5-2	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	227.2727273	27.27272727	227.2727273	N
BAI-24A-014-18	Firing Line	1	8330	1.5-2	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	227.2727273	12.5	227.2727273	N
BAI-24A-014-18	Firing Line	1	8330	1.5-2	UG_KG	Explosive	4-Nitrotoluene	99-99-0	465.9090909	27.27272727	465.9090909	N
BAI-24A-014-18	Firing Line	1	D2216	1.5-2	PCT	Other	Percent Moisture	-86	13.63636364	0	1.136363636	Y
BAI-24A-015-00	Firing Line	1	6010B	0-0.5	MG_KG	Inorganic	Lead	7439-92-1	24	0.078	0.29	Y
BAI-24A-015-00	Firing Line	1	6010B	0-0.5	MG_KG	Inorganic	Molybdenum	7439-98-7	0.22	0.21	0.64	Y
BAI-24A-015-00	Firing Line	1	6010B	0-0.5	MG_KG	Inorganic	Nickel	7440-02-0	24	0.21	0.64	Y
BAI-24A-015-00	Firing Line	1	6010B	0-0.5	MG_KG	Inorganic	Silver	7440-22-4	0.13	0.08	0.29	Y
BAI-24A-015-00	Firing Line	1	6010B	0-0.5	MG_KG	Inorganic	Thallium	7440-28-0	0.57	0.17	0.57	N
BAI-24A-015-00	Firing Line	1	6010B	0-0.5	MG_KG	Inorganic	Antimony	7440-36-0	4.2	0.17	0.57	Y
BAI-24A-015-00	Firing Line	1	6010B	0-0.5	MG_KG	Inorganic	Arsenic	7440-38-2	3.6	0.088	0.29	Y
BAI-24A-015-00	Firing Line	1	6010B	0-0.5	MG_KG	Inorganic	Barium	7440-39-3	150	0.11	0.32	Y
BAI-24A-015-00	Firing Line	1	6010B	0-0.5	MG_KG	Inorganic	Beryllium	7440-41-7	0.42	0.021	0.11	Y
BAI-24A-015-00	Firing Line	1	6010B	0-0.5	MG_KG	Inorganic	Cadmium	7440-43-9	0.84	0.053	0.29	Y
BAI-24A-015-00	Firing Line	1	6010B	0-0.5	MG_KG	Inorganic	Chromium	7440-47-3	23	0.11	0.32	Y
BAI-24A-015-00	Firing Line	1	6010B	0-0.5	MG_KG	Inorganic	Cobalt	7440-48-4	11	0.21	0.64	Y
BAI-24A-015-00	Firing Line	1	6010B	0-0.5	MG_KG	Inorganic	Copper	7440-50-8	29	0.11	0.32	Y
BAI-24A-015-00	Firing Line	1	6010B	0-0.5	MG_KG	Inorganic	Vanadium	7440-62-2	55	0.11	0.32	Y
BAI-24A-015-00	Firing Line	1	6010B	0-0.5	MG_KG	Inorganic	Zinc	7440-66-6	2100	2.1	11	Y
BAI-24A-015-00	Firing Line	1	6010B	0-0.5	MG_KG	Inorganic	Selenium	7782-49-2	0.57	0.16	0.57	N
BAI-24A-015-00	Firing Line	1	7470A	0-0.5	MG_KG	Inorganic	Mercury	7439-97-6	0.63	0.0072	0.023	Y
BAI-24A-015-00	Firing Line	1	8330	0-0.5	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	229.8850575	25.28735632	229.8850575	N
BAI-24A-015-00	Firing Line	1	8330	0-0.5	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	229.8850575	49.42528736	229.8850575	N
BAI-24A-015-00	Firing Line	1	8330	0-0.5	UG_KG	Explosive	RDX	121-82-4	229.8850575	12.64367816	229.8850575	N
BAI-24A-015-00	Firing Line	1	8330	0-0.5	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	229.8850575	59.77011494	229.8850575	N
BAI-24A-015-00	Firing Line	1	8330	0-0.5	UG_KG	Explosive	HMX	2691-41-0	229.8850575	13.79310345	229.8850575	N
BAI-24A-015-00	Firing Line	1	8330	0-0.5	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	229.8850575	25.28735632	229.8850575	N
BAI-24A-015-00	Firing Line	1	8330	0-0.5	UG_KG	Explosive	Tetryl	479-45-8	229.8850575	66.66666667	229.8850575	N
BAI-24A-015-00	Firing Line	1	8330	0-0.5	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	229.8850575	58.62068966	229.8850575	N
BAI-24A-015-00	Firing Line	1	8330	0-0.5	UG_KG	Explosive	2-Nitrotoluene	88-72-2	471.2643678	12.64367816	471.2643678	N
BAI-24A-015-00	Firing Line	1	8330	0-0.5	UG_KG	SVOC	Nitrobenzene	98-95-3	229.8850575	31.03448276	229.8850575	N
BAI-24A-015-00	Firing Line	1	8330	0-0.5	UG_KG	Explosive	3-Nitrotoluene	99-08-1	471.2643678	21.83908046	471.2643678	N
BAI-24A-015-00	Firing Line	1	8330	0-0.5	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	229.8850575	27.5862069	229.8850575	N
BAI-24A-015-00	Firing Line	1	8330	0-0.5	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	229.8850575	12.64367816	229.8850575	N
BAI-24A-015-00	Firing Line	1	8330	0-0.5	UG_KG	Explosive	4-Nitrotoluene	99-99-0	471.2643678	27.5862069	471.2643678	N
BAI-24A-015-00	Firing Line	1	D2216	0-0.5	PCT	Other	Percent Moisture	-86	14.94252874	0	1.149425287	Y
BAI-24A-015-18	Firing Line	1	6010B	1.5-2	MG_KG	Inorganic	Lead	7439-92-1	3.7	0.08	0.28	Y
BAI-24A-015-18	Firing Line	1	6010B	1.5-2	MG_KG	Inorganic	Molybdenum	7439-98-7	0.66	0.22	0.66	N

PARENT_SAMPLE_NAME	SI Designation	Exposure Unit	ANALYTICAL_METHOD	Depth Interval	RESULT_UNITS	Analyte Group	Analyte Name	ANALYTE_ID	dw_Analyte Value	dw_MDL	dw_MRL	DETECTED
BAI-24A-015-18	Firing Line	1	6010B	1.5-2	MG_KG	Inorganic	Nickel	7440-02-0	12	0.22	0.66	Y
BAI-24A-015-18	Firing Line	1	6010B	1.5-2	MG_KG	Inorganic	Silver	7440-22-4	0.28	0.082	0.28	N
BAI-24A-015-18	Firing Line	1	6010B	1.5-2	MG_KG	Inorganic	Thallium	7440-28-0	0.57	0.18	0.57	N
BAI-24A-015-18	Firing Line	1	6010B	1.5-2	MG_KG	Inorganic	Antimony	7440-36-0	2.8	0.17	0.57	Y
BAI-24A-015-18	Firing Line	1	6010B	1.5-2	MG_KG	Inorganic	Arsenic	7440-38-2	2.4	0.091	0.28	Y
BAI-24A-015-18	Firing Line	1	6010B	1.5-2	MG_KG	Inorganic	Barium	7440-39-3	80	0.11	0.33	Y
BAI-24A-015-18	Firing Line	1	6010B	1.5-2	MG_KG	Inorganic	Beryllium	7440-41-7	0.36	0.022	0.11	Y
BAI-24A-015-18	Firing Line	1	6010B	1.5-2	MG_KG	Inorganic	Cadmium	7440-43-9	0.11	0.055	0.28	Y
BAI-24A-015-18	Firing Line	1	6010B	1.5-2	MG_KG	Inorganic	Chromium	7440-47-3	19	0.11	0.33	Y
BAI-24A-015-18	Firing Line	1	6010B	1.5-2	MG_KG	Inorganic	Cobalt	7440-48-4	7	0.22	0.66	Y
BAI-24A-015-18	Firing Line	1	6010B	1.5-2	MG_KG	Inorganic	Copper	7440-50-8	4.9	0.11	0.33	Y
BAI-24A-015-18	Firing Line	1	6010B	1.5-2	MG_KG	Inorganic	Vanadium	7440-62-2	32	0.11	0.33	Y
BAI-24A-015-18	Firing Line	1	6010B	1.5-2	MG_KG	Inorganic	Zinc	7440-66-6	58	0.22	1.1	Y
BAI-24A-015-18	Firing Line	1	6010B	1.5-2	MG_KG	Inorganic	Selenium	7782-49-2	0.57	0.16	0.57	N
BAI-24A-015-18	Firing Line	1	7470A	1.5-2	MG_KG	Inorganic	Mercury	7439-97-6	0.023	0.0073	0.023	N
BAI-24A-015-18	Firing Line	1	8330	1.5-2	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	227.2727273	25	227.2727273	N
BAI-24A-015-18	Firing Line	1	8330	1.5-2	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	227.2727273	48.86363636	227.2727273	N
BAI-24A-015-18	Firing Line	1	8330	1.5-2	UG_KG	Explosive	RDX	121-82-4	227.2727273	12.5	227.2727273	N
BAI-24A-015-18	Firing Line	1	8330	1.5-2	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	227.2727273	57.95454545	227.2727273	N
BAI-24A-015-18	Firing Line	1	8330	1.5-2	UG_KG	Explosive	HMX	2691-41-0	227.2727273	13.63636364	227.2727273	N
BAI-24A-015-18	Firing Line	1	8330	1.5-2	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	227.2727273	25	227.2727273	N
BAI-24A-015-18	Firing Line	1	8330	1.5-2	UG_KG	Explosive	Tetryl	479-45-8	227.2727273	64.77272727	227.2727273	N
BAI-24A-015-18	Firing Line	1	8330	1.5-2	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	227.2727273	56.81818182	227.2727273	N
BAI-24A-015-18	Firing Line	1	8330	1.5-2	UG_KG	Explosive	2-Nitrotoluene	88-72-2	454.5454545	12.5	454.5454545	N
BAI-24A-015-18	Firing Line	1	8330	1.5-2	UG_KG	SVOC	Nitrobenzene	98-95-3	227.2727273	30.68181818	227.2727273	N
BAI-24A-015-18	Firing Line	1	8330	1.5-2	UG_KG	Explosive	3-Nitrotoluene	99-08-1	454.5454545	20.45454545	454.5454545	N
BAI-24A-015-18	Firing Line	1	8330	1.5-2	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	227.2727273	27.27272727	227.2727273	N
BAI-24A-015-18	Firing Line	1	8330	1.5-2	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	227.2727273	12.5	227.2727273	N
BAI-24A-015-18	Firing Line	1	8330	1.5-2	UG_KG	Explosive	4-Nitrotoluene	99-99-0	454.5454545	27.27272727	454.5454545	N
BAI-24A-015-18	Firing Line	1	D2216	1.5-2	PCT	Other	Percent Moisture	-86	13.63636364	0	1.136363636	Y
BAI-24A-016-00	Firing Line	1	6010B	0-0.5	MG_KG	Inorganic	Lead	7439-92-1	27	0.077	0.28	Y
BAI-24A-016-00	Firing Line	1	6010B	0-0.5	MG_KG	Inorganic	Molybdenum	7439-98-7	0.63	0.21	0.63	N
BAI-24A-016-00	Firing Line	1	6010B	0-0.5	MG_KG	Inorganic	Nickel	7440-02-0	17	0.21	0.63	Y
BAI-24A-016-00	Firing Line	1	6010B	0-0.5	MG_KG	Inorganic	Silver	7440-22-4	0.28	0.079	0.28	N
BAI-24A-016-00	Firing Line	1	6010B	0-0.5	MG_KG	Inorganic	Thallium	7440-28-0	0.57	0.17	0.57	N
BAI-24A-016-00	Firing Line	1	6010B	0-0.5	MG_KG	Inorganic	Antimony	7440-36-0	4	0.17	0.57	Y
BAI-24A-016-00	Firing Line	1	6010B	0-0.5	MG_KG	Inorganic	Arsenic	7440-38-2	3.2	0.087	0.28	Y
BAI-24A-016-00	Firing Line	1	6010B	0-0.5	MG_KG	Inorganic	Barium	7440-39-3	130	0.11	0.32	Y
BAI-24A-016-00	Firing Line	1	6010B	0-0.5	MG_KG	Inorganic	Beryllium	7440-41-7	0.42	0.021	0.11	Y
BAI-24A-016-00	Firing Line	1	6010B	0-0.5	MG_KG	Inorganic	Cadmium	7440-43-9	0.32	0.053	0.28	Y
BAI-24A-016-00	Firing Line	1	6010B	0-0.5	MG_KG	Inorganic	Chromium	7440-47-3	21	0.11	0.32	Y
BAI-24A-016-00	Firing Line	1	6010B	0-0.5	MG_KG	Inorganic	Cobalt	7440-48-4	9.5	0.21	0.63	Y
BAI-24A-016-00	Firing Line	1	6010B	0-0.5	MG_KG	Inorganic	Copper	7440-50-8	15	0.11	0.32	Y
BAI-24A-016-00	Firing Line	1	6010B	0-0.5	MG_KG	Inorganic	Vanadium	7440-62-2	45	0.11	0.32	Y
BAI-24A-016-00	Firing Line	1	6010B	0-0.5	MG_KG	Inorganic	Zinc	7440-66-6	300	0.21	1.1	Y
BAI-24A-016-00	Firing Line	1	6010B	0-0.5	MG_KG	Inorganic	Selenium	7782-49-2	0.57	0.15	0.57	N
BAI-24A-016-00	Firing Line	1	7470A	0-0.5	MG_KG	Inorganic	Mercury	7439-97-6	0.095	0.0073	0.023	Y
BAI-24A-016-00	Firing Line	1	8330	0-0.5	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	238.6363636	26.13636364	238.6363636	N
BAI-24A-016-00	Firing Line	1	8330	0-0.5	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	238.6363636	50	238.6363636	N

Attachment B-4.2
Processed Data

PARENT_SAMPLE_NAME	SI Designation	Exposure Unit	ANALYTICAL_METHOD	Depth Interval	RESULT_UNITS	Analyte Group	Analyte Name	ANALYTE_ID	dw_Analyte Value	dw_MDL	dw_MRL	DETECTED
BAI-24A-016-00	Firing Line	1	8330	0-0.5	UG_KG	Explosive	RDX	121-82-4	238.6363636	12.5	238.6363636	N
BAI-24A-016-00	Firing Line	1	8330	0-0.5	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	238.6363636	60.22727273	238.6363636	N
BAI-24A-016-00	Firing Line	1	8330	0-0.5	UG_KG	Explosive	HMX	2691-41-0	238.6363636	13.63636364	238.6363636	N
BAI-24A-016-00	Firing Line	1	8330	0-0.5	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	238.6363636	25	238.6363636	N
BAI-24A-016-00	Firing Line	1	8330	0-0.5	UG_KG	Explosive	Tetryl	479-45-8	238.6363636	65.90909091	238.6363636	N
BAI-24A-016-00	Firing Line	1	8330	0-0.5	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	238.6363636	57.95454545	238.6363636	N
BAI-24A-016-00	Firing Line	1	8330	0-0.5	UG_KG	Explosive	2-Nitrotoluene	88-72-2	465.9090909	12.5	465.9090909	N
BAI-24A-016-00	Firing Line	1	8330	0-0.5	UG_KG	SVOC	Nitrobenzene	98-95-3	238.6363636	31.81818182	238.6363636	N
BAI-24A-016-00	Firing Line	1	8330	0-0.5	UG_KG	Explosive	3-Nitrotoluene	99-08-1	465.9090909	21.59090909	465.9090909	N
BAI-24A-016-00	Firing Line	1	8330	0-0.5	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	238.6363636	27.27272727	238.6363636	N
BAI-24A-016-00	Firing Line	1	8330	0-0.5	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	238.6363636	12.5	238.6363636	N
BAI-24A-016-00	Firing Line	1	8330	0-0.5	UG_KG	Explosive	4-Nitrotoluene	99-99-0	465.9090909	28.40909091	465.9090909	N
BAI-24A-016-00	Firing Line	1	D2216	0-0.5	PCT	Other	Percent Moisture	-86	13.63636364	0	1.136363636	Y
BAI-24A-016-18	Firing Line	1	6010B	1.5-2	MG_KG	Inorganic	Lead	7439-92-1	8.4	0.079	0.28	Y
BAI-24A-016-18	Firing Line	1	6010B	1.5-2	MG_KG	Inorganic	Molybdenum	7439-98-7	0.24	0.22	0.65	Y
BAI-24A-016-18	Firing Line	1	6010B	1.5-2	MG_KG	Inorganic	Nickel	7440-02-0	16	0.22	0.65	Y
BAI-24A-016-18	Firing Line	1	6010B	1.5-2	MG_KG	Inorganic	Silver	7440-22-4	0.083	0.081	0.28	Y
BAI-24A-016-18	Firing Line	1	6010B	1.5-2	MG_KG	Inorganic	Thallium	7440-28-0	0.56	0.18	0.56	N
BAI-24A-016-18	Firing Line	1	6010B	1.5-2	MG_KG	Inorganic	Antimony	7440-36-0	3.2	0.17	0.56	Y
BAI-24A-016-18	Firing Line	1	6010B	1.5-2	MG_KG	Inorganic	Arsenic	7440-38-2	3.3	0.09	0.28	Y
BAI-24A-016-18	Firing Line	1	6010B	1.5-2	MG_KG	Inorganic	Barium	7440-39-3	150	0.11	0.32	Y
BAI-24A-016-18	Firing Line	1	6010B	1.5-2	MG_KG	Inorganic	Beryllium	7440-41-7	0.4	0.022	0.11	Y
BAI-24A-016-18	Firing Line	1	6010B	1.5-2	MG_KG	Inorganic	Cadmium	7440-43-9	0.29	0.054	0.28	Y
BAI-24A-016-18	Firing Line	1	6010B	1.5-2	MG_KG	Inorganic	Chromium	7440-47-3	20	0.11	0.32	Y
BAI-24A-016-18	Firing Line	1	6010B	1.5-2	MG_KG	Inorganic	Cobalt	7440-48-4	8.1	0.22	0.65	Y
BAI-24A-016-18	Firing Line	1	6010B	1.5-2	MG_KG	Inorganic	Copper	7440-50-8	11	0.11	0.32	Y
BAI-24A-016-18	Firing Line	1	6010B	1.5-2	MG_KG	Inorganic	Vanadium	7440-62-2	36	0.11	0.32	Y
BAI-24A-016-18	Firing Line	1	6010B	1.5-2	MG_KG	Inorganic	Zinc	7440-66-6	260	0.22	1.1	Y
BAI-24A-016-18	Firing Line	1	6010B	1.5-2	MG_KG	Inorganic	Selenium	7782-49-2	0.56	0.16	0.56	N
BAI-24A-016-18	Firing Line	1	7470A	1.5-2	MG_KG	Inorganic	Mercury	7439-97-6	0.0071	0.0071	0.022	Y
BAI-24A-016-18	Firing Line	1	8330	1.5-2	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	235.9550562	25.84269663	235.9550562	N
BAI-24A-016-18	Firing Line	1	8330	1.5-2	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	235.9550562	49.43820225	235.9550562	N
BAI-24A-016-18	Firing Line	1	8330	1.5-2	UG_KG	Explosive	RDX	121-82-4	235.9550562	12.35955056	235.9550562	N
BAI-24A-016-18	Firing Line	1	8330	1.5-2	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	235.9550562	59.5505618	235.9550562	N
BAI-24A-016-18	Firing Line	1	8330	1.5-2	UG_KG	Explosive	HMX	2691-41-0	235.9550562	13.48314607	235.9550562	N
BAI-24A-016-18	Firing Line	1	8330	1.5-2	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	235.9550562	24.71910112	235.9550562	N
BAI-24A-016-18	Firing Line	1	8330	1.5-2	UG_KG	Explosive	Tetryl	479-45-8	235.9550562	65.16853933	235.9550562	N
BAI-24A-016-18	Firing Line	1	8330	1.5-2	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	235.9550562	57.30337079	235.9550562	N
BAI-24A-016-18	Firing Line	1	8330	1.5-2	UG_KG	Explosive	2-Nitrotoluene	88-72-2	460.6741573	12.35955056	460.6741573	N
BAI-24A-016-18	Firing Line	1	8330	1.5-2	UG_KG	SVOC	Nitrobenzene	98-95-3	235.9550562	30.33707865	235.9550562	N
BAI-24A-016-18	Firing Line	1	8330	1.5-2	UG_KG	Explosive	3-Nitrotoluene	99-08-1	460.6741573	21.34831461	460.6741573	N
BAI-24A-016-18	Firing Line	1	8330	1.5-2	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	235.9550562	26.96629213	235.9550562	N
BAI-24A-016-18	Firing Line	1	8330	1.5-2	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	235.9550562	12.35955056	235.9550562	N
BAI-24A-016-18	Firing Line	1	8330	1.5-2	UG_KG	Explosive	4-Nitrotoluene	99-99-0	460.6741573	26.96629213	460.6741573	N
BAI-24A-016-18	Firing Line	1	D2216	1.5-2	PCT	Other	Percent Moisture	-86	12.35955056	0	1.123595506	Y
BAI-24A-017-00	Firing Line	1	6010B	0-0.5	MG_KG	Inorganic	Lead	7439-92-1	25	0.074	0.27	Y
BAI-24A-017-00	Firing Line	1	6010B	0-0.5	MG_KG	Inorganic	Molybdenum	7439-98-7	0.1775	0.1475	0.4475	Y
BAI-24A-017-00	Firing Line	1	6010B	0-0.5	MG_KG	Inorganic	Nickel	7440-02-0	20.5	0.2	0.605	Y
BAI-24A-017-00	Firing Line	1	6010B	0-0.5	MG_KG	Inorganic	Silver	7440-22-4	0.26	0.0755	0.27	Y

PARENT_SAMPLE_NAME	SI Designation	Exposure Unit	ANALYTICAL_METHOD	Depth Interval	RESULT_UNITS	Analyte Group	Analyte Name	ANALYTE_ID	dw_Analyte Value	dw_MDL	dw_MRL	DETECTED
BAI-24A-017-00	Firing Line	1	6010B	0-0.5	MG_KG	Inorganic	Thallium	7440-28-0	0.54	0.165	0.54	N
BAI-24A-017-00	Firing Line	1	6010B	0-0.5	MG_KG	Inorganic	Antimony	7440-36-0	5.4	0.16	0.54	Y
BAI-24A-017-00	Firing Line	1	6010B	0-0.5	MG_KG	Inorganic	Arsenic	7440-38-2	1.155	0.084	0.27	Y
BAI-24A-017-00	Firing Line	1	6010B	0-0.5	MG_KG	Inorganic	Barium	7440-39-3	58.5	0.1035	0.305	Y
BAI-24A-017-00	Firing Line	1	6010B	0-0.5	MG_KG	Inorganic	Beryllium	7440-41-7	0.325	0.02	0.11	Y
BAI-24A-017-00	Firing Line	1	6010B	0-0.5	MG_KG	Inorganic	Cadmium	7440-43-9	0.335	0.0505	0.27	Y
BAI-24A-017-00	Firing Line	1	6010B	0-0.5	MG_KG	Inorganic	Chromium	7440-47-3	28	0.1035	0.305	Y
BAI-24A-017-00	Firing Line	1	6010B	0-0.5	MG_KG	Inorganic	Cobalt	7440-48-4	16	0.2	0.605	Y
BAI-24A-017-00	Firing Line	1	6010B	0-0.5	MG_KG	Inorganic	Copper	7440-50-8	19	0.1035	0.305	Y
BAI-24A-017-00	Firing Line	1	6010B	0-0.5	MG_KG	Inorganic	Vanadium	7440-62-2	96.5	0.1035	0.305	Y
BAI-24A-017-00	Firing Line	1	6010B	0-0.5	MG_KG	Inorganic	Zinc	7440-66-6	260	0.2	1.1	Y
BAI-24A-017-00	Firing Line	1	6010B	0-0.5	MG_KG	Inorganic	Selenium	7782-49-2	0.54	0.145	0.54	N
BAI-24A-017-00	Firing Line	1	7470A	0-0.5	MG_KG	Inorganic	Mercury	7439-97-6	0.47	0.0062	0.022	Y
BAI-24A-017-00	Firing Line	1	8330	0-0.5	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	216.2162162	28.10810811	216.2162162	N
BAI-24A-017-00	Firing Line	1	8330	0-0.5	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	216.2162162	34.05405405	216.2162162	N
BAI-24A-017-00	Firing Line	1	8330	0-0.5	UG_KG	Explosive	RDX	121-82-4	216.2162162	16.75675676	216.2162162	N
BAI-24A-017-00	Firing Line	1	8330	0-0.5	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	216.2162162	49.18918919	216.2162162	N
BAI-24A-017-00	Firing Line	1	8330	0-0.5	UG_KG	Explosive	HMX	2691-41-0	216.2162162	14.59459459	216.2162162	N
BAI-24A-017-00	Firing Line	1	8330	0-0.5	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	216.2162162	21.62162162	216.2162162	N
BAI-24A-017-00	Firing Line	1	8330	0-0.5	UG_KG	Explosive	Tetryl	479-45-8	216.2162162	60.54054054	216.2162162	N
BAI-24A-017-00	Firing Line	1	8330	0-0.5	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	216.2162162	39.45945946	216.2162162	N
BAI-24A-017-00	Firing Line	1	8330	0-0.5	UG_KG	Explosive	2-Nitrotoluene	88-72-2	427.027027	21.08108108	427.027027	N
BAI-24A-017-00	Firing Line	1	8330	0-0.5	UG_KG	SVOC	Nitrobenzene	98-95-3	216.2162162	23.24324324	216.2162162	N
BAI-24A-017-00	Firing Line	1	8330	0-0.5	UG_KG	Explosive	3-Nitrotoluene	99-08-1	427.027027	31.35135135	427.027027	N
BAI-24A-017-00	Firing Line	1	8330	0-0.5	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	216.2162162	27.56756757	216.2162162	N
BAI-24A-017-00	Firing Line	1	8330	0-0.5	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	216.2162162	8.432432432	216.2162162	N
BAI-24A-017-00	Firing Line	1	8330	0-0.5	UG_KG	Explosive	4-Nitrotoluene	99-99-0	427.027027	28.10810811	427.027027	N
BAI-24A-017-00	Firing Line	1	D2216	0-0.5	PCT	Other	Percent Moisture	-86	8.108108108	0	1.081081081	Y
BAI-24A-017-18	Firing Line	1	6010B	1.5-2	MG_KG	Inorganic	Lead	7439-92-1	8.1	0.08	0.28	Y
BAI-24A-017-18	Firing Line	1	6010B	1.5-2	MG_KG	Inorganic	Molybdenum	7439-98-7	0.65	0.22	0.65	N
BAI-24A-017-18	Firing Line	1	6010B	1.5-2	MG_KG	Inorganic	Nickel	7440-02-0	15	0.22	0.65	Y
BAI-24A-017-18	Firing Line	1	6010B	1.5-2	MG_KG	Inorganic	Silver	7440-22-4	0.12	0.082	0.28	Y
BAI-24A-017-18	Firing Line	1	6010B	1.5-2	MG_KG	Inorganic	Thallium	7440-28-0	0.56	0.18	0.56	N
BAI-24A-017-18	Firing Line	1	6010B	1.5-2	MG_KG	Inorganic	Antimony	7440-36-0	3.3	0.17	0.56	Y
BAI-24A-017-18	Firing Line	1	6010B	1.5-2	MG_KG	Inorganic	Arsenic	7440-38-2	3.6	0.091	0.28	Y
BAI-24A-017-18	Firing Line	1	6010B	1.5-2	MG_KG	Inorganic	Barium	7440-39-3	150	0.11	0.33	Y
BAI-24A-017-18	Firing Line	1	6010B	1.5-2	MG_KG	Inorganic	Beryllium	7440-41-7	0.44	0.022	0.11	Y
BAI-24A-017-18	Firing Line	1	6010B	1.5-2	MG_KG	Inorganic	Cadmium	7440-43-9	0.19	0.055	0.28	Y
BAI-24A-017-18	Firing Line	1	6010B	1.5-2	MG_KG	Inorganic	Chromium	7440-47-3	20	0.11	0.33	Y
BAI-24A-017-18	Firing Line	1	6010B	1.5-2	MG_KG	Inorganic	Cobalt	7440-48-4	8.5	0.22	0.65	Y
BAI-24A-017-18	Firing Line	1	6010B	1.5-2	MG_KG	Inorganic	Copper	7440-50-8	10	0.11	0.33	Y
BAI-24A-017-18	Firing Line	1	6010B	1.5-2	MG_KG	Inorganic	Vanadium	7440-62-2	36	0.11	0.33	Y
BAI-24A-017-18	Firing Line	1	6010B	1.5-2	MG_KG	Inorganic	Zinc	7440-66-6	100	0.22	1.1	Y
BAI-24A-017-18	Firing Line	1	6010B	1.5-2	MG_KG	Inorganic	Selenium	7782-49-2	0.56	0.16	0.56	N
BAI-24A-017-18	Firing Line	1	7470A	1.5-2	MG_KG	Inorganic	Mercury	7439-97-6	0.024	0.0075	0.024	N
BAI-24A-017-18	Firing Line	1	8330	1.5-2	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	224.7191011	24.71910112	224.7191011	N
BAI-24A-017-18	Firing Line	1	8330	1.5-2	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	224.7191011	48.31460674	224.7191011	N
BAI-24A-017-18	Firing Line	1	8330	1.5-2	UG_KG	Explosive	RDX	121-82-4	224.7191011	12.35955056	224.7191011	N
BAI-24A-017-18	Firing Line	1	8330	1.5-2	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	224.7191011	58.42696629	224.7191011	N

PARENT_SAMPLE_NAME	SI Designation	Exposure Unit	ANALYTICAL_METHOD	Depth Interval	RESULT_UNITS	Analyte Group	Analyte Name	ANALYTE_ID	dw_Analyte Value	dw_MDL	dw_MRL	DETECTED
BAI-24A-017-18	Firing Line	1	8330	1.5-2	UG_KG	Explosive	HMX	2691-41-0	224.7191011	13.48314607	224.7191011	N
BAI-24A-017-18	Firing Line	1	8330	1.5-2	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	224.7191011	24.71910112	224.7191011	N
BAI-24A-017-18	Firing Line	1	8330	1.5-2	UG_KG	Explosive	Tetryl	479-45-8	224.7191011	64.04494382	224.7191011	N
BAI-24A-017-18	Firing Line	1	8330	1.5-2	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	224.7191011	57.30337079	224.7191011	N
BAI-24A-017-18	Firing Line	1	8330	1.5-2	UG_KG	Explosive	2-Nitrotoluene	88-72-2	460.6741573	12.35955056	460.6741573	N
BAI-24A-017-18	Firing Line	1	8330	1.5-2	UG_KG	SVOC	Nitrobenzene	98-95-3	224.7191011	30.33707865	224.7191011	N
BAI-24A-017-18	Firing Line	1	8330	1.5-2	UG_KG	Explosive	3-Nitrotoluene	99-08-1	460.6741573	21.34831461	460.6741573	N
BAI-24A-017-18	Firing Line	1	8330	1.5-2	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	224.7191011	26.96629213	224.7191011	N
BAI-24A-017-18	Firing Line	1	8330	1.5-2	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	224.7191011	12.35955056	224.7191011	N
BAI-24A-017-18	Firing Line	1	8330	1.5-2	UG_KG	Explosive	4-Nitrotoluene	99-99-0	460.6741573	26.96629213	460.6741573	N
BAI-24A-017-18	Firing Line	1	D2216	1.5-2	PCT	Other	Percent Moisture	-86	12.35955056	0	1.123595506	Y
BAI-24A-019-00	Range Floor	1	6010B	0-0.5	MG_KG	Inorganic	Lead	7439-92-1	21	0.08	0.29	Y
BAI-24A-019-00	Range Floor	1	6010B	0-0.5	MG_KG	Inorganic	Molybdenum	7439-98-7	0.49	0.22	0.65	Y
BAI-24A-019-00	Range Floor	1	6010B	0-0.5	MG_KG	Inorganic	Nickel	7440-02-0	23	0.22	0.65	Y
BAI-24A-019-00	Range Floor	1	6010B	0-0.5	MG_KG	Inorganic	Silver	7440-22-4	0.29	0.081	0.29	N
BAI-24A-019-00	Range Floor	1	6010B	0-0.5	MG_KG	Inorganic	Thallium	7440-28-0	0.59	0.18	0.59	N
BAI-24A-019-00	Range Floor	1	6010B	0-0.5	MG_KG	Inorganic	Antimony	7440-36-0	3.6	0.17	0.59	Y
BAI-24A-019-00	Range Floor	1	6010B	0-0.5	MG_KG	Inorganic	Arsenic	7440-38-2	3.6	0.09	0.29	Y
BAI-24A-019-00	Range Floor	1	6010B	0-0.5	MG_KG	Inorganic	Barium	7440-39-3	150	0.11	0.33	Y
BAI-24A-019-00	Range Floor	1	6010B	0-0.5	MG_KG	Inorganic	Beryllium	7440-41-7	0.44	0.022	0.12	Y
BAI-24A-019-00	Range Floor	1	6010B	0-0.5	MG_KG	Inorganic	Cadmium	7440-43-9	0.29	0.054	0.29	Y
BAI-24A-019-00	Range Floor	1	6010B	0-0.5	MG_KG	Inorganic	Chromium	7440-47-3	23	0.11	0.33	Y
BAI-24A-019-00	Range Floor	1	6010B	0-0.5	MG_KG	Inorganic	Cobalt	7440-48-4	11	0.22	0.65	Y
BAI-24A-019-00	Range Floor	1	6010B	0-0.5	MG_KG	Inorganic	Copper	7440-50-8	20	0.11	0.33	Y
BAI-24A-019-00	Range Floor	1	6010B	0-0.5	MG_KG	Inorganic	Vanadium	7440-62-2	40	0.11	0.33	Y
BAI-24A-019-00	Range Floor	1	6010B	0-0.5	MG_KG	Inorganic	Zinc	7440-66-6	200	0.22	1.2	Y
BAI-24A-019-00	Range Floor	1	6010B	0-0.5	MG_KG	Inorganic	Selenium	7782-49-2	0.59	0.16	0.59	N
BAI-24A-019-00	Range Floor	1	7470A	0-0.5	MG_KG	Inorganic	Mercury	7439-97-6	0.053	0.0075	0.024	Y
BAI-24A-019-00	Range Floor	1	8330	0-0.5	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	235.2941176	15.29411765	235.2941176	N
BAI-24A-019-00	Range Floor	1	8330	0-0.5	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	235.2941176	22.35294118	235.2941176	N
BAI-24A-019-00	Range Floor	1	8330	0-0.5	UG_KG	Explosive	RDX	121-82-4	235.2941176	45.88235294	235.2941176	N
BAI-24A-019-00	Range Floor	1	8330	0-0.5	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	235.2941176	32.94117647	235.2941176	N
BAI-24A-019-00	Range Floor	1	8330	0-0.5	UG_KG	Explosive	HMX	2691-41-0	235.2941176	30.58823529	235.2941176	N
BAI-24A-019-00	Range Floor	1	8330	0-0.5	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	235.2941176	30.58823529	235.2941176	N
BAI-24A-019-00	Range Floor	1	8330	0-0.5	UG_KG	Explosive	Tetryl	479-45-8	235.2941176	76.47058824	235.2941176	N
BAI-24A-019-00	Range Floor	1	8330	0-0.5	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	235.2941176	21.17647059	235.2941176	N
BAI-24A-019-00	Range Floor	1	8330	0-0.5	UG_KG	Explosive	2-Nitrotoluene	88-72-2	470.5882353	18.82352941	470.5882353	N
BAI-24A-019-00	Range Floor	1	8330	0-0.5	UG_KG	SVOC	Nitrobenzene	98-95-3	235.2941176	21.17647059	235.2941176	N
BAI-24A-019-00	Range Floor	1	8330	0-0.5	UG_KG	Explosive	3-Nitrotoluene	99-08-1	470.5882353	71.76470588	470.5882353	N
BAI-24A-019-00	Range Floor	1	8330	0-0.5	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	235.2941176	41.17647059	235.2941176	N
BAI-24A-019-00	Range Floor	1	8330	0-0.5	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	235.2941176	23.52941176	235.2941176	N
BAI-24A-019-00	Range Floor	1	8330	0-0.5	UG_KG	Explosive	4-Nitrotoluene	99-99-0	470.5882353	36.47058824	470.5882353	N
BAI-24A-019-00	Range Floor	1	D2216	0-0.5	PCT	Other	Percent Moisture	-86	17.64705882	0	1.176470588	Y
BAI-24A-019-18	Range Floor	1	6010B	1.5-2	MG_KG	Inorganic	Lead	7439-92-1	8.1	0.083	0.29	Y
BAI-24A-019-18	Range Floor	1	6010B	1.5-2	MG_KG	Inorganic	Molybdenum	7439-98-7	0.25	0.23	0.68	Y
BAI-24A-019-18	Range Floor	1	6010B	1.5-2	MG_KG	Inorganic	Nickel	7440-02-0	16	0.23	0.68	Y
BAI-24A-019-18	Range Floor	1	6010B	1.5-2	MG_KG	Inorganic	Silver	7440-22-4	0.29	0.085	0.29	N
BAI-24A-019-18	Range Floor	1	6010B	1.5-2	MG_KG	Inorganic	Thallium	7440-28-0	0.57	0.19	0.57	N
BAI-24A-019-18	Range Floor	1	6010B	1.5-2	MG_KG	Inorganic	Antimony	7440-36-0	2.2	0.18	0.57	Y

PARENT_SAMPLE_NAME	SI Designation	Exposure Unit	ANALYTICAL_METHOD	Depth Interval	RESULT_UNITS	Analyte Group	Analyte Name	ANALYTE_ID	dw_Analyte Value	dw_MDL	dw_MRL	DETECTED
BAI-24A-019-18	Range Floor	1	6010B	1.5-2	MG_KG	Inorganic	Arsenic	7440-38-2	3.6	0.094	0.29	Y
BAI-24A-019-18	Range Floor	1	6010B	1.5-2	MG_KG	Inorganic	Barium	7440-39-3	140	0.11	0.34	Y
BAI-24A-019-18	Range Floor	1	6010B	1.5-2	MG_KG	Inorganic	Beryllium	7440-41-7	0.41	0.023	0.11	Y
BAI-24A-019-18	Range Floor	1	6010B	1.5-2	MG_KG	Inorganic	Cadmium	7440-43-9	0.22	0.057	0.29	Y
BAI-24A-019-18	Range Floor	1	6010B	1.5-2	MG_KG	Inorganic	Chromium	7440-47-3	16	0.11	0.34	Y
BAI-24A-019-18	Range Floor	1	6010B	1.5-2	MG_KG	Inorganic	Cobalt	7440-48-4	8.4	0.23	0.68	Y
BAI-24A-019-18	Range Floor	1	6010B	1.5-2	MG_KG	Inorganic	Copper	7440-50-8	13	0.11	0.34	Y
BAI-24A-019-18	Range Floor	1	6010B	1.5-2	MG_KG	Inorganic	Vanadium	7440-62-2	31	0.11	0.34	Y
BAI-24A-019-18	Range Floor	1	6010B	1.5-2	MG_KG	Inorganic	Zinc	7440-66-6	390	0.23	1.1	Y
BAI-24A-019-18	Range Floor	1	6010B	1.5-2	MG_KG	Inorganic	Selenium	7782-49-2	0.57	0.17	0.57	N
BAI-24A-019-18	Range Floor	1	7470A	1.5-2	MG_KG	Inorganic	Mercury	7439-97-6	0.012	0.0075	0.024	Y
BAI-24A-019-18	Range Floor	1	8330	1.5-2	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	229.8850575	14.94252874	229.8850575	N
BAI-24A-019-18	Range Floor	1	8330	1.5-2	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	229.8850575	21.83908046	229.8850575	N
BAI-24A-019-18	Range Floor	1	8330	1.5-2	UG_KG	Explosive	RDX	121-82-4	229.8850575	44.82758621	229.8850575	N
BAI-24A-019-18	Range Floor	1	8330	1.5-2	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	229.8850575	32.18390805	229.8850575	N
BAI-24A-019-18	Range Floor	1	8330	1.5-2	UG_KG	Explosive	HMX	2691-41-0	229.8850575	29.88505747	229.8850575	N
BAI-24A-019-18	Range Floor	1	8330	1.5-2	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	229.8850575	29.88505747	229.8850575	N
BAI-24A-019-18	Range Floor	1	8330	1.5-2	UG_KG	Explosive	Tetryl	479-45-8	229.8850575	74.71264368	229.8850575	N
BAI-24A-019-18	Range Floor	1	8330	1.5-2	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	229.8850575	20.68965517	229.8850575	N
BAI-24A-019-18	Range Floor	1	8330	1.5-2	UG_KG	Explosive	2-Nitrotoluene	88-72-2	448.2758621	18.3908046	448.2758621	N
BAI-24A-019-18	Range Floor	1	8330	1.5-2	UG_KG	SVOC	Nitrobenzene	98-95-3	229.8850575	20.68965517	229.8850575	N
BAI-24A-019-18	Range Floor	1	8330	1.5-2	UG_KG	Explosive	3-Nitrotoluene	99-08-1	448.2758621	68.96551724	448.2758621	N
BAI-24A-019-18	Range Floor	1	8330	1.5-2	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	229.8850575	40.22988506	229.8850575	N
BAI-24A-019-18	Range Floor	1	8330	1.5-2	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	229.8850575	21.83908046	229.8850575	N
BAI-24A-019-18	Range Floor	1	8330	1.5-2	UG_KG	Explosive	4-Nitrotoluene	99-99-0	448.2758621	34.48275862	448.2758621	N
BAI-24A-019-18	Range Floor	1	D2216	1.5-2	PCT	Other	Percent Moisture	-86	14.94252874	0	1.149425287	Y
BAI-24A-02-00	Retaining Wall	2	8270C_SIM	0-0.5	UG_KG	PAH	Anthracene	120-12-7	110	1.2	5.8	Y
BAI-24A-02-00	Retaining Wall	2	8270C_SIM	0-0.5	UG_KG	PAH	Pyrene	129-00-0	90	1.2	5.8	Y
BAI-24A-02-00	Retaining Wall	2	8270C_SIM	0-0.5	UG_KG	PAH	Benzo(g,h,i)perylene	191-24-2	110	1.4	5.8	Y
BAI-24A-02-00	Retaining Wall	2	8270C_SIM	0-0.5	UG_KG	PAH	Indeno(1,2,3-cd)yrene	193-39-5	110	1.2	5.8	Y
BAI-24A-02-00	Retaining Wall	2	8270C_SIM	0-0.5	UG_KG	PAH	Benzo(b)fluoranthene	205-99-2	280	1.2	5.8	Y
BAI-24A-02-00	Retaining Wall	2	8270C_SIM	0-0.5	UG_KG	PAH	Fluoranthene	206-44-0	71	1.2	5.8	Y
BAI-24A-02-00	Retaining Wall	2	8270C_SIM	0-0.5	UG_KG	PAH	Benzo(k)fluoranthene	207-08-9	56	1.2	5.8	Y
BAI-24A-02-00	Retaining Wall	2	8270C_SIM	0-0.5	UG_KG	PAH	Acenaphthylene	208-96-8	47	1.2	5.8	Y
BAI-24A-02-00	Retaining Wall	2	8270C_SIM	0-0.5	UG_KG	PAH	Chrysene	218-01-9	140	1.2	5.8	Y
BAI-24A-02-00	Retaining Wall	2	8270C_SIM	0-0.5	UG_KG	PAH	Benzo(a)pyrene	50-32-8	110	1.2	5.8	Y
BAI-24A-02-00	Retaining Wall	2	8270C_SIM	0-0.5	UG_KG	PAH	Dibenz(a,h)anthracene	53-70-3	32	1.2	5.8	Y
BAI-24A-02-00	Retaining Wall	2	8270C_SIM	0-0.5	UG_KG	PAH	Benzo(a)anthracene	56-55-3	64	1.2	5.8	Y
BAI-24A-02-00	Retaining Wall	2	8270C_SIM	0-0.5	UG_KG	PAH	Acenaphthene	83-32-9	4	1.2	5.8	Y
BAI-24A-02-00	Retaining Wall	2	8270C_SIM	0-0.5	UG_KG	PAH	Phenanthrene	85-01-8	24	1.2	5.8	Y
BAI-24A-02-00	Retaining Wall	2	8270C_SIM	0-0.5	UG_KG	PAH	Fluorene	86-73-7	5.1	1.2	5.8	Y
BAI-24A-02-00	Retaining Wall	2	8270C_SIM	0-0.5	UG_KG	PAH	Naphthalene	91-20-3	2.8	1.2	5.8	Y
BAI-24A-02-00	Retaining Wall	2	D2216	0-0.5	PCT	Other	Percent Moisture	-86	16.27906977	0	1.162790698	Y
BAI-24A-020-00	Range Floor	1	6010B	0-0.5	MG_KG	Inorganic	Lead	7439-92-1	110	0.076	0.27	Y
BAI-24A-020-00	Range Floor	1	6010B	0-0.5	MG_KG	Inorganic	Molybdenum	7439-98-7	0.33	0.21	0.63	Y
BAI-24A-020-00	Range Floor	1	6010B	0-0.5	MG_KG	Inorganic	Nickel	7440-02-0	20	0.21	0.63	Y
BAI-24A-020-00	Range Floor	1	6010B	0-0.5	MG_KG	Inorganic	Silver	7440-22-4	0.3	0.078	0.27	Y
BAI-24A-020-00	Range Floor	1	6010B	0-0.5	MG_KG	Inorganic	Thallium	7440-28-0	0.53	0.17	0.53	N
BAI-24A-020-00	Range Floor	1	6010B	0-0.5	MG_KG	Inorganic	Antimony	7440-36-0	6.7	0.17	0.53	Y

PARENT_SAMPLE_NAME	SI Designation	Exposure Unit	ANALYTICAL_METHOD	Depth Interval	RESULT_UNITS	Analyte Group	Analyte Name	ANALYTE_ID	dw_Analyte Value	dw_MDL	dw_MRL	DETECTED
BAI-24A-020-00	Range Floor	1	6010B	0-0.5	MG_KG	Inorganic	Arsenic	7440-38-2	2.4	0.087	0.27	Y
BAI-24A-020-00	Range Floor	1	6010B	0-0.5	MG_KG	Inorganic	Barium	7440-39-3	13	0.1	0.31	Y
BAI-24A-020-00	Range Floor	1	6010B	0-0.5	MG_KG	Inorganic	Beryllium	7440-41-7	0.25	0.021	0.11	Y
BAI-24A-020-00	Range Floor	1	6010B	0-0.5	MG_KG	Inorganic	Cadmium	7440-43-9	0.23	0.052	0.27	Y
BAI-24A-020-00	Range Floor	1	6010B	0-0.5	MG_KG	Inorganic	Chromium	7440-47-3	27	0.1	0.31	Y
BAI-24A-020-00	Range Floor	1	6010B	0-0.5	MG_KG	Inorganic	Cobalt	7440-48-4	22	0.21	0.63	Y
BAI-24A-020-00	Range Floor	1	6010B	0-0.5	MG_KG	Inorganic	Copper	7440-50-8	46	0.1	0.31	Y
BAI-24A-020-00	Range Floor	1	6010B	0-0.5	MG_KG	Inorganic	Vanadium	7440-62-2	110	0.1	0.31	Y
BAI-24A-020-00	Range Floor	1	6010B	0-0.5	MG_KG	Inorganic	Zinc	7440-66-6	33	0.21	1.1	Y
BAI-24A-020-00	Range Floor	1	6010B	0-0.5	MG_KG	Inorganic	Selenium	7782-49-2	0.53	0.15	0.53	N
BAI-24A-020-00	Range Floor	1	7470A	0-0.5	MG_KG	Inorganic	Mercury	7439-97-6	0.52	0.0067	0.021	Y
BAI-24A-020-00	Range Floor	1	8330	0-0.5	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	212.7659574	13.82978723	212.7659574	N
BAI-24A-020-00	Range Floor	1	8330	0-0.5	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	212.7659574	20.21276596	212.7659574	N
BAI-24A-020-00	Range Floor	1	8330	0-0.5	UG_KG	Explosive	RDX	121-82-4	212.7659574	41.4893617	212.7659574	N
BAI-24A-020-00	Range Floor	1	8330	0-0.5	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	212.7659574	29.78723404	212.7659574	N
BAI-24A-020-00	Range Floor	1	8330	0-0.5	UG_KG	Explosive	HMX	2691-41-0	212.7659574	27.65957447	212.7659574	N
BAI-24A-020-00	Range Floor	1	8330	0-0.5	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	212.7659574	27.65957447	212.7659574	N
BAI-24A-020-00	Range Floor	1	8330	0-0.5	UG_KG	Explosive	Tetryl	479-45-8	212.7659574	69.14893617	212.7659574	N
BAI-24A-020-00	Range Floor	1	8330	0-0.5	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	212.7659574	19.14893617	212.7659574	N
BAI-24A-020-00	Range Floor	1	8330	0-0.5	UG_KG	Explosive	2-Nitrotoluene	88-72-2	425.5319149	17.0212766	425.5319149	N
BAI-24A-020-00	Range Floor	1	8330	0-0.5	UG_KG	SVOC	Nitrobenzene	98-95-3	212.7659574	19.14893617	212.7659574	N
BAI-24A-020-00	Range Floor	1	8330	0-0.5	UG_KG	Explosive	3-Nitrotoluene	99-08-1	425.5319149	63.82978723	425.5319149	N
BAI-24A-020-00	Range Floor	1	8330	0-0.5	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	212.7659574	37.23404255	212.7659574	N
BAI-24A-020-00	Range Floor	1	8330	0-0.5	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	212.7659574	21.27659574	212.7659574	N
BAI-24A-020-00	Range Floor	1	8330	0-0.5	UG_KG	Explosive	4-Nitrotoluene	99-99-0	425.5319149	31.91489362	425.5319149	N
BAI-24A-020-00	Range Floor	1	D2216	0-0.5	PCT	Other	Percent Moisture	-86	6.382978723	0	1.063829787	Y
BAI-24A-020-18	Range Floor	1	6010B	1.5-2	MG_KG	Inorganic	Lead	7439-92-1	3.4	0.075	0.28	Y
BAI-24A-020-18	Range Floor	1	6010B	1.5-2	MG_KG	Inorganic	Molybdenum	7439-98-7	0.23	0.21	0.62	Y
BAI-24A-020-18	Range Floor	1	6010B	1.5-2	MG_KG	Inorganic	Nickel	7440-02-0	12	0.21	0.62	Y
BAI-24A-020-18	Range Floor	1	6010B	1.5-2	MG_KG	Inorganic	Silver	7440-22-4	0.28	0.077	0.28	N
BAI-24A-020-18	Range Floor	1	6010B	1.5-2	MG_KG	Inorganic	Thallium	7440-28-0	0.57	0.17	0.57	N
BAI-24A-020-18	Range Floor	1	6010B	1.5-2	MG_KG	Inorganic	Antimony	7440-36-0	2.3	0.16	0.57	Y
BAI-24A-020-18	Range Floor	1	6010B	1.5-2	MG_KG	Inorganic	Arsenic	7440-38-2	2.9	0.086	0.28	Y
BAI-24A-020-18	Range Floor	1	6010B	1.5-2	MG_KG	Inorganic	Barium	7440-39-3	180	0.1	0.31	Y
BAI-24A-020-18	Range Floor	1	6010B	1.5-2	MG_KG	Inorganic	Beryllium	7440-41-7	0.37	0.021	0.11	Y
BAI-24A-020-18	Range Floor	1	6010B	1.5-2	MG_KG	Inorganic	Cadmium	7440-43-9	0.1	0.052	0.28	Y
BAI-24A-020-18	Range Floor	1	6010B	1.5-2	MG_KG	Inorganic	Chromium	7440-47-3	15	0.1	0.31	Y
BAI-24A-020-18	Range Floor	1	6010B	1.5-2	MG_KG	Inorganic	Cobalt	7440-48-4	7.8	0.21	0.62	Y
BAI-24A-020-18	Range Floor	1	6010B	1.5-2	MG_KG	Inorganic	Copper	7440-50-8	7.4	0.1	0.31	Y
BAI-24A-020-18	Range Floor	1	6010B	1.5-2	MG_KG	Inorganic	Vanadium	7440-62-2	31	0.1	0.31	Y
BAI-24A-020-18	Range Floor	1	6010B	1.5-2	MG_KG	Inorganic	Zinc	7440-66-6	43	0.21	1.1	Y
BAI-24A-020-18	Range Floor	1	6010B	1.5-2	MG_KG	Inorganic	Selenium	7782-49-2	0.57	0.15	0.57	N
BAI-24A-020-18	Range Floor	1	7470A	1.5-2	MG_KG	Inorganic	Mercury	7439-97-6	0.023	0.0073	0.023	N
BAI-24A-020-18	Range Floor	1	8330	1.5-2	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	227.2727273	14.77272727	227.2727273	N
BAI-24A-020-18	Range Floor	1	8330	1.5-2	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	227.2727273	21.59090909	227.2727273	N
BAI-24A-020-18	Range Floor	1	8330	1.5-2	UG_KG	Explosive	RDX	121-82-4	227.2727273	44.31818182	227.2727273	N
BAI-24A-020-18	Range Floor	1	8330	1.5-2	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	227.2727273	31.81818182	227.2727273	N
BAI-24A-020-18	Range Floor	1	8330	1.5-2	UG_KG	Explosive	HMX	2691-41-0	227.2727273	29.54545455	227.2727273	N
BAI-24A-020-18	Range Floor	1	8330	1.5-2	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	227.2727273	29.54545455	227.2727273	N

PARENT_SAMPLE_NAME	SI Designation	Exposure Unit	ANALYTICAL_METHOD	Depth Interval	RESULT_UNITS	Analyte Group	Analyte Name	ANALYTE_ID	dw_Analyte Value	dw_MDL	dw_MRL	DETECTED
BAI-24A-020-18	Range Floor	1	8330	1.5-2	UG_KG	Explosive	Tetryl	479-45-8	227.2727273	73.86363636	227.2727273	N
BAI-24A-020-18	Range Floor	1	8330	1.5-2	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	227.2727273	20.45454545	227.2727273	N
BAI-24A-020-18	Range Floor	1	8330	1.5-2	UG_KG	Explosive	2-Nitrotoluene	88-72-2	443.1818182	18.18181818	443.1818182	N
BAI-24A-020-18	Range Floor	1	8330	1.5-2	UG_KG	SVOC	Nitrobenzene	98-95-3	227.2727273	20.45454545	227.2727273	N
BAI-24A-020-18	Range Floor	1	8330	1.5-2	UG_KG	Explosive	3-Nitrotoluene	99-08-1	443.1818182	68.18181818	443.1818182	N
BAI-24A-020-18	Range Floor	1	8330	1.5-2	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	227.2727273	39.77272727	227.2727273	N
BAI-24A-020-18	Range Floor	1	8330	1.5-2	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	227.2727273	21.59090909	227.2727273	N
BAI-24A-020-18	Range Floor	1	8330	1.5-2	UG_KG	Explosive	4-Nitrotoluene	99-99-0	443.1818182	34.09090909	443.1818182	N
BAI-24A-020-18	Range Floor	1	D2216	1.5-2	PCT	Other	Percent Moisture	-86	13.63636364	0	1.136363636	Y
BAI-24A-021-00	Range Floor	2	6010B	0-0.5	MG_KG	Inorganic	Lead	7439-92-1	29000	7.5	23	Y
BAI-24A-021-00	Range Floor	2	6010B	0-0.5	MG_KG	Inorganic	Molybdenum	7439-98-7	0.47	0.21	0.62	Y
BAI-24A-021-00	Range Floor	2	6010B	0-0.5	MG_KG	Inorganic	Nickel	7440-02-0	39	0.21	0.62	Y
BAI-24A-021-00	Range Floor	2	6010B	0-0.5	MG_KG	Inorganic	Silver	7440-22-4	0.87	0.077	0.26	Y
BAI-24A-021-00	Range Floor	2	6010B	0-0.5	MG_KG	Inorganic	Thallium	7440-28-0	0.53	0.17	0.53	N
BAI-24A-021-00	Range Floor	2	6010B	0-0.5	MG_KG	Inorganic	Antimony	7440-36-0	370	0.16	0.53	Y
BAI-24A-021-00	Range Floor	2	6010B	0-0.5	MG_KG	Inorganic	Arsenic	7440-38-2	120	0.086	0.26	Y
BAI-24A-021-00	Range Floor	2	6010B	0-0.5	MG_KG	Inorganic	Barium	7440-39-3	47	0.1	0.31	Y
BAI-24A-021-00	Range Floor	2	6010B	0-0.5	MG_KG	Inorganic	Beryllium	7440-41-7	0.27	0.021	0.11	Y
BAI-24A-021-00	Range Floor	2	6010B	0-0.5	MG_KG	Inorganic	Cadmium	7440-43-9	0.24	0.052	0.26	Y
BAI-24A-021-00	Range Floor	2	6010B	0-0.5	MG_KG	Inorganic	Chromium	7440-47-3	33	0.1	0.31	Y
BAI-24A-021-00	Range Floor	2	6010B	0-0.5	MG_KG	Inorganic	Cobalt	7440-48-4	23	0.21	0.62	Y
BAI-24A-021-00	Range Floor	2	6010B	0-0.5	MG_KG	Inorganic	Copper	7440-50-8	120	0.1	0.31	Y
BAI-24A-021-00	Range Floor	2	6010B	0-0.5	MG_KG	Inorganic	Vanadium	7440-62-2	81	0.1	0.31	Y
BAI-24A-021-00	Range Floor	2	6010B	0-0.5	MG_KG	Inorganic	Zinc	7440-66-6	76	0.21	1.1	Y
BAI-24A-021-00	Range Floor	2	6010B	0-0.5	MG_KG	Inorganic	Selenium	7782-49-2	0.53	0.15	0.53	N
BAI-24A-021-00	Range Floor	2	7470A	0-0.5	MG_KG	Inorganic	Mercury	7439-97-6	0.25	0.0065	0.021	Y
BAI-24A-021-00	Range Floor	2	8330	0-0.5	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	210.5263158	13.68421053	210.5263158	N
BAI-24A-021-00	Range Floor	2	8330	0-0.5	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	252.6315789	44.21052632	210.5263158	Y
BAI-24A-021-00	Range Floor	2	8330	0-0.5	UG_KG	Explosive	RDX	121-82-4	210.5263158	41.05263158	210.5263158	N
BAI-24A-021-00	Range Floor	2	8330	0-0.5	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	210.5263158	29.47368421	210.5263158	N
BAI-24A-021-00	Range Floor	2	8330	0-0.5	UG_KG	Explosive	HMX	2691-41-0	210.5263158	27.36842105	210.5263158	N
BAI-24A-021-00	Range Floor	2	8330	0-0.5	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	210.5263158	27.36842105	210.5263158	N
BAI-24A-021-00	Range Floor	2	8330	0-0.5	UG_KG	Explosive	Tetryl	479-45-8	210.5263158	68.42105263	210.5263158	N
BAI-24A-021-00	Range Floor	2	8330	0-0.5	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	210.5263158	52.63157895	210.5263158	N
BAI-24A-021-00	Range Floor	2	8330	0-0.5	UG_KG	Explosive	2-Nitrotoluene	88-72-2	421.0526316	11.57894737	421.0526316	N
BAI-24A-021-00	Range Floor	2	8330	0-0.5	UG_KG	SVOC	Nitrobenzene	98-95-3	210.5263158	18.94736842	210.5263158	N
BAI-24A-021-00	Range Floor	2	8330	0-0.5	UG_KG	Explosive	3-Nitrotoluene	99-08-1	421.0526316	63.15789474	421.0526316	N
BAI-24A-021-00	Range Floor	2	8330	0-0.5	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	210.5263158	36.84210526	210.5263158	N
BAI-24A-021-00	Range Floor	2	8330	0-0.5	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	210.5263158	21.05263158	210.5263158	N
BAI-24A-021-00	Range Floor	2	8330	0-0.5	UG_KG	Explosive	4-Nitrotoluene	99-99-0	421.0526316	31.57894737	421.0526316	N
BAI-24A-021-00	Range Floor	2	D2216	0-0.5	PCT	Other	Percent Moisture	-86	5.263157895	0	1.052631579	Y
BAI-24A-021-18	Range Floor	2	6010B	1.5-2	MG_KG	Inorganic	Lead	7439-92-1	13	0.083	0.29	Y
BAI-24A-021-18	Range Floor	2	6010B	1.5-2	MG_KG	Inorganic	Molybdenum	7439-98-7	0.68	0.23	0.68	N
BAI-24A-021-18	Range Floor	2	6010B	1.5-2	MG_KG	Inorganic	Nickel	7440-02-0	12	0.23	0.68	Y
BAI-24A-021-18	Range Floor	2	6010B	1.5-2	MG_KG	Inorganic	Silver	7440-22-4	0.29	0.085	0.29	N
BAI-24A-021-18	Range Floor	2	6010B	1.5-2	MG_KG	Inorganic	Thallium	7440-28-0	0.57	0.19	0.57	N
BAI-24A-021-18	Range Floor	2	6010B	1.5-2	MG_KG	Inorganic	Antimony	7440-36-0	2.6	0.18	0.57	Y
BAI-24A-021-18	Range Floor	2	6010B	1.5-2	MG_KG	Inorganic	Arsenic	7440-38-2	2.8	0.094	0.29	Y
BAI-24A-021-18	Range Floor	2	6010B	1.5-2	MG_KG	Inorganic	Barium	7440-39-3	120	0.11	0.34	Y

PARENT_SAMPLE_NAME	SI Designation	Exposure Unit	ANALYTICAL_METHOD	Depth Interval	RESULT_UNITS	Analyte Group	Analyte Name	ANALYTE_ID	dw_Analyte Value	dw_MDL	dw_MRL	DETECTED
BAI-24A-021-18	Range Floor	2	6010B	1.5-2	MG_KG	Inorganic	Beryllium	7440-41-7	0.41	0.023	0.11	Y
BAI-24A-021-18	Range Floor	2	6010B	1.5-2	MG_KG	Inorganic	Cadmium	7440-43-9	0.1	0.057	0.29	Y
BAI-24A-021-18	Range Floor	2	6010B	1.5-2	MG_KG	Inorganic	Chromium	7440-47-3	14	0.11	0.34	Y
BAI-24A-021-18	Range Floor	2	6010B	1.5-2	MG_KG	Inorganic	Cobalt	7440-48-4	8.5	0.23	0.68	Y
BAI-24A-021-18	Range Floor	2	6010B	1.5-2	MG_KG	Inorganic	Copper	7440-50-8	9.3	0.11	0.34	Y
BAI-24A-021-18	Range Floor	2	6010B	1.5-2	MG_KG	Inorganic	Vanadium	7440-62-2	26	0.11	0.34	Y
BAI-24A-021-18	Range Floor	2	6010B	1.5-2	MG_KG	Inorganic	Zinc	7440-66-6	43	0.23	1.1	Y
BAI-24A-021-18	Range Floor	2	6010B	1.5-2	MG_KG	Inorganic	Selenium	7782-49-2	0.57	0.17	0.57	N
BAI-24A-021-18	Range Floor	2	7470A	1.5-2	MG_KG	Inorganic	Mercury	7439-97-6	0.023	0.0066	0.023	N
BAI-24A-021-18	Range Floor	2	8330	1.5-2	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	229.8850575	14.94252874	229.8850575	N
BAI-24A-021-18	Range Floor	2	8330	1.5-2	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	229.8850575	21.83908046	229.8850575	N
BAI-24A-021-18	Range Floor	2	8330	1.5-2	UG_KG	Explosive	RDX	121-82-4	229.8850575	44.82758621	229.8850575	N
BAI-24A-021-18	Range Floor	2	8330	1.5-2	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	229.8850575	32.18390805	229.8850575	N
BAI-24A-021-18	Range Floor	2	8330	1.5-2	UG_KG	Explosive	HMX	2691-41-0	229.8850575	29.88505747	229.8850575	N
BAI-24A-021-18	Range Floor	2	8330	1.5-2	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	229.8850575	29.88505747	229.8850575	N
BAI-24A-021-18	Range Floor	2	8330	1.5-2	UG_KG	Explosive	Tetryl	479-45-8	229.8850575	74.71264368	229.8850575	N
BAI-24A-021-18	Range Floor	2	8330	1.5-2	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	229.8850575	20.68965517	229.8850575	N
BAI-24A-021-18	Range Floor	2	8330	1.5-2	UG_KG	Explosive	2-Nitrotoluene	88-72-2	459.7701149	18.3908046	459.7701149	N
BAI-24A-021-18	Range Floor	2	8330	1.5-2	UG_KG	SVOC	Nitrobenzene	98-95-3	229.8850575	20.68965517	229.8850575	N
BAI-24A-021-18	Range Floor	2	8330	1.5-2	UG_KG	Explosive	3-Nitrotoluene	99-08-1	459.7701149	68.96551724	459.7701149	N
BAI-24A-021-18	Range Floor	2	8330	1.5-2	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	229.8850575	40.22988506	229.8850575	N
BAI-24A-021-18	Range Floor	2	8330	1.5-2	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	229.8850575	22.98850575	229.8850575	N
BAI-24A-021-18	Range Floor	2	8330	1.5-2	UG_KG	Explosive	4-Nitrotoluene	99-99-0	459.7701149	34.48275862	459.7701149	N
BAI-24A-021-18	Range Floor	2	D2216	1.5-2	PCT	Other	Percent Moisture	-86	14.94252874	0	1.149425287	Y
BAI-24A-02-18	Retaining Wall	2	8270C_SIM	1.5-2	UG_KG	PAH	Anthracene	120-12-7	770	7.6	38	Y
BAI-24A-02-18	Retaining Wall	2	8270C_SIM	1.5-2	UG_KG	PAH	Pyrene	129-00-0	1400	7.6	38	Y
BAI-24A-02-18	Retaining Wall	2	8270C_SIM	1.5-2	UG_KG	PAH	Benzo(g,h,i)perylene	191-24-2	270	7.6	38	Y
BAI-24A-02-18	Retaining Wall	2	8270C_SIM	1.5-2	UG_KG	PAH	Indeno(1,2,3-cd)yrene	193-39-5	310	7.6	38	Y
BAI-24A-02-18	Retaining Wall	2	8270C_SIM	1.5-2	UG_KG	PAH	Benzo(b)fluoranthene	205-99-2	1500	7.6	38	Y
BAI-24A-02-18	Retaining Wall	2	8270C_SIM	1.5-2	UG_KG	PAH	Fluoranthene	206-44-0	1400	7.6	38	Y
BAI-24A-02-18	Retaining Wall	2	8270C_SIM	1.5-2	UG_KG	PAH	Benzo(k)fluoranthene	207-08-9	450	7.6	38	Y
BAI-24A-02-18	Retaining Wall	2	8270C_SIM	1.5-2	UG_KG	PAH	Acenaphthylene	208-96-8	190	7.6	38	Y
BAI-24A-02-18	Retaining Wall	2	8270C_SIM	1.5-2	UG_KG	PAH	Chrysene	218-01-9	1400	7.6	38	Y
BAI-24A-02-18	Retaining Wall	2	8270C_SIM	1.5-2	UG_KG	PAH	Benzo(a)pyrene	50-32-8	680	7.6	38	Y
BAI-24A-02-18	Retaining Wall	2	8270C_SIM	1.5-2	UG_KG	PAH	Dibenz(a,h)anthracene	53-70-3	120	7.6	38	Y
BAI-24A-02-18	Retaining Wall	2	8270C_SIM	1.5-2	UG_KG	PAH	Benzo(a)anthracene	56-55-3	1000	7.6	38	Y
BAI-24A-02-18	Retaining Wall	2	8270C_SIM	1.5-2	UG_KG	PAH	Acenaphthene	83-32-9	61	7.6	38	Y
BAI-24A-02-18	Retaining Wall	2	8270C_SIM	1.5-2	UG_KG	PAH	Phenanthrene	85-01-8	580	7.6	38	Y
BAI-24A-02-18	Retaining Wall	2	8270C_SIM	1.5-2	UG_KG	PAH	Fluorene	86-73-7	50	7.6	38	Y
BAI-24A-02-18	Retaining Wall	2	8270C_SIM	1.5-2	UG_KG	PAH	Naphthalene	91-20-3	18	7.6	38	Y
BAI-24A-02-18	Retaining Wall	2	D2216	1.5-2	PCT	Other	Percent Moisture	-86	9.89010989	0	1.098901099	Y
BAI-24A-022-00	Range Floor	2	6010B	0-0.5	MG_KG	Inorganic	Lead	7439-92-1	630	0.75	2.2	Y
BAI-24A-022-00	Range Floor	2	6010B	0-0.5	MG_KG	Inorganic	Molybdenum	7439-98-7	0.31	0.21	0.62	Y
BAI-24A-022-00	Range Floor	2	6010B	0-0.5	MG_KG	Inorganic	Nickel	7440-02-0	36	0.21	0.62	Y
BAI-24A-022-00	Range Floor	2	6010B	0-0.5	MG_KG	Inorganic	Silver	7440-22-4	0.091	0.077	0.29	Y
BAI-24A-022-00	Range Floor	2	6010B	0-0.5	MG_KG	Inorganic	Thallium	7440-28-0	0.57	0.17	0.57	N
BAI-24A-022-00	Range Floor	2	6010B	0-0.5	MG_KG	Inorganic	Antimony	7440-36-0	10	0.16	0.57	Y
BAI-24A-022-00	Range Floor	2	6010B	0-0.5	MG_KG	Inorganic	Arsenic	7440-38-2	9.3	0.085	0.29	Y
BAI-24A-022-00	Range Floor	2	6010B	0-0.5	MG_KG	Inorganic	Barium	7440-39-3	85	0.1	0.31	Y

PARENT_SAMPLE_NAME	SI Designation	Exposure Unit	ANALYTICAL_METHOD	Depth Interval	RESULT_UNITS	Analyte Group	Analyte Name	ANALYTE_ID	dw_Analyte Value	dw_MDL	dw_MRL	DETECTED
BAI-24A-022-00	Range Floor	2	6010B	0-0.5	MG_KG	Inorganic	Beryllium	7440-41-7	0.32	0.021	0.11	Y
BAI-24A-022-00	Range Floor	2	6010B	0-0.5	MG_KG	Inorganic	Cadmium	7440-43-9	0.13	0.051	0.29	Y
BAI-24A-022-00	Range Floor	2	6010B	0-0.5	MG_KG	Inorganic	Chromium	7440-47-3	30	0.1	0.31	Y
BAI-24A-022-00	Range Floor	2	6010B	0-0.5	MG_KG	Inorganic	Cobalt	7440-48-4	11	0.21	0.62	Y
BAI-24A-022-00	Range Floor	2	6010B	0-0.5	MG_KG	Inorganic	Copper	7440-50-8	48	0.1	0.31	Y
BAI-24A-022-00	Range Floor	2	6010B	0-0.5	MG_KG	Inorganic	Vanadium	7440-62-2	41	0.1	0.31	Y
BAI-24A-022-00	Range Floor	2	6010B	0-0.5	MG_KG	Inorganic	Zinc	7440-66-6	81	0.21	1.1	Y
BAI-24A-022-00	Range Floor	2	6010B	0-0.5	MG_KG	Inorganic	Selenium	7782-49-2	0.57	0.15	0.57	N
BAI-24A-022-00	Range Floor	2	7470A	0-0.5	MG_KG	Inorganic	Mercury	7439-97-6	0.046	0.0072	0.023	Y
BAI-24A-022-00	Range Floor	2	8330	0-0.5	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	229.8850575	14.94252874	229.8850575	N
BAI-24A-022-00	Range Floor	2	8330	0-0.5	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	229.8850575	21.83908046	229.8850575	N
BAI-24A-022-00	Range Floor	2	8330	0-0.5	UG_KG	Explosive	RDX	121-82-4	229.8850575	44.82758621	229.8850575	N
BAI-24A-022-00	Range Floor	2	8330	0-0.5	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	229.8850575	32.18390805	229.8850575	N
BAI-24A-022-00	Range Floor	2	8330	0-0.5	UG_KG	Explosive	HMX	2691-41-0	229.8850575	29.88505747	229.8850575	N
BAI-24A-022-00	Range Floor	2	8330	0-0.5	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	229.8850575	29.88505747	229.8850575	N
BAI-24A-022-00	Range Floor	2	8330	0-0.5	UG_KG	Explosive	Tetryl	479-45-8	229.8850575	74.71264368	229.8850575	N
BAI-24A-022-00	Range Floor	2	8330	0-0.5	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	229.8850575	20.68965517	229.8850575	N
BAI-24A-022-00	Range Floor	2	8330	0-0.5	UG_KG	Explosive	2-Nitrotoluene	88-72-2	448.2758621	18.3908046	448.2758621	N
BAI-24A-022-00	Range Floor	2	8330	0-0.5	UG_KG	SVOC	Nitrobenzene	98-95-3	229.8850575	20.68965517	229.8850575	N
BAI-24A-022-00	Range Floor	2	8330	0-0.5	UG_KG	Explosive	3-Nitrotoluene	99-08-1	448.2758621	68.96551724	448.2758621	N
BAI-24A-022-00	Range Floor	2	8330	0-0.5	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	229.8850575	40.22988506	229.8850575	N
BAI-24A-022-00	Range Floor	2	8330	0-0.5	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	229.8850575	21.83908046	229.8850575	N
BAI-24A-022-00	Range Floor	2	8330	0-0.5	UG_KG	Explosive	4-Nitrotoluene	99-99-0	448.2758621	34.48275862	448.2758621	N
BAI-24A-022-00	Range Floor	2	D2216	0-0.5	PCT	Other	Percent Moisture	-86	14.94252874	0	1.149425287	Y
BAI-24A-022-18	Range Floor	2	6010B	1.5-2	MG_KG	Inorganic	Lead	7439-92-1	3.8	0.08	0.28	Y
BAI-24A-022-18	Range Floor	2	6010B	1.5-2	MG_KG	Inorganic	Molybdenum	7439-98-7	0.66	0.22	0.66	N
BAI-24A-022-18	Range Floor	2	6010B	1.5-2	MG_KG	Inorganic	Nickel	7440-02-0	12	0.22	0.66	Y
BAI-24A-022-18	Range Floor	2	6010B	1.5-2	MG_KG	Inorganic	Silver	7440-22-4	0.28	0.082	0.28	N
BAI-24A-022-18	Range Floor	2	6010B	1.5-2	MG_KG	Inorganic	Thallium	7440-28-0	0.56	0.18	0.56	N
BAI-24A-022-18	Range Floor	2	6010B	1.5-2	MG_KG	Inorganic	Antimony	7440-36-0	1.6	0.18	0.56	Y
BAI-24A-022-18	Range Floor	2	6010B	1.5-2	MG_KG	Inorganic	Arsenic	7440-38-2	3.1	0.091	0.28	Y
BAI-24A-022-18	Range Floor	2	6010B	1.5-2	MG_KG	Inorganic	Barium	7440-39-3	120	0.11	0.33	Y
BAI-24A-022-18	Range Floor	2	6010B	1.5-2	MG_KG	Inorganic	Beryllium	7440-41-7	0.31	0.022	0.11	Y
BAI-24A-022-18	Range Floor	2	6010B	1.5-2	MG_KG	Inorganic	Cadmium	7440-43-9	0.074	0.055	0.28	Y
BAI-24A-022-18	Range Floor	2	6010B	1.5-2	MG_KG	Inorganic	Chromium	7440-47-3	12	0.11	0.33	Y
BAI-24A-022-18	Range Floor	2	6010B	1.5-2	MG_KG	Inorganic	Cobalt	7440-48-4	7	0.22	0.66	Y
BAI-24A-022-18	Range Floor	2	6010B	1.5-2	MG_KG	Inorganic	Copper	7440-50-8	6.7	0.11	0.33	Y
BAI-24A-022-18	Range Floor	2	6010B	1.5-2	MG_KG	Inorganic	Vanadium	7440-62-2	20	0.11	0.33	Y
BAI-24A-022-18	Range Floor	2	6010B	1.5-2	MG_KG	Inorganic	Zinc	7440-66-6	44	0.22	1.1	Y
BAI-24A-022-18	Range Floor	2	6010B	1.5-2	MG_KG	Inorganic	Selenium	7782-49-2	0.56	0.16	0.56	N
BAI-24A-022-18	Range Floor	2	7470A	1.5-2	MG_KG	Inorganic	Mercury	7439-97-6	0.023	0.0072	0.023	N
BAI-24A-022-18	Range Floor	2	8330	1.5-2	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	224.7191011	14.60674157	224.7191011	N
BAI-24A-022-18	Range Floor	2	8330	1.5-2	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	224.7191011	21.34831461	224.7191011	N
BAI-24A-022-18	Range Floor	2	8330	1.5-2	UG_KG	Explosive	RDX	121-82-4	224.7191011	43.82022472	224.7191011	N
BAI-24A-022-18	Range Floor	2	8330	1.5-2	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	224.7191011	31.46067416	224.7191011	N
BAI-24A-022-18	Range Floor	2	8330	1.5-2	UG_KG	Explosive	HMX	2691-41-0	224.7191011	29.21348315	224.7191011	N
BAI-24A-022-18	Range Floor	2	8330	1.5-2	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	224.7191011	29.21348315	224.7191011	N
BAI-24A-022-18	Range Floor	2	8330	1.5-2	UG_KG	Explosive	Tetryl	479-45-8	224.7191011	73.03370787	224.7191011	N
BAI-24A-022-18	Range Floor	2	8330	1.5-2	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	224.7191011	20.2247191	224.7191011	N

PARENT_SAMPLE_NAME	SI Designation	Exposure Unit	ANALYTICAL_METHOD	Depth Interval	RESULT_UNITS	Analyte Group	Analyte Name	ANALYTE_ID	dw_Analyte Value	dw_MDL	dw_MRL	DETECTED
BAI-24A-022-18	Range Floor	2	8330	1.5-2	UG_KG	Explosive	2-Nitrotoluene	88-72-2	449.4382022	17.97752809	449.4382022	N
BAI-24A-022-18	Range Floor	2	8330	1.5-2	UG_KG	SVOC	Nitrobenzene	98-95-3	224.7191011	20.2247191	224.7191011	N
BAI-24A-022-18	Range Floor	2	8330	1.5-2	UG_KG	Explosive	3-Nitrotoluene	99-08-1	449.4382022	67.41573034	449.4382022	N
BAI-24A-022-18	Range Floor	2	8330	1.5-2	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	224.7191011	39.3258427	224.7191011	N
BAI-24A-022-18	Range Floor	2	8330	1.5-2	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	224.7191011	22.47191011	224.7191011	N
BAI-24A-022-18	Range Floor	2	8330	1.5-2	UG_KG	Explosive	4-Nitrotoluene	99-99-0	449.4382022	33.70786517	449.4382022	N
BAI-24A-022-18	Range Floor	2	D2216	1.5-2	PCT	Other	Percent Moisture	-86	12.35955056	0	1.123595506	Y
BAI-24A-023-00	Range Floor	1	6010B	0-0.5	MG_KG	Inorganic	Lead	7439-92-1	8.7	0.0725	0.27	Y
BAI-24A-023-00	Range Floor	1	6010B	0-0.5	MG_KG	Inorganic	Molybdenum	7439-98-7	0.175	0.145	0.4425	Y
BAI-24A-023-00	Range Floor	1	6010B	0-0.5	MG_KG	Inorganic	Nickel	7440-02-0	22.5	0.195	0.595	Y
BAI-24A-023-00	Range Floor	1	6010B	0-0.5	MG_KG	Inorganic	Silver	7440-22-4	0.29	0.074	0.27	Y
BAI-24A-023-00	Range Floor	1	6010B	0-0.5	MG_KG	Inorganic	Thallium	7440-28-0	0.53	0.165	0.53	N
BAI-24A-023-00	Range Floor	1	6010B	0-0.5	MG_KG	Inorganic	Antimony	7440-36-0	6.35	0.155	0.53	Y
BAI-24A-023-00	Range Floor	1	6010B	0-0.5	MG_KG	Inorganic	Arsenic	7440-38-2	0.27	0.0825	0.27	N
BAI-24A-023-00	Range Floor	1	6010B	0-0.5	MG_KG	Inorganic	Barium	7440-39-3	5.5	0.098	0.3	Y
BAI-24A-023-00	Range Floor	1	6010B	0-0.5	MG_KG	Inorganic	Beryllium	7440-41-7	0.265	0.0195	0.11	Y
BAI-24A-023-00	Range Floor	1	6010B	0-0.5	MG_KG	Inorganic	Cadmium	7440-43-9	0.275	0.0495	0.27	Y
BAI-24A-023-00	Range Floor	1	6010B	0-0.5	MG_KG	Inorganic	Chromium	7440-47-3	34.5	0.098	0.3	Y
BAI-24A-023-00	Range Floor	1	6010B	0-0.5	MG_KG	Inorganic	Cobalt	7440-48-4	28.5	0.195	0.595	Y
BAI-24A-023-00	Range Floor	1	6010B	0-0.5	MG_KG	Inorganic	Copper	7440-50-8	37.5	0.098	0.3	Y
BAI-24A-023-00	Range Floor	1	6010B	0-0.5	MG_KG	Inorganic	Vanadium	7440-62-2	140	0.098	0.3	Y
BAI-24A-023-00	Range Floor	1	6010B	0-0.5	MG_KG	Inorganic	Zinc	7440-66-6	28.5	0.195	1.1	Y
BAI-24A-023-00	Range Floor	1	6010B	0-0.5	MG_KG	Inorganic	Selenium	7782-49-2	0.53	0.145	0.53	N
BAI-24A-023-00	Range Floor	1	7470A	0-0.5	MG_KG	Inorganic	Mercury	7439-97-6	0.305	0.00625	0.021	Y
BAI-24A-023-00	Range Floor	1	8330	0-0.5	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	207.4468085	22.87234043	207.4468085	N
BAI-24A-023-00	Range Floor	1	8330	0-0.5	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	207.4468085	21.27659574	207.4468085	N
BAI-24A-023-00	Range Floor	1	8330	0-0.5	UG_KG	Explosive	RDX	121-82-4	207.4468085	31.91489362	207.4468085	N
BAI-24A-023-00	Range Floor	1	8330	0-0.5	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	207.4468085	35.63829787	207.4468085	N
BAI-24A-023-00	Range Floor	1	8330	0-0.5	UG_KG	Explosive	HMX	2691-41-0	207.4468085	21.80851064	207.4468085	N
BAI-24A-023-00	Range Floor	1	8330	0-0.5	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	207.4468085	23.40425532	207.4468085	N
BAI-24A-023-00	Range Floor	1	8330	0-0.5	UG_KG	Explosive	Tetryl	479-45-8	207.4468085	63.82978723	207.4468085	N
BAI-24A-023-00	Range Floor	1	8330	0-0.5	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	207.4468085	21.27659574	207.4468085	N
BAI-24A-023-00	Range Floor	1	8330	0-0.5	UG_KG	Explosive	2-Nitrotoluene	88-72-2	420.212766	23.40425532	420.212766	N
BAI-24A-023-00	Range Floor	1	8330	0-0.5	UG_KG	SVOC	Nitrobenzene	98-95-3	207.4468085	18.08510638	207.4468085	N
BAI-24A-023-00	Range Floor	1	8330	0-0.5	UG_KG	Explosive	3-Nitrotoluene	99-08-1	420.212766	52.65957447	420.212766	N
BAI-24A-023-00	Range Floor	1	8330	0-0.5	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	207.4468085	32.44680851	207.4468085	N
BAI-24A-023-00	Range Floor	1	8330	0-0.5	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	207.4468085	12.55319149	207.4468085	N
BAI-24A-023-00	Range Floor	1	8330	0-0.5	UG_KG	Explosive	4-Nitrotoluene	99-99-0	420.212766	30.85106383	420.212766	N
BAI-24A-023-00	Range Floor	1	D2216	0-0.5	PCT	Other	Percent Moisture	-86	6.382978723	0	1.063829787	Y
BAI-24A-023-18	Range Floor	1	6010B	1.5-2	MG_KG	Inorganic	Lead	7439-92-1	20	0.082	0.29	Y
BAI-24A-023-18	Range Floor	1	6010B	1.5-2	MG_KG	Inorganic	Molybdenum	7439-98-7	0.32	0.23	0.68	Y
BAI-24A-023-18	Range Floor	1	6010B	1.5-2	MG_KG	Inorganic	Nickel	7440-02-0	34	0.23	0.68	Y
BAI-24A-023-18	Range Floor	1	6010B	1.5-2	MG_KG	Inorganic	Silver	7440-22-4	0.29	0.084	0.29	N
BAI-24A-023-18	Range Floor	1	6010B	1.5-2	MG_KG	Inorganic	Thallium	7440-28-0	0.57	0.18	0.57	N
BAI-24A-023-18	Range Floor	1	6010B	1.5-2	MG_KG	Inorganic	Antimony	7440-36-0	3.4	0.18	0.57	Y
BAI-24A-023-18	Range Floor	1	6010B	1.5-2	MG_KG	Inorganic	Arsenic	7440-38-2	5.3	0.094	0.29	Y
BAI-24A-023-18	Range Floor	1	6010B	1.5-2	MG_KG	Inorganic	Barium	7440-39-3	170	0.11	0.34	Y
BAI-24A-023-18	Range Floor	1	6010B	1.5-2	MG_KG	Inorganic	Beryllium	7440-41-7	0.49	0.023	0.11	Y
BAI-24A-023-18	Range Floor	1	6010B	1.5-2	MG_KG	Inorganic	Cadmium	7440-43-9	0.42	0.056	0.29	Y

PARENT_SAMPLE_NAME	SI Designation	Exposure Unit	ANALYTICAL_METHOD	Depth Interval	RESULT_UNITS	Analyte Group	Analyte Name	ANALYTE_ID	dw_Analyte Value	dw_MDL	dw_MRL	DETECTED
BAI-24A-023-18	Range Floor	1	6010B	1.5-2	MG_KG	Inorganic	Chromium	7440-47-3	26	0.11	0.34	Y
BAI-24A-023-18	Range Floor	1	6010B	1.5-2	MG_KG	Inorganic	Cobalt	7440-48-4	12	0.23	0.68	Y
BAI-24A-023-18	Range Floor	1	6010B	1.5-2	MG_KG	Inorganic	Copper	7440-50-8	20	0.11	0.34	Y
BAI-24A-023-18	Range Floor	1	6010B	1.5-2	MG_KG	Inorganic	Vanadium	7440-62-2	46	0.11	0.34	Y
BAI-24A-023-18	Range Floor	1	6010B	1.5-2	MG_KG	Inorganic	Zinc	7440-66-6	350	0.23	1.1	Y
BAI-24A-023-18	Range Floor	1	6010B	1.5-2	MG_KG	Inorganic	Selenium	7782-49-2	0.57	0.16	0.57	N
BAI-24A-023-18	Range Floor	1	7470A	1.5-2	MG_KG	Inorganic	Mercury	7439-97-6	0.046	0.0072	0.023	Y
BAI-24A-023-18	Range Floor	1	8330	1.5-2	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	229.8850575	14.94252874	229.8850575	N
BAI-24A-023-18	Range Floor	1	8330	1.5-2	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	229.8850575	21.83908046	229.8850575	N
BAI-24A-023-18	Range Floor	1	8330	1.5-2	UG_KG	Explosive	RDX	121-82-4	229.8850575	44.82758621	229.8850575	N
BAI-24A-023-18	Range Floor	1	8330	1.5-2	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	229.8850575	32.18390805	229.8850575	N
BAI-24A-023-18	Range Floor	1	8330	1.5-2	UG_KG	Explosive	HMX	2691-41-0	229.8850575	29.88505747	229.8850575	N
BAI-24A-023-18	Range Floor	1	8330	1.5-2	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	229.8850575	29.88505747	229.8850575	N
BAI-24A-023-18	Range Floor	1	8330	1.5-2	UG_KG	Explosive	Tetryl	479-45-8	229.8850575	74.71264368	229.8850575	N
BAI-24A-023-18	Range Floor	1	8330	1.5-2	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	229.8850575	20.68965517	229.8850575	N
BAI-24A-023-18	Range Floor	1	8330	1.5-2	UG_KG	Explosive	2-Nitrotoluene	88-72-2	459.7701149	18.3908046	459.7701149	N
BAI-24A-023-18	Range Floor	1	8330	1.5-2	UG_KG	SVOC	Nitrobenzene	98-95-3	229.8850575	20.68965517	229.8850575	N
BAI-24A-023-18	Range Floor	1	8330	1.5-2	UG_KG	Explosive	3-Nitrotoluene	99-08-1	459.7701149	68.96551724	459.7701149	N
BAI-24A-023-18	Range Floor	1	8330	1.5-2	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	229.8850575	40.22988506	229.8850575	N
BAI-24A-023-18	Range Floor	1	8330	1.5-2	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	229.8850575	22.98850575	229.8850575	N
BAI-24A-023-18	Range Floor	1	8330	1.5-2	UG_KG	Explosive	4-Nitrotoluene	99-99-0	459.7701149	34.48275862	459.7701149	N
BAI-24A-023-18	Range Floor	1	D2216	1.5-2	PCT	Other	Percent Moisture	-86	14.94252874	0	1.149425287	Y
BAI-24A-025-00	Target Berm	2	6010B	0-0.5	MG_KG	Inorganic	Lead	7439-92-1	9500	8.3	25	Y
BAI-24A-025-00	Target Berm	2	6010B	0-0.5	MG_KG	Inorganic	Molybdenum	7439-98-7	0.46	0.23	0.68	Y
BAI-24A-025-00	Target Berm	2	6010B	0-0.5	MG_KG	Inorganic	Nickel	7440-02-0	21	0.23	0.68	Y
BAI-24A-025-00	Target Berm	2	6010B	0-0.5	MG_KG	Inorganic	Silver	7440-22-4	0.31	0.085	0.31	Y
BAI-24A-025-00	Target Berm	2	6010B	0-0.5	MG_KG	Inorganic	Thallium	7440-28-0	0.62	0.18	0.62	N
BAI-24A-025-00	Target Berm	2	6010B	0-0.5	MG_KG	Inorganic	Antimony	7440-36-0	54	0.18	0.62	Y
BAI-24A-025-00	Target Berm	2	6010B	0-0.5	MG_KG	Inorganic	Arsenic	7440-38-2	31	0.094	0.31	Y
BAI-24A-025-00	Target Berm	2	6010B	0-0.5	MG_KG	Inorganic	Barium	7440-39-3	120	0.11	0.34	Y
BAI-24A-025-00	Target Berm	2	6010B	0-0.5	MG_KG	Inorganic	Beryllium	7440-41-7	0.47	0.023	0.12	Y
BAI-24A-025-00	Target Berm	2	6010B	0-0.5	MG_KG	Inorganic	Cadmium	7440-43-9	0.2	0.057	0.31	Y
BAI-24A-025-00	Target Berm	2	6010B	0-0.5	MG_KG	Inorganic	Chromium	7440-47-3	63	0.11	0.34	Y
BAI-24A-025-00	Target Berm	2	6010B	0-0.5	MG_KG	Inorganic	Cobalt	7440-48-4	9.6	0.23	0.68	Y
BAI-24A-025-00	Target Berm	2	6010B	0-0.5	MG_KG	Inorganic	Copper	7440-50-8	560	11	34	Y
BAI-24A-025-00	Target Berm	2	6010B	0-0.5	MG_KG	Inorganic	Vanadium	7440-62-2	36	0.11	0.34	Y
BAI-24A-025-00	Target Berm	2	6010B	0-0.5	MG_KG	Inorganic	Zinc	7440-66-6	120	0.23	1.2	Y
BAI-24A-025-00	Target Berm	2	6010B	0-0.5	MG_KG	Inorganic	Selenium	7782-49-2	0.62	0.17	0.62	N
BAI-24A-025-00	Target Berm	2	7470A	0-0.5	MG_KG	Inorganic	Mercury	7439-97-6	0.01	0.0076	0.025	Y
BAI-24A-025-00	Target Berm	2	8330	0-0.5	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	246.9135802	16.04938272	246.9135802	N
BAI-24A-025-00	Target Berm	2	8330	0-0.5	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	246.9135802	23.45679012	246.9135802	N
BAI-24A-025-00	Target Berm	2	8330	0-0.5	UG_KG	Explosive	RDX	121-82-4	246.9135802	48.14814815	246.9135802	N
BAI-24A-025-00	Target Berm	2	8330	0-0.5	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	246.9135802	34.56790123	246.9135802	N
BAI-24A-025-00	Target Berm	2	8330	0-0.5	UG_KG	Explosive	HMX	2691-41-0	246.9135802	32.09876543	246.9135802	N
BAI-24A-025-00	Target Berm	2	8330	0-0.5	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	246.9135802	32.09876543	246.9135802	N
BAI-24A-025-00	Target Berm	2	8330	0-0.5	UG_KG	Explosive	Tetryl	479-45-8	246.9135802	80.24691358	246.9135802	N
BAI-24A-025-00	Target Berm	2	8330	0-0.5	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	246.9135802	22.22222222	246.9135802	N
BAI-24A-025-00	Target Berm	2	8330	0-0.5	UG_KG	Explosive	2-Nitrotoluene	88-72-2	493.8271605	13.58024691	493.8271605	N
BAI-24A-025-00	Target Berm	2	8330	0-0.5	UG_KG	SVOC	Nitrobenzene	98-95-3	246.9135802	22.22222222	246.9135802	N

PARENT_SAMPLE_NAME	SI Designation	Exposure Unit	ANALYTICAL_METHOD	Depth Interval	RESULT_UNITS	Analyte Group	Analyte Name	ANALYTE_ID	dw_Analyte Value	dw_MDL	dw_MRL	DETECTED
BAI-24A-025-00	Target Berm	2	8330	0-0.5	UG_KG	Explosive	3-Nitrotoluene	99-08-1	493.8271605	74.07407407	493.8271605	N
BAI-24A-025-00	Target Berm	2	8330	0-0.5	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	246.9135802	43.20987654	246.9135802	N
BAI-24A-025-00	Target Berm	2	8330	0-0.5	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	246.9135802	24.69135802	246.9135802	N
BAI-24A-025-00	Target Berm	2	8330	0-0.5	UG_KG	Explosive	4-Nitrotoluene	99-99-0	95.0617284	29.62962963	493.8271605	Y
BAI-24A-025-00	Target Berm	2	D2216	0-0.5	PCT	Other	Percent Moisture	-86	23.45679012	0	1.234567901	Y
BAI-24A-025-18	Target Berm	2	6010B	1.5-2	MG_KG	Inorganic	Lead	7439-92-1	3000	8.1	24	Y
BAI-24A-025-18	Target Berm	2	6010B	1.5-2	MG_KG	Inorganic	Molybdenum	7439-98-7	0.31	0.22	0.66	Y
BAI-24A-025-18	Target Berm	2	6010B	1.5-2	MG_KG	Inorganic	Nickel	7440-02-0	13	0.22	0.66	Y
BAI-24A-025-18	Target Berm	2	6010B	1.5-2	MG_KG	Inorganic	Silver	7440-22-4	0.12	0.082	0.28	Y
BAI-24A-025-18	Target Berm	2	6010B	1.5-2	MG_KG	Inorganic	Thallium	7440-28-0	0.57	0.18	0.57	N
BAI-24A-025-18	Target Berm	2	6010B	1.5-2	MG_KG	Inorganic	Antimony	7440-36-0	44	0.18	0.57	Y
BAI-24A-025-18	Target Berm	2	6010B	1.5-2	MG_KG	Inorganic	Arsenic	7440-38-2	5.1	0.092	0.28	Y
BAI-24A-025-18	Target Berm	2	6010B	1.5-2	MG_KG	Inorganic	Barium	7440-39-3	140	0.11	0.33	Y
BAI-24A-025-18	Target Berm	2	6010B	1.5-2	MG_KG	Inorganic	Beryllium	7440-41-7	0.38	0.022	0.11	Y
BAI-24A-025-18	Target Berm	2	6010B	1.5-2	MG_KG	Inorganic	Cadmium	7440-43-9	0.14	0.055	0.28	Y
BAI-24A-025-18	Target Berm	2	6010B	1.5-2	MG_KG	Inorganic	Chromium	7440-47-3	13	0.11	0.33	Y
BAI-24A-025-18	Target Berm	2	6010B	1.5-2	MG_KG	Inorganic	Cobalt	7440-48-4	7	0.22	0.66	Y
BAI-24A-025-18	Target Berm	2	6010B	1.5-2	MG_KG	Inorganic	Copper	7440-50-8	260	0.11	0.33	Y
BAI-24A-025-18	Target Berm	2	6010B	1.5-2	MG_KG	Inorganic	Vanadium	7440-62-2	26	0.11	0.33	Y
BAI-24A-025-18	Target Berm	2	6010B	1.5-2	MG_KG	Inorganic	Zinc	7440-66-6	80	0.22	1.1	Y
BAI-24A-025-18	Target Berm	2	6010B	1.5-2	MG_KG	Inorganic	Selenium	7782-49-2	0.57	0.16	0.57	N
BAI-24A-025-18	Target Berm	2	7470A	1.5-2	MG_KG	Inorganic	Mercury	7439-97-6	0.011	0.0071	0.023	Y
BAI-24A-025-18	Target Berm	2	8330	1.5-2	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	227.2727273	14.77272727	227.2727273	N
BAI-24A-025-18	Target Berm	2	8330	1.5-2	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	227.2727273	21.59090909	227.2727273	N
BAI-24A-025-18	Target Berm	2	8330	1.5-2	UG_KG	Explosive	RDX	121-82-4	227.2727273	44.31818182	227.2727273	N
BAI-24A-025-18	Target Berm	2	8330	1.5-2	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	227.2727273	31.81818182	227.2727273	N
BAI-24A-025-18	Target Berm	2	8330	1.5-2	UG_KG	Explosive	HMX	2691-41-0	227.2727273	29.54545455	227.2727273	N
BAI-24A-025-18	Target Berm	2	8330	1.5-2	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	227.2727273	29.54545455	227.2727273	N
BAI-24A-025-18	Target Berm	2	8330	1.5-2	UG_KG	Explosive	Tetryl	479-45-8	227.2727273	72.72727273	227.2727273	N
BAI-24A-025-18	Target Berm	2	8330	1.5-2	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	227.2727273	20.45454545	227.2727273	N
BAI-24A-025-18	Target Berm	2	8330	1.5-2	UG_KG	Explosive	2-Nitrotoluene	88-72-2	443.1818182	18.18181818	443.1818182	N
BAI-24A-025-18	Target Berm	2	8330	1.5-2	UG_KG	SVOC	Nitrobenzene	98-95-3	227.2727273	20.45454545	227.2727273	N
BAI-24A-025-18	Target Berm	2	8330	1.5-2	UG_KG	Explosive	3-Nitrotoluene	99-08-1	443.1818182	68.18181818	443.1818182	N
BAI-24A-025-18	Target Berm	2	8330	1.5-2	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	227.2727273	38.63636364	227.2727273	N
BAI-24A-025-18	Target Berm	2	8330	1.5-2	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	227.2727273	21.59090909	227.2727273	N
BAI-24A-025-18	Target Berm	2	8330	1.5-2	UG_KG	Explosive	4-Nitrotoluene	99-99-0	443.1818182	34.09090909	443.1818182	N
BAI-24A-025-18	Target Berm	2	D2216	1.5-2	PCT	Other	Percent Moisture	-86	13.63636364	0	1.136363636	Y
BAI-24A-026-00	Target Berm	2	6010B	0-0.5	MG_KG	Inorganic	Lead	7439-92-1	62000	17	51	Y
BAI-24A-026-00	Target Berm	2	6010B	0-0.5	MG_KG	Inorganic	Molybdenum	7439-98-7	0.27	0.23	0.7	Y
BAI-24A-026-00	Target Berm	2	6010B	0-0.5	MG_KG	Inorganic	Nickel	7440-02-0	16	0.23	0.7	Y
BAI-24A-026-00	Target Berm	2	6010B	0-0.5	MG_KG	Inorganic	Silver	7440-22-4	2.1	0.087	0.3	Y
BAI-24A-026-00	Target Berm	2	6010B	0-0.5	MG_KG	Inorganic	Thallium	7440-28-0	0.6	0.19	0.6	N
BAI-24A-026-00	Target Berm	2	6010B	0-0.5	MG_KG	Inorganic	Antimony	7440-36-0	700	18	58	Y
BAI-24A-026-00	Target Berm	2	6010B	0-0.5	MG_KG	Inorganic	Arsenic	7440-38-2	6.5	0.096	0.3	Y
BAI-24A-026-00	Target Berm	2	6010B	0-0.5	MG_KG	Inorganic	Barium	7440-39-3	99	0.12	0.35	Y
BAI-24A-026-00	Target Berm	2	6010B	0-0.5	MG_KG	Inorganic	Beryllium	7440-41-7	0.49	0.023	0.12	Y
BAI-24A-026-00	Target Berm	2	6010B	0-0.5	MG_KG	Inorganic	Cadmium	7440-43-9	3	0.058	0.3	Y
BAI-24A-026-00	Target Berm	2	6010B	0-0.5	MG_KG	Inorganic	Chromium	7440-47-3	16	0.12	0.35	Y
BAI-24A-026-00	Target Berm	2	6010B	0-0.5	MG_KG	Inorganic	Cobalt	7440-48-4	9	0.23	0.7	Y

PARENT_SAMPLE_NAME	SI Designation	Exposure Unit	ANALYTICAL_METHOD	Depth Interval	RESULT_UNITS	Analyte Group	Analyte Name	ANALYTE_ID	dw_Analyte Value	dw_MDL	dw_MRL	DETECTED
BAI-24A-026-00	Target Berm	2	6010B	0-0.5	MG_KG	Inorganic	Copper	7440-50-8	12000	12	35	Y
BAI-24A-026-00	Target Berm	2	6010B	0-0.5	MG_KG	Inorganic	Vanadium	7440-62-2	32	0.12	0.35	Y
BAI-24A-026-00	Target Berm	2	6010B	0-0.5	MG_KG	Inorganic	Zinc	7440-66-6	1400	23	120	Y
BAI-24A-026-00	Target Berm	2	6010B	0-0.5	MG_KG	Inorganic	Selenium	7782-49-2	0.6	0.17	0.6	N
BAI-24A-026-00	Target Berm	2	7470A	0-0.5	MG_KG	Inorganic	Mercury	7439-97-6	0.016	0.0073	0.024	Y
BAI-24A-026-00	Target Berm	2	8330	0-0.5	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	240.9638554	15.6626506	240.9638554	N
BAI-24A-026-00	Target Berm	2	8330	0-0.5	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	240.9638554	22.89156627	240.9638554	N
BAI-24A-026-00	Target Berm	2	8330	0-0.5	UG_KG	Explosive	RDX	121-82-4	240.9638554	46.98795181	240.9638554	N
BAI-24A-026-00	Target Berm	2	8330	0-0.5	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	240.9638554	33.73493976	240.9638554	N
BAI-24A-026-00	Target Berm	2	8330	0-0.5	UG_KG	Explosive	HMX	2691-41-0	240.9638554	31.3253012	240.9638554	N
BAI-24A-026-00	Target Berm	2	8330	0-0.5	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	240.9638554	31.3253012	240.9638554	N
BAI-24A-026-00	Target Berm	2	8330	0-0.5	UG_KG	Explosive	Tetryl	479-45-8	240.9638554	78.31325301	240.9638554	N
BAI-24A-026-00	Target Berm	2	8330	0-0.5	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	240.9638554	21.68674699	240.9638554	N
BAI-24A-026-00	Target Berm	2	8330	0-0.5	UG_KG	Explosive	2-Nitrotoluene	88-72-2	481.9277108	19.27710843	481.9277108	N
BAI-24A-026-00	Target Berm	2	8330	0-0.5	UG_KG	SVOC	Nitrobenzene	98-95-3	240.9638554	21.68674699	240.9638554	N
BAI-24A-026-00	Target Berm	2	8330	0-0.5	UG_KG	Explosive	3-Nitrotoluene	99-08-1	481.9277108	72.28915663	481.9277108	N
BAI-24A-026-00	Target Berm	2	8330	0-0.5	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	240.9638554	42.1686747	240.9638554	N
BAI-24A-026-00	Target Berm	2	8330	0-0.5	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	240.9638554	24.09638554	240.9638554	N
BAI-24A-026-00	Target Berm	2	8330	0-0.5	UG_KG	Explosive	4-Nitrotoluene	99-99-0	481.9277108	36.14457831	481.9277108	N
BAI-24A-026-00	Target Berm	2	D2216	0-0.5	PCT	Other	Percent Moisture	-86	20.48192771	0	1.204819277	Y
BAI-24A-026-18	Target Berm	2	6010B	1.5-2	MG_KG	Inorganic	Lead	7439-92-1	1300	6.9	21	Y
BAI-24A-026-18	Target Berm	2	6010B	1.5-2	MG_KG	Inorganic	Molybdenum	7439-98-7	0.27	0.19	0.56	Y
BAI-24A-026-18	Target Berm	2	6010B	1.5-2	MG_KG	Inorganic	Nickel	7440-02-0	15	0.19	0.56	Y
BAI-24A-026-18	Target Berm	2	6010B	1.5-2	MG_KG	Inorganic	Silver	7440-22-4	0.082	0.07	0.26	Y
BAI-24A-026-18	Target Berm	2	6010B	1.5-2	MG_KG	Inorganic	Thallium	7440-28-0	0.52	0.15	0.52	N
BAI-24A-026-18	Target Berm	2	6010B	1.5-2	MG_KG	Inorganic	Antimony	7440-36-0	7	0.15	0.52	Y
BAI-24A-026-18	Target Berm	2	6010B	1.5-2	MG_KG	Inorganic	Arsenic	7440-38-2	4.9	0.078	0.26	Y
BAI-24A-026-18	Target Berm	2	6010B	1.5-2	MG_KG	Inorganic	Barium	7440-39-3	96	0.094	0.28	Y
BAI-24A-026-18	Target Berm	2	6010B	1.5-2	MG_KG	Inorganic	Beryllium	7440-41-7	0.48	0.019	0.1	Y
BAI-24A-026-18	Target Berm	2	6010B	1.5-2	MG_KG	Inorganic	Cadmium	7440-43-9	0.15	0.047	0.26	Y
BAI-24A-026-18	Target Berm	2	6010B	1.5-2	MG_KG	Inorganic	Chromium	7440-47-3	16	0.094	0.28	Y
BAI-24A-026-18	Target Berm	2	6010B	1.5-2	MG_KG	Inorganic	Cobalt	7440-48-4	8.4	0.19	0.56	Y
BAI-24A-026-18	Target Berm	2	6010B	1.5-2	MG_KG	Inorganic	Copper	7440-50-8	43	0.094	0.28	Y
BAI-24A-026-18	Target Berm	2	6010B	1.5-2	MG_KG	Inorganic	Vanadium	7440-62-2	32	0.094	0.28	Y
BAI-24A-026-18	Target Berm	2	6010B	1.5-2	MG_KG	Inorganic	Zinc	7440-66-6	53	0.19	1	Y
BAI-24A-026-18	Target Berm	2	6010B	1.5-2	MG_KG	Inorganic	Selenium	7782-49-2	0.52	0.14	0.52	N
BAI-24A-026-18	Target Berm	2	7470A	1.5-2	MG_KG	Inorganic	Mercury	7439-97-6	0.0091	0.0067	0.021	Y
BAI-24A-026-18	Target Berm	2	8330	1.5-2	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	208.3333333	13.54166667	208.3333333	N
BAI-24A-026-18	Target Berm	2	8330	1.5-2	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	208.3333333	19.79166667	208.3333333	N
BAI-24A-026-18	Target Berm	2	8330	1.5-2	UG_KG	Explosive	RDX	121-82-4	208.3333333	40.625	208.3333333	N
BAI-24A-026-18	Target Berm	2	8330	1.5-2	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	208.3333333	29.16666667	208.3333333	N
BAI-24A-026-18	Target Berm	2	8330	1.5-2	UG_KG	Explosive	HMX	2691-41-0	208.3333333	27.08333333	208.3333333	N
BAI-24A-026-18	Target Berm	2	8330	1.5-2	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	208.3333333	27.08333333	208.3333333	N
BAI-24A-026-18	Target Berm	2	8330	1.5-2	UG_KG	Explosive	Tetryl	479-45-8	208.3333333	68.75	208.3333333	N
BAI-24A-026-18	Target Berm	2	8330	1.5-2	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	208.3333333	18.75	208.3333333	N
BAI-24A-026-18	Target Berm	2	8330	1.5-2	UG_KG	Explosive	2-Nitrotoluene	88-72-2	416.6666667	16.66666667	416.6666667	N
BAI-24A-026-18	Target Berm	2	8330	1.5-2	UG_KG	SVOC	Nitrobenzene	98-95-3	208.3333333	18.75	208.3333333	N
BAI-24A-026-18	Target Berm	2	8330	1.5-2	UG_KG	Explosive	3-Nitrotoluene	99-08-1	416.6666667	63.54166667	416.6666667	N
BAI-24A-026-18	Target Berm	2	8330	1.5-2	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	208.3333333	36.45833333	208.3333333	N

PARENT_SAMPLE_NAME	SI Designation	Exposure Unit	ANALYTICAL_METHOD	Depth Interval	RESULT_UNITS	Analyte Group	Analyte Name	ANALYTE_ID	dw_Analyte Value	dw_MDL	dw_MRL	DETECTED
BAI-24A-026-18	Target Berm	2	8330	1.5-2	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	208.3333333	20.83333333	208.3333333	N
BAI-24A-026-18	Target Berm	2	8330	1.5-2	UG_KG	Explosive	4-Nitrotoluene	99-99-0	416.6666667	32.29166667	416.6666667	N
BAI-24A-026-18	Target Berm	2	D2216	1.5-2	PCT	Other	Percent Moisture	-86	4.166666667	0	1.041666667	Y
BAI-24A-027-00	Target Berm	2	6010B	0-0.5	MG_KG	Inorganic	Lead	7439-92-1	2300	8.5	26	Y
BAI-24A-027-00	Target Berm	2	6010B	0-0.5	MG_KG	Inorganic	Molybdenum	7439-98-7	0.4	0.23	0.7	Y
BAI-24A-027-00	Target Berm	2	6010B	0-0.5	MG_KG	Inorganic	Nickel	7440-02-0	17	0.23	0.7	Y
BAI-24A-027-00	Target Berm	2	6010B	0-0.5	MG_KG	Inorganic	Silver	7440-22-4	0.17	0.087	0.3	Y
BAI-24A-027-00	Target Berm	2	6010B	0-0.5	MG_KG	Inorganic	Thallium	7440-28-0	0.6	0.19	0.6	N
BAI-24A-027-00	Target Berm	2	6010B	0-0.5	MG_KG	Inorganic	Antimony	7440-36-0	11	0.19	0.6	Y
BAI-24A-027-00	Target Berm	2	6010B	0-0.5	MG_KG	Inorganic	Arsenic	7440-38-2	5.9	0.097	0.3	Y
BAI-24A-027-00	Target Berm	2	6010B	0-0.5	MG_KG	Inorganic	Barium	7440-39-3	100	0.12	0.35	Y
BAI-24A-027-00	Target Berm	2	6010B	0-0.5	MG_KG	Inorganic	Beryllium	7440-41-7	0.51	0.023	0.12	Y
BAI-24A-027-00	Target Berm	2	6010B	0-0.5	MG_KG	Inorganic	Cadmium	7440-43-9	0.15	0.058	0.3	Y
BAI-24A-027-00	Target Berm	2	6010B	0-0.5	MG_KG	Inorganic	Chromium	7440-47-3	16	0.12	0.35	Y
BAI-24A-027-00	Target Berm	2	6010B	0-0.5	MG_KG	Inorganic	Cobalt	7440-48-4	8.7	0.23	0.7	Y
BAI-24A-027-00	Target Berm	2	6010B	0-0.5	MG_KG	Inorganic	Copper	7440-50-8	110	0.12	0.35	Y
BAI-24A-027-00	Target Berm	2	6010B	0-0.5	MG_KG	Inorganic	Vanadium	7440-62-2	35	0.12	0.35	Y
BAI-24A-027-00	Target Berm	2	6010B	0-0.5	MG_KG	Inorganic	Zinc	7440-66-6	68	0.23	1.2	Y
BAI-24A-027-00	Target Berm	2	6010B	0-0.5	MG_KG	Inorganic	Selenium	7782-49-2	0.6	0.17	0.6	N
BAI-24A-027-00	Target Berm	2	7470A	0-0.5	MG_KG	Inorganic	Mercury	7439-97-6	0.016	0.0072	0.024	Y
BAI-24A-027-00	Target Berm	2	8330	0-0.5	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	238.0952381	15.47619048	238.0952381	N
BAI-24A-027-00	Target Berm	2	8330	0-0.5	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	238.0952381	22.61904762	238.0952381	N
BAI-24A-027-00	Target Berm	2	8330	0-0.5	UG_KG	Explosive	RDX	121-82-4	238.0952381	47.61904762	238.0952381	N
BAI-24A-027-00	Target Berm	2	8330	0-0.5	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	238.0952381	33.33333333	238.0952381	N
BAI-24A-027-00	Target Berm	2	8330	0-0.5	UG_KG	Explosive	HMX	2691-41-0	238.0952381	30.95238095	238.0952381	N
BAI-24A-027-00	Target Berm	2	8330	0-0.5	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	238.0952381	30.95238095	238.0952381	N
BAI-24A-027-00	Target Berm	2	8330	0-0.5	UG_KG	Explosive	Tetryl	479-45-8	238.0952381	78.57142857	238.0952381	N
BAI-24A-027-00	Target Berm	2	8330	0-0.5	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	238.0952381	21.42857143	238.0952381	N
BAI-24A-027-00	Target Berm	2	8330	0-0.5	UG_KG	Explosive	2-Nitrotoluene	88-72-2	476.1904762	19.04761905	476.1904762	N
BAI-24A-027-00	Target Berm	2	8330	0-0.5	UG_KG	SVOC	Nitrobenzene	98-95-3	238.0952381	21.42857143	238.0952381	N
BAI-24A-027-00	Target Berm	2	8330	0-0.5	UG_KG	Explosive	3-Nitrotoluene	99-08-1	476.1904762	72.61904762	476.1904762	N
BAI-24A-027-00	Target Berm	2	8330	0-0.5	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	238.0952381	41.66666667	238.0952381	N
BAI-24A-027-00	Target Berm	2	8330	0-0.5	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	238.0952381	23.80952381	238.0952381	N
BAI-24A-027-00	Target Berm	2	8330	0-0.5	UG_KG	Explosive	4-Nitrotoluene	99-99-0	476.1904762	36.9047619	476.1904762	N
BAI-24A-027-00	Target Berm	2	D2216	0-0.5	PCT	Other	Percent Moisture	-86	19.04761905	0	1.19047619	Y
BAI-24A-027-18	Target Berm	2	6010B	1.5-2	MG_KG	Inorganic	Lead	7439-92-1	11	0.076	0.27	Y
BAI-24A-027-18	Target Berm	2	6010B	1.5-2	MG_KG	Inorganic	Molybdenum	7439-98-7	0.27	0.21	0.63	Y
BAI-24A-027-18	Target Berm	2	6010B	1.5-2	MG_KG	Inorganic	Nickel	7440-02-0	18	0.21	0.63	Y
BAI-24A-027-18	Target Berm	2	6010B	1.5-2	MG_KG	Inorganic	Silver	7440-22-4	0.1	0.078	0.27	Y
BAI-24A-027-18	Target Berm	2	6010B	1.5-2	MG_KG	Inorganic	Thallium	7440-28-0	0.54	0.17	0.54	N
BAI-24A-027-18	Target Berm	2	6010B	1.5-2	MG_KG	Inorganic	Antimony	7440-36-0	4.3	0.17	0.54	Y
BAI-24A-027-18	Target Berm	2	6010B	1.5-2	MG_KG	Inorganic	Arsenic	7440-38-2	5.2	0.087	0.27	Y
BAI-24A-027-18	Target Berm	2	6010B	1.5-2	MG_KG	Inorganic	Barium	7440-39-3	120	0.1	0.31	Y
BAI-24A-027-18	Target Berm	2	6010B	1.5-2	MG_KG	Inorganic	Beryllium	7440-41-7	0.57	0.021	0.11	Y
BAI-24A-027-18	Target Berm	2	6010B	1.5-2	MG_KG	Inorganic	Cadmium	7440-43-9	0.14	0.052	0.27	Y
BAI-24A-027-18	Target Berm	2	6010B	1.5-2	MG_KG	Inorganic	Chromium	7440-47-3	18	0.1	0.31	Y
BAI-24A-027-18	Target Berm	2	6010B	1.5-2	MG_KG	Inorganic	Cobalt	7440-48-4	9.2	0.21	0.63	Y
BAI-24A-027-18	Target Berm	2	6010B	1.5-2	MG_KG	Inorganic	Copper	7440-50-8	16	0.1	0.31	Y
BAI-24A-027-18	Target Berm	2	6010B	1.5-2	MG_KG	Inorganic	Vanadium	7440-62-2	37	0.1	0.31	Y

PARENT_SAMPLE_NAME	SI Designation	Exposure Unit	ANALYTICAL_METHOD	Depth Interval	RESULT_UNITS	Analyte Group	Analyte Name	ANALYTE_ID	dw_Analyte Value	dw_MDL	dw_MRL	DETECTED
BAI-24A-027-18	Target Berm	2	6010B	1.5-2	MG_KG	Inorganic	Zinc	7440-66-6	51	0.21	1.1	Y
BAI-24A-027-18	Target Berm	2	6010B	1.5-2	MG_KG	Inorganic	Selenium	7782-49-2	0.54	0.15	0.54	N
BAI-24A-027-18	Target Berm	2	7470A	1.5-2	MG_KG	Inorganic	Mercury	7439-97-6	0.01	0.0061	0.022	Y
BAI-24A-027-18	Target Berm	2	8330	1.5-2	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	204.3010753	13.97849462	204.3010753	N
BAI-24A-027-18	Target Berm	2	8330	1.5-2	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	204.3010753	20.43010753	204.3010753	N
BAI-24A-027-18	Target Berm	2	8330	1.5-2	UG_KG	Explosive	RDX	121-82-4	204.3010753	40.86021505	204.3010753	N
BAI-24A-027-18	Target Berm	2	8330	1.5-2	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	204.3010753	30.10752688	204.3010753	N
BAI-24A-027-18	Target Berm	2	8330	1.5-2	UG_KG	Explosive	HMX	2691-41-0	204.3010753	27.95698925	204.3010753	N
BAI-24A-027-18	Target Berm	2	8330	1.5-2	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	204.3010753	27.95698925	204.3010753	N
BAI-24A-027-18	Target Berm	2	8330	1.5-2	UG_KG	Explosive	Tetryl	479-45-8	204.3010753	68.8172043	204.3010753	N
BAI-24A-027-18	Target Berm	2	8330	1.5-2	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	204.3010753	19.35483871	204.3010753	N
BAI-24A-027-18	Target Berm	2	8330	1.5-2	UG_KG	Explosive	2-Nitrotoluene	88-72-2	419.3548387	16.12903226	419.3548387	N
BAI-24A-027-18	Target Berm	2	8330	1.5-2	UG_KG	SVOC	Nitrobenzene	98-95-3	204.3010753	19.35483871	204.3010753	N
BAI-24A-027-18	Target Berm	2	8330	1.5-2	UG_KG	Explosive	3-Nitrotoluene	99-08-1	419.3548387	63.44086022	419.3548387	N
BAI-24A-027-18	Target Berm	2	8330	1.5-2	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	204.3010753	36.55913978	204.3010753	N
BAI-24A-027-18	Target Berm	2	8330	1.5-2	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	204.3010753	20.43010753	204.3010753	N
BAI-24A-027-18	Target Berm	2	8330	1.5-2	UG_KG	Explosive	4-Nitrotoluene	99-99-0	419.3548387	32.25806452	419.3548387	N
BAI-24A-027-18	Target Berm	2	D2216	1.5-2	PCT	Other	Percent Moisture	-86	7.52688172	0	1.075268817	Y
BAI-24A-028-00	Target Berm	2	6010B	0-0.5	MG_KG	Inorganic	Lead	7439-92-1	1500	8.4	25	Y
BAI-24A-028-00	Target Berm	2	6010B	0-0.5	MG_KG	Inorganic	Molybdenum	7439-98-7	0.38	0.23	0.69	Y
BAI-24A-028-00	Target Berm	2	6010B	0-0.5	MG_KG	Inorganic	Nickel	7440-02-0	18	0.23	0.69	Y
BAI-24A-028-00	Target Berm	2	6010B	0-0.5	MG_KG	Inorganic	Silver	7440-22-4	0.21	0.086	0.3	Y
BAI-24A-028-00	Target Berm	2	6010B	0-0.5	MG_KG	Inorganic	Thallium	7440-28-0	0.6	0.19	0.6	N
BAI-24A-028-00	Target Berm	2	6010B	0-0.5	MG_KG	Inorganic	Antimony	7440-36-0	13	0.18	0.6	Y
BAI-24A-028-00	Target Berm	2	6010B	0-0.5	MG_KG	Inorganic	Arsenic	7440-38-2	6.6	0.095	0.3	Y
BAI-24A-028-00	Target Berm	2	6010B	0-0.5	MG_KG	Inorganic	Barium	7440-39-3	110	0.11	0.34	Y
BAI-24A-028-00	Target Berm	2	6010B	0-0.5	MG_KG	Inorganic	Beryllium	7440-41-7	0.57	0.023	0.12	Y
BAI-24A-028-00	Target Berm	2	6010B	0-0.5	MG_KG	Inorganic	Cadmium	7440-43-9	0.17	0.057	0.3	Y
BAI-24A-028-00	Target Berm	2	6010B	0-0.5	MG_KG	Inorganic	Chromium	7440-47-3	18	0.11	0.34	Y
BAI-24A-028-00	Target Berm	2	6010B	0-0.5	MG_KG	Inorganic	Cobalt	7440-48-4	9.3	0.23	0.69	Y
BAI-24A-028-00	Target Berm	2	6010B	0-0.5	MG_KG	Inorganic	Copper	7440-50-8	79	0.11	0.34	Y
BAI-24A-028-00	Target Berm	2	6010B	0-0.5	MG_KG	Inorganic	Vanadium	7440-62-2	39	0.11	0.34	Y
BAI-24A-028-00	Target Berm	2	6010B	0-0.5	MG_KG	Inorganic	Zinc	7440-66-6	64	0.23	1.2	Y
BAI-24A-028-00	Target Berm	2	6010B	0-0.5	MG_KG	Inorganic	Selenium	7782-49-2	0.6	0.17	0.6	N
BAI-24A-028-00	Target Berm	2	7470A	0-0.5	MG_KG	Inorganic	Mercury	7439-97-6	0.015	0.0072	0.024	Y
BAI-24A-028-00	Target Berm	2	8330	0-0.5	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	238.0952381	15.47619048	238.0952381	N
BAI-24A-028-00	Target Berm	2	8330	0-0.5	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	238.0952381	22.61904762	238.0952381	N
BAI-24A-028-00	Target Berm	2	8330	0-0.5	UG_KG	Explosive	RDX	121-82-4	238.0952381	46.42857143	238.0952381	N
BAI-24A-028-00	Target Berm	2	8330	0-0.5	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	238.0952381	33.33333333	238.0952381	N
BAI-24A-028-00	Target Berm	2	8330	0-0.5	UG_KG	Explosive	HMX	2691-41-0	238.0952381	30.95238095	238.0952381	N
BAI-24A-028-00	Target Berm	2	8330	0-0.5	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	238.0952381	30.95238095	238.0952381	N
BAI-24A-028-00	Target Berm	2	8330	0-0.5	UG_KG	Explosive	Tetryl	479-45-8	238.0952381	77.38095238	238.0952381	N
BAI-24A-028-00	Target Berm	2	8330	0-0.5	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	238.0952381	21.42857143	238.0952381	N
BAI-24A-028-00	Target Berm	2	8330	0-0.5	UG_KG	Explosive	2-Nitrotoluene	88-72-2	476.1904762	19.04761905	476.1904762	N
BAI-24A-028-00	Target Berm	2	8330	0-0.5	UG_KG	SVOC	Nitrobenzene	98-95-3	238.0952381	21.42857143	238.0952381	N
BAI-24A-028-00	Target Berm	2	8330	0-0.5	UG_KG	Explosive	3-Nitrotoluene	99-08-1	476.1904762	72.61904762	476.1904762	N
BAI-24A-028-00	Target Berm	2	8330	0-0.5	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	238.0952381	41.66666667	238.0952381	N
BAI-24A-028-00	Target Berm	2	8330	0-0.5	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	238.0952381	23.80952381	238.0952381	N
BAI-24A-028-00	Target Berm	2	8330	0-0.5	UG_KG	Explosive	4-Nitrotoluene	99-99-0	476.1904762	36.9047619	476.1904762	N

Attachment B-4.2
Processed Data

PARENT_SAMPLE_NAME	SI Designation	Exposure Unit	ANALYTICAL_METHOD	Depth Interval	RESULT_UNITS	Analyte Group	Analyte Name	ANALYTE_ID	dw_Analyte Value	dw_MDL	dw_MRL	DETECTED
BAI-24A-028-00	Target Berm	2	D2216	0-0.5	PCT	Other	Percent Moisture	-86	19.04761905	0	1.19047619	Y
BAI-24A-028-18	Target Berm	2	6010B	1.5-2	MG_KG	Inorganic	Lead	7439-92-1	37	0.073	0.27	Y
BAI-24A-028-18	Target Berm	2	6010B	1.5-2	MG_KG	Inorganic	Molybdenum	7439-98-7	0.25	0.2	0.6	Y
BAI-24A-028-18	Target Berm	2	6010B	1.5-2	MG_KG	Inorganic	Nickel	7440-02-0	15	0.2	0.6	Y
BAI-24A-028-18	Target Berm	2	6010B	1.5-2	MG_KG	Inorganic	Silver	7440-22-4	0.12	0.075	0.27	Y
BAI-24A-028-18	Target Berm	2	6010B	1.5-2	MG_KG	Inorganic	Thallium	7440-28-0	0.53	0.16	0.53	N
BAI-24A-028-18	Target Berm	2	6010B	1.5-2	MG_KG	Inorganic	Antimony	7440-36-0	2.5	0.16	0.53	Y
BAI-24A-028-18	Target Berm	2	6010B	1.5-2	MG_KG	Inorganic	Arsenic	7440-38-2	4.5	0.083	0.27	Y
BAI-24A-028-18	Target Berm	2	6010B	1.5-2	MG_KG	Inorganic	Barium	7440-39-3	98	0.1	0.3	Y
BAI-24A-028-18	Target Berm	2	6010B	1.5-2	MG_KG	Inorganic	Beryllium	7440-41-7	0.47	0.02	0.11	Y
BAI-24A-028-18	Target Berm	2	6010B	1.5-2	MG_KG	Inorganic	Cadmium	7440-43-9	0.13	0.05	0.27	Y
BAI-24A-028-18	Target Berm	2	6010B	1.5-2	MG_KG	Inorganic	Chromium	7440-47-3	15	0.1	0.3	Y
BAI-24A-028-18	Target Berm	2	6010B	1.5-2	MG_KG	Inorganic	Cobalt	7440-48-4	7.5	0.2	0.6	Y
BAI-24A-028-18	Target Berm	2	6010B	1.5-2	MG_KG	Inorganic	Copper	7440-50-8	16	0.1	0.3	Y
BAI-24A-028-18	Target Berm	2	6010B	1.5-2	MG_KG	Inorganic	Vanadium	7440-62-2	31	0.1	0.3	Y
BAI-24A-028-18	Target Berm	2	6010B	1.5-2	MG_KG	Inorganic	Zinc	7440-66-6	43	0.2	1.1	Y
BAI-24A-028-18	Target Berm	2	6010B	1.5-2	MG_KG	Inorganic	Selenium	7782-49-2	0.53	0.15	0.53	N
BAI-24A-028-18	Target Berm	2	7470A	1.5-2	MG_KG	Inorganic	Mercury	7439-97-6	0.012	0.0068	0.022	Y
BAI-24A-028-18	Target Berm	2	8330	1.5-2	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	212.7659574	13.82978723	212.7659574	N
BAI-24A-028-18	Target Berm	2	8330	1.5-2	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	212.7659574	20.21276596	212.7659574	N
BAI-24A-028-18	Target Berm	2	8330	1.5-2	UG_KG	Explosive	RDX	121-82-4	212.7659574	41.4893617	212.7659574	N
BAI-24A-028-18	Target Berm	2	8330	1.5-2	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	212.7659574	29.78723404	212.7659574	N
BAI-24A-028-18	Target Berm	2	8330	1.5-2	UG_KG	Explosive	HMX	2691-41-0	212.7659574	27.65957447	212.7659574	N
BAI-24A-028-18	Target Berm	2	8330	1.5-2	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	212.7659574	27.65957447	212.7659574	N
BAI-24A-028-18	Target Berm	2	8330	1.5-2	UG_KG	Explosive	Tetryl	479-45-8	212.7659574	69.14893617	212.7659574	N
BAI-24A-028-18	Target Berm	2	8330	1.5-2	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	212.7659574	19.14893617	212.7659574	N
BAI-24A-028-18	Target Berm	2	8330	1.5-2	UG_KG	Explosive	2-Nitrotoluene	88-72-2	425.5319149	17.0212766	425.5319149	N
BAI-24A-028-18	Target Berm	2	8330	1.5-2	UG_KG	SVOC	Nitrobenzene	98-95-3	212.7659574	19.14893617	212.7659574	N
BAI-24A-028-18	Target Berm	2	8330	1.5-2	UG_KG	Explosive	3-Nitrotoluene	99-08-1	425.5319149	63.82978723	425.5319149	N
BAI-24A-028-18	Target Berm	2	8330	1.5-2	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	212.7659574	37.23404255	212.7659574	N
BAI-24A-028-18	Target Berm	2	8330	1.5-2	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	212.7659574	21.27659574	212.7659574	N
BAI-24A-028-18	Target Berm	2	8330	1.5-2	UG_KG	Explosive	4-Nitrotoluene	99-99-0	425.5319149	31.91489362	425.5319149	N
BAI-24A-028-18	Target Berm	2	D2216	1.5-2	PCT	Other	Percent Moisture	-86	6.382978723	0	1.063829787	Y
BAI-24A-029-00	Target Berm	2	6010B	0-0.5	MG_KG	Inorganic	Lead	7439-92-1	5700	4.765	14.25	Y
BAI-24A-029-00	Target Berm	2	6010B	0-0.5	MG_KG	Inorganic	Molybdenum	7439-98-7	0.315	0.235	0.7	Y
BAI-24A-029-00	Target Berm	2	6010B	0-0.5	MG_KG	Inorganic	Nickel	7440-02-0	18.5	0.235	0.7	Y
BAI-24A-029-00	Target Berm	2	6010B	0-0.5	MG_KG	Inorganic	Silver	7440-22-4	0.255	0.087	0.3	Y
BAI-24A-029-00	Target Berm	2	6010B	0-0.5	MG_KG	Inorganic	Thallium	7440-28-0	0.6	0.19	0.6	N
BAI-24A-029-00	Target Berm	2	6010B	0-0.5	MG_KG	Inorganic	Antimony	7440-36-0	146.5	0.185	0.6	Y
BAI-24A-029-00	Target Berm	2	6010B	0-0.5	MG_KG	Inorganic	Arsenic	7440-38-2	73.25	0.0965	0.3	Y
BAI-24A-029-00	Target Berm	2	6010B	0-0.5	MG_KG	Inorganic	Barium	7440-39-3	115	0.115	0.35	Y
BAI-24A-029-00	Target Berm	2	6010B	0-0.5	MG_KG	Inorganic	Beryllium	7440-41-7	0.595	0.0235	0.12	Y
BAI-24A-029-00	Target Berm	2	6010B	0-0.5	MG_KG	Inorganic	Cadmium	7440-43-9	0.525	0.0585	0.3	Y
BAI-24A-029-00	Target Berm	2	6010B	0-0.5	MG_KG	Inorganic	Chromium	7440-47-3	19	0.115	0.35	Y
BAI-24A-029-00	Target Berm	2	6010B	0-0.5	MG_KG	Inorganic	Cobalt	7440-48-4	10.3	0.235	0.7	Y
BAI-24A-029-00	Target Berm	2	6010B	0-0.5	MG_KG	Inorganic	Copper	7440-50-8	62.5	0.115	0.35	Y
BAI-24A-029-00	Target Berm	2	6010B	0-0.5	MG_KG	Inorganic	Vanadium	7440-62-2	38.5	0.115	0.35	Y
BAI-24A-029-00	Target Berm	2	6010B	0-0.5	MG_KG	Inorganic	Zinc	7440-66-6	97.5	0.235	1.2	Y
BAI-24A-029-00	Target Berm	2	6010B	0-0.5	MG_KG	Inorganic	Selenium	7782-49-2	0.6	0.17	0.6	N

PARENT_SAMPLE_NAME	SI Designation	Exposure Unit	ANALYTICAL_METHOD	Depth Interval	RESULT_UNITS	Analyte Group	Analyte Name	ANALYTE_ID	dw_Analyte Value	dw_MDL	dw_MRL	DETECTED
BAI-24A-029-00	Target Berm	2	7470A	0-0.5	MG_KG	Inorganic	Mercury	7439-97-6	0.025	0.0079	0.025	N
BAI-24A-029-00	Target Berm	2	8330	0-0.5	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	240.9638554	25.90361446	240.9638554	N
BAI-24A-029-00	Target Berm	2	8330	0-0.5	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	240.9638554	23.4939759	240.9638554	N
BAI-24A-029-00	Target Berm	2	8330	0-0.5	UG_KG	Explosive	RDX	121-82-4	240.9638554	36.14457831	240.9638554	N
BAI-24A-029-00	Target Berm	2	8330	0-0.5	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	240.9638554	40.36144578	240.9638554	N
BAI-24A-029-00	Target Berm	2	8330	0-0.5	UG_KG	Explosive	HMX	2691-41-0	240.9638554	24.09638554	240.9638554	N
BAI-24A-029-00	Target Berm	2	8330	0-0.5	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	240.9638554	26.5060241	240.9638554	N
BAI-24A-029-00	Target Berm	2	8330	0-0.5	UG_KG	Explosive	Tetryl	479-45-8	240.9638554	72.89156627	240.9638554	N
BAI-24A-029-00	Target Berm	2	8330	0-0.5	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	240.9638554	24.09638554	240.9638554	N
BAI-24A-029-00	Target Berm	2	8330	0-0.5	UG_KG	Explosive	2-Nitrotoluene	88-72-2	475.9036145	26.5060241	475.9036145	N
BAI-24A-029-00	Target Berm	2	8330	0-0.5	UG_KG	SVOC	Nitrobenzene	98-95-3	240.9638554	20.48192771	240.9638554	N
BAI-24A-029-00	Target Berm	2	8330	0-0.5	UG_KG	Explosive	3-Nitrotoluene	99-08-1	475.9036145	60.24096386	475.9036145	N
BAI-24A-029-00	Target Berm	2	8330	0-0.5	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	240.9638554	37.34939759	240.9638554	N
BAI-24A-029-00	Target Berm	2	8330	0-0.5	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	240.9638554	14.75903614	240.9638554	N
BAI-24A-029-00	Target Berm	2	8330	0-0.5	UG_KG	Explosive	4-Nitrotoluene	99-99-0	475.9036145	35.54216867	475.9036145	N
BAI-24A-029-00	Target Berm	2	D2216	0-0.5	PCT	Other	Percent Moisture	-86	20.48192771	0	1.204819277	Y
BAI-24A-029-18	Target Berm	2	6010B	1.5-2	MG_KG	Inorganic	Lead	7439-92-1	13	0.073	0.27	Y
BAI-24A-029-18	Target Berm	2	6010B	1.5-2	MG_KG	Inorganic	Molybdenum	7439-98-7	0.6	0.2	0.6	N
BAI-24A-029-18	Target Berm	2	6010B	1.5-2	MG_KG	Inorganic	Nickel	7440-02-0	16	0.2	0.6	Y
BAI-24A-029-18	Target Berm	2	6010B	1.5-2	MG_KG	Inorganic	Silver	7440-22-4	0.12	0.075	0.27	Y
BAI-24A-029-18	Target Berm	2	6010B	1.5-2	MG_KG	Inorganic	Thallium	7440-28-0	0.53	0.16	0.53	N
BAI-24A-029-18	Target Berm	2	6010B	1.5-2	MG_KG	Inorganic	Antimony	7440-36-0	3.6	0.16	0.53	Y
BAI-24A-029-18	Target Berm	2	6010B	1.5-2	MG_KG	Inorganic	Arsenic	7440-38-2	5.1	0.083	0.27	Y
BAI-24A-029-18	Target Berm	2	6010B	1.5-2	MG_KG	Inorganic	Barium	7440-39-3	97	0.1	0.3	Y
BAI-24A-029-18	Target Berm	2	6010B	1.5-2	MG_KG	Inorganic	Beryllium	7440-41-7	0.48	0.02	0.11	Y
BAI-24A-029-18	Target Berm	2	6010B	1.5-2	MG_KG	Inorganic	Cadmium	7440-43-9	0.13	0.05	0.27	Y
BAI-24A-029-18	Target Berm	2	6010B	1.5-2	MG_KG	Inorganic	Chromium	7440-47-3	16	0.1	0.3	Y
BAI-24A-029-18	Target Berm	2	6010B	1.5-2	MG_KG	Inorganic	Cobalt	7440-48-4	8	0.2	0.6	Y
BAI-24A-029-18	Target Berm	2	6010B	1.5-2	MG_KG	Inorganic	Copper	7440-50-8	15	0.1	0.3	Y
BAI-24A-029-18	Target Berm	2	6010B	1.5-2	MG_KG	Inorganic	Vanadium	7440-62-2	31	0.1	0.3	Y
BAI-24A-029-18	Target Berm	2	6010B	1.5-2	MG_KG	Inorganic	Zinc	7440-66-6	47	0.2	1.1	Y
BAI-24A-029-18	Target Berm	2	6010B	1.5-2	MG_KG	Inorganic	Selenium	7782-49-2	0.53	0.15	0.53	N
BAI-24A-029-18	Target Berm	2	7470A	1.5-2	MG_KG	Inorganic	Mercury	7439-97-6	0.02	0.007	0.022	Y
BAI-24A-029-18	Target Berm	2	8330	1.5-2	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	212.7659574	13.82978723	212.7659574	N
BAI-24A-029-18	Target Berm	2	8330	1.5-2	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	212.7659574	20.21276596	212.7659574	N
BAI-24A-029-18	Target Berm	2	8330	1.5-2	UG_KG	Explosive	RDX	121-82-4	212.7659574	41.4893617	212.7659574	N
BAI-24A-029-18	Target Berm	2	8330	1.5-2	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	212.7659574	29.78723404	212.7659574	N
BAI-24A-029-18	Target Berm	2	8330	1.5-2	UG_KG	Explosive	HMX	2691-41-0	212.7659574	27.65957447	212.7659574	N
BAI-24A-029-18	Target Berm	2	8330	1.5-2	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	212.7659574	27.65957447	212.7659574	N
BAI-24A-029-18	Target Berm	2	8330	1.5-2	UG_KG	Explosive	Tetryl	479-45-8	212.7659574	69.14893617	212.7659574	N
BAI-24A-029-18	Target Berm	2	8330	1.5-2	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	212.7659574	19.14893617	212.7659574	N
BAI-24A-029-18	Target Berm	2	8330	1.5-2	UG_KG	Explosive	2-Nitrotoluene	88-72-2	425.5319149	17.0212766	425.5319149	N
BAI-24A-029-18	Target Berm	2	8330	1.5-2	UG_KG	SVOC	Nitrobenzene	98-95-3	212.7659574	19.14893617	212.7659574	N
BAI-24A-029-18	Target Berm	2	8330	1.5-2	UG_KG	Explosive	3-Nitrotoluene	99-08-1	425.5319149	63.82978723	425.5319149	N
BAI-24A-029-18	Target Berm	2	8330	1.5-2	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	212.7659574	37.23404255	212.7659574	N
BAI-24A-029-18	Target Berm	2	8330	1.5-2	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	212.7659574	21.27659574	212.7659574	N
BAI-24A-029-18	Target Berm	2	8330	1.5-2	UG_KG	Explosive	4-Nitrotoluene	99-99-0	425.5319149	31.91489362	425.5319149	N
BAI-24A-029-18	Target Berm	2	D2216	1.5-2	PCT	Other	Percent Moisture	-86	6.382978723	0	1.063829787	Y
BAI-24A-03-00	Retaining Wall	2	8270C_SIM	0-0.5	UG_KG	PAH	Anthracene	120-12-7	76	1.2	5.8	Y

PARENT_SAMPLE_NAME	SI Designation	Exposure Unit	ANALYTICAL_METHOD	Depth Interval	RESULT_UNITS	Analyte Group	Analyte Name	ANALYTE_ID	dw_Analyte Value	dw_MDL	dw_MRL	DETECTED
BAI-24A-03-00	Retaining Wall	2	8270C_SIM	0-0.5	UG_KG	PAH	Pyrene	129-00-0	36	1.2	5.8	Y
BAI-24A-03-00	Retaining Wall	2	8270C_SIM	0-0.5	UG_KG	PAH	Benzo(g,h,i)perylene	191-24-2	88	1.2	5.8	Y
BAI-24A-03-00	Retaining Wall	2	8270C_SIM	0-0.5	UG_KG	PAH	Indeno(1,2,3-cd)yrene	193-39-5	67	1.2	5.8	Y
BAI-24A-03-00	Retaining Wall	2	8270C_SIM	0-0.5	UG_KG	PAH	Benzo(b)fluoranthene	205-99-2	150	1.2	5.8	Y
BAI-24A-03-00	Retaining Wall	2	8270C_SIM	0-0.5	UG_KG	PAH	Fluoranthene	206-44-0	31	1.2	5.8	Y
BAI-24A-03-00	Retaining Wall	2	8270C_SIM	0-0.5	UG_KG	PAH	Benzo(k)fluoranthene	207-08-9	39	1.2	5.8	Y
BAI-24A-03-00	Retaining Wall	2	8270C_SIM	0-0.5	UG_KG	PAH	Acenaphthylene	208-96-8	22	1.2	5.8	Y
BAI-24A-03-00	Retaining Wall	2	8270C_SIM	0-0.5	UG_KG	PAH	Chrysene	218-01-9	41	1.2	5.8	Y
BAI-24A-03-00	Retaining Wall	2	8270C_SIM	0-0.5	UG_KG	PAH	Benzo(a)pyrene	50-32-8	50	1.2	5.8	Y
BAI-24A-03-00	Retaining Wall	2	8270C_SIM	0-0.5	UG_KG	PAH	Dibenz(a,h)anthracene	53-70-3	24	1.2	5.8	Y
BAI-24A-03-00	Retaining Wall	2	8270C_SIM	0-0.5	UG_KG	PAH	Benzo(a)anthracene	56-55-3	22	1.2	5.8	Y
BAI-24A-03-00	Retaining Wall	2	8270C_SIM	0-0.5	UG_KG	PAH	Acenaphthene	83-32-9	1.4	1.2	5.8	Y
BAI-24A-03-00	Retaining Wall	2	8270C_SIM	0-0.5	UG_KG	PAH	Phenanthrene	85-01-8	10	1.2	5.8	Y
BAI-24A-03-00	Retaining Wall	2	8270C_SIM	0-0.5	UG_KG	PAH	Fluorene	86-73-7	1.8	1.2	5.8	Y
BAI-24A-03-00	Retaining Wall	2	8270C_SIM	0-0.5	UG_KG	PAH	Naphthalene	91-20-3	5.8	1.2	5.8	N
BAI-24A-03-00	Retaining Wall	2	D2216	0-0.5	PCT	Other	Percent Moisture	-86	17.64705882	0	1.176470588	Y
BAI-24A-031-00	Target Berm	2	6010B	0-0.5	MG_KG	Inorganic	Lead	7439-92-1	410	0.082	0.29	Y
BAI-24A-031-00	Target Berm	2	6010B	0-0.5	MG_KG	Inorganic	Molybdenum	7439-98-7	0.62	0.22	0.67	Y
BAI-24A-031-00	Target Berm	2	6010B	0-0.5	MG_KG	Inorganic	Nickel	7440-02-0	18	0.22	0.67	Y
BAI-24A-031-00	Target Berm	2	6010B	0-0.5	MG_KG	Inorganic	Silver	7440-22-4	0.095	0.084	0.29	Y
BAI-24A-031-00	Target Berm	2	6010B	0-0.5	MG_KG	Inorganic	Thallium	7440-28-0	0.59	0.18	0.59	N
BAI-24A-031-00	Target Berm	2	6010B	0-0.5	MG_KG	Inorganic	Antimony	7440-36-0	5.2	0.18	0.59	Y
BAI-24A-031-00	Target Berm	2	6010B	0-0.5	MG_KG	Inorganic	Arsenic	7440-38-2	4.8	0.093	0.29	Y
BAI-24A-031-00	Target Berm	2	6010B	0-0.5	MG_KG	Inorganic	Barium	7440-39-3	97	0.11	0.34	Y
BAI-24A-031-00	Target Berm	2	6010B	0-0.5	MG_KG	Inorganic	Beryllium	7440-41-7	0.52	0.022	0.12	Y
BAI-24A-031-00	Target Berm	2	6010B	0-0.5	MG_KG	Inorganic	Cadmium	7440-43-9	0.18	0.056	0.29	Y
BAI-24A-031-00	Target Berm	2	6010B	0-0.5	MG_KG	Inorganic	Chromium	7440-47-3	17	0.11	0.34	Y
BAI-24A-031-00	Target Berm	2	6010B	0-0.5	MG_KG	Inorganic	Cobalt	7440-48-4	9.6	0.22	0.67	Y
BAI-24A-031-00	Target Berm	2	6010B	0-0.5	MG_KG	Inorganic	Copper	7440-50-8	23	0.11	0.34	Y
BAI-24A-031-00	Target Berm	2	6010B	0-0.5	MG_KG	Inorganic	Vanadium	7440-62-2	33	0.11	0.34	Y
BAI-24A-031-00	Target Berm	2	6010B	0-0.5	MG_KG	Inorganic	Zinc	7440-66-6	53	0.22	1.2	Y
BAI-24A-031-00	Target Berm	2	6010B	0-0.5	MG_KG	Inorganic	Selenium	7782-49-2	0.59	0.16	0.59	N
BAI-24A-031-00	Target Berm	2	7470A	0-0.5	MG_KG	Inorganic	Mercury	7439-97-6	0.024	0.0073	0.024	N
BAI-24A-031-00	Target Berm	2	8330	0-0.5	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	235.2941176	15.29411765	235.2941176	N
BAI-24A-031-00	Target Berm	2	8330	0-0.5	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	235.2941176	22.35294118	235.2941176	N
BAI-24A-031-00	Target Berm	2	8330	0-0.5	UG_KG	Explosive	RDX	121-82-4	235.2941176	45.88235294	235.2941176	N
BAI-24A-031-00	Target Berm	2	8330	0-0.5	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	235.2941176	32.94117647	235.2941176	N
BAI-24A-031-00	Target Berm	2	8330	0-0.5	UG_KG	Explosive	HMX	2691-41-0	235.2941176	30.58823529	235.2941176	N
BAI-24A-031-00	Target Berm	2	8330	0-0.5	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	235.2941176	30.58823529	235.2941176	N
BAI-24A-031-00	Target Berm	2	8330	0-0.5	UG_KG	Explosive	Tetryl	479-45-8	235.2941176	76.47058824	235.2941176	N
BAI-24A-031-00	Target Berm	2	8330	0-0.5	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	235.2941176	21.17647059	235.2941176	N
BAI-24A-031-00	Target Berm	2	8330	0-0.5	UG_KG	Explosive	2-Nitrotoluene	88-72-2	470.5882353	18.82352941	470.5882353	N
BAI-24A-031-00	Target Berm	2	8330	0-0.5	UG_KG	SVOC	Nitrobenzene	98-95-3	235.2941176	21.17647059	235.2941176	N
BAI-24A-031-00	Target Berm	2	8330	0-0.5	UG_KG	Explosive	3-Nitrotoluene	99-08-1	470.5882353	70.58823529	470.5882353	N
BAI-24A-031-00	Target Berm	2	8330	0-0.5	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	235.2941176	41.17647059	235.2941176	N
BAI-24A-031-00	Target Berm	2	8330	0-0.5	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	235.2941176	23.52941176	235.2941176	N
BAI-24A-031-00	Target Berm	2	8330	0-0.5	UG_KG	Explosive	4-Nitrotoluene	99-99-0	470.5882353	35.29411765	470.5882353	N
BAI-24A-031-00	Target Berm	2	D2216	0-0.5	PCT	Other	Percent Moisture	-86	17.64705882	0	1.176470588	Y
BAI-24A-031-18	Target Berm	2	6010B	1.5-2	MG_KG	Inorganic	Lead	7439-92-1	5.5	0.076	0.28	Y

PARENT_SAMPLE_NAME	SI Designation	Exposure Unit	ANALYTICAL_METHOD	Depth Interval	RESULT_UNITS	Analyte Group	Analyte Name	ANALYTE_ID	dw_Analyte Value	dw_MDL	dw_MRL	DETECTED
BAI-24A-031-18	Target Berm	2	6010B	1.5-2	MG_KG	Inorganic	Molybdenum	7439-98-7	0.62	0.21	0.62	N
BAI-24A-031-18	Target Berm	2	6010B	1.5-2	MG_KG	Inorganic	Nickel	7440-02-0	15	0.21	0.62	Y
BAI-24A-031-18	Target Berm	2	6010B	1.5-2	MG_KG	Inorganic	Silver	7440-22-4	0.28	0.078	0.28	N
BAI-24A-031-18	Target Berm	2	6010B	1.5-2	MG_KG	Inorganic	Thallium	7440-28-0	0.56	0.17	0.56	N
BAI-24A-031-18	Target Berm	2	6010B	1.5-2	MG_KG	Inorganic	Antimony	7440-36-0	2.4	0.17	0.56	Y
BAI-24A-031-18	Target Berm	2	6010B	1.5-2	MG_KG	Inorganic	Arsenic	7440-38-2	4	0.086	0.28	Y
BAI-24A-031-18	Target Berm	2	6010B	1.5-2	MG_KG	Inorganic	Barium	7440-39-3	110	0.1	0.31	Y
BAI-24A-031-18	Target Berm	2	6010B	1.5-2	MG_KG	Inorganic	Beryllium	7440-41-7	0.44	0.021	0.11	Y
BAI-24A-031-18	Target Berm	2	6010B	1.5-2	MG_KG	Inorganic	Cadmium	7440-43-9	0.14	0.052	0.28	Y
BAI-24A-031-18	Target Berm	2	6010B	1.5-2	MG_KG	Inorganic	Chromium	7440-47-3	15	0.1	0.31	Y
BAI-24A-031-18	Target Berm	2	6010B	1.5-2	MG_KG	Inorganic	Cobalt	7440-48-4	7.9	0.21	0.62	Y
BAI-24A-031-18	Target Berm	2	6010B	1.5-2	MG_KG	Inorganic	Copper	7440-50-8	12	0.1	0.31	Y
BAI-24A-031-18	Target Berm	2	6010B	1.5-2	MG_KG	Inorganic	Vanadium	7440-62-2	30	0.1	0.31	Y
BAI-24A-031-18	Target Berm	2	6010B	1.5-2	MG_KG	Inorganic	Zinc	7440-66-6	44	0.21	1.1	Y
BAI-24A-031-18	Target Berm	2	6010B	1.5-2	MG_KG	Inorganic	Selenium	7782-49-2	0.56	0.15	0.56	N
BAI-24A-031-18	Target Berm	2	7470A	1.5-2	MG_KG	Inorganic	Mercury	7439-97-6	0.022	0.000075	0.022	N
BAI-24A-031-18	Target Berm	2	8330	1.5-2	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	224.7191011	14.60674157	224.7191011	N
BAI-24A-031-18	Target Berm	2	8330	1.5-2	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	224.7191011	21.34831461	224.7191011	N
BAI-24A-031-18	Target Berm	2	8330	1.5-2	UG_KG	Explosive	RDX	121-82-4	224.7191011	43.82022472	224.7191011	N
BAI-24A-031-18	Target Berm	2	8330	1.5-2	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	224.7191011	31.46067416	224.7191011	N
BAI-24A-031-18	Target Berm	2	8330	1.5-2	UG_KG	Explosive	HMX	2691-41-0	224.7191011	29.21348315	224.7191011	N
BAI-24A-031-18	Target Berm	2	8330	1.5-2	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	224.7191011	29.21348315	224.7191011	N
BAI-24A-031-18	Target Berm	2	8330	1.5-2	UG_KG	Explosive	Tetryl	479-45-8	224.7191011	73.03370787	224.7191011	N
BAI-24A-031-18	Target Berm	2	8330	1.5-2	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	224.7191011	20.2247191	224.7191011	N
BAI-24A-031-18	Target Berm	2	8330	1.5-2	UG_KG	Explosive	2-Nitrotoluene	88-72-2	449.4382022	17.97752809	449.4382022	N
BAI-24A-031-18	Target Berm	2	8330	1.5-2	UG_KG	SVOC	Nitrobenzene	98-95-3	224.7191011	20.2247191	224.7191011	N
BAI-24A-031-18	Target Berm	2	8330	1.5-2	UG_KG	Explosive	3-Nitrotoluene	99-08-1	449.4382022	67.41573034	449.4382022	N
BAI-24A-031-18	Target Berm	2	8330	1.5-2	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	224.7191011	39.3258427	224.7191011	N
BAI-24A-031-18	Target Berm	2	8330	1.5-2	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	224.7191011	22.47191011	224.7191011	N
BAI-24A-031-18	Target Berm	2	8330	1.5-2	UG_KG	Explosive	4-Nitrotoluene	99-99-0	449.4382022	33.70786517	449.4382022	N
BAI-24A-031-18	Target Berm	2	D2216	1.5-2	PCT	Other	Percent Moisture	-86	12.35955056	0	1.123595506	Y
BAI-24A-03-18	Retaining Wall	2	8270C_SIM	1.5-2	UG_KG	PAH	Anthracene	120-12-7	59	1.2	6.1	Y
BAI-24A-03-18	Retaining Wall	2	8270C_SIM	1.5-2	UG_KG	PAH	Pyrene	129-00-0	42	1.2	6.1	Y
BAI-24A-03-18	Retaining Wall	2	8270C_SIM	1.5-2	UG_KG	PAH	Benzo(g,h,i)perylene	191-24-2	56	1.2	6.1	Y
BAI-24A-03-18	Retaining Wall	2	8270C_SIM	1.5-2	UG_KG	PAH	Indeno(1,2,3-cd)yrene	193-39-5	43	1.2	6.1	Y
BAI-24A-03-18	Retaining Wall	2	8270C_SIM	1.5-2	UG_KG	PAH	Benzo(b)fluoranthene	205-99-2	83	1.2	6.1	Y
BAI-24A-03-18	Retaining Wall	2	8270C_SIM	1.5-2	UG_KG	PAH	Fluoranthene	206-44-0	38	1.2	6.1	Y
BAI-24A-03-18	Retaining Wall	2	8270C_SIM	1.5-2	UG_KG	PAH	Benzo(k)fluoranthene	207-08-9	23	1.2	6.1	Y
BAI-24A-03-18	Retaining Wall	2	8270C_SIM	1.5-2	UG_KG	PAH	Acenaphthylene	208-96-8	19	1.2	6.1	Y
BAI-24A-03-18	Retaining Wall	2	8270C_SIM	1.5-2	UG_KG	PAH	Chrysene	218-01-9	42	1.2	6.1	Y
BAI-24A-03-18	Retaining Wall	2	8270C_SIM	1.5-2	UG_KG	PAH	Benzo(a)pyrene	50-32-8	31	1.2	6.1	Y
BAI-24A-03-18	Retaining Wall	2	8270C_SIM	1.5-2	UG_KG	PAH	Dibenz(a,h)anthracene	53-70-3	13	1.2	6.1	Y
BAI-24A-03-18	Retaining Wall	2	8270C_SIM	1.5-2	UG_KG	PAH	Benzo(a)anthracene	56-55-3	20	1.2	6.1	Y
BAI-24A-03-18	Retaining Wall	2	8270C_SIM	1.5-2	UG_KG	PAH	Acenaphthene	83-32-9	6.1	1.2	6.1	N
BAI-24A-03-18	Retaining Wall	2	8270C_SIM	1.5-2	UG_KG	PAH	Phenanthrene	85-01-8	6.9	1.2	6.1	Y
BAI-24A-03-18	Retaining Wall	2	8270C_SIM	1.5-2	UG_KG	PAH	Fluorene	86-73-7	1.6	1.2	6.1	Y
BAI-24A-03-18	Retaining Wall	2	8270C_SIM	1.5-2	UG_KG	PAH	Naphthalene	91-20-3	6.1	1.2	6.1	N
BAI-24A-03-18	Retaining Wall	2	D2216	1.5-2	PCT	Other	Percent Moisture	-86	21.95121951	0	1.219512195	Y
BAI-24A-032-00	Target Berm	2	6010B	0-0.5	MG_KG	Inorganic	Lead	7439-92-1	4300	0.83	2.5	Y

PARENT_SAMPLE_NAME	SI Designation	Exposure Unit	ANALYTICAL_METHOD	Depth Interval	RESULT_UNITS	Analyte Group	Analyte Name	ANALYTE_ID	dw_Analyte Value	dw_MDL	dw_MRL	DETECTED
BAI-24A-032-00	Target Berm	2	6010B	0-0.5	MG_KG	Inorganic	Molybdenum	7439-98-7	0.68	0.23	0.68	N
BAI-24A-032-00	Target Berm	2	6010B	0-0.5	MG_KG	Inorganic	Nickel	7440-02-0	18	0.23	0.68	Y
BAI-24A-032-00	Target Berm	2	6010B	0-0.5	MG_KG	Inorganic	Silver	7440-22-4	0.18	0.085	0.3	Y
BAI-24A-032-00	Target Berm	2	6010B	0-0.5	MG_KG	Inorganic	Thallium	7440-28-0	0.6	0.18	0.6	N
BAI-24A-032-00	Target Berm	2	6010B	0-0.5	MG_KG	Inorganic	Antimony	7440-36-0	33	0.18	0.6	Y
BAI-24A-032-00	Target Berm	2	6010B	0-0.5	MG_KG	Inorganic	Arsenic	7440-38-2	7.2	0.094	0.3	Y
BAI-24A-032-00	Target Berm	2	6010B	0-0.5	MG_KG	Inorganic	Barium	7440-39-3	110	0.11	0.34	Y
BAI-24A-032-00	Target Berm	2	6010B	0-0.5	MG_KG	Inorganic	Beryllium	7440-41-7	0.53	0.023	0.12	Y
BAI-24A-032-00	Target Berm	2	6010B	0-0.5	MG_KG	Inorganic	Cadmium	7440-43-9	0.19	0.057	0.3	Y
BAI-24A-032-00	Target Berm	2	6010B	0-0.5	MG_KG	Inorganic	Chromium	7440-47-3	17	0.11	0.34	Y
BAI-24A-032-00	Target Berm	2	6010B	0-0.5	MG_KG	Inorganic	Cobalt	7440-48-4	9.1	0.23	0.68	Y
BAI-24A-032-00	Target Berm	2	6010B	0-0.5	MG_KG	Inorganic	Copper	7440-50-8	110	0.11	0.34	Y
BAI-24A-032-00	Target Berm	2	6010B	0-0.5	MG_KG	Inorganic	Vanadium	7440-62-2	35	0.11	0.34	Y
BAI-24A-032-00	Target Berm	2	6010B	0-0.5	MG_KG	Inorganic	Zinc	7440-66-6	64	0.23	1.2	Y
BAI-24A-032-00	Target Berm	2	6010B	0-0.5	MG_KG	Inorganic	Selenium	7782-49-2	0.6	0.17	0.6	N
BAI-24A-032-00	Target Berm	2	7470A	0-0.5	MG_KG	Inorganic	Mercury	7439-97-6	0.024	0.0076	0.024	N
BAI-24A-032-00	Target Berm	2	8330	0-0.5	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	226.1904762	15.47619048	226.1904762	N
BAI-24A-032-00	Target Berm	2	8330	0-0.5	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	226.1904762	22.61904762	226.1904762	N
BAI-24A-032-00	Target Berm	2	8330	0-0.5	UG_KG	Explosive	RDX	121-82-4	226.1904762	46.42857143	226.1904762	N
BAI-24A-032-00	Target Berm	2	8330	0-0.5	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	226.1904762	33.33333333	226.1904762	N
BAI-24A-032-00	Target Berm	2	8330	0-0.5	UG_KG	Explosive	HMX	2691-41-0	226.1904762	30.95238095	226.1904762	N
BAI-24A-032-00	Target Berm	2	8330	0-0.5	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	226.1904762	30.95238095	226.1904762	N
BAI-24A-032-00	Target Berm	2	8330	0-0.5	UG_KG	Explosive	Tetryl	479-45-8	226.1904762	76.19047619	226.1904762	N
BAI-24A-032-00	Target Berm	2	8330	0-0.5	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	226.1904762	21.42857143	226.1904762	N
BAI-24A-032-00	Target Berm	2	8330	0-0.5	UG_KG	Explosive	2-Nitrotoluene	88-72-2	464.2857143	17.85714286	464.2857143	N
BAI-24A-032-00	Target Berm	2	8330	0-0.5	UG_KG	SVOC	Nitrobenzene	98-95-3	226.1904762	21.42857143	226.1904762	N
BAI-24A-032-00	Target Berm	2	8330	0-0.5	UG_KG	Explosive	3-Nitrotoluene	99-08-1	464.2857143	70.23809524	464.2857143	N
BAI-24A-032-00	Target Berm	2	8330	0-0.5	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	226.1904762	40.47619048	226.1904762	N
BAI-24A-032-00	Target Berm	2	8330	0-0.5	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	226.1904762	22.61904762	226.1904762	N
BAI-24A-032-00	Target Berm	2	8330	0-0.5	UG_KG	Explosive	4-Nitrotoluene	99-99-0	464.2857143	35.71428571	464.2857143	N
BAI-24A-032-00	Target Berm	2	D2216	0-0.5	PCT	Other	Percent Moisture	-86	19.04761905	0	1.19047619	Y
BAI-24A-032-18	Target Berm	2	6010B	1.5-2	MG_KG	Inorganic	Lead	7439-92-1	23	0.072	0.27	Y
BAI-24A-032-18	Target Berm	2	6010B	1.5-2	MG_KG	Inorganic	Molybdenum	7439-98-7	0.33	0.2	0.59	Y
BAI-24A-032-18	Target Berm	2	6010B	1.5-2	MG_KG	Inorganic	Nickel	7440-02-0	16	0.2	0.59	Y
BAI-24A-032-18	Target Berm	2	6010B	1.5-2	MG_KG	Inorganic	Silver	7440-22-4	0.11	0.073	0.27	Y
BAI-24A-032-18	Target Berm	2	6010B	1.5-2	MG_KG	Inorganic	Thallium	7440-28-0	0.54	0.16	0.54	N
BAI-24A-032-18	Target Berm	2	6010B	1.5-2	MG_KG	Inorganic	Antimony	7440-36-0	2.7	0.16	0.54	Y
BAI-24A-032-18	Target Berm	2	6010B	1.5-2	MG_KG	Inorganic	Arsenic	7440-38-2	4.2	0.081	0.27	Y
BAI-24A-032-18	Target Berm	2	6010B	1.5-2	MG_KG	Inorganic	Barium	7440-39-3	79	0.098	0.29	Y
BAI-24A-032-18	Target Berm	2	6010B	1.5-2	MG_KG	Inorganic	Beryllium	7440-41-7	0.5	0.02	0.11	Y
BAI-24A-032-18	Target Berm	2	6010B	1.5-2	MG_KG	Inorganic	Cadmium	7440-43-9	0.15	0.049	0.27	Y
BAI-24A-032-18	Target Berm	2	6010B	1.5-2	MG_KG	Inorganic	Chromium	7440-47-3	16	0.098	0.29	Y
BAI-24A-032-18	Target Berm	2	6010B	1.5-2	MG_KG	Inorganic	Cobalt	7440-48-4	8.6	0.2	0.59	Y
BAI-24A-032-18	Target Berm	2	6010B	1.5-2	MG_KG	Inorganic	Copper	7440-50-8	15	0.098	0.29	Y
BAI-24A-032-18	Target Berm	2	6010B	1.5-2	MG_KG	Inorganic	Vanadium	7440-62-2	33	0.098	0.29	Y
BAI-24A-032-18	Target Berm	2	6010B	1.5-2	MG_KG	Inorganic	Zinc	7440-66-6	52	0.2	1.1	Y
BAI-24A-032-18	Target Berm	2	6010B	1.5-2	MG_KG	Inorganic	Selenium	7782-49-2	0.54	0.14	0.54	N
BAI-24A-032-18	Target Berm	2	7470A	1.5-2	MG_KG	Inorganic	Mercury	7439-97-6	0.023	0.0073	0.023	N
BAI-24A-032-18	Target Berm	2	8330	1.5-2	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	217.3913043	14.13043478	217.3913043	N

PARENT_SAMPLE_NAME	SI Designation	Exposure Unit	ANALYTICAL_METHOD	Depth Interval	RESULT_UNITS	Analyte Group	Analyte Name	ANALYTE_ID	dw_Analyte Value	dw_MDL	dw_MRL	DETECTED
BAI-24A-032-18	Target Berm	2	8330	1.5-2	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	217.3913043	20.65217391	217.3913043	N
BAI-24A-032-18	Target Berm	2	8330	1.5-2	UG_KG	Explosive	RDX	121-82-4	217.3913043	42.39130435	217.3913043	N
BAI-24A-032-18	Target Berm	2	8330	1.5-2	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	217.3913043	30.43478261	217.3913043	N
BAI-24A-032-18	Target Berm	2	8330	1.5-2	UG_KG	Explosive	HMX	2691-41-0	217.3913043	28.26086957	217.3913043	N
BAI-24A-032-18	Target Berm	2	8330	1.5-2	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	217.3913043	28.26086957	217.3913043	N
BAI-24A-032-18	Target Berm	2	8330	1.5-2	UG_KG	Explosive	Tetryl	479-45-8	217.3913043	70.65217391	217.3913043	N
BAI-24A-032-18	Target Berm	2	8330	1.5-2	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	217.3913043	19.56521739	217.3913043	N
BAI-24A-032-18	Target Berm	2	8330	1.5-2	UG_KG	Explosive	2-Nitrotoluene	88-72-2	434.7826087	17.39130435	434.7826087	N
BAI-24A-032-18	Target Berm	2	8330	1.5-2	UG_KG	SVOC	Nitrobenzene	98-95-3	217.3913043	19.56521739	217.3913043	N
BAI-24A-032-18	Target Berm	2	8330	1.5-2	UG_KG	Explosive	3-Nitrotoluene	99-08-1	434.7826087	66.30434783	434.7826087	N
BAI-24A-032-18	Target Berm	2	8330	1.5-2	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	217.3913043	38.04347826	217.3913043	N
BAI-24A-032-18	Target Berm	2	8330	1.5-2	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	217.3913043	21.73913043	217.3913043	N
BAI-24A-032-18	Target Berm	2	8330	1.5-2	UG_KG	Explosive	4-Nitrotoluene	99-99-0	434.7826087	33.69565217	434.7826087	N
BAI-24A-032-18	Target Berm	2	D2216	1.5-2	PCT	Other	Percent Moisture	-86	8.695652174	0	1.086956522	Y
BAI-24A-033-00	Target Berm	2	8330	0-0.5	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	235.2941176	41.17647059	235.2941176	N
BAI-24A-033-00	Target Berm	4	8330	0-0.5	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	235.2941176	41.17647059	235.2941176	N
BAI-24A-033-00	Target Berm	2	8330	0-0.5	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	235.2941176	23.52941176	235.2941176	N
BAI-24A-033-00	Target Berm	4	8330	0-0.5	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	235.2941176	23.52941176	235.2941176	N
BAI-24A-033-00	Target Berm	2	8330	0-0.5	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	235.2941176	15.29411765	235.2941176	N
BAI-24A-033-00	Target Berm	4	8330	0-0.5	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	235.2941176	15.29411765	235.2941176	N
BAI-24A-033-00	Target Berm	2	8330	0-0.5	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	235.2941176	22.35294118	235.2941176	N
BAI-24A-033-00	Target Berm	4	8330	0-0.5	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	235.2941176	22.35294118	235.2941176	N
BAI-24A-033-00	Target Berm	2	8330	0-0.5	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	235.2941176	21.17647059	235.2941176	N
BAI-24A-033-00	Target Berm	4	8330	0-0.5	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	235.2941176	21.17647059	235.2941176	N
BAI-24A-033-00	Target Berm	2	8330	0-0.5	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	235.2941176	30.58823529	235.2941176	N
BAI-24A-033-00	Target Berm	4	8330	0-0.5	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	235.2941176	30.58823529	235.2941176	N
BAI-24A-033-00	Target Berm	2	8330	0-0.5	UG_KG	Explosive	2-Nitrotoluene	88-72-2	470.5882353	18.82352941	470.5882353	N
BAI-24A-033-00	Target Berm	4	8330	0-0.5	UG_KG	Explosive	2-Nitrotoluene	88-72-2	470.5882353	18.82352941	470.5882353	N
BAI-24A-033-00	Target Berm	2	8330	0-0.5	UG_KG	Explosive	3-Nitrotoluene	99-08-1	470.5882353	70.58823529	470.5882353	N
BAI-24A-033-00	Target Berm	4	8330	0-0.5	UG_KG	Explosive	3-Nitrotoluene	99-08-1	470.5882353	70.58823529	470.5882353	N
BAI-24A-033-00	Target Berm	2	8330	0-0.5	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	235.2941176	32.94117647	235.2941176	N
BAI-24A-033-00	Target Berm	4	8330	0-0.5	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	235.2941176	32.94117647	235.2941176	N
BAI-24A-033-00	Target Berm	2	8330	0-0.5	UG_KG	Explosive	4-Nitrotoluene	99-99-0	470.5882353	35.29411765	470.5882353	N
BAI-24A-033-00	Target Berm	4	8330	0-0.5	UG_KG	Explosive	4-Nitrotoluene	99-99-0	470.5882353	35.29411765	470.5882353	N
BAI-24A-033-00	Target Berm	2	6010B	0-0.5	MG_KG	Inorganic	Antimony	7440-36-0	4.8	0.18	0.59	Y
BAI-24A-033-00	Target Berm	4	6010B	0-0.5	MG_KG	Inorganic	Antimony	7440-36-0	4.8	0.18	0.59	Y
BAI-24A-033-00	Target Berm	2	6010B	0-0.5	MG_KG	Inorganic	Arsenic	7440-38-2	9.7	0.094	0.29	Y
BAI-24A-033-00	Target Berm	4	6010B	0-0.5	MG_KG	Inorganic	Arsenic	7440-38-2	9.7	0.094	0.29	Y
BAI-24A-033-00	Target Berm	2	6010B	0-0.5	MG_KG	Inorganic	Barium	7440-39-3	130	0.11	0.34	Y
BAI-24A-033-00	Target Berm	4	6010B	0-0.5	MG_KG	Inorganic	Barium	7440-39-3	130	0.11	0.34	Y
BAI-24A-033-00	Target Berm	2	6010B	0-0.5	MG_KG	Inorganic	Beryllium	7440-41-7	0.5	0.023	0.12	Y
BAI-24A-033-00	Target Berm	4	6010B	0-0.5	MG_KG	Inorganic	Beryllium	7440-41-7	0.5	0.023	0.12	Y
BAI-24A-033-00	Target Berm	2	6010B	0-0.5	MG_KG	Inorganic	Cadmium	7440-43-9	0.18	0.057	0.29	Y
BAI-24A-033-00	Target Berm	4	6010B	0-0.5	MG_KG	Inorganic	Cadmium	7440-43-9	0.18	0.057	0.29	Y
BAI-24A-033-00	Target Berm	2	6010B	0-0.5	MG_KG	Inorganic	Chromium	7440-47-3	22	0.11	0.34	Y
BAI-24A-033-00	Target Berm	4	6010B	0-0.5	MG_KG	Inorganic	Chromium	7440-47-3	22	0.11	0.34	Y
BAI-24A-033-00	Target Berm	2	6010B	0-0.5	MG_KG	Inorganic	Cobalt	7440-48-4	9.3	0.23	0.68	Y
BAI-24A-033-00	Target Berm	4	6010B	0-0.5	MG_KG	Inorganic	Cobalt	7440-48-4	9.3	0.23	0.68	Y
BAI-24A-033-00	Target Berm	2	6010B	0-0.5	MG_KG	Inorganic	Copper	7440-50-8	52	0.11	0.34	Y

PARENT_SAMPLE_NAME	SI Designation	Exposure Unit	ANALYTICAL_METHOD	Depth Interval	RESULT_UNITS	Analyte Group	Analyte Name	ANALYTE_ID	dw_Analyte Value	dw_MDL	dw_MRL	DETECTED
BAI-24A-033-00	Target Berm	4	6010B	0-0.5	MG_KG	Inorganic	Copper	7440-50-8	52	0.11	0.34	Y
BAI-24A-033-00	Target Berm	2	8330	0-0.5	UG_KG	Explosive	HMX	2691-41-0	235.2941176	30.58823529	235.2941176	N
BAI-24A-033-00	Target Berm	4	8330	0-0.5	UG_KG	Explosive	HMX	2691-41-0	235.2941176	30.58823529	235.2941176	N
BAI-24A-033-00	Target Berm	2	6010B	0-0.5	MG_KG	Inorganic	Lead	7439-92-1	940	0.41	1.2	Y
BAI-24A-033-00	Target Berm	4	6010B	0-0.5	MG_KG	Inorganic	Lead	7439-92-1	940	0.41	1.2	Y
BAI-24A-033-00	Target Berm	2	7470A	0-0.5	MG_KG	Inorganic	Mercury	7439-97-6	0.024	0.0075	0.024	N
BAI-24A-033-00	Target Berm	4	7470A	0-0.5	MG_KG	Inorganic	Mercury	7439-97-6	0.024	0.0075	0.024	N
BAI-24A-033-00	Target Berm	2	6010B	0-0.5	MG_KG	Inorganic	Molybdenum	7439-98-7	0.41	0.23	0.68	Y
BAI-24A-033-00	Target Berm	4	6010B	0-0.5	MG_KG	Inorganic	Molybdenum	7439-98-7	0.41	0.23	0.68	Y
BAI-24A-033-00	Target Berm	2	6010B	0-0.5	MG_KG	Inorganic	Nickel	7440-02-0	17	0.23	0.68	Y
BAI-24A-033-00	Target Berm	4	6010B	0-0.5	MG_KG	Inorganic	Nickel	7440-02-0	17	0.23	0.68	Y
BAI-24A-033-00	Target Berm	2	8330	0-0.5	UG_KG	SVOC	Nitrobenzene	98-95-3	235.2941176	21.17647059	235.2941176	N
BAI-24A-033-00	Target Berm	4	8330	0-0.5	UG_KG	SVOC	Nitrobenzene	98-95-3	235.2941176	21.17647059	235.2941176	N
BAI-24A-033-00	Target Berm	2	D2216	0-0.5	PCT	Other	Percent Moisture	-86	17.64705882	0	1.176470588	Y
BAI-24A-033-00	Target Berm	4	D2216	0-0.5	PCT	Other	Percent Moisture	-86	17.64705882	0	1.176470588	Y
BAI-24A-033-00	Target Berm	2	8330	0-0.5	UG_KG	Explosive	RDX	121-82-4	235.2941176	45.88235294	235.2941176	N
BAI-24A-033-00	Target Berm	4	8330	0-0.5	UG_KG	Explosive	RDX	121-82-4	235.2941176	45.88235294	235.2941176	N
BAI-24A-033-00	Target Berm	2	6010B	0-0.5	MG_KG	Inorganic	Selenium	7782-49-2	0.59	0.17	0.59	N
BAI-24A-033-00	Target Berm	4	6010B	0-0.5	MG_KG	Inorganic	Selenium	7782-49-2	0.59	0.17	0.59	N
BAI-24A-033-00	Target Berm	2	6010B	0-0.5	MG_KG	Inorganic	Silver	7440-22-4	0.29	0.085	0.29	N
BAI-24A-033-00	Target Berm	4	6010B	0-0.5	MG_KG	Inorganic	Silver	7440-22-4	0.29	0.085	0.29	N
BAI-24A-033-00	Target Berm	2	8330	0-0.5	UG_KG	Explosive	Tetryl	479-45-8	235.2941176	76.47058824	235.2941176	N
BAI-24A-033-00	Target Berm	4	8330	0-0.5	UG_KG	Explosive	Tetryl	479-45-8	235.2941176	76.47058824	235.2941176	N
BAI-24A-033-00	Target Berm	2	6010B	0-0.5	MG_KG	Inorganic	Thallium	7440-28-0	0.59	0.18	0.59	N
BAI-24A-033-00	Target Berm	4	6010B	0-0.5	MG_KG	Inorganic	Thallium	7440-28-0	0.59	0.18	0.59	N
BAI-24A-033-00	Target Berm	2	6010B	0-0.5	MG_KG	Inorganic	Vanadium	7440-62-2	34	0.11	0.34	Y
BAI-24A-033-00	Target Berm	4	6010B	0-0.5	MG_KG	Inorganic	Vanadium	7440-62-2	34	0.11	0.34	Y
BAI-24A-033-00	Target Berm	2	6010B	0-0.5	MG_KG	Inorganic	Zinc	7440-66-6	76	0.23	1.2	Y
BAI-24A-033-00	Target Berm	4	6010B	0-0.5	MG_KG	Inorganic	Zinc	7440-66-6	76	0.23	1.2	Y
BAI-24A-034-00	Target Berm	2	6010B	0-0.5	MG_KG	Inorganic	Lead	7439-92-1	120	0.081	0.3	Y
BAI-24A-034-00	Target Berm	2	6010B	0-0.5	MG_KG	Inorganic	Molybdenum	7439-98-7	0.25	0.22	0.67	Y
BAI-24A-034-00	Target Berm	2	6010B	0-0.5	MG_KG	Inorganic	Nickel	7440-02-0	20	0.22	0.67	Y
BAI-24A-034-00	Target Berm	2	6010B	0-0.5	MG_KG	Inorganic	Silver	7440-22-4	0.3	0.083	0.3	N
BAI-24A-034-00	Target Berm	2	6010B	0-0.5	MG_KG	Inorganic	Thallium	7440-28-0	0.6	0.18	0.6	N
BAI-24A-034-00	Target Berm	2	6010B	0-0.5	MG_KG	Inorganic	Antimony	7440-36-0	3.1	0.18	0.6	Y
BAI-24A-034-00	Target Berm	2	6010B	0-0.5	MG_KG	Inorganic	Arsenic	7440-38-2	5.8	0.092	0.3	Y
BAI-24A-034-00	Target Berm	2	6010B	0-0.5	MG_KG	Inorganic	Barium	7440-39-3	120	0.11	0.33	Y
BAI-24A-034-00	Target Berm	2	6010B	0-0.5	MG_KG	Inorganic	Beryllium	7440-41-7	0.59	0.022	0.12	Y
BAI-24A-034-00	Target Berm	2	6010B	0-0.5	MG_KG	Inorganic	Cadmium	7440-43-9	0.19	0.056	0.3	Y
BAI-24A-034-00	Target Berm	2	6010B	0-0.5	MG_KG	Inorganic	Chromium	7440-47-3	19	0.11	0.33	Y
BAI-24A-034-00	Target Berm	2	6010B	0-0.5	MG_KG	Inorganic	Cobalt	7440-48-4	12	0.22	0.67	Y
BAI-24A-034-00	Target Berm	2	6010B	0-0.5	MG_KG	Inorganic	Copper	7440-50-8	19	0.11	0.33	Y
BAI-24A-034-00	Target Berm	2	6010B	0-0.5	MG_KG	Inorganic	Vanadium	7440-62-2	39	0.11	0.33	Y
BAI-24A-034-00	Target Berm	2	6010B	0-0.5	MG_KG	Inorganic	Zinc	7440-66-6	59	0.22	1.2	Y
BAI-24A-034-00	Target Berm	2	6010B	0-0.5	MG_KG	Inorganic	Selenium	7782-49-2	0.6	0.16	0.6	N
BAI-24A-034-00	Target Berm	2	7470A	0-0.5	MG_KG	Inorganic	Mercury	7439-97-6	0.024	0.0076	0.024	N
BAI-24A-034-00	Target Berm	2	8330	0-0.5	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	238.0952381	15.47619048	238.0952381	N
BAI-24A-034-00	Target Berm	2	8330	0-0.5	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	238.0952381	22.61904762	238.0952381	N
BAI-24A-034-00	Target Berm	2	8330	0-0.5	UG_KG	Explosive	RDX	121-82-4	238.0952381	46.42857143	238.0952381	N

Attachment B-4.2
Processed Data

PARENT_SAMPLE_NAME	SI Designation	Exposure Unit	ANALYTICAL_METHOD	Depth Interval	RESULT_UNITS	Analyte Group	Analyte Name	ANALYTE_ID	dw_Analyte Value	dw_MDL	dw_MRL	DETECTED
BAI-24A-034-00	Target Berm	2	8330	0-0.5	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	238.0952381	33.33333333	238.0952381	N
BAI-24A-034-00	Target Berm	2	8330	0-0.5	UG_KG	Explosive	HMX	2691-41-0	238.0952381	30.95238095	238.0952381	N
BAI-24A-034-00	Target Berm	2	8330	0-0.5	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	238.0952381	30.95238095	238.0952381	N
BAI-24A-034-00	Target Berm	2	8330	0-0.5	UG_KG	Explosive	Tetryl	479-45-8	238.0952381	77.38095238	238.0952381	N
BAI-24A-034-00	Target Berm	2	8330	0-0.5	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	238.0952381	21.42857143	238.0952381	N
BAI-24A-034-00	Target Berm	2	8330	0-0.5	UG_KG	Explosive	2-Nitrotoluene	88-72-2	476.1904762	19.04761905	476.1904762	N
BAI-24A-034-00	Target Berm	2	8330	0-0.5	UG_KG	SVOC	Nitrobenzene	98-95-3	238.0952381	21.42857143	238.0952381	N
BAI-24A-034-00	Target Berm	2	8330	0-0.5	UG_KG	Explosive	3-Nitrotoluene	99-08-1	476.1904762	71.42857143	476.1904762	N
BAI-24A-034-00	Target Berm	2	8330	0-0.5	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	238.0952381	41.66666667	238.0952381	N
BAI-24A-034-00	Target Berm	2	8330	0-0.5	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	238.0952381	23.80952381	238.0952381	N
BAI-24A-034-00	Target Berm	2	8330	0-0.5	UG_KG	Explosive	4-Nitrotoluene	99-99-0	476.1904762	35.71428571	476.1904762	N
BAI-24A-034-00	Target Berm	2	D2216	0-0.5	PCT	Other	Percent Moisture	-86	19.04761905	0	1.19047619	Y
BAI-24A-034-18	Target Berm	2	6010B	1.5-2	MG_KG	Inorganic	Lead	7439-92-1	19	0.074	0.27	Y
BAI-24A-034-18	Target Berm	2	6010B	1.5-2	MG_KG	Inorganic	Molybdenum	7439-98-7	0.28	0.2	0.6	Y
BAI-24A-034-18	Target Berm	2	6010B	1.5-2	MG_KG	Inorganic	Nickel	7440-02-0	18	0.2	0.6	Y
BAI-24A-034-18	Target Berm	2	6010B	1.5-2	MG_KG	Inorganic	Silver	7440-22-4	0.095	0.075	0.27	Y
BAI-24A-034-18	Target Berm	2	6010B	1.5-2	MG_KG	Inorganic	Thallium	7440-28-0	0.55	0.16	0.55	N
BAI-24A-034-18	Target Berm	2	6010B	1.5-2	MG_KG	Inorganic	Antimony	7440-36-0	2.5	0.16	0.55	Y
BAI-24A-034-18	Target Berm	2	6010B	1.5-2	MG_KG	Inorganic	Arsenic	7440-38-2	5	0.084	0.27	Y
BAI-24A-034-18	Target Berm	2	6010B	1.5-2	MG_KG	Inorganic	Barium	7440-39-3	98	0.1	0.3	Y
BAI-24A-034-18	Target Berm	2	6010B	1.5-2	MG_KG	Inorganic	Beryllium	7440-41-7	0.54	0.02	0.11	Y
BAI-24A-034-18	Target Berm	2	6010B	1.5-2	MG_KG	Inorganic	Cadmium	7440-43-9	0.17	0.05	0.27	Y
BAI-24A-034-18	Target Berm	2	6010B	1.5-2	MG_KG	Inorganic	Chromium	7440-47-3	18	0.1	0.3	Y
BAI-24A-034-18	Target Berm	2	6010B	1.5-2	MG_KG	Inorganic	Cobalt	7440-48-4	8.6	0.2	0.6	Y
BAI-24A-034-18	Target Berm	2	6010B	1.5-2	MG_KG	Inorganic	Copper	7440-50-8	16	0.1	0.3	Y
BAI-24A-034-18	Target Berm	2	6010B	1.5-2	MG_KG	Inorganic	Vanadium	7440-62-2	36	0.1	0.3	Y
BAI-24A-034-18	Target Berm	2	6010B	1.5-2	MG_KG	Inorganic	Zinc	7440-66-6	53	0.2	1.1	Y
BAI-24A-034-18	Target Berm	2	6010B	1.5-2	MG_KG	Inorganic	Selenium	7782-49-2	0.55	0.15	0.55	N
BAI-24A-034-18	Target Berm	2	7470A	1.5-2	MG_KG	Inorganic	Mercury	7439-97-6	0.022	0.0071	0.022	N
BAI-24A-034-18	Target Berm	2	8330	1.5-2	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	219.7802198	14.28571429	219.7802198	N
BAI-24A-034-18	Target Berm	2	8330	1.5-2	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	219.7802198	20.87912088	219.7802198	N
BAI-24A-034-18	Target Berm	2	8330	1.5-2	UG_KG	Explosive	RDX	121-82-4	219.7802198	43.95604396	219.7802198	N
BAI-24A-034-18	Target Berm	2	8330	1.5-2	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	219.7802198	30.76923077	219.7802198	N
BAI-24A-034-18	Target Berm	2	8330	1.5-2	UG_KG	Explosive	HMX	2691-41-0	219.7802198	28.57142857	219.7802198	N
BAI-24A-034-18	Target Berm	2	8330	1.5-2	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	219.7802198	28.57142857	219.7802198	N
BAI-24A-034-18	Target Berm	2	8330	1.5-2	UG_KG	Explosive	Tetryl	479-45-8	219.7802198	72.52747253	219.7802198	N
BAI-24A-034-18	Target Berm	2	8330	1.5-2	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	219.7802198	19.78021978	219.7802198	N
BAI-24A-034-18	Target Berm	2	8330	1.5-2	UG_KG	Explosive	2-Nitrotoluene	88-72-2	439.5604396	17.58241758	439.5604396	N
BAI-24A-034-18	Target Berm	2	8330	1.5-2	UG_KG	SVOC	Nitrobenzene	98-95-3	219.7802198	19.78021978	219.7802198	N
BAI-24A-034-18	Target Berm	2	8330	1.5-2	UG_KG	Explosive	3-Nitrotoluene	99-08-1	439.5604396	67.03296703	439.5604396	N
BAI-24A-034-18	Target Berm	2	8330	1.5-2	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	219.7802198	38.46153846	219.7802198	N
BAI-24A-034-18	Target Berm	2	8330	1.5-2	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	219.7802198	21.97802198	219.7802198	N
BAI-24A-034-18	Target Berm	2	8330	1.5-2	UG_KG	Explosive	4-Nitrotoluene	99-99-0	439.5604396	34.06593407	439.5604396	N
BAI-24A-034-18	Target Berm	2	D2216	1.5-2	PCT	Other	Percent Moisture	-86	9.89010989	0	1.098901099	Y
BAI-24A-035-00	Target Berm	2	6010B	0-0.5	MG_KG	Inorganic	Lead	7439-92-1	249.05	0.078	0.29	Y
BAI-24A-035-00	Target Berm	2	6010B	0-0.5	MG_KG	Inorganic	Molybdenum	7439-98-7	0.2375	0.1625	0.4825	Y
BAI-24A-035-00	Target Berm	2	6010B	0-0.5	MG_KG	Inorganic	Nickel	7440-02-0	18	0.215	0.64	Y
BAI-24A-035-00	Target Berm	2	6010B	0-0.5	MG_KG	Inorganic	Silver	7440-22-4	0.145	0.08	0.29	Y
BAI-24A-035-00	Target Berm	2	6010B	0-0.5	MG_KG	Inorganic	Thallium	7440-28-0	0.58	0.175	0.58	N

PARENT_SAMPLE_NAME	SI Designation	Exposure Unit	ANALYTICAL_METHOD	Depth Interval	RESULT_UNITS	Analyte Group	Analyte Name	ANALYTE_ID	dw_Analyte Value	dw_MDL	dw_MRL	DETECTED
BAI-24A-035-00	Target Berm	2	6010B	0-0.5	MG_KG	Inorganic	Antimony	7440-36-0	4.35	0.17	0.58	Y
BAI-24A-035-00	Target Berm	2	6010B	0-0.5	MG_KG	Inorganic	Arsenic	7440-38-2	5.55	0.089	0.29	Y
BAI-24A-035-00	Target Berm	2	6010B	0-0.5	MG_KG	Inorganic	Barium	7440-39-3	109.5	0.11	0.325	Y
BAI-24A-035-00	Target Berm	2	6010B	0-0.5	MG_KG	Inorganic	Beryllium	7440-41-7	0.565	0.0215	0.12	Y
BAI-24A-035-00	Target Berm	2	6010B	0-0.5	MG_KG	Inorganic	Cadmium	7440-43-9	0.185	0.0535	0.29	Y
BAI-24A-035-00	Target Berm	2	6010B	0-0.5	MG_KG	Inorganic	Chromium	7440-47-3	19	0.11	0.325	Y
BAI-24A-035-00	Target Berm	2	6010B	0-0.5	MG_KG	Inorganic	Cobalt	7440-48-4	9.45	0.215	0.64	Y
BAI-24A-035-00	Target Berm	2	6010B	0-0.5	MG_KG	Inorganic	Copper	7440-50-8	33	0.11	0.325	Y
BAI-24A-035-00	Target Berm	2	6010B	0-0.5	MG_KG	Inorganic	Vanadium	7440-62-2	37	0.11	0.325	Y
BAI-24A-035-00	Target Berm	2	6010B	0-0.5	MG_KG	Inorganic	Zinc	7440-66-6	59	0.215	1.2	Y
BAI-24A-035-00	Target Berm	2	6010B	0-0.5	MG_KG	Inorganic	Selenium	7782-49-2	0.58	0.155	0.58	N
BAI-24A-035-00	Target Berm	2	7470A	0-0.5	MG_KG	Inorganic	Mercury	7439-97-6	0.01165	0.0053	0.01725	Y
BAI-24A-035-00	Target Berm	2	8330	0-0.5	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	226.744186	25	226.744186	N
BAI-24A-035-00	Target Berm	2	8330	0-0.5	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	226.744186	22.6744186	226.744186	N
BAI-24A-035-00	Target Berm	2	8330	0-0.5	UG_KG	Explosive	RDX	121-82-4	226.744186	34.30232558	226.744186	N
BAI-24A-035-00	Target Berm	2	8330	0-0.5	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	226.744186	38.37209302	226.744186	N
BAI-24A-035-00	Target Berm	2	8330	0-0.5	UG_KG	Explosive	HMX	2691-41-0	226.744186	23.25581395	226.744186	N
BAI-24A-035-00	Target Berm	2	8330	0-0.5	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	226.744186	25.58139535	226.744186	N
BAI-24A-035-00	Target Berm	2	8330	0-0.5	UG_KG	Explosive	Tetryl	479-45-8	226.744186	69.76744186	226.744186	N
BAI-24A-035-00	Target Berm	2	8330	0-0.5	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	226.744186	23.25581395	226.744186	N
BAI-24A-035-00	Target Berm	2	8330	0-0.5	UG_KG	Explosive	2-Nitrotoluene	88-72-2	459.3023256	25.58139535	459.3023256	N
BAI-24A-035-00	Target Berm	2	8330	0-0.5	UG_KG	SVOC	Nitrobenzene	98-95-3	226.744186	19.76744186	226.744186	N
BAI-24A-035-00	Target Berm	2	8330	0-0.5	UG_KG	Explosive	3-Nitrotoluene	99-08-1	459.3023256	57.55813953	459.3023256	N
BAI-24A-035-00	Target Berm	2	8330	0-0.5	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	226.744186	36.04651163	226.744186	N
BAI-24A-035-00	Target Berm	2	8330	0-0.5	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	226.744186	14.24418605	226.744186	N
BAI-24A-035-00	Target Berm	2	8330	0-0.5	UG_KG	Explosive	4-Nitrotoluene	99-99-0	459.3023256	33.72093023	459.3023256	N
BAI-24A-035-00	Target Berm	2	D2216	0-0.5	PCT	Other	Percent Moisture	-86	16.27906977	0	1.162790698	Y
BAI-24A-035-18	Target Berm	2	6010B	1.5-2	MG_KG	Inorganic	Lead	7439-92-1	230	0.074	0.27	Y
BAI-24A-035-18	Target Berm	2	6010B	1.5-2	MG_KG	Inorganic	Molybdenum	7439-98-7	0.38	0.2	0.6	Y
BAI-24A-035-18	Target Berm	2	6010B	1.5-2	MG_KG	Inorganic	Nickel	7440-02-0	17	0.2	0.6	Y
BAI-24A-035-18	Target Berm	2	6010B	1.5-2	MG_KG	Inorganic	Silver	7440-22-4	0.096	0.075	0.27	Y
BAI-24A-035-18	Target Berm	2	6010B	1.5-2	MG_KG	Inorganic	Thallium	7440-28-0	0.55	0.16	0.55	N
BAI-24A-035-18	Target Berm	2	6010B	1.5-2	MG_KG	Inorganic	Antimony	7440-36-0	5.4	0.16	0.55	Y
BAI-24A-035-18	Target Berm	2	6010B	1.5-2	MG_KG	Inorganic	Arsenic	7440-38-2	5.1	0.084	0.27	Y
BAI-24A-035-18	Target Berm	2	6010B	1.5-2	MG_KG	Inorganic	Barium	7440-39-3	93	0.1	0.3	Y
BAI-24A-035-18	Target Berm	2	6010B	1.5-2	MG_KG	Inorganic	Beryllium	7440-41-7	0.53	0.02	0.11	Y
BAI-24A-035-18	Target Berm	2	6010B	1.5-2	MG_KG	Inorganic	Cadmium	7440-43-9	0.2	0.05	0.27	Y
BAI-24A-035-18	Target Berm	2	6010B	1.5-2	MG_KG	Inorganic	Chromium	7440-47-3	18	0.1	0.3	Y
BAI-24A-035-18	Target Berm	2	6010B	1.5-2	MG_KG	Inorganic	Cobalt	7440-48-4	9.5	0.2	0.6	Y
BAI-24A-035-18	Target Berm	2	6010B	1.5-2	MG_KG	Inorganic	Copper	7440-50-8	36	0.1	0.3	Y
BAI-24A-035-18	Target Berm	2	6010B	1.5-2	MG_KG	Inorganic	Vanadium	7440-62-2	35	0.1	0.3	Y
BAI-24A-035-18	Target Berm	2	6010B	1.5-2	MG_KG	Inorganic	Zinc	7440-66-6	58	0.2	1.1	Y
BAI-24A-035-18	Target Berm	2	6010B	1.5-2	MG_KG	Inorganic	Selenium	7782-49-2	0.55	0.15	0.55	N
BAI-24A-035-18	Target Berm	2	7470A	1.5-2	MG_KG	Inorganic	Mercury	7439-97-6	0.023	0.0072	0.023	N
BAI-24A-035-18	Target Berm	2	8330	1.5-2	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	219.7802198	14.28571429	219.7802198	N
BAI-24A-035-18	Target Berm	2	8330	1.5-2	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	219.7802198	20.87912088	219.7802198	N
BAI-24A-035-18	Target Berm	2	8330	1.5-2	UG_KG	Explosive	RDX	121-82-4	219.7802198	42.85714286	219.7802198	N
BAI-24A-035-18	Target Berm	2	8330	1.5-2	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	219.7802198	30.76923077	219.7802198	N
BAI-24A-035-18	Target Berm	2	8330	1.5-2	UG_KG	Explosive	HMX	2691-41-0	219.7802198	28.57142857	219.7802198	N

Attachment B-4.2
Processed Data

PARENT_SAMPLE_NAME	SI Designation	Exposure Unit	ANALYTICAL_METHOD	Depth Interval	RESULT_UNITS	Analyte Group	Analyte Name	ANALYTE_ID	dw_Analyte Value	dw_MDL	dw_MRL	DETECTED
BAI-24A-035-18	Target Berm	2	8330	1.5-2	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	219.7802198	28.57142857	219.7802198	N
BAI-24A-035-18	Target Berm	2	8330	1.5-2	UG_KG	Explosive	Tetryl	479-45-8	219.7802198	71.42857143	219.7802198	N
BAI-24A-035-18	Target Berm	2	8330	1.5-2	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	219.7802198	19.78021978	219.7802198	N
BAI-24A-035-18	Target Berm	2	8330	1.5-2	UG_KG	Explosive	2-Nitrotoluene	88-72-2	439.5604396	17.58241758	439.5604396	N
BAI-24A-035-18	Target Berm	2	8330	1.5-2	UG_KG	SVOC	Nitrobenzene	98-95-3	219.7802198	19.78021978	219.7802198	N
BAI-24A-035-18	Target Berm	2	8330	1.5-2	UG_KG	Explosive	3-Nitrotoluene	99-08-1	439.5604396	67.03296703	439.5604396	N
BAI-24A-035-18	Target Berm	2	8330	1.5-2	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	219.7802198	38.46153846	219.7802198	N
BAI-24A-035-18	Target Berm	2	8330	1.5-2	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	219.7802198	21.97802198	219.7802198	N
BAI-24A-035-18	Target Berm	2	8330	1.5-2	UG_KG	Explosive	4-Nitrotoluene	99-99-0	439.5604396	34.06593407	439.5604396	N
BAI-24A-035-18	Target Berm	2	D2216	1.5-2	PCT	Other	Percent Moisture	-86	9.89010989	0	1.098901099	Y
BAI-24A-037-00	Below Grenade	3	6010B	0-0.5	MG_KG	Inorganic	Lead	7439-92-1	28	0.081	0.29	Y
BAI-24A-037-00	Below Grenade	3	6010B	0-0.5	MG_KG	Inorganic	Molybdenum	7439-98-7	0.25	0.22	0.66	Y
BAI-24A-037-00	Below Grenade	3	6010B	0-0.5	MG_KG	Inorganic	Nickel	7440-02-0	12	0.22	0.66	Y
BAI-24A-037-00	Below Grenade	3	6010B	0-0.5	MG_KG	Inorganic	Silver	7440-22-4	0.29	0.083	0.29	N
BAI-24A-037-00	Below Grenade	3	6010B	0-0.5	MG_KG	Inorganic	Thallium	7440-28-0	0.57	0.18	0.57	N
BAI-24A-037-00	Below Grenade	3	6010B	0-0.5	MG_KG	Inorganic	Antimony	7440-36-0	1.8	0.18	0.57	Y
BAI-24A-037-00	Below Grenade	3	6010B	0-0.5	MG_KG	Inorganic	Arsenic	7440-38-2	3	0.092	0.29	Y
BAI-24A-037-00	Below Grenade	3	6010B	0-0.5	MG_KG	Inorganic	Barium	7440-39-3	120	0.11	0.33	Y
BAI-24A-037-00	Below Grenade	3	6010B	0-0.5	MG_KG	Inorganic	Beryllium	7440-41-7	0.36	0.022	0.11	Y
BAI-24A-037-00	Below Grenade	3	6010B	0-0.5	MG_KG	Inorganic	Cadmium	7440-43-9	0.14	0.055	0.29	Y
BAI-24A-037-00	Below Grenade	3	6010B	0-0.5	MG_KG	Inorganic	Chromium	7440-47-3	14	0.11	0.33	Y
BAI-24A-037-00	Below Grenade	3	6010B	0-0.5	MG_KG	Inorganic	Cobalt	7440-48-4	7.2	0.22	0.66	Y
BAI-24A-037-00	Below Grenade	3	6010B	0-0.5	MG_KG	Inorganic	Copper	7440-50-8	9.3	0.11	0.33	Y
BAI-24A-037-00	Below Grenade	3	6010B	0-0.5	MG_KG	Inorganic	Vanadium	7440-62-2	27	0.11	0.33	Y
BAI-24A-037-00	Below Grenade	3	6010B	0-0.5	MG_KG	Inorganic	Zinc	7440-66-6	48	0.22	1.1	Y
BAI-24A-037-00	Below Grenade	3	6010B	0-0.5	MG_KG	Inorganic	Selenium	7782-49-2	0.57	0.16	0.57	N
BAI-24A-037-00	Below Grenade	3	7470A	0-0.5	MG_KG	Inorganic	Mercury	7439-97-6	0.023	0.0068	0.023	N
BAI-24A-037-00	Below Grenade	3	8330	0-0.5	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	229.8850575	14.94252874	229.8850575	N
BAI-24A-037-00	Below Grenade	3	8330	0-0.5	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	229.8850575	21.83908046	229.8850575	N
BAI-24A-037-00	Below Grenade	3	8330	0-0.5	UG_KG	Explosive	RDX	121-82-4	229.8850575	44.82758621	229.8850575	N
BAI-24A-037-00	Below Grenade	3	8330	0-0.5	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	229.8850575	32.18390805	229.8850575	N
BAI-24A-037-00	Below Grenade	3	8330	0-0.5	UG_KG	Explosive	HMX	2691-41-0	229.8850575	29.88505747	229.8850575	N
BAI-24A-037-00	Below Grenade	3	8330	0-0.5	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	229.8850575	29.88505747	229.8850575	N
BAI-24A-037-00	Below Grenade	3	8330	0-0.5	UG_KG	Explosive	Tetryl	479-45-8	229.8850575	74.71264368	229.8850575	N
BAI-24A-037-00	Below Grenade	3	8330	0-0.5	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	229.8850575	20.68965517	229.8850575	N
BAI-24A-037-00	Below Grenade	3	8330	0-0.5	UG_KG	Explosive	2-Nitrotoluene	88-72-2	448.2758621	18.3908046	448.2758621	N
BAI-24A-037-00	Below Grenade	3	8330	0-0.5	UG_KG	SVOC	Nitrobenzene	98-95-3	229.8850575	20.68965517	229.8850575	N
BAI-24A-037-00	Below Grenade	3	8330	0-0.5	UG_KG	Explosive	3-Nitrotoluene	99-08-1	448.2758621	68.96551724	448.2758621	N
BAI-24A-037-00	Below Grenade	3	8330	0-0.5	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	229.8850575	40.22988506	229.8850575	N
BAI-24A-037-00	Below Grenade	3	8330	0-0.5	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	229.8850575	21.83908046	229.8850575	N
BAI-24A-037-00	Below Grenade	3	8330	0-0.5	UG_KG	Explosive	4-Nitrotoluene	99-99-0	448.2758621	34.48275862	448.2758621	N
BAI-24A-037-00	Below Grenade	3	D2216	0-0.5	PCT	Other	Percent Moisture	-86	14.94252874	0	1.149425287	Y
BAI-24A-037-18	Below Grenade	3	6010B	1.5-2	MG_KG	Inorganic	Lead	7439-92-1	31	0.073	0.27	Y
BAI-24A-037-18	Below Grenade	3	6010B	1.5-2	MG_KG	Inorganic	Molybdenum	7439-98-7	0.6	0.2	0.6	N
BAI-24A-037-18	Below Grenade	3	6010B	1.5-2	MG_KG	Inorganic	Nickel	7440-02-0	11	0.2	0.6	Y
BAI-24A-037-18	Below Grenade	3	6010B	1.5-2	MG_KG	Inorganic	Silver	7440-22-4	0.27	0.074	0.27	N
BAI-24A-037-18	Below Grenade	3	6010B	1.5-2	MG_KG	Inorganic	Thallium	7440-28-0	0.54	0.16	0.54	N
BAI-24A-037-18	Below Grenade	3	6010B	1.5-2	MG_KG	Inorganic	Antimony	7440-36-0	0.66	0.16	0.54	Y
BAI-24A-037-18	Below Grenade	3	6010B	1.5-2	MG_KG	Inorganic	Arsenic	7440-38-2	2.9	0.083	0.27	Y

PARENT_SAMPLE_NAME	SI Designation	Exposure Unit	ANALYTICAL_METHOD	Depth Interval	RESULT_UNITS	Analyte Group	Analyte Name	ANALYTE_ID	dw_Analyte Value	dw_MDL	dw_MRL	DETECTED
BAI-24A-037-18	Below Grenade	3	6010B	1.5-2	MG_KG	Inorganic	Barium	7440-39-3	100	0.1	0.3	Y
BAI-24A-037-18	Below Grenade	3	6010B	1.5-2	MG_KG	Inorganic	Beryllium	7440-41-7	0.36	0.02	0.11	Y
BAI-24A-037-18	Below Grenade	3	6010B	1.5-2	MG_KG	Inorganic	Cadmium	7440-43-9	0.14	0.05	0.27	Y
BAI-24A-037-18	Below Grenade	3	6010B	1.5-2	MG_KG	Inorganic	Chromium	7440-47-3	13	0.1	0.3	Y
BAI-24A-037-18	Below Grenade	3	6010B	1.5-2	MG_KG	Inorganic	Cobalt	7440-48-4	7	0.2	0.6	Y
BAI-24A-037-18	Below Grenade	3	6010B	1.5-2	MG_KG	Inorganic	Copper	7440-50-8	9	0.1	0.3	Y
BAI-24A-037-18	Below Grenade	3	6010B	1.5-2	MG_KG	Inorganic	Vanadium	7440-62-2	25	0.1	0.3	Y
BAI-24A-037-18	Below Grenade	3	6010B	1.5-2	MG_KG	Inorganic	Zinc	7440-66-6	44	0.2	1.1	Y
BAI-24A-037-18	Below Grenade	3	6010B	1.5-2	MG_KG	Inorganic	Selenium	7782-49-2	0.54	0.15	0.54	N
BAI-24A-037-18	Below Grenade	3	7470A	1.5-2	MG_KG	Inorganic	Mercury	7439-97-6	0.022	0.0065	0.022	N
BAI-24A-037-18	Below Grenade	3	8330	1.5-2	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	215.0537634	13.97849462	215.0537634	N
BAI-24A-037-18	Below Grenade	3	8330	1.5-2	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	215.0537634	20.43010753	215.0537634	N
BAI-24A-037-18	Below Grenade	3	8330	1.5-2	UG_KG	Explosive	RDX	121-82-4	215.0537634	41.93548387	215.0537634	N
BAI-24A-037-18	Below Grenade	3	8330	1.5-2	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	215.0537634	30.10752688	215.0537634	N
BAI-24A-037-18	Below Grenade	3	8330	1.5-2	UG_KG	Explosive	HMX	2691-41-0	215.0537634	27.95698925	215.0537634	N
BAI-24A-037-18	Below Grenade	3	8330	1.5-2	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	215.0537634	27.95698925	215.0537634	N
BAI-24A-037-18	Below Grenade	3	8330	1.5-2	UG_KG	Explosive	Tetryl	479-45-8	215.0537634	69.89247312	215.0537634	N
BAI-24A-037-18	Below Grenade	3	8330	1.5-2	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	215.0537634	19.35483871	215.0537634	N
BAI-24A-037-18	Below Grenade	3	8330	1.5-2	UG_KG	Explosive	2-Nitrotoluene	88-72-2	419.3548387	17.20430108	419.3548387	N
BAI-24A-037-18	Below Grenade	3	8330	1.5-2	UG_KG	SVOC	Nitrobenzene	98-95-3	215.0537634	19.35483871	215.0537634	N
BAI-24A-037-18	Below Grenade	3	8330	1.5-2	UG_KG	Explosive	3-Nitrotoluene	99-08-1	419.3548387	64.51612903	419.3548387	N
BAI-24A-037-18	Below Grenade	3	8330	1.5-2	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	215.0537634	37.6344086	215.0537634	N
BAI-24A-037-18	Below Grenade	3	8330	1.5-2	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	215.0537634	20.43010753	215.0537634	N
BAI-24A-037-18	Below Grenade	3	8330	1.5-2	UG_KG	Explosive	4-Nitrotoluene	99-99-0	419.3548387	32.25806452	419.3548387	N
BAI-24A-037-18	Below Grenade	3	D2216	1.5-2	PCT	Other	Percent Moisture	-86	7.52688172	0	1.075268817	Y
BAI-24A-038-00	Below Grenade	3	6010B	0-0.5	MG_KG	Inorganic	Lead	7439-92-1	24	0.08	0.29	Y
BAI-24A-038-00	Below Grenade	3	6010B	0-0.5	MG_KG	Inorganic	Molybdenum	7439-98-7	0.65	0.22	0.65	N
BAI-24A-038-00	Below Grenade	3	6010B	0-0.5	MG_KG	Inorganic	Nickel	7440-02-0	14	0.22	0.65	Y
BAI-24A-038-00	Below Grenade	3	6010B	0-0.5	MG_KG	Inorganic	Silver	7440-22-4	0.29	0.081	0.29	N
BAI-24A-038-00	Below Grenade	3	6010B	0-0.5	MG_KG	Inorganic	Thallium	7440-28-0	0.59	0.18	0.59	N
BAI-24A-038-00	Below Grenade	3	6010B	0-0.5	MG_KG	Inorganic	Antimony	7440-36-0	2.6	0.17	0.59	Y
BAI-24A-038-00	Below Grenade	3	6010B	0-0.5	MG_KG	Inorganic	Arsenic	7440-38-2	2.7	0.09	0.29	Y
BAI-24A-038-00	Below Grenade	3	6010B	0-0.5	MG_KG	Inorganic	Barium	7440-39-3	130	0.11	0.33	Y
BAI-24A-038-00	Below Grenade	3	6010B	0-0.5	MG_KG	Inorganic	Beryllium	7440-41-7	0.42	0.022	0.12	Y
BAI-24A-038-00	Below Grenade	3	6010B	0-0.5	MG_KG	Inorganic	Cadmium	7440-43-9	0.17	0.054	0.29	Y
BAI-24A-038-00	Below Grenade	3	6010B	0-0.5	MG_KG	Inorganic	Chromium	7440-47-3	16	0.11	0.33	Y
BAI-24A-038-00	Below Grenade	3	6010B	0-0.5	MG_KG	Inorganic	Cobalt	7440-48-4	8.2	0.22	0.65	Y
BAI-24A-038-00	Below Grenade	3	6010B	0-0.5	MG_KG	Inorganic	Copper	7440-50-8	11	0.11	0.33	Y
BAI-24A-038-00	Below Grenade	3	6010B	0-0.5	MG_KG	Inorganic	Vanadium	7440-62-2	31	0.11	0.33	Y
BAI-24A-038-00	Below Grenade	3	6010B	0-0.5	MG_KG	Inorganic	Zinc	7440-66-6	53	0.22	1.2	Y
BAI-24A-038-00	Below Grenade	3	6010B	0-0.5	MG_KG	Inorganic	Selenium	7782-49-2	0.59	0.16	0.59	N
BAI-24A-038-00	Below Grenade	3	7470A	0-0.5	MG_KG	Inorganic	Mercury	7439-97-6	0.025	0.0079	0.025	N
BAI-24A-038-00	Below Grenade	3	8330	0-0.5	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	235.2941176	15.29411765	235.2941176	N
BAI-24A-038-00	Below Grenade	3	8330	0-0.5	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	235.2941176	22.35294118	235.2941176	N
BAI-24A-038-00	Below Grenade	3	8330	0-0.5	UG_KG	Explosive	RDX	121-82-4	235.2941176	47.05882353	235.2941176	N
BAI-24A-038-00	Below Grenade	3	8330	0-0.5	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	235.2941176	32.94117647	235.2941176	N
BAI-24A-038-00	Below Grenade	3	8330	0-0.5	UG_KG	Explosive	HMX	2691-41-0	235.2941176	30.58823529	235.2941176	N
BAI-24A-038-00	Below Grenade	3	8330	0-0.5	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	235.2941176	30.58823529	235.2941176	N
BAI-24A-038-00	Below Grenade	3	8330	0-0.5	UG_KG	Explosive	Tetryl	479-45-8	235.2941176	77.64705882	235.2941176	N

PARENT_SAMPLE_NAME	SI Designation	Exposure Unit	ANALYTICAL_METHOD	Depth Interval	RESULT_UNITS	Analyte Group	Analyte Name	ANALYTE_ID	dw_Analyte Value	dw_MDL	dw_MRL	DETECTED
BAI-24A-038-00	Below Grenade	3	8330	0-0.5	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	235.2941176	21.17647059	235.2941176	N
BAI-24A-038-00	Below Grenade	3	8330	0-0.5	UG_KG	Explosive	2-Nitrotoluene	88-72-2	470.5882353	18.82352941	470.5882353	N
BAI-24A-038-00	Below Grenade	3	8330	0-0.5	UG_KG	SVOC	Nitrobenzene	98-95-3	235.2941176	21.17647059	235.2941176	N
BAI-24A-038-00	Below Grenade	3	8330	0-0.5	UG_KG	Explosive	3-Nitrotoluene	99-08-1	470.5882353	71.76470588	470.5882353	N
BAI-24A-038-00	Below Grenade	3	8330	0-0.5	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	235.2941176	41.17647059	235.2941176	N
BAI-24A-038-00	Below Grenade	3	8330	0-0.5	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	235.2941176	23.52941176	235.2941176	N
BAI-24A-038-00	Below Grenade	3	8330	0-0.5	UG_KG	Explosive	4-Nitrotoluene	99-99-0	470.5882353	28.23529412	470.5882353	N
BAI-24A-038-00	Below Grenade	3	D2216	0-0.5	PCT	Other	Percent Moisture	-86	17.64705882	0	1.176470588	Y
BAI-24A-038-18	Below Grenade	3	6010B	1.5-2	MG_KG	Inorganic	Lead	7439-92-1	180	0.076	0.29	Y
BAI-24A-038-18	Below Grenade	3	6010B	1.5-2	MG_KG	Inorganic	Molybdenum	7439-98-7	0.41	0.21	0.63	Y
BAI-24A-038-18	Below Grenade	3	6010B	1.5-2	MG_KG	Inorganic	Nickel	7440-02-0	17	0.21	0.63	Y
BAI-24A-038-18	Below Grenade	3	6010B	1.5-2	MG_KG	Inorganic	Silver	7440-22-4	0.13	0.078	0.29	Y
BAI-24A-038-18	Below Grenade	3	6010B	1.5-2	MG_KG	Inorganic	Thallium	7440-28-0	0.57	0.17	0.57	N
BAI-24A-038-18	Below Grenade	3	6010B	1.5-2	MG_KG	Inorganic	Antimony	7440-36-0	3.1	0.17	0.57	Y
BAI-24A-038-18	Below Grenade	3	6010B	1.5-2	MG_KG	Inorganic	Arsenic	7440-38-2	4	0.087	0.29	Y
BAI-24A-038-18	Below Grenade	3	6010B	1.5-2	MG_KG	Inorganic	Barium	7440-39-3	120	0.1	0.31	Y
BAI-24A-038-18	Below Grenade	3	6010B	1.5-2	MG_KG	Inorganic	Beryllium	7440-41-7	0.49	0.021	0.11	Y
BAI-24A-038-18	Below Grenade	3	6010B	1.5-2	MG_KG	Inorganic	Cadmium	7440-43-9	0.18	0.052	0.29	Y
BAI-24A-038-18	Below Grenade	3	6010B	1.5-2	MG_KG	Inorganic	Chromium	7440-47-3	18	0.1	0.31	Y
BAI-24A-038-18	Below Grenade	3	6010B	1.5-2	MG_KG	Inorganic	Cobalt	7440-48-4	9.1	0.21	0.63	Y
BAI-24A-038-18	Below Grenade	3	6010B	1.5-2	MG_KG	Inorganic	Copper	7440-50-8	18	0.1	0.31	Y
BAI-24A-038-18	Below Grenade	3	6010B	1.5-2	MG_KG	Inorganic	Vanadium	7440-62-2	34	0.1	0.31	Y
BAI-24A-038-18	Below Grenade	3	6010B	1.5-2	MG_KG	Inorganic	Zinc	7440-66-6	58	0.21	1.1	Y
BAI-24A-038-18	Below Grenade	3	6010B	1.5-2	MG_KG	Inorganic	Selenium	7782-49-2	0.57	0.15	0.57	N
BAI-24A-038-18	Below Grenade	3	7470A	1.5-2	MG_KG	Inorganic	Mercury	7439-97-6	0.024	0.0077	0.024	N
BAI-24A-038-18	Below Grenade	3	8330	1.5-2	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	218.3908046	14.94252874	218.3908046	N
BAI-24A-038-18	Below Grenade	3	8330	1.5-2	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	218.3908046	21.83908046	218.3908046	N
BAI-24A-038-18	Below Grenade	3	8330	1.5-2	UG_KG	Explosive	RDX	121-82-4	218.3908046	44.82758621	218.3908046	N
BAI-24A-038-18	Below Grenade	3	8330	1.5-2	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	218.3908046	32.18390805	218.3908046	N
BAI-24A-038-18	Below Grenade	3	8330	1.5-2	UG_KG	Explosive	HMX	2691-41-0	218.3908046	29.88505747	218.3908046	N
BAI-24A-038-18	Below Grenade	3	8330	1.5-2	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	218.3908046	29.88505747	218.3908046	N
BAI-24A-038-18	Below Grenade	3	8330	1.5-2	UG_KG	Explosive	Tetryl	479-45-8	218.3908046	73.56321839	218.3908046	N
BAI-24A-038-18	Below Grenade	3	8330	1.5-2	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	218.3908046	20.68965517	218.3908046	N
BAI-24A-038-18	Below Grenade	3	8330	1.5-2	UG_KG	Explosive	2-Nitrotoluene	88-72-2	448.2758621	18.3908046	448.2758621	N
BAI-24A-038-18	Below Grenade	3	8330	1.5-2	UG_KG	SVOC	Nitrobenzene	98-95-3	218.3908046	20.68965517	218.3908046	N
BAI-24A-038-18	Below Grenade	3	8330	1.5-2	UG_KG	Explosive	3-Nitrotoluene	99-08-1	448.2758621	67.81609195	448.2758621	N
BAI-24A-038-18	Below Grenade	3	8330	1.5-2	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	218.3908046	39.08045977	218.3908046	N
BAI-24A-038-18	Below Grenade	3	8330	1.5-2	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	218.3908046	21.83908046	218.3908046	N
BAI-24A-038-18	Below Grenade	3	8330	1.5-2	UG_KG	Explosive	4-Nitrotoluene	99-99-0	448.2758621	34.48275862	448.2758621	N
BAI-24A-038-18	Below Grenade	3	D2216	1.5-2	PCT	Other	Percent Moisture	-86	14.94252874	0	1.149425287	Y
BAI-24A-039-00	Below Grenade	3	6010B	0-0.5	MG_KG	Inorganic	Lead	7439-92-1	19	0.082	0.29	Y
BAI-24A-039-00	Below Grenade	3	6010B	0-0.5	MG_KG	Inorganic	Molybdenum	7439-98-7	0.53	0.23	0.68	Y
BAI-24A-039-00	Below Grenade	3	6010B	0-0.5	MG_KG	Inorganic	Nickel	7440-02-0	17	0.23	0.68	Y
BAI-24A-039-00	Below Grenade	3	6010B	0-0.5	MG_KG	Inorganic	Silver	7440-22-4	0.29	0.084	0.29	N
BAI-24A-039-00	Below Grenade	3	6010B	0-0.5	MG_KG	Inorganic	Thallium	7440-28-0	0.57	0.18	0.57	N
BAI-24A-039-00	Below Grenade	3	6010B	0-0.5	MG_KG	Inorganic	Antimony	7440-36-0	1.9	0.18	0.57	Y
BAI-24A-039-00	Below Grenade	3	6010B	0-0.5	MG_KG	Inorganic	Arsenic	7440-38-2	4.2	0.094	0.29	Y
BAI-24A-039-00	Below Grenade	3	6010B	0-0.5	MG_KG	Inorganic	Barium	7440-39-3	120	0.11	0.34	Y
BAI-24A-039-00	Below Grenade	3	6010B	0-0.5	MG_KG	Inorganic	Beryllium	7440-41-7	0.5	0.023	0.11	Y

Attachment B-4.2
Processed Data

PARENT_SAMPLE_NAME	SI Designation	Exposure Unit	ANALYTICAL_METHOD	Depth Interval	RESULT_UNITS	Analyte Group	Analyte Name	ANALYTE_ID	dw_Analyte Value	dw_MDL	dw_MRL	DETECTED
BAI-24A-039-00	Below Grenade	3	6010B	0-0.5	MG_KG	Inorganic	Cadmium	7440-43-9	0.19	0.056	0.29	Y
BAI-24A-039-00	Below Grenade	3	6010B	0-0.5	MG_KG	Inorganic	Chromium	7440-47-3	18	0.11	0.34	Y
BAI-24A-039-00	Below Grenade	3	6010B	0-0.5	MG_KG	Inorganic	Cobalt	7440-48-4	10	0.23	0.68	Y
BAI-24A-039-00	Below Grenade	3	6010B	0-0.5	MG_KG	Inorganic	Copper	7440-50-8	12	0.11	0.34	Y
BAI-24A-039-00	Below Grenade	3	6010B	0-0.5	MG_KG	Inorganic	Vanadium	7440-62-2	36	0.11	0.34	Y
BAI-24A-039-00	Below Grenade	3	6010B	0-0.5	MG_KG	Inorganic	Zinc	7440-66-6	60	0.23	1.1	Y
BAI-24A-039-00	Below Grenade	3	6010B	0-0.5	MG_KG	Inorganic	Selenium	7782-49-2	0.57	0.16	0.57	N
BAI-24A-039-00	Below Grenade	3	7470A	0-0.5	MG_KG	Inorganic	Mercury	7439-97-6	0.025	0.0079	0.025	N
BAI-24A-039-00	Below Grenade	3	8330	0-0.5	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	229.8850575	25.28735632	229.8850575	N
BAI-24A-039-00	Below Grenade	3	8330	0-0.5	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	229.8850575	21.83908046	229.8850575	N
BAI-24A-039-00	Below Grenade	3	8330	0-0.5	UG_KG	Explosive	RDX	121-82-4	229.8850575	44.82758621	229.8850575	N
BAI-24A-039-00	Below Grenade	3	8330	0-0.5	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	229.8850575	32.18390805	229.8850575	N
BAI-24A-039-00	Below Grenade	3	8330	0-0.5	UG_KG	Explosive	HMX	2691-41-0	229.8850575	29.88505747	229.8850575	N
BAI-24A-039-00	Below Grenade	3	8330	0-0.5	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	229.8850575	29.88505747	229.8850575	N
BAI-24A-039-00	Below Grenade	3	8330	0-0.5	UG_KG	Explosive	Tetryl	479-45-8	229.8850575	74.71264368	229.8850575	N
BAI-24A-039-00	Below Grenade	3	8330	0-0.5	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	229.8850575	20.68965517	229.8850575	N
BAI-24A-039-00	Below Grenade	3	8330	0-0.5	UG_KG	Explosive	2-Nitrotoluene	88-72-2	459.7701149	18.3908046	459.7701149	N
BAI-24A-039-00	Below Grenade	3	8330	0-0.5	UG_KG	SVOC	Nitrobenzene	98-95-3	229.8850575	20.68965517	229.8850575	N
BAI-24A-039-00	Below Grenade	3	8330	0-0.5	UG_KG	Explosive	3-Nitrotoluene	99-08-1	459.7701149	68.96551724	459.7701149	N
BAI-24A-039-00	Below Grenade	3	8330	0-0.5	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	229.8850575	40.22988506	229.8850575	N
BAI-24A-039-00	Below Grenade	3	8330	0-0.5	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	229.8850575	22.98850575	229.8850575	N
BAI-24A-039-00	Below Grenade	3	8330	0-0.5	UG_KG	Explosive	4-Nitrotoluene	99-99-0	459.7701149	34.48275862	459.7701149	N
BAI-24A-039-00	Below Grenade	3	D2216	0-0.5	PCT	Other	Percent Moisture	-86	14.94252874	0	1.149425287	Y
BAI-24A-039-18	Below Grenade	3	6010B	1.5-2	MG_KG	Inorganic	Lead	7439-92-1	120	0.081	0.29	Y
BAI-24A-039-18	Below Grenade	3	6010B	1.5-2	MG_KG	Inorganic	Molybdenum	7439-98-7	0.25	0.22	0.67	Y
BAI-24A-039-18	Below Grenade	3	6010B	1.5-2	MG_KG	Inorganic	Nickel	7440-02-0	19	0.22	0.67	Y
BAI-24A-039-18	Below Grenade	3	6010B	1.5-2	MG_KG	Inorganic	Silver	7440-22-4	0.15	0.083	0.29	Y
BAI-24A-039-18	Below Grenade	3	6010B	1.5-2	MG_KG	Inorganic	Thallium	7440-28-0	0.57	0.18	0.57	N
BAI-24A-039-18	Below Grenade	3	6010B	1.5-2	MG_KG	Inorganic	Antimony	7440-36-0	4.5	0.18	0.57	Y
BAI-24A-039-18	Below Grenade	3	6010B	1.5-2	MG_KG	Inorganic	Arsenic	7440-38-2	4.8	0.093	0.29	Y
BAI-24A-039-18	Below Grenade	3	6010B	1.5-2	MG_KG	Inorganic	Barium	7440-39-3	140	0.11	0.33	Y
BAI-24A-039-18	Below Grenade	3	6010B	1.5-2	MG_KG	Inorganic	Beryllium	7440-41-7	0.55	0.022	0.11	Y
BAI-24A-039-18	Below Grenade	3	6010B	1.5-2	MG_KG	Inorganic	Cadmium	7440-43-9	0.19	0.056	0.29	Y
BAI-24A-039-18	Below Grenade	3	6010B	1.5-2	MG_KG	Inorganic	Chromium	7440-47-3	20	0.11	0.33	Y
BAI-24A-039-18	Below Grenade	3	6010B	1.5-2	MG_KG	Inorganic	Cobalt	7440-48-4	9.7	0.22	0.67	Y
BAI-24A-039-18	Below Grenade	3	6010B	1.5-2	MG_KG	Inorganic	Copper	7440-50-8	28	0.11	0.33	Y
BAI-24A-039-18	Below Grenade	3	6010B	1.5-2	MG_KG	Inorganic	Vanadium	7440-62-2	38	0.11	0.33	Y
BAI-24A-039-18	Below Grenade	3	6010B	1.5-2	MG_KG	Inorganic	Zinc	7440-66-6	67	0.22	1.1	Y
BAI-24A-039-18	Below Grenade	3	6010B	1.5-2	MG_KG	Inorganic	Selenium	7782-49-2	0.57	0.16	0.57	N
BAI-24A-039-18	Below Grenade	3	7470A	1.5-2	MG_KG	Inorganic	Mercury	7439-97-6	0.023	0.0074	0.023	N
BAI-24A-039-18	Below Grenade	3	8330	1.5-2	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	229.8850575	14.94252874	229.8850575	N
BAI-24A-039-18	Below Grenade	3	8330	1.5-2	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	229.8850575	21.83908046	229.8850575	N
BAI-24A-039-18	Below Grenade	3	8330	1.5-2	UG_KG	Explosive	RDX	121-82-4	229.8850575	45.97701149	229.8850575	N
BAI-24A-039-18	Below Grenade	3	8330	1.5-2	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	229.8850575	32.18390805	229.8850575	N
BAI-24A-039-18	Below Grenade	3	8330	1.5-2	UG_KG	Explosive	HMX	2691-41-0	229.8850575	29.88505747	229.8850575	N
BAI-24A-039-18	Below Grenade	3	8330	1.5-2	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	229.8850575	29.88505747	229.8850575	N
BAI-24A-039-18	Below Grenade	3	8330	1.5-2	UG_KG	Explosive	Tetryl	479-45-8	229.8850575	75.86206897	229.8850575	N
BAI-24A-039-18	Below Grenade	3	8330	1.5-2	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	229.8850575	20.68965517	229.8850575	N
BAI-24A-039-18	Below Grenade	3	8330	1.5-2	UG_KG	Explosive	2-Nitrotoluene	88-72-2	459.7701149	18.3908046	459.7701149	N

PARENT_SAMPLE_NAME	SI Designation	Exposure Unit	ANALYTICAL_METHOD	Depth Interval	RESULT_UNITS	Analyte Group	Analyte Name	ANALYTE_ID	dw_Analyte Value	dw_MDL	dw_MRL	DETECTED
BAI-24A-039-18	Below Grenade	3	8330	1.5-2	UG_KG	SVOC	Nitrobenzene	98-95-3	229.8850575	20.68965517	229.8850575	N
BAI-24A-039-18	Below Grenade	3	8330	1.5-2	UG_KG	Explosive	3-Nitrotoluene	99-08-1	459.7701149	70.11494253	459.7701149	N
BAI-24A-039-18	Below Grenade	3	8330	1.5-2	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	229.8850575	40.22988506	229.8850575	N
BAI-24A-039-18	Below Grenade	3	8330	1.5-2	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	229.8850575	22.98850575	229.8850575	N
BAI-24A-039-18	Below Grenade	3	8330	1.5-2	UG_KG	Explosive	4-Nitrotoluene	99-99-0	459.7701149	35.63218391	459.7701149	N
BAI-24A-039-18	Below Grenade	3	D2216	1.5-2	PCT	Other	Percent Moisture	-86	14.94252874	0	1.149425287	Y
BAI-24A-04-00	Retaining Wall	2	8270C_SIM	0-0.5	UG_KG	PAH	Anthracene	120-12-7	2.9	1.2	5.8	Y
BAI-24A-04-00	Retaining Wall	2	8270C_SIM	0-0.5	UG_KG	PAH	Pyrene	129-00-0	12	1.2	5.8	Y
BAI-24A-04-00	Retaining Wall	2	8270C_SIM	0-0.5	UG_KG	PAH	Benzo(g,h,i)perylene	191-24-2	3.6	1.2	5.8	Y
BAI-24A-04-00	Retaining Wall	2	8270C_SIM	0-0.5	UG_KG	PAH	Indeno(1,2,3-cd)yrene	193-39-5	2.5	1.2	5.8	Y
BAI-24A-04-00	Retaining Wall	2	8270C_SIM	0-0.5	UG_KG	PAH	Benzo(b)fluoranthene	205-99-2	6.8	1.2	5.8	Y
BAI-24A-04-00	Retaining Wall	2	8270C_SIM	0-0.5	UG_KG	PAH	Fluoranthene	206-44-0	21	1.2	5.8	Y
BAI-24A-04-00	Retaining Wall	2	8270C_SIM	0-0.5	UG_KG	PAH	Benzo(k)fluoranthene	207-08-9	2.3	1.2	5.8	Y
BAI-24A-04-00	Retaining Wall	2	8270C_SIM	0-0.5	UG_KG	PAH	Acenaphthylene	208-96-8	5.8	1.2	5.8	N
BAI-24A-04-00	Retaining Wall	2	8270C_SIM	0-0.5	UG_KG	PAH	Chrysene	218-01-9	7.7	1.2	5.8	Y
BAI-24A-04-00	Retaining Wall	2	8270C_SIM	0-0.5	UG_KG	PAH	Benzo(a)pyrene	50-32-8	2.3	1.2	5.8	Y
BAI-24A-04-00	Retaining Wall	2	8270C_SIM	0-0.5	UG_KG	PAH	Dibenz(a,h)anthracene	53-70-3	5.8	1.2	5.8	N
BAI-24A-04-00	Retaining Wall	2	8270C_SIM	0-0.5	UG_KG	PAH	Benzo(a)anthracene	56-55-3	2.6	1.2	5.8	Y
BAI-24A-04-00	Retaining Wall	2	8270C_SIM	0-0.5	UG_KG	PAH	Acenaphthene	83-32-9	5.8	1.2	5.8	N
BAI-24A-04-00	Retaining Wall	2	8270C_SIM	0-0.5	UG_KG	PAH	Phenanthrene	85-01-8	3.9	1.2	5.8	Y
BAI-24A-04-00	Retaining Wall	2	8270C_SIM	0-0.5	UG_KG	PAH	Fluorene	86-73-7	5.8	1.2	5.8	N
BAI-24A-04-00	Retaining Wall	2	8270C_SIM	0-0.5	UG_KG	PAH	Naphthalene	91-20-3	5.8	1.2	5.8	N
BAI-24A-04-00	Retaining Wall	2	D2216	0-0.5	PCT	Other	Percent Moisture	-86	17.64705882	0	1.176470588	Y
BAI-24A-040-00	Below Grenade	3	6010B	0-0.5	MG_KG	Inorganic	Lead	7439-92-1	14	0.078	0.28	Y
BAI-24A-040-00	Below Grenade	3	6010B	0-0.5	MG_KG	Inorganic	Molybdenum	7439-98-7	0.43	0.21	0.64	Y
BAI-24A-040-00	Below Grenade	3	6010B	0-0.5	MG_KG	Inorganic	Nickel	7440-02-0	16	0.21	0.64	Y
BAI-24A-040-00	Below Grenade	3	6010B	0-0.5	MG_KG	Inorganic	Silver	7440-22-4	0.28	0.08	0.28	N
BAI-24A-040-00	Below Grenade	3	6010B	0-0.5	MG_KG	Inorganic	Thallium	7440-28-0	0.57	0.17	0.57	N
BAI-24A-040-00	Below Grenade	3	6010B	0-0.5	MG_KG	Inorganic	Antimony	7440-36-0	2.8	0.17	0.57	Y
BAI-24A-040-00	Below Grenade	3	6010B	0-0.5	MG_KG	Inorganic	Arsenic	7440-38-2	3.1	0.089	0.28	Y
BAI-24A-040-00	Below Grenade	3	6010B	0-0.5	MG_KG	Inorganic	Barium	7440-39-3	120	0.11	0.32	Y
BAI-24A-040-00	Below Grenade	3	6010B	0-0.5	MG_KG	Inorganic	Beryllium	7440-41-7	0.45	0.021	0.11	Y
BAI-24A-040-00	Below Grenade	3	6010B	0-0.5	MG_KG	Inorganic	Cadmium	7440-43-9	0.18	0.054	0.28	Y
BAI-24A-040-00	Below Grenade	3	6010B	0-0.5	MG_KG	Inorganic	Chromium	7440-47-3	16	0.11	0.32	Y
BAI-24A-040-00	Below Grenade	3	6010B	0-0.5	MG_KG	Inorganic	Cobalt	7440-48-4	8.8	0.21	0.64	Y
BAI-24A-040-00	Below Grenade	3	6010B	0-0.5	MG_KG	Inorganic	Copper	7440-50-8	11	0.11	0.32	Y
BAI-24A-040-00	Below Grenade	3	6010B	0-0.5	MG_KG	Inorganic	Vanadium	7440-62-2	32	0.11	0.32	Y
BAI-24A-040-00	Below Grenade	3	6010B	0-0.5	MG_KG	Inorganic	Zinc	7440-66-6	52	0.21	1.1	Y
BAI-24A-040-00	Below Grenade	3	6010B	0-0.5	MG_KG	Inorganic	Selenium	7782-49-2	0.57	0.16	0.57	N
BAI-24A-040-00	Below Grenade	3	7470A	0-0.5	MG_KG	Inorganic	Mercury	7439-97-6	0.023	0.0069	0.023	N
BAI-24A-040-00	Below Grenade	3	8330	0-0.5	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	227.2727273	14.77272727	227.2727273	N
BAI-24A-040-00	Below Grenade	3	8330	0-0.5	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	227.2727273	21.59090909	227.2727273	N
BAI-24A-040-00	Below Grenade	3	8330	0-0.5	UG_KG	Explosive	RDX	121-82-4	227.2727273	44.31818182	227.2727273	N
BAI-24A-040-00	Below Grenade	3	8330	0-0.5	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	227.2727273	31.81818182	227.2727273	N
BAI-24A-040-00	Below Grenade	3	8330	0-0.5	UG_KG	Explosive	HMX	2691-41-0	227.2727273	29.54545455	227.2727273	N
BAI-24A-040-00	Below Grenade	3	8330	0-0.5	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	227.2727273	29.54545455	227.2727273	N
BAI-24A-040-00	Below Grenade	3	8330	0-0.5	UG_KG	Explosive	Tetryl	479-45-8	227.2727273	72.72727273	227.2727273	N
BAI-24A-040-00	Below Grenade	3	8330	0-0.5	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	227.2727273	20.45454545	227.2727273	N
BAI-24A-040-00	Below Grenade	3	8330	0-0.5	UG_KG	Explosive	2-Nitrotoluene	88-72-2	443.1818182	18.18181818	443.1818182	N

PARENT_SAMPLE_NAME	SI Designation	Exposure Unit	ANALYTICAL_METHOD	Depth Interval	RESULT_UNITS	Analyte Group	Analyte Name	ANALYTE_ID	dw_Analyte Value	dw_MDL	dw_MRL	DETECTED
BAI-24A-040-00	Below Grenade	3	8330	0-0.5	UG_KG	SVOC	Nitrobenzene	98-95-3	227.2727273	20.45454545	227.2727273	N
BAI-24A-040-00	Below Grenade	3	8330	0-0.5	UG_KG	Explosive	3-Nitrotoluene	99-08-1	443.1818182	68.18181818	443.1818182	N
BAI-24A-040-00	Below Grenade	3	8330	0-0.5	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	227.2727273	38.63636364	227.2727273	N
BAI-24A-040-00	Below Grenade	3	8330	0-0.5	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	227.2727273	21.59090909	227.2727273	N
BAI-24A-040-00	Below Grenade	3	8330	0-0.5	UG_KG	Explosive	4-Nitrotoluene	99-99-0	443.1818182	34.09090909	443.1818182	N
BAI-24A-040-00	Below Grenade	3	D2216	0-0.5	PCT	Other	Percent Moisture	-86	13.63636364	0	1.136363636	Y
BAI-24A-040-18	Below Grenade	3	6010B	1.5-2	MG_KG	Inorganic	Lead	7439-92-1	24	0.081	0.29	Y
BAI-24A-040-18	Below Grenade	3	6010B	1.5-2	MG_KG	Inorganic	Molybdenum	7439-98-7	0.67	0.22	0.67	N
BAI-24A-040-18	Below Grenade	3	6010B	1.5-2	MG_KG	Inorganic	Nickel	7440-02-0	19	0.22	0.67	Y
BAI-24A-040-18	Below Grenade	3	6010B	1.5-2	MG_KG	Inorganic	Silver	7440-22-4	0.29	0.083	0.29	N
BAI-24A-040-18	Below Grenade	3	6010B	1.5-2	MG_KG	Inorganic	Thallium	7440-28-0	0.59	0.18	0.59	N
BAI-24A-040-18	Below Grenade	3	6010B	1.5-2	MG_KG	Inorganic	Antimony	7440-36-0	3.4	0.18	0.59	Y
BAI-24A-040-18	Below Grenade	3	6010B	1.5-2	MG_KG	Inorganic	Arsenic	7440-38-2	5	0.092	0.29	Y
BAI-24A-040-18	Below Grenade	3	6010B	1.5-2	MG_KG	Inorganic	Barium	7440-39-3	130	0.11	0.33	Y
BAI-24A-040-18	Below Grenade	3	6010B	1.5-2	MG_KG	Inorganic	Beryllium	7440-41-7	0.6	0.022	0.12	Y
BAI-24A-040-18	Below Grenade	3	6010B	1.5-2	MG_KG	Inorganic	Cadmium	7440-43-9	0.2	0.055	0.29	Y
BAI-24A-040-18	Below Grenade	3	6010B	1.5-2	MG_KG	Inorganic	Chromium	7440-47-3	19	0.11	0.33	Y
BAI-24A-040-18	Below Grenade	3	6010B	1.5-2	MG_KG	Inorganic	Cobalt	7440-48-4	10	0.22	0.67	Y
BAI-24A-040-18	Below Grenade	3	6010B	1.5-2	MG_KG	Inorganic	Copper	7440-50-8	19	0.11	0.33	Y
BAI-24A-040-18	Below Grenade	3	6010B	1.5-2	MG_KG	Inorganic	Vanadium	7440-62-2	38	0.11	0.33	Y
BAI-24A-040-18	Below Grenade	3	6010B	1.5-2	MG_KG	Inorganic	Zinc	7440-66-6	60	0.22	1.2	Y
BAI-24A-040-18	Below Grenade	3	6010B	1.5-2	MG_KG	Inorganic	Selenium	7782-49-2	0.59	0.16	0.59	N
BAI-24A-040-18	Below Grenade	3	7470A	1.5-2	MG_KG	Inorganic	Mercury	7439-97-6	0.015	0.008	0.026	Y
BAI-24A-040-18	Below Grenade	3	8330	1.5-2	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	223.5294118	15.29411765	223.5294118	N
BAI-24A-040-18	Below Grenade	3	8330	1.5-2	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	223.5294118	22.35294118	223.5294118	N
BAI-24A-040-18	Below Grenade	3	8330	1.5-2	UG_KG	Explosive	RDX	121-82-4	223.5294118	44.70588235	223.5294118	N
BAI-24A-040-18	Below Grenade	3	8330	1.5-2	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	223.5294118	32.94117647	223.5294118	N
BAI-24A-040-18	Below Grenade	3	8330	1.5-2	UG_KG	Explosive	HMX	2691-41-0	223.5294118	30.58823529	223.5294118	N
BAI-24A-040-18	Below Grenade	3	8330	1.5-2	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	223.5294118	30.58823529	223.5294118	N
BAI-24A-040-18	Below Grenade	3	8330	1.5-2	UG_KG	Explosive	Tetryl	479-45-8	223.5294118	75.29411765	223.5294118	N
BAI-24A-040-18	Below Grenade	3	8330	1.5-2	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	223.5294118	21.17647059	223.5294118	N
BAI-24A-040-18	Below Grenade	3	8330	1.5-2	UG_KG	Explosive	2-Nitrotoluene	88-72-2	458.8235294	17.64705882	458.8235294	N
BAI-24A-040-18	Below Grenade	3	8330	1.5-2	UG_KG	SVOC	Nitrobenzene	98-95-3	223.5294118	21.17647059	223.5294118	N
BAI-24A-040-18	Below Grenade	3	8330	1.5-2	UG_KG	Explosive	3-Nitrotoluene	99-08-1	458.8235294	69.41176471	458.8235294	N
BAI-24A-040-18	Below Grenade	3	8330	1.5-2	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	223.5294118	40	223.5294118	N
BAI-24A-040-18	Below Grenade	3	8330	1.5-2	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	223.5294118	22.35294118	223.5294118	N
BAI-24A-040-18	Below Grenade	3	8330	1.5-2	UG_KG	Explosive	4-Nitrotoluene	99-99-0	458.8235294	35.29411765	458.8235294	N
BAI-24A-040-18	Below Grenade	3	D2216	1.5-2	PCT	Other	Percent Moisture	-86	17.64705882	0	1.176470588	Y
BAI-24A-041-00	Below Grenade	3	6010B	0-0.5	MG_KG	Inorganic	Lead	7439-92-1	46	0.0855	0.315	Y
BAI-24A-041-00	Below Grenade	3	6010B	0-0.5	MG_KG	Inorganic	Molybdenum	7439-98-7	0.2425	0.1825	0.55	Y
BAI-24A-041-00	Below Grenade	3	6010B	0-0.5	MG_KG	Inorganic	Nickel	7440-02-0	18	0.24	0.72	Y
BAI-24A-041-00	Below Grenade	3	6010B	0-0.5	MG_KG	Inorganic	Silver	7440-22-4	0.315	0.0755	0.315	N
BAI-24A-041-00	Below Grenade	3	6010B	0-0.5	MG_KG	Inorganic	Thallium	7440-28-0	0.64	0.185	0.64	N
BAI-24A-041-00	Below Grenade	3	6010B	0-0.5	MG_KG	Inorganic	Antimony	7440-36-0	1.78	0.185	0.64	Y
BAI-24A-041-00	Below Grenade	3	6010B	0-0.5	MG_KG	Inorganic	Arsenic	7440-38-2	4.35	0.0915	0.315	Y
BAI-24A-041-00	Below Grenade	3	6010B	0-0.5	MG_KG	Inorganic	Barium	7440-39-3	220	0.12	0.36	Y
BAI-24A-041-00	Below Grenade	3	6010B	0-0.5	MG_KG	Inorganic	Beryllium	7440-41-7	0.54	0.024	0.13	Y
BAI-24A-041-00	Below Grenade	3	6010B	0-0.5	MG_KG	Inorganic	Cadmium	7440-43-9	0.13425	0.04575	0.2375	Y
BAI-24A-041-00	Below Grenade	3	6010B	0-0.5	MG_KG	Inorganic	Chromium	7440-47-3	23	0.12	0.36	Y

PARENT_SAMPLE_NAME	SI Designation	Exposure Unit	ANALYTICAL_METHOD	Depth Interval	RESULT_UNITS	Analyte Group	Analyte Name	ANALYTE_ID	dw_Analyte Value	dw_MDL	dw_MRL	DETECTED
BAI-24A-041-00	Below Grenade	3	6010B	0-0.5	MG_KG	Inorganic	Cobalt	7440-48-4	9.85	0.24	0.72	Y
BAI-24A-041-00	Below Grenade	3	6010B	0-0.5	MG_KG	Inorganic	Copper	7440-50-8	21.5	0.12	0.36	Y
BAI-24A-041-00	Below Grenade	3	6010B	0-0.5	MG_KG	Inorganic	Vanadium	7440-62-2	38.5	0.12	0.36	Y
BAI-24A-041-00	Below Grenade	3	6010B	0-0.5	MG_KG	Inorganic	Zinc	7440-66-6	67.5	0.24	1.3	Y
BAI-24A-041-00	Below Grenade	3	6010B	0-0.5	MG_KG	Inorganic	Selenium	7782-49-2	0.185	0.135	0.4775	Y
BAI-24A-041-00	Below Grenade	3	7470A	0-0.5	MG_KG	Inorganic	Mercury	7439-97-6	0.0175	0.00765	0.0255	Y
BAI-24A-041-00	Below Grenade	3	8330	0-0.5	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	254.7770701	27.38853503	254.7770701	N
BAI-24A-041-00	Below Grenade	3	8330	0-0.5	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	254.7770701	25.47770701	254.7770701	N
BAI-24A-041-00	Below Grenade	3	8330	0-0.5	UG_KG	Explosive	RDX	121-82-4	254.7770701	38.21656051	254.7770701	N
BAI-24A-041-00	Below Grenade	3	8330	0-0.5	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	254.7770701	42.67515924	254.7770701	N
BAI-24A-041-00	Below Grenade	3	8330	0-0.5	UG_KG	Explosive	HMX	2691-41-0	254.7770701	26.11464968	254.7770701	N
BAI-24A-041-00	Below Grenade	3	8330	0-0.5	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	254.7770701	28.02547771	254.7770701	N
BAI-24A-041-00	Below Grenade	3	8330	0-0.5	UG_KG	Explosive	Tetryl	479-45-8	254.7770701	76.43312102	254.7770701	N
BAI-24A-041-00	Below Grenade	3	8330	0-0.5	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	254.7770701	25.47770701	254.7770701	N
BAI-24A-041-00	Below Grenade	3	8330	0-0.5	UG_KG	Explosive	2-Nitrotoluene	88-72-2	496.8152866	28.02547771	496.8152866	N
BAI-24A-041-00	Below Grenade	3	8330	0-0.5	UG_KG	SVOC	Nitrobenzene	98-95-3	254.7770701	21.65605096	254.7770701	N
BAI-24A-041-00	Below Grenade	3	8330	0-0.5	UG_KG	Explosive	3-Nitrotoluene	99-08-1	496.8152866	63.69426752	496.8152866	N
BAI-24A-041-00	Below Grenade	3	8330	0-0.5	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	254.7770701	38.85350318	254.7770701	N
BAI-24A-041-00	Below Grenade	3	8330	0-0.5	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	254.7770701	15.03184713	254.7770701	N
BAI-24A-041-00	Below Grenade	3	8330	0-0.5	UG_KG	Explosive	4-Nitrotoluene	99-99-0	496.8152866	36.94267516	496.8152866	N
BAI-24A-041-00	Below Grenade	3	D2216	0-0.5	PCT	Other	Percent Moisture	-86	27.38853503	0	1.27388535	Y
BAI-24A-041-18	Below Grenade	3	6010B	1.5-2	MG_KG	Inorganic	Lead	7439-92-1	8.4	0.084	0.29	Y
BAI-24A-041-18	Below Grenade	3	6010B	1.5-2	MG_KG	Inorganic	Molybdenum	7439-98-7	0.38	0.23	0.69	Y
BAI-24A-041-18	Below Grenade	3	6010B	1.5-2	MG_KG	Inorganic	Nickel	7440-02-0	18	0.23	0.69	Y
BAI-24A-041-18	Below Grenade	3	6010B	1.5-2	MG_KG	Inorganic	Silver	7440-22-4	0.29	0.086	0.29	N
BAI-24A-041-18	Below Grenade	3	6010B	1.5-2	MG_KG	Inorganic	Thallium	7440-28-0	0.57	0.19	0.57	N
BAI-24A-041-18	Below Grenade	3	6010B	1.5-2	MG_KG	Inorganic	Antimony	7440-36-0	2.8	0.18	0.57	Y
BAI-24A-041-18	Below Grenade	3	6010B	1.5-2	MG_KG	Inorganic	Arsenic	7440-38-2	5.1	0.095	0.29	Y
BAI-24A-041-18	Below Grenade	3	6010B	1.5-2	MG_KG	Inorganic	Barium	7440-39-3	110	0.11	0.34	Y
BAI-24A-041-18	Below Grenade	3	6010B	1.5-2	MG_KG	Inorganic	Beryllium	7440-41-7	0.53	0.023	0.11	Y
BAI-24A-041-18	Below Grenade	3	6010B	1.5-2	MG_KG	Inorganic	Cadmium	7440-43-9	0.22	0.057	0.29	Y
BAI-24A-041-18	Below Grenade	3	6010B	1.5-2	MG_KG	Inorganic	Chromium	7440-47-3	19	0.11	0.34	Y
BAI-24A-041-18	Below Grenade	3	6010B	1.5-2	MG_KG	Inorganic	Cobalt	7440-48-4	10	0.23	0.69	Y
BAI-24A-041-18	Below Grenade	3	6010B	1.5-2	MG_KG	Inorganic	Copper	7440-50-8	16	0.11	0.34	Y
BAI-24A-041-18	Below Grenade	3	6010B	1.5-2	MG_KG	Inorganic	Vanadium	7440-62-2	36	0.11	0.34	Y
BAI-24A-041-18	Below Grenade	3	6010B	1.5-2	MG_KG	Inorganic	Zinc	7440-66-6	58	0.23	1.1	Y
BAI-24A-041-18	Below Grenade	3	6010B	1.5-2	MG_KG	Inorganic	Selenium	7782-49-2	0.57	0.17	0.57	N
BAI-24A-041-18	Below Grenade	3	7470A	1.5-2	MG_KG	Inorganic	Mercury	7439-97-6	0.011	0.0066	0.023	Y
BAI-24A-041-18	Below Grenade	3	8330	1.5-2	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	229.8850575	14.94252874	229.8850575	N
BAI-24A-041-18	Below Grenade	3	8330	1.5-2	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	229.8850575	21.83908046	229.8850575	N
BAI-24A-041-18	Below Grenade	3	8330	1.5-2	UG_KG	Explosive	RDX	121-82-4	229.8850575	44.82758621	229.8850575	N
BAI-24A-041-18	Below Grenade	3	8330	1.5-2	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	229.8850575	32.18390805	229.8850575	N
BAI-24A-041-18	Below Grenade	3	8330	1.5-2	UG_KG	Explosive	HMX	2691-41-0	229.8850575	29.88505747	229.8850575	N
BAI-24A-041-18	Below Grenade	3	8330	1.5-2	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	229.8850575	29.88505747	229.8850575	N
BAI-24A-041-18	Below Grenade	3	8330	1.5-2	UG_KG	Explosive	Tetryl	479-45-8	229.8850575	74.71264368	229.8850575	N
BAI-24A-041-18	Below Grenade	3	8330	1.5-2	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	229.8850575	20.68965517	229.8850575	N
BAI-24A-041-18	Below Grenade	3	8330	1.5-2	UG_KG	Explosive	2-Nitrotoluene	88-72-2	459.7701149	12.64367816	459.7701149	N
BAI-24A-041-18	Below Grenade	3	8330	1.5-2	UG_KG	SVOC	Nitrobenzene	98-95-3	229.8850575	20.68965517	229.8850575	N
BAI-24A-041-18	Below Grenade	3	8330	1.5-2	UG_KG	Explosive	3-Nitrotoluene	99-08-1	459.7701149	68.96551724	459.7701149	N

PARENT_SAMPLE_NAME	SI Designation	Exposure Unit	ANALYTICAL_METHOD	Depth Interval	RESULT_UNITS	Analyte Group	Analyte Name	ANALYTE_ID	dw_Analyte Value	dw_MDL	dw_MRL	DETECTED
BAI-24A-041-18	Below Grenade	3	8330	1.5-2	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	229.8850575	40.22988506	229.8850575	N
BAI-24A-041-18	Below Grenade	3	8330	1.5-2	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	229.8850575	22.98850575	229.8850575	N
BAI-24A-041-18	Below Grenade	3	8330	1.5-2	UG_KG	Explosive	4-Nitrotoluene	99-99-0	459.7701149	34.48275862	459.7701149	N
BAI-24A-041-18	Below Grenade	3	D2216	1.5-2	PCT	Other	Percent Moisture	-86	14.94252874	0	1.149425287	Y
BAI-24A-04-18	Retaining Wall	2	8270C_SIM	1.5-2	UG_KG	PAH	Anthracene	120-12-7	63	1.2	6.1	Y
BAI-24A-04-18	Retaining Wall	2	8270C_SIM	1.5-2	UG_KG	PAH	Pyrene	129-00-0	25	1.2	6.1	Y
BAI-24A-04-18	Retaining Wall	2	8270C_SIM	1.5-2	UG_KG	PAH	Benzo(g,h,i)perylene	191-24-2	140	1.2	6.1	Y
BAI-24A-04-18	Retaining Wall	2	8270C_SIM	1.5-2	UG_KG	PAH	Indeno(1,2,3-cd)yrene	193-39-5	65	1.2	6.1	Y
BAI-24A-04-18	Retaining Wall	2	8270C_SIM	1.5-2	UG_KG	PAH	Benzo(b)fluoranthene	205-99-2	32	1.2	6.1	Y
BAI-24A-04-18	Retaining Wall	2	8270C_SIM	1.5-2	UG_KG	PAH	Fluoranthene	206-44-0	24	1.2	6.1	Y
BAI-24A-04-18	Retaining Wall	2	8270C_SIM	1.5-2	UG_KG	PAH	Benzo(k)fluoranthene	207-08-9	7.8	1.2	6.1	Y
BAI-24A-04-18	Retaining Wall	2	8270C_SIM	1.5-2	UG_KG	PAH	Acenaphthylene	208-96-8	22	1.2	6.1	Y
BAI-24A-04-18	Retaining Wall	2	8270C_SIM	1.5-2	UG_KG	PAH	Chrysene	218-01-9	24	1.2	6.1	Y
BAI-24A-04-18	Retaining Wall	2	8270C_SIM	1.5-2	UG_KG	PAH	Benzo(a)pyrene	50-32-8	19	1.2	6.1	Y
BAI-24A-04-18	Retaining Wall	2	8270C_SIM	1.5-2	UG_KG	PAH	Dibenz(a,h)anthracene	53-70-3	15	1.2	6.1	Y
BAI-24A-04-18	Retaining Wall	2	8270C_SIM	1.5-2	UG_KG	PAH	Benzo(a)anthracene	56-55-3	11	1.2	6.1	Y
BAI-24A-04-18	Retaining Wall	2	8270C_SIM	1.5-2	UG_KG	PAH	Acenaphthene	83-32-9	3.7	1.2	6.1	Y
BAI-24A-04-18	Retaining Wall	2	8270C_SIM	1.5-2	UG_KG	PAH	Phenanthrene	85-01-8	20	1.2	6.1	Y
BAI-24A-04-18	Retaining Wall	2	8270C_SIM	1.5-2	UG_KG	PAH	Fluorene	86-73-7	5.1	1.2	6.1	Y
BAI-24A-04-18	Retaining Wall	2	8270C_SIM	1.5-2	UG_KG	PAH	Naphthalene	91-20-3	6.1	1.2	6.1	N
BAI-24A-04-18	Retaining Wall	2	D2216	1.5-2	PCT	Other	Percent Moisture	-86	23.45679012	0	1.234567901	Y
BAI-24A-045-00	Grenade Impact	3	6010B	0-0.5	MG_KG	Inorganic	Lead	7439-92-1	7.1	0.076	0.29	Y
BAI-24A-045-00	Grenade Impact	3	6010B	0-0.5	MG_KG	Inorganic	Molybdenum	7439-98-7	0.65	0.22	0.65	N
BAI-24A-045-00	Grenade Impact	3	6010B	0-0.5	MG_KG	Inorganic	Nickel	7440-02-0	16	0.22	0.65	Y
BAI-24A-045-00	Grenade Impact	3	6010B	0-0.5	MG_KG	Inorganic	Silver	7440-22-4	0.29	0.054	0.29	N
BAI-24A-045-00	Grenade Impact	3	6010B	0-0.5	MG_KG	Inorganic	Thallium	7440-28-0	0.58	0.15	0.58	N
BAI-24A-045-00	Grenade Impact	3	6010B	0-0.5	MG_KG	Inorganic	Antimony	7440-36-0	0.42	0.16	0.58	Y
BAI-24A-045-00	Grenade Impact	3	6010B	0-0.5	MG_KG	Inorganic	Arsenic	7440-38-2	5.3	0.079	0.29	Y
BAI-24A-045-00	Grenade Impact	3	6010B	0-0.5	MG_KG	Inorganic	Barium	7440-39-3	120	0.11	0.33	Y
BAI-24A-045-00	Grenade Impact	3	6010B	0-0.5	MG_KG	Inorganic	Beryllium	7440-41-7	0.45	0.022	0.12	Y
BAI-24A-045-00	Grenade Impact	3	6010B	0-0.5	MG_KG	Inorganic	Cadmium	7440-43-9	0.29	0.054	0.29	N
BAI-24A-045-00	Grenade Impact	3	6010B	0-0.5	MG_KG	Inorganic	Chromium	7440-47-3	18	0.11	0.33	Y
BAI-24A-045-00	Grenade Impact	3	6010B	0-0.5	MG_KG	Inorganic	Cobalt	7440-48-4	9	0.22	0.65	Y
BAI-24A-045-00	Grenade Impact	3	6010B	0-0.5	MG_KG	Inorganic	Copper	7440-50-8	17	0.11	0.33	Y
BAI-24A-045-00	Grenade Impact	3	6010B	0-0.5	MG_KG	Inorganic	Vanadium	7440-62-2	34	0.11	0.33	Y
BAI-24A-045-00	Grenade Impact	3	6010B	0-0.5	MG_KG	Inorganic	Zinc	7440-66-6	64	0.22	1.2	Y
BAI-24A-045-00	Grenade Impact	3	6010B	0-0.5	MG_KG	Inorganic	Selenium	7782-49-2	0.18	0.17	0.58	Y
BAI-24A-045-00	Grenade Impact	3	7470A	0-0.5	MG_KG	Inorganic	Mercury	7439-97-6	0.0068	0.0068	0.023	N
BAI-24A-045-00	Grenade Impact	3	8330	0-0.5	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	232.5581395	15.11627907	232.5581395	N
BAI-24A-045-00	Grenade Impact	3	8330	0-0.5	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	232.5581395	22.09302326	232.5581395	N
BAI-24A-045-00	Grenade Impact	3	8330	0-0.5	UG_KG	Explosive	RDX	121-82-4	232.5581395	45.34883721	232.5581395	N
BAI-24A-045-00	Grenade Impact	3	8330	0-0.5	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	232.5581395	32.55813953	232.5581395	N
BAI-24A-045-00	Grenade Impact	3	8330	0-0.5	UG_KG	Explosive	HMX	2691-41-0	232.5581395	30.23255814	232.5581395	N
BAI-24A-045-00	Grenade Impact	3	8330	0-0.5	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	232.5581395	30.23255814	232.5581395	N
BAI-24A-045-00	Grenade Impact	3	8330	0-0.5	UG_KG	Explosive	Tetryl	479-45-8	232.5581395	75.58139535	232.5581395	N
BAI-24A-045-00	Grenade Impact	3	8330	0-0.5	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	232.5581395	20.93023256	232.5581395	N
BAI-24A-045-00	Grenade Impact	3	8330	0-0.5	UG_KG	Explosive	2-Nitrotoluene	88-72-2	465.1162791	18.60465116	465.1162791	N
BAI-24A-045-00	Grenade Impact	3	8330	0-0.5	UG_KG	SVOC	Nitrobenzene	98-95-3	232.5581395	20.93023256	232.5581395	N
BAI-24A-045-00	Grenade Impact	3	8330	0-0.5	UG_KG	Explosive	3-Nitrotoluene	99-08-1	465.1162791	69.76744186	465.1162791	N

PARENT_SAMPLE_NAME	SI Designation	Exposure Unit	ANALYTICAL_METHOD	Depth Interval	RESULT_UNITS	Analyte Group	Analyte Name	ANALYTE_ID	dw_Analyte Value	dw_MDL	dw_MRL	DETECTED
BAI-24A-045-00	Grenade Impact	3	8330	0-0.5	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	232.5581395	40.69767442	232.5581395	N
BAI-24A-045-00	Grenade Impact	3	8330	0-0.5	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	232.5581395	23.25581395	232.5581395	N
BAI-24A-045-00	Grenade Impact	3	8330	0-0.5	UG_KG	Explosive	4-Nitrotoluene	99-99-0	465.1162791	34.88372093	465.1162791	N
BAI-24A-045-00	Grenade Impact	3	D2216	0-0.5	PCT	Other	Percent Moisture	-86	16.27906977	0	1.162790698	Y
BAI-24A-045-18	Grenade Impact	3	6010B	1.5-2	MG_KG	Inorganic	Lead	7439-92-1	6.4	0.08	0.29	Y
BAI-24A-045-18	Grenade Impact	3	6010B	1.5-2	MG_KG	Inorganic	Molybdenum	7439-98-7	0.69	0.23	0.69	N
BAI-24A-045-18	Grenade Impact	3	6010B	1.5-2	MG_KG	Inorganic	Nickel	7440-02-0	21	0.23	0.69	Y
BAI-24A-045-18	Grenade Impact	3	6010B	1.5-2	MG_KG	Inorganic	Silver	7440-22-4	0.29	0.058	0.29	N
BAI-24A-045-18	Grenade Impact	3	6010B	1.5-2	MG_KG	Inorganic	Thallium	7440-28-0	0.59	0.16	0.59	N
BAI-24A-045-18	Grenade Impact	3	6010B	1.5-2	MG_KG	Inorganic	Antimony	7440-36-0	0.59	0.17	0.59	N
BAI-24A-045-18	Grenade Impact	3	6010B	1.5-2	MG_KG	Inorganic	Arsenic	7440-38-2	14	0.084	0.29	Y
BAI-24A-045-18	Grenade Impact	3	6010B	1.5-2	MG_KG	Inorganic	Barium	7440-39-3	160	0.12	0.35	Y
BAI-24A-045-18	Grenade Impact	3	6010B	1.5-2	MG_KG	Inorganic	Beryllium	7440-41-7	0.98	0.023	0.12	Y
BAI-24A-045-18	Grenade Impact	3	6010B	1.5-2	MG_KG	Inorganic	Cadmium	7440-43-9	0.42	0.058	0.29	Y
BAI-24A-045-18	Grenade Impact	3	6010B	1.5-2	MG_KG	Inorganic	Chromium	7440-47-3	21	0.12	0.35	Y
BAI-24A-045-18	Grenade Impact	3	6010B	1.5-2	MG_KG	Inorganic	Cobalt	7440-48-4	13	0.23	0.69	Y
BAI-24A-045-18	Grenade Impact	3	6010B	1.5-2	MG_KG	Inorganic	Copper	7440-50-8	37	0.12	0.35	Y
BAI-24A-045-18	Grenade Impact	3	6010B	1.5-2	MG_KG	Inorganic	Vanadium	7440-62-2	67	0.12	0.35	Y
BAI-24A-045-18	Grenade Impact	3	6010B	1.5-2	MG_KG	Inorganic	Zinc	7440-66-6	77	0.23	1.2	Y
BAI-24A-045-18	Grenade Impact	3	6010B	1.5-2	MG_KG	Inorganic	Selenium	7782-49-2	1.3	0.18	0.59	Y
BAI-24A-045-18	Grenade Impact	3	7470A	1.5-2	MG_KG	Inorganic	Mercury	7439-97-6	0.024	0.0067	0.024	N
BAI-24A-045-18	Grenade Impact	3	8330	1.5-2	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	235.2941176	15.29411765	235.2941176	N
BAI-24A-045-18	Grenade Impact	3	8330	1.5-2	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	235.2941176	22.35294118	235.2941176	N
BAI-24A-045-18	Grenade Impact	3	8330	1.5-2	UG_KG	Explosive	RDX	121-82-4	235.2941176	45.88235294	235.2941176	N
BAI-24A-045-18	Grenade Impact	3	8330	1.5-2	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	235.2941176	32.94117647	235.2941176	N
BAI-24A-045-18	Grenade Impact	3	8330	1.5-2	UG_KG	Explosive	HMX	2691-41-0	235.2941176	30.58823529	235.2941176	N
BAI-24A-045-18	Grenade Impact	3	8330	1.5-2	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	235.2941176	30.58823529	235.2941176	N
BAI-24A-045-18	Grenade Impact	3	8330	1.5-2	UG_KG	Explosive	Tetryl	479-45-8	235.2941176	76.47058824	235.2941176	N
BAI-24A-045-18	Grenade Impact	3	8330	1.5-2	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	235.2941176	21.17647059	235.2941176	N
BAI-24A-045-18	Grenade Impact	3	8330	1.5-2	UG_KG	Explosive	2-Nitrotoluene	88-72-2	470.5882353	18.82352941	470.5882353	N
BAI-24A-045-18	Grenade Impact	3	8330	1.5-2	UG_KG	SVOC	Nitrobenzene	98-95-3	235.2941176	21.17647059	235.2941176	N
BAI-24A-045-18	Grenade Impact	3	8330	1.5-2	UG_KG	Explosive	3-Nitrotoluene	99-08-1	470.5882353	71.76470588	470.5882353	N
BAI-24A-045-18	Grenade Impact	3	8330	1.5-2	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	235.2941176	41.17647059	235.2941176	N
BAI-24A-045-18	Grenade Impact	3	8330	1.5-2	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	235.2941176	23.52941176	235.2941176	N
BAI-24A-045-18	Grenade Impact	3	8330	1.5-2	UG_KG	Explosive	4-Nitrotoluene	99-99-0	470.5882353	36.47058824	470.5882353	N
BAI-24A-045-18	Grenade Impact	3	D2216	1.5-2	PCT	Other	Percent Moisture	-86	17.64705882	0	1.176470588	Y
BAI-24A-046-00	Grenade Impact	3	6010B	0-0.5	MG_KG	Inorganic	Lead	7439-92-1	3.3	0.072	0.29	Y
BAI-24A-046-00	Grenade Impact	3	6010B	0-0.5	MG_KG	Inorganic	Molybdenum	7439-98-7	0.62	0.21	0.62	N
BAI-24A-046-00	Grenade Impact	3	6010B	0-0.5	MG_KG	Inorganic	Nickel	7440-02-0	10	0.21	0.62	Y
BAI-24A-046-00	Grenade Impact	3	6010B	0-0.5	MG_KG	Inorganic	Silver	7440-22-4	0.29	0.052	0.29	N
BAI-24A-046-00	Grenade Impact	3	6010B	0-0.5	MG_KG	Inorganic	Thallium	7440-28-0	0.57	0.15	0.57	N
BAI-24A-046-00	Grenade Impact	3	6010B	0-0.5	MG_KG	Inorganic	Antimony	7440-36-0	0.62	0.15	0.57	Y
BAI-24A-046-00	Grenade Impact	3	6010B	0-0.5	MG_KG	Inorganic	Arsenic	7440-38-2	3.5	0.075	0.29	Y
BAI-24A-046-00	Grenade Impact	3	6010B	0-0.5	MG_KG	Inorganic	Barium	7440-39-3	130	0.1	0.31	Y
BAI-24A-046-00	Grenade Impact	3	6010B	0-0.5	MG_KG	Inorganic	Beryllium	7440-41-7	0.27	0.021	0.11	Y
BAI-24A-046-00	Grenade Impact	3	6010B	0-0.5	MG_KG	Inorganic	Cadmium	7440-43-9	0.29	0.052	0.29	N
BAI-24A-046-00	Grenade Impact	3	6010B	0-0.5	MG_KG	Inorganic	Chromium	7440-47-3	15	0.1	0.31	Y
BAI-24A-046-00	Grenade Impact	3	6010B	0-0.5	MG_KG	Inorganic	Cobalt	7440-48-4	5.9	0.21	0.62	Y
BAI-24A-046-00	Grenade Impact	3	6010B	0-0.5	MG_KG	Inorganic	Copper	7440-50-8	7.7	0.1	0.31	Y

Attachment B-4.2
Processed Data

PARENT_SAMPLE_NAME	SI Designation	Exposure Unit	ANALYTICAL_METHOD	Depth Interval	RESULT_UNITS	Analyte Group	Analyte Name	ANALYTE_ID	dw_Analyte Value	dw_MDL	dw_MRL	DETECTED
BAI-24A-046-00	Grenade Impact	3	6010B	0-0.5	MG_KG	Inorganic	Vanadium	7440-62-2	25	0.1	0.31	Y
BAI-24A-046-00	Grenade Impact	3	6010B	0-0.5	MG_KG	Inorganic	Zinc	7440-66-6	33	0.21	1.1	Y
BAI-24A-046-00	Grenade Impact	3	6010B	0-0.5	MG_KG	Inorganic	Selenium	7782-49-2	0.46	0.17	0.57	Y
BAI-24A-046-00	Grenade Impact	3	7470A	0-0.5	MG_KG	Inorganic	Mercury	7439-97-6	0.024	0.0077	0.024	N
BAI-24A-046-00	Grenade Impact	3	8330	0-0.5	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	229.8850575	14.94252874	229.8850575	N
BAI-24A-046-00	Grenade Impact	3	8330	0-0.5	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	229.8850575	21.83908046	229.8850575	N
BAI-24A-046-00	Grenade Impact	3	8330	0-0.5	UG_KG	Explosive	RDX	121-82-4	229.8850575	44.82758621	229.8850575	N
BAI-24A-046-00	Grenade Impact	3	8330	0-0.5	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	229.8850575	32.18390805	229.8850575	N
BAI-24A-046-00	Grenade Impact	3	8330	0-0.5	UG_KG	Explosive	HMX	2691-41-0	229.8850575	29.88505747	229.8850575	N
BAI-24A-046-00	Grenade Impact	3	8330	0-0.5	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	229.8850575	29.88505747	229.8850575	N
BAI-24A-046-00	Grenade Impact	3	8330	0-0.5	UG_KG	Explosive	Tetryl	479-45-8	229.8850575	74.71264368	229.8850575	N
BAI-24A-046-00	Grenade Impact	3	8330	0-0.5	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	229.8850575	20.68965517	229.8850575	N
BAI-24A-046-00	Grenade Impact	3	8330	0-0.5	UG_KG	Explosive	2-Nitrotoluene	88-72-2	448.2758621	18.3908046	448.2758621	N
BAI-24A-046-00	Grenade Impact	3	8330	0-0.5	UG_KG	SVOC	Nitrobenzene	98-95-3	229.8850575	20.68965517	229.8850575	N
BAI-24A-046-00	Grenade Impact	3	8330	0-0.5	UG_KG	Explosive	3-Nitrotoluene	99-08-1	448.2758621	68.96551724	448.2758621	N
BAI-24A-046-00	Grenade Impact	3	8330	0-0.5	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	229.8850575	40.22988506	229.8850575	N
BAI-24A-046-00	Grenade Impact	3	8330	0-0.5	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	229.8850575	21.83908046	229.8850575	N
BAI-24A-046-00	Grenade Impact	3	8330	0-0.5	UG_KG	Explosive	4-Nitrotoluene	99-99-0	448.2758621	34.48275862	448.2758621	N
BAI-24A-046-00	Grenade Impact	3	D2216	0-0.5	PCT	Other	Percent Moisture	-86	14.94252874	0	1.149425287	Y
BAI-24A-046-18	Grenade Impact	3	6010B	1.5-2	MG_KG	Inorganic	Lead	7439-92-1	3.6	0.073	0.28	Y
BAI-24A-046-18	Grenade Impact	3	6010B	1.5-2	MG_KG	Inorganic	Molybdenum	7439-98-7	0.63	0.21	0.63	N
BAI-24A-046-18	Grenade Impact	3	6010B	1.5-2	MG_KG	Inorganic	Nickel	7440-02-0	15	0.21	0.63	Y
BAI-24A-046-18	Grenade Impact	3	6010B	1.5-2	MG_KG	Inorganic	Silver	7440-22-4	0.28	0.053	0.28	N
BAI-24A-046-18	Grenade Impact	3	6010B	1.5-2	MG_KG	Inorganic	Thallium	7440-28-0	0.57	0.15	0.57	N
BAI-24A-046-18	Grenade Impact	3	6010B	1.5-2	MG_KG	Inorganic	Antimony	7440-36-0	0.55	0.16	0.57	Y
BAI-24A-046-18	Grenade Impact	3	6010B	1.5-2	MG_KG	Inorganic	Arsenic	7440-38-2	4.2	0.076	0.28	Y
BAI-24A-046-18	Grenade Impact	3	6010B	1.5-2	MG_KG	Inorganic	Barium	7440-39-3	180	0.11	0.32	Y
BAI-24A-046-18	Grenade Impact	3	6010B	1.5-2	MG_KG	Inorganic	Beryllium	7440-41-7	0.4	0.021	0.11	Y
BAI-24A-046-18	Grenade Impact	3	6010B	1.5-2	MG_KG	Inorganic	Cadmium	7440-43-9	0.28	0.053	0.28	N
BAI-24A-046-18	Grenade Impact	3	6010B	1.5-2	MG_KG	Inorganic	Chromium	7440-47-3	17	0.11	0.32	Y
BAI-24A-046-18	Grenade Impact	3	6010B	1.5-2	MG_KG	Inorganic	Cobalt	7440-48-4	11	0.21	0.63	Y
BAI-24A-046-18	Grenade Impact	3	6010B	1.5-2	MG_KG	Inorganic	Copper	7440-50-8	13	0.11	0.32	Y
BAI-24A-046-18	Grenade Impact	3	6010B	1.5-2	MG_KG	Inorganic	Vanadium	7440-62-2	33	0.11	0.32	Y
BAI-24A-046-18	Grenade Impact	3	6010B	1.5-2	MG_KG	Inorganic	Zinc	7440-66-6	46	0.21	1.1	Y
BAI-24A-046-18	Grenade Impact	3	6010B	1.5-2	MG_KG	Inorganic	Selenium	7782-49-2	0.71	0.17	0.57	Y
BAI-24A-046-18	Grenade Impact	3	7470A	1.5-2	MG_KG	Inorganic	Mercury	7439-97-6	0.014	0.0069	0.023	N
BAI-24A-046-18	Grenade Impact	3	8330	1.5-2	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	227.2727273	14.77272727	227.2727273	N
BAI-24A-046-18	Grenade Impact	3	8330	1.5-2	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	227.2727273	21.59090909	227.2727273	N
BAI-24A-046-18	Grenade Impact	3	8330	1.5-2	UG_KG	Explosive	RDX	121-82-4	227.2727273	44.31818182	227.2727273	N
BAI-24A-046-18	Grenade Impact	3	8330	1.5-2	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	227.2727273	31.81818182	227.2727273	N
BAI-24A-046-18	Grenade Impact	3	8330	1.5-2	UG_KG	Explosive	HMX	2691-41-0	227.2727273	29.54545455	227.2727273	N
BAI-24A-046-18	Grenade Impact	3	8330	1.5-2	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	227.2727273	29.54545455	227.2727273	N
BAI-24A-046-18	Grenade Impact	3	8330	1.5-2	UG_KG	Explosive	Tetryl	479-45-8	227.2727273	73.86363636	227.2727273	N
BAI-24A-046-18	Grenade Impact	3	8330	1.5-2	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	227.2727273	20.45454545	227.2727273	N
BAI-24A-046-18	Grenade Impact	3	8330	1.5-2	UG_KG	Explosive	2-Nitrotoluene	88-72-2	454.5454545	18.18181818	454.5454545	N
BAI-24A-046-18	Grenade Impact	3	8330	1.5-2	UG_KG	SVOC	Nitrobenzene	98-95-3	227.2727273	20.45454545	227.2727273	N
BAI-24A-046-18	Grenade Impact	3	8330	1.5-2	UG_KG	Explosive	3-Nitrotoluene	99-08-1	454.5454545	69.31818182	454.5454545	N
BAI-24A-046-18	Grenade Impact	3	8330	1.5-2	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	227.2727273	39.77272727	227.2727273	N
BAI-24A-046-18	Grenade Impact	3	8330	1.5-2	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	227.2727273	22.72727273	227.2727273	N

PARENT_SAMPLE_NAME	SI Designation	Exposure Unit	ANALYTICAL_METHOD	Depth Interval	RESULT_UNITS	Analyte Group	Analyte Name	ANALYTE_ID	dw_Analyte Value	dw_MDL	dw_MRL	DETECTED
BAI-24A-046-18	Grenade Impact	3	8330	1.5-2	UG_KG	Explosive	4-Nitrotoluene	99-99-0	454.5454545	35.22727273	454.5454545	N
BAI-24A-046-18	Grenade Impact	3	D2216	1.5-2	PCT	Other	Percent Moisture	-86	13.63636364	0	1.136363636	Y
BAI-24A-047-00	Grenade Impact	3	6010B	0-0.5	MG_KG	Inorganic	Lead	7439-92-1	34	0.076	0.29	Y
BAI-24A-047-00	Grenade Impact	3	6010B	0-0.5	MG_KG	Inorganic	Molybdenum	7439-98-7	0.65	0.22	0.65	N
BAI-24A-047-00	Grenade Impact	3	6010B	0-0.5	MG_KG	Inorganic	Nickel	7440-02-0	14	0.22	0.65	Y
BAI-24A-047-00	Grenade Impact	3	6010B	0-0.5	MG_KG	Inorganic	Silver	7440-22-4	0.29	0.054	0.29	N
BAI-24A-047-00	Grenade Impact	3	6010B	0-0.5	MG_KG	Inorganic	Thallium	7440-28-0	0.57	0.15	0.57	N
BAI-24A-047-00	Grenade Impact	3	6010B	0-0.5	MG_KG	Inorganic	Antimony	7440-36-0	0.51	0.16	0.57	Y
BAI-24A-047-00	Grenade Impact	3	6010B	0-0.5	MG_KG	Inorganic	Arsenic	7440-38-2	4.3	0.079	0.29	Y
BAI-24A-047-00	Grenade Impact	3	6010B	0-0.5	MG_KG	Inorganic	Barium	7440-39-3	130	0.11	0.33	Y
BAI-24A-047-00	Grenade Impact	3	6010B	0-0.5	MG_KG	Inorganic	Beryllium	7440-41-7	0.37	0.022	0.11	Y
BAI-24A-047-00	Grenade Impact	3	6010B	0-0.5	MG_KG	Inorganic	Cadmium	7440-43-9	0.067	0.054	0.29	Y
BAI-24A-047-00	Grenade Impact	3	6010B	0-0.5	MG_KG	Inorganic	Chromium	7440-47-3	16	0.11	0.33	Y
BAI-24A-047-00	Grenade Impact	3	6010B	0-0.5	MG_KG	Inorganic	Cobalt	7440-48-4	7.4	0.22	0.65	Y
BAI-24A-047-00	Grenade Impact	3	6010B	0-0.5	MG_KG	Inorganic	Copper	7440-50-8	14	0.11	0.33	Y
BAI-24A-047-00	Grenade Impact	3	6010B	0-0.5	MG_KG	Inorganic	Vanadium	7440-62-2	31	0.11	0.33	Y
BAI-24A-047-00	Grenade Impact	3	6010B	0-0.5	MG_KG	Inorganic	Zinc	7440-66-6	88	0.22	1.1	Y
BAI-24A-047-00	Grenade Impact	3	6010B	0-0.5	MG_KG	Inorganic	Selenium	7782-49-2	0.29	0.17	0.57	Y
BAI-24A-047-00	Grenade Impact	3	7470A	0-0.5	MG_KG	Inorganic	Mercury	7439-97-6	0.014	0.0075	0.024	N
BAI-24A-047-00	Grenade Impact	3	8330	0-0.5	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	229.8850575	14.94252874	229.8850575	N
BAI-24A-047-00	Grenade Impact	3	8330	0-0.5	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	229.8850575	21.83908046	229.8850575	N
BAI-24A-047-00	Grenade Impact	3	8330	0-0.5	UG_KG	Explosive	RDX	121-82-4	229.8850575	44.82758621	229.8850575	N
BAI-24A-047-00	Grenade Impact	3	8330	0-0.5	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	229.8850575	32.18390805	229.8850575	N
BAI-24A-047-00	Grenade Impact	3	8330	0-0.5	UG_KG	Explosive	HMX	2691-41-0	229.8850575	29.88505747	229.8850575	N
BAI-24A-047-00	Grenade Impact	3	8330	0-0.5	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	229.8850575	29.88505747	229.8850575	N
BAI-24A-047-00	Grenade Impact	3	8330	0-0.5	UG_KG	Explosive	Tetryl	479-45-8	229.8850575	73.56321839	229.8850575	N
BAI-24A-047-00	Grenade Impact	3	8330	0-0.5	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	229.8850575	20.68965517	229.8850575	N
BAI-24A-047-00	Grenade Impact	3	8330	0-0.5	UG_KG	Explosive	2-Nitrotoluene	88-72-2	448.2758621	18.3908046	448.2758621	N
BAI-24A-047-00	Grenade Impact	3	8330	0-0.5	UG_KG	SVOC	Nitrobenzene	98-95-3	229.8850575	20.68965517	229.8850575	N
BAI-24A-047-00	Grenade Impact	3	8330	0-0.5	UG_KG	Explosive	3-Nitrotoluene	99-08-1	448.2758621	68.96551724	448.2758621	N
BAI-24A-047-00	Grenade Impact	3	8330	0-0.5	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	229.8850575	39.08045977	229.8850575	N
BAI-24A-047-00	Grenade Impact	3	8330	0-0.5	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	229.8850575	21.83908046	229.8850575	N
BAI-24A-047-00	Grenade Impact	3	8330	0-0.5	UG_KG	Explosive	4-Nitrotoluene	99-99-0	448.2758621	34.48275862	448.2758621	N
BAI-24A-047-00	Grenade Impact	3	D2216	0-0.5	PCT	Other	Percent Moisture	-86	14.94252874	0	1.149425287	Y
BAI-24A-047-18	Grenade Impact	3	6010B	1.5-2	MG_KG	Inorganic	Lead	7439-92-1	3.1	0.072	0.28	Y
BAI-24A-047-18	Grenade Impact	3	6010B	1.5-2	MG_KG	Inorganic	Molybdenum	7439-98-7	0.62	0.21	0.62	N
BAI-24A-047-18	Grenade Impact	3	6010B	1.5-2	MG_KG	Inorganic	Nickel	7440-02-0	11	0.21	0.62	Y
BAI-24A-047-18	Grenade Impact	3	6010B	1.5-2	MG_KG	Inorganic	Silver	7440-22-4	0.28	0.052	0.28	N
BAI-24A-047-18	Grenade Impact	3	6010B	1.5-2	MG_KG	Inorganic	Thallium	7440-28-0	0.56	0.14	0.56	N
BAI-24A-047-18	Grenade Impact	3	6010B	1.5-2	MG_KG	Inorganic	Antimony	7440-36-0	0.22	0.15	0.56	Y
BAI-24A-047-18	Grenade Impact	3	6010B	1.5-2	MG_KG	Inorganic	Arsenic	7440-38-2	3.1	0.075	0.28	Y
BAI-24A-047-18	Grenade Impact	3	6010B	1.5-2	MG_KG	Inorganic	Barium	7440-39-3	180	0.1	0.31	Y
BAI-24A-047-18	Grenade Impact	3	6010B	1.5-2	MG_KG	Inorganic	Beryllium	7440-41-7	0.33	0.021	0.11	Y
BAI-24A-047-18	Grenade Impact	3	6010B	1.5-2	MG_KG	Inorganic	Cadmium	7440-43-9	0.28	0.052	0.28	N
BAI-24A-047-18	Grenade Impact	3	6010B	1.5-2	MG_KG	Inorganic	Chromium	7440-47-3	16	0.1	0.31	Y
BAI-24A-047-18	Grenade Impact	3	6010B	1.5-2	MG_KG	Inorganic	Cobalt	7440-48-4	6	0.21	0.62	Y
BAI-24A-047-18	Grenade Impact	3	6010B	1.5-2	MG_KG	Inorganic	Copper	7440-50-8	11	0.1	0.31	Y
BAI-24A-047-18	Grenade Impact	3	6010B	1.5-2	MG_KG	Inorganic	Vanadium	7440-62-2	24	0.1	0.31	Y
BAI-24A-047-18	Grenade Impact	3	6010B	1.5-2	MG_KG	Inorganic	Zinc	7440-66-6	39	0.21	1.1	Y

Attachment B-4.2
Processed Data

PARENT_SAMPLE_NAME	SI Designation	Exposure Unit	ANALYTICAL_METHOD	Depth Interval	RESULT_UNITS	Analyte Group	Analyte Name	ANALYTE_ID	dw_Analyte Value	dw_MDL	dw_MRL	DETECTED
BAI-24A-047-18	Grenade Impact	3	6010B	1.5-2	MG_KG	Inorganic	Selenium	7782-49-2	0.56	0.16	0.56	N
BAI-24A-047-18	Grenade Impact	3	7470A	1.5-2	MG_KG	Inorganic	Mercury	7439-97-6	0.022	0.0067	0.022	N
BAI-24A-047-18	Grenade Impact	3	8330	1.5-2	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	224.7191011	44.94382022	224.7191011	N
BAI-24A-047-18	Grenade Impact	3	8330	1.5-2	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	224.7191011	44.94382022	224.7191011	N
BAI-24A-047-18	Grenade Impact	3	8330	1.5-2	UG_KG	Explosive	RDX	121-82-4	224.7191011	44.94382022	224.7191011	N
BAI-24A-047-18	Grenade Impact	3	8330	1.5-2	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	224.7191011	69.66292135	224.7191011	N
BAI-24A-047-18	Grenade Impact	3	8330	1.5-2	UG_KG	Explosive	HMX	2691-41-0	224.7191011	44.94382022	224.7191011	N
BAI-24A-047-18	Grenade Impact	3	8330	1.5-2	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	224.7191011	56.17977528	224.7191011	N
BAI-24A-047-18	Grenade Impact	3	8330	1.5-2	UG_KG	Explosive	Tetryl	479-45-8	224.7191011	44.94382022	224.7191011	N
BAI-24A-047-18	Grenade Impact	3	8330	1.5-2	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	224.7191011	44.94382022	224.7191011	N
BAI-24A-047-18	Grenade Impact	3	8330	1.5-2	UG_KG	Explosive	2-Nitrotoluene	88-72-2	449.4382022	88.76404494	449.4382022	N
BAI-24A-047-18	Grenade Impact	3	8330	1.5-2	UG_KG	SVOC	Nitrobenzene	98-95-3	224.7191011	44.94382022	224.7191011	N
BAI-24A-047-18	Grenade Impact	3	8330	1.5-2	UG_KG	Explosive	3-Nitrotoluene	99-08-1	449.4382022	88.76404494	449.4382022	N
BAI-24A-047-18	Grenade Impact	3	8330	1.5-2	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	224.7191011	44.94382022	224.7191011	N
BAI-24A-047-18	Grenade Impact	3	8330	1.5-2	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	224.7191011	44.94382022	224.7191011	N
BAI-24A-047-18	Grenade Impact	3	8330	1.5-2	UG_KG	Explosive	4-Nitrotoluene	99-99-0	449.4382022	88.76404494	449.4382022	N
BAI-24A-047-18	Grenade Impact	3	D2216	1.5-2	PCT	Other	Percent Moisture	-86	12.35955056	0	1.123595506	Y
BAI-24A-048-00	Grenade Impact	3	6010B	0-0.5	MG_KG	Inorganic	Lead	7439-92-1	25	0.074	0.29	Y
BAI-24A-048-00	Grenade Impact	3	6010B	0-0.5	MG_KG	Inorganic	Molybdenum	7439-98-7	0.64	0.21	0.64	N
BAI-24A-048-00	Grenade Impact	3	6010B	0-0.5	MG_KG	Inorganic	Nickel	7440-02-0	14	0.21	0.64	Y
BAI-24A-048-00	Grenade Impact	3	6010B	0-0.5	MG_KG	Inorganic	Silver	7440-22-4	0.29	0.053	0.29	N
BAI-24A-048-00	Grenade Impact	3	6010B	0-0.5	MG_KG	Inorganic	Thallium	7440-28-0	0.57	0.15	0.57	N
BAI-24A-048-00	Grenade Impact	3	6010B	0-0.5	MG_KG	Inorganic	Antimony	7440-36-0	0.66	0.16	0.57	Y
BAI-24A-048-00	Grenade Impact	3	6010B	0-0.5	MG_KG	Inorganic	Arsenic	7440-38-2	4.8	0.077	0.29	Y
BAI-24A-048-00	Grenade Impact	3	6010B	0-0.5	MG_KG	Inorganic	Barium	7440-39-3	120	0.11	0.32	Y
BAI-24A-048-00	Grenade Impact	3	6010B	0-0.5	MG_KG	Inorganic	Beryllium	7440-41-7	0.45	0.021	0.11	Y
BAI-24A-048-00	Grenade Impact	3	6010B	0-0.5	MG_KG	Inorganic	Cadmium	7440-43-9	0.29	0.053	0.29	N
BAI-24A-048-00	Grenade Impact	3	6010B	0-0.5	MG_KG	Inorganic	Chromium	7440-47-3	18	0.11	0.32	Y
BAI-24A-048-00	Grenade Impact	3	6010B	0-0.5	MG_KG	Inorganic	Cobalt	7440-48-4	7.8	0.21	0.64	Y
BAI-24A-048-00	Grenade Impact	3	6010B	0-0.5	MG_KG	Inorganic	Copper	7440-50-8	17	0.11	0.32	Y
BAI-24A-048-00	Grenade Impact	3	6010B	0-0.5	MG_KG	Inorganic	Vanadium	7440-62-2	35	0.11	0.32	Y
BAI-24A-048-00	Grenade Impact	3	6010B	0-0.5	MG_KG	Inorganic	Zinc	7440-66-6	62	0.21	1.1	Y
BAI-24A-048-00	Grenade Impact	3	6010B	0-0.5	MG_KG	Inorganic	Selenium	7782-49-2	0.48	0.17	0.57	Y
BAI-24A-048-00	Grenade Impact	3	7470A	0-0.5	MG_KG	Inorganic	Mercury	7439-97-6	0.017	0.0069	0.023	N
BAI-24A-048-00	Grenade Impact	3	8330	0-0.5	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	229.8850575	45.97701149	229.8850575	N
BAI-24A-048-00	Grenade Impact	3	8330	0-0.5	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	229.8850575	45.97701149	229.8850575	N
BAI-24A-048-00	Grenade Impact	3	8330	0-0.5	UG_KG	Explosive	RDX	121-82-4	229.8850575	45.97701149	229.8850575	N
BAI-24A-048-00	Grenade Impact	3	8330	0-0.5	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	229.8850575	71.26436782	229.8850575	N
BAI-24A-048-00	Grenade Impact	3	8330	0-0.5	UG_KG	Explosive	HMX	2691-41-0	229.8850575	45.97701149	229.8850575	N
BAI-24A-048-00	Grenade Impact	3	8330	0-0.5	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	229.8850575	57.47126437	229.8850575	N
BAI-24A-048-00	Grenade Impact	3	8330	0-0.5	UG_KG	Explosive	Tetryl	479-45-8	229.8850575	45.97701149	229.8850575	N
BAI-24A-048-00	Grenade Impact	3	8330	0-0.5	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	229.8850575	45.97701149	229.8850575	N
BAI-24A-048-00	Grenade Impact	3	8330	0-0.5	UG_KG	Explosive	2-Nitrotoluene	88-72-2	459.7701149	91.95402299	459.7701149	N
BAI-24A-048-00	Grenade Impact	3	8330	0-0.5	UG_KG	SVOC	Nitrobenzene	98-95-3	229.8850575	45.97701149	229.8850575	N
BAI-24A-048-00	Grenade Impact	3	8330	0-0.5	UG_KG	Explosive	3-Nitrotoluene	99-08-1	459.7701149	91.95402299	459.7701149	N
BAI-24A-048-00	Grenade Impact	3	8330	0-0.5	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	229.8850575	45.97701149	229.8850575	N
BAI-24A-048-00	Grenade Impact	3	8330	0-0.5	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	229.8850575	45.97701149	229.8850575	N
BAI-24A-048-00	Grenade Impact	3	8330	0-0.5	UG_KG	Explosive	4-Nitrotoluene	99-99-0	459.7701149	91.95402299	459.7701149	N
BAI-24A-048-00	Grenade Impact	3	D2216	0-0.5	PCT	Other	Percent Moisture	-86	14.94252874	0	1.149425287	Y

PARENT_SAMPLE_NAME	SI Designation	Exposure Unit	ANALYTICAL_METHOD	Depth Interval	RESULT_UNITS	Analyte Group	Analyte Name	ANALYTE_ID	dw_Analyte Value	dw_MDL	dw_MRL	DETECTED
BAI-24A-048-18	Grenade Impact	3	6010B	1.5-2	MG_KG	Inorganic	Lead	7439-92-1	3.8	0.071	0.26	Y
BAI-24A-048-18	Grenade Impact	3	6010B	1.5-2	MG_KG	Inorganic	Molybdenum	7439-98-7	0.61	0.2	0.61	N
BAI-24A-048-18	Grenade Impact	3	6010B	1.5-2	MG_KG	Inorganic	Nickel	7440-02-0	13	0.2	0.61	Y
BAI-24A-048-18	Grenade Impact	3	6010B	1.5-2	MG_KG	Inorganic	Silver	7440-22-4	0.26	0.051	0.26	N
BAI-24A-048-18	Grenade Impact	3	6010B	1.5-2	MG_KG	Inorganic	Thallium	7440-28-0	0.53	0.14	0.53	N
BAI-24A-048-18	Grenade Impact	3	6010B	1.5-2	MG_KG	Inorganic	Antimony	7440-36-0	0.4	0.15	0.53	Y
BAI-24A-048-18	Grenade Impact	3	6010B	1.5-2	MG_KG	Inorganic	Arsenic	7440-38-2	4.4	0.074	0.26	Y
BAI-24A-048-18	Grenade Impact	3	6010B	1.5-2	MG_KG	Inorganic	Barium	7440-39-3	140	0.1	0.31	Y
BAI-24A-048-18	Grenade Impact	3	6010B	1.5-2	MG_KG	Inorganic	Beryllium	7440-41-7	0.43	0.02	0.11	Y
BAI-24A-048-18	Grenade Impact	3	6010B	1.5-2	MG_KG	Inorganic	Cadmium	7440-43-9	0.26	0.051	0.26	N
BAI-24A-048-18	Grenade Impact	3	6010B	1.5-2	MG_KG	Inorganic	Chromium	7440-47-3	17	0.1	0.31	Y
BAI-24A-048-18	Grenade Impact	3	6010B	1.5-2	MG_KG	Inorganic	Cobalt	7440-48-4	7.8	0.2	0.61	Y
BAI-24A-048-18	Grenade Impact	3	6010B	1.5-2	MG_KG	Inorganic	Copper	7440-50-8	15	0.1	0.31	Y
BAI-24A-048-18	Grenade Impact	3	6010B	1.5-2	MG_KG	Inorganic	Vanadium	7440-62-2	33	0.1	0.31	Y
BAI-24A-048-18	Grenade Impact	3	6010B	1.5-2	MG_KG	Inorganic	Zinc	7440-66-6	46	0.2	1.1	Y
BAI-24A-048-18	Grenade Impact	3	6010B	1.5-2	MG_KG	Inorganic	Selenium	7782-49-2	0.56	0.16	0.53	Y
BAI-24A-048-18	Grenade Impact	3	7470A	1.5-2	MG_KG	Inorganic	Mercury	7439-97-6	0.018	0.0062	0.021	N
BAI-24A-048-18	Grenade Impact	3	8330	1.5-2	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	210.5263158	41.05263158	210.5263158	N
BAI-24A-048-18	Grenade Impact	3	8330	1.5-2	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	210.5263158	41.05263158	210.5263158	N
BAI-24A-048-18	Grenade Impact	3	8330	1.5-2	UG_KG	Explosive	RDX	121-82-4	210.5263158	41.05263158	210.5263158	N
BAI-24A-048-18	Grenade Impact	3	8330	1.5-2	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	210.5263158	64.21052632	210.5263158	N
BAI-24A-048-18	Grenade Impact	3	8330	1.5-2	UG_KG	Explosive	HMX	2691-41-0	210.5263158	41.05263158	210.5263158	N
BAI-24A-048-18	Grenade Impact	3	8330	1.5-2	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	210.5263158	51.57894737	210.5263158	N
BAI-24A-048-18	Grenade Impact	3	8330	1.5-2	UG_KG	Explosive	Tetryl	479-45-8	210.5263158	41.05263158	210.5263158	N
BAI-24A-048-18	Grenade Impact	3	8330	1.5-2	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	210.5263158	41.05263158	210.5263158	N
BAI-24A-048-18	Grenade Impact	3	8330	1.5-2	UG_KG	Explosive	2-Nitrotoluene	88-72-2	410.5263158	82.10526316	410.5263158	N
BAI-24A-048-18	Grenade Impact	3	8330	1.5-2	UG_KG	SVOC	Nitrobenzene	98-95-3	210.5263158	41.05263158	210.5263158	N
BAI-24A-048-18	Grenade Impact	3	8330	1.5-2	UG_KG	Explosive	3-Nitrotoluene	99-08-1	410.5263158	82.10526316	410.5263158	N
BAI-24A-048-18	Grenade Impact	3	8330	1.5-2	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	210.5263158	41.05263158	210.5263158	N
BAI-24A-048-18	Grenade Impact	3	8330	1.5-2	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	210.5263158	41.05263158	210.5263158	N
BAI-24A-048-18	Grenade Impact	3	8330	1.5-2	UG_KG	Explosive	4-Nitrotoluene	99-99-0	410.5263158	82.10526316	410.5263158	N
BAI-24A-048-18	Grenade Impact	3	D2216	1.5-2	PCT	Other	Percent Moisture	-86	5.263157895	0	1.052631579	Y
BAI-24A-049-00	Grenade Impact	3	6010B	0-0.5	MG_KG	Inorganic	Lead	7439-92-1	16	0.073	0.28	Y
BAI-24A-049-00	Grenade Impact	3	6010B	0-0.5	MG_KG	Inorganic	Molybdenum	7439-98-7	0.63	0.21	0.63	N
BAI-24A-049-00	Grenade Impact	3	6010B	0-0.5	MG_KG	Inorganic	Nickel	7440-02-0	13.5	0.21	0.63	Y
BAI-24A-049-00	Grenade Impact	3	6010B	0-0.5	MG_KG	Inorganic	Silver	7440-22-4	0.28	0.053	0.28	N
BAI-24A-049-00	Grenade Impact	3	6010B	0-0.5	MG_KG	Inorganic	Thallium	7440-28-0	0.565	0.15	0.565	N
BAI-24A-049-00	Grenade Impact	3	6010B	0-0.5	MG_KG	Inorganic	Antimony	7440-36-0	0.87	0.16	0.565	Y
BAI-24A-049-00	Grenade Impact	3	6010B	0-0.5	MG_KG	Inorganic	Arsenic	7440-38-2	4.9	0.076	0.28	Y
BAI-24A-049-00	Grenade Impact	3	6010B	0-0.5	MG_KG	Inorganic	Barium	7440-39-3	130	0.11	0.32	Y
BAI-24A-049-00	Grenade Impact	3	6010B	0-0.5	MG_KG	Inorganic	Beryllium	7440-41-7	0.415	0.021	0.11	Y
BAI-24A-049-00	Grenade Impact	3	6010B	0-0.5	MG_KG	Inorganic	Cadmium	7440-43-9	0.28	0.053	0.28	N
BAI-24A-049-00	Grenade Impact	3	6010B	0-0.5	MG_KG	Inorganic	Chromium	7440-47-3	19	0.11	0.32	Y
BAI-24A-049-00	Grenade Impact	3	6010B	0-0.5	MG_KG	Inorganic	Cobalt	7440-48-4	7.8	0.21	0.63	Y
BAI-24A-049-00	Grenade Impact	3	6010B	0-0.5	MG_KG	Inorganic	Copper	7440-50-8	14.5	0.11	0.32	Y
BAI-24A-049-00	Grenade Impact	3	6010B	0-0.5	MG_KG	Inorganic	Vanadium	7440-62-2	35.5	0.11	0.32	Y
BAI-24A-049-00	Grenade Impact	3	6010B	0-0.5	MG_KG	Inorganic	Zinc	7440-66-6	54	0.21	1.1	Y
BAI-24A-049-00	Grenade Impact	3	6010B	0-0.5	MG_KG	Inorganic	Selenium	7782-49-2	0.44	0.17	0.565	Y
BAI-24A-049-00	Grenade Impact	3	7470A	0-0.5	MG_KG	Inorganic	Mercury	7439-97-6	0.017	0.0072	0.023	N

Attachment B-4.2
Processed Data

PARENT_SAMPLE_NAME	SI Designation	Exposure Unit	ANALYTICAL_METHOD	Depth Interval	RESULT_UNITS	Analyte Group	Analyte Name	ANALYTE_ID	dw_Analyte Value	dw_MDL	dw_MRL	DETECTED
BAI-24A-049-00	Grenade Impact	3	8330	0-0.5	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	225.9887006	29.94350282	225.9887006	N
BAI-24A-049-00	Grenade Impact	3	8330	0-0.5	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	225.9887006	33.33333333	225.9887006	N
BAI-24A-049-00	Grenade Impact	3	8330	0-0.5	UG_KG	Explosive	RDX	121-82-4	225.9887006	44.63276836	225.9887006	N
BAI-24A-049-00	Grenade Impact	3	8330	0-0.5	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	225.9887006	50.84745763	225.9887006	N
BAI-24A-049-00	Grenade Impact	3	8330	0-0.5	UG_KG	Explosive	HMX	2691-41-0	225.9887006	37.28813559	225.9887006	N
BAI-24A-049-00	Grenade Impact	3	8330	0-0.5	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	225.9887006	42.93785311	225.9887006	N
BAI-24A-049-00	Grenade Impact	3	8330	0-0.5	UG_KG	Explosive	Tetryl	479-45-8	225.9887006	59.3220339	225.9887006	N
BAI-24A-049-00	Grenade Impact	3	8330	0-0.5	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	225.9887006	32.76836158	225.9887006	N
BAI-24A-049-00	Grenade Impact	3	8330	0-0.5	UG_KG	Explosive	2-Nitrotoluene	88-72-2	446.3276836	53.67231638	446.3276836	N
BAI-24A-049-00	Grenade Impact	3	8330	0-0.5	UG_KG	SVOC	Nitrobenzene	98-95-3	225.9887006	32.76836158	225.9887006	N
BAI-24A-049-00	Grenade Impact	3	8330	0-0.5	UG_KG	Explosive	3-Nitrotoluene	99-08-1	446.3276836	78.53107345	446.3276836	N
BAI-24A-049-00	Grenade Impact	3	8330	0-0.5	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	225.9887006	42.37288136	225.9887006	N
BAI-24A-049-00	Grenade Impact	3	8330	0-0.5	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	225.9887006	33.33333333	225.9887006	N
BAI-24A-049-00	Grenade Impact	3	8330	0-0.5	UG_KG	Explosive	4-Nitrotoluene	99-99-0	446.3276836	61.5819209	446.3276836	N
BAI-24A-049-00	Grenade Impact	3	D2216	0-0.5	PCT	Other	Percent Moisture	-86	12.99435028	0	1.129943503	Y
BAI-24A-049-18	Grenade Impact	3	6010B	1.5-2	MG_KG	Inorganic	Lead	7439-92-1	3.2	0.074	0.28	Y
BAI-24A-049-18	Grenade Impact	3	6010B	1.5-2	MG_KG	Inorganic	Molybdenum	7439-98-7	0.63	0.21	0.63	N
BAI-24A-049-18	Grenade Impact	3	6010B	1.5-2	MG_KG	Inorganic	Nickel	7440-02-0	13	0.21	0.63	Y
BAI-24A-049-18	Grenade Impact	3	6010B	1.5-2	MG_KG	Inorganic	Silver	7440-22-4	0.28	0.053	0.28	N
BAI-24A-049-18	Grenade Impact	3	6010B	1.5-2	MG_KG	Inorganic	Thallium	7440-28-0	0.56	0.15	0.56	N
BAI-24A-049-18	Grenade Impact	3	6010B	1.5-2	MG_KG	Inorganic	Antimony	7440-36-0	0.47	0.16	0.56	Y
BAI-24A-049-18	Grenade Impact	3	6010B	1.5-2	MG_KG	Inorganic	Arsenic	7440-38-2	4.3	0.077	0.28	Y
BAI-24A-049-18	Grenade Impact	3	6010B	1.5-2	MG_KG	Inorganic	Barium	7440-39-3	130	0.11	0.32	Y
BAI-24A-049-18	Grenade Impact	3	6010B	1.5-2	MG_KG	Inorganic	Beryllium	7440-41-7	0.42	0.021	0.11	Y
BAI-24A-049-18	Grenade Impact	3	6010B	1.5-2	MG_KG	Inorganic	Cadmium	7440-43-9	0.28	0.053	0.28	N
BAI-24A-049-18	Grenade Impact	3	6010B	1.5-2	MG_KG	Inorganic	Chromium	7440-47-3	16	0.11	0.32	Y
BAI-24A-049-18	Grenade Impact	3	6010B	1.5-2	MG_KG	Inorganic	Cobalt	7440-48-4	8.3	0.21	0.63	Y
BAI-24A-049-18	Grenade Impact	3	6010B	1.5-2	MG_KG	Inorganic	Copper	7440-50-8	13	0.11	0.32	Y
BAI-24A-049-18	Grenade Impact	3	6010B	1.5-2	MG_KG	Inorganic	Vanadium	7440-62-2	33	0.11	0.32	Y
BAI-24A-049-18	Grenade Impact	3	6010B	1.5-2	MG_KG	Inorganic	Zinc	7440-66-6	46	0.21	1.1	Y
BAI-24A-049-18	Grenade Impact	3	6010B	1.5-2	MG_KG	Inorganic	Selenium	7782-49-2	0.48	0.17	0.56	Y
BAI-24A-049-18	Grenade Impact	3	7470A	1.5-2	MG_KG	Inorganic	Mercury	7439-97-6	0.022	0.0066	0.022	N
BAI-24A-049-18	Grenade Impact	3	8330	1.5-2	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	222.2222222	44.44444444	222.2222222	N
BAI-24A-049-18	Grenade Impact	3	8330	1.5-2	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	222.2222222	44.44444444	222.2222222	N
BAI-24A-049-18	Grenade Impact	3	8330	1.5-2	UG_KG	Explosive	RDX	121-82-4	222.2222222	44.44444444	222.2222222	N
BAI-24A-049-18	Grenade Impact	3	8330	1.5-2	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	222.2222222	70	222.2222222	N
BAI-24A-049-18	Grenade Impact	3	8330	1.5-2	UG_KG	Explosive	HMX	2691-41-0	222.2222222	44.44444444	222.2222222	N
BAI-24A-049-18	Grenade Impact	3	8330	1.5-2	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	222.2222222	55.55555556	222.2222222	N
BAI-24A-049-18	Grenade Impact	3	8330	1.5-2	UG_KG	Explosive	Tetryl	479-45-8	222.2222222	44.44444444	222.2222222	N
BAI-24A-049-18	Grenade Impact	3	8330	1.5-2	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	222.2222222	44.44444444	222.2222222	N
BAI-24A-049-18	Grenade Impact	3	8330	1.5-2	UG_KG	Explosive	2-Nitrotoluene	88-72-2	444.4444444	88.88888889	444.4444444	N
BAI-24A-049-18	Grenade Impact	3	8330	1.5-2	UG_KG	SVOC	Nitrobenzene	98-95-3	222.2222222	44.44444444	222.2222222	N
BAI-24A-049-18	Grenade Impact	3	8330	1.5-2	UG_KG	Explosive	3-Nitrotoluene	99-08-1	444.4444444	88.88888889	444.4444444	N
BAI-24A-049-18	Grenade Impact	3	8330	1.5-2	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	222.2222222	44.44444444	222.2222222	N
BAI-24A-049-18	Grenade Impact	3	8330	1.5-2	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	222.2222222	44.44444444	222.2222222	N
BAI-24A-049-18	Grenade Impact	3	8330	1.5-2	UG_KG	Explosive	4-Nitrotoluene	99-99-0	444.4444444	88.88888889	444.4444444	N
BAI-24A-049-18	Grenade Impact	3	D2216	1.5-2	PCT	Other	Percent Moisture	-86	11.11111111	0	1.111111111	Y
BAI-24A-05-00	Retaining Wall	2	8270C_SIM	0-0.5	UG_KG	PAH	Anthracene	120-12-7	68.5	1.15	5.8	Y
BAI-24A-05-00	Retaining Wall	2	8270C_SIM	0-0.5	UG_KG	PAH	Pyrene	129-00-0	110	1.15	5.8	Y

PARENT_SAMPLE_NAME	SI Designation	Exposure Unit	ANALYTICAL_METHOD	Depth Interval	RESULT_UNITS	Analyte Group	Analyte Name	ANALYTE_ID	dw_Analyte Value	dw_MDL	dw_MRL	DETECTED
BAI-24A-05-00	Retaining Wall	2	8270C_SIM	0-0.5	UG_KG	PAH	Benzo(g,h,i)perylene	191-24-2	82	1.3	5.8	Y
BAI-24A-05-00	Retaining Wall	2	8270C_SIM	0-0.5	UG_KG	PAH	Indeno(1,2,3-cd)yrene	193-39-5	75.5	1.2	5.8	Y
BAI-24A-05-00	Retaining Wall	2	8270C_SIM	0-0.5	UG_KG	PAH	Benzo(b)fluoranthene	205-99-2	168.5	1.15	5.8	Y
BAI-24A-05-00	Retaining Wall	2	8270C_SIM	0-0.5	UG_KG	PAH	Fluoranthene	206-44-0	109	1.15	5.8	Y
BAI-24A-05-00	Retaining Wall	2	8270C_SIM	0-0.5	UG_KG	PAH	Benzo(k)fluoranthene	207-08-9	49	1.15	5.8	Y
BAI-24A-05-00	Retaining Wall	2	8270C_SIM	0-0.5	UG_KG	PAH	Acenaphthylene	208-96-8	25.5	1.15	5.8	Y
BAI-24A-05-00	Retaining Wall	2	8270C_SIM	0-0.5	UG_KG	PAH	Chrysene	218-01-9	115	1.15	5.8	Y
BAI-24A-05-00	Retaining Wall	2	8270C_SIM	0-0.5	UG_KG	PAH	Benzo(a)pyrene	50-32-8	69	1.15	5.8	Y
BAI-24A-05-00	Retaining Wall	2	8270C_SIM	0-0.5	UG_KG	PAH	Dibenz(a,h)anthracene	53-70-3	23	1.2	5.8	Y
BAI-24A-05-00	Retaining Wall	2	8270C_SIM	0-0.5	UG_KG	PAH	Benzo(a)anthracene	56-55-3	65	1.15	5.8	Y
BAI-24A-05-00	Retaining Wall	2	8270C_SIM	0-0.5	UG_KG	PAH	Acenaphthene	83-32-9	3.4	1.15	5.8	Y
BAI-24A-05-00	Retaining Wall	2	8270C_SIM	0-0.5	UG_KG	PAH	Phenanthrene	85-01-8	28	1.15	5.8	Y
BAI-24A-05-00	Retaining Wall	2	8270C_SIM	0-0.5	UG_KG	PAH	Fluorene	86-73-7	3	1.15	5.8	Y
BAI-24A-05-00	Retaining Wall	2	8270C_SIM	0-0.5	UG_KG	PAH	Naphthalene	91-20-3	1.15	0.85	4.325	Y
BAI-24A-05-00	Retaining Wall	2	D2216	0-0.5	PCT	Other	Percent Moisture	-86	16.27906977	0	1.162790698	Y
BAI-24A-051-00	Grenade Impact	3	6010B	0-0.5	MG_KG	Inorganic	Lead	7439-92-1	58	0.072	0.29	Y
BAI-24A-051-00	Grenade Impact	3	6010B	0-0.5	MG_KG	Inorganic	Molybdenum	7439-98-7	0.62	0.21	0.62	N
BAI-24A-051-00	Grenade Impact	3	6010B	0-0.5	MG_KG	Inorganic	Nickel	7440-02-0	15	0.21	0.62	Y
BAI-24A-051-00	Grenade Impact	3	6010B	0-0.5	MG_KG	Inorganic	Silver	7440-22-4	0.29	0.052	0.29	N
BAI-24A-051-00	Grenade Impact	3	6010B	0-0.5	MG_KG	Inorganic	Thallium	7440-28-0	0.58	0.15	0.58	N
BAI-24A-051-00	Grenade Impact	3	6010B	0-0.5	MG_KG	Inorganic	Antimony	7440-36-0	1.2	0.16	0.58	Y
BAI-24A-051-00	Grenade Impact	3	6010B	0-0.5	MG_KG	Inorganic	Arsenic	7440-38-2	5.3	0.075	0.29	Y
BAI-24A-051-00	Grenade Impact	3	6010B	0-0.5	MG_KG	Inorganic	Barium	7440-39-3	110	0.1	0.31	Y
BAI-24A-051-00	Grenade Impact	3	6010B	0-0.5	MG_KG	Inorganic	Beryllium	7440-41-7	0.49	0.021	0.12	Y
BAI-24A-051-00	Grenade Impact	3	6010B	0-0.5	MG_KG	Inorganic	Cadmium	7440-43-9	0.29	0.052	0.29	N
BAI-24A-051-00	Grenade Impact	3	6010B	0-0.5	MG_KG	Inorganic	Chromium	7440-47-3	19	0.1	0.31	Y
BAI-24A-051-00	Grenade Impact	3	6010B	0-0.5	MG_KG	Inorganic	Cobalt	7440-48-4	8.7	0.21	0.62	Y
BAI-24A-051-00	Grenade Impact	3	6010B	0-0.5	MG_KG	Inorganic	Copper	7440-50-8	21	0.1	0.31	Y
BAI-24A-051-00	Grenade Impact	3	6010B	0-0.5	MG_KG	Inorganic	Vanadium	7440-62-2	36	0.1	0.31	Y
BAI-24A-051-00	Grenade Impact	3	6010B	0-0.5	MG_KG	Inorganic	Zinc	7440-66-6	61	0.21	1.2	Y
BAI-24A-051-00	Grenade Impact	3	6010B	0-0.5	MG_KG	Inorganic	Selenium	7782-49-2	0.53	0.17	0.58	Y
BAI-24A-051-00	Grenade Impact	3	7470A	0-0.5	MG_KG	Inorganic	Mercury	7439-97-6	0.019	0.0068	0.023	N
BAI-24A-051-00	Grenade Impact	3	8330	0-0.5	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	232.5581395	15.11627907	232.5581395	N
BAI-24A-051-00	Grenade Impact	3	8330	0-0.5	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	232.5581395	22.09302326	232.5581395	N
BAI-24A-051-00	Grenade Impact	3	8330	0-0.5	UG_KG	Explosive	RDX	121-82-4	232.5581395	46.51162791	232.5581395	N
BAI-24A-051-00	Grenade Impact	3	8330	0-0.5	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	232.5581395	32.55813953	232.5581395	N
BAI-24A-051-00	Grenade Impact	3	8330	0-0.5	UG_KG	Explosive	HMX	2691-41-0	232.5581395	30.23255814	232.5581395	N
BAI-24A-051-00	Grenade Impact	3	8330	0-0.5	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	232.5581395	30.23255814	232.5581395	N
BAI-24A-051-00	Grenade Impact	3	8330	0-0.5	UG_KG	Explosive	Tetryl	479-45-8	232.5581395	76.74418605	232.5581395	N
BAI-24A-051-00	Grenade Impact	3	8330	0-0.5	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	232.5581395	20.93023256	232.5581395	N
BAI-24A-051-00	Grenade Impact	3	8330	0-0.5	UG_KG	Explosive	2-Nitrotoluene	88-72-2	465.1162791	18.60465116	465.1162791	N
BAI-24A-051-00	Grenade Impact	3	8330	0-0.5	UG_KG	SVOC	Nitrobenzene	98-95-3	232.5581395	20.93023256	232.5581395	N
BAI-24A-051-00	Grenade Impact	3	8330	0-0.5	UG_KG	Explosive	3-Nitrotoluene	99-08-1	465.1162791	70.93023256	465.1162791	N
BAI-24A-051-00	Grenade Impact	3	8330	0-0.5	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	232.5581395	40.69767442	232.5581395	N
BAI-24A-051-00	Grenade Impact	3	8330	0-0.5	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	232.5581395	23.25581395	232.5581395	N
BAI-24A-051-00	Grenade Impact	3	8330	0-0.5	UG_KG	Explosive	4-Nitrotoluene	99-99-0	465.1162791	36.04651163	465.1162791	N
BAI-24A-051-00	Grenade Impact	3	D2216	0-0.5	PCT	Other	Percent Moisture	-86	16.27906977	0	1.162790698	Y
BAI-24A-051-18	Grenade Impact	3	6010B	1.5-2	MG_KG	Inorganic	Lead	7439-92-1	43	0.073	0.27	Y
BAI-24A-051-18	Grenade Impact	3	6010B	1.5-2	MG_KG	Inorganic	Molybdenum	7439-98-7	0.63	0.21	0.63	N

PARENT_SAMPLE_NAME	SI Designation	Exposure Unit	ANALYTICAL_METHOD	Depth Interval	RESULT_UNITS	Analyte Group	Analyte Name	ANALYTE_ID	dw_Analyte Value	dw_MDL	dw_MRL	DETECTED
BAI-24A-051-18	Grenade Impact	3	6010B	1.5-2	MG_KG	Inorganic	Nickel	7440-02-0	14	0.21	0.63	Y
BAI-24A-051-18	Grenade Impact	3	6010B	1.5-2	MG_KG	Inorganic	Silver	7440-22-4	0.27	0.053	0.27	N
BAI-24A-051-18	Grenade Impact	3	6010B	1.5-2	MG_KG	Inorganic	Thallium	7440-28-0	0.53	0.15	0.53	N
BAI-24A-051-18	Grenade Impact	3	6010B	1.5-2	MG_KG	Inorganic	Antimony	7440-36-0	0.95	0.16	0.53	Y
BAI-24A-051-18	Grenade Impact	3	6010B	1.5-2	MG_KG	Inorganic	Arsenic	7440-38-2	5.2	0.077	0.27	Y
BAI-24A-051-18	Grenade Impact	3	6010B	1.5-2	MG_KG	Inorganic	Barium	7440-39-3	99	0.11	0.32	Y
BAI-24A-051-18	Grenade Impact	3	6010B	1.5-2	MG_KG	Inorganic	Beryllium	7440-41-7	0.47	0.021	0.11	Y
BAI-24A-051-18	Grenade Impact	3	6010B	1.5-2	MG_KG	Inorganic	Cadmium	7440-43-9	0.27	0.053	0.27	N
BAI-24A-051-18	Grenade Impact	3	6010B	1.5-2	MG_KG	Inorganic	Chromium	7440-47-3	18	0.11	0.32	Y
BAI-24A-051-18	Grenade Impact	3	6010B	1.5-2	MG_KG	Inorganic	Cobalt	7440-48-4	8.2	0.21	0.63	Y
BAI-24A-051-18	Grenade Impact	3	6010B	1.5-2	MG_KG	Inorganic	Copper	7440-50-8	17	0.11	0.32	Y
BAI-24A-051-18	Grenade Impact	3	6010B	1.5-2	MG_KG	Inorganic	Vanadium	7440-62-2	34	0.11	0.32	Y
BAI-24A-051-18	Grenade Impact	3	6010B	1.5-2	MG_KG	Inorganic	Zinc	7440-66-6	53	0.21	1.1	Y
BAI-24A-051-18	Grenade Impact	3	6010B	1.5-2	MG_KG	Inorganic	Selenium	7782-49-2	0.53	0.17	0.53	Y
BAI-24A-051-18	Grenade Impact	3	7470A	1.5-2	MG_KG	Inorganic	Mercury	7439-97-6	0.02	0.0073	0.023	N
BAI-24A-051-18	Grenade Impact	3	8330	1.5-2	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	202.1276596	13.82978723	202.1276596	N
BAI-24A-051-18	Grenade Impact	3	8330	1.5-2	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	202.1276596	20.21276596	202.1276596	N
BAI-24A-051-18	Grenade Impact	3	8330	1.5-2	UG_KG	Explosive	RDX	121-82-4	202.1276596	41.4893617	202.1276596	N
BAI-24A-051-18	Grenade Impact	3	8330	1.5-2	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	202.1276596	29.78723404	202.1276596	N
BAI-24A-051-18	Grenade Impact	3	8330	1.5-2	UG_KG	Explosive	HMX	2691-41-0	202.1276596	27.65957447	202.1276596	N
BAI-24A-051-18	Grenade Impact	3	8330	1.5-2	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	202.1276596	27.65957447	202.1276596	N
BAI-24A-051-18	Grenade Impact	3	8330	1.5-2	UG_KG	Explosive	Tetryl	479-45-8	202.1276596	68.08510638	202.1276596	N
BAI-24A-051-18	Grenade Impact	3	8330	1.5-2	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	202.1276596	19.14893617	202.1276596	N
BAI-24A-051-18	Grenade Impact	3	8330	1.5-2	UG_KG	Explosive	2-Nitrotoluene	88-72-2	414.893617	17.0212766	414.893617	N
BAI-24A-051-18	Grenade Impact	3	8330	1.5-2	UG_KG	SVOC	Nitrobenzene	98-95-3	202.1276596	19.14893617	202.1276596	N
BAI-24A-051-18	Grenade Impact	3	8330	1.5-2	UG_KG	Explosive	3-Nitrotoluene	99-08-1	414.893617	62.76595745	414.893617	N
BAI-24A-051-18	Grenade Impact	3	8330	1.5-2	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	202.1276596	36.17021277	202.1276596	N
BAI-24A-051-18	Grenade Impact	3	8330	1.5-2	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	202.1276596	20.21276596	202.1276596	N
BAI-24A-051-18	Grenade Impact	3	8330	1.5-2	UG_KG	Explosive	4-Nitrotoluene	99-99-0	414.893617	31.91489362	414.893617	N
BAI-24A-051-18	Grenade Impact	3	D2216	1.5-2	PCT	Other	Percent Moisture	-86	6.382978723	0	1.063829787	Y
BAI-24A-05-18	Retaining Wall	2	8270C_SIM	1.5-2	UG_KG	PAH	Anthracene	120-12-7	1.5	1.1	5.7	Y
BAI-24A-05-18	Retaining Wall	2	8270C_SIM	1.5-2	UG_KG	PAH	Pyrene	129-00-0	1.2	1.1	5.7	Y
BAI-24A-05-18	Retaining Wall	2	8270C_SIM	1.5-2	UG_KG	PAH	Benzo(g,h,i)perylene	191-24-2	2.5	1.1	5.7	Y
BAI-24A-05-18	Retaining Wall	2	8270C_SIM	1.5-2	UG_KG	PAH	Indeno(1,2,3-cd)yrene	193-39-5	1.8	1.1	5.7	Y
BAI-24A-05-18	Retaining Wall	2	8270C_SIM	1.5-2	UG_KG	PAH	Benzo(b)fluoranthene	205-99-2	1.5	1.1	5.7	Y
BAI-24A-05-18	Retaining Wall	2	8270C_SIM	1.5-2	UG_KG	PAH	Fluoranthene	206-44-0	1.2	1.1	5.7	Y
BAI-24A-05-18	Retaining Wall	2	8270C_SIM	1.5-2	UG_KG	PAH	Benzo(k)fluoranthene	207-08-9	5.7	1.1	5.7	N
BAI-24A-05-18	Retaining Wall	2	8270C_SIM	1.5-2	UG_KG	PAH	Acenaphthylene	208-96-8	5.7	1.1	5.7	N
BAI-24A-05-18	Retaining Wall	2	8270C_SIM	1.5-2	UG_KG	PAH	Chrysene	218-01-9	5.7	1.1	5.7	N
BAI-24A-05-18	Retaining Wall	2	8270C_SIM	1.5-2	UG_KG	PAH	Benzo(a)pyrene	50-32-8	5.7	1.1	5.7	N
BAI-24A-05-18	Retaining Wall	2	8270C_SIM	1.5-2	UG_KG	PAH	Dibenz(a,h)anthracene	53-70-3	5.7	1.1	5.7	N
BAI-24A-05-18	Retaining Wall	2	8270C_SIM	1.5-2	UG_KG	PAH	Benzo(a)anthracene	56-55-3	5.7	1.1	5.7	N
BAI-24A-05-18	Retaining Wall	2	8270C_SIM	1.5-2	UG_KG	PAH	Acenaphthene	83-32-9	5.7	1.1	5.7	N
BAI-24A-05-18	Retaining Wall	2	8270C_SIM	1.5-2	UG_KG	PAH	Phenanthrene	85-01-8	5.7	1.1	5.7	N
BAI-24A-05-18	Retaining Wall	2	8270C_SIM	1.5-2	UG_KG	PAH	Fluorene	86-73-7	5.7	1.1	5.7	N
BAI-24A-05-18	Retaining Wall	2	8270C_SIM	1.5-2	UG_KG	PAH	Naphthalene	91-20-3	5.7	1.1	5.7	N
BAI-24A-05-18	Retaining Wall	2	D2216	1.5-2	PCT	Other	Percent Moisture	-86	14.94252874	0	1.149425287	Y
BAI-24A-052-00	Grenade Impact	3	6010B	0-0.5	MG_KG	Inorganic	Lead	7439-92-1	37	0.073	0.28	Y
BAI-24A-052-00	Grenade Impact	3	6010B	0-0.5	MG_KG	Inorganic	Molybdenum	7439-98-7	0.63	0.21	0.63	N

PARENT_SAMPLE_NAME	SI Designation	Exposure Unit	ANALYTICAL_METHOD	Depth Interval	RESULT_UNITS	Analyte Group	Analyte Name	ANALYTE_ID	dw_Analyte Value	dw_MDL	dw_MRL	DETECTED
BAI-24A-052-00	Grenade Impact	3	6010B	0-0.5	MG_KG	Inorganic	Nickel	7440-02-0	14	0.21	0.63	Y
BAI-24A-052-00	Grenade Impact	3	6010B	0-0.5	MG_KG	Inorganic	Silver	7440-22-4	0.28	0.053	0.28	N
BAI-24A-052-00	Grenade Impact	3	6010B	0-0.5	MG_KG	Inorganic	Thallium	7440-28-0	0.57	0.15	0.57	N
BAI-24A-052-00	Grenade Impact	3	6010B	0-0.5	MG_KG	Inorganic	Antimony	7440-36-0	0.99	0.16	0.57	Y
BAI-24A-052-00	Grenade Impact	3	6010B	0-0.5	MG_KG	Inorganic	Arsenic	7440-38-2	4.5	0.076	0.28	Y
BAI-24A-052-00	Grenade Impact	3	6010B	0-0.5	MG_KG	Inorganic	Barium	7440-39-3	130	0.11	0.32	Y
BAI-24A-052-00	Grenade Impact	3	6010B	0-0.5	MG_KG	Inorganic	Beryllium	7440-41-7	0.42	0.021	0.11	Y
BAI-24A-052-00	Grenade Impact	3	6010B	0-0.5	MG_KG	Inorganic	Cadmium	7440-43-9	0.061	0.053	0.28	Y
BAI-24A-052-00	Grenade Impact	3	6010B	0-0.5	MG_KG	Inorganic	Chromium	7440-47-3	17	0.11	0.32	Y
BAI-24A-052-00	Grenade Impact	3	6010B	0-0.5	MG_KG	Inorganic	Cobalt	7440-48-4	8	0.21	0.63	Y
BAI-24A-052-00	Grenade Impact	3	6010B	0-0.5	MG_KG	Inorganic	Copper	7440-50-8	17	0.11	0.32	Y
BAI-24A-052-00	Grenade Impact	3	6010B	0-0.5	MG_KG	Inorganic	Vanadium	7440-62-2	33	0.11	0.32	Y
BAI-24A-052-00	Grenade Impact	3	6010B	0-0.5	MG_KG	Inorganic	Zinc	7440-66-6	61	0.21	1.1	Y
BAI-24A-052-00	Grenade Impact	3	6010B	0-0.5	MG_KG	Inorganic	Selenium	7782-49-2	0.4	0.17	0.57	Y
BAI-24A-052-00	Grenade Impact	3	7470A	0-0.5	MG_KG	Inorganic	Mercury	7439-97-6	0.0088	0.0078	0.025	N
BAI-24A-052-00	Grenade Impact	3	8330	0-0.5	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	227.2727273	14.77272727	227.2727273	N
BAI-24A-052-00	Grenade Impact	3	8330	0-0.5	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	227.2727273	21.59090909	227.2727273	N
BAI-24A-052-00	Grenade Impact	3	8330	0-0.5	UG_KG	Explosive	RDX	121-82-4	227.2727273	44.31818182	227.2727273	N
BAI-24A-052-00	Grenade Impact	3	8330	0-0.5	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	227.2727273	31.81818182	227.2727273	N
BAI-24A-052-00	Grenade Impact	3	8330	0-0.5	UG_KG	Explosive	HMX	2691-41-0	227.2727273	29.54545455	227.2727273	N
BAI-24A-052-00	Grenade Impact	3	8330	0-0.5	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	227.2727273	29.54545455	227.2727273	N
BAI-24A-052-00	Grenade Impact	3	8330	0-0.5	UG_KG	Explosive	Tetryl	479-45-8	227.2727273	73.86363636	227.2727273	N
BAI-24A-052-00	Grenade Impact	3	8330	0-0.5	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	227.2727273	20.45454545	227.2727273	N
BAI-24A-052-00	Grenade Impact	3	8330	0-0.5	UG_KG	Explosive	2-Nitrotoluene	88-72-2	454.5454545	18.18181818	454.5454545	N
BAI-24A-052-00	Grenade Impact	3	8330	0-0.5	UG_KG	SVOC	Nitrobenzene	98-95-3	227.2727273	20.45454545	227.2727273	N
BAI-24A-052-00	Grenade Impact	3	8330	0-0.5	UG_KG	Explosive	3-Nitrotoluene	99-08-1	454.5454545	68.18181818	454.5454545	N
BAI-24A-052-00	Grenade Impact	3	8330	0-0.5	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	227.2727273	39.77272727	227.2727273	N
BAI-24A-052-00	Grenade Impact	3	8330	0-0.5	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	227.2727273	22.72727273	227.2727273	N
BAI-24A-052-00	Grenade Impact	3	8330	0-0.5	UG_KG	Explosive	4-Nitrotoluene	99-99-0	454.5454545	34.09090909	454.5454545	N
BAI-24A-052-00	Grenade Impact	3	D2216	0-0.5	PCT	Other	Percent Moisture	-86	13.63636364	0	1.136363636	Y
BAI-24A-052-18	Grenade Impact	3	6010B	1.5-2	MG_KG	Inorganic	Lead	7439-92-1	7.2	0.07	0.28	Y
BAI-24A-052-18	Grenade Impact	3	6010B	1.5-2	MG_KG	Inorganic	Molybdenum	7439-98-7	0.61	0.2	0.61	N
BAI-24A-052-18	Grenade Impact	3	6010B	1.5-2	MG_KG	Inorganic	Nickel	7440-02-0	13	0.2	0.61	Y
BAI-24A-052-18	Grenade Impact	3	6010B	1.5-2	MG_KG	Inorganic	Silver	7440-22-4	0.28	0.051	0.28	N
BAI-24A-052-18	Grenade Impact	3	6010B	1.5-2	MG_KG	Inorganic	Thallium	7440-28-0	0.56	0.14	0.56	N
BAI-24A-052-18	Grenade Impact	3	6010B	1.5-2	MG_KG	Inorganic	Antimony	7440-36-0	0.5	0.15	0.56	Y
BAI-24A-052-18	Grenade Impact	3	6010B	1.5-2	MG_KG	Inorganic	Arsenic	7440-38-2	4.6	0.073	0.28	Y
BAI-24A-052-18	Grenade Impact	3	6010B	1.5-2	MG_KG	Inorganic	Barium	7440-39-3	140	0.1	0.3	Y
BAI-24A-052-18	Grenade Impact	3	6010B	1.5-2	MG_KG	Inorganic	Beryllium	7440-41-7	0.41	0.02	0.11	Y
BAI-24A-052-18	Grenade Impact	3	6010B	1.5-2	MG_KG	Inorganic	Cadmium	7440-43-9	0.28	0.051	0.28	N
BAI-24A-052-18	Grenade Impact	3	6010B	1.5-2	MG_KG	Inorganic	Chromium	7440-47-3	16	0.1	0.3	Y
BAI-24A-052-18	Grenade Impact	3	6010B	1.5-2	MG_KG	Inorganic	Cobalt	7440-48-4	7.5	0.2	0.61	Y
BAI-24A-052-18	Grenade Impact	3	6010B	1.5-2	MG_KG	Inorganic	Copper	7440-50-8	14	0.1	0.3	Y
BAI-24A-052-18	Grenade Impact	3	6010B	1.5-2	MG_KG	Inorganic	Vanadium	7440-62-2	32	0.1	0.3	Y
BAI-24A-052-18	Grenade Impact	3	6010B	1.5-2	MG_KG	Inorganic	Zinc	7440-66-6	47	0.2	1.1	Y
BAI-24A-052-18	Grenade Impact	3	6010B	1.5-2	MG_KG	Inorganic	Selenium	7782-49-2	0.47	0.16	0.56	Y
BAI-24A-052-18	Grenade Impact	3	7470A	1.5-2	MG_KG	Inorganic	Mercury	7439-97-6	0.01	0.0065	0.022	N
BAI-24A-052-18	Grenade Impact	3	8330	1.5-2	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	222.2222222	14.44444444	222.2222222	N
BAI-24A-052-18	Grenade Impact	3	8330	1.5-2	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	222.2222222	21.11111111	222.2222222	N

PARENT_SAMPLE_NAME	SI Designation	Exposure Unit	ANALYTICAL_METHOD	Depth Interval	RESULT_UNITS	Analyte Group	Analyte Name	ANALYTE_ID	dw_Analyte Value	dw_MDL	dw_MRL	DETECTED
BAI-24A-052-18	Grenade Impact	3	8330	1.5-2	UG_KG	Explosive	RDX	121-82-4	222.2222222	43.33333333	222.2222222	N
BAI-24A-052-18	Grenade Impact	3	8330	1.5-2	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	222.2222222	31.11111111	222.2222222	N
BAI-24A-052-18	Grenade Impact	3	8330	1.5-2	UG_KG	Explosive	HMX	2691-41-0	222.2222222	28.88888889	222.2222222	N
BAI-24A-052-18	Grenade Impact	3	8330	1.5-2	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	222.2222222	28.88888889	222.2222222	N
BAI-24A-052-18	Grenade Impact	3	8330	1.5-2	UG_KG	Explosive	Tetryl	479-45-8	222.2222222	72.22222222	222.2222222	N
BAI-24A-052-18	Grenade Impact	3	8330	1.5-2	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	222.2222222	20	222.2222222	N
BAI-24A-052-18	Grenade Impact	3	8330	1.5-2	UG_KG	Explosive	2-Nitrotoluene	88-72-2	433.3333333	17.77777778	433.3333333	N
BAI-24A-052-18	Grenade Impact	3	8330	1.5-2	UG_KG	SVOC	Nitrobenzene	98-95-3	222.2222222	20	222.2222222	N
BAI-24A-052-18	Grenade Impact	3	8330	1.5-2	UG_KG	Explosive	3-Nitrotoluene	99-08-1	433.3333333	66.66666667	433.3333333	N
BAI-24A-052-18	Grenade Impact	3	8330	1.5-2	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	222.2222222	38.88888889	222.2222222	N
BAI-24A-052-18	Grenade Impact	3	8330	1.5-2	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	222.2222222	21.11111111	222.2222222	N
BAI-24A-052-18	Grenade Impact	3	8330	1.5-2	UG_KG	Explosive	4-Nitrotoluene	99-99-0	433.3333333	33.33333333	433.3333333	N
BAI-24A-052-18	Grenade Impact	3	D2216	1.5-2	PCT	Other	Percent Moisture	-86	11.11111111	0	1.111111111	Y
BAI-24A-053-00	Grenade Impact	3	6010B	0-0.5	MG_KG	Inorganic	Lead	7439-92-1	96	0.077	0.29	Y
BAI-24A-053-00	Grenade Impact	3	6010B	0-0.5	MG_KG	Inorganic	Molybdenum	7439-98-7	0.66	0.22	0.66	N
BAI-24A-053-00	Grenade Impact	3	6010B	0-0.5	MG_KG	Inorganic	Nickel	7440-02-0	15	0.22	0.66	Y
BAI-24A-053-00	Grenade Impact	3	6010B	0-0.5	MG_KG	Inorganic	Silver	7440-22-4	0.29	0.055	0.29	N
BAI-24A-053-00	Grenade Impact	3	6010B	0-0.5	MG_KG	Inorganic	Thallium	7440-28-0	0.58	0.16	0.58	N
BAI-24A-053-00	Grenade Impact	3	6010B	0-0.5	MG_KG	Inorganic	Antimony	7440-36-0	1.4	0.17	0.58	Y
BAI-24A-053-00	Grenade Impact	3	6010B	0-0.5	MG_KG	Inorganic	Arsenic	7440-38-2	5.3	0.08	0.29	Y
BAI-24A-053-00	Grenade Impact	3	6010B	0-0.5	MG_KG	Inorganic	Barium	7440-39-3	160	0.11	0.33	Y
BAI-24A-053-00	Grenade Impact	3	6010B	0-0.5	MG_KG	Inorganic	Beryllium	7440-41-7	0.49	0.022	0.12	Y
BAI-24A-053-00	Grenade Impact	3	6010B	0-0.5	MG_KG	Inorganic	Cadmium	7440-43-9	0.29	0.055	0.29	N
BAI-24A-053-00	Grenade Impact	3	6010B	0-0.5	MG_KG	Inorganic	Chromium	7440-47-3	18	0.11	0.33	Y
BAI-24A-053-00	Grenade Impact	3	6010B	0-0.5	MG_KG	Inorganic	Cobalt	7440-48-4	8.1	0.22	0.66	Y
BAI-24A-053-00	Grenade Impact	3	6010B	0-0.5	MG_KG	Inorganic	Copper	7440-50-8	36	0.11	0.33	Y
BAI-24A-053-00	Grenade Impact	3	6010B	0-0.5	MG_KG	Inorganic	Vanadium	7440-62-2	37	0.11	0.33	Y
BAI-24A-053-00	Grenade Impact	3	6010B	0-0.5	MG_KG	Inorganic	Zinc	7440-66-6	68	0.22	1.2	Y
BAI-24A-053-00	Grenade Impact	3	6010B	0-0.5	MG_KG	Inorganic	Selenium	7782-49-2	0.42	0.18	0.58	Y
BAI-24A-053-00	Grenade Impact	3	7470A	0-0.5	MG_KG	Inorganic	Mercury	7439-97-6	0.014	0.0075	0.024	N
BAI-24A-053-00	Grenade Impact	3	8330	0-0.5	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	232.5581395	15.11627907	232.5581395	N
BAI-24A-053-00	Grenade Impact	3	8330	0-0.5	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	232.5581395	22.09302326	232.5581395	N
BAI-24A-053-00	Grenade Impact	3	8330	0-0.5	UG_KG	Explosive	RDX	121-82-4	232.5581395	45.34883721	232.5581395	N
BAI-24A-053-00	Grenade Impact	3	8330	0-0.5	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	232.5581395	32.55813953	232.5581395	N
BAI-24A-053-00	Grenade Impact	3	8330	0-0.5	UG_KG	Explosive	HMX	2691-41-0	232.5581395	30.23255814	232.5581395	N
BAI-24A-053-00	Grenade Impact	3	8330	0-0.5	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	232.5581395	30.23255814	232.5581395	N
BAI-24A-053-00	Grenade Impact	3	8330	0-0.5	UG_KG	Explosive	Tetryl	479-45-8	232.5581395	76.74418605	232.5581395	N
BAI-24A-053-00	Grenade Impact	3	8330	0-0.5	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	232.5581395	20.93023256	232.5581395	N
BAI-24A-053-00	Grenade Impact	3	8330	0-0.5	UG_KG	Explosive	2-Nitrotoluene	88-72-2	465.1162791	18.60465116	465.1162791	N
BAI-24A-053-00	Grenade Impact	3	8330	0-0.5	UG_KG	SVOC	Nitrobenzene	98-95-3	232.5581395	20.93023256	232.5581395	N
BAI-24A-053-00	Grenade Impact	3	8330	0-0.5	UG_KG	Explosive	3-Nitrotoluene	99-08-1	465.1162791	70.93023256	465.1162791	N
BAI-24A-053-00	Grenade Impact	3	8330	0-0.5	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	232.5581395	40.69767442	232.5581395	N
BAI-24A-053-00	Grenade Impact	3	8330	0-0.5	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	232.5581395	23.25581395	232.5581395	N
BAI-24A-053-00	Grenade Impact	3	8330	0-0.5	UG_KG	Explosive	4-Nitrotoluene	99-99-0	465.1162791	36.04651163	465.1162791	N
BAI-24A-053-00	Grenade Impact	3	D2216	0-0.5	PCT	Other	Percent Moisture	-86	16.27906977	0	1.162790698	Y
BAI-24A-053-18	Grenade Impact	3	6010B	1.5-2	MG_KG	Inorganic	Lead	7439-92-1	32	0.071	0.27	Y
BAI-24A-053-18	Grenade Impact	3	6010B	1.5-2	MG_KG	Inorganic	Molybdenum	7439-98-7	0.62	0.21	0.62	N
BAI-24A-053-18	Grenade Impact	3	6010B	1.5-2	MG_KG	Inorganic	Nickel	7440-02-0	15	0.21	0.62	Y
BAI-24A-053-18	Grenade Impact	3	6010B	1.5-2	MG_KG	Inorganic	Silver	7440-22-4	0.27	0.051	0.27	N

PARENT_SAMPLE_NAME	SI Designation	Exposure Unit	ANALYTICAL_METHOD	Depth Interval	RESULT_UNITS	Analyte Group	Analyte Name	ANALYTE_ID	dw_Analyte Value	dw_MDL	dw_MRL	DETECTED
BAI-24A-053-18	Grenade Impact	3	6010B	1.5-2	MG_KG	Inorganic	Thallium	7440-28-0	0.54	0.14	0.54	N
BAI-24A-053-18	Grenade Impact	3	6010B	1.5-2	MG_KG	Inorganic	Antimony	7440-36-0	1	0.15	0.54	Y
BAI-24A-053-18	Grenade Impact	3	6010B	1.5-2	MG_KG	Inorganic	Arsenic	7440-38-2	5.2	0.074	0.27	Y
BAI-24A-053-18	Grenade Impact	3	6010B	1.5-2	MG_KG	Inorganic	Barium	7440-39-3	110	0.1	0.31	Y
BAI-24A-053-18	Grenade Impact	3	6010B	1.5-2	MG_KG	Inorganic	Beryllium	7440-41-7	0.46	0.021	0.11	Y
BAI-24A-053-18	Grenade Impact	3	6010B	1.5-2	MG_KG	Inorganic	Cadmium	7440-43-9	0.27	0.051	0.27	N
BAI-24A-053-18	Grenade Impact	3	6010B	1.5-2	MG_KG	Inorganic	Chromium	7440-47-3	22	0.1	0.31	Y
BAI-24A-053-18	Grenade Impact	3	6010B	1.5-2	MG_KG	Inorganic	Cobalt	7440-48-4	8	0.21	0.62	Y
BAI-24A-053-18	Grenade Impact	3	6010B	1.5-2	MG_KG	Inorganic	Copper	7440-50-8	28	0.1	0.31	Y
BAI-24A-053-18	Grenade Impact	3	6010B	1.5-2	MG_KG	Inorganic	Vanadium	7440-62-2	35	0.1	0.31	Y
BAI-24A-053-18	Grenade Impact	3	6010B	1.5-2	MG_KG	Inorganic	Zinc	7440-66-6	81	0.21	1.1	Y
BAI-24A-053-18	Grenade Impact	3	6010B	1.5-2	MG_KG	Inorganic	Selenium	7782-49-2	0.54	0.16	0.54	Y
BAI-24A-053-18	Grenade Impact	3	7470A	1.5-2	MG_KG	Inorganic	Mercury	7439-97-6	0.011	0.0071	0.023	N
BAI-24A-053-18	Grenade Impact	3	8330	1.5-2	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	217.3913043	14.13043478	217.3913043	N
BAI-24A-053-18	Grenade Impact	3	8330	1.5-2	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	217.3913043	20.65217391	217.3913043	N
BAI-24A-053-18	Grenade Impact	3	8330	1.5-2	UG_KG	Explosive	RDX	121-82-4	217.3913043	42.39130435	217.3913043	N
BAI-24A-053-18	Grenade Impact	3	8330	1.5-2	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	217.3913043	30.43478261	217.3913043	N
BAI-24A-053-18	Grenade Impact	3	8330	1.5-2	UG_KG	Explosive	HMX	2691-41-0	217.3913043	28.26086957	217.3913043	N
BAI-24A-053-18	Grenade Impact	3	8330	1.5-2	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	217.3913043	28.26086957	217.3913043	N
BAI-24A-053-18	Grenade Impact	3	8330	1.5-2	UG_KG	Explosive	Tetryl	479-45-8	217.3913043	70.65217391	217.3913043	N
BAI-24A-053-18	Grenade Impact	3	8330	1.5-2	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	217.3913043	19.56521739	217.3913043	N
BAI-24A-053-18	Grenade Impact	3	8330	1.5-2	UG_KG	Explosive	2-Nitrotoluene	88-72-2	423.9130435	17.39130435	423.9130435	N
BAI-24A-053-18	Grenade Impact	3	8330	1.5-2	UG_KG	SVOC	Nitrobenzene	98-95-3	217.3913043	19.56521739	217.3913043	N
BAI-24A-053-18	Grenade Impact	3	8330	1.5-2	UG_KG	Explosive	3-Nitrotoluene	99-08-1	423.9130435	65.2173913	423.9130435	N
BAI-24A-053-18	Grenade Impact	3	8330	1.5-2	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	217.3913043	38.04347826	217.3913043	N
BAI-24A-053-18	Grenade Impact	3	8330	1.5-2	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	217.3913043	20.65217391	217.3913043	N
BAI-24A-053-18	Grenade Impact	3	8330	1.5-2	UG_KG	Explosive	4-Nitrotoluene	99-99-0	423.9130435	32.60869565	423.9130435	N
BAI-24A-053-18	Grenade Impact	3	D2216	1.5-2	PCT	Other	Percent Moisture	-86	8.695652174	0	1.086956522	Y
BAI-24A-054-00	Grenade Impact	3	6010B	0-0.5	MG_KG	Inorganic	Lead	7439-92-1	100	0.074	0.29	Y
BAI-24A-054-00	Grenade Impact	3	6010B	0-0.5	MG_KG	Inorganic	Molybdenum	7439-98-7	0.64	0.21	0.64	N
BAI-24A-054-00	Grenade Impact	3	6010B	0-0.5	MG_KG	Inorganic	Nickel	7440-02-0	15	0.21	0.64	Y
BAI-24A-054-00	Grenade Impact	3	6010B	0-0.5	MG_KG	Inorganic	Silver	7440-22-4	0.29	0.053	0.29	N
BAI-24A-054-00	Grenade Impact	3	6010B	0-0.5	MG_KG	Inorganic	Thallium	7440-28-0	0.57	0.15	0.57	N
BAI-24A-054-00	Grenade Impact	3	6010B	0-0.5	MG_KG	Inorganic	Antimony	7440-36-0	1.2	0.16	0.57	Y
BAI-24A-054-00	Grenade Impact	3	6010B	0-0.5	MG_KG	Inorganic	Arsenic	7440-38-2	5.1	0.077	0.29	Y
BAI-24A-054-00	Grenade Impact	3	6010B	0-0.5	MG_KG	Inorganic	Barium	7440-39-3	130	0.11	0.32	Y
BAI-24A-054-00	Grenade Impact	3	6010B	0-0.5	MG_KG	Inorganic	Beryllium	7440-41-7	0.49	0.021	0.11	Y
BAI-24A-054-00	Grenade Impact	3	6010B	0-0.5	MG_KG	Inorganic	Cadmium	7440-43-9	0.29	0.053	0.29	N
BAI-24A-054-00	Grenade Impact	3	6010B	0-0.5	MG_KG	Inorganic	Chromium	7440-47-3	19	0.11	0.32	Y
BAI-24A-054-00	Grenade Impact	3	6010B	0-0.5	MG_KG	Inorganic	Cobalt	7440-48-4	8	0.21	0.64	Y
BAI-24A-054-00	Grenade Impact	3	6010B	0-0.5	MG_KG	Inorganic	Copper	7440-50-8	21	0.11	0.32	Y
BAI-24A-054-00	Grenade Impact	3	6010B	0-0.5	MG_KG	Inorganic	Vanadium	7440-62-2	37	0.11	0.32	Y
BAI-24A-054-00	Grenade Impact	3	6010B	0-0.5	MG_KG	Inorganic	Zinc	7440-66-6	61	0.21	1.1	Y
BAI-24A-054-00	Grenade Impact	3	6010B	0-0.5	MG_KG	Inorganic	Selenium	7782-49-2	0.43	0.17	0.57	Y
BAI-24A-054-00	Grenade Impact	3	7470A	0-0.5	MG_KG	Inorganic	Mercury	7439-97-6	0.026	0.008	0.026	N
BAI-24A-054-00	Grenade Impact	3	8330	0-0.5	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	229.8850575	14.94252874	229.8850575	N
BAI-24A-054-00	Grenade Impact	3	8330	0-0.5	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	229.8850575	21.83908046	229.8850575	N
BAI-24A-054-00	Grenade Impact	3	8330	0-0.5	UG_KG	Explosive	RDX	121-82-4	229.8850575	44.82758621	229.8850575	N
BAI-24A-054-00	Grenade Impact	3	8330	0-0.5	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	229.8850575	32.18390805	229.8850575	N

Attachment B-4.2
Processed Data

PARENT_SAMPLE_NAME	SI Designation	Exposure Unit	ANALYTICAL_METHOD	Depth Interval	RESULT_UNITS	Analyte Group	Analyte Name	ANALYTE_ID	dw_Analyte Value	dw_MDL	dw_MRL	DETECTED
BAI-24A-054-00	Grenade Impact	3	8330	0-0.5	UG_KG	Explosive	HMX	2691-41-0	229.8850575	29.88505747	229.8850575	N
BAI-24A-054-00	Grenade Impact	3	8330	0-0.5	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	229.8850575	29.88505747	229.8850575	N
BAI-24A-054-00	Grenade Impact	3	8330	0-0.5	UG_KG	Explosive	Tetryl	479-45-8	229.8850575	73.56321839	229.8850575	N
BAI-24A-054-00	Grenade Impact	3	8330	0-0.5	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	229.8850575	20.68965517	229.8850575	N
BAI-24A-054-00	Grenade Impact	3	8330	0-0.5	UG_KG	Explosive	2-Nitrotoluene	88-72-2	448.2758621	18.3908046	448.2758621	N
BAI-24A-054-00	Grenade Impact	3	8330	0-0.5	UG_KG	SVOC	Nitrobenzene	98-95-3	229.8850575	20.68965517	229.8850575	N
BAI-24A-054-00	Grenade Impact	3	8330	0-0.5	UG_KG	Explosive	3-Nitrotoluene	99-08-1	448.2758621	68.96551724	448.2758621	N
BAI-24A-054-00	Grenade Impact	3	8330	0-0.5	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	229.8850575	39.08045977	229.8850575	N
BAI-24A-054-00	Grenade Impact	3	8330	0-0.5	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	229.8850575	21.83908046	229.8850575	N
BAI-24A-054-00	Grenade Impact	3	8330	0-0.5	UG_KG	Explosive	4-Nitrotoluene	99-99-0	448.2758621	34.48275862	448.2758621	N
BAI-24A-054-00	Grenade Impact	3	D2216	0-0.5	PCT	Other	Percent Moisture	-86	14.94252874	0	1.149425287	Y
BAI-24A-054-18	Grenade Impact	3	6010B	1.5-2	MG_KG	Inorganic	Lead	7439-92-1	9.7	0.076	0.28	Y
BAI-24A-054-18	Grenade Impact	3	6010B	1.5-2	MG_KG	Inorganic	Molybdenum	7439-98-7	0.66	0.22	0.66	N
BAI-24A-054-18	Grenade Impact	3	6010B	1.5-2	MG_KG	Inorganic	Nickel	7440-02-0	15	0.22	0.66	Y
BAI-24A-054-18	Grenade Impact	3	6010B	1.5-2	MG_KG	Inorganic	Silver	7440-22-4	0.28	0.055	0.28	N
BAI-24A-054-18	Grenade Impact	3	6010B	1.5-2	MG_KG	Inorganic	Thallium	7440-28-0	0.57	0.15	0.57	N
BAI-24A-054-18	Grenade Impact	3	6010B	1.5-2	MG_KG	Inorganic	Antimony	7440-36-0	0.47	0.16	0.57	Y
BAI-24A-054-18	Grenade Impact	3	6010B	1.5-2	MG_KG	Inorganic	Arsenic	7440-38-2	6	0.079	0.28	Y
BAI-24A-054-18	Grenade Impact	3	6010B	1.5-2	MG_KG	Inorganic	Barium	7440-39-3	100	0.11	0.33	Y
BAI-24A-054-18	Grenade Impact	3	6010B	1.5-2	MG_KG	Inorganic	Beryllium	7440-41-7	0.54	0.022	0.11	Y
BAI-24A-054-18	Grenade Impact	3	6010B	1.5-2	MG_KG	Inorganic	Cadmium	7440-43-9	0.28	0.055	0.28	N
BAI-24A-054-18	Grenade Impact	3	6010B	1.5-2	MG_KG	Inorganic	Chromium	7440-47-3	19	0.11	0.33	Y
BAI-24A-054-18	Grenade Impact	3	6010B	1.5-2	MG_KG	Inorganic	Cobalt	7440-48-4	8.7	0.22	0.66	Y
BAI-24A-054-18	Grenade Impact	3	6010B	1.5-2	MG_KG	Inorganic	Copper	7440-50-8	21	0.11	0.33	Y
BAI-24A-054-18	Grenade Impact	3	6010B	1.5-2	MG_KG	Inorganic	Vanadium	7440-62-2	39	0.11	0.33	Y
BAI-24A-054-18	Grenade Impact	3	6010B	1.5-2	MG_KG	Inorganic	Zinc	7440-66-6	53	0.22	1.1	Y
BAI-24A-054-18	Grenade Impact	3	6010B	1.5-2	MG_KG	Inorganic	Selenium	7782-49-2	0.52	0.17	0.57	Y
BAI-24A-054-18	Grenade Impact	3	7470A	1.5-2	MG_KG	Inorganic	Mercury	7439-97-6	0.019	0.007	0.023	N
BAI-24A-054-18	Grenade Impact	3	8330	1.5-2	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	227.2727273	14.77272727	227.2727273	N
BAI-24A-054-18	Grenade Impact	3	8330	1.5-2	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	227.2727273	21.59090909	227.2727273	N
BAI-24A-054-18	Grenade Impact	3	8330	1.5-2	UG_KG	Explosive	RDX	121-82-4	227.2727273	44.31818182	227.2727273	N
BAI-24A-054-18	Grenade Impact	3	8330	1.5-2	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	227.2727273	31.81818182	227.2727273	N
BAI-24A-054-18	Grenade Impact	3	8330	1.5-2	UG_KG	Explosive	HMX	2691-41-0	227.2727273	29.54545455	227.2727273	N
BAI-24A-054-18	Grenade Impact	3	8330	1.5-2	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	227.2727273	29.54545455	227.2727273	N
BAI-24A-054-18	Grenade Impact	3	8330	1.5-2	UG_KG	Explosive	Tetryl	479-45-8	227.2727273	72.72727273	227.2727273	N
BAI-24A-054-18	Grenade Impact	3	8330	1.5-2	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	227.2727273	20.45454545	227.2727273	N
BAI-24A-054-18	Grenade Impact	3	8330	1.5-2	UG_KG	Explosive	2-Nitrotoluene	88-72-2	443.1818182	18.18181818	443.1818182	N
BAI-24A-054-18	Grenade Impact	3	8330	1.5-2	UG_KG	SVOC	Nitrobenzene	98-95-3	227.2727273	20.45454545	227.2727273	N
BAI-24A-054-18	Grenade Impact	3	8330	1.5-2	UG_KG	Explosive	3-Nitrotoluene	99-08-1	443.1818182	68.18181818	443.1818182	N
BAI-24A-054-18	Grenade Impact	3	8330	1.5-2	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	227.2727273	38.63636364	227.2727273	N
BAI-24A-054-18	Grenade Impact	3	8330	1.5-2	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	227.2727273	21.59090909	227.2727273	N
BAI-24A-054-18	Grenade Impact	3	8330	1.5-2	UG_KG	Explosive	4-Nitrotoluene	99-99-0	443.1818182	34.09090909	443.1818182	N
BAI-24A-054-18	Grenade Impact	3	D2216	1.5-2	PCT	Other	Percent Moisture	-86	13.63636364	0	1.136363636	Y
BAI-24A-055-00	Grenade Impact	3	6010B	0-0.5	MG_KG	Inorganic	Lead	7439-92-1	62	0.0735	0.29	Y
BAI-24A-055-00	Grenade Impact	3	6010B	0-0.5	MG_KG	Inorganic	Molybdenum	7439-98-7	0.1625	0.1575	0.4775	Y
BAI-24A-055-00	Grenade Impact	3	6010B	0-0.5	MG_KG	Inorganic	Nickel	7440-02-0	15	0.21	0.635	Y
BAI-24A-055-00	Grenade Impact	3	6010B	0-0.5	MG_KG	Inorganic	Silver	7440-22-4	0.29	0.053	0.29	N
BAI-24A-055-00	Grenade Impact	3	6010B	0-0.5	MG_KG	Inorganic	Thallium	7440-28-0	0.59	0.15	0.59	N
BAI-24A-055-00	Grenade Impact	3	6010B	0-0.5	MG_KG	Inorganic	Antimony	7440-36-0	1.45	0.16	0.59	Y

PARENT_SAMPLE_NAME	SI Designation	Exposure Unit	ANALYTICAL_METHOD	Depth Interval	RESULT_UNITS	Analyte Group	Analyte Name	ANALYTE_ID	dw_Analyte Value	dw_MDL	dw_MRL	DETECTED
BAI-24A-055-00	Grenade Impact	3	6010B	0-0.5	MG_KG	Inorganic	Arsenic	7440-38-2	5.7	0.0765	0.29	Y
BAI-24A-055-00	Grenade Impact	3	6010B	0-0.5	MG_KG	Inorganic	Barium	7440-39-3	125	0.11	0.32	Y
BAI-24A-055-00	Grenade Impact	3	6010B	0-0.5	MG_KG	Inorganic	Beryllium	7440-41-7	0.52	0.021	0.12	Y
BAI-24A-055-00	Grenade Impact	3	6010B	0-0.5	MG_KG	Inorganic	Cadmium	7440-43-9	0.29	0.053	0.29	N
BAI-24A-055-00	Grenade Impact	3	6010B	0-0.5	MG_KG	Inorganic	Chromium	7440-47-3	21	0.11	0.32	Y
BAI-24A-055-00	Grenade Impact	3	6010B	0-0.5	MG_KG	Inorganic	Cobalt	7440-48-4	8.75	0.21	0.635	Y
BAI-24A-055-00	Grenade Impact	3	6010B	0-0.5	MG_KG	Inorganic	Copper	7440-50-8	22	0.11	0.32	Y
BAI-24A-055-00	Grenade Impact	3	6010B	0-0.5	MG_KG	Inorganic	Vanadium	7440-62-2	39.5	0.11	0.32	Y
BAI-24A-055-00	Grenade Impact	3	6010B	0-0.5	MG_KG	Inorganic	Zinc	7440-66-6	54	0.21	1.2	Y
BAI-24A-055-00	Grenade Impact	3	6010B	0-0.5	MG_KG	Inorganic	Selenium	7782-49-2	0.535	0.17	0.59	Y
BAI-24A-055-00	Grenade Impact	3	7470A	0-0.5	MG_KG	Inorganic	Mercury	7439-97-6	0.0245	0.0077	0.0245	N
BAI-24A-055-00	Grenade Impact	3	8330	0-0.5	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	229.4117647	15.29411765	229.4117647	N
BAI-24A-055-00	Grenade Impact	3	8330	0-0.5	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	229.4117647	22.35294118	229.4117647	N
BAI-24A-055-00	Grenade Impact	3	8330	0-0.5	UG_KG	Explosive	RDX	121-82-4	229.4117647	45.29411765	229.4117647	N
BAI-24A-055-00	Grenade Impact	3	8330	0-0.5	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	229.4117647	32.94117647	229.4117647	N
BAI-24A-055-00	Grenade Impact	3	8330	0-0.5	UG_KG	Explosive	HMX	2691-41-0	229.4117647	30.58823529	229.4117647	N
BAI-24A-055-00	Grenade Impact	3	8330	0-0.5	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	229.4117647	30.58823529	229.4117647	N
BAI-24A-055-00	Grenade Impact	3	8330	0-0.5	UG_KG	Explosive	Tetryl	479-45-8	229.4117647	75.88235294	229.4117647	N
BAI-24A-055-00	Grenade Impact	3	8330	0-0.5	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	229.4117647	21.17647059	229.4117647	N
BAI-24A-055-00	Grenade Impact	3	8330	0-0.5	UG_KG	Explosive	2-Nitrotoluene	88-72-2	458.8235294	18.23529412	458.8235294	N
BAI-24A-055-00	Grenade Impact	3	8330	0-0.5	UG_KG	SVOC	Nitrobenzene	98-95-3	229.4117647	21.17647059	229.4117647	N
BAI-24A-055-00	Grenade Impact	3	8330	0-0.5	UG_KG	Explosive	3-Nitrotoluene	99-08-1	458.8235294	70	458.8235294	N
BAI-24A-055-00	Grenade Impact	3	8330	0-0.5	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	229.4117647	40.58823529	229.4117647	N
BAI-24A-055-00	Grenade Impact	3	8330	0-0.5	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	229.4117647	22.35294118	229.4117647	N
BAI-24A-055-00	Grenade Impact	3	8330	0-0.5	UG_KG	Explosive	4-Nitrotoluene	99-99-0	458.8235294	35.29411765	458.8235294	N
BAI-24A-055-00	Grenade Impact	3	D2216	0-0.5	PCT	Other	Percent Moisture	-86	17.64705882	0	1.176470588	Y
BAI-24A-055-18	Grenade Impact	3	6010B	1.5-2	MG_KG	Inorganic	Lead	7439-92-1	4.2	0.07	0.28	Y
BAI-24A-055-18	Grenade Impact	3	6010B	1.5-2	MG_KG	Inorganic	Molybdenum	7439-98-7	0.61	0.2	0.61	N
BAI-24A-055-18	Grenade Impact	3	6010B	1.5-2	MG_KG	Inorganic	Nickel	7440-02-0	14	0.2	0.61	Y
BAI-24A-055-18	Grenade Impact	3	6010B	1.5-2	MG_KG	Inorganic	Silver	7440-22-4	0.28	0.051	0.28	N
BAI-24A-055-18	Grenade Impact	3	6010B	1.5-2	MG_KG	Inorganic	Thallium	7440-28-0	0.56	0.14	0.56	N
BAI-24A-055-18	Grenade Impact	3	6010B	1.5-2	MG_KG	Inorganic	Antimony	7440-36-0	0.36	0.15	0.56	Y
BAI-24A-055-18	Grenade Impact	3	6010B	1.5-2	MG_KG	Inorganic	Arsenic	7440-38-2	5.1	0.073	0.28	Y
BAI-24A-055-18	Grenade Impact	3	6010B	1.5-2	MG_KG	Inorganic	Barium	7440-39-3	61	0.1	0.3	Y
BAI-24A-055-18	Grenade Impact	3	6010B	1.5-2	MG_KG	Inorganic	Beryllium	7440-41-7	0.42	0.02	0.11	Y
BAI-24A-055-18	Grenade Impact	3	6010B	1.5-2	MG_KG	Inorganic	Cadmium	7440-43-9	0.28	0.051	0.28	N
BAI-24A-055-18	Grenade Impact	3	6010B	1.5-2	MG_KG	Inorganic	Chromium	7440-47-3	15	0.1	0.3	Y
BAI-24A-055-18	Grenade Impact	3	6010B	1.5-2	MG_KG	Inorganic	Cobalt	7440-48-4	7.2	0.2	0.61	Y
BAI-24A-055-18	Grenade Impact	3	6010B	1.5-2	MG_KG	Inorganic	Copper	7440-50-8	17	0.1	0.3	Y
BAI-24A-055-18	Grenade Impact	3	6010B	1.5-2	MG_KG	Inorganic	Vanadium	7440-62-2	28	0.1	0.3	Y
BAI-24A-055-18	Grenade Impact	3	6010B	1.5-2	MG_KG	Inorganic	Zinc	7440-66-6	46	0.2	1.1	Y
BAI-24A-055-18	Grenade Impact	3	6010B	1.5-2	MG_KG	Inorganic	Selenium	7782-49-2	0.43	0.16	0.56	Y
BAI-24A-055-18	Grenade Impact	3	7470A	1.5-2	MG_KG	Inorganic	Mercury	7439-97-6	0.013	0.007	0.022	N
BAI-24A-055-18	Grenade Impact	3	8330	1.5-2	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	222.2222222	14.44444444	222.2222222	N
BAI-24A-055-18	Grenade Impact	3	8330	1.5-2	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	222.2222222	21.11111111	222.2222222	N
BAI-24A-055-18	Grenade Impact	3	8330	1.5-2	UG_KG	Explosive	RDX	121-82-4	222.2222222	43.33333333	222.2222222	N
BAI-24A-055-18	Grenade Impact	3	8330	1.5-2	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	222.2222222	31.11111111	222.2222222	N
BAI-24A-055-18	Grenade Impact	3	8330	1.5-2	UG_KG	Explosive	HMX	2691-41-0	222.2222222	28.88888889	222.2222222	N
BAI-24A-055-18	Grenade Impact	3	8330	1.5-2	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	222.2222222	28.88888889	222.2222222	N

PARENT_SAMPLE_NAME	SI Designation	Exposure Unit	ANALYTICAL_METHOD	Depth Interval	RESULT_UNITS	Analyte Group	Analyte Name	ANALYTE_ID	dw_Analyte Value	dw_MDL	dw_MRL	DETECTED
BAI-24A-055-18	Grenade Impact	3	8330	1.5-2	UG_KG	Explosive	Tetryl	479-45-8	222.2222222	72.22222222	222.2222222	N
BAI-24A-055-18	Grenade Impact	3	8330	1.5-2	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	222.2222222	20	222.2222222	N
BAI-24A-055-18	Grenade Impact	3	8330	1.5-2	UG_KG	Explosive	2-Nitrotoluene	88-72-2	433.3333333	17.77777778	433.3333333	N
BAI-24A-055-18	Grenade Impact	3	8330	1.5-2	UG_KG	SVOC	Nitrobenzene	98-95-3	222.2222222	20	222.2222222	N
BAI-24A-055-18	Grenade Impact	3	8330	1.5-2	UG_KG	Explosive	3-Nitrotoluene	99-08-1	433.3333333	66.66666667	433.3333333	N
BAI-24A-055-18	Grenade Impact	3	8330	1.5-2	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	222.2222222	38.88888889	222.2222222	N
BAI-24A-055-18	Grenade Impact	3	8330	1.5-2	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	222.2222222	21.11111111	222.2222222	N
BAI-24A-055-18	Grenade Impact	3	8330	1.5-2	UG_KG	Explosive	4-Nitrotoluene	99-99-0	433.3333333	33.33333333	433.3333333	N
BAI-24A-055-18	Grenade Impact	3	D2216	1.5-2	PCT	Other	Percent Moisture	-86	11.11111111	0	1.111111111	Y
BAI-24A-07-00	Drainage Channel	2	6010B	0-0.5	MG_KG	Inorganic	Lead	7439-92-1	7100	1.6	4.8	Y
BAI-24A-07-00	Drainage Channel	2	6010B	0-0.5	MG_KG	Inorganic	Molybdenum	7439-98-7	0.69	0.23	0.69	N
BAI-24A-07-00	Drainage Channel	2	6010B	0-0.5	MG_KG	Inorganic	Nickel	7440-02-0	23	0.23	0.69	Y
BAI-24A-07-00	Drainage Channel	2	6010B	0-0.5	MG_KG	Inorganic	Silver	7440-22-4	0.3	0.057	0.3	N
BAI-24A-07-00	Drainage Channel	2	6010B	0-0.5	MG_KG	Inorganic	Thallium	7440-28-0	0.4	0.16	0.6	Y
BAI-24A-07-00	Drainage Channel	2	6010B	0-0.5	MG_KG	Inorganic	Antimony	7440-36-0	45	0.17	0.6	Y
BAI-24A-07-00	Drainage Channel	2	6010B	0-0.5	MG_KG	Inorganic	Arsenic	7440-38-2	18	0.083	0.3	Y
BAI-24A-07-00	Drainage Channel	2	6010B	0-0.5	MG_KG	Inorganic	Barium	7440-39-3	60	0.11	0.34	Y
BAI-24A-07-00	Drainage Channel	2	6010B	0-0.5	MG_KG	Inorganic	Beryllium	7440-41-7	0.26	0.023	0.12	Y
BAI-24A-07-00	Drainage Channel	2	6010B	0-0.5	MG_KG	Inorganic	Cadmium	7440-43-9	0.3	0.057	0.3	N
BAI-24A-07-00	Drainage Channel	2	6010B	0-0.5	MG_KG	Inorganic	Chromium	7440-47-3	31	0.11	0.34	Y
BAI-24A-07-00	Drainage Channel	2	6010B	0-0.5	MG_KG	Inorganic	Cobalt	7440-48-4	14	0.23	0.69	Y
BAI-24A-07-00	Drainage Channel	2	6010B	0-0.5	MG_KG	Inorganic	Copper	7440-50-8	190	2.3	6.9	Y
BAI-24A-07-00	Drainage Channel	2	6010B	0-0.5	MG_KG	Inorganic	Vanadium	7440-62-2	64	0.11	0.34	Y
BAI-24A-07-00	Drainage Channel	2	6010B	0-0.5	MG_KG	Inorganic	Zinc	7440-66-6	310	0.23	1.2	Y
BAI-24A-07-00	Drainage Channel	2	6010B	0-0.5	MG_KG	Inorganic	Selenium	7782-49-2	0.47	0.18	0.6	Y
BAI-24A-07-00	Drainage Channel	2	7470A	0-0.5	MG_KG	Inorganic	Mercury	7439-97-6	0.25	0.007	0.024	Y
BAI-24A-07-00	Drainage Channel	2	8330	0-0.5	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	240.9638554	26.5060241	240.9638554	N
BAI-24A-07-00	Drainage Channel	2	8330	0-0.5	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	240.9638554	50.60240964	240.9638554	N
BAI-24A-07-00	Drainage Channel	2	8330	0-0.5	UG_KG	Explosive	RDX	121-82-4	240.9638554	13.25301205	240.9638554	N
BAI-24A-07-00	Drainage Channel	2	8330	0-0.5	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	240.9638554	61.44578313	240.9638554	N
BAI-24A-07-00	Drainage Channel	2	8330	0-0.5	UG_KG	Explosive	HMX	2691-41-0	240.9638554	14.45783133	240.9638554	N
BAI-24A-07-00	Drainage Channel	2	8330	0-0.5	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	240.9638554	25.30120482	240.9638554	N
BAI-24A-07-00	Drainage Channel	2	8330	0-0.5	UG_KG	Explosive	Tetryl	479-45-8	240.9638554	67.46987952	240.9638554	N
BAI-24A-07-00	Drainage Channel	2	8330	0-0.5	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	240.9638554	59.03614458	240.9638554	N
BAI-24A-07-00	Drainage Channel	2	8330	0-0.5	UG_KG	Explosive	2-Nitrotoluene	88-72-2	481.9277108	13.25301205	481.9277108	N
BAI-24A-07-00	Drainage Channel	2	8330	0-0.5	UG_KG	SVOC	Nitrobenzene	98-95-3	240.9638554	31.3253012	240.9638554	N
BAI-24A-07-00	Drainage Channel	2	8330	0-0.5	UG_KG	Explosive	3-Nitrotoluene	99-08-1	481.9277108	21.68674699	481.9277108	N
BAI-24A-07-00	Drainage Channel	2	8330	0-0.5	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	240.9638554	27.71084337	240.9638554	N
BAI-24A-07-00	Drainage Channel	2	8330	0-0.5	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	240.9638554	12.04819277	240.9638554	N
BAI-24A-07-00	Drainage Channel	2	8330	0-0.5	UG_KG	Explosive	4-Nitrotoluene	99-99-0	481.9277108	28.91566265	481.9277108	N
BAI-24A-07-00	Drainage Channel	2	D2216	0-0.5	PCT	Other	Percent Moisture	-86	20.48192771	0	1.204819277	Y
BAI-24A-07-18	Drainage Channel	2	6010B	1.5-2	MG_KG	Inorganic	Lead	7439-92-1	460	0.074	0.29	Y
BAI-24A-07-18	Drainage Channel	2	6010B	1.5-2	MG_KG	Inorganic	Molybdenum	7439-98-7	0.64	0.21	0.64	N
BAI-24A-07-18	Drainage Channel	2	6010B	1.5-2	MG_KG	Inorganic	Nickel	7440-02-0	20	0.21	0.64	Y
BAI-24A-07-18	Drainage Channel	2	6010B	1.5-2	MG_KG	Inorganic	Silver	7440-22-4	0.29	0.053	0.29	N
BAI-24A-07-18	Drainage Channel	2	6010B	1.5-2	MG_KG	Inorganic	Thallium	7440-28-0	0.58	0.15	0.58	N
BAI-24A-07-18	Drainage Channel	2	6010B	1.5-2	MG_KG	Inorganic	Antimony	7440-36-0	2.5	0.16	0.58	Y
BAI-24A-07-18	Drainage Channel	2	6010B	1.5-2	MG_KG	Inorganic	Arsenic	7440-38-2	7	0.077	0.29	Y
BAI-24A-07-18	Drainage Channel	2	6010B	1.5-2	MG_KG	Inorganic	Barium	7440-39-3	170	0.11	0.32	Y

PARENT_SAMPLE_NAME	SI Designation	Exposure Unit	ANALYTICAL_METHOD	Depth Interval	RESULT_UNITS	Analyte Group	Analyte Name	ANALYTE_ID	dw_Analyte Value	dw_MDL	dw_MRL	DETECTED
BAI-24A-07-18	Drainage Channel	2	6010B	1.5-2	MG_KG	Inorganic	Beryllium	7440-41-7	0.37	0.021	0.12	Y
BAI-24A-07-18	Drainage Channel	2	6010B	1.5-2	MG_KG	Inorganic	Cadmium	7440-43-9	3	0.053	0.29	Y
BAI-24A-07-18	Drainage Channel	2	6010B	1.5-2	MG_KG	Inorganic	Chromium	7440-47-3	22	0.11	0.32	Y
BAI-24A-07-18	Drainage Channel	2	6010B	1.5-2	MG_KG	Inorganic	Cobalt	7440-48-4	8.8	0.21	0.64	Y
BAI-24A-07-18	Drainage Channel	2	6010B	1.5-2	MG_KG	Inorganic	Copper	7440-50-8	75	0.11	0.32	Y
BAI-24A-07-18	Drainage Channel	2	6010B	1.5-2	MG_KG	Inorganic	Vanadium	7440-62-2	33	0.11	0.32	Y
BAI-24A-07-18	Drainage Channel	2	6010B	1.5-2	MG_KG	Inorganic	Zinc	7440-66-6	1600	4.3	21	Y
BAI-24A-07-18	Drainage Channel	2	6010B	1.5-2	MG_KG	Inorganic	Selenium	7782-49-2	4.4	0.17	0.58	Y
BAI-24A-07-18	Drainage Channel	2	7470A	1.5-2	MG_KG	Inorganic	Mercury	7439-97-6	0.04	0.0068	0.023	Y
BAI-24A-07-18	Drainage Channel	2	8330	1.5-2	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	232.5581395	25.58139535	232.5581395	N
BAI-24A-07-18	Drainage Channel	2	8330	1.5-2	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	232.5581395	48.8372093	232.5581395	N
BAI-24A-07-18	Drainage Channel	2	8330	1.5-2	UG_KG	Explosive	RDX	121-82-4	232.5581395	12.79069767	232.5581395	N
BAI-24A-07-18	Drainage Channel	2	8330	1.5-2	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	232.5581395	59.30232558	232.5581395	N
BAI-24A-07-18	Drainage Channel	2	8330	1.5-2	UG_KG	Explosive	HMX	2691-41-0	232.5581395	13.95348837	232.5581395	N
BAI-24A-07-18	Drainage Channel	2	8330	1.5-2	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	232.5581395	24.41860465	232.5581395	N
BAI-24A-07-18	Drainage Channel	2	8330	1.5-2	UG_KG	Explosive	Tetryl	479-45-8	232.5581395	65.11627907	232.5581395	N
BAI-24A-07-18	Drainage Channel	2	8330	1.5-2	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	232.5581395	56.97674419	232.5581395	N
BAI-24A-07-18	Drainage Channel	2	8330	1.5-2	UG_KG	Explosive	2-Nitrotoluene	88-72-2	465.1162791	12.79069767	465.1162791	N
BAI-24A-07-18	Drainage Channel	2	8330	1.5-2	UG_KG	SVOC	Nitrobenzene	98-95-3	232.5581395	30.23255814	232.5581395	N
BAI-24A-07-18	Drainage Channel	2	8330	1.5-2	UG_KG	Explosive	3-Nitrotoluene	99-08-1	465.1162791	20.93023256	465.1162791	N
BAI-24A-07-18	Drainage Channel	2	8330	1.5-2	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	232.5581395	26.74418605	232.5581395	N
BAI-24A-07-18	Drainage Channel	2	8330	1.5-2	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	232.5581395	11.62790698	232.5581395	N
BAI-24A-07-18	Drainage Channel	2	8330	1.5-2	UG_KG	Explosive	4-Nitrotoluene	99-99-0	465.1162791	27.90697674	465.1162791	N
BAI-24A-07-18	Drainage Channel	2	D2216	1.5-2	PCT	Other	Percent Moisture	-86	16.27906977	0	1.162790698	Y
BAI-24A-08-00	Drainage Channel	1	6010B	0-0.5	MG_KG	Inorganic	Lead	7439-92-1	35	0.076	0.28	Y
BAI-24A-08-00	Drainage Channel	1	6010B	0-0.5	MG_KG	Inorganic	Molybdenum	7439-98-7	0.66	0.22	0.66	N
BAI-24A-08-00	Drainage Channel	1	6010B	0-0.5	MG_KG	Inorganic	Nickel	7440-02-0	15	0.22	0.66	Y
BAI-24A-08-00	Drainage Channel	1	6010B	0-0.5	MG_KG	Inorganic	Silver	7440-22-4	0.28	0.055	0.28	N
BAI-24A-08-00	Drainage Channel	1	6010B	0-0.5	MG_KG	Inorganic	Thallium	7440-28-0	0.17	0.15	0.57	Y
BAI-24A-08-00	Drainage Channel	1	6010B	0-0.5	MG_KG	Inorganic	Antimony	7440-36-0	0.49	0.16	0.57	Y
BAI-24A-08-00	Drainage Channel	1	6010B	0-0.5	MG_KG	Inorganic	Arsenic	7440-38-2	10	0.079	0.28	Y
BAI-24A-08-00	Drainage Channel	1	6010B	0-0.5	MG_KG	Inorganic	Barium	7440-39-3	120	0.11	0.33	Y
BAI-24A-08-00	Drainage Channel	1	6010B	0-0.5	MG_KG	Inorganic	Beryllium	7440-41-7	0.36	0.022	0.11	Y
BAI-24A-08-00	Drainage Channel	1	6010B	0-0.5	MG_KG	Inorganic	Cadmium	7440-43-9	0.11	0.055	0.28	Y
BAI-24A-08-00	Drainage Channel	1	6010B	0-0.5	MG_KG	Inorganic	Chromium	7440-47-3	24	0.11	0.33	Y
BAI-24A-08-00	Drainage Channel	1	6010B	0-0.5	MG_KG	Inorganic	Cobalt	7440-48-4	7.9	0.22	0.66	Y
BAI-24A-08-00	Drainage Channel	1	6010B	0-0.5	MG_KG	Inorganic	Copper	7440-50-8	23	0.11	0.33	Y
BAI-24A-08-00	Drainage Channel	1	6010B	0-0.5	MG_KG	Inorganic	Vanadium	7440-62-2	33	0.11	0.33	Y
BAI-24A-08-00	Drainage Channel	1	6010B	0-0.5	MG_KG	Inorganic	Zinc	7440-66-6	270	0.22	1.1	Y
BAI-24A-08-00	Drainage Channel	1	6010B	0-0.5	MG_KG	Inorganic	Selenium	7782-49-2	2	0.17	0.57	Y
BAI-24A-08-00	Drainage Channel	1	7470A	0-0.5	MG_KG	Inorganic	Mercury	7439-97-6	0.023	0.0069	0.023	N
BAI-24A-08-00	Drainage Channel	1	8330	0-0.5	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	227.2727273	25	227.2727273	N
BAI-24A-08-00	Drainage Channel	1	8330	0-0.5	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	227.2727273	47.72727273	227.2727273	N
BAI-24A-08-00	Drainage Channel	1	8330	0-0.5	UG_KG	Explosive	RDX	121-82-4	227.2727273	12.5	227.2727273	N
BAI-24A-08-00	Drainage Channel	1	8330	0-0.5	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	227.2727273	57.95454545	227.2727273	N
BAI-24A-08-00	Drainage Channel	1	8330	0-0.5	UG_KG	Explosive	HMX	2691-41-0	227.2727273	13.63636364	227.2727273	N
BAI-24A-08-00	Drainage Channel	1	8330	0-0.5	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	227.2727273	25	227.2727273	N
BAI-24A-08-00	Drainage Channel	1	8330	0-0.5	UG_KG	Explosive	Tetryl	479-45-8	227.2727273	63.63636364	227.2727273	N
BAI-24A-08-00	Drainage Channel	1	8330	0-0.5	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	227.2727273	56.81818182	227.2727273	N

PARENT_SAMPLE_NAME	SI Designation	Exposure Unit	ANALYTICAL_METHOD	Depth Interval	RESULT_UNITS	Analyte Group	Analyte Name	ANALYTE_ID	dw_Analyte Value	dw_MDL	dw_MRL	DETECTED
BAI-24A-08-00	Drainage Channel	1	8330	0-0.5	UG_KG	Explosive	2-Nitrotoluene	88-72-2	454.5454545	12.5	454.5454545	N
BAI-24A-08-00	Drainage Channel	1	8330	0-0.5	UG_KG	SVOC	Nitrobenzene	98-95-3	227.2727273	30.68181818	227.2727273	N
BAI-24A-08-00	Drainage Channel	1	8330	0-0.5	UG_KG	Explosive	3-Nitrotoluene	99-08-1	454.5454545	20.45454545	454.5454545	N
BAI-24A-08-00	Drainage Channel	1	8330	0-0.5	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	227.2727273	27.27272727	227.2727273	N
BAI-24A-08-00	Drainage Channel	1	8330	0-0.5	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	227.2727273	12.5	227.2727273	N
BAI-24A-08-00	Drainage Channel	1	8330	0-0.5	UG_KG	Explosive	4-Nitrotoluene	99-99-0	454.5454545	27.27272727	454.5454545	N
BAI-24A-08-00	Drainage Channel	1	D2216	0-0.5	PCT	Other	Percent Moisture	-86	13.63636364	0	1.136363636	Y
BAI-24A-08-18	Drainage Channel	1	6010B	1.5-2	MG_KG	Inorganic	Lead	7439-92-1	20	0.076	0.29	Y
BAI-24A-08-18	Drainage Channel	1	6010B	1.5-2	MG_KG	Inorganic	Molybdenum	7439-98-7	0.66	0.22	0.66	N
BAI-24A-08-18	Drainage Channel	1	6010B	1.5-2	MG_KG	Inorganic	Nickel	7440-02-0	15	0.22	0.66	Y
BAI-24A-08-18	Drainage Channel	1	6010B	1.5-2	MG_KG	Inorganic	Silver	7440-22-4	0.29	0.055	0.29	N
BAI-24A-08-18	Drainage Channel	1	6010B	1.5-2	MG_KG	Inorganic	Thallium	7440-28-0	0.34	0.15	0.57	Y
BAI-24A-08-18	Drainage Channel	1	6010B	1.5-2	MG_KG	Inorganic	Antimony	7440-36-0	0.38	0.16	0.57	Y
BAI-24A-08-18	Drainage Channel	1	6010B	1.5-2	MG_KG	Inorganic	Arsenic	7440-38-2	5.8	0.08	0.29	Y
BAI-24A-08-18	Drainage Channel	1	6010B	1.5-2	MG_KG	Inorganic	Barium	7440-39-3	150	0.11	0.33	Y
BAI-24A-08-18	Drainage Channel	1	6010B	1.5-2	MG_KG	Inorganic	Beryllium	7440-41-7	0.34	0.022	0.11	Y
BAI-24A-08-18	Drainage Channel	1	6010B	1.5-2	MG_KG	Inorganic	Cadmium	7440-43-9	0.24	0.055	0.29	Y
BAI-24A-08-18	Drainage Channel	1	6010B	1.5-2	MG_KG	Inorganic	Chromium	7440-47-3	17	0.11	0.33	Y
BAI-24A-08-18	Drainage Channel	1	6010B	1.5-2	MG_KG	Inorganic	Cobalt	7440-48-4	7.8	0.22	0.66	Y
BAI-24A-08-18	Drainage Channel	1	6010B	1.5-2	MG_KG	Inorganic	Copper	7440-50-8	22	0.11	0.33	Y
BAI-24A-08-18	Drainage Channel	1	6010B	1.5-2	MG_KG	Inorganic	Vanadium	7440-62-2	34	0.11	0.33	Y
BAI-24A-08-18	Drainage Channel	1	6010B	1.5-2	MG_KG	Inorganic	Zinc	7440-66-6	850	4.4	22	Y
BAI-24A-08-18	Drainage Channel	1	6010B	1.5-2	MG_KG	Inorganic	Selenium	7782-49-2	0.46	0.17	0.57	Y
BAI-24A-08-18	Drainage Channel	1	7470A	1.5-2	MG_KG	Inorganic	Mercury	7439-97-6	0.023	0.0071	0.023	N
BAI-24A-08-18	Drainage Channel	1	8330	1.5-2	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	229.8850575	25.28735632	229.8850575	N
BAI-24A-08-18	Drainage Channel	1	8330	1.5-2	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	229.8850575	48.27586207	229.8850575	N
BAI-24A-08-18	Drainage Channel	1	8330	1.5-2	UG_KG	Explosive	RDX	121-82-4	229.8850575	12.64367816	229.8850575	N
BAI-24A-08-18	Drainage Channel	1	8330	1.5-2	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	229.8850575	58.62068966	229.8850575	N
BAI-24A-08-18	Drainage Channel	1	8330	1.5-2	UG_KG	Explosive	HMX	2691-41-0	229.8850575	13.79310345	229.8850575	N
BAI-24A-08-18	Drainage Channel	1	8330	1.5-2	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	229.8850575	24.13793103	229.8850575	N
BAI-24A-08-18	Drainage Channel	1	8330	1.5-2	UG_KG	Explosive	Tetryl	479-45-8	229.8850575	64.36781609	229.8850575	N
BAI-24A-08-18	Drainage Channel	1	8330	1.5-2	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	229.8850575	57.47126437	229.8850575	N
BAI-24A-08-18	Drainage Channel	1	8330	1.5-2	UG_KG	Explosive	2-Nitrotoluene	88-72-2	459.7701149	12.64367816	459.7701149	N
BAI-24A-08-18	Drainage Channel	1	8330	1.5-2	UG_KG	SVOC	Nitrobenzene	98-95-3	229.8850575	31.03448276	229.8850575	N
BAI-24A-08-18	Drainage Channel	1	8330	1.5-2	UG_KG	Explosive	3-Nitrotoluene	99-08-1	459.7701149	20.68965517	459.7701149	N
BAI-24A-08-18	Drainage Channel	1	8330	1.5-2	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	229.8850575	26.43678161	229.8850575	N
BAI-24A-08-18	Drainage Channel	1	8330	1.5-2	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	229.8850575	11.49425287	229.8850575	N
BAI-24A-08-18	Drainage Channel	1	8330	1.5-2	UG_KG	Explosive	4-Nitrotoluene	99-99-0	459.7701149	27.5862069	459.7701149	N
BAI-24A-08-18	Drainage Channel	1	D2216	1.5-2	PCT	Other	Percent Moisture	-86	14.94252874	0	1.149425287	Y
BAI-24A-09-00	Drainage Channel	1	6010B	0-0.5	MG_KG	Inorganic	Lead	7439-92-1	5	0.079	0.28	Y
BAI-24A-09-00	Drainage Channel	1	6010B	0-0.5	MG_KG	Inorganic	Molybdenum	7439-98-7	0.68	0.23	0.68	N
BAI-24A-09-00	Drainage Channel	1	6010B	0-0.5	MG_KG	Inorganic	Nickel	7440-02-0	13	0.23	0.68	Y
BAI-24A-09-00	Drainage Channel	1	6010B	0-0.5	MG_KG	Inorganic	Silver	7440-22-4	0.28	0.057	0.28	N
BAI-24A-09-00	Drainage Channel	1	6010B	0-0.5	MG_KG	Inorganic	Thallium	7440-28-0	0.16	0.16	0.57	Y
BAI-24A-09-00	Drainage Channel	1	6010B	0-0.5	MG_KG	Inorganic	Antimony	7440-36-0	0.4	0.17	0.57	Y
BAI-24A-09-00	Drainage Channel	1	6010B	0-0.5	MG_KG	Inorganic	Arsenic	7440-38-2	4.4	0.083	0.28	Y
BAI-24A-09-00	Drainage Channel	1	6010B	0-0.5	MG_KG	Inorganic	Barium	7440-39-3	55	0.11	0.34	Y
BAI-24A-09-00	Drainage Channel	1	6010B	0-0.5	MG_KG	Inorganic	Beryllium	7440-41-7	0.28	0.023	0.11	Y
BAI-24A-09-00	Drainage Channel	1	6010B	0-0.5	MG_KG	Inorganic	Cadmium	7440-43-9	0.28	0.057	0.28	N

Attachment B-4.2
Processed Data

PARENT_SAMPLE_NAME	SI Designation	Exposure Unit	ANALYTICAL_METHOD	Depth Interval	RESULT_UNITS	Analyte Group	Analyte Name	ANALYTE_ID	dw_Analyte Value	dw_MDL	dw_MRL	DETECTED
BAI-24A-09-00	Drainage Channel	1	6010B	0-0.5	MG_KG	Inorganic	Chromium	7440-47-3	15	0.11	0.34	Y
BAI-24A-09-00	Drainage Channel	1	6010B	0-0.5	MG_KG	Inorganic	Cobalt	7440-48-4	7	0.23	0.68	Y
BAI-24A-09-00	Drainage Channel	1	6010B	0-0.5	MG_KG	Inorganic	Copper	7440-50-8	11	0.11	0.34	Y
BAI-24A-09-00	Drainage Channel	1	6010B	0-0.5	MG_KG	Inorganic	Vanadium	7440-62-2	28	0.11	0.34	Y
BAI-24A-09-00	Drainage Channel	1	6010B	0-0.5	MG_KG	Inorganic	Zinc	7440-66-6	51	0.23	1.1	Y
BAI-24A-09-00	Drainage Channel	1	6010B	0-0.5	MG_KG	Inorganic	Selenium	7782-49-2	1.5	0.18	0.57	Y
BAI-24A-09-00	Drainage Channel	1	7470A	0-0.5	MG_KG	Inorganic	Mercury	7439-97-6	0.024	0.0074	0.024	N
BAI-24A-09-00	Drainage Channel	1	8330	0-0.5	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	227.2727273	25	227.2727273	N
BAI-24A-09-00	Drainage Channel	1	8330	0-0.5	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	227.2727273	47.72727273	227.2727273	N
BAI-24A-09-00	Drainage Channel	1	8330	0-0.5	UG_KG	Explosive	RDX	121-82-4	227.2727273	12.5	227.2727273	N
BAI-24A-09-00	Drainage Channel	1	8330	0-0.5	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	227.2727273	57.95454545	227.2727273	N
BAI-24A-09-00	Drainage Channel	1	8330	0-0.5	UG_KG	Explosive	HMX	2691-41-0	227.2727273	13.63636364	227.2727273	N
BAI-24A-09-00	Drainage Channel	1	8330	0-0.5	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	227.2727273	25	227.2727273	N
BAI-24A-09-00	Drainage Channel	1	8330	0-0.5	UG_KG	Explosive	Tetryl	479-45-8	227.2727273	63.63636364	227.2727273	N
BAI-24A-09-00	Drainage Channel	1	8330	0-0.5	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	227.2727273	56.81818182	227.2727273	N
BAI-24A-09-00	Drainage Channel	1	8330	0-0.5	UG_KG	Explosive	2-Nitrotoluene	88-72-2	454.5454545	12.5	454.5454545	N
BAI-24A-09-00	Drainage Channel	1	8330	0-0.5	UG_KG	SVOC	Nitrobenzene	98-95-3	227.2727273	30.68181818	227.2727273	N
BAI-24A-09-00	Drainage Channel	1	8330	0-0.5	UG_KG	Explosive	3-Nitrotoluene	99-08-1	454.5454545	20.45454545	454.5454545	N
BAI-24A-09-00	Drainage Channel	1	8330	0-0.5	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	227.2727273	26.13636364	227.2727273	N
BAI-24A-09-00	Drainage Channel	1	8330	0-0.5	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	227.2727273	11.36363636	227.2727273	N
BAI-24A-09-00	Drainage Channel	1	8330	0-0.5	UG_KG	Explosive	4-Nitrotoluene	99-99-0	454.5454545	27.27272727	454.5454545	N
BAI-24A-09-00	Drainage Channel	1	D2216	0-0.5	PCT	Other	Percent Moisture	-86	13.63636364	0	1.136363636	Y
BAI-24A-09-18	Drainage Channel	1	6010B	1.5-2	MG_KG	Inorganic	Lead	7439-92-1	2.1	0.075	0.27	Y
BAI-24A-09-18	Drainage Channel	1	6010B	1.5-2	MG_KG	Inorganic	Molybdenum	7439-98-7	0.65	0.22	0.65	N
BAI-24A-09-18	Drainage Channel	1	6010B	1.5-2	MG_KG	Inorganic	Nickel	7440-02-0	13	0.22	0.65	Y
BAI-24A-09-18	Drainage Channel	1	6010B	1.5-2	MG_KG	Inorganic	Silver	7440-22-4	0.27	0.054	0.27	N
BAI-24A-09-18	Drainage Channel	1	6010B	1.5-2	MG_KG	Inorganic	Thallium	7440-28-0	0.55	0.15	0.55	N
BAI-24A-09-18	Drainage Channel	1	6010B	1.5-2	MG_KG	Inorganic	Antimony	7440-36-0	0.55	0.16	0.55	N
BAI-24A-09-18	Drainage Channel	1	6010B	1.5-2	MG_KG	Inorganic	Arsenic	7440-38-2	4.9	0.078	0.27	Y
BAI-24A-09-18	Drainage Channel	1	6010B	1.5-2	MG_KG	Inorganic	Barium	7440-39-3	50	0.11	0.32	Y
BAI-24A-09-18	Drainage Channel	1	6010B	1.5-2	MG_KG	Inorganic	Beryllium	7440-41-7	0.32	0.022	0.11	Y
BAI-24A-09-18	Drainage Channel	1	6010B	1.5-2	MG_KG	Inorganic	Cadmium	7440-43-9	0.27	0.054	0.27	N
BAI-24A-09-18	Drainage Channel	1	6010B	1.5-2	MG_KG	Inorganic	Chromium	7440-47-3	13	0.11	0.32	Y
BAI-24A-09-18	Drainage Channel	1	6010B	1.5-2	MG_KG	Inorganic	Cobalt	7440-48-4	7.4	0.22	0.65	Y
BAI-24A-09-18	Drainage Channel	1	6010B	1.5-2	MG_KG	Inorganic	Copper	7440-50-8	10	0.11	0.32	Y
BAI-24A-09-18	Drainage Channel	1	6010B	1.5-2	MG_KG	Inorganic	Vanadium	7440-62-2	26	0.11	0.32	Y
BAI-24A-09-18	Drainage Channel	1	6010B	1.5-2	MG_KG	Inorganic	Zinc	7440-66-6	45	0.22	1.1	Y
BAI-24A-09-18	Drainage Channel	1	6010B	1.5-2	MG_KG	Inorganic	Selenium	7782-49-2	1.3	0.17	0.55	Y
BAI-24A-09-18	Drainage Channel	1	7470A	1.5-2	MG_KG	Inorganic	Mercury	7439-97-6	0.022	0.0071	0.022	N
BAI-24A-09-18	Drainage Channel	1	8330	1.5-2	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	219.7802198	24.17582418	219.7802198	N
BAI-24A-09-18	Drainage Channel	1	8330	1.5-2	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	219.7802198	46.15384615	219.7802198	N
BAI-24A-09-18	Drainage Channel	1	8330	1.5-2	UG_KG	Explosive	RDX	121-82-4	219.7802198	12.08791209	219.7802198	N
BAI-24A-09-18	Drainage Channel	1	8330	1.5-2	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	219.7802198	56.04395604	219.7802198	N
BAI-24A-09-18	Drainage Channel	1	8330	1.5-2	UG_KG	Explosive	HMX	2691-41-0	219.7802198	13.18681319	219.7802198	N
BAI-24A-09-18	Drainage Channel	1	8330	1.5-2	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	219.7802198	23.07692308	219.7802198	N
BAI-24A-09-18	Drainage Channel	1	8330	1.5-2	UG_KG	Explosive	Tetryl	479-45-8	219.7802198	61.53846154	219.7802198	N
BAI-24A-09-18	Drainage Channel	1	8330	1.5-2	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	219.7802198	54.94505495	219.7802198	N
BAI-24A-09-18	Drainage Channel	1	8330	1.5-2	UG_KG	Explosive	2-Nitrotoluene	88-72-2	439.5604396	12.08791209	439.5604396	N
BAI-24A-09-18	Drainage Channel	1	8330	1.5-2	UG_KG	SVOC	Nitrobenzene	98-95-3	219.7802198	29.67032967	219.7802198	N

PARENT_SAMPLE_NAME	SI Designation	Exposure Unit	ANALYTICAL_METHOD	Depth Interval	RESULT_UNITS	Analyte Group	Analyte Name	ANALYTE_ID	dw_Analyte Value	dw_MDL	dw_MRL	DETECTED
BAI-24A-09-18	Drainage Channel	1	8330	1.5-2	UG_KG	Explosive	3-Nitrotoluene	99-08-1	439.5604396	19.78021978	439.5604396	N
BAI-24A-09-18	Drainage Channel	1	8330	1.5-2	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	219.7802198	25.27472527	219.7802198	N
BAI-24A-09-18	Drainage Channel	1	8330	1.5-2	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	219.7802198	10.98901099	219.7802198	N
BAI-24A-09-18	Drainage Channel	1	8330	1.5-2	UG_KG	Explosive	4-Nitrotoluene	99-99-0	439.5604396	26.37362637	439.5604396	N
BAI-24A-09-18	Drainage Channel	1	D2216	1.5-2	PCT	Other	Percent Moisture	-86	9.89010989	0	1.098901099	Y
BAI-24A-10-00	Drainage Channel	1	6010B	0-0.5	MG_KG	Inorganic	Lead	7439-92-1	14	0.079	0.29	Y
BAI-24A-10-00	Drainage Channel	1	6010B	0-0.5	MG_KG	Inorganic	Molybdenum	7439-98-7	0.68	0.23	0.68	N
BAI-24A-10-00	Drainage Channel	1	6010B	0-0.5	MG_KG	Inorganic	Nickel	7440-02-0	17	0.23	0.68	Y
BAI-24A-10-00	Drainage Channel	1	6010B	0-0.5	MG_KG	Inorganic	Silver	7440-22-4	0.29	0.057	0.29	N
BAI-24A-10-00	Drainage Channel	1	6010B	0-0.5	MG_KG	Inorganic	Thallium	7440-28-0	0.51	0.16	0.58	Y
BAI-24A-10-00	Drainage Channel	1	6010B	0-0.5	MG_KG	Inorganic	Antimony	7440-36-0	0.21	0.17	0.58	Y
BAI-24A-10-00	Drainage Channel	1	6010B	0-0.5	MG_KG	Inorganic	Arsenic	7440-38-2	6.7	0.083	0.29	Y
BAI-24A-10-00	Drainage Channel	1	6010B	0-0.5	MG_KG	Inorganic	Barium	7440-39-3	90	0.11	0.34	Y
BAI-24A-10-00	Drainage Channel	1	6010B	0-0.5	MG_KG	Inorganic	Beryllium	7440-41-7	0.41	0.023	0.12	Y
BAI-24A-10-00	Drainage Channel	1	6010B	0-0.5	MG_KG	Inorganic	Cadmium	7440-43-9	0.2	0.057	0.29	Y
BAI-24A-10-00	Drainage Channel	1	6010B	0-0.5	MG_KG	Inorganic	Chromium	7440-47-3	19	0.11	0.34	Y
BAI-24A-10-00	Drainage Channel	1	6010B	0-0.5	MG_KG	Inorganic	Cobalt	7440-48-4	9.4	0.23	0.68	Y
BAI-24A-10-00	Drainage Channel	1	6010B	0-0.5	MG_KG	Inorganic	Copper	7440-50-8	27	0.11	0.34	Y
BAI-24A-10-00	Drainage Channel	1	6010B	0-0.5	MG_KG	Inorganic	Vanadium	7440-62-2	38	0.11	0.34	Y
BAI-24A-10-00	Drainage Channel	1	6010B	0-0.5	MG_KG	Inorganic	Zinc	7440-66-6	490	0.23	1.2	Y
BAI-24A-10-00	Drainage Channel	1	6010B	0-0.5	MG_KG	Inorganic	Selenium	7782-49-2	1.9	0.18	0.58	Y
BAI-24A-10-00	Drainage Channel	1	7470A	0-0.5	MG_KG	Inorganic	Mercury	7439-97-6	0.032	0.0076	0.024	Y
BAI-24A-10-00	Drainage Channel	1	8330	0-0.5	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	232.5581395	25.58139535	232.5581395	N
BAI-24A-10-00	Drainage Channel	1	8330	0-0.5	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	232.5581395	48.8372093	232.5581395	N
BAI-24A-10-00	Drainage Channel	1	8330	0-0.5	UG_KG	Explosive	RDX	121-82-4	232.5581395	12.79069767	232.5581395	N
BAI-24A-10-00	Drainage Channel	1	8330	0-0.5	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	232.5581395	59.30232558	232.5581395	N
BAI-24A-10-00	Drainage Channel	1	8330	0-0.5	UG_KG	Explosive	HMX	2691-41-0	232.5581395	13.95348837	232.5581395	N
BAI-24A-10-00	Drainage Channel	1	8330	0-0.5	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	232.5581395	25.58139535	232.5581395	N
BAI-24A-10-00	Drainage Channel	1	8330	0-0.5	UG_KG	Explosive	Tetryl	479-45-8	232.5581395	65.11627907	232.5581395	N
BAI-24A-10-00	Drainage Channel	1	8330	0-0.5	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	232.5581395	58.13953488	232.5581395	N
BAI-24A-10-00	Drainage Channel	1	8330	0-0.5	UG_KG	Explosive	2-Nitrotoluene	88-72-2	465.1162791	12.79069767	465.1162791	N
BAI-24A-10-00	Drainage Channel	1	8330	0-0.5	UG_KG	SVOC	Nitrobenzene	98-95-3	232.5581395	31.39534884	232.5581395	N
BAI-24A-10-00	Drainage Channel	1	8330	0-0.5	UG_KG	Explosive	3-Nitrotoluene	99-08-1	465.1162791	20.93023256	465.1162791	N
BAI-24A-10-00	Drainage Channel	1	8330	0-0.5	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	232.5581395	26.74418605	232.5581395	N
BAI-24A-10-00	Drainage Channel	1	8330	0-0.5	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	232.5581395	11.62790698	232.5581395	N
BAI-24A-10-00	Drainage Channel	1	8330	0-0.5	UG_KG	Explosive	4-Nitrotoluene	99-99-0	465.1162791	27.90697674	465.1162791	N
BAI-24A-10-00	Drainage Channel	1	D2216	0-0.5	PCT	Other	Percent Moisture	-86	16.27906977	0	1.162790698	Y
BAI-24A-10-18	Drainage Channel	1	6010B	1.5-2	MG_KG	Inorganic	Lead	7439-92-1	7.4	0.077	0.3	Y
BAI-24A-10-18	Drainage Channel	1	6010B	1.5-2	MG_KG	Inorganic	Molybdenum	7439-98-7	0.66	0.22	0.66	N
BAI-24A-10-18	Drainage Channel	1	6010B	1.5-2	MG_KG	Inorganic	Nickel	7440-02-0	18	0.22	0.66	Y
BAI-24A-10-18	Drainage Channel	1	6010B	1.5-2	MG_KG	Inorganic	Silver	7440-22-4	0.3	0.055	0.3	N
BAI-24A-10-18	Drainage Channel	1	6010B	1.5-2	MG_KG	Inorganic	Thallium	7440-28-0	0.21	0.15	0.6	Y
BAI-24A-10-18	Drainage Channel	1	6010B	1.5-2	MG_KG	Inorganic	Antimony	7440-36-0	0.6	0.16	0.6	N
BAI-24A-10-18	Drainage Channel	1	6010B	1.5-2	MG_KG	Inorganic	Arsenic	7440-38-2	9.9	0.08	0.3	Y
BAI-24A-10-18	Drainage Channel	1	6010B	1.5-2	MG_KG	Inorganic	Barium	7440-39-3	91	0.11	0.33	Y
BAI-24A-10-18	Drainage Channel	1	6010B	1.5-2	MG_KG	Inorganic	Beryllium	7440-41-7	0.69	0.022	0.12	Y
BAI-24A-10-18	Drainage Channel	1	6010B	1.5-2	MG_KG	Inorganic	Cadmium	7440-43-9	0.3	0.055	0.3	N
BAI-24A-10-18	Drainage Channel	1	6010B	1.5-2	MG_KG	Inorganic	Chromium	7440-47-3	22	0.11	0.33	Y
BAI-24A-10-18	Drainage Channel	1	6010B	1.5-2	MG_KG	Inorganic	Cobalt	7440-48-4	10	0.22	0.66	Y

PARENT_SAMPLE_NAME	SI Designation	Exposure Unit	ANALYTICAL_METHOD	Depth Interval	RESULT_UNITS	Analyte Group	Analyte Name	ANALYTE_ID	dw_Analyte Value	dw_MDL	dw_MRL	DETECTED
BAI-24A-10-18	Drainage Channel	1	6010B	1.5-2	MG_KG	Inorganic	Copper	7440-50-8	35	0.11	0.33	Y
BAI-24A-10-18	Drainage Channel	1	6010B	1.5-2	MG_KG	Inorganic	Vanadium	7440-62-2	45	0.11	0.33	Y
BAI-24A-10-18	Drainage Channel	1	6010B	1.5-2	MG_KG	Inorganic	Zinc	7440-66-6	65	0.22	1.2	Y
BAI-24A-10-18	Drainage Channel	1	6010B	1.5-2	MG_KG	Inorganic	Selenium	7782-49-2	2.4	0.18	0.6	Y
BAI-24A-10-18	Drainage Channel	1	7470A	1.5-2	MG_KG	Inorganic	Mercury	7439-97-6	0.037	0.0068	0.024	Y
BAI-24A-10-18	Drainage Channel	1	8330	1.5-2	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	238.0952381	26.19047619	238.0952381	N
BAI-24A-10-18	Drainage Channel	1	8330	1.5-2	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	238.0952381	50	238.0952381	N
BAI-24A-10-18	Drainage Channel	1	8330	1.5-2	UG_KG	Explosive	RDX	121-82-4	238.0952381	13.0952381	238.0952381	N
BAI-24A-10-18	Drainage Channel	1	8330	1.5-2	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	238.0952381	60.71428571	238.0952381	N
BAI-24A-10-18	Drainage Channel	1	8330	1.5-2	UG_KG	Explosive	HMX	2691-41-0	238.0952381	14.28571429	238.0952381	N
BAI-24A-10-18	Drainage Channel	1	8330	1.5-2	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	238.0952381	26.19047619	238.0952381	N
BAI-24A-10-18	Drainage Channel	1	8330	1.5-2	UG_KG	Explosive	Tetryl	479-45-8	238.0952381	66.66666667	238.0952381	N
BAI-24A-10-18	Drainage Channel	1	8330	1.5-2	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	238.0952381	59.52380952	238.0952381	N
BAI-24A-10-18	Drainage Channel	1	8330	1.5-2	UG_KG	Explosive	2-Nitrotoluene	88-72-2	476.1904762	13.0952381	476.1904762	N
BAI-24A-10-18	Drainage Channel	1	8330	1.5-2	UG_KG	SVOC	Nitrobenzene	98-95-3	238.0952381	32.14285714	238.0952381	N
BAI-24A-10-18	Drainage Channel	1	8330	1.5-2	UG_KG	Explosive	3-Nitrotoluene	99-08-1	476.1904762	21.42857143	476.1904762	N
BAI-24A-10-18	Drainage Channel	1	8330	1.5-2	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	238.0952381	27.38095238	238.0952381	N
BAI-24A-10-18	Drainage Channel	1	8330	1.5-2	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	238.0952381	11.9047619	238.0952381	N
BAI-24A-10-18	Drainage Channel	1	8330	1.5-2	UG_KG	Explosive	4-Nitrotoluene	99-99-0	476.1904762	28.57142857	476.1904762	N
BAI-24A-10-18	Drainage Channel	1	D2216	1.5-2	PCT	Other	Percent Moisture	-86	19.04761905	0	1.19047619	Y
BAI-24A-11-00	Drainage Channel	1	6010B	0-0.5	MG_KG	Inorganic	Lead	7439-92-1	24	0.0805	0.295	Y
BAI-24A-11-00	Drainage Channel	1	6010B	0-0.5	MG_KG	Inorganic	Molybdenum	7439-98-7	0.225	0.17	0.51	Y
BAI-24A-11-00	Drainage Channel	1	6010B	0-0.5	MG_KG	Inorganic	Nickel	7440-02-0	14.5	0.225	0.675	Y
BAI-24A-11-00	Drainage Channel	1	6010B	0-0.5	MG_KG	Inorganic	Silver	7440-22-4	0.295	0.0705	0.295	N
BAI-24A-11-00	Drainage Channel	1	6010B	0-0.5	MG_KG	Inorganic	Thallium	7440-28-0	0.59	0.175	0.59	N
BAI-24A-11-00	Drainage Channel	1	6010B	0-0.5	MG_KG	Inorganic	Antimony	7440-36-0	1.545	0.175	0.59	Y
BAI-24A-11-00	Drainage Channel	1	6010B	0-0.5	MG_KG	Inorganic	Arsenic	7440-38-2	7.75	0.0875	0.295	Y
BAI-24A-11-00	Drainage Channel	1	6010B	0-0.5	MG_KG	Inorganic	Barium	7440-39-3	115	0.115	0.34	Y
BAI-24A-11-00	Drainage Channel	1	6010B	0-0.5	MG_KG	Inorganic	Beryllium	7440-41-7	0.39	0.0225	0.115	Y
BAI-24A-11-00	Drainage Channel	1	6010B	0-0.5	MG_KG	Inorganic	Cadmium	7440-43-9	0.185	0.0565	0.295	Y
BAI-24A-11-00	Drainage Channel	1	6010B	0-0.5	MG_KG	Inorganic	Chromium	7440-47-3	21	0.115	0.34	Y
BAI-24A-11-00	Drainage Channel	1	6010B	0-0.5	MG_KG	Inorganic	Cobalt	7440-48-4	8.2	0.225	0.675	Y
BAI-24A-11-00	Drainage Channel	1	6010B	0-0.5	MG_KG	Inorganic	Copper	7440-50-8	19	0.115	0.34	Y
BAI-24A-11-00	Drainage Channel	1	6010B	0-0.5	MG_KG	Inorganic	Vanadium	7440-62-2	33.5	0.115	0.34	Y
BAI-24A-11-00	Drainage Channel	1	6010B	0-0.5	MG_KG	Inorganic	Zinc	7440-66-6	340	0.225	1.15	Y
BAI-24A-11-00	Drainage Channel	1	6010B	0-0.5	MG_KG	Inorganic	Selenium	7782-49-2	0.325	0.13	0.4475	Y
BAI-24A-11-00	Drainage Channel	1	7470A	0-0.5	MG_KG	Inorganic	Mercury	7439-97-6	0.0235	0.0069	0.0235	N
BAI-24A-11-00	Drainage Channel	1	8330	0-0.5	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	236.6863905	30.76923077	236.6863905	N
BAI-24A-11-00	Drainage Channel	1	8330	0-0.5	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	236.6863905	37.27810651	236.6863905	N
BAI-24A-11-00	Drainage Channel	1	8330	0-0.5	UG_KG	Explosive	RDX	121-82-4	236.6863905	18.93491124	236.6863905	N
BAI-24A-11-00	Drainage Channel	1	8330	0-0.5	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	236.6863905	53.25443787	236.6863905	N
BAI-24A-11-00	Drainage Channel	1	8330	0-0.5	UG_KG	Explosive	HMX	2691-41-0	236.6863905	15.97633136	236.6863905	N
BAI-24A-11-00	Drainage Channel	1	8330	0-0.5	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	236.6863905	23.07692308	236.6863905	N
BAI-24A-11-00	Drainage Channel	1	8330	0-0.5	UG_KG	Explosive	Tetryl	479-45-8	236.6863905	66.27218935	236.6863905	N
BAI-24A-11-00	Drainage Channel	1	8330	0-0.5	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	236.6863905	42.01183432	236.6863905	N
BAI-24A-11-00	Drainage Channel	1	8330	0-0.5	UG_KG	Explosive	2-Nitrotoluene	88-72-2	461.5384615	23.07692308	461.5384615	N
BAI-24A-11-00	Drainage Channel	1	8330	0-0.5	UG_KG	SVOC	Nitrobenzene	98-95-3	236.6863905	24.85207101	236.6863905	N
BAI-24A-11-00	Drainage Channel	1	8330	0-0.5	UG_KG	Explosive	3-Nitrotoluene	99-08-1	461.5384615	34.31952663	461.5384615	N
BAI-24A-11-00	Drainage Channel	1	8330	0-0.5	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	236.6863905	29.58579882	236.6863905	N

PARENT_SAMPLE_NAME	SI Designation	Exposure Unit	ANALYTICAL_METHOD	Depth Interval	RESULT_UNITS	Analyte Group	Analyte Name	ANALYTE_ID	dw_Analyte Value	dw_MDL	dw_MRL	DETECTED
BAI-24A-11-00	Drainage Channel	1	8330	0-0.5	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	236.6863905	8.639053254	236.6863905	N
BAI-24A-11-00	Drainage Channel	1	8330	0-0.5	UG_KG	Explosive	4-Nitrotoluene	99-99-0	461.5384615	30.76923077	461.5384615	N
BAI-24A-11-00	Drainage Channel	1	D2216	0-0.5	PCT	Other	Percent Moisture	-86	18.34319527	0	1.183431953	Y
BAI-24A-11-18	Drainage Channel	1	6010B	1.5-2	MG_KG	Inorganic	Lead	7439-92-1	6.6	0.076	0.29	Y
BAI-24A-11-18	Drainage Channel	1	6010B	1.5-2	MG_KG	Inorganic	Molybdenum	7439-98-7	0.65	0.22	0.65	N
BAI-24A-11-18	Drainage Channel	1	6010B	1.5-2	MG_KG	Inorganic	Nickel	7440-02-0	14	0.22	0.65	Y
BAI-24A-11-18	Drainage Channel	1	6010B	1.5-2	MG_KG	Inorganic	Silver	7440-22-4	0.29	0.054	0.29	N
BAI-24A-11-18	Drainage Channel	1	6010B	1.5-2	MG_KG	Inorganic	Thallium	7440-28-0	0.38	0.15	0.58	Y
BAI-24A-11-18	Drainage Channel	1	6010B	1.5-2	MG_KG	Inorganic	Antimony	7440-36-0	0.58	0.16	0.58	N
BAI-24A-11-18	Drainage Channel	1	6010B	1.5-2	MG_KG	Inorganic	Arsenic	7440-38-2	5.8	0.079	0.29	Y
BAI-24A-11-18	Drainage Channel	1	6010B	1.5-2	MG_KG	Inorganic	Barium	7440-39-3	86	0.11	0.33	Y
BAI-24A-11-18	Drainage Channel	1	6010B	1.5-2	MG_KG	Inorganic	Beryllium	7440-41-7	0.36	0.022	0.12	Y
BAI-24A-11-18	Drainage Channel	1	6010B	1.5-2	MG_KG	Inorganic	Cadmium	7440-43-9	0.44	0.054	0.29	Y
BAI-24A-11-18	Drainage Channel	1	6010B	1.5-2	MG_KG	Inorganic	Chromium	7440-47-3	16	0.11	0.33	Y
BAI-24A-11-18	Drainage Channel	1	6010B	1.5-2	MG_KG	Inorganic	Cobalt	7440-48-4	7.7	0.22	0.65	Y
BAI-24A-11-18	Drainage Channel	1	6010B	1.5-2	MG_KG	Inorganic	Copper	7440-50-8	17	0.11	0.33	Y
BAI-24A-11-18	Drainage Channel	1	6010B	1.5-2	MG_KG	Inorganic	Vanadium	7440-62-2	29	0.11	0.33	Y
BAI-24A-11-18	Drainage Channel	1	6010B	1.5-2	MG_KG	Inorganic	Zinc	7440-66-6	1300	4.3	22	Y
BAI-24A-11-18	Drainage Channel	1	6010B	1.5-2	MG_KG	Inorganic	Selenium	7782-49-2	2.1	0.17	0.58	Y
BAI-24A-11-18	Drainage Channel	1	7470A	1.5-2	MG_KG	Inorganic	Mercury	7439-97-6	0.17	0.0076	0.024	Y
BAI-24A-11-18	Drainage Channel	1	8330	1.5-2	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	232.5581395	25.58139535	232.5581395	N
BAI-24A-11-18	Drainage Channel	1	8330	1.5-2	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	232.5581395	48.8372093	232.5581395	N
BAI-24A-11-18	Drainage Channel	1	8330	1.5-2	UG_KG	Explosive	RDX	121-82-4	232.5581395	12.79069767	232.5581395	N
BAI-24A-11-18	Drainage Channel	1	8330	1.5-2	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	232.5581395	59.30232558	232.5581395	N
BAI-24A-11-18	Drainage Channel	1	8330	1.5-2	UG_KG	Explosive	HMX	2691-41-0	232.5581395	13.95348837	232.5581395	N
BAI-24A-11-18	Drainage Channel	1	8330	1.5-2	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	232.5581395	25.58139535	232.5581395	N
BAI-24A-11-18	Drainage Channel	1	8330	1.5-2	UG_KG	Explosive	Tetryl	479-45-8	232.5581395	65.11627907	232.5581395	N
BAI-24A-11-18	Drainage Channel	1	8330	1.5-2	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	232.5581395	58.13953488	232.5581395	N
BAI-24A-11-18	Drainage Channel	1	8330	1.5-2	UG_KG	Explosive	2-Nitrotoluene	88-72-2	465.1162791	12.79069767	465.1162791	N
BAI-24A-11-18	Drainage Channel	1	8330	1.5-2	UG_KG	SVOC	Nitrobenzene	98-95-3	232.5581395	31.39534884	232.5581395	N
BAI-24A-11-18	Drainage Channel	1	8330	1.5-2	UG_KG	Explosive	3-Nitrotoluene	99-08-1	465.1162791	20.93023256	465.1162791	N
BAI-24A-11-18	Drainage Channel	1	8330	1.5-2	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	232.5581395	26.74418605	232.5581395	N
BAI-24A-11-18	Drainage Channel	1	8330	1.5-2	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	232.5581395	11.62790698	232.5581395	N
BAI-24A-11-18	Drainage Channel	1	8330	1.5-2	UG_KG	Explosive	4-Nitrotoluene	99-99-0	465.1162791	27.90697674	465.1162791	N
BAI-24A-11-18	Drainage Channel	1	D2216	1.5-2	PCT	Other	Percent Moisture	-86	16.27906977	0	1.162790698	Y
BAI-24A-01-00	Retaining Wall	2	8270C_SIM	0-2	UG_KG	PAH	Anthracene	120-12-7	62	1.2	5.8	Y
BAI-24A-01-00	Retaining Wall	2	8270C_SIM	0-2	UG_KG	PAH	Pyrene	129-00-0	76	1.2	5.8	Y
BAI-24A-01-00	Retaining Wall	2	8270C_SIM	0-2	UG_KG	PAH	Benzo(g,h,i)perylene	191-24-2	61	1.4	5.8	Y
BAI-24A-01-00	Retaining Wall	2	8270C_SIM	0-2	UG_KG	PAH	Indeno(1,2,3-cd)yrene	193-39-5	64	1.2	5.8	Y
BAI-24A-01-00	Retaining Wall	2	8270C_SIM	0-2	UG_KG	PAH	Benzo(b)fluoranthene	205-99-2	170	1.2	5.8	Y
BAI-24A-01-00	Retaining Wall	2	8270C_SIM	0-2	UG_KG	PAH	Fluoranthene	206-44-0	63	1.2	5.8	Y
BAI-24A-01-00	Retaining Wall	2	8270C_SIM	0-2	UG_KG	PAH	Benzo(k)fluoranthene	207-08-9	43	1.2	5.8	Y
BAI-24A-01-00	Retaining Wall	2	8270C_SIM	0-2	UG_KG	PAH	Acenaphthylene	208-96-8	25	1.2	5.8	Y
BAI-24A-01-00	Retaining Wall	2	8270C_SIM	0-2	UG_KG	PAH	Chrysene	218-01-9	170	1.2	5.8	Y
BAI-24A-01-00	Retaining Wall	2	8270C_SIM	0-2	UG_KG	PAH	Benzo(a)pyrene	50-32-8	60	1.2	5.8	Y
BAI-24A-01-00	Retaining Wall	2	8270C_SIM	0-2	UG_KG	PAH	Dibenz(a,h)anthracene	53-70-3	20	1.2	5.8	Y
BAI-24A-01-00	Retaining Wall	2	8270C_SIM	0-2	UG_KG	PAH	Benzo(a)anthracene	56-55-3	51	1.2	5.8	Y
BAI-24A-01-00	Retaining Wall	2	8270C_SIM	0-2	UG_KG	PAH	Acenaphthene	83-32-9	5.8	1.2	5.8	N
BAI-24A-01-00	Retaining Wall	2	8270C_SIM	0-2	UG_KG	PAH	Phenanthrene	85-01-8	14	1.2	5.8	Y

PARENT_SAMPLE_NAME	SI Designation	Exposure Unit	ANALYTICAL_METHOD	Depth Interval	RESULT_UNITS	Analyte Group	Analyte Name	ANALYTE_ID	dw_Analyte Value	dw_MDL	dw_MRL	DETECTED
BAI-24A-01-00	Retaining Wall	2	8270C_SIM	0-2	UG_KG	PAH	Fluorene	86-73-7	2.5	1.2	5.8	Y
BAI-24A-01-00	Retaining Wall	2	8270C_SIM	0-2	UG_KG	PAH	Naphthalene	91-20-3	1.4	1.2	5.8	Y
BAI-24A-01-00	Retaining Wall	2	D2216	0-2	PCT	Other	Percent Moisture	-86	16.27906977	0	1.162790698	Y
BAI-24A-01-18	Retaining Wall	2	8270C_SIM	0-2	UG_KG	PAH	Anthracene	120-12-7	57	1.2	5.9	Y
BAI-24A-01-18	Retaining Wall	2	8270C_SIM	0-2	UG_KG	PAH	Pyrene	129-00-0	9.4	1.2	5.9	Y
BAI-24A-01-18	Retaining Wall	2	8270C_SIM	0-2	UG_KG	PAH	Benzo(g,h,i)perylene	191-24-2	82	1.5	5.9	Y
BAI-24A-01-18	Retaining Wall	2	8270C_SIM	0-2	UG_KG	PAH	Indeno(1,2,3-cd)yrene	193-39-5	63	1.2	5.9	Y
BAI-24A-01-18	Retaining Wall	2	8270C_SIM	0-2	UG_KG	PAH	Benzo(b)fluoranthene	205-99-2	52	1.2	5.9	Y
BAI-24A-01-18	Retaining Wall	2	8270C_SIM	0-2	UG_KG	PAH	Fluoranthene	206-44-0	5.8	1.2	5.9	Y
BAI-24A-01-18	Retaining Wall	2	8270C_SIM	0-2	UG_KG	PAH	Benzo(k)fluoranthene	207-08-9	13	1.2	5.9	Y
BAI-24A-01-18	Retaining Wall	2	8270C_SIM	0-2	UG_KG	PAH	Acenaphthylene	208-96-8	34	1.2	5.9	Y
BAI-24A-01-18	Retaining Wall	2	8270C_SIM	0-2	UG_KG	PAH	Chrysene	218-01-9	41	1.2	5.9	Y
BAI-24A-01-18	Retaining Wall	2	8270C_SIM	0-2	UG_KG	PAH	Benzo(a)pyrene	50-32-8	20	1.2	5.9	Y
BAI-24A-01-18	Retaining Wall	2	8270C_SIM	0-2	UG_KG	PAH	Dibenz(a,h)anthracene	53-70-3	16	1.2	5.9	Y
BAI-24A-01-18	Retaining Wall	2	8270C_SIM	0-2	UG_KG	PAH	Benzo(a)anthracene	56-55-3	13	1.2	5.9	Y
BAI-24A-01-18	Retaining Wall	2	8270C_SIM	0-2	UG_KG	PAH	Acenaphthene	83-32-9	5.9	1.2	5.9	N
BAI-24A-01-18	Retaining Wall	2	8270C_SIM	0-2	UG_KG	PAH	Phenanthrene	85-01-8	1.3	1.2	5.9	Y
BAI-24A-01-18	Retaining Wall	2	8270C_SIM	0-2	UG_KG	PAH	Fluorene	86-73-7	2	1.2	5.9	Y
BAI-24A-01-18	Retaining Wall	2	8270C_SIM	0-2	UG_KG	PAH	Naphthalene	91-20-3	5.9	1.2	5.9	N
BAI-24A-01-18	Retaining Wall	2	D2216	0-2	PCT	Other	Percent Moisture	-86	19.04761905	0	1.19047619	Y
BAI-24A-013-00	Firing Line	1	6010B	0-2	MG_KG	Inorganic	Lead	7439-92-1	30	0.083	0.29	Y
BAI-24A-013-00	Firing Line	1	6010B	0-2	MG_KG	Inorganic	Molybdenum	7439-98-7	0.68	0.23	0.68	N
BAI-24A-013-00	Firing Line	1	6010B	0-2	MG_KG	Inorganic	Nickel	7440-02-0	22	0.23	0.68	Y
BAI-24A-013-00	Firing Line	1	6010B	0-2	MG_KG	Inorganic	Silver	7440-22-4	0.13	0.085	0.29	Y
BAI-24A-013-00	Firing Line	1	6010B	0-2	MG_KG	Inorganic	Thallium	7440-28-0	0.58	0.19	0.58	N
BAI-24A-013-00	Firing Line	1	6010B	0-2	MG_KG	Inorganic	Antimony	7440-36-0	4.9	0.18	0.58	Y
BAI-24A-013-00	Firing Line	1	6010B	0-2	MG_KG	Inorganic	Arsenic	7440-38-2	3.2	0.095	0.29	Y
BAI-24A-013-00	Firing Line	1	6010B	0-2	MG_KG	Inorganic	Barium	7440-39-3	140	0.11	0.34	Y
BAI-24A-013-00	Firing Line	1	6010B	0-2	MG_KG	Inorganic	Beryllium	7440-41-7	0.43	0.023	0.12	Y
BAI-24A-013-00	Firing Line	1	6010B	0-2	MG_KG	Inorganic	Cadmium	7440-43-9	0.61	0.057	0.29	Y
BAI-24A-013-00	Firing Line	1	6010B	0-2	MG_KG	Inorganic	Chromium	7440-47-3	23	0.11	0.34	Y
BAI-24A-013-00	Firing Line	1	6010B	0-2	MG_KG	Inorganic	Cobalt	7440-48-4	11	0.23	0.68	Y
BAI-24A-013-00	Firing Line	1	6010B	0-2	MG_KG	Inorganic	Copper	7440-50-8	21	0.11	0.34	Y
BAI-24A-013-00	Firing Line	1	6010B	0-2	MG_KG	Inorganic	Vanadium	7440-62-2	55	0.11	0.34	Y
BAI-24A-013-00	Firing Line	1	6010B	0-2	MG_KG	Inorganic	Zinc	7440-66-6	520	0.23	1.2	Y
BAI-24A-013-00	Firing Line	1	6010B	0-2	MG_KG	Inorganic	Selenium	7782-49-2	0.58	0.17	0.58	N
BAI-24A-013-00	Firing Line	1	7470A	0-2	MG_KG	Inorganic	Mercury	7439-97-6	0.26	0.0066	0.023	Y
BAI-24A-013-00	Firing Line	1	8330	0-2	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	232.5581395	25.58139535	232.5581395	N
BAI-24A-013-00	Firing Line	1	8330	0-2	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	232.5581395	50	232.5581395	N
BAI-24A-013-00	Firing Line	1	8330	0-2	UG_KG	Explosive	RDX	121-82-4	232.5581395	12.79069767	232.5581395	N
BAI-24A-013-00	Firing Line	1	8330	0-2	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	232.5581395	60.46511628	232.5581395	N
BAI-24A-013-00	Firing Line	1	8330	0-2	UG_KG	Explosive	HMX	2691-41-0	232.5581395	13.95348837	232.5581395	N
BAI-24A-013-00	Firing Line	1	8330	0-2	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	232.5581395	25.58139535	232.5581395	N
BAI-24A-013-00	Firing Line	1	8330	0-2	UG_KG	Explosive	Tetryl	479-45-8	232.5581395	66.27906977	232.5581395	N
BAI-24A-013-00	Firing Line	1	8330	0-2	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	232.5581395	59.30232558	232.5581395	N
BAI-24A-013-00	Firing Line	1	8330	0-2	UG_KG	Explosive	2-Nitrotoluene	88-72-2	465.1162791	12.79069767	465.1162791	N
BAI-24A-013-00	Firing Line	1	8330	0-2	UG_KG	SVOC	Nitrobenzene	98-95-3	232.5581395	31.39534884	232.5581395	N
BAI-24A-013-00	Firing Line	1	8330	0-2	UG_KG	Explosive	3-Nitrotoluene	99-08-1	465.1162791	22.09302326	465.1162791	N
BAI-24A-013-00	Firing Line	1	8330	0-2	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	232.5581395	27.90697674	232.5581395	N

PARENT_SAMPLE_NAME	SI Designation	Exposure Unit	ANALYTICAL_METHOD	Depth Interval	RESULT_UNITS	Analyte Group	Analyte Name	ANALYTE_ID	dw_Analyte Value	dw_MDL	dw_MRL	DETECTED
BAI-24A-013-00	Firing Line	1	8330	0-2	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	232.5581395	12.79069767	232.5581395	N
BAI-24A-013-00	Firing Line	1	8330	0-2	UG_KG	Explosive	4-Nitrotoluene	99-99-0	465.1162791	27.90697674	465.1162791	N
BAI-24A-013-00	Firing Line	1	D2216	0-2	PCT	Other	Percent Moisture	-86	16.27906977	0	1.162790698	Y
BAI-24A-013-18	Firing Line	1	6010B	0-2	MG_KG	Inorganic	Lead	7439-92-1	9.3	0.086	0.3	Y
BAI-24A-013-18	Firing Line	1	6010B	0-2	MG_KG	Inorganic	Molybdenum	7439-98-7	0.63	0.24	0.71	Y
BAI-24A-013-18	Firing Line	1	6010B	0-2	MG_KG	Inorganic	Nickel	7440-02-0	20	0.24	0.71	Y
BAI-24A-013-18	Firing Line	1	6010B	0-2	MG_KG	Inorganic	Silver	7440-22-4	0.3	0.088	0.3	N
BAI-24A-013-18	Firing Line	1	6010B	0-2	MG_KG	Inorganic	Thallium	7440-28-0	0.6	0.19	0.6	N
BAI-24A-013-18	Firing Line	1	6010B	0-2	MG_KG	Inorganic	Antimony	7440-36-0	2.9	0.19	0.6	Y
BAI-24A-013-18	Firing Line	1	6010B	0-2	MG_KG	Inorganic	Arsenic	7440-38-2	7.2	0.098	0.3	Y
BAI-24A-013-18	Firing Line	1	6010B	0-2	MG_KG	Inorganic	Barium	7440-39-3	140	0.12	0.35	Y
BAI-24A-013-18	Firing Line	1	6010B	0-2	MG_KG	Inorganic	Beryllium	7440-41-7	0.68	0.024	0.12	Y
BAI-24A-013-18	Firing Line	1	6010B	0-2	MG_KG	Inorganic	Cadmium	7440-43-9	0.34	0.059	0.3	Y
BAI-24A-013-18	Firing Line	1	6010B	0-2	MG_KG	Inorganic	Chromium	7440-47-3	25	0.12	0.35	Y
BAI-24A-013-18	Firing Line	1	6010B	0-2	MG_KG	Inorganic	Cobalt	7440-48-4	11	0.24	0.71	Y
BAI-24A-013-18	Firing Line	1	6010B	0-2	MG_KG	Inorganic	Copper	7440-50-8	22	0.12	0.35	Y
BAI-24A-013-18	Firing Line	1	6010B	0-2	MG_KG	Inorganic	Vanadium	7440-62-2	53	0.12	0.35	Y
BAI-24A-013-18	Firing Line	1	6010B	0-2	MG_KG	Inorganic	Zinc	7440-66-6	230	0.24	1.2	Y
BAI-24A-013-18	Firing Line	1	6010B	0-2	MG_KG	Inorganic	Selenium	7782-49-2	0.6	0.17	0.6	N
BAI-24A-013-18	Firing Line	1	7470A	0-2	MG_KG	Inorganic	Mercury	7439-97-6	0.016	0.0076	0.024	Y
BAI-24A-013-18	Firing Line	1	8330	0-2	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	240.9638554	26.5060241	240.9638554	N
BAI-24A-013-18	Firing Line	1	8330	0-2	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	240.9638554	51.80722892	240.9638554	N
BAI-24A-013-18	Firing Line	1	8330	0-2	UG_KG	Explosive	RDX	121-82-4	240.9638554	13.25301205	240.9638554	N
BAI-24A-013-18	Firing Line	1	8330	0-2	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	240.9638554	61.44578313	240.9638554	N
BAI-24A-013-18	Firing Line	1	8330	0-2	UG_KG	Explosive	HMX	2691-41-0	240.9638554	14.45783133	240.9638554	N
BAI-24A-013-18	Firing Line	1	8330	0-2	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	240.9638554	26.5060241	240.9638554	N
BAI-24A-013-18	Firing Line	1	8330	0-2	UG_KG	Explosive	Tetryl	479-45-8	240.9638554	68.6746988	240.9638554	N
BAI-24A-013-18	Firing Line	1	8330	0-2	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	240.9638554	60.24096386	240.9638554	N
BAI-24A-013-18	Firing Line	1	8330	0-2	UG_KG	Explosive	2-Nitrotoluene	88-72-2	481.9277108	13.25301205	481.9277108	N
BAI-24A-013-18	Firing Line	1	8330	0-2	UG_KG	SVOC	Nitrobenzene	98-95-3	240.9638554	32.53012048	240.9638554	N
BAI-24A-013-18	Firing Line	1	8330	0-2	UG_KG	Explosive	3-Nitrotoluene	99-08-1	481.9277108	21.68674699	481.9277108	N
BAI-24A-013-18	Firing Line	1	8330	0-2	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	240.9638554	28.91566265	240.9638554	N
BAI-24A-013-18	Firing Line	1	8330	0-2	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	240.9638554	13.25301205	240.9638554	N
BAI-24A-013-18	Firing Line	1	8330	0-2	UG_KG	Explosive	4-Nitrotoluene	99-99-0	481.9277108	28.91566265	481.9277108	N
BAI-24A-013-18	Firing Line	1	D2216	0-2	PCT	Other	Percent Moisture	-86	20.48192771	0	1.204819277	Y
BAI-24A-014-00	Firing Line	1	6010B	0-2	MG_KG	Inorganic	Lead	7439-92-1	13	0.08	0.29	Y
BAI-24A-014-00	Firing Line	1	6010B	0-2	MG_KG	Inorganic	Molybdenum	7439-98-7	0.66	0.22	0.66	N
BAI-24A-014-00	Firing Line	1	6010B	0-2	MG_KG	Inorganic	Nickel	7440-02-0	18	0.22	0.66	Y
BAI-24A-014-00	Firing Line	1	6010B	0-2	MG_KG	Inorganic	Silver	7440-22-4	0.1	0.082	0.29	Y
BAI-24A-014-00	Firing Line	1	6010B	0-2	MG_KG	Inorganic	Thallium	7440-28-0	0.57	0.18	0.57	N
BAI-24A-014-00	Firing Line	1	6010B	0-2	MG_KG	Inorganic	Antimony	7440-36-0	3.4	0.17	0.57	Y
BAI-24A-014-00	Firing Line	1	6010B	0-2	MG_KG	Inorganic	Arsenic	7440-38-2	3.5	0.091	0.29	Y
BAI-24A-014-00	Firing Line	1	6010B	0-2	MG_KG	Inorganic	Barium	7440-39-3	150	0.11	0.33	Y
BAI-24A-014-00	Firing Line	1	6010B	0-2	MG_KG	Inorganic	Beryllium	7440-41-7	0.42	0.022	0.11	Y
BAI-24A-014-00	Firing Line	1	6010B	0-2	MG_KG	Inorganic	Cadmium	7440-43-9	0.36	0.055	0.29	Y
BAI-24A-014-00	Firing Line	1	6010B	0-2	MG_KG	Inorganic	Chromium	7440-47-3	22	0.11	0.33	Y
BAI-24A-014-00	Firing Line	1	6010B	0-2	MG_KG	Inorganic	Cobalt	7440-48-4	9.2	0.22	0.66	Y
BAI-24A-014-00	Firing Line	1	6010B	0-2	MG_KG	Inorganic	Copper	7440-50-8	15	0.11	0.33	Y
BAI-24A-014-00	Firing Line	1	6010B	0-2	MG_KG	Inorganic	Vanadium	7440-62-2	44	0.11	0.33	Y

PARENT_SAMPLE_NAME	SI Designation	Exposure Unit	ANALYTICAL_METHOD	Depth Interval	RESULT_UNITS	Analyte Group	Analyte Name	ANALYTE_ID	dw_Analyte Value	dw_MDL	dw_MRL	DETECTED
BAI-24A-014-00	Firing Line	1	6010B	0-2	MG_KG	Inorganic	Zinc	7440-66-6	400	0.22	1.1	Y
BAI-24A-014-00	Firing Line	1	6010B	0-2	MG_KG	Inorganic	Selenium	7782-49-2	0.57	0.16	0.57	N
BAI-24A-014-00	Firing Line	1	7470A	0-2	MG_KG	Inorganic	Mercury	7439-97-6	0.21	0.0068	0.023	Y
BAI-24A-014-00	Firing Line	1	8330	0-2	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	229.8850575	25.28735632	229.8850575	N
BAI-24A-014-00	Firing Line	1	8330	0-2	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	229.8850575	49.42528736	229.8850575	N
BAI-24A-014-00	Firing Line	1	8330	0-2	UG_KG	Explosive	RDX	121-82-4	229.8850575	12.64367816	229.8850575	N
BAI-24A-014-00	Firing Line	1	8330	0-2	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	229.8850575	59.77011494	229.8850575	N
BAI-24A-014-00	Firing Line	1	8330	0-2	UG_KG	Explosive	HMX	2691-41-0	229.8850575	13.79310345	229.8850575	N
BAI-24A-014-00	Firing Line	1	8330	0-2	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	229.8850575	25.28735632	229.8850575	N
BAI-24A-014-00	Firing Line	1	8330	0-2	UG_KG	Explosive	Tetryl	479-45-8	229.8850575	65.51724138	229.8850575	N
BAI-24A-014-00	Firing Line	1	8330	0-2	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	229.8850575	58.62068966	229.8850575	N
BAI-24A-014-00	Firing Line	1	8330	0-2	UG_KG	Explosive	2-Nitrotoluene	88-72-2	459.7701149	12.64367816	459.7701149	N
BAI-24A-014-00	Firing Line	1	8330	0-2	UG_KG	SVOC	Nitrobenzene	98-95-3	229.8850575	31.03448276	229.8850575	N
BAI-24A-014-00	Firing Line	1	8330	0-2	UG_KG	Explosive	3-Nitrotoluene	99-08-1	459.7701149	21.83908046	459.7701149	N
BAI-24A-014-00	Firing Line	1	8330	0-2	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	229.8850575	27.5862069	229.8850575	N
BAI-24A-014-00	Firing Line	1	8330	0-2	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	229.8850575	12.64367816	229.8850575	N
BAI-24A-014-00	Firing Line	1	8330	0-2	UG_KG	Explosive	4-Nitrotoluene	99-99-0	459.7701149	27.5862069	459.7701149	N
BAI-24A-014-00	Firing Line	1	D2216	0-2	PCT	Other	Percent Moisture	-86	14.94252874	0	1.149425287	Y
BAI-24A-014-18	Firing Line	1	6010B	0-2	MG_KG	Inorganic	Lead	7439-92-1	4.5	0.081	0.28	Y
BAI-24A-014-18	Firing Line	1	6010B	0-2	MG_KG	Inorganic	Molybdenum	7439-98-7	0.28	0.22	0.66	Y
BAI-24A-014-18	Firing Line	1	6010B	0-2	MG_KG	Inorganic	Nickel	7440-02-0	15	0.22	0.66	Y
BAI-24A-014-18	Firing Line	1	6010B	0-2	MG_KG	Inorganic	Silver	7440-22-4	0.28	0.082	0.28	N
BAI-24A-014-18	Firing Line	1	6010B	0-2	MG_KG	Inorganic	Thallium	7440-28-0	0.57	0.18	0.57	N
BAI-24A-014-18	Firing Line	1	6010B	0-2	MG_KG	Inorganic	Antimony	7440-36-0	3	0.18	0.57	Y
BAI-24A-014-18	Firing Line	1	6010B	0-2	MG_KG	Inorganic	Arsenic	7440-38-2	3.8	0.092	0.28	Y
BAI-24A-014-18	Firing Line	1	6010B	0-2	MG_KG	Inorganic	Barium	7440-39-3	69	0.11	0.33	Y
BAI-24A-014-18	Firing Line	1	6010B	0-2	MG_KG	Inorganic	Beryllium	7440-41-7	0.39	0.022	0.11	Y
BAI-24A-014-18	Firing Line	1	6010B	0-2	MG_KG	Inorganic	Cadmium	7440-43-9	0.1	0.055	0.28	Y
BAI-24A-014-18	Firing Line	1	6010B	0-2	MG_KG	Inorganic	Chromium	7440-47-3	17	0.11	0.33	Y
BAI-24A-014-18	Firing Line	1	6010B	0-2	MG_KG	Inorganic	Cobalt	7440-48-4	9.2	0.22	0.66	Y
BAI-24A-014-18	Firing Line	1	6010B	0-2	MG_KG	Inorganic	Copper	7440-50-8	8.2	0.11	0.33	Y
BAI-24A-014-18	Firing Line	1	6010B	0-2	MG_KG	Inorganic	Vanadium	7440-62-2	30	0.11	0.33	Y
BAI-24A-014-18	Firing Line	1	6010B	0-2	MG_KG	Inorganic	Zinc	7440-66-6	59	0.22	1.1	Y
BAI-24A-014-18	Firing Line	1	6010B	0-2	MG_KG	Inorganic	Selenium	7782-49-2	0.57	0.16	0.57	N
BAI-24A-014-18	Firing Line	1	7470A	0-2	MG_KG	Inorganic	Mercury	7439-97-6	0.054	0.0073	0.023	Y
BAI-24A-014-18	Firing Line	1	8330	0-2	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	227.2727273	25	227.2727273	N
BAI-24A-014-18	Firing Line	1	8330	0-2	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	227.2727273	48.86363636	227.2727273	N
BAI-24A-014-18	Firing Line	1	8330	0-2	UG_KG	Explosive	RDX	121-82-4	227.2727273	12.5	227.2727273	N
BAI-24A-014-18	Firing Line	1	8330	0-2	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	227.2727273	59.09090909	227.2727273	N
BAI-24A-014-18	Firing Line	1	8330	0-2	UG_KG	Explosive	HMX	2691-41-0	227.2727273	13.63636364	227.2727273	N
BAI-24A-014-18	Firing Line	1	8330	0-2	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	227.2727273	25	227.2727273	N
BAI-24A-014-18	Firing Line	1	8330	0-2	UG_KG	Explosive	Tetryl	479-45-8	227.2727273	65.90909091	227.2727273	N
BAI-24A-014-18	Firing Line	1	8330	0-2	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	227.2727273	57.95454545	227.2727273	N
BAI-24A-014-18	Firing Line	1	8330	0-2	UG_KG	Explosive	2-Nitrotoluene	88-72-2	465.9090909	12.5	465.9090909	N
BAI-24A-014-18	Firing Line	1	8330	0-2	UG_KG	SVOC	Nitrobenzene	98-95-3	227.2727273	30.68181818	227.2727273	N
BAI-24A-014-18	Firing Line	1	8330	0-2	UG_KG	Explosive	3-Nitrotoluene	99-08-1	465.9090909	21.59090909	465.9090909	N
BAI-24A-014-18	Firing Line	1	8330	0-2	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	227.2727273	27.27272727	227.2727273	N
BAI-24A-014-18	Firing Line	1	8330	0-2	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	227.2727273	12.5	227.2727273	N
BAI-24A-014-18	Firing Line	1	8330	0-2	UG_KG	Explosive	4-Nitrotoluene	99-99-0	465.9090909	27.27272727	465.9090909	N

PARENT_SAMPLE_NAME	SI Designation	Exposure Unit	ANALYTICAL_METHOD	Depth Interval	RESULT_UNITS	Analyte Group	Analyte Name	ANALYTE_ID	dw_Analyte Value	dw_MDL	dw_MRL	DETECTED
BAI-24A-014-18	Firing Line	1	D2216	0-2	PCT	Other	Percent Moisture	-86	13.63636364	0	1.136363636	Y
BAI-24A-015-00	Firing Line	1	6010B	0-2	MG_KG	Inorganic	Lead	7439-92-1	24	0.078	0.29	Y
BAI-24A-015-00	Firing Line	1	6010B	0-2	MG_KG	Inorganic	Molybdenum	7439-98-7	0.22	0.21	0.64	Y
BAI-24A-015-00	Firing Line	1	6010B	0-2	MG_KG	Inorganic	Nickel	7440-02-0	24	0.21	0.64	Y
BAI-24A-015-00	Firing Line	1	6010B	0-2	MG_KG	Inorganic	Silver	7440-22-4	0.13	0.08	0.29	Y
BAI-24A-015-00	Firing Line	1	6010B	0-2	MG_KG	Inorganic	Thallium	7440-28-0	0.57	0.17	0.57	N
BAI-24A-015-00	Firing Line	1	6010B	0-2	MG_KG	Inorganic	Antimony	7440-36-0	4.2	0.17	0.57	Y
BAI-24A-015-00	Firing Line	1	6010B	0-2	MG_KG	Inorganic	Arsenic	7440-38-2	3.6	0.088	0.29	Y
BAI-24A-015-00	Firing Line	1	6010B	0-2	MG_KG	Inorganic	Barium	7440-39-3	150	0.11	0.32	Y
BAI-24A-015-00	Firing Line	1	6010B	0-2	MG_KG	Inorganic	Beryllium	7440-41-7	0.42	0.021	0.11	Y
BAI-24A-015-00	Firing Line	1	6010B	0-2	MG_KG	Inorganic	Cadmium	7440-43-9	0.84	0.053	0.29	Y
BAI-24A-015-00	Firing Line	1	6010B	0-2	MG_KG	Inorganic	Chromium	7440-47-3	23	0.11	0.32	Y
BAI-24A-015-00	Firing Line	1	6010B	0-2	MG_KG	Inorganic	Cobalt	7440-48-4	11	0.21	0.64	Y
BAI-24A-015-00	Firing Line	1	6010B	0-2	MG_KG	Inorganic	Copper	7440-50-8	29	0.11	0.32	Y
BAI-24A-015-00	Firing Line	1	6010B	0-2	MG_KG	Inorganic	Vanadium	7440-62-2	55	0.11	0.32	Y
BAI-24A-015-00	Firing Line	1	6010B	0-2	MG_KG	Inorganic	Zinc	7440-66-6	2100	2.1	11	Y
BAI-24A-015-00	Firing Line	1	6010B	0-2	MG_KG	Inorganic	Selenium	7782-49-2	0.57	0.16	0.57	N
BAI-24A-015-00	Firing Line	1	7470A	0-2	MG_KG	Inorganic	Mercury	7439-97-6	0.63	0.0072	0.023	Y
BAI-24A-015-00	Firing Line	1	8330	0-2	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	229.8850575	25.28735632	229.8850575	N
BAI-24A-015-00	Firing Line	1	8330	0-2	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	229.8850575	49.42528736	229.8850575	N
BAI-24A-015-00	Firing Line	1	8330	0-2	UG_KG	Explosive	RDX	121-82-4	229.8850575	12.64367816	229.8850575	N
BAI-24A-015-00	Firing Line	1	8330	0-2	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	229.8850575	59.77011494	229.8850575	N
BAI-24A-015-00	Firing Line	1	8330	0-2	UG_KG	Explosive	HMX	2691-41-0	229.8850575	13.79310345	229.8850575	N
BAI-24A-015-00	Firing Line	1	8330	0-2	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	229.8850575	25.28735632	229.8850575	N
BAI-24A-015-00	Firing Line	1	8330	0-2	UG_KG	Explosive	Tetryl	479-45-8	229.8850575	66.66666667	229.8850575	N
BAI-24A-015-00	Firing Line	1	8330	0-2	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	229.8850575	58.62068966	229.8850575	N
BAI-24A-015-00	Firing Line	1	8330	0-2	UG_KG	Explosive	2-Nitrotoluene	88-72-2	471.2643678	12.64367816	471.2643678	N
BAI-24A-015-00	Firing Line	1	8330	0-2	UG_KG	SVOC	Nitrobenzene	98-95-3	229.8850575	31.03448276	229.8850575	N
BAI-24A-015-00	Firing Line	1	8330	0-2	UG_KG	Explosive	3-Nitrotoluene	99-08-1	471.2643678	21.83908046	471.2643678	N
BAI-24A-015-00	Firing Line	1	8330	0-2	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	229.8850575	27.5862069	229.8850575	N
BAI-24A-015-00	Firing Line	1	8330	0-2	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	229.8850575	12.64367816	229.8850575	N
BAI-24A-015-00	Firing Line	1	8330	0-2	UG_KG	Explosive	4-Nitrotoluene	99-99-0	471.2643678	27.5862069	471.2643678	N
BAI-24A-015-00	Firing Line	1	D2216	0-2	PCT	Other	Percent Moisture	-86	14.94252874	0	1.149425287	Y
BAI-24A-015-18	Firing Line	1	6010B	0-2	MG_KG	Inorganic	Lead	7439-92-1	3.7	0.08	0.28	Y
BAI-24A-015-18	Firing Line	1	6010B	0-2	MG_KG	Inorganic	Molybdenum	7439-98-7	0.66	0.22	0.66	N
BAI-24A-015-18	Firing Line	1	6010B	0-2	MG_KG	Inorganic	Nickel	7440-02-0	12	0.22	0.66	Y
BAI-24A-015-18	Firing Line	1	6010B	0-2	MG_KG	Inorganic	Silver	7440-22-4	0.28	0.082	0.28	N
BAI-24A-015-18	Firing Line	1	6010B	0-2	MG_KG	Inorganic	Thallium	7440-28-0	0.57	0.18	0.57	N
BAI-24A-015-18	Firing Line	1	6010B	0-2	MG_KG	Inorganic	Antimony	7440-36-0	2.8	0.17	0.57	Y
BAI-24A-015-18	Firing Line	1	6010B	0-2	MG_KG	Inorganic	Arsenic	7440-38-2	2.4	0.091	0.28	Y
BAI-24A-015-18	Firing Line	1	6010B	0-2	MG_KG	Inorganic	Barium	7440-39-3	80	0.11	0.33	Y
BAI-24A-015-18	Firing Line	1	6010B	0-2	MG_KG	Inorganic	Beryllium	7440-41-7	0.36	0.022	0.11	Y
BAI-24A-015-18	Firing Line	1	6010B	0-2	MG_KG	Inorganic	Cadmium	7440-43-9	0.11	0.055	0.28	Y
BAI-24A-015-18	Firing Line	1	6010B	0-2	MG_KG	Inorganic	Chromium	7440-47-3	19	0.11	0.33	Y
BAI-24A-015-18	Firing Line	1	6010B	0-2	MG_KG	Inorganic	Cobalt	7440-48-4	7	0.22	0.66	Y
BAI-24A-015-18	Firing Line	1	6010B	0-2	MG_KG	Inorganic	Copper	7440-50-8	4.9	0.11	0.33	Y
BAI-24A-015-18	Firing Line	1	6010B	0-2	MG_KG	Inorganic	Vanadium	7440-62-2	32	0.11	0.33	Y
BAI-24A-015-18	Firing Line	1	6010B	0-2	MG_KG	Inorganic	Zinc	7440-66-6	58	0.22	1.1	Y
BAI-24A-015-18	Firing Line	1	6010B	0-2	MG_KG	Inorganic	Selenium	7782-49-2	0.57	0.16	0.57	N

PARENT_SAMPLE_NAME	SI Designation	Exposure Unit	ANALYTICAL_METHOD	Depth Interval	RESULT_UNITS	Analyte Group	Analyte Name	ANALYTE_ID	dw_Analyte Value	dw_MDL	dw_MRL	DETECTED
BAI-24A-015-18	Firing Line	1	7470A	0-2	MG_KG	Inorganic	Mercury	7439-97-6	0.023	0.0073	0.023	N
BAI-24A-015-18	Firing Line	1	8330	0-2	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	227.2727273	25	227.2727273	N
BAI-24A-015-18	Firing Line	1	8330	0-2	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	227.2727273	48.86363636	227.2727273	N
BAI-24A-015-18	Firing Line	1	8330	0-2	UG_KG	Explosive	RDX	121-82-4	227.2727273	12.5	227.2727273	N
BAI-24A-015-18	Firing Line	1	8330	0-2	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	227.2727273	57.95454545	227.2727273	N
BAI-24A-015-18	Firing Line	1	8330	0-2	UG_KG	Explosive	HMX	2691-41-0	227.2727273	13.63636364	227.2727273	N
BAI-24A-015-18	Firing Line	1	8330	0-2	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	227.2727273	25	227.2727273	N
BAI-24A-015-18	Firing Line	1	8330	0-2	UG_KG	Explosive	Tetryl	479-45-8	227.2727273	64.77272727	227.2727273	N
BAI-24A-015-18	Firing Line	1	8330	0-2	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	227.2727273	56.81818182	227.2727273	N
BAI-24A-015-18	Firing Line	1	8330	0-2	UG_KG	Explosive	2-Nitrotoluene	88-72-2	454.5454545	12.5	454.5454545	N
BAI-24A-015-18	Firing Line	1	8330	0-2	UG_KG	SVOC	Nitrobenzene	98-95-3	227.2727273	30.68181818	227.2727273	N
BAI-24A-015-18	Firing Line	1	8330	0-2	UG_KG	Explosive	3-Nitrotoluene	99-08-1	454.5454545	20.45454545	454.5454545	N
BAI-24A-015-18	Firing Line	1	8330	0-2	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	227.2727273	27.27272727	227.2727273	N
BAI-24A-015-18	Firing Line	1	8330	0-2	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	227.2727273	12.5	227.2727273	N
BAI-24A-015-18	Firing Line	1	8330	0-2	UG_KG	Explosive	4-Nitrotoluene	99-99-0	454.5454545	27.27272727	454.5454545	N
BAI-24A-015-18	Firing Line	1	D2216	0-2	PCT	Other	Percent Moisture	-86	13.63636364	0	1.136363636	Y
BAI-24A-016-00	Firing Line	1	6010B	0-2	MG_KG	Inorganic	Lead	7439-92-1	27	0.077	0.28	Y
BAI-24A-016-00	Firing Line	1	6010B	0-2	MG_KG	Inorganic	Molybdenum	7439-98-7	0.63	0.21	0.63	N
BAI-24A-016-00	Firing Line	1	6010B	0-2	MG_KG	Inorganic	Nickel	7440-02-0	17	0.21	0.63	Y
BAI-24A-016-00	Firing Line	1	6010B	0-2	MG_KG	Inorganic	Silver	7440-22-4	0.28	0.079	0.28	N
BAI-24A-016-00	Firing Line	1	6010B	0-2	MG_KG	Inorganic	Thallium	7440-28-0	0.57	0.17	0.57	N
BAI-24A-016-00	Firing Line	1	6010B	0-2	MG_KG	Inorganic	Antimony	7440-36-0	4	0.17	0.57	Y
BAI-24A-016-00	Firing Line	1	6010B	0-2	MG_KG	Inorganic	Arsenic	7440-38-2	3.2	0.087	0.28	Y
BAI-24A-016-00	Firing Line	1	6010B	0-2	MG_KG	Inorganic	Barium	7440-39-3	130	0.11	0.32	Y
BAI-24A-016-00	Firing Line	1	6010B	0-2	MG_KG	Inorganic	Beryllium	7440-41-7	0.42	0.021	0.11	Y
BAI-24A-016-00	Firing Line	1	6010B	0-2	MG_KG	Inorganic	Cadmium	7440-43-9	0.32	0.053	0.28	Y
BAI-24A-016-00	Firing Line	1	6010B	0-2	MG_KG	Inorganic	Chromium	7440-47-3	21	0.11	0.32	Y
BAI-24A-016-00	Firing Line	1	6010B	0-2	MG_KG	Inorganic	Cobalt	7440-48-4	9.5	0.21	0.63	Y
BAI-24A-016-00	Firing Line	1	6010B	0-2	MG_KG	Inorganic	Copper	7440-50-8	15	0.11	0.32	Y
BAI-24A-016-00	Firing Line	1	6010B	0-2	MG_KG	Inorganic	Vanadium	7440-62-2	45	0.11	0.32	Y
BAI-24A-016-00	Firing Line	1	6010B	0-2	MG_KG	Inorganic	Zinc	7440-66-6	300	0.21	1.1	Y
BAI-24A-016-00	Firing Line	1	6010B	0-2	MG_KG	Inorganic	Selenium	7782-49-2	0.57	0.15	0.57	N
BAI-24A-016-00	Firing Line	1	7470A	0-2	MG_KG	Inorganic	Mercury	7439-97-6	0.095	0.0073	0.023	Y
BAI-24A-016-00	Firing Line	1	8330	0-2	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	238.6363636	26.13636364	238.6363636	N
BAI-24A-016-00	Firing Line	1	8330	0-2	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	238.6363636	50	238.6363636	N
BAI-24A-016-00	Firing Line	1	8330	0-2	UG_KG	Explosive	RDX	121-82-4	238.6363636	12.5	238.6363636	N
BAI-24A-016-00	Firing Line	1	8330	0-2	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	238.6363636	60.22727273	238.6363636	N
BAI-24A-016-00	Firing Line	1	8330	0-2	UG_KG	Explosive	HMX	2691-41-0	238.6363636	13.63636364	238.6363636	N
BAI-24A-016-00	Firing Line	1	8330	0-2	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	238.6363636	25	238.6363636	N
BAI-24A-016-00	Firing Line	1	8330	0-2	UG_KG	Explosive	Tetryl	479-45-8	238.6363636	65.90909091	238.6363636	N
BAI-24A-016-00	Firing Line	1	8330	0-2	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	238.6363636	57.95454545	238.6363636	N
BAI-24A-016-00	Firing Line	1	8330	0-2	UG_KG	Explosive	2-Nitrotoluene	88-72-2	465.9090909	12.5	465.9090909	N
BAI-24A-016-00	Firing Line	1	8330	0-2	UG_KG	SVOC	Nitrobenzene	98-95-3	238.6363636	31.81818182	238.6363636	N
BAI-24A-016-00	Firing Line	1	8330	0-2	UG_KG	Explosive	3-Nitrotoluene	99-08-1	465.9090909	21.59090909	465.9090909	N
BAI-24A-016-00	Firing Line	1	8330	0-2	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	238.6363636	27.27272727	238.6363636	N
BAI-24A-016-00	Firing Line	1	8330	0-2	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	238.6363636	12.5	238.6363636	N
BAI-24A-016-00	Firing Line	1	8330	0-2	UG_KG	Explosive	4-Nitrotoluene	99-99-0	465.9090909	28.40909091	465.9090909	N
BAI-24A-016-00	Firing Line	1	D2216	0-2	PCT	Other	Percent Moisture	-86	13.63636364	0	1.136363636	Y
BAI-24A-016-18	Firing Line	1	6010B	0-2	MG_KG	Inorganic	Lead	7439-92-1	8.4	0.079	0.28	Y

PARENT_SAMPLE_NAME	SI Designation	Exposure Unit	ANALYTICAL_METHOD	Depth Interval	RESULT_UNITS	Analyte Group	Analyte Name	ANALYTE_ID	dw_Analyte Value	dw_MDL	dw_MRL	DETECTED
BAI-24A-016-18	Firing Line	1	6010B	0-2	MG_KG	Inorganic	Molybdenum	7439-98-7	0.24	0.22	0.65	Y
BAI-24A-016-18	Firing Line	1	6010B	0-2	MG_KG	Inorganic	Nickel	7440-02-0	16	0.22	0.65	Y
BAI-24A-016-18	Firing Line	1	6010B	0-2	MG_KG	Inorganic	Silver	7440-22-4	0.083	0.081	0.28	Y
BAI-24A-016-18	Firing Line	1	6010B	0-2	MG_KG	Inorganic	Thallium	7440-28-0	0.56	0.18	0.56	N
BAI-24A-016-18	Firing Line	1	6010B	0-2	MG_KG	Inorganic	Antimony	7440-36-0	3.2	0.17	0.56	Y
BAI-24A-016-18	Firing Line	1	6010B	0-2	MG_KG	Inorganic	Arsenic	7440-38-2	3.3	0.09	0.28	Y
BAI-24A-016-18	Firing Line	1	6010B	0-2	MG_KG	Inorganic	Barium	7440-39-3	150	0.11	0.32	Y
BAI-24A-016-18	Firing Line	1	6010B	0-2	MG_KG	Inorganic	Beryllium	7440-41-7	0.4	0.022	0.11	Y
BAI-24A-016-18	Firing Line	1	6010B	0-2	MG_KG	Inorganic	Cadmium	7440-43-9	0.29	0.054	0.28	Y
BAI-24A-016-18	Firing Line	1	6010B	0-2	MG_KG	Inorganic	Chromium	7440-47-3	20	0.11	0.32	Y
BAI-24A-016-18	Firing Line	1	6010B	0-2	MG_KG	Inorganic	Cobalt	7440-48-4	8.1	0.22	0.65	Y
BAI-24A-016-18	Firing Line	1	6010B	0-2	MG_KG	Inorganic	Copper	7440-50-8	11	0.11	0.32	Y
BAI-24A-016-18	Firing Line	1	6010B	0-2	MG_KG	Inorganic	Vanadium	7440-62-2	36	0.11	0.32	Y
BAI-24A-016-18	Firing Line	1	6010B	0-2	MG_KG	Inorganic	Zinc	7440-66-6	260	0.22	1.1	Y
BAI-24A-016-18	Firing Line	1	6010B	0-2	MG_KG	Inorganic	Selenium	7782-49-2	0.56	0.16	0.56	N
BAI-24A-016-18	Firing Line	1	7470A	0-2	MG_KG	Inorganic	Mercury	7439-97-6	0.0071	0.0071	0.022	Y
BAI-24A-016-18	Firing Line	1	8330	0-2	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	235.9550562	25.84269663	235.9550562	N
BAI-24A-016-18	Firing Line	1	8330	0-2	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	235.9550562	49.43820225	235.9550562	N
BAI-24A-016-18	Firing Line	1	8330	0-2	UG_KG	Explosive	RDX	121-82-4	235.9550562	12.35955056	235.9550562	N
BAI-24A-016-18	Firing Line	1	8330	0-2	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	235.9550562	59.5505618	235.9550562	N
BAI-24A-016-18	Firing Line	1	8330	0-2	UG_KG	Explosive	HMX	2691-41-0	235.9550562	13.48314607	235.9550562	N
BAI-24A-016-18	Firing Line	1	8330	0-2	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	235.9550562	24.71910112	235.9550562	N
BAI-24A-016-18	Firing Line	1	8330	0-2	UG_KG	Explosive	Tetryl	479-45-8	235.9550562	65.16853933	235.9550562	N
BAI-24A-016-18	Firing Line	1	8330	0-2	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	235.9550562	57.30337079	235.9550562	N
BAI-24A-016-18	Firing Line	1	8330	0-2	UG_KG	Explosive	2-Nitrotoluene	88-72-2	460.6741573	12.35955056	460.6741573	N
BAI-24A-016-18	Firing Line	1	8330	0-2	UG_KG	SVOC	Nitrobenzene	98-95-3	235.9550562	30.33707865	235.9550562	N
BAI-24A-016-18	Firing Line	1	8330	0-2	UG_KG	Explosive	3-Nitrotoluene	99-08-1	460.6741573	21.34831461	460.6741573	N
BAI-24A-016-18	Firing Line	1	8330	0-2	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	235.9550562	26.96629213	235.9550562	N
BAI-24A-016-18	Firing Line	1	8330	0-2	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	235.9550562	12.35955056	235.9550562	N
BAI-24A-016-18	Firing Line	1	8330	0-2	UG_KG	Explosive	4-Nitrotoluene	99-99-0	460.6741573	26.96629213	460.6741573	N
BAI-24A-016-18	Firing Line	1	D2216	0-2	PCT	Other	Percent Moisture	-86	12.35955056	0	1.123595506	Y
BAI-24A-017-00	Firing Line	1	6010B	0-2	MG_KG	Inorganic	Lead	7439-92-1	25	0.074	0.27	Y
BAI-24A-017-00	Firing Line	1	6010B	0-2	MG_KG	Inorganic	Molybdenum	7439-98-7	0.1775	0.1475	0.4475	Y
BAI-24A-017-00	Firing Line	1	6010B	0-2	MG_KG	Inorganic	Nickel	7440-02-0	20.5	0.2	0.605	Y
BAI-24A-017-00	Firing Line	1	6010B	0-2	MG_KG	Inorganic	Silver	7440-22-4	0.26	0.0755	0.27	Y
BAI-24A-017-00	Firing Line	1	6010B	0-2	MG_KG	Inorganic	Thallium	7440-28-0	0.54	0.165	0.54	N
BAI-24A-017-00	Firing Line	1	6010B	0-2	MG_KG	Inorganic	Antimony	7440-36-0	5.4	0.16	0.54	Y
BAI-24A-017-00	Firing Line	1	6010B	0-2	MG_KG	Inorganic	Arsenic	7440-38-2	1.155	0.084	0.27	Y
BAI-24A-017-00	Firing Line	1	6010B	0-2	MG_KG	Inorganic	Barium	7440-39-3	58.5	0.1035	0.305	Y
BAI-24A-017-00	Firing Line	1	6010B	0-2	MG_KG	Inorganic	Beryllium	7440-41-7	0.325	0.02	0.11	Y
BAI-24A-017-00	Firing Line	1	6010B	0-2	MG_KG	Inorganic	Cadmium	7440-43-9	0.335	0.0505	0.27	Y
BAI-24A-017-00	Firing Line	1	6010B	0-2	MG_KG	Inorganic	Chromium	7440-47-3	28	0.1035	0.305	Y
BAI-24A-017-00	Firing Line	1	6010B	0-2	MG_KG	Inorganic	Cobalt	7440-48-4	16	0.2	0.605	Y
BAI-24A-017-00	Firing Line	1	6010B	0-2	MG_KG	Inorganic	Copper	7440-50-8	19	0.1035	0.305	Y
BAI-24A-017-00	Firing Line	1	6010B	0-2	MG_KG	Inorganic	Vanadium	7440-62-2	96.5	0.1035	0.305	Y
BAI-24A-017-00	Firing Line	1	6010B	0-2	MG_KG	Inorganic	Zinc	7440-66-6	260	0.2	1.1	Y
BAI-24A-017-00	Firing Line	1	6010B	0-2	MG_KG	Inorganic	Selenium	7782-49-2	0.54	0.145	0.54	N
BAI-24A-017-00	Firing Line	1	7470A	0-2	MG_KG	Inorganic	Mercury	7439-97-6	0.47	0.0062	0.022	Y
BAI-24A-017-00	Firing Line	1	8330	0-2	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	216.2162162	28.10810811	216.2162162	N

PARENT_SAMPLE_NAME	SI Designation	Exposure Unit	ANALYTICAL_METHOD	Depth Interval	RESULT_UNITS	Analyte Group	Analyte Name	ANALYTE_ID	dw_Analyte Value	dw_MDL	dw_MRL	DETECTED
BAI-24A-017-00	Firing Line	1	8330	0-2	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	216.2162162	34.05405405	216.2162162	N
BAI-24A-017-00	Firing Line	1	8330	0-2	UG_KG	Explosive	RDX	121-82-4	216.2162162	16.75675676	216.2162162	N
BAI-24A-017-00	Firing Line	1	8330	0-2	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	216.2162162	49.18918919	216.2162162	N
BAI-24A-017-00	Firing Line	1	8330	0-2	UG_KG	Explosive	HMX	2691-41-0	216.2162162	14.59459459	216.2162162	N
BAI-24A-017-00	Firing Line	1	8330	0-2	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	216.2162162	21.62162162	216.2162162	N
BAI-24A-017-00	Firing Line	1	8330	0-2	UG_KG	Explosive	Tetryl	479-45-8	216.2162162	60.54054054	216.2162162	N
BAI-24A-017-00	Firing Line	1	8330	0-2	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	216.2162162	39.45945946	216.2162162	N
BAI-24A-017-00	Firing Line	1	8330	0-2	UG_KG	Explosive	2-Nitrotoluene	88-72-2	427.027027	21.08108108	427.027027	N
BAI-24A-017-00	Firing Line	1	8330	0-2	UG_KG	SVOC	Nitrobenzene	98-95-3	216.2162162	23.24324324	216.2162162	N
BAI-24A-017-00	Firing Line	1	8330	0-2	UG_KG	Explosive	3-Nitrotoluene	99-08-1	427.027027	31.35135135	427.027027	N
BAI-24A-017-00	Firing Line	1	8330	0-2	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	216.2162162	27.56756757	216.2162162	N
BAI-24A-017-00	Firing Line	1	8330	0-2	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	216.2162162	8.432432432	216.2162162	N
BAI-24A-017-00	Firing Line	1	8330	0-2	UG_KG	Explosive	4-Nitrotoluene	99-99-0	427.027027	28.10810811	427.027027	N
BAI-24A-017-00	Firing Line	1	D2216	0-2	PCT	Other	Percent Moisture	-86	8.108108108	0	1.081081081	Y
BAI-24A-017-18	Firing Line	1	6010B	0-2	MG_KG	Inorganic	Lead	7439-92-1	8.1	0.08	0.28	Y
BAI-24A-017-18	Firing Line	1	6010B	0-2	MG_KG	Inorganic	Molybdenum	7439-98-7	0.65	0.22	0.65	N
BAI-24A-017-18	Firing Line	1	6010B	0-2	MG_KG	Inorganic	Nickel	7440-02-0	15	0.22	0.65	Y
BAI-24A-017-18	Firing Line	1	6010B	0-2	MG_KG	Inorganic	Silver	7440-22-4	0.12	0.082	0.28	Y
BAI-24A-017-18	Firing Line	1	6010B	0-2	MG_KG	Inorganic	Thallium	7440-28-0	0.56	0.18	0.56	N
BAI-24A-017-18	Firing Line	1	6010B	0-2	MG_KG	Inorganic	Antimony	7440-36-0	3.3	0.17	0.56	Y
BAI-24A-017-18	Firing Line	1	6010B	0-2	MG_KG	Inorganic	Arsenic	7440-38-2	3.6	0.091	0.28	Y
BAI-24A-017-18	Firing Line	1	6010B	0-2	MG_KG	Inorganic	Barium	7440-39-3	150	0.11	0.33	Y
BAI-24A-017-18	Firing Line	1	6010B	0-2	MG_KG	Inorganic	Beryllium	7440-41-7	0.44	0.022	0.11	Y
BAI-24A-017-18	Firing Line	1	6010B	0-2	MG_KG	Inorganic	Cadmium	7440-43-9	0.19	0.055	0.28	Y
BAI-24A-017-18	Firing Line	1	6010B	0-2	MG_KG	Inorganic	Chromium	7440-47-3	20	0.11	0.33	Y
BAI-24A-017-18	Firing Line	1	6010B	0-2	MG_KG	Inorganic	Cobalt	7440-48-4	8.5	0.22	0.65	Y
BAI-24A-017-18	Firing Line	1	6010B	0-2	MG_KG	Inorganic	Copper	7440-50-8	10	0.11	0.33	Y
BAI-24A-017-18	Firing Line	1	6010B	0-2	MG_KG	Inorganic	Vanadium	7440-62-2	36	0.11	0.33	Y
BAI-24A-017-18	Firing Line	1	6010B	0-2	MG_KG	Inorganic	Zinc	7440-66-6	100	0.22	1.1	Y
BAI-24A-017-18	Firing Line	1	6010B	0-2	MG_KG	Inorganic	Selenium	7782-49-2	0.56	0.16	0.56	N
BAI-24A-017-18	Firing Line	1	7470A	0-2	MG_KG	Inorganic	Mercury	7439-97-6	0.024	0.0075	0.024	N
BAI-24A-017-18	Firing Line	1	8330	0-2	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	224.7191011	24.71910112	224.7191011	N
BAI-24A-017-18	Firing Line	1	8330	0-2	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	224.7191011	48.31460674	224.7191011	N
BAI-24A-017-18	Firing Line	1	8330	0-2	UG_KG	Explosive	RDX	121-82-4	224.7191011	12.35955056	224.7191011	N
BAI-24A-017-18	Firing Line	1	8330	0-2	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	224.7191011	58.42696629	224.7191011	N
BAI-24A-017-18	Firing Line	1	8330	0-2	UG_KG	Explosive	HMX	2691-41-0	224.7191011	13.48314607	224.7191011	N
BAI-24A-017-18	Firing Line	1	8330	0-2	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	224.7191011	24.71910112	224.7191011	N
BAI-24A-017-18	Firing Line	1	8330	0-2	UG_KG	Explosive	Tetryl	479-45-8	224.7191011	64.04494382	224.7191011	N
BAI-24A-017-18	Firing Line	1	8330	0-2	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	224.7191011	57.30337079	224.7191011	N
BAI-24A-017-18	Firing Line	1	8330	0-2	UG_KG	Explosive	2-Nitrotoluene	88-72-2	460.6741573	12.35955056	460.6741573	N
BAI-24A-017-18	Firing Line	1	8330	0-2	UG_KG	SVOC	Nitrobenzene	98-95-3	224.7191011	30.33707865	224.7191011	N
BAI-24A-017-18	Firing Line	1	8330	0-2	UG_KG	Explosive	3-Nitrotoluene	99-08-1	460.6741573	21.34831461	460.6741573	N
BAI-24A-017-18	Firing Line	1	8330	0-2	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	224.7191011	26.96629213	224.7191011	N
BAI-24A-017-18	Firing Line	1	8330	0-2	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	224.7191011	12.35955056	224.7191011	N
BAI-24A-017-18	Firing Line	1	8330	0-2	UG_KG	Explosive	4-Nitrotoluene	99-99-0	460.6741573	26.96629213	460.6741573	N
BAI-24A-017-18	Firing Line	1	D2216	0-2	PCT	Other	Percent Moisture	-86	12.35955056	0	1.123595506	Y
BAI-24A-019-00	Range Floor	1	6010B	0-2	MG_KG	Inorganic	Lead	7439-92-1	21	0.08	0.29	Y
BAI-24A-019-00	Range Floor	1	6010B	0-2	MG_KG	Inorganic	Molybdenum	7439-98-7	0.49	0.22	0.65	Y
BAI-24A-019-00	Range Floor	1	6010B	0-2	MG_KG	Inorganic	Nickel	7440-02-0	23	0.22	0.65	Y

PARENT_SAMPLE_NAME	SI Designation	Exposure Unit	ANALYTICAL_METHOD	Depth Interval	RESULT_UNITS	Analyte Group	Analyte Name	ANALYTE_ID	dw_Analyte Value	dw_MDL	dw_MRL	DETECTED
BAI-24A-019-00	Range Floor	1	6010B	0-2	MG_KG	Inorganic	Silver	7440-22-4	0.29	0.081	0.29	N
BAI-24A-019-00	Range Floor	1	6010B	0-2	MG_KG	Inorganic	Thallium	7440-28-0	0.59	0.18	0.59	N
BAI-24A-019-00	Range Floor	1	6010B	0-2	MG_KG	Inorganic	Antimony	7440-36-0	3.6	0.17	0.59	Y
BAI-24A-019-00	Range Floor	1	6010B	0-2	MG_KG	Inorganic	Arsenic	7440-38-2	3.6	0.09	0.29	Y
BAI-24A-019-00	Range Floor	1	6010B	0-2	MG_KG	Inorganic	Barium	7440-39-3	150	0.11	0.33	Y
BAI-24A-019-00	Range Floor	1	6010B	0-2	MG_KG	Inorganic	Beryllium	7440-41-7	0.44	0.022	0.12	Y
BAI-24A-019-00	Range Floor	1	6010B	0-2	MG_KG	Inorganic	Cadmium	7440-43-9	0.29	0.054	0.29	Y
BAI-24A-019-00	Range Floor	1	6010B	0-2	MG_KG	Inorganic	Chromium	7440-47-3	23	0.11	0.33	Y
BAI-24A-019-00	Range Floor	1	6010B	0-2	MG_KG	Inorganic	Cobalt	7440-48-4	11	0.22	0.65	Y
BAI-24A-019-00	Range Floor	1	6010B	0-2	MG_KG	Inorganic	Copper	7440-50-8	20	0.11	0.33	Y
BAI-24A-019-00	Range Floor	1	6010B	0-2	MG_KG	Inorganic	Vanadium	7440-62-2	40	0.11	0.33	Y
BAI-24A-019-00	Range Floor	1	6010B	0-2	MG_KG	Inorganic	Zinc	7440-66-6	200	0.22	1.2	Y
BAI-24A-019-00	Range Floor	1	6010B	0-2	MG_KG	Inorganic	Selenium	7782-49-2	0.59	0.16	0.59	N
BAI-24A-019-00	Range Floor	1	7470A	0-2	MG_KG	Inorganic	Mercury	7439-97-6	0.053	0.0075	0.024	Y
BAI-24A-019-00	Range Floor	1	8330	0-2	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	235.2941176	15.29411765	235.2941176	N
BAI-24A-019-00	Range Floor	1	8330	0-2	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	235.2941176	22.35294118	235.2941176	N
BAI-24A-019-00	Range Floor	1	8330	0-2	UG_KG	Explosive	RDX	121-82-4	235.2941176	45.88235294	235.2941176	N
BAI-24A-019-00	Range Floor	1	8330	0-2	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	235.2941176	32.94117647	235.2941176	N
BAI-24A-019-00	Range Floor	1	8330	0-2	UG_KG	Explosive	HMX	2691-41-0	235.2941176	30.58823529	235.2941176	N
BAI-24A-019-00	Range Floor	1	8330	0-2	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	235.2941176	30.58823529	235.2941176	N
BAI-24A-019-00	Range Floor	1	8330	0-2	UG_KG	Explosive	Tetryl	479-45-8	235.2941176	76.47058824	235.2941176	N
BAI-24A-019-00	Range Floor	1	8330	0-2	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	235.2941176	21.17647059	235.2941176	N
BAI-24A-019-00	Range Floor	1	8330	0-2	UG_KG	Explosive	2-Nitrotoluene	88-72-2	470.5882353	18.82352941	470.5882353	N
BAI-24A-019-00	Range Floor	1	8330	0-2	UG_KG	SVOC	Nitrobenzene	98-95-3	235.2941176	21.17647059	235.2941176	N
BAI-24A-019-00	Range Floor	1	8330	0-2	UG_KG	Explosive	3-Nitrotoluene	99-08-1	470.5882353	71.76470588	470.5882353	N
BAI-24A-019-00	Range Floor	1	8330	0-2	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	235.2941176	41.17647059	235.2941176	N
BAI-24A-019-00	Range Floor	1	8330	0-2	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	235.2941176	23.52941176	235.2941176	N
BAI-24A-019-00	Range Floor	1	8330	0-2	UG_KG	Explosive	4-Nitrotoluene	99-99-0	470.5882353	36.47058824	470.5882353	N
BAI-24A-019-00	Range Floor	1	D2216	0-2	PCT	Other	Percent Moisture	-86	17.64705882	0	1.176470588	Y
BAI-24A-019-18	Range Floor	1	6010B	0-2	MG_KG	Inorganic	Lead	7439-92-1	8.1	0.083	0.29	Y
BAI-24A-019-18	Range Floor	1	6010B	0-2	MG_KG	Inorganic	Molybdenum	7439-98-7	0.25	0.23	0.68	Y
BAI-24A-019-18	Range Floor	1	6010B	0-2	MG_KG	Inorganic	Nickel	7440-02-0	16	0.23	0.68	Y
BAI-24A-019-18	Range Floor	1	6010B	0-2	MG_KG	Inorganic	Silver	7440-22-4	0.29	0.085	0.29	N
BAI-24A-019-18	Range Floor	1	6010B	0-2	MG_KG	Inorganic	Thallium	7440-28-0	0.57	0.19	0.57	N
BAI-24A-019-18	Range Floor	1	6010B	0-2	MG_KG	Inorganic	Antimony	7440-36-0	2.2	0.18	0.57	Y
BAI-24A-019-18	Range Floor	1	6010B	0-2	MG_KG	Inorganic	Arsenic	7440-38-2	3.6	0.094	0.29	Y
BAI-24A-019-18	Range Floor	1	6010B	0-2	MG_KG	Inorganic	Barium	7440-39-3	140	0.11	0.34	Y
BAI-24A-019-18	Range Floor	1	6010B	0-2	MG_KG	Inorganic	Beryllium	7440-41-7	0.41	0.023	0.11	Y
BAI-24A-019-18	Range Floor	1	6010B	0-2	MG_KG	Inorganic	Cadmium	7440-43-9	0.22	0.057	0.29	Y
BAI-24A-019-18	Range Floor	1	6010B	0-2	MG_KG	Inorganic	Chromium	7440-47-3	16	0.11	0.34	Y
BAI-24A-019-18	Range Floor	1	6010B	0-2	MG_KG	Inorganic	Cobalt	7440-48-4	8.4	0.23	0.68	Y
BAI-24A-019-18	Range Floor	1	6010B	0-2	MG_KG	Inorganic	Copper	7440-50-8	13	0.11	0.34	Y
BAI-24A-019-18	Range Floor	1	6010B	0-2	MG_KG	Inorganic	Vanadium	7440-62-2	31	0.11	0.34	Y
BAI-24A-019-18	Range Floor	1	6010B	0-2	MG_KG	Inorganic	Zinc	7440-66-6	390	0.23	1.1	Y
BAI-24A-019-18	Range Floor	1	6010B	0-2	MG_KG	Inorganic	Selenium	7782-49-2	0.57	0.17	0.57	N
BAI-24A-019-18	Range Floor	1	7470A	0-2	MG_KG	Inorganic	Mercury	7439-97-6	0.012	0.0075	0.024	Y
BAI-24A-019-18	Range Floor	1	8330	0-2	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	229.8850575	14.94252874	229.8850575	N
BAI-24A-019-18	Range Floor	1	8330	0-2	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	229.8850575	21.83908046	229.8850575	N
BAI-24A-019-18	Range Floor	1	8330	0-2	UG_KG	Explosive	RDX	121-82-4	229.8850575	44.82758621	229.8850575	N

PARENT_SAMPLE_NAME	SI Designation	Exposure Unit	ANALYTICAL_METHOD	Depth Interval	RESULT_UNITS	Analyte Group	Analyte Name	ANALYTE_ID	dw_Analyte Value	dw_MDL	dw_MRL	DETECTED
BAI-24A-019-18	Range Floor	1	8330	0-2	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	229.8850575	32.18390805	229.8850575	N
BAI-24A-019-18	Range Floor	1	8330	0-2	UG_KG	Explosive	HMX	2691-41-0	229.8850575	29.88505747	229.8850575	N
BAI-24A-019-18	Range Floor	1	8330	0-2	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	229.8850575	29.88505747	229.8850575	N
BAI-24A-019-18	Range Floor	1	8330	0-2	UG_KG	Explosive	Tetryl	479-45-8	229.8850575	74.71264368	229.8850575	N
BAI-24A-019-18	Range Floor	1	8330	0-2	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	229.8850575	20.68965517	229.8850575	N
BAI-24A-019-18	Range Floor	1	8330	0-2	UG_KG	Explosive	2-Nitrotoluene	88-72-2	448.2758621	18.3908046	448.2758621	N
BAI-24A-019-18	Range Floor	1	8330	0-2	UG_KG	SVOC	Nitrobenzene	98-95-3	229.8850575	20.68965517	229.8850575	N
BAI-24A-019-18	Range Floor	1	8330	0-2	UG_KG	Explosive	3-Nitrotoluene	99-08-1	448.2758621	68.96551724	448.2758621	N
BAI-24A-019-18	Range Floor	1	8330	0-2	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	229.8850575	40.22988506	229.8850575	N
BAI-24A-019-18	Range Floor	1	8330	0-2	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	229.8850575	21.83908046	229.8850575	N
BAI-24A-019-18	Range Floor	1	8330	0-2	UG_KG	Explosive	4-Nitrotoluene	99-99-0	448.2758621	34.48275862	448.2758621	N
BAI-24A-019-18	Range Floor	1	D2216	0-2	PCT	Other	Percent Moisture	-86	14.94252874	0	1.149425287	Y
BAI-24A-02-00	Retaining Wall	2	8270C_SIM	0-2	UG_KG	PAH	Anthracene	120-12-7	110	1.2	5.8	Y
BAI-24A-02-00	Retaining Wall	2	8270C_SIM	0-2	UG_KG	PAH	Pyrene	129-00-0	90	1.2	5.8	Y
BAI-24A-02-00	Retaining Wall	2	8270C_SIM	0-2	UG_KG	PAH	Benzo(g,h,i)perylene	191-24-2	110	1.4	5.8	Y
BAI-24A-02-00	Retaining Wall	2	8270C_SIM	0-2	UG_KG	PAH	Indeno(1,2,3-cd)yrene	193-39-5	110	1.2	5.8	Y
BAI-24A-02-00	Retaining Wall	2	8270C_SIM	0-2	UG_KG	PAH	Benzo(b)fluoranthene	205-99-2	280	1.2	5.8	Y
BAI-24A-02-00	Retaining Wall	2	8270C_SIM	0-2	UG_KG	PAH	Fluoranthene	206-44-0	71	1.2	5.8	Y
BAI-24A-02-00	Retaining Wall	2	8270C_SIM	0-2	UG_KG	PAH	Benzo(k)fluoranthene	207-08-9	56	1.2	5.8	Y
BAI-24A-02-00	Retaining Wall	2	8270C_SIM	0-2	UG_KG	PAH	Acenaphthylene	208-96-8	47	1.2	5.8	Y
BAI-24A-02-00	Retaining Wall	2	8270C_SIM	0-2	UG_KG	PAH	Chrysene	218-01-9	140	1.2	5.8	Y
BAI-24A-02-00	Retaining Wall	2	8270C_SIM	0-2	UG_KG	PAH	Benzo(a)pyrene	50-32-8	110	1.2	5.8	Y
BAI-24A-02-00	Retaining Wall	2	8270C_SIM	0-2	UG_KG	PAH	Dibenz(a,h)anthracene	53-70-3	32	1.2	5.8	Y
BAI-24A-02-00	Retaining Wall	2	8270C_SIM	0-2	UG_KG	PAH	Benzo(a)anthracene	56-55-3	64	1.2	5.8	Y
BAI-24A-02-00	Retaining Wall	2	8270C_SIM	0-2	UG_KG	PAH	Acenaphthene	83-32-9	4	1.2	5.8	Y
BAI-24A-02-00	Retaining Wall	2	8270C_SIM	0-2	UG_KG	PAH	Phenanthrene	85-01-8	24	1.2	5.8	Y
BAI-24A-02-00	Retaining Wall	2	8270C_SIM	0-2	UG_KG	PAH	Fluorene	86-73-7	5.1	1.2	5.8	Y
BAI-24A-02-00	Retaining Wall	2	8270C_SIM	0-2	UG_KG	PAH	Naphthalene	91-20-3	2.8	1.2	5.8	Y
BAI-24A-02-00	Retaining Wall	2	D2216	0-2	PCT	Other	Percent Moisture	-86	16.27906977	0	1.162790698	Y
BAI-24A-020-00	Range Floor	1	6010B	0-2	MG_KG	Inorganic	Lead	7439-92-1	110	0.076	0.27	Y
BAI-24A-020-00	Range Floor	1	6010B	0-2	MG_KG	Inorganic	Molybdenum	7439-98-7	0.33	0.21	0.63	Y
BAI-24A-020-00	Range Floor	1	6010B	0-2	MG_KG	Inorganic	Nickel	7440-02-0	20	0.21	0.63	Y
BAI-24A-020-00	Range Floor	1	6010B	0-2	MG_KG	Inorganic	Silver	7440-22-4	0.3	0.078	0.27	Y
BAI-24A-020-00	Range Floor	1	6010B	0-2	MG_KG	Inorganic	Thallium	7440-28-0	0.53	0.17	0.53	N
BAI-24A-020-00	Range Floor	1	6010B	0-2	MG_KG	Inorganic	Antimony	7440-36-0	6.7	0.17	0.53	Y
BAI-24A-020-00	Range Floor	1	6010B	0-2	MG_KG	Inorganic	Arsenic	7440-38-2	2.4	0.087	0.27	Y
BAI-24A-020-00	Range Floor	1	6010B	0-2	MG_KG	Inorganic	Barium	7440-39-3	13	0.1	0.31	Y
BAI-24A-020-00	Range Floor	1	6010B	0-2	MG_KG	Inorganic	Beryllium	7440-41-7	0.25	0.021	0.11	Y
BAI-24A-020-00	Range Floor	1	6010B	0-2	MG_KG	Inorganic	Cadmium	7440-43-9	0.23	0.052	0.27	Y
BAI-24A-020-00	Range Floor	1	6010B	0-2	MG_KG	Inorganic	Chromium	7440-47-3	27	0.1	0.31	Y
BAI-24A-020-00	Range Floor	1	6010B	0-2	MG_KG	Inorganic	Cobalt	7440-48-4	22	0.21	0.63	Y
BAI-24A-020-00	Range Floor	1	6010B	0-2	MG_KG	Inorganic	Copper	7440-50-8	46	0.1	0.31	Y
BAI-24A-020-00	Range Floor	1	6010B	0-2	MG_KG	Inorganic	Vanadium	7440-62-2	110	0.1	0.31	Y
BAI-24A-020-00	Range Floor	1	6010B	0-2	MG_KG	Inorganic	Zinc	7440-66-6	33	0.21	1.1	Y
BAI-24A-020-00	Range Floor	1	6010B	0-2	MG_KG	Inorganic	Selenium	7782-49-2	0.53	0.15	0.53	N
BAI-24A-020-00	Range Floor	1	7470A	0-2	MG_KG	Inorganic	Mercury	7439-97-6	0.52	0.0067	0.021	Y
BAI-24A-020-00	Range Floor	1	8330	0-2	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	212.7659574	13.82978723	212.7659574	N
BAI-24A-020-00	Range Floor	1	8330	0-2	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	212.7659574	20.21276596	212.7659574	N
BAI-24A-020-00	Range Floor	1	8330	0-2	UG_KG	Explosive	RDX	121-82-4	212.7659574	41.4893617	212.7659574	N

PARENT_SAMPLE_NAME	SI Designation	Exposure Unit	ANALYTICAL_METHOD	Depth Interval	RESULT_UNITS	Analyte Group	Analyte Name	ANALYTE_ID	dw_Analyte Value	dw_MDL	dw_MRL	DETECTED
BAI-24A-020-00	Range Floor	1	8330	0-2	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	212.7659574	29.78723404	212.7659574	N
BAI-24A-020-00	Range Floor	1	8330	0-2	UG_KG	Explosive	HMX	2691-41-0	212.7659574	27.65957447	212.7659574	N
BAI-24A-020-00	Range Floor	1	8330	0-2	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	212.7659574	27.65957447	212.7659574	N
BAI-24A-020-00	Range Floor	1	8330	0-2	UG_KG	Explosive	Tetryl	479-45-8	212.7659574	69.14893617	212.7659574	N
BAI-24A-020-00	Range Floor	1	8330	0-2	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	212.7659574	19.14893617	212.7659574	N
BAI-24A-020-00	Range Floor	1	8330	0-2	UG_KG	Explosive	2-Nitrotoluene	88-72-2	425.5319149	17.0212766	425.5319149	N
BAI-24A-020-00	Range Floor	1	8330	0-2	UG_KG	SVOC	Nitrobenzene	98-95-3	212.7659574	19.14893617	212.7659574	N
BAI-24A-020-00	Range Floor	1	8330	0-2	UG_KG	Explosive	3-Nitrotoluene	99-08-1	425.5319149	63.82978723	425.5319149	N
BAI-24A-020-00	Range Floor	1	8330	0-2	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	212.7659574	37.23404255	212.7659574	N
BAI-24A-020-00	Range Floor	1	8330	0-2	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	212.7659574	21.27659574	212.7659574	N
BAI-24A-020-00	Range Floor	1	8330	0-2	UG_KG	Explosive	4-Nitrotoluene	99-99-0	425.5319149	31.91489362	425.5319149	N
BAI-24A-020-00	Range Floor	1	D2216	0-2	PCT	Other	Percent Moisture	-86	6.382978723	0	1.063829787	Y
BAI-24A-020-18	Range Floor	1	6010B	0-2	MG_KG	Inorganic	Lead	7439-92-1	3.4	0.075	0.28	Y
BAI-24A-020-18	Range Floor	1	6010B	0-2	MG_KG	Inorganic	Molybdenum	7439-98-7	0.23	0.21	0.62	Y
BAI-24A-020-18	Range Floor	1	6010B	0-2	MG_KG	Inorganic	Nickel	7440-02-0	12	0.21	0.62	Y
BAI-24A-020-18	Range Floor	1	6010B	0-2	MG_KG	Inorganic	Silver	7440-22-4	0.28	0.077	0.28	N
BAI-24A-020-18	Range Floor	1	6010B	0-2	MG_KG	Inorganic	Thallium	7440-28-0	0.57	0.17	0.57	N
BAI-24A-020-18	Range Floor	1	6010B	0-2	MG_KG	Inorganic	Antimony	7440-36-0	2.3	0.16	0.57	Y
BAI-24A-020-18	Range Floor	1	6010B	0-2	MG_KG	Inorganic	Arsenic	7440-38-2	2.9	0.086	0.28	Y
BAI-24A-020-18	Range Floor	1	6010B	0-2	MG_KG	Inorganic	Barium	7440-39-3	180	0.1	0.31	Y
BAI-24A-020-18	Range Floor	1	6010B	0-2	MG_KG	Inorganic	Beryllium	7440-41-7	0.37	0.021	0.11	Y
BAI-24A-020-18	Range Floor	1	6010B	0-2	MG_KG	Inorganic	Cadmium	7440-43-9	0.1	0.052	0.28	Y
BAI-24A-020-18	Range Floor	1	6010B	0-2	MG_KG	Inorganic	Chromium	7440-47-3	15	0.1	0.31	Y
BAI-24A-020-18	Range Floor	1	6010B	0-2	MG_KG	Inorganic	Cobalt	7440-48-4	7.8	0.21	0.62	Y
BAI-24A-020-18	Range Floor	1	6010B	0-2	MG_KG	Inorganic	Copper	7440-50-8	7.4	0.1	0.31	Y
BAI-24A-020-18	Range Floor	1	6010B	0-2	MG_KG	Inorganic	Vanadium	7440-62-2	31	0.1	0.31	Y
BAI-24A-020-18	Range Floor	1	6010B	0-2	MG_KG	Inorganic	Zinc	7440-66-6	43	0.21	1.1	Y
BAI-24A-020-18	Range Floor	1	6010B	0-2	MG_KG	Inorganic	Selenium	7782-49-2	0.57	0.15	0.57	N
BAI-24A-020-18	Range Floor	1	7470A	0-2	MG_KG	Inorganic	Mercury	7439-97-6	0.023	0.0073	0.023	N
BAI-24A-020-18	Range Floor	1	8330	0-2	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	227.2727273	14.77272727	227.2727273	N
BAI-24A-020-18	Range Floor	1	8330	0-2	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	227.2727273	21.59090909	227.2727273	N
BAI-24A-020-18	Range Floor	1	8330	0-2	UG_KG	Explosive	RDX	121-82-4	227.2727273	44.31818182	227.2727273	N
BAI-24A-020-18	Range Floor	1	8330	0-2	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	227.2727273	31.81818182	227.2727273	N
BAI-24A-020-18	Range Floor	1	8330	0-2	UG_KG	Explosive	HMX	2691-41-0	227.2727273	29.54545455	227.2727273	N
BAI-24A-020-18	Range Floor	1	8330	0-2	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	227.2727273	29.54545455	227.2727273	N
BAI-24A-020-18	Range Floor	1	8330	0-2	UG_KG	Explosive	Tetryl	479-45-8	227.2727273	73.86363636	227.2727273	N
BAI-24A-020-18	Range Floor	1	8330	0-2	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	227.2727273	20.45454545	227.2727273	N
BAI-24A-020-18	Range Floor	1	8330	0-2	UG_KG	Explosive	2-Nitrotoluene	88-72-2	443.1818182	18.18181818	443.1818182	N
BAI-24A-020-18	Range Floor	1	8330	0-2	UG_KG	SVOC	Nitrobenzene	98-95-3	227.2727273	20.45454545	227.2727273	N
BAI-24A-020-18	Range Floor	1	8330	0-2	UG_KG	Explosive	3-Nitrotoluene	99-08-1	443.1818182	68.18181818	443.1818182	N
BAI-24A-020-18	Range Floor	1	8330	0-2	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	227.2727273	39.77272727	227.2727273	N
BAI-24A-020-18	Range Floor	1	8330	0-2	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	227.2727273	21.59090909	227.2727273	N
BAI-24A-020-18	Range Floor	1	8330	0-2	UG_KG	Explosive	4-Nitrotoluene	99-99-0	443.1818182	34.09090909	443.1818182	N
BAI-24A-020-18	Range Floor	1	D2216	0-2	PCT	Other	Percent Moisture	-86	13.63636364	0	1.136363636	Y
BAI-24A-021-00	Range Floor	2	6010B	0-2	MG_KG	Inorganic	Lead	7439-92-1	29000	7.5	23	Y
BAI-24A-021-00	Range Floor	2	6010B	0-2	MG_KG	Inorganic	Molybdenum	7439-98-7	0.47	0.21	0.62	Y
BAI-24A-021-00	Range Floor	2	6010B	0-2	MG_KG	Inorganic	Nickel	7440-02-0	39	0.21	0.62	Y
BAI-24A-021-00	Range Floor	2	6010B	0-2	MG_KG	Inorganic	Silver	7440-22-4	0.87	0.077	0.26	Y
BAI-24A-021-00	Range Floor	2	6010B	0-2	MG_KG	Inorganic	Thallium	7440-28-0	0.53	0.17	0.53	N

PARENT_SAMPLE_NAME	SI Designation	Exposure Unit	ANALYTICAL_METHOD	Depth Interval	RESULT_UNITS	Analyte Group	Analyte Name	ANALYTE_ID	dw_Analyte Value	dw_MDL	dw_MRL	DETECTED
BAI-24A-021-00	Range Floor	2	6010B	0-2	MG_KG	Inorganic	Antimony	7440-36-0	370	0.16	0.53	Y
BAI-24A-021-00	Range Floor	2	6010B	0-2	MG_KG	Inorganic	Arsenic	7440-38-2	120	0.086	0.26	Y
BAI-24A-021-00	Range Floor	2	6010B	0-2	MG_KG	Inorganic	Barium	7440-39-3	47	0.1	0.31	Y
BAI-24A-021-00	Range Floor	2	6010B	0-2	MG_KG	Inorganic	Beryllium	7440-41-7	0.27	0.021	0.11	Y
BAI-24A-021-00	Range Floor	2	6010B	0-2	MG_KG	Inorganic	Cadmium	7440-43-9	0.24	0.052	0.26	Y
BAI-24A-021-00	Range Floor	2	6010B	0-2	MG_KG	Inorganic	Chromium	7440-47-3	33	0.1	0.31	Y
BAI-24A-021-00	Range Floor	2	6010B	0-2	MG_KG	Inorganic	Cobalt	7440-48-4	23	0.21	0.62	Y
BAI-24A-021-00	Range Floor	2	6010B	0-2	MG_KG	Inorganic	Copper	7440-50-8	120	0.1	0.31	Y
BAI-24A-021-00	Range Floor	2	6010B	0-2	MG_KG	Inorganic	Vanadium	7440-62-2	81	0.1	0.31	Y
BAI-24A-021-00	Range Floor	2	6010B	0-2	MG_KG	Inorganic	Zinc	7440-66-6	76	0.21	1.1	Y
BAI-24A-021-00	Range Floor	2	6010B	0-2	MG_KG	Inorganic	Selenium	7782-49-2	0.53	0.15	0.53	N
BAI-24A-021-00	Range Floor	2	7470A	0-2	MG_KG	Inorganic	Mercury	7439-97-6	0.25	0.0065	0.021	Y
BAI-24A-021-00	Range Floor	2	8330	0-2	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	210.5263158	13.68421053	210.5263158	N
BAI-24A-021-00	Range Floor	2	8330	0-2	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	252.6315789	44.21052632	210.5263158	Y
BAI-24A-021-00	Range Floor	2	8330	0-2	UG_KG	Explosive	RDX	121-82-4	210.5263158	41.05263158	210.5263158	N
BAI-24A-021-00	Range Floor	2	8330	0-2	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	210.5263158	29.47368421	210.5263158	N
BAI-24A-021-00	Range Floor	2	8330	0-2	UG_KG	Explosive	HMX	2691-41-0	210.5263158	27.36842105	210.5263158	N
BAI-24A-021-00	Range Floor	2	8330	0-2	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	210.5263158	27.36842105	210.5263158	N
BAI-24A-021-00	Range Floor	2	8330	0-2	UG_KG	Explosive	Tetryl	479-45-8	210.5263158	68.42105263	210.5263158	N
BAI-24A-021-00	Range Floor	2	8330	0-2	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	210.5263158	52.63157895	210.5263158	N
BAI-24A-021-00	Range Floor	2	8330	0-2	UG_KG	Explosive	2-Nitrotoluene	88-72-2	421.0526316	11.57894737	421.0526316	N
BAI-24A-021-00	Range Floor	2	8330	0-2	UG_KG	SVOC	Nitrobenzene	98-95-3	210.5263158	18.94736842	210.5263158	N
BAI-24A-021-00	Range Floor	2	8330	0-2	UG_KG	Explosive	3-Nitrotoluene	99-08-1	421.0526316	63.15789474	421.0526316	N
BAI-24A-021-00	Range Floor	2	8330	0-2	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	210.5263158	36.84210526	210.5263158	N
BAI-24A-021-00	Range Floor	2	8330	0-2	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	210.5263158	21.05263158	210.5263158	N
BAI-24A-021-00	Range Floor	2	8330	0-2	UG_KG	Explosive	4-Nitrotoluene	99-99-0	421.0526316	31.57894737	421.0526316	N
BAI-24A-021-00	Range Floor	2	D2216	0-2	PCT	Other	Percent Moisture	-86	5.263157895	0	1.052631579	Y
BAI-24A-021-18	Range Floor	2	6010B	0-2	MG_KG	Inorganic	Lead	7439-92-1	13	0.083	0.29	Y
BAI-24A-021-18	Range Floor	2	6010B	0-2	MG_KG	Inorganic	Molybdenum	7439-98-7	0.68	0.23	0.68	N
BAI-24A-021-18	Range Floor	2	6010B	0-2	MG_KG	Inorganic	Nickel	7440-02-0	12	0.23	0.68	Y
BAI-24A-021-18	Range Floor	2	6010B	0-2	MG_KG	Inorganic	Silver	7440-22-4	0.29	0.085	0.29	N
BAI-24A-021-18	Range Floor	2	6010B	0-2	MG_KG	Inorganic	Thallium	7440-28-0	0.57	0.19	0.57	N
BAI-24A-021-18	Range Floor	2	6010B	0-2	MG_KG	Inorganic	Antimony	7440-36-0	2.6	0.18	0.57	Y
BAI-24A-021-18	Range Floor	2	6010B	0-2	MG_KG	Inorganic	Arsenic	7440-38-2	2.8	0.094	0.29	Y
BAI-24A-021-18	Range Floor	2	6010B	0-2	MG_KG	Inorganic	Barium	7440-39-3	120	0.11	0.34	Y
BAI-24A-021-18	Range Floor	2	6010B	0-2	MG_KG	Inorganic	Beryllium	7440-41-7	0.41	0.023	0.11	Y
BAI-24A-021-18	Range Floor	2	6010B	0-2	MG_KG	Inorganic	Cadmium	7440-43-9	0.1	0.057	0.29	Y
BAI-24A-021-18	Range Floor	2	6010B	0-2	MG_KG	Inorganic	Chromium	7440-47-3	14	0.11	0.34	Y
BAI-24A-021-18	Range Floor	2	6010B	0-2	MG_KG	Inorganic	Cobalt	7440-48-4	8.5	0.23	0.68	Y
BAI-24A-021-18	Range Floor	2	6010B	0-2	MG_KG	Inorganic	Copper	7440-50-8	9.3	0.11	0.34	Y
BAI-24A-021-18	Range Floor	2	6010B	0-2	MG_KG	Inorganic	Vanadium	7440-62-2	26	0.11	0.34	Y
BAI-24A-021-18	Range Floor	2	6010B	0-2	MG_KG	Inorganic	Zinc	7440-66-6	43	0.23	1.1	Y
BAI-24A-021-18	Range Floor	2	6010B	0-2	MG_KG	Inorganic	Selenium	7782-49-2	0.57	0.17	0.57	N
BAI-24A-021-18	Range Floor	2	7470A	0-2	MG_KG	Inorganic	Mercury	7439-97-6	0.023	0.0066	0.023	N
BAI-24A-021-18	Range Floor	2	8330	0-2	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	229.8850575	14.94252874	229.8850575	N
BAI-24A-021-18	Range Floor	2	8330	0-2	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	229.8850575	21.83908046	229.8850575	N
BAI-24A-021-18	Range Floor	2	8330	0-2	UG_KG	Explosive	RDX	121-82-4	229.8850575	44.82758621	229.8850575	N
BAI-24A-021-18	Range Floor	2	8330	0-2	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	229.8850575	32.18390805	229.8850575	N
BAI-24A-021-18	Range Floor	2	8330	0-2	UG_KG	Explosive	HMX	2691-41-0	229.8850575	29.88505747	229.8850575	N

PARENT_SAMPLE_NAME	SI Designation	Exposure Unit	ANALYTICAL_METHOD	Depth Interval	RESULT_UNITS	Analyte Group	Analyte Name	ANALYTE_ID	dw_Analyte Value	dw_MDL	dw_MRL	DETECTED
BAI-24A-021-18	Range Floor	2	8330	0-2	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	229.8850575	29.88505747	229.8850575	N
BAI-24A-021-18	Range Floor	2	8330	0-2	UG_KG	Explosive	Tetryl	479-45-8	229.8850575	74.71264368	229.8850575	N
BAI-24A-021-18	Range Floor	2	8330	0-2	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	229.8850575	20.68965517	229.8850575	N
BAI-24A-021-18	Range Floor	2	8330	0-2	UG_KG	Explosive	2-Nitrotoluene	88-72-2	459.7701149	18.3908046	459.7701149	N
BAI-24A-021-18	Range Floor	2	8330	0-2	UG_KG	SVOC	Nitrobenzene	98-95-3	229.8850575	20.68965517	229.8850575	N
BAI-24A-021-18	Range Floor	2	8330	0-2	UG_KG	Explosive	3-Nitrotoluene	99-08-1	459.7701149	68.96551724	459.7701149	N
BAI-24A-021-18	Range Floor	2	8330	0-2	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	229.8850575	40.22988506	229.8850575	N
BAI-24A-021-18	Range Floor	2	8330	0-2	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	229.8850575	22.98850575	229.8850575	N
BAI-24A-021-18	Range Floor	2	8330	0-2	UG_KG	Explosive	4-Nitrotoluene	99-99-0	459.7701149	34.48275862	459.7701149	N
BAI-24A-021-18	Range Floor	2	D2216	0-2	PCT	Other	Percent Moisture	-86	14.94252874	0	1.149425287	Y
BAI-24A-02-18	Retaining Wall	2	8270C_SIM	0-2	UG_KG	PAH	Anthracene	120-12-7	770	7.6	38	Y
BAI-24A-02-18	Retaining Wall	2	8270C_SIM	0-2	UG_KG	PAH	Pyrene	129-00-0	1400	7.6	38	Y
BAI-24A-02-18	Retaining Wall	2	8270C_SIM	0-2	UG_KG	PAH	Benzo(g,h,i)perylene	191-24-2	270	7.6	38	Y
BAI-24A-02-18	Retaining Wall	2	8270C_SIM	0-2	UG_KG	PAH	Indeno(1,2,3-cd)yrene	193-39-5	310	7.6	38	Y
BAI-24A-02-18	Retaining Wall	2	8270C_SIM	0-2	UG_KG	PAH	Benzo(b)fluoranthene	205-99-2	1500	7.6	38	Y
BAI-24A-02-18	Retaining Wall	2	8270C_SIM	0-2	UG_KG	PAH	Fluoranthene	206-44-0	1400	7.6	38	Y
BAI-24A-02-18	Retaining Wall	2	8270C_SIM	0-2	UG_KG	PAH	Benzo(k)fluoranthene	207-08-9	450	7.6	38	Y
BAI-24A-02-18	Retaining Wall	2	8270C_SIM	0-2	UG_KG	PAH	Acenaphthylene	208-96-8	190	7.6	38	Y
BAI-24A-02-18	Retaining Wall	2	8270C_SIM	0-2	UG_KG	PAH	Chrysene	218-01-9	1400	7.6	38	Y
BAI-24A-02-18	Retaining Wall	2	8270C_SIM	0-2	UG_KG	PAH	Benzo(a)pyrene	50-32-8	680	7.6	38	Y
BAI-24A-02-18	Retaining Wall	2	8270C_SIM	0-2	UG_KG	PAH	Dibenz(a,h)anthracene	53-70-3	120	7.6	38	Y
BAI-24A-02-18	Retaining Wall	2	8270C_SIM	0-2	UG_KG	PAH	Benzo(a)anthracene	56-55-3	1000	7.6	38	Y
BAI-24A-02-18	Retaining Wall	2	8270C_SIM	0-2	UG_KG	PAH	Acenaphthene	83-32-9	61	7.6	38	Y
BAI-24A-02-18	Retaining Wall	2	8270C_SIM	0-2	UG_KG	PAH	Phenanthrene	85-01-8	580	7.6	38	Y
BAI-24A-02-18	Retaining Wall	2	8270C_SIM	0-2	UG_KG	PAH	Fluorene	86-73-7	50	7.6	38	Y
BAI-24A-02-18	Retaining Wall	2	8270C_SIM	0-2	UG_KG	PAH	Naphthalene	91-20-3	18	7.6	38	Y
BAI-24A-02-18	Retaining Wall	2	D2216	0-2	PCT	Other	Percent Moisture	-86	9.89010989	0	1.098901099	Y
BAI-24A-022-00	Range Floor	2	6010B	0-2	MG_KG	Inorganic	Lead	7439-92-1	630	0.75	2.2	Y
BAI-24A-022-00	Range Floor	2	6010B	0-2	MG_KG	Inorganic	Molybdenum	7439-98-7	0.31	0.21	0.62	Y
BAI-24A-022-00	Range Floor	2	6010B	0-2	MG_KG	Inorganic	Nickel	7440-02-0	36	0.21	0.62	Y
BAI-24A-022-00	Range Floor	2	6010B	0-2	MG_KG	Inorganic	Silver	7440-22-4	0.091	0.077	0.29	Y
BAI-24A-022-00	Range Floor	2	6010B	0-2	MG_KG	Inorganic	Thallium	7440-28-0	0.57	0.17	0.57	N
BAI-24A-022-00	Range Floor	2	6010B	0-2	MG_KG	Inorganic	Antimony	7440-36-0	10	0.16	0.57	Y
BAI-24A-022-00	Range Floor	2	6010B	0-2	MG_KG	Inorganic	Arsenic	7440-38-2	9.3	0.085	0.29	Y
BAI-24A-022-00	Range Floor	2	6010B	0-2	MG_KG	Inorganic	Barium	7440-39-3	85	0.1	0.31	Y
BAI-24A-022-00	Range Floor	2	6010B	0-2	MG_KG	Inorganic	Beryllium	7440-41-7	0.32	0.021	0.11	Y
BAI-24A-022-00	Range Floor	2	6010B	0-2	MG_KG	Inorganic	Cadmium	7440-43-9	0.13	0.051	0.29	Y
BAI-24A-022-00	Range Floor	2	6010B	0-2	MG_KG	Inorganic	Chromium	7440-47-3	30	0.1	0.31	Y
BAI-24A-022-00	Range Floor	2	6010B	0-2	MG_KG	Inorganic	Cobalt	7440-48-4	11	0.21	0.62	Y
BAI-24A-022-00	Range Floor	2	6010B	0-2	MG_KG	Inorganic	Copper	7440-50-8	48	0.1	0.31	Y
BAI-24A-022-00	Range Floor	2	6010B	0-2	MG_KG	Inorganic	Vanadium	7440-62-2	41	0.1	0.31	Y
BAI-24A-022-00	Range Floor	2	6010B	0-2	MG_KG	Inorganic	Zinc	7440-66-6	81	0.21	1.1	Y
BAI-24A-022-00	Range Floor	2	6010B	0-2	MG_KG	Inorganic	Selenium	7782-49-2	0.57	0.15	0.57	N
BAI-24A-022-00	Range Floor	2	7470A	0-2	MG_KG	Inorganic	Mercury	7439-97-6	0.046	0.0072	0.023	Y
BAI-24A-022-00	Range Floor	2	8330	0-2	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	229.8850575	14.94252874	229.8850575	N
BAI-24A-022-00	Range Floor	2	8330	0-2	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	229.8850575	21.83908046	229.8850575	N
BAI-24A-022-00	Range Floor	2	8330	0-2	UG_KG	Explosive	RDX	121-82-4	229.8850575	44.82758621	229.8850575	N
BAI-24A-022-00	Range Floor	2	8330	0-2	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	229.8850575	32.18390805	229.8850575	N
BAI-24A-022-00	Range Floor	2	8330	0-2	UG_KG	Explosive	HMX	2691-41-0	229.8850575	29.88505747	229.8850575	N

PARENT_SAMPLE_NAME	SI Designation	Exposure Unit	ANALYTICAL_METHOD	Depth Interval	RESULT_UNITS	Analyte Group	Analyte Name	ANALYTE_ID	dw_Analyte Value	dw_MDL	dw_MRL	DETECTED
BAI-24A-022-00	Range Floor	2	8330	0-2	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	229.8850575	29.88505747	229.8850575	N
BAI-24A-022-00	Range Floor	2	8330	0-2	UG_KG	Explosive	Tetryl	479-45-8	229.8850575	74.71264368	229.8850575	N
BAI-24A-022-00	Range Floor	2	8330	0-2	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	229.8850575	20.68965517	229.8850575	N
BAI-24A-022-00	Range Floor	2	8330	0-2	UG_KG	Explosive	2-Nitrotoluene	88-72-2	448.2758621	18.3908046	448.2758621	N
BAI-24A-022-00	Range Floor	2	8330	0-2	UG_KG	SVOC	Nitrobenzene	98-95-3	229.8850575	20.68965517	229.8850575	N
BAI-24A-022-00	Range Floor	2	8330	0-2	UG_KG	Explosive	3-Nitrotoluene	99-08-1	448.2758621	68.96551724	448.2758621	N
BAI-24A-022-00	Range Floor	2	8330	0-2	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	229.8850575	40.22988506	229.8850575	N
BAI-24A-022-00	Range Floor	2	8330	0-2	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	229.8850575	21.83908046	229.8850575	N
BAI-24A-022-00	Range Floor	2	8330	0-2	UG_KG	Explosive	4-Nitrotoluene	99-99-0	448.2758621	34.48275862	448.2758621	N
BAI-24A-022-00	Range Floor	2	D2216	0-2	PCT	Other	Percent Moisture	-86	14.94252874	0	1.149425287	Y
BAI-24A-022-18	Range Floor	2	6010B	0-2	MG_KG	Inorganic	Lead	7439-92-1	3.8	0.08	0.28	Y
BAI-24A-022-18	Range Floor	2	6010B	0-2	MG_KG	Inorganic	Molybdenum	7439-98-7	0.66	0.22	0.66	N
BAI-24A-022-18	Range Floor	2	6010B	0-2	MG_KG	Inorganic	Nickel	7440-02-0	12	0.22	0.66	Y
BAI-24A-022-18	Range Floor	2	6010B	0-2	MG_KG	Inorganic	Silver	7440-22-4	0.28	0.082	0.28	N
BAI-24A-022-18	Range Floor	2	6010B	0-2	MG_KG	Inorganic	Thallium	7440-28-0	0.56	0.18	0.56	N
BAI-24A-022-18	Range Floor	2	6010B	0-2	MG_KG	Inorganic	Antimony	7440-36-0	1.6	0.18	0.56	Y
BAI-24A-022-18	Range Floor	2	6010B	0-2	MG_KG	Inorganic	Arsenic	7440-38-2	3.1	0.091	0.28	Y
BAI-24A-022-18	Range Floor	2	6010B	0-2	MG_KG	Inorganic	Barium	7440-39-3	120	0.11	0.33	Y
BAI-24A-022-18	Range Floor	2	6010B	0-2	MG_KG	Inorganic	Beryllium	7440-41-7	0.31	0.022	0.11	Y
BAI-24A-022-18	Range Floor	2	6010B	0-2	MG_KG	Inorganic	Cadmium	7440-43-9	0.074	0.055	0.28	Y
BAI-24A-022-18	Range Floor	2	6010B	0-2	MG_KG	Inorganic	Chromium	7440-47-3	12	0.11	0.33	Y
BAI-24A-022-18	Range Floor	2	6010B	0-2	MG_KG	Inorganic	Cobalt	7440-48-4	7	0.22	0.66	Y
BAI-24A-022-18	Range Floor	2	6010B	0-2	MG_KG	Inorganic	Copper	7440-50-8	6.7	0.11	0.33	Y
BAI-24A-022-18	Range Floor	2	6010B	0-2	MG_KG	Inorganic	Vanadium	7440-62-2	20	0.11	0.33	Y
BAI-24A-022-18	Range Floor	2	6010B	0-2	MG_KG	Inorganic	Zinc	7440-66-6	44	0.22	1.1	Y
BAI-24A-022-18	Range Floor	2	6010B	0-2	MG_KG	Inorganic	Selenium	7782-49-2	0.56	0.16	0.56	N
BAI-24A-022-18	Range Floor	2	7470A	0-2	MG_KG	Inorganic	Mercury	7439-97-6	0.023	0.0072	0.023	N
BAI-24A-022-18	Range Floor	2	8330	0-2	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	224.7191011	14.60674157	224.7191011	N
BAI-24A-022-18	Range Floor	2	8330	0-2	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	224.7191011	21.34831461	224.7191011	N
BAI-24A-022-18	Range Floor	2	8330	0-2	UG_KG	Explosive	RDX	121-82-4	224.7191011	43.82022472	224.7191011	N
BAI-24A-022-18	Range Floor	2	8330	0-2	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	224.7191011	31.46067416	224.7191011	N
BAI-24A-022-18	Range Floor	2	8330	0-2	UG_KG	Explosive	HMX	2691-41-0	224.7191011	29.21348315	224.7191011	N
BAI-24A-022-18	Range Floor	2	8330	0-2	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	224.7191011	29.21348315	224.7191011	N
BAI-24A-022-18	Range Floor	2	8330	0-2	UG_KG	Explosive	Tetryl	479-45-8	224.7191011	73.03370787	224.7191011	N
BAI-24A-022-18	Range Floor	2	8330	0-2	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	224.7191011	20.2247191	224.7191011	N
BAI-24A-022-18	Range Floor	2	8330	0-2	UG_KG	Explosive	2-Nitrotoluene	88-72-2	449.4382022	17.97752809	449.4382022	N
BAI-24A-022-18	Range Floor	2	8330	0-2	UG_KG	SVOC	Nitrobenzene	98-95-3	224.7191011	20.2247191	224.7191011	N
BAI-24A-022-18	Range Floor	2	8330	0-2	UG_KG	Explosive	3-Nitrotoluene	99-08-1	449.4382022	67.41573034	449.4382022	N
BAI-24A-022-18	Range Floor	2	8330	0-2	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	224.7191011	39.3258427	224.7191011	N
BAI-24A-022-18	Range Floor	2	8330	0-2	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	224.7191011	22.47191011	224.7191011	N
BAI-24A-022-18	Range Floor	2	8330	0-2	UG_KG	Explosive	4-Nitrotoluene	99-99-0	449.4382022	33.70786517	449.4382022	N
BAI-24A-022-18	Range Floor	2	D2216	0-2	PCT	Other	Percent Moisture	-86	12.35955056	0	1.123595506	Y
BAI-24A-023-00	Range Floor	1	6010B	0-2	MG_KG	Inorganic	Lead	7439-92-1	8.7	0.0725	0.27	Y
BAI-24A-023-00	Range Floor	1	6010B	0-2	MG_KG	Inorganic	Molybdenum	7439-98-7	0.175	0.145	0.4425	Y
BAI-24A-023-00	Range Floor	1	6010B	0-2	MG_KG	Inorganic	Nickel	7440-02-0	22.5	0.195	0.595	Y
BAI-24A-023-00	Range Floor	1	6010B	0-2	MG_KG	Inorganic	Silver	7440-22-4	0.29	0.074	0.27	Y
BAI-24A-023-00	Range Floor	1	6010B	0-2	MG_KG	Inorganic	Thallium	7440-28-0	0.53	0.165	0.53	N
BAI-24A-023-00	Range Floor	1	6010B	0-2	MG_KG	Inorganic	Antimony	7440-36-0	6.35	0.155	0.53	Y
BAI-24A-023-00	Range Floor	1	6010B	0-2	MG_KG	Inorganic	Arsenic	7440-38-2	0.27	0.0825	0.27	N

PARENT_SAMPLE_NAME	SI Designation	Exposure Unit	ANALYTICAL_METHOD	Depth Interval	RESULT_UNITS	Analyte Group	Analyte Name	ANALYTE_ID	dw_Analyte Value	dw_MDL	dw_MRL	DETECTED
BAI-24A-023-00	Range Floor	1	6010B	0-2	MG_KG	Inorganic	Barium	7440-39-3	5.5	0.098	0.3	Y
BAI-24A-023-00	Range Floor	1	6010B	0-2	MG_KG	Inorganic	Beryllium	7440-41-7	0.265	0.0195	0.11	Y
BAI-24A-023-00	Range Floor	1	6010B	0-2	MG_KG	Inorganic	Cadmium	7440-43-9	0.275	0.0495	0.27	Y
BAI-24A-023-00	Range Floor	1	6010B	0-2	MG_KG	Inorganic	Chromium	7440-47-3	34.5	0.098	0.3	Y
BAI-24A-023-00	Range Floor	1	6010B	0-2	MG_KG	Inorganic	Cobalt	7440-48-4	28.5	0.195	0.595	Y
BAI-24A-023-00	Range Floor	1	6010B	0-2	MG_KG	Inorganic	Copper	7440-50-8	37.5	0.098	0.3	Y
BAI-24A-023-00	Range Floor	1	6010B	0-2	MG_KG	Inorganic	Vanadium	7440-62-2	140	0.098	0.3	Y
BAI-24A-023-00	Range Floor	1	6010B	0-2	MG_KG	Inorganic	Zinc	7440-66-6	28.5	0.195	1.1	Y
BAI-24A-023-00	Range Floor	1	6010B	0-2	MG_KG	Inorganic	Selenium	7782-49-2	0.53	0.145	0.53	N
BAI-24A-023-00	Range Floor	1	7470A	0-2	MG_KG	Inorganic	Mercury	7439-97-6	0.305	0.00625	0.021	Y
BAI-24A-023-00	Range Floor	1	8330	0-2	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	207.4468085	22.87234043	207.4468085	N
BAI-24A-023-00	Range Floor	1	8330	0-2	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	207.4468085	21.27659574	207.4468085	N
BAI-24A-023-00	Range Floor	1	8330	0-2	UG_KG	Explosive	RDX	121-82-4	207.4468085	31.91489362	207.4468085	N
BAI-24A-023-00	Range Floor	1	8330	0-2	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	207.4468085	35.63829787	207.4468085	N
BAI-24A-023-00	Range Floor	1	8330	0-2	UG_KG	Explosive	HMX	2691-41-0	207.4468085	21.80851064	207.4468085	N
BAI-24A-023-00	Range Floor	1	8330	0-2	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	207.4468085	23.40425532	207.4468085	N
BAI-24A-023-00	Range Floor	1	8330	0-2	UG_KG	Explosive	Tetryl	479-45-8	207.4468085	63.82978723	207.4468085	N
BAI-24A-023-00	Range Floor	1	8330	0-2	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	207.4468085	21.27659574	207.4468085	N
BAI-24A-023-00	Range Floor	1	8330	0-2	UG_KG	Explosive	2-Nitrotoluene	88-72-2	420.212766	23.40425532	420.212766	N
BAI-24A-023-00	Range Floor	1	8330	0-2	UG_KG	SVOC	Nitrobenzene	98-95-3	207.4468085	18.08510638	207.4468085	N
BAI-24A-023-00	Range Floor	1	8330	0-2	UG_KG	Explosive	3-Nitrotoluene	99-08-1	420.212766	52.65957447	420.212766	N
BAI-24A-023-00	Range Floor	1	8330	0-2	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	207.4468085	32.44680851	207.4468085	N
BAI-24A-023-00	Range Floor	1	8330	0-2	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	207.4468085	12.55319149	207.4468085	N
BAI-24A-023-00	Range Floor	1	8330	0-2	UG_KG	Explosive	4-Nitrotoluene	99-99-0	420.212766	30.85106383	420.212766	N
BAI-24A-023-00	Range Floor	1	D2216	0-2	PCT	Other	Percent Moisture	-86	6.382978723	0	1.063829787	Y
BAI-24A-023-18	Range Floor	1	6010B	0-2	MG_KG	Inorganic	Lead	7439-92-1	20	0.082	0.29	Y
BAI-24A-023-18	Range Floor	1	6010B	0-2	MG_KG	Inorganic	Molybdenum	7439-98-7	0.32	0.23	0.68	Y
BAI-24A-023-18	Range Floor	1	6010B	0-2	MG_KG	Inorganic	Nickel	7440-02-0	34	0.23	0.68	Y
BAI-24A-023-18	Range Floor	1	6010B	0-2	MG_KG	Inorganic	Silver	7440-22-4	0.29	0.084	0.29	N
BAI-24A-023-18	Range Floor	1	6010B	0-2	MG_KG	Inorganic	Thallium	7440-28-0	0.57	0.18	0.57	N
BAI-24A-023-18	Range Floor	1	6010B	0-2	MG_KG	Inorganic	Antimony	7440-36-0	3.4	0.18	0.57	Y
BAI-24A-023-18	Range Floor	1	6010B	0-2	MG_KG	Inorganic	Arsenic	7440-38-2	5.3	0.094	0.29	Y
BAI-24A-023-18	Range Floor	1	6010B	0-2	MG_KG	Inorganic	Barium	7440-39-3	170	0.11	0.34	Y
BAI-24A-023-18	Range Floor	1	6010B	0-2	MG_KG	Inorganic	Beryllium	7440-41-7	0.49	0.023	0.11	Y
BAI-24A-023-18	Range Floor	1	6010B	0-2	MG_KG	Inorganic	Cadmium	7440-43-9	0.42	0.056	0.29	Y
BAI-24A-023-18	Range Floor	1	6010B	0-2	MG_KG	Inorganic	Chromium	7440-47-3	26	0.11	0.34	Y
BAI-24A-023-18	Range Floor	1	6010B	0-2	MG_KG	Inorganic	Cobalt	7440-48-4	12	0.23	0.68	Y
BAI-24A-023-18	Range Floor	1	6010B	0-2	MG_KG	Inorganic	Copper	7440-50-8	20	0.11	0.34	Y
BAI-24A-023-18	Range Floor	1	6010B	0-2	MG_KG	Inorganic	Vanadium	7440-62-2	46	0.11	0.34	Y
BAI-24A-023-18	Range Floor	1	6010B	0-2	MG_KG	Inorganic	Zinc	7440-66-6	350	0.23	1.1	Y
BAI-24A-023-18	Range Floor	1	6010B	0-2	MG_KG	Inorganic	Selenium	7782-49-2	0.57	0.16	0.57	N
BAI-24A-023-18	Range Floor	1	7470A	0-2	MG_KG	Inorganic	Mercury	7439-97-6	0.046	0.0072	0.023	Y
BAI-24A-023-18	Range Floor	1	8330	0-2	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	229.8850575	14.94252874	229.8850575	N
BAI-24A-023-18	Range Floor	1	8330	0-2	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	229.8850575	21.83908046	229.8850575	N
BAI-24A-023-18	Range Floor	1	8330	0-2	UG_KG	Explosive	RDX	121-82-4	229.8850575	44.82758621	229.8850575	N
BAI-24A-023-18	Range Floor	1	8330	0-2	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	229.8850575	32.18390805	229.8850575	N
BAI-24A-023-18	Range Floor	1	8330	0-2	UG_KG	Explosive	HMX	2691-41-0	229.8850575	29.88505747	229.8850575	N
BAI-24A-023-18	Range Floor	1	8330	0-2	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	229.8850575	29.88505747	229.8850575	N
BAI-24A-023-18	Range Floor	1	8330	0-2	UG_KG	Explosive	Tetryl	479-45-8	229.8850575	74.71264368	229.8850575	N

PARENT_SAMPLE_NAME	SI Designation	Exposure Unit	ANALYTICAL_METHOD	Depth Interval	RESULT_UNITS	Analyte Group	Analyte Name	ANALYTE_ID	dw_Analyte Value	dw_MDL	dw_MRL	DETECTED
BAI-24A-023-18	Range Floor	1	8330	0-2	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	229.8850575	20.68965517	229.8850575	N
BAI-24A-023-18	Range Floor	1	8330	0-2	UG_KG	Explosive	2-Nitrotoluene	88-72-2	459.7701149	18.3908046	459.7701149	N
BAI-24A-023-18	Range Floor	1	8330	0-2	UG_KG	SVOC	Nitrobenzene	98-95-3	229.8850575	20.68965517	229.8850575	N
BAI-24A-023-18	Range Floor	1	8330	0-2	UG_KG	Explosive	3-Nitrotoluene	99-08-1	459.7701149	68.96551724	459.7701149	N
BAI-24A-023-18	Range Floor	1	8330	0-2	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	229.8850575	40.22988506	229.8850575	N
BAI-24A-023-18	Range Floor	1	8330	0-2	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	229.8850575	22.98850575	229.8850575	N
BAI-24A-023-18	Range Floor	1	8330	0-2	UG_KG	Explosive	4-Nitrotoluene	99-99-0	459.7701149	34.48275862	459.7701149	N
BAI-24A-023-18	Range Floor	1	D2216	0-2	PCT	Other	Percent Moisture	-86	14.94252874	0	1.149425287	Y
BAI-24A-025-00	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Lead	7439-92-1	9500	8.3	25	Y
BAI-24A-025-00	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Molybdenum	7439-98-7	0.46	0.23	0.68	Y
BAI-24A-025-00	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Nickel	7440-02-0	21	0.23	0.68	Y
BAI-24A-025-00	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Silver	7440-22-4	0.31	0.085	0.31	Y
BAI-24A-025-00	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Thallium	7440-28-0	0.62	0.18	0.62	N
BAI-24A-025-00	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Antimony	7440-36-0	54	0.18	0.62	Y
BAI-24A-025-00	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Arsenic	7440-38-2	31	0.094	0.31	Y
BAI-24A-025-00	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Barium	7440-39-3	120	0.11	0.34	Y
BAI-24A-025-00	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Beryllium	7440-41-7	0.47	0.023	0.12	Y
BAI-24A-025-00	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Cadmium	7440-43-9	0.2	0.057	0.31	Y
BAI-24A-025-00	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Chromium	7440-47-3	63	0.11	0.34	Y
BAI-24A-025-00	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Cobalt	7440-48-4	9.6	0.23	0.68	Y
BAI-24A-025-00	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Copper	7440-50-8	560	11	34	Y
BAI-24A-025-00	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Vanadium	7440-62-2	36	0.11	0.34	Y
BAI-24A-025-00	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Zinc	7440-66-6	120	0.23	1.2	Y
BAI-24A-025-00	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Selenium	7782-49-2	0.62	0.17	0.62	N
BAI-24A-025-00	Target Berm	2	7470A	0-2	MG_KG	Inorganic	Mercury	7439-97-6	0.01	0.0076	0.025	Y
BAI-24A-025-00	Target Berm	2	8330	0-2	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	246.9135802	16.04938272	246.9135802	N
BAI-24A-025-00	Target Berm	2	8330	0-2	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	246.9135802	23.45679012	246.9135802	N
BAI-24A-025-00	Target Berm	2	8330	0-2	UG_KG	Explosive	RDX	121-82-4	246.9135802	48.14814815	246.9135802	N
BAI-24A-025-00	Target Berm	2	8330	0-2	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	246.9135802	34.56790123	246.9135802	N
BAI-24A-025-00	Target Berm	2	8330	0-2	UG_KG	Explosive	HMX	2691-41-0	246.9135802	32.09876543	246.9135802	N
BAI-24A-025-00	Target Berm	2	8330	0-2	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	246.9135802	32.09876543	246.9135802	N
BAI-24A-025-00	Target Berm	2	8330	0-2	UG_KG	Explosive	Tetryl	479-45-8	246.9135802	80.24691358	246.9135802	N
BAI-24A-025-00	Target Berm	2	8330	0-2	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	246.9135802	22.22222222	246.9135802	N
BAI-24A-025-00	Target Berm	2	8330	0-2	UG_KG	Explosive	2-Nitrotoluene	88-72-2	493.8271605	13.58024691	493.8271605	N
BAI-24A-025-00	Target Berm	2	8330	0-2	UG_KG	SVOC	Nitrobenzene	98-95-3	246.9135802	22.22222222	246.9135802	N
BAI-24A-025-00	Target Berm	2	8330	0-2	UG_KG	Explosive	3-Nitrotoluene	99-08-1	493.8271605	74.07407407	493.8271605	N
BAI-24A-025-00	Target Berm	2	8330	0-2	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	246.9135802	43.20987654	246.9135802	N
BAI-24A-025-00	Target Berm	2	8330	0-2	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	246.9135802	24.69135802	246.9135802	N
BAI-24A-025-00	Target Berm	2	8330	0-2	UG_KG	Explosive	4-Nitrotoluene	99-99-0	95.0617284	29.62962963	493.8271605	Y
BAI-24A-025-00	Target Berm	2	D2216	0-2	PCT	Other	Percent Moisture	-86	23.45679012	0	1.234567901	Y
BAI-24A-025-18	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Lead	7439-92-1	3000	8.1	24	Y
BAI-24A-025-18	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Molybdenum	7439-98-7	0.31	0.22	0.66	Y
BAI-24A-025-18	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Nickel	7440-02-0	13	0.22	0.66	Y
BAI-24A-025-18	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Silver	7440-22-4	0.12	0.082	0.28	Y
BAI-24A-025-18	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Thallium	7440-28-0	0.57	0.18	0.57	N
BAI-24A-025-18	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Antimony	7440-36-0	44	0.18	0.57	Y
BAI-24A-025-18	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Arsenic	7440-38-2	5.1	0.092	0.28	Y
BAI-24A-025-18	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Barium	7440-39-3	140	0.11	0.33	Y
BAI-24A-025-18	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Beryllium	7440-41-7	0.38	0.022	0.11	Y

PARENT_SAMPLE_NAME	SI Designation	Exposure Unit	ANALYTICAL_METHOD	Depth Interval	RESULT_UNITS	Analyte Group	Analyte Name	ANALYTE_ID	dw_Analyte Value	dw_MDL	dw_MRL	DETECTED
BAI-24A-025-18	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Cadmium	7440-43-9	0.14	0.055	0.28	Y
BAI-24A-025-18	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Chromium	7440-47-3	13	0.11	0.33	Y
BAI-24A-025-18	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Cobalt	7440-48-4	7	0.22	0.66	Y
BAI-24A-025-18	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Copper	7440-50-8	260	0.11	0.33	Y
BAI-24A-025-18	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Vanadium	7440-62-2	26	0.11	0.33	Y
BAI-24A-025-18	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Zinc	7440-66-6	80	0.22	1.1	Y
BAI-24A-025-18	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Selenium	7782-49-2	0.57	0.16	0.57	N
BAI-24A-025-18	Target Berm	2	7470A	0-2	MG_KG	Inorganic	Mercury	7439-97-6	0.011	0.0071	0.023	Y
BAI-24A-025-18	Target Berm	2	8330	0-2	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	227.2727273	14.77272727	227.2727273	N
BAI-24A-025-18	Target Berm	2	8330	0-2	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	227.2727273	21.59090909	227.2727273	N
BAI-24A-025-18	Target Berm	2	8330	0-2	UG_KG	Explosive	RDX	121-82-4	227.2727273	44.31818182	227.2727273	N
BAI-24A-025-18	Target Berm	2	8330	0-2	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	227.2727273	31.81818182	227.2727273	N
BAI-24A-025-18	Target Berm	2	8330	0-2	UG_KG	Explosive	HMX	2691-41-0	227.2727273	29.54545455	227.2727273	N
BAI-24A-025-18	Target Berm	2	8330	0-2	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	227.2727273	29.54545455	227.2727273	N
BAI-24A-025-18	Target Berm	2	8330	0-2	UG_KG	Explosive	Tetryl	479-45-8	227.2727273	72.72727273	227.2727273	N
BAI-24A-025-18	Target Berm	2	8330	0-2	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	227.2727273	20.45454545	227.2727273	N
BAI-24A-025-18	Target Berm	2	8330	0-2	UG_KG	Explosive	2-Nitrotoluene	88-72-2	443.1818182	18.18181818	443.1818182	N
BAI-24A-025-18	Target Berm	2	8330	0-2	UG_KG	SVOC	Nitrobenzene	98-95-3	227.2727273	20.45454545	227.2727273	N
BAI-24A-025-18	Target Berm	2	8330	0-2	UG_KG	Explosive	3-Nitrotoluene	99-08-1	443.1818182	68.18181818	443.1818182	N
BAI-24A-025-18	Target Berm	2	8330	0-2	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	227.2727273	38.63636364	227.2727273	N
BAI-24A-025-18	Target Berm	2	8330	0-2	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	227.2727273	21.59090909	227.2727273	N
BAI-24A-025-18	Target Berm	2	8330	0-2	UG_KG	Explosive	4-Nitrotoluene	99-99-0	443.1818182	34.09090909	443.1818182	N
BAI-24A-025-18	Target Berm	2	D2216	0-2	PCT	Other	Percent Moisture	-86	13.63636364	0	1.136363636	Y
BAI-24A-026-00	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Lead	7439-92-1	62000	17	51	Y
BAI-24A-026-00	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Molybdenum	7439-98-7	0.27	0.23	0.7	Y
BAI-24A-026-00	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Nickel	7440-02-0	16	0.23	0.7	Y
BAI-24A-026-00	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Silver	7440-22-4	2.1	0.087	0.3	Y
BAI-24A-026-00	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Thallium	7440-28-0	0.6	0.19	0.6	N
BAI-24A-026-00	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Antimony	7440-36-0	700	18	58	Y
BAI-24A-026-00	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Arsenic	7440-38-2	6.5	0.096	0.3	Y
BAI-24A-026-00	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Barium	7440-39-3	99	0.12	0.35	Y
BAI-24A-026-00	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Beryllium	7440-41-7	0.49	0.023	0.12	Y
BAI-24A-026-00	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Cadmium	7440-43-9	3	0.058	0.3	Y
BAI-24A-026-00	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Chromium	7440-47-3	16	0.12	0.35	Y
BAI-24A-026-00	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Cobalt	7440-48-4	9	0.23	0.7	Y
BAI-24A-026-00	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Copper	7440-50-8	12000	12	35	Y
BAI-24A-026-00	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Vanadium	7440-62-2	32	0.12	0.35	Y
BAI-24A-026-00	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Zinc	7440-66-6	1400	23	120	Y
BAI-24A-026-00	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Selenium	7782-49-2	0.6	0.17	0.6	N
BAI-24A-026-00	Target Berm	2	7470A	0-2	MG_KG	Inorganic	Mercury	7439-97-6	0.016	0.0073	0.024	Y
BAI-24A-026-00	Target Berm	2	8330	0-2	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	240.9638554	15.6626506	240.9638554	N
BAI-24A-026-00	Target Berm	2	8330	0-2	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	240.9638554	22.89156627	240.9638554	N
BAI-24A-026-00	Target Berm	2	8330	0-2	UG_KG	Explosive	RDX	121-82-4	240.9638554	46.98795181	240.9638554	N
BAI-24A-026-00	Target Berm	2	8330	0-2	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	240.9638554	33.73493976	240.9638554	N
BAI-24A-026-00	Target Berm	2	8330	0-2	UG_KG	Explosive	HMX	2691-41-0	240.9638554	31.3253012	240.9638554	N
BAI-24A-026-00	Target Berm	2	8330	0-2	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	240.9638554	31.3253012	240.9638554	N
BAI-24A-026-00	Target Berm	2	8330	0-2	UG_KG	Explosive	Tetryl	479-45-8	240.9638554	78.31325301	240.9638554	N
BAI-24A-026-00	Target Berm	2	8330	0-2	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	240.9638554	21.68674699	240.9638554	N
BAI-24A-026-00	Target Berm	2	8330	0-2	UG_KG	Explosive	2-Nitrotoluene	88-72-2	481.9277108	19.27710843	481.9277108	N

PARENT_SAMPLE_NAME	SI Designation	Exposure Unit	ANALYTICAL_METHOD	Depth Interval	RESULT_UNITS	Analyte Group	Analyte Name	ANALYTE_ID	dw_Analyte Value	dw_MDL	dw_MRL	DETECTED
BAI-24A-026-00	Target Berm	2	8330	0-2	UG_KG	SVOC	Nitrobenzene	98-95-3	240.9638554	21.68674699	240.9638554	N
BAI-24A-026-00	Target Berm	2	8330	0-2	UG_KG	Explosive	3-Nitrotoluene	99-08-1	481.9277108	72.28915663	481.9277108	N
BAI-24A-026-00	Target Berm	2	8330	0-2	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	240.9638554	42.1686747	240.9638554	N
BAI-24A-026-00	Target Berm	2	8330	0-2	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	240.9638554	24.09638554	240.9638554	N
BAI-24A-026-00	Target Berm	2	8330	0-2	UG_KG	Explosive	4-Nitrotoluene	99-99-0	481.9277108	36.14457831	481.9277108	N
BAI-24A-026-00	Target Berm	2	D2216	0-2	PCT	Other	Percent Moisture	-86	20.48192771	0	1.204819277	Y
BAI-24A-026-18	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Lead	7439-92-1	1300	6.9	21	Y
BAI-24A-026-18	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Molybdenum	7439-98-7	0.27	0.19	0.56	Y
BAI-24A-026-18	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Nickel	7440-02-0	15	0.19	0.56	Y
BAI-24A-026-18	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Silver	7440-22-4	0.082	0.07	0.26	Y
BAI-24A-026-18	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Thallium	7440-28-0	0.52	0.15	0.52	N
BAI-24A-026-18	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Antimony	7440-36-0	7	0.15	0.52	Y
BAI-24A-026-18	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Arsenic	7440-38-2	4.9	0.078	0.26	Y
BAI-24A-026-18	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Barium	7440-39-3	96	0.094	0.28	Y
BAI-24A-026-18	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Beryllium	7440-41-7	0.48	0.019	0.1	Y
BAI-24A-026-18	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Cadmium	7440-43-9	0.15	0.047	0.26	Y
BAI-24A-026-18	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Chromium	7440-47-3	16	0.094	0.28	Y
BAI-24A-026-18	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Cobalt	7440-48-4	8.4	0.19	0.56	Y
BAI-24A-026-18	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Copper	7440-50-8	43	0.094	0.28	Y
BAI-24A-026-18	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Vanadium	7440-62-2	32	0.094	0.28	Y
BAI-24A-026-18	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Zinc	7440-66-6	53	0.19	1	Y
BAI-24A-026-18	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Selenium	7782-49-2	0.52	0.14	0.52	N
BAI-24A-026-18	Target Berm	2	7470A	0-2	MG_KG	Inorganic	Mercury	7439-97-6	0.0091	0.0067	0.021	Y
BAI-24A-026-18	Target Berm	2	8330	0-2	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	208.3333333	13.54166667	208.3333333	N
BAI-24A-026-18	Target Berm	2	8330	0-2	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	208.3333333	19.79166667	208.3333333	N
BAI-24A-026-18	Target Berm	2	8330	0-2	UG_KG	Explosive	RDX	121-82-4	208.3333333	40.625	208.3333333	N
BAI-24A-026-18	Target Berm	2	8330	0-2	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	208.3333333	29.16666667	208.3333333	N
BAI-24A-026-18	Target Berm	2	8330	0-2	UG_KG	Explosive	HMX	2691-41-0	208.3333333	27.08333333	208.3333333	N
BAI-24A-026-18	Target Berm	2	8330	0-2	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	208.3333333	27.08333333	208.3333333	N
BAI-24A-026-18	Target Berm	2	8330	0-2	UG_KG	Explosive	Tetryl	479-45-8	208.3333333	68.75	208.3333333	N
BAI-24A-026-18	Target Berm	2	8330	0-2	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	208.3333333	18.75	208.3333333	N
BAI-24A-026-18	Target Berm	2	8330	0-2	UG_KG	Explosive	2-Nitrotoluene	88-72-2	416.6666667	16.66666667	416.6666667	N
BAI-24A-026-18	Target Berm	2	8330	0-2	UG_KG	SVOC	Nitrobenzene	98-95-3	208.3333333	18.75	208.3333333	N
BAI-24A-026-18	Target Berm	2	8330	0-2	UG_KG	Explosive	3-Nitrotoluene	99-08-1	416.6666667	63.54166667	416.6666667	N
BAI-24A-026-18	Target Berm	2	8330	0-2	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	208.3333333	36.45833333	208.3333333	N
BAI-24A-026-18	Target Berm	2	8330	0-2	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	208.3333333	20.83333333	208.3333333	N
BAI-24A-026-18	Target Berm	2	8330	0-2	UG_KG	Explosive	4-Nitrotoluene	99-99-0	416.6666667	32.29166667	416.6666667	N
BAI-24A-026-18	Target Berm	2	D2216	0-2	PCT	Other	Percent Moisture	-86	4.166666667	0	1.041666667	Y
BAI-24A-027-00	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Lead	7439-92-1	2300	8.5	26	Y
BAI-24A-027-00	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Molybdenum	7439-98-7	0.4	0.23	0.7	Y
BAI-24A-027-00	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Nickel	7440-02-0	17	0.23	0.7	Y
BAI-24A-027-00	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Silver	7440-22-4	0.17	0.087	0.3	Y
BAI-24A-027-00	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Thallium	7440-28-0	0.6	0.19	0.6	N
BAI-24A-027-00	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Antimony	7440-36-0	11	0.19	0.6	Y
BAI-24A-027-00	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Arsenic	7440-38-2	5.9	0.097	0.3	Y
BAI-24A-027-00	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Barium	7440-39-3	100	0.12	0.35	Y
BAI-24A-027-00	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Beryllium	7440-41-7	0.51	0.023	0.12	Y
BAI-24A-027-00	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Cadmium	7440-43-9	0.15	0.058	0.3	Y
BAI-24A-027-00	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Chromium	7440-47-3	16	0.12	0.35	Y

PARENT_SAMPLE_NAME	SI Designation	Exposure Unit	ANALYTICAL_METHOD	Depth Interval	RESULT_UNITS	Analyte Group	Analyte Name	ANALYTE_ID	dw_Analyte Value	dw_MDL	dw_MRL	DETECTED
BAI-24A-027-00	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Cobalt	7440-48-4	8.7	0.23	0.7	Y
BAI-24A-027-00	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Copper	7440-50-8	110	0.12	0.35	Y
BAI-24A-027-00	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Vanadium	7440-62-2	35	0.12	0.35	Y
BAI-24A-027-00	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Zinc	7440-66-6	68	0.23	1.2	Y
BAI-24A-027-00	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Selenium	7782-49-2	0.6	0.17	0.6	N
BAI-24A-027-00	Target Berm	2	7470A	0-2	MG_KG	Inorganic	Mercury	7439-97-6	0.016	0.0072	0.024	Y
BAI-24A-027-00	Target Berm	2	8330	0-2	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	238.0952381	15.47619048	238.0952381	N
BAI-24A-027-00	Target Berm	2	8330	0-2	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	238.0952381	22.61904762	238.0952381	N
BAI-24A-027-00	Target Berm	2	8330	0-2	UG_KG	Explosive	RDX	121-82-4	238.0952381	47.61904762	238.0952381	N
BAI-24A-027-00	Target Berm	2	8330	0-2	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	238.0952381	33.33333333	238.0952381	N
BAI-24A-027-00	Target Berm	2	8330	0-2	UG_KG	Explosive	HMX	2691-41-0	238.0952381	30.95238095	238.0952381	N
BAI-24A-027-00	Target Berm	2	8330	0-2	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	238.0952381	30.95238095	238.0952381	N
BAI-24A-027-00	Target Berm	2	8330	0-2	UG_KG	Explosive	Tetryl	479-45-8	238.0952381	78.57142857	238.0952381	N
BAI-24A-027-00	Target Berm	2	8330	0-2	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	238.0952381	21.42857143	238.0952381	N
BAI-24A-027-00	Target Berm	2	8330	0-2	UG_KG	Explosive	2-Nitrotoluene	88-72-2	476.1904762	19.04761905	476.1904762	N
BAI-24A-027-00	Target Berm	2	8330	0-2	UG_KG	SVOC	Nitrobenzene	98-95-3	238.0952381	21.42857143	238.0952381	N
BAI-24A-027-00	Target Berm	2	8330	0-2	UG_KG	Explosive	3-Nitrotoluene	99-08-1	476.1904762	72.61904762	476.1904762	N
BAI-24A-027-00	Target Berm	2	8330	0-2	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	238.0952381	41.66666667	238.0952381	N
BAI-24A-027-00	Target Berm	2	8330	0-2	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	238.0952381	23.80952381	238.0952381	N
BAI-24A-027-00	Target Berm	2	8330	0-2	UG_KG	Explosive	4-Nitrotoluene	99-99-0	476.1904762	36.9047619	476.1904762	N
BAI-24A-027-00	Target Berm	2	D2216	0-2	PCT	Other	Percent Moisture	-86	19.04761905	0	1.19047619	Y
BAI-24A-027-18	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Lead	7439-92-1	11	0.076	0.27	Y
BAI-24A-027-18	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Molybdenum	7439-98-7	0.27	0.21	0.63	Y
BAI-24A-027-18	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Nickel	7440-02-0	18	0.21	0.63	Y
BAI-24A-027-18	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Silver	7440-22-4	0.1	0.078	0.27	Y
BAI-24A-027-18	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Thallium	7440-28-0	0.54	0.17	0.54	N
BAI-24A-027-18	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Antimony	7440-36-0	4.3	0.17	0.54	Y
BAI-24A-027-18	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Arsenic	7440-38-2	5.2	0.087	0.27	Y
BAI-24A-027-18	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Barium	7440-39-3	120	0.1	0.31	Y
BAI-24A-027-18	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Beryllium	7440-41-7	0.57	0.021	0.11	Y
BAI-24A-027-18	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Cadmium	7440-43-9	0.14	0.052	0.27	Y
BAI-24A-027-18	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Chromium	7440-47-3	18	0.1	0.31	Y
BAI-24A-027-18	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Cobalt	7440-48-4	9.2	0.21	0.63	Y
BAI-24A-027-18	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Copper	7440-50-8	16	0.1	0.31	Y
BAI-24A-027-18	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Vanadium	7440-62-2	37	0.1	0.31	Y
BAI-24A-027-18	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Zinc	7440-66-6	51	0.21	1.1	Y
BAI-24A-027-18	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Selenium	7782-49-2	0.54	0.15	0.54	N
BAI-24A-027-18	Target Berm	2	7470A	0-2	MG_KG	Inorganic	Mercury	7439-97-6	0.01	0.0061	0.022	Y
BAI-24A-027-18	Target Berm	2	8330	0-2	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	204.3010753	13.97849462	204.3010753	N
BAI-24A-027-18	Target Berm	2	8330	0-2	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	204.3010753	20.43010753	204.3010753	N
BAI-24A-027-18	Target Berm	2	8330	0-2	UG_KG	Explosive	RDX	121-82-4	204.3010753	40.86021505	204.3010753	N
BAI-24A-027-18	Target Berm	2	8330	0-2	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	204.3010753	30.10752688	204.3010753	N
BAI-24A-027-18	Target Berm	2	8330	0-2	UG_KG	Explosive	HMX	2691-41-0	204.3010753	27.95698925	204.3010753	N
BAI-24A-027-18	Target Berm	2	8330	0-2	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	204.3010753	27.95698925	204.3010753	N
BAI-24A-027-18	Target Berm	2	8330	0-2	UG_KG	Explosive	Tetryl	479-45-8	204.3010753	68.8172043	204.3010753	N
BAI-24A-027-18	Target Berm	2	8330	0-2	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	204.3010753	19.35483871	204.3010753	N
BAI-24A-027-18	Target Berm	2	8330	0-2	UG_KG	Explosive	2-Nitrotoluene	88-72-2	419.3548387	16.12903226	419.3548387	N
BAI-24A-027-18	Target Berm	2	8330	0-2	UG_KG	SVOC	Nitrobenzene	98-95-3	204.3010753	19.35483871	204.3010753	N
BAI-24A-027-18	Target Berm	2	8330	0-2	UG_KG	Explosive	3-Nitrotoluene	99-08-1	419.3548387	63.44086022	419.3548387	N

PARENT_SAMPLE_NAME	SI Designation	Exposure Unit	ANALYTICAL_METHOD	Depth Interval	RESULT_UNITS	Analyte Group	Analyte Name	ANALYTE_ID	dw_Analyte Value	dw_MDL	dw_MRL	DETECTED
BAI-24A-027-18	Target Berm	2	8330	0-2	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	204.3010753	36.55913978	204.3010753	N
BAI-24A-027-18	Target Berm	2	8330	0-2	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	204.3010753	20.43010753	204.3010753	N
BAI-24A-027-18	Target Berm	2	8330	0-2	UG_KG	Explosive	4-Nitrotoluene	99-99-0	419.3548387	32.25806452	419.3548387	N
BAI-24A-027-18	Target Berm	2	D2216	0-2	PCT	Other	Percent Moisture	-86	7.52688172	0	1.075268817	Y
BAI-24A-028-00	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Lead	7439-92-1	1500	8.4	25	Y
BAI-24A-028-00	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Molybdenum	7439-98-7	0.38	0.23	0.69	Y
BAI-24A-028-00	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Nickel	7440-02-0	18	0.23	0.69	Y
BAI-24A-028-00	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Silver	7440-22-4	0.21	0.086	0.3	Y
BAI-24A-028-00	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Thallium	7440-28-0	0.6	0.19	0.6	N
BAI-24A-028-00	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Antimony	7440-36-0	13	0.18	0.6	Y
BAI-24A-028-00	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Arsenic	7440-38-2	6.6	0.095	0.3	Y
BAI-24A-028-00	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Barium	7440-39-3	110	0.11	0.34	Y
BAI-24A-028-00	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Beryllium	7440-41-7	0.57	0.023	0.12	Y
BAI-24A-028-00	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Cadmium	7440-43-9	0.17	0.057	0.3	Y
BAI-24A-028-00	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Chromium	7440-47-3	18	0.11	0.34	Y
BAI-24A-028-00	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Cobalt	7440-48-4	9.3	0.23	0.69	Y
BAI-24A-028-00	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Copper	7440-50-8	79	0.11	0.34	Y
BAI-24A-028-00	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Vanadium	7440-62-2	39	0.11	0.34	Y
BAI-24A-028-00	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Zinc	7440-66-6	64	0.23	1.2	Y
BAI-24A-028-00	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Selenium	7782-49-2	0.6	0.17	0.6	N
BAI-24A-028-00	Target Berm	2	7470A	0-2	MG_KG	Inorganic	Mercury	7439-97-6	0.015	0.0072	0.024	Y
BAI-24A-028-00	Target Berm	2	8330	0-2	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	238.0952381	15.47619048	238.0952381	N
BAI-24A-028-00	Target Berm	2	8330	0-2	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	238.0952381	22.61904762	238.0952381	N
BAI-24A-028-00	Target Berm	2	8330	0-2	UG_KG	Explosive	RDX	121-82-4	238.0952381	46.42857143	238.0952381	N
BAI-24A-028-00	Target Berm	2	8330	0-2	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	238.0952381	33.33333333	238.0952381	N
BAI-24A-028-00	Target Berm	2	8330	0-2	UG_KG	Explosive	HMX	2691-41-0	238.0952381	30.95238095	238.0952381	N
BAI-24A-028-00	Target Berm	2	8330	0-2	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	238.0952381	30.95238095	238.0952381	N
BAI-24A-028-00	Target Berm	2	8330	0-2	UG_KG	Explosive	Tetryl	479-45-8	238.0952381	77.38095238	238.0952381	N
BAI-24A-028-00	Target Berm	2	8330	0-2	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	238.0952381	21.42857143	238.0952381	N
BAI-24A-028-00	Target Berm	2	8330	0-2	UG_KG	Explosive	2-Nitrotoluene	88-72-2	476.1904762	19.04761905	476.1904762	N
BAI-24A-028-00	Target Berm	2	8330	0-2	UG_KG	SVOC	Nitrobenzene	98-95-3	238.0952381	21.42857143	238.0952381	N
BAI-24A-028-00	Target Berm	2	8330	0-2	UG_KG	Explosive	3-Nitrotoluene	99-08-1	476.1904762	72.61904762	476.1904762	N
BAI-24A-028-00	Target Berm	2	8330	0-2	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	238.0952381	41.66666667	238.0952381	N
BAI-24A-028-00	Target Berm	2	8330	0-2	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	238.0952381	23.80952381	238.0952381	N
BAI-24A-028-00	Target Berm	2	8330	0-2	UG_KG	Explosive	4-Nitrotoluene	99-99-0	476.1904762	36.9047619	476.1904762	N
BAI-24A-028-00	Target Berm	2	D2216	0-2	PCT	Other	Percent Moisture	-86	19.04761905	0	1.19047619	Y
BAI-24A-028-18	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Lead	7439-92-1	37	0.073	0.27	Y
BAI-24A-028-18	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Molybdenum	7439-98-7	0.25	0.2	0.6	Y
BAI-24A-028-18	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Nickel	7440-02-0	15	0.2	0.6	Y
BAI-24A-028-18	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Silver	7440-22-4	0.12	0.075	0.27	Y
BAI-24A-028-18	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Thallium	7440-28-0	0.53	0.16	0.53	N
BAI-24A-028-18	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Antimony	7440-36-0	2.5	0.16	0.53	Y
BAI-24A-028-18	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Arsenic	7440-38-2	4.5	0.083	0.27	Y
BAI-24A-028-18	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Barium	7440-39-3	98	0.1	0.3	Y
BAI-24A-028-18	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Beryllium	7440-41-7	0.47	0.02	0.11	Y
BAI-24A-028-18	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Cadmium	7440-43-9	0.13	0.05	0.27	Y
BAI-24A-028-18	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Chromium	7440-47-3	15	0.1	0.3	Y
BAI-24A-028-18	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Cobalt	7440-48-4	7.5	0.2	0.6	Y
BAI-24A-028-18	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Copper	7440-50-8	16	0.1	0.3	Y

PARENT_SAMPLE_NAME	SI Designation	Exposure Unit	ANALYTICAL_METHOD	Depth Interval	RESULT_UNITS	Analyte Group	Analyte Name	ANALYTE_ID	dw_Analyte Value	dw_MDL	dw_MRL	DETECTED
BAI-24A-028-18	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Vanadium	7440-62-2	31	0.1	0.3	Y
BAI-24A-028-18	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Zinc	7440-66-6	43	0.2	1.1	Y
BAI-24A-028-18	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Selenium	7782-49-2	0.53	0.15	0.53	N
BAI-24A-028-18	Target Berm	2	7470A	0-2	MG_KG	Inorganic	Mercury	7439-97-6	0.012	0.0068	0.022	Y
BAI-24A-028-18	Target Berm	2	8330	0-2	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	212.7659574	13.82978723	212.7659574	N
BAI-24A-028-18	Target Berm	2	8330	0-2	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	212.7659574	20.21276596	212.7659574	N
BAI-24A-028-18	Target Berm	2	8330	0-2	UG_KG	Explosive	RDX	121-82-4	212.7659574	41.4893617	212.7659574	N
BAI-24A-028-18	Target Berm	2	8330	0-2	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	212.7659574	29.78723404	212.7659574	N
BAI-24A-028-18	Target Berm	2	8330	0-2	UG_KG	Explosive	HMX	2691-41-0	212.7659574	27.65957447	212.7659574	N
BAI-24A-028-18	Target Berm	2	8330	0-2	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	212.7659574	27.65957447	212.7659574	N
BAI-24A-028-18	Target Berm	2	8330	0-2	UG_KG	Explosive	Tetryl	479-45-8	212.7659574	69.14893617	212.7659574	N
BAI-24A-028-18	Target Berm	2	8330	0-2	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	212.7659574	19.14893617	212.7659574	N
BAI-24A-028-18	Target Berm	2	8330	0-2	UG_KG	Explosive	2-Nitrotoluene	88-72-2	425.5319149	17.0212766	425.5319149	N
BAI-24A-028-18	Target Berm	2	8330	0-2	UG_KG	SVOC	Nitrobenzene	98-95-3	212.7659574	19.14893617	212.7659574	N
BAI-24A-028-18	Target Berm	2	8330	0-2	UG_KG	Explosive	3-Nitrotoluene	99-08-1	425.5319149	63.82978723	425.5319149	N
BAI-24A-028-18	Target Berm	2	8330	0-2	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	212.7659574	37.23404255	212.7659574	N
BAI-24A-028-18	Target Berm	2	8330	0-2	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	212.7659574	21.27659574	212.7659574	N
BAI-24A-028-18	Target Berm	2	8330	0-2	UG_KG	Explosive	4-Nitrotoluene	99-99-0	425.5319149	31.91489362	425.5319149	N
BAI-24A-028-18	Target Berm	2	D2216	0-2	PCT	Other	Percent Moisture	-86	6.382978723	0	1.063829787	Y
BAI-24A-029-00	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Lead	7439-92-1	5700	4.765	14.25	Y
BAI-24A-029-00	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Molybdenum	7439-98-7	0.315	0.235	0.7	Y
BAI-24A-029-00	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Nickel	7440-02-0	18.5	0.235	0.7	Y
BAI-24A-029-00	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Silver	7440-22-4	0.255	0.087	0.3	Y
BAI-24A-029-00	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Thallium	7440-28-0	0.6	0.19	0.6	N
BAI-24A-029-00	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Antimony	7440-36-0	146.5	0.185	0.6	Y
BAI-24A-029-00	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Arsenic	7440-38-2	73.25	0.0965	0.3	Y
BAI-24A-029-00	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Barium	7440-39-3	115	0.115	0.35	Y
BAI-24A-029-00	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Beryllium	7440-41-7	0.595	0.0235	0.12	Y
BAI-24A-029-00	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Cadmium	7440-43-9	0.525	0.0585	0.3	Y
BAI-24A-029-00	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Chromium	7440-47-3	19	0.115	0.35	Y
BAI-24A-029-00	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Cobalt	7440-48-4	10.3	0.235	0.7	Y
BAI-24A-029-00	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Copper	7440-50-8	62.5	0.115	0.35	Y
BAI-24A-029-00	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Vanadium	7440-62-2	38.5	0.115	0.35	Y
BAI-24A-029-00	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Zinc	7440-66-6	97.5	0.235	1.2	Y
BAI-24A-029-00	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Selenium	7782-49-2	0.6	0.17	0.6	N
BAI-24A-029-00	Target Berm	2	7470A	0-2	MG_KG	Inorganic	Mercury	7439-97-6	0.025	0.0079	0.025	N
BAI-24A-029-00	Target Berm	2	8330	0-2	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	240.9638554	25.90361446	240.9638554	N
BAI-24A-029-00	Target Berm	2	8330	0-2	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	240.9638554	23.4939759	240.9638554	N
BAI-24A-029-00	Target Berm	2	8330	0-2	UG_KG	Explosive	RDX	121-82-4	240.9638554	36.14457831	240.9638554	N
BAI-24A-029-00	Target Berm	2	8330	0-2	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	240.9638554	40.36144578	240.9638554	N
BAI-24A-029-00	Target Berm	2	8330	0-2	UG_KG	Explosive	HMX	2691-41-0	240.9638554	24.09638554	240.9638554	N
BAI-24A-029-00	Target Berm	2	8330	0-2	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	240.9638554	26.5060241	240.9638554	N
BAI-24A-029-00	Target Berm	2	8330	0-2	UG_KG	Explosive	Tetryl	479-45-8	240.9638554	72.89156627	240.9638554	N
BAI-24A-029-00	Target Berm	2	8330	0-2	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	240.9638554	24.09638554	240.9638554	N
BAI-24A-029-00	Target Berm	2	8330	0-2	UG_KG	Explosive	2-Nitrotoluene	88-72-2	475.9036145	26.5060241	475.9036145	N
BAI-24A-029-00	Target Berm	2	8330	0-2	UG_KG	SVOC	Nitrobenzene	98-95-3	240.9638554	20.48192771	240.9638554	N
BAI-24A-029-00	Target Berm	2	8330	0-2	UG_KG	Explosive	3-Nitrotoluene	99-08-1	475.9036145	60.24096386	475.9036145	N
BAI-24A-029-00	Target Berm	2	8330	0-2	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	240.9638554	37.34939759	240.9638554	N
BAI-24A-029-00	Target Berm	2	8330	0-2	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	240.9638554	14.75903614	240.9638554	N

Attachment B-4.2
Processed Data

PARENT_SAMPLE_NAME	SI Designation	Exposure Unit	ANALYTICAL_METHOD	Depth Interval	RESULT_UNITS	Analyte Group	Analyte Name	ANALYTE_ID	dw_Analyte Value	dw_MDL	dw_MRL	DETECTED
BAI-24A-029-00	Target Berm	2	8330	0-2	UG_KG	Explosive	4-Nitrotoluene	99-99-0	475.9036145	35.54216867	475.9036145	N
BAI-24A-029-00	Target Berm	2	D2216	0-2	PCT	Other	Percent Moisture	-86	20.48192771	0	1.204819277	Y
BAI-24A-029-18	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Lead	7439-92-1	13	0.073	0.27	Y
BAI-24A-029-18	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Molybdenum	7439-98-7	0.6	0.2	0.6	N
BAI-24A-029-18	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Nickel	7440-02-0	16	0.2	0.6	Y
BAI-24A-029-18	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Silver	7440-22-4	0.12	0.075	0.27	Y
BAI-24A-029-18	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Thallium	7440-28-0	0.53	0.16	0.53	N
BAI-24A-029-18	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Antimony	7440-36-0	3.6	0.16	0.53	Y
BAI-24A-029-18	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Arsenic	7440-38-2	5.1	0.083	0.27	Y
BAI-24A-029-18	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Barium	7440-39-3	97	0.1	0.3	Y
BAI-24A-029-18	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Beryllium	7440-41-7	0.48	0.02	0.11	Y
BAI-24A-029-18	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Cadmium	7440-43-9	0.13	0.05	0.27	Y
BAI-24A-029-18	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Chromium	7440-47-3	16	0.1	0.3	Y
BAI-24A-029-18	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Cobalt	7440-48-4	8	0.2	0.6	Y
BAI-24A-029-18	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Copper	7440-50-8	15	0.1	0.3	Y
BAI-24A-029-18	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Vanadium	7440-62-2	31	0.1	0.3	Y
BAI-24A-029-18	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Zinc	7440-66-6	47	0.2	1.1	Y
BAI-24A-029-18	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Selenium	7782-49-2	0.53	0.15	0.53	N
BAI-24A-029-18	Target Berm	2	7470A	0-2	MG_KG	Inorganic	Mercury	7439-97-6	0.02	0.007	0.022	Y
BAI-24A-029-18	Target Berm	2	8330	0-2	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	212.7659574	13.82978723	212.7659574	N
BAI-24A-029-18	Target Berm	2	8330	0-2	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	212.7659574	20.21276596	212.7659574	N
BAI-24A-029-18	Target Berm	2	8330	0-2	UG_KG	Explosive	RDX	121-82-4	212.7659574	41.4893617	212.7659574	N
BAI-24A-029-18	Target Berm	2	8330	0-2	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	212.7659574	29.78723404	212.7659574	N
BAI-24A-029-18	Target Berm	2	8330	0-2	UG_KG	Explosive	HMX	2691-41-0	212.7659574	27.65957447	212.7659574	N
BAI-24A-029-18	Target Berm	2	8330	0-2	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	212.7659574	27.65957447	212.7659574	N
BAI-24A-029-18	Target Berm	2	8330	0-2	UG_KG	Explosive	Tetryl	479-45-8	212.7659574	69.14893617	212.7659574	N
BAI-24A-029-18	Target Berm	2	8330	0-2	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	212.7659574	19.14893617	212.7659574	N
BAI-24A-029-18	Target Berm	2	8330	0-2	UG_KG	Explosive	2-Nitrotoluene	88-72-2	425.5319149	17.0212766	425.5319149	N
BAI-24A-029-18	Target Berm	2	8330	0-2	UG_KG	SVOC	Nitrobenzene	98-95-3	212.7659574	19.14893617	212.7659574	N
BAI-24A-029-18	Target Berm	2	8330	0-2	UG_KG	Explosive	3-Nitrotoluene	99-08-1	425.5319149	63.82978723	425.5319149	N
BAI-24A-029-18	Target Berm	2	8330	0-2	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	212.7659574	37.23404255	212.7659574	N
BAI-24A-029-18	Target Berm	2	8330	0-2	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	212.7659574	21.27659574	212.7659574	N
BAI-24A-029-18	Target Berm	2	8330	0-2	UG_KG	Explosive	4-Nitrotoluene	99-99-0	425.5319149	31.91489362	425.5319149	N
BAI-24A-029-18	Target Berm	2	D2216	0-2	PCT	Other	Percent Moisture	-86	6.382978723	0	1.063829787	Y
BAI-24A-03-00	Retaining Wall	2	8270C_SIM	0-2	UG_KG	PAH	Anthracene	120-12-7	76	1.2	5.8	Y
BAI-24A-03-00	Retaining Wall	2	8270C_SIM	0-2	UG_KG	PAH	Pyrene	129-00-0	36	1.2	5.8	Y
BAI-24A-03-00	Retaining Wall	2	8270C_SIM	0-2	UG_KG	PAH	Benzo(g,h,i)perylene	191-24-2	88	1.2	5.8	Y
BAI-24A-03-00	Retaining Wall	2	8270C_SIM	0-2	UG_KG	PAH	Indeno(1,2,3-cd)yrene	193-39-5	67	1.2	5.8	Y
BAI-24A-03-00	Retaining Wall	2	8270C_SIM	0-2	UG_KG	PAH	Benzo(b)fluoranthene	205-99-2	150	1.2	5.8	Y
BAI-24A-03-00	Retaining Wall	2	8270C_SIM	0-2	UG_KG	PAH	Fluoranthene	206-44-0	31	1.2	5.8	Y
BAI-24A-03-00	Retaining Wall	2	8270C_SIM	0-2	UG_KG	PAH	Benzo(k)fluoranthene	207-08-9	39	1.2	5.8	Y
BAI-24A-03-00	Retaining Wall	2	8270C_SIM	0-2	UG_KG	PAH	Acenaphthylene	208-96-8	22	1.2	5.8	Y
BAI-24A-03-00	Retaining Wall	2	8270C_SIM	0-2	UG_KG	PAH	Chrysene	218-01-9	41	1.2	5.8	Y
BAI-24A-03-00	Retaining Wall	2	8270C_SIM	0-2	UG_KG	PAH	Benzo(a)pyrene	50-32-8	50	1.2	5.8	Y
BAI-24A-03-00	Retaining Wall	2	8270C_SIM	0-2	UG_KG	PAH	Dibenz(a,h)anthracene	53-70-3	24	1.2	5.8	Y
BAI-24A-03-00	Retaining Wall	2	8270C_SIM	0-2	UG_KG	PAH	Benzo(a)anthracene	56-55-3	22	1.2	5.8	Y
BAI-24A-03-00	Retaining Wall	2	8270C_SIM	0-2	UG_KG	PAH	Acenaphthene	83-32-9	1.4	1.2	5.8	Y
BAI-24A-03-00	Retaining Wall	2	8270C_SIM	0-2	UG_KG	PAH	Phenanthrene	85-01-8	10	1.2	5.8	Y
BAI-24A-03-00	Retaining Wall	2	8270C_SIM	0-2	UG_KG	PAH	Fluorene	86-73-7	1.8	1.2	5.8	Y

PARENT_SAMPLE_NAME	SI Designation	Exposure Unit	ANALYTICAL_METHOD	Depth Interval	RESULT_UNITS	Analyte Group	Analyte Name	ANALYTE_ID	dw_Analyte Value	dw_MDL	dw_MRL	DETECTED
BAI-24A-03-00	Retaining Wall	2	8270C_SIM	0-2	UG_KG	PAH	Naphthalene	91-20-3	5.8	1.2	5.8	N
BAI-24A-03-00	Retaining Wall	2	D2216	0-2	PCT	Other	Percent Moisture	-86	17.64705882	0	1.176470588	Y
BAI-24A-031-00	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Lead	7439-92-1	410	0.082	0.29	Y
BAI-24A-031-00	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Molybdenum	7439-98-7	0.62	0.22	0.67	Y
BAI-24A-031-00	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Nickel	7440-02-0	18	0.22	0.67	Y
BAI-24A-031-00	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Silver	7440-22-4	0.095	0.084	0.29	Y
BAI-24A-031-00	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Thallium	7440-28-0	0.59	0.18	0.59	N
BAI-24A-031-00	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Antimony	7440-36-0	5.2	0.18	0.59	Y
BAI-24A-031-00	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Arsenic	7440-38-2	4.8	0.093	0.29	Y
BAI-24A-031-00	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Barium	7440-39-3	97	0.11	0.34	Y
BAI-24A-031-00	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Beryllium	7440-41-7	0.52	0.022	0.12	Y
BAI-24A-031-00	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Cadmium	7440-43-9	0.18	0.056	0.29	Y
BAI-24A-031-00	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Chromium	7440-47-3	17	0.11	0.34	Y
BAI-24A-031-00	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Cobalt	7440-48-4	9.6	0.22	0.67	Y
BAI-24A-031-00	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Copper	7440-50-8	23	0.11	0.34	Y
BAI-24A-031-00	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Vanadium	7440-62-2	33	0.11	0.34	Y
BAI-24A-031-00	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Zinc	7440-66-6	53	0.22	1.2	Y
BAI-24A-031-00	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Selenium	7782-49-2	0.59	0.16	0.59	N
BAI-24A-031-00	Target Berm	2	7470A	0-2	MG_KG	Inorganic	Mercury	7439-97-6	0.024	0.0073	0.024	N
BAI-24A-031-00	Target Berm	2	8330	0-2	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	235.2941176	15.29411765	235.2941176	N
BAI-24A-031-00	Target Berm	2	8330	0-2	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	235.2941176	22.35294118	235.2941176	N
BAI-24A-031-00	Target Berm	2	8330	0-2	UG_KG	Explosive	RDX	121-82-4	235.2941176	45.88235294	235.2941176	N
BAI-24A-031-00	Target Berm	2	8330	0-2	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	235.2941176	32.94117647	235.2941176	N
BAI-24A-031-00	Target Berm	2	8330	0-2	UG_KG	Explosive	HMX	2691-41-0	235.2941176	30.58823529	235.2941176	N
BAI-24A-031-00	Target Berm	2	8330	0-2	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	235.2941176	30.58823529	235.2941176	N
BAI-24A-031-00	Target Berm	2	8330	0-2	UG_KG	Explosive	Tetryl	479-45-8	235.2941176	76.47058824	235.2941176	N
BAI-24A-031-00	Target Berm	2	8330	0-2	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	235.2941176	21.17647059	235.2941176	N
BAI-24A-031-00	Target Berm	2	8330	0-2	UG_KG	Explosive	2-Nitrotoluene	88-72-2	470.5882353	18.82352941	470.5882353	N
BAI-24A-031-00	Target Berm	2	8330	0-2	UG_KG	SVOC	Nitrobenzene	98-95-3	235.2941176	21.17647059	235.2941176	N
BAI-24A-031-00	Target Berm	2	8330	0-2	UG_KG	Explosive	3-Nitrotoluene	99-08-1	470.5882353	70.58823529	470.5882353	N
BAI-24A-031-00	Target Berm	2	8330	0-2	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	235.2941176	41.17647059	235.2941176	N
BAI-24A-031-00	Target Berm	2	8330	0-2	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	235.2941176	23.52941176	235.2941176	N
BAI-24A-031-00	Target Berm	2	8330	0-2	UG_KG	Explosive	4-Nitrotoluene	99-99-0	470.5882353	35.29411765	470.5882353	N
BAI-24A-031-00	Target Berm	2	D2216	0-2	PCT	Other	Percent Moisture	-86	17.64705882	0	1.176470588	Y
BAI-24A-031-18	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Lead	7439-92-1	5.5	0.076	0.28	Y
BAI-24A-031-18	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Molybdenum	7439-98-7	0.62	0.21	0.62	N
BAI-24A-031-18	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Nickel	7440-02-0	15	0.21	0.62	Y
BAI-24A-031-18	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Silver	7440-22-4	0.28	0.078	0.28	N
BAI-24A-031-18	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Thallium	7440-28-0	0.56	0.17	0.56	N
BAI-24A-031-18	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Antimony	7440-36-0	2.4	0.17	0.56	Y
BAI-24A-031-18	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Arsenic	7440-38-2	4	0.086	0.28	Y
BAI-24A-031-18	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Barium	7440-39-3	110	0.1	0.31	Y
BAI-24A-031-18	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Beryllium	7440-41-7	0.44	0.021	0.11	Y
BAI-24A-031-18	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Cadmium	7440-43-9	0.14	0.052	0.28	Y
BAI-24A-031-18	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Chromium	7440-47-3	15	0.1	0.31	Y
BAI-24A-031-18	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Cobalt	7440-48-4	7.9	0.21	0.62	Y
BAI-24A-031-18	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Copper	7440-50-8	12	0.1	0.31	Y
BAI-24A-031-18	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Vanadium	7440-62-2	30	0.1	0.31	Y
BAI-24A-031-18	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Zinc	7440-66-6	44	0.21	1.1	Y

Attachment B-4.2
Processed Data

PARENT_SAMPLE_NAME	SI Designation	Exposure Unit	ANALYTICAL_METHOD	Depth Interval	RESULT_UNITS	Analyte Group	Analyte Name	ANALYTE_ID	dw_Analyte Value	dw_MDL	dw_MRL	DETECTED
BAI-24A-031-18	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Selenium	7782-49-2	0.56	0.15	0.56	N
BAI-24A-031-18	Target Berm	2	7470A	0-2	MG_KG	Inorganic	Mercury	7439-97-6	0.022	0.000075	0.022	N
BAI-24A-031-18	Target Berm	2	8330	0-2	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	224.7191011	14.60674157	224.7191011	N
BAI-24A-031-18	Target Berm	2	8330	0-2	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	224.7191011	21.34831461	224.7191011	N
BAI-24A-031-18	Target Berm	2	8330	0-2	UG_KG	Explosive	RDX	121-82-4	224.7191011	43.82022472	224.7191011	N
BAI-24A-031-18	Target Berm	2	8330	0-2	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	224.7191011	31.46067416	224.7191011	N
BAI-24A-031-18	Target Berm	2	8330	0-2	UG_KG	Explosive	HMX	2691-41-0	224.7191011	29.21348315	224.7191011	N
BAI-24A-031-18	Target Berm	2	8330	0-2	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	224.7191011	29.21348315	224.7191011	N
BAI-24A-031-18	Target Berm	2	8330	0-2	UG_KG	Explosive	Tetryl	479-45-8	224.7191011	73.03370787	224.7191011	N
BAI-24A-031-18	Target Berm	2	8330	0-2	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	224.7191011	20.2247191	224.7191011	N
BAI-24A-031-18	Target Berm	2	8330	0-2	UG_KG	Explosive	2-Nitrotoluene	88-72-2	449.4382022	17.97752809	449.4382022	N
BAI-24A-031-18	Target Berm	2	8330	0-2	UG_KG	SVOC	Nitrobenzene	98-95-3	224.7191011	20.2247191	224.7191011	N
BAI-24A-031-18	Target Berm	2	8330	0-2	UG_KG	Explosive	3-Nitrotoluene	99-08-1	449.4382022	67.41573034	449.4382022	N
BAI-24A-031-18	Target Berm	2	8330	0-2	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	224.7191011	39.3258427	224.7191011	N
BAI-24A-031-18	Target Berm	2	8330	0-2	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	224.7191011	22.47191011	224.7191011	N
BAI-24A-031-18	Target Berm	2	8330	0-2	UG_KG	Explosive	4-Nitrotoluene	99-99-0	449.4382022	33.70786517	449.4382022	N
BAI-24A-031-18	Target Berm	2	D2216	0-2	PCT	Other	Percent Moisture	-86	12.35955056	0	1.123595506	Y
BAI-24A-03-18	Retaining Wall	2	8270C_SIM	0-2	UG_KG	PAH	Anthracene	120-12-7	59	1.2	6.1	Y
BAI-24A-03-18	Retaining Wall	2	8270C_SIM	0-2	UG_KG	PAH	Pyrene	129-00-0	42	1.2	6.1	Y
BAI-24A-03-18	Retaining Wall	2	8270C_SIM	0-2	UG_KG	PAH	Benzo(g,h,i)perylene	191-24-2	56	1.2	6.1	Y
BAI-24A-03-18	Retaining Wall	2	8270C_SIM	0-2	UG_KG	PAH	Indeno(1,2,3-cd)yrene	193-39-5	43	1.2	6.1	Y
BAI-24A-03-18	Retaining Wall	2	8270C_SIM	0-2	UG_KG	PAH	Benzo(b)fluoranthene	205-99-2	83	1.2	6.1	Y
BAI-24A-03-18	Retaining Wall	2	8270C_SIM	0-2	UG_KG	PAH	Fluoranthene	206-44-0	38	1.2	6.1	Y
BAI-24A-03-18	Retaining Wall	2	8270C_SIM	0-2	UG_KG	PAH	Benzo(k)fluoranthene	207-08-9	23	1.2	6.1	Y
BAI-24A-03-18	Retaining Wall	2	8270C_SIM	0-2	UG_KG	PAH	Acenaphthylene	208-96-8	19	1.2	6.1	Y
BAI-24A-03-18	Retaining Wall	2	8270C_SIM	0-2	UG_KG	PAH	Chrysene	218-01-9	42	1.2	6.1	Y
BAI-24A-03-18	Retaining Wall	2	8270C_SIM	0-2	UG_KG	PAH	Benzo(a)pyrene	50-32-8	31	1.2	6.1	Y
BAI-24A-03-18	Retaining Wall	2	8270C_SIM	0-2	UG_KG	PAH	Dibenz(a,h)anthracene	53-70-3	13	1.2	6.1	Y
BAI-24A-03-18	Retaining Wall	2	8270C_SIM	0-2	UG_KG	PAH	Benzo(a)anthracene	56-55-3	20	1.2	6.1	Y
BAI-24A-03-18	Retaining Wall	2	8270C_SIM	0-2	UG_KG	PAH	Acenaphthene	83-32-9	6.1	1.2	6.1	N
BAI-24A-03-18	Retaining Wall	2	8270C_SIM	0-2	UG_KG	PAH	Phenanthrene	85-01-8	6.9	1.2	6.1	Y
BAI-24A-03-18	Retaining Wall	2	8270C_SIM	0-2	UG_KG	PAH	Fluorene	86-73-7	1.6	1.2	6.1	Y
BAI-24A-03-18	Retaining Wall	2	8270C_SIM	0-2	UG_KG	PAH	Naphthalene	91-20-3	6.1	1.2	6.1	N
BAI-24A-03-18	Retaining Wall	2	D2216	0-2	PCT	Other	Percent Moisture	-86	21.95121951	0	1.219512195	Y
BAI-24A-032-00	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Lead	7439-92-1	4300	0.83	2.5	Y
BAI-24A-032-00	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Molybdenum	7439-98-7	0.68	0.23	0.68	N
BAI-24A-032-00	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Nickel	7440-02-0	18	0.23	0.68	Y
BAI-24A-032-00	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Silver	7440-22-4	0.18	0.085	0.3	Y
BAI-24A-032-00	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Thallium	7440-28-0	0.6	0.18	0.6	N
BAI-24A-032-00	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Antimony	7440-36-0	33	0.18	0.6	Y
BAI-24A-032-00	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Arsenic	7440-38-2	7.2	0.094	0.3	Y
BAI-24A-032-00	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Barium	7440-39-3	110	0.11	0.34	Y
BAI-24A-032-00	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Beryllium	7440-41-7	0.53	0.023	0.12	Y
BAI-24A-032-00	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Cadmium	7440-43-9	0.19	0.057	0.3	Y
BAI-24A-032-00	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Chromium	7440-47-3	17	0.11	0.34	Y
BAI-24A-032-00	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Cobalt	7440-48-4	9.1	0.23	0.68	Y
BAI-24A-032-00	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Copper	7440-50-8	110	0.11	0.34	Y
BAI-24A-032-00	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Vanadium	7440-62-2	35	0.11	0.34	Y
BAI-24A-032-00	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Zinc	7440-66-6	64	0.23	1.2	Y

Attachment B-4.2
Processed Data

PARENT_SAMPLE_NAME	SI Designation	Exposure Unit	ANALYTICAL_METHOD	Depth Interval	RESULT_UNITS	Analyte Group	Analyte Name	ANALYTE_ID	dw_Analyte Value	dw_MDL	dw_MRL	DETECTED
BAI-24A-032-00	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Selenium	7782-49-2	0.6	0.17	0.6	N
BAI-24A-032-00	Target Berm	2	7470A	0-2	MG_KG	Inorganic	Mercury	7439-97-6	0.024	0.0076	0.024	N
BAI-24A-032-00	Target Berm	2	8330	0-2	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	226.1904762	15.47619048	226.1904762	N
BAI-24A-032-00	Target Berm	2	8330	0-2	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	226.1904762	22.61904762	226.1904762	N
BAI-24A-032-00	Target Berm	2	8330	0-2	UG_KG	Explosive	RDX	121-82-4	226.1904762	46.42857143	226.1904762	N
BAI-24A-032-00	Target Berm	2	8330	0-2	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	226.1904762	33.33333333	226.1904762	N
BAI-24A-032-00	Target Berm	2	8330	0-2	UG_KG	Explosive	HMX	2691-41-0	226.1904762	30.95238095	226.1904762	N
BAI-24A-032-00	Target Berm	2	8330	0-2	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	226.1904762	30.95238095	226.1904762	N
BAI-24A-032-00	Target Berm	2	8330	0-2	UG_KG	Explosive	Tetryl	479-45-8	226.1904762	76.19047619	226.1904762	N
BAI-24A-032-00	Target Berm	2	8330	0-2	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	226.1904762	21.42857143	226.1904762	N
BAI-24A-032-00	Target Berm	2	8330	0-2	UG_KG	Explosive	2-Nitrotoluene	88-72-2	464.2857143	17.85714286	464.2857143	N
BAI-24A-032-00	Target Berm	2	8330	0-2	UG_KG	SVOC	Nitrobenzene	98-95-3	226.1904762	21.42857143	226.1904762	N
BAI-24A-032-00	Target Berm	2	8330	0-2	UG_KG	Explosive	3-Nitrotoluene	99-08-1	464.2857143	70.23809524	464.2857143	N
BAI-24A-032-00	Target Berm	2	8330	0-2	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	226.1904762	40.47619048	226.1904762	N
BAI-24A-032-00	Target Berm	2	8330	0-2	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	226.1904762	22.61904762	226.1904762	N
BAI-24A-032-00	Target Berm	2	8330	0-2	UG_KG	Explosive	4-Nitrotoluene	99-99-0	464.2857143	35.71428571	464.2857143	N
BAI-24A-032-00	Target Berm	2	D2216	0-2	PCT	Other	Percent Moisture	-86	19.04761905	0	1.19047619	Y
BAI-24A-032-18	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Lead	7439-92-1	23	0.072	0.27	Y
BAI-24A-032-18	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Molybdenum	7439-98-7	0.33	0.2	0.59	Y
BAI-24A-032-18	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Nickel	7440-02-0	16	0.2	0.59	Y
BAI-24A-032-18	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Silver	7440-22-4	0.11	0.073	0.27	Y
BAI-24A-032-18	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Thallium	7440-28-0	0.54	0.16	0.54	N
BAI-24A-032-18	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Antimony	7440-36-0	2.7	0.16	0.54	Y
BAI-24A-032-18	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Arsenic	7440-38-2	4.2	0.081	0.27	Y
BAI-24A-032-18	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Barium	7440-39-3	79	0.098	0.29	Y
BAI-24A-032-18	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Beryllium	7440-41-7	0.5	0.02	0.11	Y
BAI-24A-032-18	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Cadmium	7440-43-9	0.15	0.049	0.27	Y
BAI-24A-032-18	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Chromium	7440-47-3	16	0.098	0.29	Y
BAI-24A-032-18	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Cobalt	7440-48-4	8.6	0.2	0.59	Y
BAI-24A-032-18	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Copper	7440-50-8	15	0.098	0.29	Y
BAI-24A-032-18	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Vanadium	7440-62-2	33	0.098	0.29	Y
BAI-24A-032-18	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Zinc	7440-66-6	52	0.2	1.1	Y
BAI-24A-032-18	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Selenium	7782-49-2	0.54	0.14	0.54	N
BAI-24A-032-18	Target Berm	2	7470A	0-2	MG_KG	Inorganic	Mercury	7439-97-6	0.023	0.0073	0.023	N
BAI-24A-032-18	Target Berm	2	8330	0-2	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	217.3913043	14.13043478	217.3913043	N
BAI-24A-032-18	Target Berm	2	8330	0-2	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	217.3913043	20.65217391	217.3913043	N
BAI-24A-032-18	Target Berm	2	8330	0-2	UG_KG	Explosive	RDX	121-82-4	217.3913043	42.39130435	217.3913043	N
BAI-24A-032-18	Target Berm	2	8330	0-2	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	217.3913043	30.43478261	217.3913043	N
BAI-24A-032-18	Target Berm	2	8330	0-2	UG_KG	Explosive	HMX	2691-41-0	217.3913043	28.26086957	217.3913043	N
BAI-24A-032-18	Target Berm	2	8330	0-2	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	217.3913043	28.26086957	217.3913043	N
BAI-24A-032-18	Target Berm	2	8330	0-2	UG_KG	Explosive	Tetryl	479-45-8	217.3913043	70.65217391	217.3913043	N
BAI-24A-032-18	Target Berm	2	8330	0-2	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	217.3913043	19.56521739	217.3913043	N
BAI-24A-032-18	Target Berm	2	8330	0-2	UG_KG	Explosive	2-Nitrotoluene	88-72-2	434.7826087	17.39130435	434.7826087	N
BAI-24A-032-18	Target Berm	2	8330	0-2	UG_KG	SVOC	Nitrobenzene	98-95-3	217.3913043	19.56521739	217.3913043	N
BAI-24A-032-18	Target Berm	2	8330	0-2	UG_KG	Explosive	3-Nitrotoluene	99-08-1	434.7826087	66.30434783	434.7826087	N
BAI-24A-032-18	Target Berm	2	8330	0-2	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	217.3913043	38.04347826	217.3913043	N
BAI-24A-032-18	Target Berm	2	8330	0-2	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	217.3913043	21.73913043	217.3913043	N
BAI-24A-032-18	Target Berm	2	8330	0-2	UG_KG	Explosive	4-Nitrotoluene	99-99-0	434.7826087	33.69565217	434.7826087	N
BAI-24A-032-18	Target Berm	2	D2216	0-2	PCT	Other	Percent Moisture	-86	8.695652174	0	1.086956522	Y

PARENT_SAMPLE_NAME	SI Designation	Exposure Unit	ANALYTICAL_METHOD	Depth Interval	RESULT_UNITS	Analyte Group	Analyte Name	ANALYTE_ID	dw_Analyte Value	dw_MDL	dw_MRL	DETECTED
BAI-24A-033-00	Target Berm	2	8330	0-2	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	235.2941176	41.17647059	235.2941176	N
BAI-24A-033-00	Target Berm	4	8330	0-2	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	235.2941176	41.17647059	235.2941176	N
BAI-24A-033-00	Target Berm	2	8330	0-2	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	235.2941176	23.52941176	235.2941176	N
BAI-24A-033-00	Target Berm	4	8330	0-2	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	235.2941176	23.52941176	235.2941176	N
BAI-24A-033-00	Target Berm	2	8330	0-2	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	235.2941176	15.29411765	235.2941176	N
BAI-24A-033-00	Target Berm	4	8330	0-2	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	235.2941176	15.29411765	235.2941176	N
BAI-24A-033-00	Target Berm	2	8330	0-2	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	235.2941176	22.35294118	235.2941176	N
BAI-24A-033-00	Target Berm	4	8330	0-2	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	235.2941176	22.35294118	235.2941176	N
BAI-24A-033-00	Target Berm	2	8330	0-2	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	235.2941176	21.17647059	235.2941176	N
BAI-24A-033-00	Target Berm	4	8330	0-2	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	235.2941176	21.17647059	235.2941176	N
BAI-24A-033-00	Target Berm	2	8330	0-2	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	235.2941176	30.58823529	235.2941176	N
BAI-24A-033-00	Target Berm	4	8330	0-2	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	235.2941176	30.58823529	235.2941176	N
BAI-24A-033-00	Target Berm	2	8330	0-2	UG_KG	Explosive	2-Nitrotoluene	88-72-2	470.5882353	18.82352941	470.5882353	N
BAI-24A-033-00	Target Berm	4	8330	0-2	UG_KG	Explosive	2-Nitrotoluene	88-72-2	470.5882353	18.82352941	470.5882353	N
BAI-24A-033-00	Target Berm	2	8330	0-2	UG_KG	Explosive	3-Nitrotoluene	99-08-1	470.5882353	70.58823529	470.5882353	N
BAI-24A-033-00	Target Berm	4	8330	0-2	UG_KG	Explosive	3-Nitrotoluene	99-08-1	470.5882353	70.58823529	470.5882353	N
BAI-24A-033-00	Target Berm	2	8330	0-2	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	235.2941176	32.94117647	235.2941176	N
BAI-24A-033-00	Target Berm	4	8330	0-2	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	235.2941176	32.94117647	235.2941176	N
BAI-24A-033-00	Target Berm	2	8330	0-2	UG_KG	Explosive	4-Nitrotoluene	99-99-0	470.5882353	35.29411765	470.5882353	N
BAI-24A-033-00	Target Berm	4	8330	0-2	UG_KG	Explosive	4-Nitrotoluene	99-99-0	470.5882353	35.29411765	470.5882353	N
BAI-24A-033-00	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Antimony	7440-36-0	4.8	0.18	0.59	Y
BAI-24A-033-00	Target Berm	4	6010B	0-2	MG_KG	Inorganic	Antimony	7440-36-0	4.8	0.18	0.59	Y
BAI-24A-033-00	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Arsenic	7440-38-2	9.7	0.094	0.29	Y
BAI-24A-033-00	Target Berm	4	6010B	0-2	MG_KG	Inorganic	Arsenic	7440-38-2	9.7	0.094	0.29	Y
BAI-24A-033-00	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Barium	7440-39-3	130	0.11	0.34	Y
BAI-24A-033-00	Target Berm	4	6010B	0-2	MG_KG	Inorganic	Barium	7440-39-3	130	0.11	0.34	Y
BAI-24A-033-00	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Beryllium	7440-41-7	0.5	0.023	0.12	Y
BAI-24A-033-00	Target Berm	4	6010B	0-2	MG_KG	Inorganic	Beryllium	7440-41-7	0.5	0.023	0.12	Y
BAI-24A-033-00	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Cadmium	7440-43-9	0.18	0.057	0.29	Y
BAI-24A-033-00	Target Berm	4	6010B	0-2	MG_KG	Inorganic	Cadmium	7440-43-9	0.18	0.057	0.29	Y
BAI-24A-033-00	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Chromium	7440-47-3	22	0.11	0.34	Y
BAI-24A-033-00	Target Berm	4	6010B	0-2	MG_KG	Inorganic	Chromium	7440-47-3	22	0.11	0.34	Y
BAI-24A-033-00	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Cobalt	7440-48-4	9.3	0.23	0.68	Y
BAI-24A-033-00	Target Berm	4	6010B	0-2	MG_KG	Inorganic	Cobalt	7440-48-4	9.3	0.23	0.68	Y
BAI-24A-033-00	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Copper	7440-50-8	52	0.11	0.34	Y
BAI-24A-033-00	Target Berm	4	6010B	0-2	MG_KG	Inorganic	Copper	7440-50-8	52	0.11	0.34	Y
BAI-24A-033-00	Target Berm	2	8330	0-2	UG_KG	Explosive	HMX	2691-41-0	235.2941176	30.58823529	235.2941176	N
BAI-24A-033-00	Target Berm	4	8330	0-2	UG_KG	Explosive	HMX	2691-41-0	235.2941176	30.58823529	235.2941176	N
BAI-24A-033-00	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Lead	7439-92-1	940	0.41	1.2	Y
BAI-24A-033-00	Target Berm	4	6010B	0-2	MG_KG	Inorganic	Lead	7439-92-1	940	0.41	1.2	Y
BAI-24A-033-00	Target Berm	2	7470A	0-2	MG_KG	Inorganic	Mercury	7439-97-6	0.024	0.0075	0.024	N
BAI-24A-033-00	Target Berm	4	7470A	0-2	MG_KG	Inorganic	Mercury	7439-97-6	0.024	0.0075	0.024	N
BAI-24A-033-00	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Molybdenum	7439-98-7	0.41	0.23	0.68	Y
BAI-24A-033-00	Target Berm	4	6010B	0-2	MG_KG	Inorganic	Molybdenum	7439-98-7	0.41	0.23	0.68	Y
BAI-24A-033-00	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Nickel	7440-02-0	17	0.23	0.68	Y
BAI-24A-033-00	Target Berm	4	6010B	0-2	MG_KG	Inorganic	Nickel	7440-02-0	17	0.23	0.68	Y
BAI-24A-033-00	Target Berm	2	8330	0-2	UG_KG	SVOC	Nitrobenzene	98-95-3	235.2941176	21.17647059	235.2941176	N
BAI-24A-033-00	Target Berm	4	8330	0-2	UG_KG	SVOC	Nitrobenzene	98-95-3	235.2941176	21.17647059	235.2941176	N
BAI-24A-033-00	Target Berm	2	D2216	0-2	PCT	Other	Percent Moisture	-86	17.64705882	0	1.176470588	Y

PARENT_SAMPLE_NAME	SI Designation	Exposure Unit	ANALYTICAL_METHOD	Depth Interval	RESULT_UNITS	Analyte Group	Analyte Name	ANALYTE_ID	dw_Analyte Value	dw_MDL	dw_MRL	DETECTED
BAI-24A-033-00	Target Berm	4	D2216	0-2	PCT	Other	Percent Moisture	-86	17.64705882	0	1.176470588	Y
BAI-24A-033-00	Target Berm	2	8330	0-2	UG_KG	Explosive	RDX	121-82-4	235.2941176	45.88235294	235.2941176	N
BAI-24A-033-00	Target Berm	4	8330	0-2	UG_KG	Explosive	RDX	121-82-4	235.2941176	45.88235294	235.2941176	N
BAI-24A-033-00	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Selenium	7782-49-2	0.59	0.17	0.59	N
BAI-24A-033-00	Target Berm	4	6010B	0-2	MG_KG	Inorganic	Selenium	7782-49-2	0.59	0.17	0.59	N
BAI-24A-033-00	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Silver	7440-22-4	0.29	0.085	0.29	N
BAI-24A-033-00	Target Berm	4	6010B	0-2	MG_KG	Inorganic	Silver	7440-22-4	0.29	0.085	0.29	N
BAI-24A-033-00	Target Berm	2	8330	0-2	UG_KG	Explosive	Tetryl	479-45-8	235.2941176	76.47058824	235.2941176	N
BAI-24A-033-00	Target Berm	4	8330	0-2	UG_KG	Explosive	Tetryl	479-45-8	235.2941176	76.47058824	235.2941176	N
BAI-24A-033-00	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Thallium	7440-28-0	0.59	0.18	0.59	N
BAI-24A-033-00	Target Berm	4	6010B	0-2	MG_KG	Inorganic	Thallium	7440-28-0	0.59	0.18	0.59	N
BAI-24A-033-00	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Vanadium	7440-62-2	34	0.11	0.34	Y
BAI-24A-033-00	Target Berm	4	6010B	0-2	MG_KG	Inorganic	Vanadium	7440-62-2	34	0.11	0.34	Y
BAI-24A-033-00	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Zinc	7440-66-6	76	0.23	1.2	Y
BAI-24A-033-00	Target Berm	4	6010B	0-2	MG_KG	Inorganic	Zinc	7440-66-6	76	0.23	1.2	Y
BAI-24A-034-00	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Lead	7439-92-1	120	0.081	0.3	Y
BAI-24A-034-00	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Molybdenum	7439-98-7	0.25	0.22	0.67	Y
BAI-24A-034-00	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Nickel	7440-02-0	20	0.22	0.67	Y
BAI-24A-034-00	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Silver	7440-22-4	0.3	0.083	0.3	N
BAI-24A-034-00	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Thallium	7440-28-0	0.6	0.18	0.6	N
BAI-24A-034-00	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Antimony	7440-36-0	3.1	0.18	0.6	Y
BAI-24A-034-00	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Arsenic	7440-38-2	5.8	0.092	0.3	Y
BAI-24A-034-00	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Barium	7440-39-3	120	0.11	0.33	Y
BAI-24A-034-00	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Beryllium	7440-41-7	0.59	0.022	0.12	Y
BAI-24A-034-00	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Cadmium	7440-43-9	0.19	0.056	0.3	Y
BAI-24A-034-00	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Chromium	7440-47-3	19	0.11	0.33	Y
BAI-24A-034-00	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Cobalt	7440-48-4	12	0.22	0.67	Y
BAI-24A-034-00	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Copper	7440-50-8	19	0.11	0.33	Y
BAI-24A-034-00	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Vanadium	7440-62-2	39	0.11	0.33	Y
BAI-24A-034-00	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Zinc	7440-66-6	59	0.22	1.2	Y
BAI-24A-034-00	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Selenium	7782-49-2	0.6	0.16	0.6	N
BAI-24A-034-00	Target Berm	2	7470A	0-2	MG_KG	Inorganic	Mercury	7439-97-6	0.024	0.0076	0.024	N
BAI-24A-034-00	Target Berm	2	8330	0-2	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	238.0952381	15.47619048	238.0952381	N
BAI-24A-034-00	Target Berm	2	8330	0-2	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	238.0952381	22.61904762	238.0952381	N
BAI-24A-034-00	Target Berm	2	8330	0-2	UG_KG	Explosive	RDX	121-82-4	238.0952381	46.42857143	238.0952381	N
BAI-24A-034-00	Target Berm	2	8330	0-2	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	238.0952381	33.33333333	238.0952381	N
BAI-24A-034-00	Target Berm	2	8330	0-2	UG_KG	Explosive	HMX	2691-41-0	238.0952381	30.95238095	238.0952381	N
BAI-24A-034-00	Target Berm	2	8330	0-2	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	238.0952381	30.95238095	238.0952381	N
BAI-24A-034-00	Target Berm	2	8330	0-2	UG_KG	Explosive	Tetryl	479-45-8	238.0952381	77.38095238	238.0952381	N
BAI-24A-034-00	Target Berm	2	8330	0-2	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	238.0952381	21.42857143	238.0952381	N
BAI-24A-034-00	Target Berm	2	8330	0-2	UG_KG	Explosive	2-Nitrotoluene	88-72-2	476.1904762	19.04761905	476.1904762	N
BAI-24A-034-00	Target Berm	2	8330	0-2	UG_KG	SVOC	Nitrobenzene	98-95-3	238.0952381	21.42857143	238.0952381	N
BAI-24A-034-00	Target Berm	2	8330	0-2	UG_KG	Explosive	3-Nitrotoluene	99-08-1	476.1904762	71.42857143	476.1904762	N
BAI-24A-034-00	Target Berm	2	8330	0-2	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	238.0952381	41.66666667	238.0952381	N
BAI-24A-034-00	Target Berm	2	8330	0-2	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	238.0952381	23.80952381	238.0952381	N
BAI-24A-034-00	Target Berm	2	8330	0-2	UG_KG	Explosive	4-Nitrotoluene	99-99-0	476.1904762	35.71428571	476.1904762	N
BAI-24A-034-00	Target Berm	2	D2216	0-2	PCT	Other	Percent Moisture	-86	19.04761905	0	1.19047619	Y
BAI-24A-034-18	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Lead	7439-92-1	19	0.074	0.27	Y
BAI-24A-034-18	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Molybdenum	7439-98-7	0.28	0.2	0.6	Y

PARENT_SAMPLE_NAME	SI Designation	Exposure Unit	ANALYTICAL_METHOD	Depth Interval	RESULT_UNITS	Analyte Group	Analyte Name	ANALYTE_ID	dw_Analyte Value	dw_MDL	dw_MRL	DETECTED
BAI-24A-034-18	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Nickel	7440-02-0	18	0.2	0.6	Y
BAI-24A-034-18	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Silver	7440-22-4	0.095	0.075	0.27	Y
BAI-24A-034-18	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Thallium	7440-28-0	0.55	0.16	0.55	N
BAI-24A-034-18	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Antimony	7440-36-0	2.5	0.16	0.55	Y
BAI-24A-034-18	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Arsenic	7440-38-2	5	0.084	0.27	Y
BAI-24A-034-18	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Barium	7440-39-3	98	0.1	0.3	Y
BAI-24A-034-18	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Beryllium	7440-41-7	0.54	0.02	0.11	Y
BAI-24A-034-18	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Cadmium	7440-43-9	0.17	0.05	0.27	Y
BAI-24A-034-18	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Chromium	7440-47-3	18	0.1	0.3	Y
BAI-24A-034-18	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Cobalt	7440-48-4	8.6	0.2	0.6	Y
BAI-24A-034-18	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Copper	7440-50-8	16	0.1	0.3	Y
BAI-24A-034-18	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Vanadium	7440-62-2	36	0.1	0.3	Y
BAI-24A-034-18	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Zinc	7440-66-6	53	0.2	1.1	Y
BAI-24A-034-18	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Selenium	7782-49-2	0.55	0.15	0.55	N
BAI-24A-034-18	Target Berm	2	7470A	0-2	MG_KG	Inorganic	Mercury	7439-97-6	0.022	0.0071	0.022	N
BAI-24A-034-18	Target Berm	2	8330	0-2	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	219.7802198	14.28571429	219.7802198	N
BAI-24A-034-18	Target Berm	2	8330	0-2	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	219.7802198	20.87912088	219.7802198	N
BAI-24A-034-18	Target Berm	2	8330	0-2	UG_KG	Explosive	RDX	121-82-4	219.7802198	43.95604396	219.7802198	N
BAI-24A-034-18	Target Berm	2	8330	0-2	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	219.7802198	30.76923077	219.7802198	N
BAI-24A-034-18	Target Berm	2	8330	0-2	UG_KG	Explosive	HMX	2691-41-0	219.7802198	28.57142857	219.7802198	N
BAI-24A-034-18	Target Berm	2	8330	0-2	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	219.7802198	28.57142857	219.7802198	N
BAI-24A-034-18	Target Berm	2	8330	0-2	UG_KG	Explosive	Tetryl	479-45-8	219.7802198	72.52747253	219.7802198	N
BAI-24A-034-18	Target Berm	2	8330	0-2	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	219.7802198	19.78021978	219.7802198	N
BAI-24A-034-18	Target Berm	2	8330	0-2	UG_KG	Explosive	2-Nitrotoluene	88-72-2	439.5604396	17.58241758	439.5604396	N
BAI-24A-034-18	Target Berm	2	8330	0-2	UG_KG	SVOC	Nitrobenzene	98-95-3	219.7802198	19.78021978	219.7802198	N
BAI-24A-034-18	Target Berm	2	8330	0-2	UG_KG	Explosive	3-Nitrotoluene	99-08-1	439.5604396	67.03296703	439.5604396	N
BAI-24A-034-18	Target Berm	2	8330	0-2	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	219.7802198	38.46153846	219.7802198	N
BAI-24A-034-18	Target Berm	2	8330	0-2	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	219.7802198	21.97802198	219.7802198	N
BAI-24A-034-18	Target Berm	2	8330	0-2	UG_KG	Explosive	4-Nitrotoluene	99-99-0	439.5604396	34.06593407	439.5604396	N
BAI-24A-034-18	Target Berm	2	D2216	0-2	PCT	Other	Percent Moisture	-86	9.89010989	0	1.098901099	Y
BAI-24A-035-00	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Lead	7439-92-1	249.05	0.078	0.29	Y
BAI-24A-035-00	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Molybdenum	7439-98-7	0.2375	0.1625	0.4825	Y
BAI-24A-035-00	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Nickel	7440-02-0	18	0.215	0.64	Y
BAI-24A-035-00	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Silver	7440-22-4	0.145	0.08	0.29	Y
BAI-24A-035-00	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Thallium	7440-28-0	0.58	0.175	0.58	N
BAI-24A-035-00	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Antimony	7440-36-0	4.35	0.17	0.58	Y
BAI-24A-035-00	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Arsenic	7440-38-2	5.55	0.089	0.29	Y
BAI-24A-035-00	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Barium	7440-39-3	109.5	0.11	0.325	Y
BAI-24A-035-00	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Beryllium	7440-41-7	0.565	0.0215	0.12	Y
BAI-24A-035-00	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Cadmium	7440-43-9	0.185	0.0535	0.29	Y
BAI-24A-035-00	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Chromium	7440-47-3	19	0.11	0.325	Y
BAI-24A-035-00	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Cobalt	7440-48-4	9.45	0.215	0.64	Y
BAI-24A-035-00	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Copper	7440-50-8	33	0.11	0.325	Y
BAI-24A-035-00	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Vanadium	7440-62-2	37	0.11	0.325	Y
BAI-24A-035-00	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Zinc	7440-66-6	59	0.215	1.2	Y
BAI-24A-035-00	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Selenium	7782-49-2	0.58	0.155	0.58	N
BAI-24A-035-00	Target Berm	2	7470A	0-2	MG_KG	Inorganic	Mercury	7439-97-6	0.01165	0.0053	0.01725	Y
BAI-24A-035-00	Target Berm	2	8330	0-2	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	226.744186	25	226.744186	N
BAI-24A-035-00	Target Berm	2	8330	0-2	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	226.744186	22.6744186	226.744186	N

Attachment B-4.2
Processed Data

PARENT_SAMPLE_NAME	SI Designation	Exposure Unit	ANALYTICAL_METHOD	Depth Interval	RESULT_UNITS	Analyte Group	Analyte Name	ANALYTE_ID	dw_Analyte Value	dw_MDL	dw_MRL	DETECTED
BAI-24A-035-00	Target Berm	2	8330	0-2	UG_KG	Explosive	RDX	121-82-4	226.744186	34.30232558	226.744186	N
BAI-24A-035-00	Target Berm	2	8330	0-2	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	226.744186	38.37209302	226.744186	N
BAI-24A-035-00	Target Berm	2	8330	0-2	UG_KG	Explosive	HMX	2691-41-0	226.744186	23.25581395	226.744186	N
BAI-24A-035-00	Target Berm	2	8330	0-2	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	226.744186	25.58139535	226.744186	N
BAI-24A-035-00	Target Berm	2	8330	0-2	UG_KG	Explosive	Tetryl	479-45-8	226.744186	69.76744186	226.744186	N
BAI-24A-035-00	Target Berm	2	8330	0-2	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	226.744186	23.25581395	226.744186	N
BAI-24A-035-00	Target Berm	2	8330	0-2	UG_KG	Explosive	2-Nitrotoluene	88-72-2	459.3023256	25.58139535	459.3023256	N
BAI-24A-035-00	Target Berm	2	8330	0-2	UG_KG	SVOC	Nitrobenzene	98-95-3	226.744186	19.76744186	226.744186	N
BAI-24A-035-00	Target Berm	2	8330	0-2	UG_KG	Explosive	3-Nitrotoluene	99-08-1	459.3023256	57.55813953	459.3023256	N
BAI-24A-035-00	Target Berm	2	8330	0-2	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	226.744186	36.04651163	226.744186	N
BAI-24A-035-00	Target Berm	2	8330	0-2	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	226.744186	14.24418605	226.744186	N
BAI-24A-035-00	Target Berm	2	8330	0-2	UG_KG	Explosive	4-Nitrotoluene	99-99-0	459.3023256	33.72093023	459.3023256	N
BAI-24A-035-00	Target Berm	2	D2216	0-2	PCT	Other	Percent Moisture	-86	16.27906977	0	1.162790698	Y
BAI-24A-035-18	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Lead	7439-92-1	230	0.074	0.27	Y
BAI-24A-035-18	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Molybdenum	7439-98-7	0.38	0.2	0.6	Y
BAI-24A-035-18	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Nickel	7440-02-0	17	0.2	0.6	Y
BAI-24A-035-18	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Silver	7440-22-4	0.096	0.075	0.27	Y
BAI-24A-035-18	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Thallium	7440-28-0	0.55	0.16	0.55	N
BAI-24A-035-18	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Antimony	7440-36-0	5.4	0.16	0.55	Y
BAI-24A-035-18	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Arsenic	7440-38-2	5.1	0.084	0.27	Y
BAI-24A-035-18	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Barium	7440-39-3	93	0.1	0.3	Y
BAI-24A-035-18	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Beryllium	7440-41-7	0.53	0.02	0.11	Y
BAI-24A-035-18	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Cadmium	7440-43-9	0.2	0.05	0.27	Y
BAI-24A-035-18	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Chromium	7440-47-3	18	0.1	0.3	Y
BAI-24A-035-18	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Cobalt	7440-48-4	9.5	0.2	0.6	Y
BAI-24A-035-18	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Copper	7440-50-8	36	0.1	0.3	Y
BAI-24A-035-18	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Vanadium	7440-62-2	35	0.1	0.3	Y
BAI-24A-035-18	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Zinc	7440-66-6	58	0.2	1.1	Y
BAI-24A-035-18	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Selenium	7782-49-2	0.55	0.15	0.55	N
BAI-24A-035-18	Target Berm	2	7470A	0-2	MG_KG	Inorganic	Mercury	7439-97-6	0.023	0.0072	0.023	N
BAI-24A-035-18	Target Berm	2	8330	0-2	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	219.7802198	14.28571429	219.7802198	N
BAI-24A-035-18	Target Berm	2	8330	0-2	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	219.7802198	20.87912088	219.7802198	N
BAI-24A-035-18	Target Berm	2	8330	0-2	UG_KG	Explosive	RDX	121-82-4	219.7802198	42.85714286	219.7802198	N
BAI-24A-035-18	Target Berm	2	8330	0-2	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	219.7802198	30.76923077	219.7802198	N
BAI-24A-035-18	Target Berm	2	8330	0-2	UG_KG	Explosive	HMX	2691-41-0	219.7802198	28.57142857	219.7802198	N
BAI-24A-035-18	Target Berm	2	8330	0-2	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	219.7802198	28.57142857	219.7802198	N
BAI-24A-035-18	Target Berm	2	8330	0-2	UG_KG	Explosive	Tetryl	479-45-8	219.7802198	71.42857143	219.7802198	N
BAI-24A-035-18	Target Berm	2	8330	0-2	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	219.7802198	19.78021978	219.7802198	N
BAI-24A-035-18	Target Berm	2	8330	0-2	UG_KG	Explosive	2-Nitrotoluene	88-72-2	439.5604396	17.58241758	439.5604396	N
BAI-24A-035-18	Target Berm	2	8330	0-2	UG_KG	SVOC	Nitrobenzene	98-95-3	219.7802198	19.78021978	219.7802198	N
BAI-24A-035-18	Target Berm	2	8330	0-2	UG_KG	Explosive	3-Nitrotoluene	99-08-1	439.5604396	67.03296703	439.5604396	N
BAI-24A-035-18	Target Berm	2	8330	0-2	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	219.7802198	38.46153846	219.7802198	N
BAI-24A-035-18	Target Berm	2	8330	0-2	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	219.7802198	21.97802198	219.7802198	N
BAI-24A-035-18	Target Berm	2	8330	0-2	UG_KG	Explosive	4-Nitrotoluene	99-99-0	439.5604396	34.06593407	439.5604396	N
BAI-24A-035-18	Target Berm	2	D2216	0-2	PCT	Other	Percent Moisture	-86	9.89010989	0	1.098901099	Y
BAI-24A-037-00	Below Grenade	3	6010B	0-2	MG_KG	Inorganic	Lead	7439-92-1	28	0.081	0.29	Y
BAI-24A-037-00	Below Grenade	3	6010B	0-2	MG_KG	Inorganic	Molybdenum	7439-98-7	0.25	0.22	0.66	Y
BAI-24A-037-00	Below Grenade	3	6010B	0-2	MG_KG	Inorganic	Nickel	7440-02-0	12	0.22	0.66	Y
BAI-24A-037-00	Below Grenade	3	6010B	0-2	MG_KG	Inorganic	Silver	7440-22-4	0.29	0.083	0.29	N

PARENT_SAMPLE_NAME	SI Designation	Exposure Unit	ANALYTICAL_METHOD	Depth Interval	RESULT_UNITS	Analyte Group	Analyte Name	ANALYTE_ID	dw_Analyte Value	dw_MDL	dw_MRL	DETECTED
BAI-24A-037-00	Below Grenade	3	6010B	0-2	MG_KG	Inorganic	Thallium	7440-28-0	0.57	0.18	0.57	N
BAI-24A-037-00	Below Grenade	3	6010B	0-2	MG_KG	Inorganic	Antimony	7440-36-0	1.8	0.18	0.57	Y
BAI-24A-037-00	Below Grenade	3	6010B	0-2	MG_KG	Inorganic	Arsenic	7440-38-2	3	0.092	0.29	Y
BAI-24A-037-00	Below Grenade	3	6010B	0-2	MG_KG	Inorganic	Barium	7440-39-3	120	0.11	0.33	Y
BAI-24A-037-00	Below Grenade	3	6010B	0-2	MG_KG	Inorganic	Beryllium	7440-41-7	0.36	0.022	0.11	Y
BAI-24A-037-00	Below Grenade	3	6010B	0-2	MG_KG	Inorganic	Cadmium	7440-43-9	0.14	0.055	0.29	Y
BAI-24A-037-00	Below Grenade	3	6010B	0-2	MG_KG	Inorganic	Chromium	7440-47-3	14	0.11	0.33	Y
BAI-24A-037-00	Below Grenade	3	6010B	0-2	MG_KG	Inorganic	Cobalt	7440-48-4	7.2	0.22	0.66	Y
BAI-24A-037-00	Below Grenade	3	6010B	0-2	MG_KG	Inorganic	Copper	7440-50-8	9.3	0.11	0.33	Y
BAI-24A-037-00	Below Grenade	3	6010B	0-2	MG_KG	Inorganic	Vanadium	7440-62-2	27	0.11	0.33	Y
BAI-24A-037-00	Below Grenade	3	6010B	0-2	MG_KG	Inorganic	Zinc	7440-66-6	48	0.22	1.1	Y
BAI-24A-037-00	Below Grenade	3	6010B	0-2	MG_KG	Inorganic	Selenium	7782-49-2	0.57	0.16	0.57	N
BAI-24A-037-00	Below Grenade	3	7470A	0-2	MG_KG	Inorganic	Mercury	7439-97-6	0.023	0.0068	0.023	N
BAI-24A-037-00	Below Grenade	3	8330	0-2	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	229.8850575	14.94252874	229.8850575	N
BAI-24A-037-00	Below Grenade	3	8330	0-2	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	229.8850575	21.83908046	229.8850575	N
BAI-24A-037-00	Below Grenade	3	8330	0-2	UG_KG	Explosive	RDX	121-82-4	229.8850575	44.82758621	229.8850575	N
BAI-24A-037-00	Below Grenade	3	8330	0-2	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	229.8850575	32.18390805	229.8850575	N
BAI-24A-037-00	Below Grenade	3	8330	0-2	UG_KG	Explosive	HMX	2691-41-0	229.8850575	29.88505747	229.8850575	N
BAI-24A-037-00	Below Grenade	3	8330	0-2	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	229.8850575	29.88505747	229.8850575	N
BAI-24A-037-00	Below Grenade	3	8330	0-2	UG_KG	Explosive	Tetryl	479-45-8	229.8850575	74.71264368	229.8850575	N
BAI-24A-037-00	Below Grenade	3	8330	0-2	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	229.8850575	20.68965517	229.8850575	N
BAI-24A-037-00	Below Grenade	3	8330	0-2	UG_KG	Explosive	2-Nitrotoluene	88-72-2	448.2758621	18.3908046	448.2758621	N
BAI-24A-037-00	Below Grenade	3	8330	0-2	UG_KG	SVOC	Nitrobenzene	98-95-3	229.8850575	20.68965517	229.8850575	N
BAI-24A-037-00	Below Grenade	3	8330	0-2	UG_KG	Explosive	3-Nitrotoluene	99-08-1	448.2758621	68.96551724	448.2758621	N
BAI-24A-037-00	Below Grenade	3	8330	0-2	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	229.8850575	40.22988506	229.8850575	N
BAI-24A-037-00	Below Grenade	3	8330	0-2	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	229.8850575	21.83908046	229.8850575	N
BAI-24A-037-00	Below Grenade	3	8330	0-2	UG_KG	Explosive	4-Nitrotoluene	99-99-0	448.2758621	34.48275862	448.2758621	N
BAI-24A-037-00	Below Grenade	3	D2216	0-2	PCT	Other	Percent Moisture	-86	14.94252874	0	1.149425287	Y
BAI-24A-037-18	Below Grenade	3	6010B	0-2	MG_KG	Inorganic	Lead	7439-92-1	31	0.073	0.27	Y
BAI-24A-037-18	Below Grenade	3	6010B	0-2	MG_KG	Inorganic	Molybdenum	7439-98-7	0.6	0.2	0.6	N
BAI-24A-037-18	Below Grenade	3	6010B	0-2	MG_KG	Inorganic	Nickel	7440-02-0	11	0.2	0.6	Y
BAI-24A-037-18	Below Grenade	3	6010B	0-2	MG_KG	Inorganic	Silver	7440-22-4	0.27	0.074	0.27	N
BAI-24A-037-18	Below Grenade	3	6010B	0-2	MG_KG	Inorganic	Thallium	7440-28-0	0.54	0.16	0.54	N
BAI-24A-037-18	Below Grenade	3	6010B	0-2	MG_KG	Inorganic	Antimony	7440-36-0	0.66	0.16	0.54	Y
BAI-24A-037-18	Below Grenade	3	6010B	0-2	MG_KG	Inorganic	Arsenic	7440-38-2	2.9	0.083	0.27	Y
BAI-24A-037-18	Below Grenade	3	6010B	0-2	MG_KG	Inorganic	Barium	7440-39-3	100	0.1	0.3	Y
BAI-24A-037-18	Below Grenade	3	6010B	0-2	MG_KG	Inorganic	Beryllium	7440-41-7	0.36	0.02	0.11	Y
BAI-24A-037-18	Below Grenade	3	6010B	0-2	MG_KG	Inorganic	Cadmium	7440-43-9	0.14	0.05	0.27	Y
BAI-24A-037-18	Below Grenade	3	6010B	0-2	MG_KG	Inorganic	Chromium	7440-47-3	13	0.1	0.3	Y
BAI-24A-037-18	Below Grenade	3	6010B	0-2	MG_KG	Inorganic	Cobalt	7440-48-4	7	0.2	0.6	Y
BAI-24A-037-18	Below Grenade	3	6010B	0-2	MG_KG	Inorganic	Copper	7440-50-8	9	0.1	0.3	Y
BAI-24A-037-18	Below Grenade	3	6010B	0-2	MG_KG	Inorganic	Vanadium	7440-62-2	25	0.1	0.3	Y
BAI-24A-037-18	Below Grenade	3	6010B	0-2	MG_KG	Inorganic	Zinc	7440-66-6	44	0.2	1.1	Y
BAI-24A-037-18	Below Grenade	3	6010B	0-2	MG_KG	Inorganic	Selenium	7782-49-2	0.54	0.15	0.54	N
BAI-24A-037-18	Below Grenade	3	7470A	0-2	MG_KG	Inorganic	Mercury	7439-97-6	0.022	0.0065	0.022	N
BAI-24A-037-18	Below Grenade	3	8330	0-2	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	215.0537634	13.97849462	215.0537634	N
BAI-24A-037-18	Below Grenade	3	8330	0-2	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	215.0537634	20.43010753	215.0537634	N
BAI-24A-037-18	Below Grenade	3	8330	0-2	UG_KG	Explosive	RDX	121-82-4	215.0537634	41.93548387	215.0537634	N
BAI-24A-037-18	Below Grenade	3	8330	0-2	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	215.0537634	30.10752688	215.0537634	N

Attachment B-4.2
Processed Data

PARENT_SAMPLE_NAME	SI Designation	Exposure Unit	ANALYTICAL_METHOD	Depth Interval	RESULT_UNITS	Analyte Group	Analyte Name	ANALYTE_ID	dw_Analyte Value	dw_MDL	dw_MRL	DETECTED
BAI-24A-037-18	Below Grenade	3	8330	0-2	UG_KG	Explosive	HMX	2691-41-0	215.0537634	27.95698925	215.0537634	N
BAI-24A-037-18	Below Grenade	3	8330	0-2	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	215.0537634	27.95698925	215.0537634	N
BAI-24A-037-18	Below Grenade	3	8330	0-2	UG_KG	Explosive	Tetryl	479-45-8	215.0537634	69.89247312	215.0537634	N
BAI-24A-037-18	Below Grenade	3	8330	0-2	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	215.0537634	19.35483871	215.0537634	N
BAI-24A-037-18	Below Grenade	3	8330	0-2	UG_KG	Explosive	2-Nitrotoluene	88-72-2	419.3548387	17.20430108	419.3548387	N
BAI-24A-037-18	Below Grenade	3	8330	0-2	UG_KG	SVOC	Nitrobenzene	98-95-3	215.0537634	19.35483871	215.0537634	N
BAI-24A-037-18	Below Grenade	3	8330	0-2	UG_KG	Explosive	3-Nitrotoluene	99-08-1	419.3548387	64.51612903	419.3548387	N
BAI-24A-037-18	Below Grenade	3	8330	0-2	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	215.0537634	37.6344086	215.0537634	N
BAI-24A-037-18	Below Grenade	3	8330	0-2	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	215.0537634	20.43010753	215.0537634	N
BAI-24A-037-18	Below Grenade	3	8330	0-2	UG_KG	Explosive	4-Nitrotoluene	99-99-0	419.3548387	32.25806452	419.3548387	N
BAI-24A-037-18	Below Grenade	3	D2216	0-2	PCT	Other	Percent Moisture	-86	7.52688172	0	1.075268817	Y
BAI-24A-038-00	Below Grenade	3	6010B	0-2	MG_KG	Inorganic	Lead	7439-92-1	24	0.08	0.29	Y
BAI-24A-038-00	Below Grenade	3	6010B	0-2	MG_KG	Inorganic	Molybdenum	7439-98-7	0.65	0.22	0.65	N
BAI-24A-038-00	Below Grenade	3	6010B	0-2	MG_KG	Inorganic	Nickel	7440-02-0	14	0.22	0.65	Y
BAI-24A-038-00	Below Grenade	3	6010B	0-2	MG_KG	Inorganic	Silver	7440-22-4	0.29	0.081	0.29	N
BAI-24A-038-00	Below Grenade	3	6010B	0-2	MG_KG	Inorganic	Thallium	7440-28-0	0.59	0.18	0.59	N
BAI-24A-038-00	Below Grenade	3	6010B	0-2	MG_KG	Inorganic	Antimony	7440-36-0	2.6	0.17	0.59	Y
BAI-24A-038-00	Below Grenade	3	6010B	0-2	MG_KG	Inorganic	Arsenic	7440-38-2	2.7	0.09	0.29	Y
BAI-24A-038-00	Below Grenade	3	6010B	0-2	MG_KG	Inorganic	Barium	7440-39-3	130	0.11	0.33	Y
BAI-24A-038-00	Below Grenade	3	6010B	0-2	MG_KG	Inorganic	Beryllium	7440-41-7	0.42	0.022	0.12	Y
BAI-24A-038-00	Below Grenade	3	6010B	0-2	MG_KG	Inorganic	Cadmium	7440-43-9	0.17	0.054	0.29	Y
BAI-24A-038-00	Below Grenade	3	6010B	0-2	MG_KG	Inorganic	Chromium	7440-47-3	16	0.11	0.33	Y
BAI-24A-038-00	Below Grenade	3	6010B	0-2	MG_KG	Inorganic	Cobalt	7440-48-4	8.2	0.22	0.65	Y
BAI-24A-038-00	Below Grenade	3	6010B	0-2	MG_KG	Inorganic	Copper	7440-50-8	11	0.11	0.33	Y
BAI-24A-038-00	Below Grenade	3	6010B	0-2	MG_KG	Inorganic	Vanadium	7440-62-2	31	0.11	0.33	Y
BAI-24A-038-00	Below Grenade	3	6010B	0-2	MG_KG	Inorganic	Zinc	7440-66-6	53	0.22	1.2	Y
BAI-24A-038-00	Below Grenade	3	6010B	0-2	MG_KG	Inorganic	Selenium	7782-49-2	0.59	0.16	0.59	N
BAI-24A-038-00	Below Grenade	3	7470A	0-2	MG_KG	Inorganic	Mercury	7439-97-6	0.025	0.0079	0.025	N
BAI-24A-038-00	Below Grenade	3	8330	0-2	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	235.2941176	15.29411765	235.2941176	N
BAI-24A-038-00	Below Grenade	3	8330	0-2	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	235.2941176	22.35294118	235.2941176	N
BAI-24A-038-00	Below Grenade	3	8330	0-2	UG_KG	Explosive	RDX	121-82-4	235.2941176	47.05882353	235.2941176	N
BAI-24A-038-00	Below Grenade	3	8330	0-2	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	235.2941176	32.94117647	235.2941176	N
BAI-24A-038-00	Below Grenade	3	8330	0-2	UG_KG	Explosive	HMX	2691-41-0	235.2941176	30.58823529	235.2941176	N
BAI-24A-038-00	Below Grenade	3	8330	0-2	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	235.2941176	30.58823529	235.2941176	N
BAI-24A-038-00	Below Grenade	3	8330	0-2	UG_KG	Explosive	Tetryl	479-45-8	235.2941176	77.64705882	235.2941176	N
BAI-24A-038-00	Below Grenade	3	8330	0-2	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	235.2941176	21.17647059	235.2941176	N
BAI-24A-038-00	Below Grenade	3	8330	0-2	UG_KG	Explosive	2-Nitrotoluene	88-72-2	470.5882353	18.82352941	470.5882353	N
BAI-24A-038-00	Below Grenade	3	8330	0-2	UG_KG	SVOC	Nitrobenzene	98-95-3	235.2941176	21.17647059	235.2941176	N
BAI-24A-038-00	Below Grenade	3	8330	0-2	UG_KG	Explosive	3-Nitrotoluene	99-08-1	470.5882353	71.76470588	470.5882353	N
BAI-24A-038-00	Below Grenade	3	8330	0-2	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	235.2941176	41.17647059	235.2941176	N
BAI-24A-038-00	Below Grenade	3	8330	0-2	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	235.2941176	23.52941176	235.2941176	N
BAI-24A-038-00	Below Grenade	3	8330	0-2	UG_KG	Explosive	4-Nitrotoluene	99-99-0	470.5882353	28.23529412	470.5882353	N
BAI-24A-038-00	Below Grenade	3	D2216	0-2	PCT	Other	Percent Moisture	-86	17.64705882	0	1.176470588	Y
BAI-24A-038-18	Below Grenade	3	6010B	0-2	MG_KG	Inorganic	Lead	7439-92-1	180	0.076	0.29	Y
BAI-24A-038-18	Below Grenade	3	6010B	0-2	MG_KG	Inorganic	Molybdenum	7439-98-7	0.41	0.21	0.63	Y
BAI-24A-038-18	Below Grenade	3	6010B	0-2	MG_KG	Inorganic	Nickel	7440-02-0	17	0.21	0.63	Y
BAI-24A-038-18	Below Grenade	3	6010B	0-2	MG_KG	Inorganic	Silver	7440-22-4	0.13	0.078	0.29	Y
BAI-24A-038-18	Below Grenade	3	6010B	0-2	MG_KG	Inorganic	Thallium	7440-28-0	0.57	0.17	0.57	N
BAI-24A-038-18	Below Grenade	3	6010B	0-2	MG_KG	Inorganic	Antimony	7440-36-0	3.1	0.17	0.57	Y

PARENT_SAMPLE_NAME	SI Designation	Exposure Unit	ANALYTICAL_METHOD	Depth Interval	RESULT_UNITS	Analyte Group	Analyte Name	ANALYTE_ID	dw_Analyte Value	dw_MDL	dw_MRL	DETECTED
BAI-24A-038-18	Below Grenade	3	6010B	0-2	MG_KG	Inorganic	Arsenic	7440-38-2	4	0.087	0.29	Y
BAI-24A-038-18	Below Grenade	3	6010B	0-2	MG_KG	Inorganic	Barium	7440-39-3	120	0.1	0.31	Y
BAI-24A-038-18	Below Grenade	3	6010B	0-2	MG_KG	Inorganic	Beryllium	7440-41-7	0.49	0.021	0.11	Y
BAI-24A-038-18	Below Grenade	3	6010B	0-2	MG_KG	Inorganic	Cadmium	7440-43-9	0.18	0.052	0.29	Y
BAI-24A-038-18	Below Grenade	3	6010B	0-2	MG_KG	Inorganic	Chromium	7440-47-3	18	0.1	0.31	Y
BAI-24A-038-18	Below Grenade	3	6010B	0-2	MG_KG	Inorganic	Cobalt	7440-48-4	9.1	0.21	0.63	Y
BAI-24A-038-18	Below Grenade	3	6010B	0-2	MG_KG	Inorganic	Copper	7440-50-8	18	0.1	0.31	Y
BAI-24A-038-18	Below Grenade	3	6010B	0-2	MG_KG	Inorganic	Vanadium	7440-62-2	34	0.1	0.31	Y
BAI-24A-038-18	Below Grenade	3	6010B	0-2	MG_KG	Inorganic	Zinc	7440-66-6	58	0.21	1.1	Y
BAI-24A-038-18	Below Grenade	3	6010B	0-2	MG_KG	Inorganic	Selenium	7782-49-2	0.57	0.15	0.57	N
BAI-24A-038-18	Below Grenade	3	7470A	0-2	MG_KG	Inorganic	Mercury	7439-97-6	0.024	0.0077	0.024	N
BAI-24A-038-18	Below Grenade	3	8330	0-2	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	218.3908046	14.94252874	218.3908046	N
BAI-24A-038-18	Below Grenade	3	8330	0-2	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	218.3908046	21.83908046	218.3908046	N
BAI-24A-038-18	Below Grenade	3	8330	0-2	UG_KG	Explosive	RDX	121-82-4	218.3908046	44.82758621	218.3908046	N
BAI-24A-038-18	Below Grenade	3	8330	0-2	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	218.3908046	32.18390805	218.3908046	N
BAI-24A-038-18	Below Grenade	3	8330	0-2	UG_KG	Explosive	HMX	2691-41-0	218.3908046	29.88505747	218.3908046	N
BAI-24A-038-18	Below Grenade	3	8330	0-2	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	218.3908046	29.88505747	218.3908046	N
BAI-24A-038-18	Below Grenade	3	8330	0-2	UG_KG	Explosive	Tetryl	479-45-8	218.3908046	73.56321839	218.3908046	N
BAI-24A-038-18	Below Grenade	3	8330	0-2	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	218.3908046	20.68965517	218.3908046	N
BAI-24A-038-18	Below Grenade	3	8330	0-2	UG_KG	Explosive	2-Nitrotoluene	88-72-2	448.2758621	18.3908046	448.2758621	N
BAI-24A-038-18	Below Grenade	3	8330	0-2	UG_KG	SVOC	Nitrobenzene	98-95-3	218.3908046	20.68965517	218.3908046	N
BAI-24A-038-18	Below Grenade	3	8330	0-2	UG_KG	Explosive	3-Nitrotoluene	99-08-1	448.2758621	67.81609195	448.2758621	N
BAI-24A-038-18	Below Grenade	3	8330	0-2	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	218.3908046	39.08045977	218.3908046	N
BAI-24A-038-18	Below Grenade	3	8330	0-2	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	218.3908046	21.83908046	218.3908046	N
BAI-24A-038-18	Below Grenade	3	8330	0-2	UG_KG	Explosive	4-Nitrotoluene	99-99-0	448.2758621	34.48275862	448.2758621	N
BAI-24A-038-18	Below Grenade	3	D2216	0-2	PCT	Other	Percent Moisture	-86	14.94252874	0	1.149425287	Y
BAI-24A-039-00	Below Grenade	3	6010B	0-2	MG_KG	Inorganic	Lead	7439-92-1	19	0.082	0.29	Y
BAI-24A-039-00	Below Grenade	3	6010B	0-2	MG_KG	Inorganic	Molybdenum	7439-98-7	0.53	0.23	0.68	Y
BAI-24A-039-00	Below Grenade	3	6010B	0-2	MG_KG	Inorganic	Nickel	7440-02-0	17	0.23	0.68	Y
BAI-24A-039-00	Below Grenade	3	6010B	0-2	MG_KG	Inorganic	Silver	7440-22-4	0.29	0.084	0.29	N
BAI-24A-039-00	Below Grenade	3	6010B	0-2	MG_KG	Inorganic	Thallium	7440-28-0	0.57	0.18	0.57	N
BAI-24A-039-00	Below Grenade	3	6010B	0-2	MG_KG	Inorganic	Antimony	7440-36-0	1.9	0.18	0.57	Y
BAI-24A-039-00	Below Grenade	3	6010B	0-2	MG_KG	Inorganic	Arsenic	7440-38-2	4.2	0.094	0.29	Y
BAI-24A-039-00	Below Grenade	3	6010B	0-2	MG_KG	Inorganic	Barium	7440-39-3	120	0.11	0.34	Y
BAI-24A-039-00	Below Grenade	3	6010B	0-2	MG_KG	Inorganic	Beryllium	7440-41-7	0.5	0.023	0.11	Y
BAI-24A-039-00	Below Grenade	3	6010B	0-2	MG_KG	Inorganic	Cadmium	7440-43-9	0.19	0.056	0.29	Y
BAI-24A-039-00	Below Grenade	3	6010B	0-2	MG_KG	Inorganic	Chromium	7440-47-3	18	0.11	0.34	Y
BAI-24A-039-00	Below Grenade	3	6010B	0-2	MG_KG	Inorganic	Cobalt	7440-48-4	10	0.23	0.68	Y
BAI-24A-039-00	Below Grenade	3	6010B	0-2	MG_KG	Inorganic	Copper	7440-50-8	12	0.11	0.34	Y
BAI-24A-039-00	Below Grenade	3	6010B	0-2	MG_KG	Inorganic	Vanadium	7440-62-2	36	0.11	0.34	Y
BAI-24A-039-00	Below Grenade	3	6010B	0-2	MG_KG	Inorganic	Zinc	7440-66-6	60	0.23	1.1	Y
BAI-24A-039-00	Below Grenade	3	6010B	0-2	MG_KG	Inorganic	Selenium	7782-49-2	0.57	0.16	0.57	N
BAI-24A-039-00	Below Grenade	3	7470A	0-2	MG_KG	Inorganic	Mercury	7439-97-6	0.025	0.0079	0.025	N
BAI-24A-039-00	Below Grenade	3	8330	0-2	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	229.8850575	25.28735632	229.8850575	N
BAI-24A-039-00	Below Grenade	3	8330	0-2	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	229.8850575	21.83908046	229.8850575	N
BAI-24A-039-00	Below Grenade	3	8330	0-2	UG_KG	Explosive	RDX	121-82-4	229.8850575	44.82758621	229.8850575	N
BAI-24A-039-00	Below Grenade	3	8330	0-2	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	229.8850575	32.18390805	229.8850575	N
BAI-24A-039-00	Below Grenade	3	8330	0-2	UG_KG	Explosive	HMX	2691-41-0	229.8850575	29.88505747	229.8850575	N
BAI-24A-039-00	Below Grenade	3	8330	0-2	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	229.8850575	29.88505747	229.8850575	N

PARENT_SAMPLE_NAME	SI Designation	Exposure Unit	ANALYTICAL_METHOD	Depth Interval	RESULT_UNITS	Analyte Group	Analyte Name	ANALYTE_ID	dw_Analyte Value	dw_MDL	dw_MRL	DETECTED
BAI-24A-039-00	Below Grenade	3	8330	0-2	UG_KG	Explosive	Tetryl	479-45-8	229.8850575	74.71264368	229.8850575	N
BAI-24A-039-00	Below Grenade	3	8330	0-2	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	229.8850575	20.68965517	229.8850575	N
BAI-24A-039-00	Below Grenade	3	8330	0-2	UG_KG	Explosive	2-Nitrotoluene	88-72-2	459.7701149	18.3908046	459.7701149	N
BAI-24A-039-00	Below Grenade	3	8330	0-2	UG_KG	SVOC	Nitrobenzene	98-95-3	229.8850575	20.68965517	229.8850575	N
BAI-24A-039-00	Below Grenade	3	8330	0-2	UG_KG	Explosive	3-Nitrotoluene	99-08-1	459.7701149	68.96551724	459.7701149	N
BAI-24A-039-00	Below Grenade	3	8330	0-2	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	229.8850575	40.22988506	229.8850575	N
BAI-24A-039-00	Below Grenade	3	8330	0-2	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	229.8850575	22.98850575	229.8850575	N
BAI-24A-039-00	Below Grenade	3	8330	0-2	UG_KG	Explosive	4-Nitrotoluene	99-99-0	459.7701149	34.48275862	459.7701149	N
BAI-24A-039-00	Below Grenade	3	D2216	0-2	PCT	Other	Percent Moisture	-86	14.94252874	0	1.149425287	Y
BAI-24A-039-18	Below Grenade	3	6010B	0-2	MG_KG	Inorganic	Lead	7439-92-1	120	0.081	0.29	Y
BAI-24A-039-18	Below Grenade	3	6010B	0-2	MG_KG	Inorganic	Molybdenum	7439-98-7	0.25	0.22	0.67	Y
BAI-24A-039-18	Below Grenade	3	6010B	0-2	MG_KG	Inorganic	Nickel	7440-02-0	19	0.22	0.67	Y
BAI-24A-039-18	Below Grenade	3	6010B	0-2	MG_KG	Inorganic	Silver	7440-22-4	0.15	0.083	0.29	Y
BAI-24A-039-18	Below Grenade	3	6010B	0-2	MG_KG	Inorganic	Thallium	7440-28-0	0.57	0.18	0.57	N
BAI-24A-039-18	Below Grenade	3	6010B	0-2	MG_KG	Inorganic	Antimony	7440-36-0	4.5	0.18	0.57	Y
BAI-24A-039-18	Below Grenade	3	6010B	0-2	MG_KG	Inorganic	Arsenic	7440-38-2	4.8	0.093	0.29	Y
BAI-24A-039-18	Below Grenade	3	6010B	0-2	MG_KG	Inorganic	Barium	7440-39-3	140	0.11	0.33	Y
BAI-24A-039-18	Below Grenade	3	6010B	0-2	MG_KG	Inorganic	Beryllium	7440-41-7	0.55	0.022	0.11	Y
BAI-24A-039-18	Below Grenade	3	6010B	0-2	MG_KG	Inorganic	Cadmium	7440-43-9	0.19	0.056	0.29	Y
BAI-24A-039-18	Below Grenade	3	6010B	0-2	MG_KG	Inorganic	Chromium	7440-47-3	20	0.11	0.33	Y
BAI-24A-039-18	Below Grenade	3	6010B	0-2	MG_KG	Inorganic	Cobalt	7440-48-4	9.7	0.22	0.67	Y
BAI-24A-039-18	Below Grenade	3	6010B	0-2	MG_KG	Inorganic	Copper	7440-50-8	28	0.11	0.33	Y
BAI-24A-039-18	Below Grenade	3	6010B	0-2	MG_KG	Inorganic	Vanadium	7440-62-2	38	0.11	0.33	Y
BAI-24A-039-18	Below Grenade	3	6010B	0-2	MG_KG	Inorganic	Zinc	7440-66-6	67	0.22	1.1	Y
BAI-24A-039-18	Below Grenade	3	6010B	0-2	MG_KG	Inorganic	Selenium	7782-49-2	0.57	0.16	0.57	N
BAI-24A-039-18	Below Grenade	3	7470A	0-2	MG_KG	Inorganic	Mercury	7439-97-6	0.023	0.0074	0.023	N
BAI-24A-039-18	Below Grenade	3	8330	0-2	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	229.8850575	14.94252874	229.8850575	N
BAI-24A-039-18	Below Grenade	3	8330	0-2	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	229.8850575	21.83908046	229.8850575	N
BAI-24A-039-18	Below Grenade	3	8330	0-2	UG_KG	Explosive	RDX	121-82-4	229.8850575	45.97701149	229.8850575	N
BAI-24A-039-18	Below Grenade	3	8330	0-2	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	229.8850575	32.18390805	229.8850575	N
BAI-24A-039-18	Below Grenade	3	8330	0-2	UG_KG	Explosive	HMX	2691-41-0	229.8850575	29.88505747	229.8850575	N
BAI-24A-039-18	Below Grenade	3	8330	0-2	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	229.8850575	29.88505747	229.8850575	N
BAI-24A-039-18	Below Grenade	3	8330	0-2	UG_KG	Explosive	Tetryl	479-45-8	229.8850575	75.86206897	229.8850575	N
BAI-24A-039-18	Below Grenade	3	8330	0-2	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	229.8850575	20.68965517	229.8850575	N
BAI-24A-039-18	Below Grenade	3	8330	0-2	UG_KG	Explosive	2-Nitrotoluene	88-72-2	459.7701149	18.3908046	459.7701149	N
BAI-24A-039-18	Below Grenade	3	8330	0-2	UG_KG	SVOC	Nitrobenzene	98-95-3	229.8850575	20.68965517	229.8850575	N
BAI-24A-039-18	Below Grenade	3	8330	0-2	UG_KG	Explosive	3-Nitrotoluene	99-08-1	459.7701149	70.11494253	459.7701149	N
BAI-24A-039-18	Below Grenade	3	8330	0-2	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	229.8850575	40.22988506	229.8850575	N
BAI-24A-039-18	Below Grenade	3	8330	0-2	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	229.8850575	22.98850575	229.8850575	N
BAI-24A-039-18	Below Grenade	3	8330	0-2	UG_KG	Explosive	4-Nitrotoluene	99-99-0	459.7701149	35.63218391	459.7701149	N
BAI-24A-039-18	Below Grenade	3	D2216	0-2	PCT	Other	Percent Moisture	-86	14.94252874	0	1.149425287	Y
BAI-24A-04-00	Retaining Wall	2	8270C_SIM	0-2	UG_KG	PAH	Anthracene	120-12-7	2.9	1.2	5.8	Y
BAI-24A-04-00	Retaining Wall	2	8270C_SIM	0-2	UG_KG	PAH	Pyrene	129-00-0	12	1.2	5.8	Y
BAI-24A-04-00	Retaining Wall	2	8270C_SIM	0-2	UG_KG	PAH	Benzo(g,h,i)perylene	191-24-2	3.6	1.2	5.8	Y
BAI-24A-04-00	Retaining Wall	2	8270C_SIM	0-2	UG_KG	PAH	Indeno(1,2,3-cd)yrene	193-39-5	2.5	1.2	5.8	Y
BAI-24A-04-00	Retaining Wall	2	8270C_SIM	0-2	UG_KG	PAH	Benzo(b)fluoranthene	205-99-2	6.8	1.2	5.8	Y
BAI-24A-04-00	Retaining Wall	2	8270C_SIM	0-2	UG_KG	PAH	Fluoranthene	206-44-0	21	1.2	5.8	Y
BAI-24A-04-00	Retaining Wall	2	8270C_SIM	0-2	UG_KG	PAH	Benzo(k)fluoranthene	207-08-9	2.3	1.2	5.8	Y
BAI-24A-04-00	Retaining Wall	2	8270C_SIM	0-2	UG_KG	PAH	Acenaphthylene	208-96-8	5.8	1.2	5.8	N

PARENT_SAMPLE_NAME	SI Designation	Exposure Unit	ANALYTICAL_METHOD	Depth Interval	RESULT_UNITS	Analyte Group	Analyte Name	ANALYTE_ID	dw_Analyte Value	dw_MDL	dw_MRL	DETECTED
BAI-24A-04-00	Retaining Wall	2	8270C_SIM	0-2	UG_KG	PAH	Chrysene	218-01-9	7.7	1.2	5.8	Y
BAI-24A-04-00	Retaining Wall	2	8270C_SIM	0-2	UG_KG	PAH	Benzo(a)pyrene	50-32-8	2.3	1.2	5.8	Y
BAI-24A-04-00	Retaining Wall	2	8270C_SIM	0-2	UG_KG	PAH	Dibenz(a,h)anthracene	53-70-3	5.8	1.2	5.8	N
BAI-24A-04-00	Retaining Wall	2	8270C_SIM	0-2	UG_KG	PAH	Benzo(a)anthracene	56-55-3	2.6	1.2	5.8	Y
BAI-24A-04-00	Retaining Wall	2	8270C_SIM	0-2	UG_KG	PAH	Acenaphthene	83-32-9	5.8	1.2	5.8	N
BAI-24A-04-00	Retaining Wall	2	8270C_SIM	0-2	UG_KG	PAH	Phenanthrene	85-01-8	3.9	1.2	5.8	Y
BAI-24A-04-00	Retaining Wall	2	8270C_SIM	0-2	UG_KG	PAH	Fluorene	86-73-7	5.8	1.2	5.8	N
BAI-24A-04-00	Retaining Wall	2	8270C_SIM	0-2	UG_KG	PAH	Naphthalene	91-20-3	5.8	1.2	5.8	N
BAI-24A-04-00	Retaining Wall	2	D2216	0-2	PCT	Other	Percent Moisture	-86	17.64705882	0	1.176470588	Y
BAI-24A-040-00	Below Grenade	3	6010B	0-2	MG_KG	Inorganic	Lead	7439-92-1	14	0.078	0.28	Y
BAI-24A-040-00	Below Grenade	3	6010B	0-2	MG_KG	Inorganic	Molybdenum	7439-98-7	0.43	0.21	0.64	Y
BAI-24A-040-00	Below Grenade	3	6010B	0-2	MG_KG	Inorganic	Nickel	7440-02-0	16	0.21	0.64	Y
BAI-24A-040-00	Below Grenade	3	6010B	0-2	MG_KG	Inorganic	Silver	7440-22-4	0.28	0.08	0.28	N
BAI-24A-040-00	Below Grenade	3	6010B	0-2	MG_KG	Inorganic	Thallium	7440-28-0	0.57	0.17	0.57	N
BAI-24A-040-00	Below Grenade	3	6010B	0-2	MG_KG	Inorganic	Antimony	7440-36-0	2.8	0.17	0.57	Y
BAI-24A-040-00	Below Grenade	3	6010B	0-2	MG_KG	Inorganic	Arsenic	7440-38-2	3.1	0.089	0.28	Y
BAI-24A-040-00	Below Grenade	3	6010B	0-2	MG_KG	Inorganic	Barium	7440-39-3	120	0.11	0.32	Y
BAI-24A-040-00	Below Grenade	3	6010B	0-2	MG_KG	Inorganic	Beryllium	7440-41-7	0.45	0.021	0.11	Y
BAI-24A-040-00	Below Grenade	3	6010B	0-2	MG_KG	Inorganic	Cadmium	7440-43-9	0.18	0.054	0.28	Y
BAI-24A-040-00	Below Grenade	3	6010B	0-2	MG_KG	Inorganic	Chromium	7440-47-3	16	0.11	0.32	Y
BAI-24A-040-00	Below Grenade	3	6010B	0-2	MG_KG	Inorganic	Cobalt	7440-48-4	8.8	0.21	0.64	Y
BAI-24A-040-00	Below Grenade	3	6010B	0-2	MG_KG	Inorganic	Copper	7440-50-8	11	0.11	0.32	Y
BAI-24A-040-00	Below Grenade	3	6010B	0-2	MG_KG	Inorganic	Vanadium	7440-62-2	32	0.11	0.32	Y
BAI-24A-040-00	Below Grenade	3	6010B	0-2	MG_KG	Inorganic	Zinc	7440-66-6	52	0.21	1.1	Y
BAI-24A-040-00	Below Grenade	3	6010B	0-2	MG_KG	Inorganic	Selenium	7782-49-2	0.57	0.16	0.57	N
BAI-24A-040-00	Below Grenade	3	7470A	0-2	MG_KG	Inorganic	Mercury	7439-97-6	0.023	0.0069	0.023	N
BAI-24A-040-00	Below Grenade	3	8330	0-2	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	227.2727273	14.77272727	227.2727273	N
BAI-24A-040-00	Below Grenade	3	8330	0-2	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	227.2727273	21.59090909	227.2727273	N
BAI-24A-040-00	Below Grenade	3	8330	0-2	UG_KG	Explosive	RDX	121-82-4	227.2727273	44.31818182	227.2727273	N
BAI-24A-040-00	Below Grenade	3	8330	0-2	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	227.2727273	31.81818182	227.2727273	N
BAI-24A-040-00	Below Grenade	3	8330	0-2	UG_KG	Explosive	HMX	2691-41-0	227.2727273	29.54545455	227.2727273	N
BAI-24A-040-00	Below Grenade	3	8330	0-2	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	227.2727273	29.54545455	227.2727273	N
BAI-24A-040-00	Below Grenade	3	8330	0-2	UG_KG	Explosive	Tetryl	479-45-8	227.2727273	72.72727273	227.2727273	N
BAI-24A-040-00	Below Grenade	3	8330	0-2	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	227.2727273	20.45454545	227.2727273	N
BAI-24A-040-00	Below Grenade	3	8330	0-2	UG_KG	Explosive	2-Nitrotoluene	88-72-2	443.1818182	18.18181818	443.1818182	N
BAI-24A-040-00	Below Grenade	3	8330	0-2	UG_KG	SVOC	Nitrobenzene	98-95-3	227.2727273	20.45454545	227.2727273	N
BAI-24A-040-00	Below Grenade	3	8330	0-2	UG_KG	Explosive	3-Nitrotoluene	99-08-1	443.1818182	68.18181818	443.1818182	N
BAI-24A-040-00	Below Grenade	3	8330	0-2	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	227.2727273	38.63636364	227.2727273	N
BAI-24A-040-00	Below Grenade	3	8330	0-2	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	227.2727273	21.59090909	227.2727273	N
BAI-24A-040-00	Below Grenade	3	8330	0-2	UG_KG	Explosive	4-Nitrotoluene	99-99-0	443.1818182	34.09090909	443.1818182	N
BAI-24A-040-00	Below Grenade	3	D2216	0-2	PCT	Other	Percent Moisture	-86	13.63636364	0	1.136363636	Y
BAI-24A-040-18	Below Grenade	3	6010B	0-2	MG_KG	Inorganic	Lead	7439-92-1	24	0.081	0.29	Y
BAI-24A-040-18	Below Grenade	3	6010B	0-2	MG_KG	Inorganic	Molybdenum	7439-98-7	0.67	0.22	0.67	N
BAI-24A-040-18	Below Grenade	3	6010B	0-2	MG_KG	Inorganic	Nickel	7440-02-0	19	0.22	0.67	Y
BAI-24A-040-18	Below Grenade	3	6010B	0-2	MG_KG	Inorganic	Silver	7440-22-4	0.29	0.083	0.29	N
BAI-24A-040-18	Below Grenade	3	6010B	0-2	MG_KG	Inorganic	Thallium	7440-28-0	0.59	0.18	0.59	N
BAI-24A-040-18	Below Grenade	3	6010B	0-2	MG_KG	Inorganic	Antimony	7440-36-0	3.4	0.18	0.59	Y
BAI-24A-040-18	Below Grenade	3	6010B	0-2	MG_KG	Inorganic	Arsenic	7440-38-2	5	0.092	0.29	Y
BAI-24A-040-18	Below Grenade	3	6010B	0-2	MG_KG	Inorganic	Barium	7440-39-3	130	0.11	0.33	Y

Attachment B-4.2
Processed Data

PARENT_SAMPLE_NAME	SI Designation	Exposure Unit	ANALYTICAL_METHOD	Depth Interval	RESULT_UNITS	Analyte Group	Analyte Name	ANALYTE_ID	dw_Analyte Value	dw_MDL	dw_MRL	DETECTED
BAI-24A-040-18	Below Grenade	3	6010B	0-2	MG_KG	Inorganic	Beryllium	7440-41-7	0.6	0.022	0.12	Y
BAI-24A-040-18	Below Grenade	3	6010B	0-2	MG_KG	Inorganic	Cadmium	7440-43-9	0.2	0.055	0.29	Y
BAI-24A-040-18	Below Grenade	3	6010B	0-2	MG_KG	Inorganic	Chromium	7440-47-3	19	0.11	0.33	Y
BAI-24A-040-18	Below Grenade	3	6010B	0-2	MG_KG	Inorganic	Cobalt	7440-48-4	10	0.22	0.67	Y
BAI-24A-040-18	Below Grenade	3	6010B	0-2	MG_KG	Inorganic	Copper	7440-50-8	19	0.11	0.33	Y
BAI-24A-040-18	Below Grenade	3	6010B	0-2	MG_KG	Inorganic	Vanadium	7440-62-2	38	0.11	0.33	Y
BAI-24A-040-18	Below Grenade	3	6010B	0-2	MG_KG	Inorganic	Zinc	7440-66-6	60	0.22	1.2	Y
BAI-24A-040-18	Below Grenade	3	6010B	0-2	MG_KG	Inorganic	Selenium	7782-49-2	0.59	0.16	0.59	N
BAI-24A-040-18	Below Grenade	3	7470A	0-2	MG_KG	Inorganic	Mercury	7439-97-6	0.015	0.008	0.026	Y
BAI-24A-040-18	Below Grenade	3	8330	0-2	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	223.5294118	15.29411765	223.5294118	N
BAI-24A-040-18	Below Grenade	3	8330	0-2	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	223.5294118	22.35294118	223.5294118	N
BAI-24A-040-18	Below Grenade	3	8330	0-2	UG_KG	Explosive	RDX	121-82-4	223.5294118	44.70588235	223.5294118	N
BAI-24A-040-18	Below Grenade	3	8330	0-2	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	223.5294118	32.94117647	223.5294118	N
BAI-24A-040-18	Below Grenade	3	8330	0-2	UG_KG	Explosive	HMX	2691-41-0	223.5294118	30.58823529	223.5294118	N
BAI-24A-040-18	Below Grenade	3	8330	0-2	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	223.5294118	30.58823529	223.5294118	N
BAI-24A-040-18	Below Grenade	3	8330	0-2	UG_KG	Explosive	Tetryl	479-45-8	223.5294118	75.29411765	223.5294118	N
BAI-24A-040-18	Below Grenade	3	8330	0-2	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	223.5294118	21.17647059	223.5294118	N
BAI-24A-040-18	Below Grenade	3	8330	0-2	UG_KG	Explosive	2-Nitrotoluene	88-72-2	458.8235294	17.64705882	458.8235294	N
BAI-24A-040-18	Below Grenade	3	8330	0-2	UG_KG	SVOC	Nitrobenzene	98-95-3	223.5294118	21.17647059	223.5294118	N
BAI-24A-040-18	Below Grenade	3	8330	0-2	UG_KG	Explosive	3-Nitrotoluene	99-08-1	458.8235294	69.41176471	458.8235294	N
BAI-24A-040-18	Below Grenade	3	8330	0-2	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	223.5294118	40	223.5294118	N
BAI-24A-040-18	Below Grenade	3	8330	0-2	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	223.5294118	22.35294118	223.5294118	N
BAI-24A-040-18	Below Grenade	3	8330	0-2	UG_KG	Explosive	4-Nitrotoluene	99-99-0	458.8235294	35.29411765	458.8235294	N
BAI-24A-040-18	Below Grenade	3	D2216	0-2	PCT	Other	Percent Moisture	-86	17.64705882	0	1.176470588	Y
BAI-24A-041-00	Below Grenade	3	6010B	0-2	MG_KG	Inorganic	Lead	7439-92-1	46	0.0855	0.315	Y
BAI-24A-041-00	Below Grenade	3	6010B	0-2	MG_KG	Inorganic	Molybdenum	7439-98-7	0.2425	0.1825	0.55	Y
BAI-24A-041-00	Below Grenade	3	6010B	0-2	MG_KG	Inorganic	Nickel	7440-02-0	18	0.24	0.72	Y
BAI-24A-041-00	Below Grenade	3	6010B	0-2	MG_KG	Inorganic	Silver	7440-22-4	0.315	0.0755	0.315	N
BAI-24A-041-00	Below Grenade	3	6010B	0-2	MG_KG	Inorganic	Thallium	7440-28-0	0.64	0.185	0.64	N
BAI-24A-041-00	Below Grenade	3	6010B	0-2	MG_KG	Inorganic	Antimony	7440-36-0	1.78	0.185	0.64	Y
BAI-24A-041-00	Below Grenade	3	6010B	0-2	MG_KG	Inorganic	Arsenic	7440-38-2	4.35	0.0915	0.315	Y
BAI-24A-041-00	Below Grenade	3	6010B	0-2	MG_KG	Inorganic	Barium	7440-39-3	220	0.12	0.36	Y
BAI-24A-041-00	Below Grenade	3	6010B	0-2	MG_KG	Inorganic	Beryllium	7440-41-7	0.54	0.024	0.13	Y
BAI-24A-041-00	Below Grenade	3	6010B	0-2	MG_KG	Inorganic	Cadmium	7440-43-9	0.13425	0.04575	0.2375	Y
BAI-24A-041-00	Below Grenade	3	6010B	0-2	MG_KG	Inorganic	Chromium	7440-47-3	23	0.12	0.36	Y
BAI-24A-041-00	Below Grenade	3	6010B	0-2	MG_KG	Inorganic	Cobalt	7440-48-4	9.85	0.24	0.72	Y
BAI-24A-041-00	Below Grenade	3	6010B	0-2	MG_KG	Inorganic	Copper	7440-50-8	21.5	0.12	0.36	Y
BAI-24A-041-00	Below Grenade	3	6010B	0-2	MG_KG	Inorganic	Vanadium	7440-62-2	38.5	0.12	0.36	Y
BAI-24A-041-00	Below Grenade	3	6010B	0-2	MG_KG	Inorganic	Zinc	7440-66-6	67.5	0.24	1.3	Y
BAI-24A-041-00	Below Grenade	3	6010B	0-2	MG_KG	Inorganic	Selenium	7782-49-2	0.185	0.135	0.4775	Y
BAI-24A-041-00	Below Grenade	3	7470A	0-2	MG_KG	Inorganic	Mercury	7439-97-6	0.0175	0.00765	0.0255	Y
BAI-24A-041-00	Below Grenade	3	8330	0-2	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	254.7770701	27.38853503	254.7770701	N
BAI-24A-041-00	Below Grenade	3	8330	0-2	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	254.7770701	25.47770701	254.7770701	N
BAI-24A-041-00	Below Grenade	3	8330	0-2	UG_KG	Explosive	RDX	121-82-4	254.7770701	38.21656051	254.7770701	N
BAI-24A-041-00	Below Grenade	3	8330	0-2	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	254.7770701	42.67515924	254.7770701	N
BAI-24A-041-00	Below Grenade	3	8330	0-2	UG_KG	Explosive	HMX	2691-41-0	254.7770701	26.11464968	254.7770701	N
BAI-24A-041-00	Below Grenade	3	8330	0-2	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	254.7770701	28.02547771	254.7770701	N
BAI-24A-041-00	Below Grenade	3	8330	0-2	UG_KG	Explosive	Tetryl	479-45-8	254.7770701	76.43312102	254.7770701	N
BAI-24A-041-00	Below Grenade	3	8330	0-2	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	254.7770701	25.47770701	254.7770701	N

Attachment B-4.2
Processed Data

PARENT_SAMPLE_NAME	SI Designation	Exposure Unit	ANALYTICAL_METHOD	Depth Interval	RESULT_UNITS	Analyte Group	Analyte Name	ANALYTE_ID	dw_Analyte Value	dw_MDL	dw_MRL	DETECTED
BAI-24A-041-00	Below Grenade	3	8330	0-2	UG_KG	Explosive	2-Nitrotoluene	88-72-2	496.8152866	28.02547771	496.8152866	N
BAI-24A-041-00	Below Grenade	3	8330	0-2	UG_KG	SVOC	Nitrobenzene	98-95-3	254.7770701	21.65605096	254.7770701	N
BAI-24A-041-00	Below Grenade	3	8330	0-2	UG_KG	Explosive	3-Nitrotoluene	99-08-1	496.8152866	63.69426752	496.8152866	N
BAI-24A-041-00	Below Grenade	3	8330	0-2	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	254.7770701	38.85350318	254.7770701	N
BAI-24A-041-00	Below Grenade	3	8330	0-2	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	254.7770701	15.03184713	254.7770701	N
BAI-24A-041-00	Below Grenade	3	8330	0-2	UG_KG	Explosive	4-Nitrotoluene	99-99-0	496.8152866	36.94267516	496.8152866	N
BAI-24A-041-00	Below Grenade	3	D2216	0-2	PCT	Other	Percent Moisture	-86	27.38853503	0	1.27388535	Y
BAI-24A-041-18	Below Grenade	3	6010B	0-2	MG_KG	Inorganic	Lead	7439-92-1	8.4	0.084	0.29	Y
BAI-24A-041-18	Below Grenade	3	6010B	0-2	MG_KG	Inorganic	Molybdenum	7439-98-7	0.38	0.23	0.69	Y
BAI-24A-041-18	Below Grenade	3	6010B	0-2	MG_KG	Inorganic	Nickel	7440-02-0	18	0.23	0.69	Y
BAI-24A-041-18	Below Grenade	3	6010B	0-2	MG_KG	Inorganic	Silver	7440-22-4	0.29	0.086	0.29	N
BAI-24A-041-18	Below Grenade	3	6010B	0-2	MG_KG	Inorganic	Thallium	7440-28-0	0.57	0.19	0.57	N
BAI-24A-041-18	Below Grenade	3	6010B	0-2	MG_KG	Inorganic	Antimony	7440-36-0	2.8	0.18	0.57	Y
BAI-24A-041-18	Below Grenade	3	6010B	0-2	MG_KG	Inorganic	Arsenic	7440-38-2	5.1	0.095	0.29	Y
BAI-24A-041-18	Below Grenade	3	6010B	0-2	MG_KG	Inorganic	Barium	7440-39-3	110	0.11	0.34	Y
BAI-24A-041-18	Below Grenade	3	6010B	0-2	MG_KG	Inorganic	Beryllium	7440-41-7	0.53	0.023	0.11	Y
BAI-24A-041-18	Below Grenade	3	6010B	0-2	MG_KG	Inorganic	Cadmium	7440-43-9	0.22	0.057	0.29	Y
BAI-24A-041-18	Below Grenade	3	6010B	0-2	MG_KG	Inorganic	Chromium	7440-47-3	19	0.11	0.34	Y
BAI-24A-041-18	Below Grenade	3	6010B	0-2	MG_KG	Inorganic	Cobalt	7440-48-4	10	0.23	0.69	Y
BAI-24A-041-18	Below Grenade	3	6010B	0-2	MG_KG	Inorganic	Copper	7440-50-8	16	0.11	0.34	Y
BAI-24A-041-18	Below Grenade	3	6010B	0-2	MG_KG	Inorganic	Vanadium	7440-62-2	36	0.11	0.34	Y
BAI-24A-041-18	Below Grenade	3	6010B	0-2	MG_KG	Inorganic	Zinc	7440-66-6	58	0.23	1.1	Y
BAI-24A-041-18	Below Grenade	3	6010B	0-2	MG_KG	Inorganic	Selenium	7782-49-2	0.57	0.17	0.57	N
BAI-24A-041-18	Below Grenade	3	7470A	0-2	MG_KG	Inorganic	Mercury	7439-97-6	0.011	0.0066	0.023	Y
BAI-24A-041-18	Below Grenade	3	8330	0-2	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	229.8850575	14.94252874	229.8850575	N
BAI-24A-041-18	Below Grenade	3	8330	0-2	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	229.8850575	21.83908046	229.8850575	N
BAI-24A-041-18	Below Grenade	3	8330	0-2	UG_KG	Explosive	RDX	121-82-4	229.8850575	44.82758621	229.8850575	N
BAI-24A-041-18	Below Grenade	3	8330	0-2	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	229.8850575	32.18390805	229.8850575	N
BAI-24A-041-18	Below Grenade	3	8330	0-2	UG_KG	Explosive	HMX	2691-41-0	229.8850575	29.88505747	229.8850575	N
BAI-24A-041-18	Below Grenade	3	8330	0-2	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	229.8850575	29.88505747	229.8850575	N
BAI-24A-041-18	Below Grenade	3	8330	0-2	UG_KG	Explosive	Tetryl	479-45-8	229.8850575	74.71264368	229.8850575	N
BAI-24A-041-18	Below Grenade	3	8330	0-2	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	229.8850575	20.68965517	229.8850575	N
BAI-24A-041-18	Below Grenade	3	8330	0-2	UG_KG	Explosive	2-Nitrotoluene	88-72-2	459.7701149	12.64367816	459.7701149	N
BAI-24A-041-18	Below Grenade	3	8330	0-2	UG_KG	SVOC	Nitrobenzene	98-95-3	229.8850575	20.68965517	229.8850575	N
BAI-24A-041-18	Below Grenade	3	8330	0-2	UG_KG	Explosive	3-Nitrotoluene	99-08-1	459.7701149	68.96551724	459.7701149	N
BAI-24A-041-18	Below Grenade	3	8330	0-2	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	229.8850575	40.22988506	229.8850575	N
BAI-24A-041-18	Below Grenade	3	8330	0-2	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	229.8850575	22.98850575	229.8850575	N
BAI-24A-041-18	Below Grenade	3	8330	0-2	UG_KG	Explosive	4-Nitrotoluene	99-99-0	459.7701149	34.48275862	459.7701149	N
BAI-24A-041-18	Below Grenade	3	D2216	0-2	PCT	Other	Percent Moisture	-86	14.94252874	0	1.149425287	Y
BAI-24A-04-18	Retaining Wall	2	8270C_SIM	0-2	UG_KG	PAH	Anthracene	120-12-7	63	1.2	6.1	Y
BAI-24A-04-18	Retaining Wall	2	8270C_SIM	0-2	UG_KG	PAH	Pyrene	129-00-0	25	1.2	6.1	Y
BAI-24A-04-18	Retaining Wall	2	8270C_SIM	0-2	UG_KG	PAH	Benzo(g,h,i)perylene	191-24-2	140	1.2	6.1	Y
BAI-24A-04-18	Retaining Wall	2	8270C_SIM	0-2	UG_KG	PAH	Indeno(1,2,3-cd)yrene	193-39-5	65	1.2	6.1	Y
BAI-24A-04-18	Retaining Wall	2	8270C_SIM	0-2	UG_KG	PAH	Benzo(b)fluoranthene	205-99-2	32	1.2	6.1	Y
BAI-24A-04-18	Retaining Wall	2	8270C_SIM	0-2	UG_KG	PAH	Fluoranthene	206-44-0	24	1.2	6.1	Y
BAI-24A-04-18	Retaining Wall	2	8270C_SIM	0-2	UG_KG	PAH	Benzo(k)fluoranthene	207-08-9	7.8	1.2	6.1	Y
BAI-24A-04-18	Retaining Wall	2	8270C_SIM	0-2	UG_KG	PAH	Acenaphthylene	208-96-8	22	1.2	6.1	Y
BAI-24A-04-18	Retaining Wall	2	8270C_SIM	0-2	UG_KG	PAH	Chrysene	218-01-9	24	1.2	6.1	Y
BAI-24A-04-18	Retaining Wall	2	8270C_SIM	0-2	UG_KG	PAH	Benzo(a)pyrene	50-32-8	19	1.2	6.1	Y

PARENT_SAMPLE_NAME	SI Designation	Exposure Unit	ANALYTICAL_METHOD	Depth Interval	RESULT_UNITS	Analyte Group	Analyte Name	ANALYTE_ID	dw_Analyte Value	dw_MDL	dw_MRL	DETECTED
BAI-24A-04-18	Retaining Wall	2	8270C_SIM	0-2	UG_KG	PAH	Dibenz(a,h)anthracene	53-70-3	15	1.2	6.1	Y
BAI-24A-04-18	Retaining Wall	2	8270C_SIM	0-2	UG_KG	PAH	Benzo(a)anthracene	56-55-3	11	1.2	6.1	Y
BAI-24A-04-18	Retaining Wall	2	8270C_SIM	0-2	UG_KG	PAH	Acenaphthene	83-32-9	3.7	1.2	6.1	Y
BAI-24A-04-18	Retaining Wall	2	8270C_SIM	0-2	UG_KG	PAH	Phenanthrene	85-01-8	20	1.2	6.1	Y
BAI-24A-04-18	Retaining Wall	2	8270C_SIM	0-2	UG_KG	PAH	Fluorene	86-73-7	5.1	1.2	6.1	Y
BAI-24A-04-18	Retaining Wall	2	8270C_SIM	0-2	UG_KG	PAH	Naphthalene	91-20-3	6.1	1.2	6.1	N
BAI-24A-04-18	Retaining Wall	2	D2216	0-2	PCT	Other	Percent Moisture	-86	23.45679012	0	1.234567901	Y
BAI-24A-045-00	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Lead	7439-92-1	7.1	0.076	0.29	Y
BAI-24A-045-00	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Molybdenum	7439-98-7	0.65	0.22	0.65	N
BAI-24A-045-00	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Nickel	7440-02-0	16	0.22	0.65	Y
BAI-24A-045-00	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Silver	7440-22-4	0.29	0.054	0.29	N
BAI-24A-045-00	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Thallium	7440-28-0	0.58	0.15	0.58	N
BAI-24A-045-00	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Antimony	7440-36-0	0.42	0.16	0.58	Y
BAI-24A-045-00	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Arsenic	7440-38-2	5.3	0.079	0.29	Y
BAI-24A-045-00	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Barium	7440-39-3	120	0.11	0.33	Y
BAI-24A-045-00	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Beryllium	7440-41-7	0.45	0.022	0.12	Y
BAI-24A-045-00	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Cadmium	7440-43-9	0.29	0.054	0.29	N
BAI-24A-045-00	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Chromium	7440-47-3	18	0.11	0.33	Y
BAI-24A-045-00	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Cobalt	7440-48-4	9	0.22	0.65	Y
BAI-24A-045-00	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Copper	7440-50-8	17	0.11	0.33	Y
BAI-24A-045-00	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Vanadium	7440-62-2	34	0.11	0.33	Y
BAI-24A-045-00	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Zinc	7440-66-6	64	0.22	1.2	Y
BAI-24A-045-00	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Selenium	7782-49-2	0.18	0.17	0.58	Y
BAI-24A-045-00	Grenade Impact	3	7470A	0-2	MG_KG	Inorganic	Mercury	7439-97-6	0.0068	0.0068	0.023	N
BAI-24A-045-00	Grenade Impact	3	8330	0-2	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	232.5581395	15.11627907	232.5581395	N
BAI-24A-045-00	Grenade Impact	3	8330	0-2	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	232.5581395	22.09302326	232.5581395	N
BAI-24A-045-00	Grenade Impact	3	8330	0-2	UG_KG	Explosive	RDX	121-82-4	232.5581395	45.34883721	232.5581395	N
BAI-24A-045-00	Grenade Impact	3	8330	0-2	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	232.5581395	32.55813953	232.5581395	N
BAI-24A-045-00	Grenade Impact	3	8330	0-2	UG_KG	Explosive	HMX	2691-41-0	232.5581395	30.23255814	232.5581395	N
BAI-24A-045-00	Grenade Impact	3	8330	0-2	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	232.5581395	30.23255814	232.5581395	N
BAI-24A-045-00	Grenade Impact	3	8330	0-2	UG_KG	Explosive	Tetryl	479-45-8	232.5581395	75.58139535	232.5581395	N
BAI-24A-045-00	Grenade Impact	3	8330	0-2	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	232.5581395	20.93023256	232.5581395	N
BAI-24A-045-00	Grenade Impact	3	8330	0-2	UG_KG	Explosive	2-Nitrotoluene	88-72-2	465.1162791	18.60465116	465.1162791	N
BAI-24A-045-00	Grenade Impact	3	8330	0-2	UG_KG	SVOC	Nitrobenzene	98-95-3	232.5581395	20.93023256	232.5581395	N
BAI-24A-045-00	Grenade Impact	3	8330	0-2	UG_KG	Explosive	3-Nitrotoluene	99-08-1	465.1162791	69.76744186	465.1162791	N
BAI-24A-045-00	Grenade Impact	3	8330	0-2	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	232.5581395	40.69767442	232.5581395	N
BAI-24A-045-00	Grenade Impact	3	8330	0-2	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	232.5581395	23.25581395	232.5581395	N
BAI-24A-045-00	Grenade Impact	3	8330	0-2	UG_KG	Explosive	4-Nitrotoluene	99-99-0	465.1162791	34.88372093	465.1162791	N
BAI-24A-045-00	Grenade Impact	3	D2216	0-2	PCT	Other	Percent Moisture	-86	16.27906977	0	1.162790698	Y
BAI-24A-045-18	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Lead	7439-92-1	6.4	0.08	0.29	Y
BAI-24A-045-18	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Molybdenum	7439-98-7	0.69	0.23	0.69	N
BAI-24A-045-18	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Nickel	7440-02-0	21	0.23	0.69	Y
BAI-24A-045-18	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Silver	7440-22-4	0.29	0.058	0.29	N
BAI-24A-045-18	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Thallium	7440-28-0	0.59	0.16	0.59	N
BAI-24A-045-18	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Antimony	7440-36-0	0.59	0.17	0.59	N
BAI-24A-045-18	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Arsenic	7440-38-2	14	0.084	0.29	Y
BAI-24A-045-18	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Barium	7440-39-3	160	0.12	0.35	Y
BAI-24A-045-18	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Beryllium	7440-41-7	0.98	0.023	0.12	Y
BAI-24A-045-18	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Cadmium	7440-43-9	0.42	0.058	0.29	Y

Attachment B-4.2
Processed Data

PARENT_SAMPLE_NAME	SI Designation	Exposure Unit	ANALYTICAL_METHOD	Depth Interval	RESULT_UNITS	Analyte Group	Analyte Name	ANALYTE_ID	dw_Analyte Value	dw_MDL	dw_MRL	DETECTED
BAI-24A-045-18	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Chromium	7440-47-3	21	0.12	0.35	Y
BAI-24A-045-18	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Cobalt	7440-48-4	13	0.23	0.69	Y
BAI-24A-045-18	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Copper	7440-50-8	37	0.12	0.35	Y
BAI-24A-045-18	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Vanadium	7440-62-2	67	0.12	0.35	Y
BAI-24A-045-18	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Zinc	7440-66-6	77	0.23	1.2	Y
BAI-24A-045-18	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Selenium	7782-49-2	1.3	0.18	0.59	Y
BAI-24A-045-18	Grenade Impact	3	7470A	0-2	MG_KG	Inorganic	Mercury	7439-97-6	0.024	0.0067	0.024	N
BAI-24A-045-18	Grenade Impact	3	8330	0-2	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	235.2941176	15.29411765	235.2941176	N
BAI-24A-045-18	Grenade Impact	3	8330	0-2	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	235.2941176	22.35294118	235.2941176	N
BAI-24A-045-18	Grenade Impact	3	8330	0-2	UG_KG	Explosive	RDX	121-82-4	235.2941176	45.88235294	235.2941176	N
BAI-24A-045-18	Grenade Impact	3	8330	0-2	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	235.2941176	32.94117647	235.2941176	N
BAI-24A-045-18	Grenade Impact	3	8330	0-2	UG_KG	Explosive	HMX	2691-41-0	235.2941176	30.58823529	235.2941176	N
BAI-24A-045-18	Grenade Impact	3	8330	0-2	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	235.2941176	30.58823529	235.2941176	N
BAI-24A-045-18	Grenade Impact	3	8330	0-2	UG_KG	Explosive	Tetryl	479-45-8	235.2941176	76.47058824	235.2941176	N
BAI-24A-045-18	Grenade Impact	3	8330	0-2	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	235.2941176	21.17647059	235.2941176	N
BAI-24A-045-18	Grenade Impact	3	8330	0-2	UG_KG	Explosive	2-Nitrotoluene	88-72-2	470.5882353	18.82352941	470.5882353	N
BAI-24A-045-18	Grenade Impact	3	8330	0-2	UG_KG	SVOC	Nitrobenzene	98-95-3	235.2941176	21.17647059	235.2941176	N
BAI-24A-045-18	Grenade Impact	3	8330	0-2	UG_KG	Explosive	3-Nitrotoluene	99-08-1	470.5882353	71.76470588	470.5882353	N
BAI-24A-045-18	Grenade Impact	3	8330	0-2	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	235.2941176	41.17647059	235.2941176	N
BAI-24A-045-18	Grenade Impact	3	8330	0-2	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	235.2941176	23.52941176	235.2941176	N
BAI-24A-045-18	Grenade Impact	3	8330	0-2	UG_KG	Explosive	4-Nitrotoluene	99-99-0	470.5882353	36.47058824	470.5882353	N
BAI-24A-045-18	Grenade Impact	3	D2216	0-2	PCT	Other	Percent Moisture	-86	17.64705882	0	1.176470588	Y
BAI-24A-046-00	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Lead	7439-92-1	3.3	0.072	0.29	Y
BAI-24A-046-00	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Molybdenum	7439-98-7	0.62	0.21	0.62	N
BAI-24A-046-00	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Nickel	7440-02-0	10	0.21	0.62	Y
BAI-24A-046-00	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Silver	7440-22-4	0.29	0.052	0.29	N
BAI-24A-046-00	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Thallium	7440-28-0	0.57	0.15	0.57	N
BAI-24A-046-00	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Antimony	7440-36-0	0.62	0.15	0.57	Y
BAI-24A-046-00	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Arsenic	7440-38-2	3.5	0.075	0.29	Y
BAI-24A-046-00	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Barium	7440-39-3	130	0.1	0.31	Y
BAI-24A-046-00	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Beryllium	7440-41-7	0.27	0.021	0.11	Y
BAI-24A-046-00	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Cadmium	7440-43-9	0.29	0.052	0.29	N
BAI-24A-046-00	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Chromium	7440-47-3	15	0.1	0.31	Y
BAI-24A-046-00	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Cobalt	7440-48-4	5.9	0.21	0.62	Y
BAI-24A-046-00	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Copper	7440-50-8	7.7	0.1	0.31	Y
BAI-24A-046-00	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Vanadium	7440-62-2	25	0.1	0.31	Y
BAI-24A-046-00	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Zinc	7440-66-6	33	0.21	1.1	Y
BAI-24A-046-00	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Selenium	7782-49-2	0.46	0.17	0.57	Y
BAI-24A-046-00	Grenade Impact	3	7470A	0-2	MG_KG	Inorganic	Mercury	7439-97-6	0.024	0.0077	0.024	N
BAI-24A-046-00	Grenade Impact	3	8330	0-2	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	229.8850575	14.94252874	229.8850575	N
BAI-24A-046-00	Grenade Impact	3	8330	0-2	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	229.8850575	21.83908046	229.8850575	N
BAI-24A-046-00	Grenade Impact	3	8330	0-2	UG_KG	Explosive	RDX	121-82-4	229.8850575	44.82758621	229.8850575	N
BAI-24A-046-00	Grenade Impact	3	8330	0-2	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	229.8850575	32.18390805	229.8850575	N
BAI-24A-046-00	Grenade Impact	3	8330	0-2	UG_KG	Explosive	HMX	2691-41-0	229.8850575	29.88505747	229.8850575	N
BAI-24A-046-00	Grenade Impact	3	8330	0-2	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	229.8850575	29.88505747	229.8850575	N
BAI-24A-046-00	Grenade Impact	3	8330	0-2	UG_KG	Explosive	Tetryl	479-45-8	229.8850575	74.71264368	229.8850575	N
BAI-24A-046-00	Grenade Impact	3	8330	0-2	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	229.8850575	20.68965517	229.8850575	N
BAI-24A-046-00	Grenade Impact	3	8330	0-2	UG_KG	Explosive	2-Nitrotoluene	88-72-2	448.2758621	18.3908046	448.2758621	N
BAI-24A-046-00	Grenade Impact	3	8330	0-2	UG_KG	SVOC	Nitrobenzene	98-95-3	229.8850575	20.68965517	229.8850575	N

PARENT_SAMPLE_NAME	SI Designation	Exposure Unit	ANALYTICAL_METHOD	Depth Interval	RESULT_UNITS	Analyte Group	Analyte Name	ANALYTE_ID	dw_Analyte Value	dw_MDL	dw_MRL	DETECTED
BAI-24A-046-00	Grenade Impact	3	8330	0-2	UG_KG	Explosive	3-Nitrotoluene	99-08-1	448.2758621	68.96551724	448.2758621	N
BAI-24A-046-00	Grenade Impact	3	8330	0-2	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	229.8850575	40.22988506	229.8850575	N
BAI-24A-046-00	Grenade Impact	3	8330	0-2	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	229.8850575	21.83908046	229.8850575	N
BAI-24A-046-00	Grenade Impact	3	8330	0-2	UG_KG	Explosive	4-Nitrotoluene	99-99-0	448.2758621	34.48275862	448.2758621	N
BAI-24A-046-00	Grenade Impact	3	D2216	0-2	PCT	Other	Percent Moisture	-86	14.94252874	0	1.149425287	Y
BAI-24A-046-18	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Lead	7439-92-1	3.6	0.073	0.28	Y
BAI-24A-046-18	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Molybdenum	7439-98-7	0.63	0.21	0.63	N
BAI-24A-046-18	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Nickel	7440-02-0	15	0.21	0.63	Y
BAI-24A-046-18	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Silver	7440-22-4	0.28	0.053	0.28	N
BAI-24A-046-18	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Thallium	7440-28-0	0.57	0.15	0.57	N
BAI-24A-046-18	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Antimony	7440-36-0	0.55	0.16	0.57	Y
BAI-24A-046-18	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Arsenic	7440-38-2	4.2	0.076	0.28	Y
BAI-24A-046-18	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Barium	7440-39-3	180	0.11	0.32	Y
BAI-24A-046-18	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Beryllium	7440-41-7	0.4	0.021	0.11	Y
BAI-24A-046-18	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Cadmium	7440-43-9	0.28	0.053	0.28	N
BAI-24A-046-18	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Chromium	7440-47-3	17	0.11	0.32	Y
BAI-24A-046-18	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Cobalt	7440-48-4	11	0.21	0.63	Y
BAI-24A-046-18	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Copper	7440-50-8	13	0.11	0.32	Y
BAI-24A-046-18	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Vanadium	7440-62-2	33	0.11	0.32	Y
BAI-24A-046-18	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Zinc	7440-66-6	46	0.21	1.1	Y
BAI-24A-046-18	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Selenium	7782-49-2	0.71	0.17	0.57	Y
BAI-24A-046-18	Grenade Impact	3	7470A	0-2	MG_KG	Inorganic	Mercury	7439-97-6	0.014	0.0069	0.023	N
BAI-24A-046-18	Grenade Impact	3	8330	0-2	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	227.2727273	14.77272727	227.2727273	N
BAI-24A-046-18	Grenade Impact	3	8330	0-2	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	227.2727273	21.59090909	227.2727273	N
BAI-24A-046-18	Grenade Impact	3	8330	0-2	UG_KG	Explosive	RDX	121-82-4	227.2727273	44.31818182	227.2727273	N
BAI-24A-046-18	Grenade Impact	3	8330	0-2	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	227.2727273	31.81818182	227.2727273	N
BAI-24A-046-18	Grenade Impact	3	8330	0-2	UG_KG	Explosive	HMX	2691-41-0	227.2727273	29.54545455	227.2727273	N
BAI-24A-046-18	Grenade Impact	3	8330	0-2	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	227.2727273	29.54545455	227.2727273	N
BAI-24A-046-18	Grenade Impact	3	8330	0-2	UG_KG	Explosive	Tetryl	479-45-8	227.2727273	73.86363636	227.2727273	N
BAI-24A-046-18	Grenade Impact	3	8330	0-2	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	227.2727273	20.45454545	227.2727273	N
BAI-24A-046-18	Grenade Impact	3	8330	0-2	UG_KG	Explosive	2-Nitrotoluene	88-72-2	454.5454545	18.18181818	454.5454545	N
BAI-24A-046-18	Grenade Impact	3	8330	0-2	UG_KG	SVOC	Nitrobenzene	98-95-3	227.2727273	20.45454545	227.2727273	N
BAI-24A-046-18	Grenade Impact	3	8330	0-2	UG_KG	Explosive	3-Nitrotoluene	99-08-1	454.5454545	69.31818182	454.5454545	N
BAI-24A-046-18	Grenade Impact	3	8330	0-2	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	227.2727273	39.77272727	227.2727273	N
BAI-24A-046-18	Grenade Impact	3	8330	0-2	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	227.2727273	22.72727273	227.2727273	N
BAI-24A-046-18	Grenade Impact	3	8330	0-2	UG_KG	Explosive	4-Nitrotoluene	99-99-0	454.5454545	35.22727273	454.5454545	N
BAI-24A-046-18	Grenade Impact	3	D2216	0-2	PCT	Other	Percent Moisture	-86	13.63636364	0	1.136363636	Y
BAI-24A-047-00	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Lead	7439-92-1	34	0.076	0.29	Y
BAI-24A-047-00	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Molybdenum	7439-98-7	0.65	0.22	0.65	N
BAI-24A-047-00	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Nickel	7440-02-0	14	0.22	0.65	Y
BAI-24A-047-00	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Silver	7440-22-4	0.29	0.054	0.29	N
BAI-24A-047-00	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Thallium	7440-28-0	0.57	0.15	0.57	N
BAI-24A-047-00	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Antimony	7440-36-0	0.51	0.16	0.57	Y
BAI-24A-047-00	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Arsenic	7440-38-2	4.3	0.079	0.29	Y
BAI-24A-047-00	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Barium	7440-39-3	130	0.11	0.33	Y
BAI-24A-047-00	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Beryllium	7440-41-7	0.37	0.022	0.11	Y
BAI-24A-047-00	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Cadmium	7440-43-9	0.067	0.054	0.29	Y
BAI-24A-047-00	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Chromium	7440-47-3	16	0.11	0.33	Y
BAI-24A-047-00	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Cobalt	7440-48-4	7.4	0.22	0.65	Y

PARENT_SAMPLE_NAME	SI Designation	Exposure Unit	ANALYTICAL_METHOD	Depth Interval	RESULT_UNITS	Analyte Group	Analyte Name	ANALYTE_ID	dw_Analyte Value	dw_MDL	dw_MRL	DETECTED
BAI-24A-047-00	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Copper	7440-50-8	14	0.11	0.33	Y
BAI-24A-047-00	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Vanadium	7440-62-2	31	0.11	0.33	Y
BAI-24A-047-00	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Zinc	7440-66-6	88	0.22	1.1	Y
BAI-24A-047-00	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Selenium	7782-49-2	0.29	0.17	0.57	Y
BAI-24A-047-00	Grenade Impact	3	7470A	0-2	MG_KG	Inorganic	Mercury	7439-97-6	0.014	0.0075	0.024	N
BAI-24A-047-00	Grenade Impact	3	8330	0-2	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	229.8850575	14.94252874	229.8850575	N
BAI-24A-047-00	Grenade Impact	3	8330	0-2	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	229.8850575	21.83908046	229.8850575	N
BAI-24A-047-00	Grenade Impact	3	8330	0-2	UG_KG	Explosive	RDX	121-82-4	229.8850575	44.82758621	229.8850575	N
BAI-24A-047-00	Grenade Impact	3	8330	0-2	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	229.8850575	32.18390805	229.8850575	N
BAI-24A-047-00	Grenade Impact	3	8330	0-2	UG_KG	Explosive	HMX	2691-41-0	229.8850575	29.88505747	229.8850575	N
BAI-24A-047-00	Grenade Impact	3	8330	0-2	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	229.8850575	29.88505747	229.8850575	N
BAI-24A-047-00	Grenade Impact	3	8330	0-2	UG_KG	Explosive	Tetryl	479-45-8	229.8850575	73.56321839	229.8850575	N
BAI-24A-047-00	Grenade Impact	3	8330	0-2	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	229.8850575	20.68965517	229.8850575	N
BAI-24A-047-00	Grenade Impact	3	8330	0-2	UG_KG	Explosive	2-Nitrotoluene	88-72-2	448.2758621	18.3908046	448.2758621	N
BAI-24A-047-00	Grenade Impact	3	8330	0-2	UG_KG	SVOC	Nitrobenzene	98-95-3	229.8850575	20.68965517	229.8850575	N
BAI-24A-047-00	Grenade Impact	3	8330	0-2	UG_KG	Explosive	3-Nitrotoluene	99-08-1	448.2758621	68.96551724	448.2758621	N
BAI-24A-047-00	Grenade Impact	3	8330	0-2	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	229.8850575	39.08045977	229.8850575	N
BAI-24A-047-00	Grenade Impact	3	8330	0-2	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	229.8850575	21.83908046	229.8850575	N
BAI-24A-047-00	Grenade Impact	3	8330	0-2	UG_KG	Explosive	4-Nitrotoluene	99-99-0	448.2758621	34.48275862	448.2758621	N
BAI-24A-047-00	Grenade Impact	3	D2216	0-2	PCT	Other	Percent Moisture	-86	14.94252874	0	1.149425287	Y
BAI-24A-047-18	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Lead	7439-92-1	3.1	0.072	0.28	Y
BAI-24A-047-18	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Molybdenum	7439-98-7	0.62	0.21	0.62	N
BAI-24A-047-18	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Nickel	7440-02-0	11	0.21	0.62	Y
BAI-24A-047-18	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Silver	7440-22-4	0.28	0.052	0.28	N
BAI-24A-047-18	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Thallium	7440-28-0	0.56	0.14	0.56	N
BAI-24A-047-18	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Antimony	7440-36-0	0.22	0.15	0.56	Y
BAI-24A-047-18	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Arsenic	7440-38-2	3.1	0.075	0.28	Y
BAI-24A-047-18	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Barium	7440-39-3	180	0.1	0.31	Y
BAI-24A-047-18	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Beryllium	7440-41-7	0.33	0.021	0.11	Y
BAI-24A-047-18	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Cadmium	7440-43-9	0.28	0.052	0.28	N
BAI-24A-047-18	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Chromium	7440-47-3	16	0.1	0.31	Y
BAI-24A-047-18	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Cobalt	7440-48-4	6	0.21	0.62	Y
BAI-24A-047-18	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Copper	7440-50-8	11	0.1	0.31	Y
BAI-24A-047-18	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Vanadium	7440-62-2	24	0.1	0.31	Y
BAI-24A-047-18	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Zinc	7440-66-6	39	0.21	1.1	Y
BAI-24A-047-18	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Selenium	7782-49-2	0.56	0.16	0.56	N
BAI-24A-047-18	Grenade Impact	3	7470A	0-2	MG_KG	Inorganic	Mercury	7439-97-6	0.022	0.0067	0.022	N
BAI-24A-047-18	Grenade Impact	3	8330	0-2	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	224.7191011	44.94382022	224.7191011	N
BAI-24A-047-18	Grenade Impact	3	8330	0-2	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	224.7191011	44.94382022	224.7191011	N
BAI-24A-047-18	Grenade Impact	3	8330	0-2	UG_KG	Explosive	RDX	121-82-4	224.7191011	44.94382022	224.7191011	N
BAI-24A-047-18	Grenade Impact	3	8330	0-2	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	224.7191011	69.66292135	224.7191011	N
BAI-24A-047-18	Grenade Impact	3	8330	0-2	UG_KG	Explosive	HMX	2691-41-0	224.7191011	44.94382022	224.7191011	N
BAI-24A-047-18	Grenade Impact	3	8330	0-2	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	224.7191011	56.17977528	224.7191011	N
BAI-24A-047-18	Grenade Impact	3	8330	0-2	UG_KG	Explosive	Tetryl	479-45-8	224.7191011	44.94382022	224.7191011	N
BAI-24A-047-18	Grenade Impact	3	8330	0-2	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	224.7191011	44.94382022	224.7191011	N
BAI-24A-047-18	Grenade Impact	3	8330	0-2	UG_KG	Explosive	2-Nitrotoluene	88-72-2	449.4382022	88.76404494	449.4382022	N
BAI-24A-047-18	Grenade Impact	3	8330	0-2	UG_KG	SVOC	Nitrobenzene	98-95-3	224.7191011	44.94382022	224.7191011	N
BAI-24A-047-18	Grenade Impact	3	8330	0-2	UG_KG	Explosive	3-Nitrotoluene	99-08-1	449.4382022	88.76404494	449.4382022	N
BAI-24A-047-18	Grenade Impact	3	8330	0-2	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	224.7191011	44.94382022	224.7191011	N

PARENT_SAMPLE_NAME	SI Designation	Exposure Unit	ANALYTICAL_METHOD	Depth Interval	RESULT_UNITS	Analyte Group	Analyte Name	ANALYTE_ID	dw_Analyte Value	dw_MDL	dw_MRL	DETECTED
BAI-24A-047-18	Grenade Impact	3	8330	0-2	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	224.7191011	44.94382022	224.7191011	N
BAI-24A-047-18	Grenade Impact	3	8330	0-2	UG_KG	Explosive	4-Nitrotoluene	99-99-0	449.4382022	88.76404494	449.4382022	N
BAI-24A-047-18	Grenade Impact	3	D2216	0-2	PCT	Other	Percent Moisture	-86	12.35955056	0	1.123595506	Y
BAI-24A-048-00	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Lead	7439-92-1	25	0.074	0.29	Y
BAI-24A-048-00	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Molybdenum	7439-98-7	0.64	0.21	0.64	N
BAI-24A-048-00	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Nickel	7440-02-0	14	0.21	0.64	Y
BAI-24A-048-00	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Silver	7440-22-4	0.29	0.053	0.29	N
BAI-24A-048-00	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Thallium	7440-28-0	0.57	0.15	0.57	N
BAI-24A-048-00	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Antimony	7440-36-0	0.66	0.16	0.57	Y
BAI-24A-048-00	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Arsenic	7440-38-2	4.8	0.077	0.29	Y
BAI-24A-048-00	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Barium	7440-39-3	120	0.11	0.32	Y
BAI-24A-048-00	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Beryllium	7440-41-7	0.45	0.021	0.11	Y
BAI-24A-048-00	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Cadmium	7440-43-9	0.29	0.053	0.29	N
BAI-24A-048-00	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Chromium	7440-47-3	18	0.11	0.32	Y
BAI-24A-048-00	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Cobalt	7440-48-4	7.8	0.21	0.64	Y
BAI-24A-048-00	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Copper	7440-50-8	17	0.11	0.32	Y
BAI-24A-048-00	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Vanadium	7440-62-2	35	0.11	0.32	Y
BAI-24A-048-00	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Zinc	7440-66-6	62	0.21	1.1	Y
BAI-24A-048-00	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Selenium	7782-49-2	0.48	0.17	0.57	Y
BAI-24A-048-00	Grenade Impact	3	7470A	0-2	MG_KG	Inorganic	Mercury	7439-97-6	0.017	0.0069	0.023	N
BAI-24A-048-00	Grenade Impact	3	8330	0-2	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	229.8850575	45.97701149	229.8850575	N
BAI-24A-048-00	Grenade Impact	3	8330	0-2	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	229.8850575	45.97701149	229.8850575	N
BAI-24A-048-00	Grenade Impact	3	8330	0-2	UG_KG	Explosive	RDX	121-82-4	229.8850575	45.97701149	229.8850575	N
BAI-24A-048-00	Grenade Impact	3	8330	0-2	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	229.8850575	71.26436782	229.8850575	N
BAI-24A-048-00	Grenade Impact	3	8330	0-2	UG_KG	Explosive	HMX	2691-41-0	229.8850575	45.97701149	229.8850575	N
BAI-24A-048-00	Grenade Impact	3	8330	0-2	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	229.8850575	57.47126437	229.8850575	N
BAI-24A-048-00	Grenade Impact	3	8330	0-2	UG_KG	Explosive	Tetryl	479-45-8	229.8850575	45.97701149	229.8850575	N
BAI-24A-048-00	Grenade Impact	3	8330	0-2	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	229.8850575	45.97701149	229.8850575	N
BAI-24A-048-00	Grenade Impact	3	8330	0-2	UG_KG	Explosive	2-Nitrotoluene	88-72-2	459.7701149	91.95402299	459.7701149	N
BAI-24A-048-00	Grenade Impact	3	8330	0-2	UG_KG	SVOC	Nitrobenzene	98-95-3	229.8850575	45.97701149	229.8850575	N
BAI-24A-048-00	Grenade Impact	3	8330	0-2	UG_KG	Explosive	3-Nitrotoluene	99-08-1	459.7701149	91.95402299	459.7701149	N
BAI-24A-048-00	Grenade Impact	3	8330	0-2	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	229.8850575	45.97701149	229.8850575	N
BAI-24A-048-00	Grenade Impact	3	8330	0-2	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	229.8850575	45.97701149	229.8850575	N
BAI-24A-048-00	Grenade Impact	3	8330	0-2	UG_KG	Explosive	4-Nitrotoluene	99-99-0	459.7701149	91.95402299	459.7701149	N
BAI-24A-048-00	Grenade Impact	3	D2216	0-2	PCT	Other	Percent Moisture	-86	14.94252874	0	1.149425287	Y
BAI-24A-048-18	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Lead	7439-92-1	3.8	0.071	0.26	Y
BAI-24A-048-18	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Molybdenum	7439-98-7	0.61	0.2	0.61	N
BAI-24A-048-18	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Nickel	7440-02-0	13	0.2	0.61	Y
BAI-24A-048-18	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Silver	7440-22-4	0.26	0.051	0.26	N
BAI-24A-048-18	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Thallium	7440-28-0	0.53	0.14	0.53	N
BAI-24A-048-18	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Antimony	7440-36-0	0.4	0.15	0.53	Y
BAI-24A-048-18	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Arsenic	7440-38-2	4.4	0.074	0.26	Y
BAI-24A-048-18	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Barium	7440-39-3	140	0.1	0.31	Y
BAI-24A-048-18	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Beryllium	7440-41-7	0.43	0.02	0.11	Y
BAI-24A-048-18	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Cadmium	7440-43-9	0.26	0.051	0.26	N
BAI-24A-048-18	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Chromium	7440-47-3	17	0.1	0.31	Y
BAI-24A-048-18	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Cobalt	7440-48-4	7.8	0.2	0.61	Y
BAI-24A-048-18	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Copper	7440-50-8	15	0.1	0.31	Y
BAI-24A-048-18	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Vanadium	7440-62-2	33	0.1	0.31	Y

PARENT_SAMPLE_NAME	SI Designation	Exposure Unit	ANALYTICAL_METHOD	Depth Interval	RESULT_UNITS	Analyte Group	Analyte Name	ANALYTE_ID	dw_Analyte Value	dw_MDL	dw_MRL	DETECTED
BAI-24A-048-18	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Zinc	7440-66-6	46	0.2	1.1	Y
BAI-24A-048-18	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Selenium	7782-49-2	0.56	0.16	0.53	Y
BAI-24A-048-18	Grenade Impact	3	7470A	0-2	MG_KG	Inorganic	Mercury	7439-97-6	0.018	0.0062	0.021	N
BAI-24A-048-18	Grenade Impact	3	8330	0-2	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	210.5263158	41.05263158	210.5263158	N
BAI-24A-048-18	Grenade Impact	3	8330	0-2	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	210.5263158	41.05263158	210.5263158	N
BAI-24A-048-18	Grenade Impact	3	8330	0-2	UG_KG	Explosive	RDX	121-82-4	210.5263158	41.05263158	210.5263158	N
BAI-24A-048-18	Grenade Impact	3	8330	0-2	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	210.5263158	64.21052632	210.5263158	N
BAI-24A-048-18	Grenade Impact	3	8330	0-2	UG_KG	Explosive	HMX	2691-41-0	210.5263158	41.05263158	210.5263158	N
BAI-24A-048-18	Grenade Impact	3	8330	0-2	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	210.5263158	51.57894737	210.5263158	N
BAI-24A-048-18	Grenade Impact	3	8330	0-2	UG_KG	Explosive	Tetryl	479-45-8	210.5263158	41.05263158	210.5263158	N
BAI-24A-048-18	Grenade Impact	3	8330	0-2	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	210.5263158	41.05263158	210.5263158	N
BAI-24A-048-18	Grenade Impact	3	8330	0-2	UG_KG	Explosive	2-Nitrotoluene	88-72-2	410.5263158	82.10526316	410.5263158	N
BAI-24A-048-18	Grenade Impact	3	8330	0-2	UG_KG	SVOC	Nitrobenzene	98-95-3	210.5263158	41.05263158	210.5263158	N
BAI-24A-048-18	Grenade Impact	3	8330	0-2	UG_KG	Explosive	3-Nitrotoluene	99-08-1	410.5263158	82.10526316	410.5263158	N
BAI-24A-048-18	Grenade Impact	3	8330	0-2	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	210.5263158	41.05263158	210.5263158	N
BAI-24A-048-18	Grenade Impact	3	8330	0-2	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	210.5263158	41.05263158	210.5263158	N
BAI-24A-048-18	Grenade Impact	3	8330	0-2	UG_KG	Explosive	4-Nitrotoluene	99-99-0	410.5263158	82.10526316	410.5263158	N
BAI-24A-048-18	Grenade Impact	3	D2216	0-2	PCT	Other	Percent Moisture	-86	5.263157895	0	1.052631579	Y
BAI-24A-049-00	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Lead	7439-92-1	16	0.073	0.28	Y
BAI-24A-049-00	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Molybdenum	7439-98-7	0.63	0.21	0.63	N
BAI-24A-049-00	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Nickel	7440-02-0	13.5	0.21	0.63	Y
BAI-24A-049-00	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Silver	7440-22-4	0.28	0.053	0.28	N
BAI-24A-049-00	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Thallium	7440-28-0	0.565	0.15	0.565	N
BAI-24A-049-00	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Antimony	7440-36-0	0.87	0.16	0.565	Y
BAI-24A-049-00	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Arsenic	7440-38-2	4.9	0.076	0.28	Y
BAI-24A-049-00	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Barium	7440-39-3	130	0.11	0.32	Y
BAI-24A-049-00	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Beryllium	7440-41-7	0.415	0.021	0.11	Y
BAI-24A-049-00	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Cadmium	7440-43-9	0.28	0.053	0.28	N
BAI-24A-049-00	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Chromium	7440-47-3	19	0.11	0.32	Y
BAI-24A-049-00	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Cobalt	7440-48-4	7.8	0.21	0.63	Y
BAI-24A-049-00	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Copper	7440-50-8	14.5	0.11	0.32	Y
BAI-24A-049-00	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Vanadium	7440-62-2	35.5	0.11	0.32	Y
BAI-24A-049-00	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Zinc	7440-66-6	54	0.21	1.1	Y
BAI-24A-049-00	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Selenium	7782-49-2	0.44	0.17	0.565	Y
BAI-24A-049-00	Grenade Impact	3	7470A	0-2	MG_KG	Inorganic	Mercury	7439-97-6	0.017	0.0072	0.023	N
BAI-24A-049-00	Grenade Impact	3	8330	0-2	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	225.9887006	29.94350282	225.9887006	N
BAI-24A-049-00	Grenade Impact	3	8330	0-2	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	225.9887006	33.33333333	225.9887006	N
BAI-24A-049-00	Grenade Impact	3	8330	0-2	UG_KG	Explosive	RDX	121-82-4	225.9887006	44.63276836	225.9887006	N
BAI-24A-049-00	Grenade Impact	3	8330	0-2	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	225.9887006	50.84745763	225.9887006	N
BAI-24A-049-00	Grenade Impact	3	8330	0-2	UG_KG	Explosive	HMX	2691-41-0	225.9887006	37.28813559	225.9887006	N
BAI-24A-049-00	Grenade Impact	3	8330	0-2	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	225.9887006	42.93785311	225.9887006	N
BAI-24A-049-00	Grenade Impact	3	8330	0-2	UG_KG	Explosive	Tetryl	479-45-8	225.9887006	59.3220339	225.9887006	N
BAI-24A-049-00	Grenade Impact	3	8330	0-2	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	225.9887006	32.76836158	225.9887006	N
BAI-24A-049-00	Grenade Impact	3	8330	0-2	UG_KG	Explosive	2-Nitrotoluene	88-72-2	446.3276836	53.67231638	446.3276836	N
BAI-24A-049-00	Grenade Impact	3	8330	0-2	UG_KG	SVOC	Nitrobenzene	98-95-3	225.9887006	32.76836158	225.9887006	N
BAI-24A-049-00	Grenade Impact	3	8330	0-2	UG_KG	Explosive	3-Nitrotoluene	99-08-1	446.3276836	78.53107345	446.3276836	N
BAI-24A-049-00	Grenade Impact	3	8330	0-2	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	225.9887006	42.37288136	225.9887006	N
BAI-24A-049-00	Grenade Impact	3	8330	0-2	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	225.9887006	33.33333333	225.9887006	N
BAI-24A-049-00	Grenade Impact	3	8330	0-2	UG_KG	Explosive	4-Nitrotoluene	99-99-0	446.3276836	61.5819209	446.3276836	N

PARENT_SAMPLE_NAME	SI Designation	Exposure Unit	ANALYTICAL_METHOD	Depth Interval	RESULT_UNITS	Analyte Group	Analyte Name	ANALYTE_ID	dw_Analyte Value	dw_MDL	dw_MRL	DETECTED
BAI-24A-049-00	Grenade Impact	3	D2216	0-2	PCT	Other	Percent Moisture	-86	12.99435028	0	1.129943503	Y
BAI-24A-049-18	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Lead	7439-92-1	3.2	0.074	0.28	Y
BAI-24A-049-18	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Molybdenum	7439-98-7	0.63	0.21	0.63	N
BAI-24A-049-18	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Nickel	7440-02-0	13	0.21	0.63	Y
BAI-24A-049-18	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Silver	7440-22-4	0.28	0.053	0.28	N
BAI-24A-049-18	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Thallium	7440-28-0	0.56	0.15	0.56	N
BAI-24A-049-18	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Antimony	7440-36-0	0.47	0.16	0.56	Y
BAI-24A-049-18	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Arsenic	7440-38-2	4.3	0.077	0.28	Y
BAI-24A-049-18	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Barium	7440-39-3	130	0.11	0.32	Y
BAI-24A-049-18	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Beryllium	7440-41-7	0.42	0.021	0.11	Y
BAI-24A-049-18	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Cadmium	7440-43-9	0.28	0.053	0.28	N
BAI-24A-049-18	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Chromium	7440-47-3	16	0.11	0.32	Y
BAI-24A-049-18	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Cobalt	7440-48-4	8.3	0.21	0.63	Y
BAI-24A-049-18	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Copper	7440-50-8	13	0.11	0.32	Y
BAI-24A-049-18	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Vanadium	7440-62-2	33	0.11	0.32	Y
BAI-24A-049-18	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Zinc	7440-66-6	46	0.21	1.1	Y
BAI-24A-049-18	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Selenium	7782-49-2	0.48	0.17	0.56	Y
BAI-24A-049-18	Grenade Impact	3	7470A	0-2	MG_KG	Inorganic	Mercury	7439-97-6	0.022	0.0066	0.022	N
BAI-24A-049-18	Grenade Impact	3	8330	0-2	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	222.2222222	44.44444444	222.2222222	N
BAI-24A-049-18	Grenade Impact	3	8330	0-2	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	222.2222222	44.44444444	222.2222222	N
BAI-24A-049-18	Grenade Impact	3	8330	0-2	UG_KG	Explosive	RDX	121-82-4	222.2222222	44.44444444	222.2222222	N
BAI-24A-049-18	Grenade Impact	3	8330	0-2	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	222.2222222	70	222.2222222	N
BAI-24A-049-18	Grenade Impact	3	8330	0-2	UG_KG	Explosive	HMX	2691-41-0	222.2222222	44.44444444	222.2222222	N
BAI-24A-049-18	Grenade Impact	3	8330	0-2	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	222.2222222	55.55555556	222.2222222	N
BAI-24A-049-18	Grenade Impact	3	8330	0-2	UG_KG	Explosive	Tetryl	479-45-8	222.2222222	44.44444444	222.2222222	N
BAI-24A-049-18	Grenade Impact	3	8330	0-2	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	222.2222222	44.44444444	222.2222222	N
BAI-24A-049-18	Grenade Impact	3	8330	0-2	UG_KG	Explosive	2-Nitrotoluene	88-72-2	444.4444444	88.88888889	444.4444444	N
BAI-24A-049-18	Grenade Impact	3	8330	0-2	UG_KG	SVOC	Nitrobenzene	98-95-3	222.2222222	44.44444444	222.2222222	N
BAI-24A-049-18	Grenade Impact	3	8330	0-2	UG_KG	Explosive	3-Nitrotoluene	99-08-1	444.4444444	88.88888889	444.4444444	N
BAI-24A-049-18	Grenade Impact	3	8330	0-2	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	222.2222222	44.44444444	222.2222222	N
BAI-24A-049-18	Grenade Impact	3	8330	0-2	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	222.2222222	44.44444444	222.2222222	N
BAI-24A-049-18	Grenade Impact	3	8330	0-2	UG_KG	Explosive	4-Nitrotoluene	99-99-0	444.4444444	88.88888889	444.4444444	N
BAI-24A-049-18	Grenade Impact	3	D2216	0-2	PCT	Other	Percent Moisture	-86	11.11111111	0	1.111111111	Y
BAI-24A-05-00	Retaining Wall	2	8270C_SIM	0-2	UG_KG	PAH	Anthracene	120-12-7	68.5	1.15	5.8	Y
BAI-24A-05-00	Retaining Wall	2	8270C_SIM	0-2	UG_KG	PAH	Pyrene	129-00-0	110	1.15	5.8	Y
BAI-24A-05-00	Retaining Wall	2	8270C_SIM	0-2	UG_KG	PAH	Benzo(g,h,i)perylene	191-24-2	82	1.3	5.8	Y
BAI-24A-05-00	Retaining Wall	2	8270C_SIM	0-2	UG_KG	PAH	Indeno(1,2,3-cd)yrene	193-39-5	75.5	1.2	5.8	Y
BAI-24A-05-00	Retaining Wall	2	8270C_SIM	0-2	UG_KG	PAH	Benzo(b)fluoranthene	205-99-2	168.5	1.15	5.8	Y
BAI-24A-05-00	Retaining Wall	2	8270C_SIM	0-2	UG_KG	PAH	Fluoranthene	206-44-0	109	1.15	5.8	Y
BAI-24A-05-00	Retaining Wall	2	8270C_SIM	0-2	UG_KG	PAH	Benzo(k)fluoranthene	207-08-9	49	1.15	5.8	Y
BAI-24A-05-00	Retaining Wall	2	8270C_SIM	0-2	UG_KG	PAH	Acenaphthylene	208-96-8	25.5	1.15	5.8	Y
BAI-24A-05-00	Retaining Wall	2	8270C_SIM	0-2	UG_KG	PAH	Chrysene	218-01-9	115	1.15	5.8	Y
BAI-24A-05-00	Retaining Wall	2	8270C_SIM	0-2	UG_KG	PAH	Benzo(a)pyrene	50-32-8	69	1.15	5.8	Y
BAI-24A-05-00	Retaining Wall	2	8270C_SIM	0-2	UG_KG	PAH	Dibenz(a,h)anthracene	53-70-3	23	1.2	5.8	Y
BAI-24A-05-00	Retaining Wall	2	8270C_SIM	0-2	UG_KG	PAH	Benzo(a)anthracene	56-55-3	65	1.15	5.8	Y
BAI-24A-05-00	Retaining Wall	2	8270C_SIM	0-2	UG_KG	PAH	Acenaphthene	83-32-9	3.4	1.15	5.8	Y
BAI-24A-05-00	Retaining Wall	2	8270C_SIM	0-2	UG_KG	PAH	Phenanthrene	85-01-8	28	1.15	5.8	Y
BAI-24A-05-00	Retaining Wall	2	8270C_SIM	0-2	UG_KG	PAH	Fluorene	86-73-7	3	1.15	5.8	Y
BAI-24A-05-00	Retaining Wall	2	8270C_SIM	0-2	UG_KG	PAH	Naphthalene	91-20-3	1.15	0.85	4.325	Y

PARENT_SAMPLE_NAME	SI Designation	Exposure Unit	ANALYTICAL_METHOD	Depth Interval	RESULT_UNITS	Analyte Group	Analyte Name	ANALYTE_ID	dw_Analyte Value	dw_MDL	dw_MRL	DETECTED
BAI-24A-05-00	Retaining Wall	2	D2216	0-2	PCT	Other	Percent Moisture	-86	16.27906977	0	1.162790698	Y
BAI-24A-051-00	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Lead	7439-92-1	58	0.072	0.29	Y
BAI-24A-051-00	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Molybdenum	7439-98-7	0.62	0.21	0.62	N
BAI-24A-051-00	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Nickel	7440-02-0	15	0.21	0.62	Y
BAI-24A-051-00	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Silver	7440-22-4	0.29	0.052	0.29	N
BAI-24A-051-00	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Thallium	7440-28-0	0.58	0.15	0.58	N
BAI-24A-051-00	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Antimony	7440-36-0	1.2	0.16	0.58	Y
BAI-24A-051-00	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Arsenic	7440-38-2	5.3	0.075	0.29	Y
BAI-24A-051-00	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Barium	7440-39-3	110	0.1	0.31	Y
BAI-24A-051-00	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Beryllium	7440-41-7	0.49	0.021	0.12	Y
BAI-24A-051-00	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Cadmium	7440-43-9	0.29	0.052	0.29	N
BAI-24A-051-00	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Chromium	7440-47-3	19	0.1	0.31	Y
BAI-24A-051-00	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Cobalt	7440-48-4	8.7	0.21	0.62	Y
BAI-24A-051-00	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Copper	7440-50-8	21	0.1	0.31	Y
BAI-24A-051-00	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Vanadium	7440-62-2	36	0.1	0.31	Y
BAI-24A-051-00	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Zinc	7440-66-6	61	0.21	1.2	Y
BAI-24A-051-00	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Selenium	7782-49-2	0.53	0.17	0.58	Y
BAI-24A-051-00	Grenade Impact	3	7470A	0-2	MG_KG	Inorganic	Mercury	7439-97-6	0.019	0.0068	0.023	N
BAI-24A-051-00	Grenade Impact	3	8330	0-2	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	232.5581395	15.11627907	232.5581395	N
BAI-24A-051-00	Grenade Impact	3	8330	0-2	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	232.5581395	22.09302326	232.5581395	N
BAI-24A-051-00	Grenade Impact	3	8330	0-2	UG_KG	Explosive	RDX	121-82-4	232.5581395	46.51162791	232.5581395	N
BAI-24A-051-00	Grenade Impact	3	8330	0-2	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	232.5581395	32.55813953	232.5581395	N
BAI-24A-051-00	Grenade Impact	3	8330	0-2	UG_KG	Explosive	HMX	2691-41-0	232.5581395	30.23255814	232.5581395	N
BAI-24A-051-00	Grenade Impact	3	8330	0-2	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	232.5581395	30.23255814	232.5581395	N
BAI-24A-051-00	Grenade Impact	3	8330	0-2	UG_KG	Explosive	Tetryl	479-45-8	232.5581395	76.74418605	232.5581395	N
BAI-24A-051-00	Grenade Impact	3	8330	0-2	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	232.5581395	20.93023256	232.5581395	N
BAI-24A-051-00	Grenade Impact	3	8330	0-2	UG_KG	Explosive	2-Nitrotoluene	88-72-2	465.1162791	18.60465116	465.1162791	N
BAI-24A-051-00	Grenade Impact	3	8330	0-2	UG_KG	SVOC	Nitrobenzene	98-95-3	232.5581395	20.93023256	232.5581395	N
BAI-24A-051-00	Grenade Impact	3	8330	0-2	UG_KG	Explosive	3-Nitrotoluene	99-08-1	465.1162791	70.93023256	465.1162791	N
BAI-24A-051-00	Grenade Impact	3	8330	0-2	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	232.5581395	40.69767442	232.5581395	N
BAI-24A-051-00	Grenade Impact	3	8330	0-2	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	232.5581395	23.25581395	232.5581395	N
BAI-24A-051-00	Grenade Impact	3	8330	0-2	UG_KG	Explosive	4-Nitrotoluene	99-99-0	465.1162791	36.04651163	465.1162791	N
BAI-24A-051-00	Grenade Impact	3	D2216	0-2	PCT	Other	Percent Moisture	-86	16.27906977	0	1.162790698	Y
BAI-24A-051-18	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Lead	7439-92-1	43	0.073	0.27	Y
BAI-24A-051-18	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Molybdenum	7439-98-7	0.63	0.21	0.63	N
BAI-24A-051-18	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Nickel	7440-02-0	14	0.21	0.63	Y
BAI-24A-051-18	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Silver	7440-22-4	0.27	0.053	0.27	N
BAI-24A-051-18	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Thallium	7440-28-0	0.53	0.15	0.53	N
BAI-24A-051-18	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Antimony	7440-36-0	0.95	0.16	0.53	Y
BAI-24A-051-18	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Arsenic	7440-38-2	5.2	0.077	0.27	Y
BAI-24A-051-18	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Barium	7440-39-3	99	0.11	0.32	Y
BAI-24A-051-18	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Beryllium	7440-41-7	0.47	0.021	0.11	Y
BAI-24A-051-18	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Cadmium	7440-43-9	0.27	0.053	0.27	N
BAI-24A-051-18	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Chromium	7440-47-3	18	0.11	0.32	Y
BAI-24A-051-18	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Cobalt	7440-48-4	8.2	0.21	0.63	Y
BAI-24A-051-18	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Copper	7440-50-8	17	0.11	0.32	Y
BAI-24A-051-18	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Vanadium	7440-62-2	34	0.11	0.32	Y
BAI-24A-051-18	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Zinc	7440-66-6	53	0.21	1.1	Y
BAI-24A-051-18	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Selenium	7782-49-2	0.53	0.17	0.53	Y

PARENT_SAMPLE_NAME	SI Designation	Exposure Unit	ANALYTICAL_METHOD	Depth Interval	RESULT_UNITS	Analyte Group	Analyte Name	ANALYTE_ID	dw_Analyte Value	dw_MDL	dw_MRL	DETECTED
BAI-24A-051-18	Grenade Impact	3	7470A	0-2	MG_KG	Inorganic	Mercury	7439-97-6	0.02	0.0073	0.023	N
BAI-24A-051-18	Grenade Impact	3	8330	0-2	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	202.1276596	13.82978723	202.1276596	N
BAI-24A-051-18	Grenade Impact	3	8330	0-2	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	202.1276596	20.21276596	202.1276596	N
BAI-24A-051-18	Grenade Impact	3	8330	0-2	UG_KG	Explosive	RDX	121-82-4	202.1276596	41.4893617	202.1276596	N
BAI-24A-051-18	Grenade Impact	3	8330	0-2	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	202.1276596	29.78723404	202.1276596	N
BAI-24A-051-18	Grenade Impact	3	8330	0-2	UG_KG	Explosive	HMX	2691-41-0	202.1276596	27.65957447	202.1276596	N
BAI-24A-051-18	Grenade Impact	3	8330	0-2	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	202.1276596	27.65957447	202.1276596	N
BAI-24A-051-18	Grenade Impact	3	8330	0-2	UG_KG	Explosive	Tetryl	479-45-8	202.1276596	68.08510638	202.1276596	N
BAI-24A-051-18	Grenade Impact	3	8330	0-2	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	202.1276596	19.14893617	202.1276596	N
BAI-24A-051-18	Grenade Impact	3	8330	0-2	UG_KG	Explosive	2-Nitrotoluene	88-72-2	414.893617	17.0212766	414.893617	N
BAI-24A-051-18	Grenade Impact	3	8330	0-2	UG_KG	SVOC	Nitrobenzene	98-95-3	202.1276596	19.14893617	202.1276596	N
BAI-24A-051-18	Grenade Impact	3	8330	0-2	UG_KG	Explosive	3-Nitrotoluene	99-08-1	414.893617	62.76595745	414.893617	N
BAI-24A-051-18	Grenade Impact	3	8330	0-2	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	202.1276596	36.17021277	202.1276596	N
BAI-24A-051-18	Grenade Impact	3	8330	0-2	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	202.1276596	20.21276596	202.1276596	N
BAI-24A-051-18	Grenade Impact	3	8330	0-2	UG_KG	Explosive	4-Nitrotoluene	99-99-0	414.893617	31.91489362	414.893617	N
BAI-24A-051-18	Grenade Impact	3	D2216	0-2	PCT	Other	Percent Moisture	-86	6.382978723	0	1.063829787	Y
BAI-24A-05-18	Retaining Wall	2	8270C_SIM	0-2	UG_KG	PAH	Anthracene	120-12-7	1.5	1.1	5.7	Y
BAI-24A-05-18	Retaining Wall	2	8270C_SIM	0-2	UG_KG	PAH	Pyrene	129-00-0	1.2	1.1	5.7	Y
BAI-24A-05-18	Retaining Wall	2	8270C_SIM	0-2	UG_KG	PAH	Benzo(g,h,i)perylene	191-24-2	2.5	1.1	5.7	Y
BAI-24A-05-18	Retaining Wall	2	8270C_SIM	0-2	UG_KG	PAH	Indeno(1,2,3-cd)yrene	193-39-5	1.8	1.1	5.7	Y
BAI-24A-05-18	Retaining Wall	2	8270C_SIM	0-2	UG_KG	PAH	Benzo(b)fluoranthene	205-99-2	1.5	1.1	5.7	Y
BAI-24A-05-18	Retaining Wall	2	8270C_SIM	0-2	UG_KG	PAH	Fluoranthene	206-44-0	1.2	1.1	5.7	Y
BAI-24A-05-18	Retaining Wall	2	8270C_SIM	0-2	UG_KG	PAH	Benzo(k)fluoranthene	207-08-9	5.7	1.1	5.7	N
BAI-24A-05-18	Retaining Wall	2	8270C_SIM	0-2	UG_KG	PAH	Acenaphthylene	208-96-8	5.7	1.1	5.7	N
BAI-24A-05-18	Retaining Wall	2	8270C_SIM	0-2	UG_KG	PAH	Chrysene	218-01-9	5.7	1.1	5.7	N
BAI-24A-05-18	Retaining Wall	2	8270C_SIM	0-2	UG_KG	PAH	Benzo(a)pyrene	50-32-8	5.7	1.1	5.7	N
BAI-24A-05-18	Retaining Wall	2	8270C_SIM	0-2	UG_KG	PAH	Dibenz(a,h)anthracene	53-70-3	5.7	1.1	5.7	N
BAI-24A-05-18	Retaining Wall	2	8270C_SIM	0-2	UG_KG	PAH	Benzo(a)anthracene	56-55-3	5.7	1.1	5.7	N
BAI-24A-05-18	Retaining Wall	2	8270C_SIM	0-2	UG_KG	PAH	Acenaphthene	83-32-9	5.7	1.1	5.7	N
BAI-24A-05-18	Retaining Wall	2	8270C_SIM	0-2	UG_KG	PAH	Phenanthrene	85-01-8	5.7	1.1	5.7	N
BAI-24A-05-18	Retaining Wall	2	8270C_SIM	0-2	UG_KG	PAH	Fluorene	86-73-7	5.7	1.1	5.7	N
BAI-24A-05-18	Retaining Wall	2	8270C_SIM	0-2	UG_KG	PAH	Naphthalene	91-20-3	5.7	1.1	5.7	N
BAI-24A-05-18	Retaining Wall	2	D2216	0-2	PCT	Other	Percent Moisture	-86	14.94252874	0	1.149425287	Y
BAI-24A-052-00	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Lead	7439-92-1	37	0.073	0.28	Y
BAI-24A-052-00	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Molybdenum	7439-98-7	0.63	0.21	0.63	N
BAI-24A-052-00	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Nickel	7440-02-0	14	0.21	0.63	Y
BAI-24A-052-00	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Silver	7440-22-4	0.28	0.053	0.28	N
BAI-24A-052-00	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Thallium	7440-28-0	0.57	0.15	0.57	N
BAI-24A-052-00	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Antimony	7440-36-0	0.99	0.16	0.57	Y
BAI-24A-052-00	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Arsenic	7440-38-2	4.5	0.076	0.28	Y
BAI-24A-052-00	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Barium	7440-39-3	130	0.11	0.32	Y
BAI-24A-052-00	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Beryllium	7440-41-7	0.42	0.021	0.11	Y
BAI-24A-052-00	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Cadmium	7440-43-9	0.061	0.053	0.28	Y
BAI-24A-052-00	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Chromium	7440-47-3	17	0.11	0.32	Y
BAI-24A-052-00	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Cobalt	7440-48-4	8	0.21	0.63	Y
BAI-24A-052-00	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Copper	7440-50-8	17	0.11	0.32	Y
BAI-24A-052-00	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Vanadium	7440-62-2	33	0.11	0.32	Y
BAI-24A-052-00	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Zinc	7440-66-6	61	0.21	1.1	Y
BAI-24A-052-00	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Selenium	7782-49-2	0.4	0.17	0.57	Y

Attachment B-4.2
Processed Data

PARENT_SAMPLE_NAME	SI Designation	Exposure Unit	ANALYTICAL_METHOD	Depth Interval	RESULT_UNITS	Analyte Group	Analyte Name	ANALYTE_ID	dw_Analyte Value	dw_MDL	dw_MRL	DETECTED
BAI-24A-052-00	Grenade Impact	3	7470A	0-2	MG_KG	Inorganic	Mercury	7439-97-6	0.0088	0.0078	0.025	N
BAI-24A-052-00	Grenade Impact	3	8330	0-2	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	227.2727273	14.77272727	227.2727273	N
BAI-24A-052-00	Grenade Impact	3	8330	0-2	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	227.2727273	21.59090909	227.2727273	N
BAI-24A-052-00	Grenade Impact	3	8330	0-2	UG_KG	Explosive	RDX	121-82-4	227.2727273	44.31818182	227.2727273	N
BAI-24A-052-00	Grenade Impact	3	8330	0-2	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	227.2727273	31.81818182	227.2727273	N
BAI-24A-052-00	Grenade Impact	3	8330	0-2	UG_KG	Explosive	HMX	2691-41-0	227.2727273	29.54545455	227.2727273	N
BAI-24A-052-00	Grenade Impact	3	8330	0-2	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	227.2727273	29.54545455	227.2727273	N
BAI-24A-052-00	Grenade Impact	3	8330	0-2	UG_KG	Explosive	Tetryl	479-45-8	227.2727273	73.86363636	227.2727273	N
BAI-24A-052-00	Grenade Impact	3	8330	0-2	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	227.2727273	20.45454545	227.2727273	N
BAI-24A-052-00	Grenade Impact	3	8330	0-2	UG_KG	Explosive	2-Nitrotoluene	88-72-2	454.5454545	18.18181818	454.5454545	N
BAI-24A-052-00	Grenade Impact	3	8330	0-2	UG_KG	SVOC	Nitrobenzene	98-95-3	227.2727273	20.45454545	227.2727273	N
BAI-24A-052-00	Grenade Impact	3	8330	0-2	UG_KG	Explosive	3-Nitrotoluene	99-08-1	454.5454545	68.18181818	454.5454545	N
BAI-24A-052-00	Grenade Impact	3	8330	0-2	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	227.2727273	39.77272727	227.2727273	N
BAI-24A-052-00	Grenade Impact	3	8330	0-2	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	227.2727273	22.72727273	227.2727273	N
BAI-24A-052-00	Grenade Impact	3	8330	0-2	UG_KG	Explosive	4-Nitrotoluene	99-99-0	454.5454545	34.09090909	454.5454545	N
BAI-24A-052-00	Grenade Impact	3	D2216	0-2	PCT	Other	Percent Moisture	-86	13.63636364	0	1.136363636	Y
BAI-24A-052-18	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Lead	7439-92-1	7.2	0.07	0.28	Y
BAI-24A-052-18	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Molybdenum	7439-98-7	0.61	0.2	0.61	N
BAI-24A-052-18	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Nickel	7440-02-0	13	0.2	0.61	Y
BAI-24A-052-18	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Silver	7440-22-4	0.28	0.051	0.28	N
BAI-24A-052-18	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Thallium	7440-28-0	0.56	0.14	0.56	N
BAI-24A-052-18	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Antimony	7440-36-0	0.5	0.15	0.56	Y
BAI-24A-052-18	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Arsenic	7440-38-2	4.6	0.073	0.28	Y
BAI-24A-052-18	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Barium	7440-39-3	140	0.1	0.3	Y
BAI-24A-052-18	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Beryllium	7440-41-7	0.41	0.02	0.11	Y
BAI-24A-052-18	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Cadmium	7440-43-9	0.28	0.051	0.28	N
BAI-24A-052-18	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Chromium	7440-47-3	16	0.1	0.3	Y
BAI-24A-052-18	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Cobalt	7440-48-4	7.5	0.2	0.61	Y
BAI-24A-052-18	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Copper	7440-50-8	14	0.1	0.3	Y
BAI-24A-052-18	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Vanadium	7440-62-2	32	0.1	0.3	Y
BAI-24A-052-18	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Zinc	7440-66-6	47	0.2	1.1	Y
BAI-24A-052-18	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Selenium	7782-49-2	0.47	0.16	0.56	Y
BAI-24A-052-18	Grenade Impact	3	7470A	0-2	MG_KG	Inorganic	Mercury	7439-97-6	0.01	0.0065	0.022	N
BAI-24A-052-18	Grenade Impact	3	8330	0-2	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	222.2222222	14.44444444	222.2222222	N
BAI-24A-052-18	Grenade Impact	3	8330	0-2	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	222.2222222	21.11111111	222.2222222	N
BAI-24A-052-18	Grenade Impact	3	8330	0-2	UG_KG	Explosive	RDX	121-82-4	222.2222222	43.33333333	222.2222222	N
BAI-24A-052-18	Grenade Impact	3	8330	0-2	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	222.2222222	31.11111111	222.2222222	N
BAI-24A-052-18	Grenade Impact	3	8330	0-2	UG_KG	Explosive	HMX	2691-41-0	222.2222222	28.88888889	222.2222222	N
BAI-24A-052-18	Grenade Impact	3	8330	0-2	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	222.2222222	28.88888889	222.2222222	N
BAI-24A-052-18	Grenade Impact	3	8330	0-2	UG_KG	Explosive	Tetryl	479-45-8	222.2222222	72.22222222	222.2222222	N
BAI-24A-052-18	Grenade Impact	3	8330	0-2	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	222.2222222	20	222.2222222	N
BAI-24A-052-18	Grenade Impact	3	8330	0-2	UG_KG	Explosive	2-Nitrotoluene	88-72-2	433.3333333	17.77777778	433.3333333	N
BAI-24A-052-18	Grenade Impact	3	8330	0-2	UG_KG	SVOC	Nitrobenzene	98-95-3	222.2222222	20	222.2222222	N
BAI-24A-052-18	Grenade Impact	3	8330	0-2	UG_KG	Explosive	3-Nitrotoluene	99-08-1	433.3333333	66.66666667	433.3333333	N
BAI-24A-052-18	Grenade Impact	3	8330	0-2	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	222.2222222	38.88888889	222.2222222	N
BAI-24A-052-18	Grenade Impact	3	8330	0-2	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	222.2222222	21.11111111	222.2222222	N
BAI-24A-052-18	Grenade Impact	3	8330	0-2	UG_KG	Explosive	4-Nitrotoluene	99-99-0	433.3333333	33.33333333	433.3333333	N
BAI-24A-052-18	Grenade Impact	3	D2216	0-2	PCT	Other	Percent Moisture	-86	11.11111111	0	1.111111111	Y
BAI-24A-053-00	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Lead	7439-92-1	96	0.077	0.29	Y

PARENT_SAMPLE_NAME	SI Designation	Exposure Unit	ANALYTICAL_METHOD	Depth Interval	RESULT_UNITS	Analyte Group	Analyte Name	ANALYTE_ID	dw_Analyte Value	dw_MDL	dw_MRL	DETECTED
BAI-24A-053-00	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Molybdenum	7439-98-7	0.66	0.22	0.66	N
BAI-24A-053-00	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Nickel	7440-02-0	15	0.22	0.66	Y
BAI-24A-053-00	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Silver	7440-22-4	0.29	0.055	0.29	N
BAI-24A-053-00	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Thallium	7440-28-0	0.58	0.16	0.58	N
BAI-24A-053-00	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Antimony	7440-36-0	1.4	0.17	0.58	Y
BAI-24A-053-00	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Arsenic	7440-38-2	5.3	0.08	0.29	Y
BAI-24A-053-00	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Barium	7440-39-3	160	0.11	0.33	Y
BAI-24A-053-00	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Beryllium	7440-41-7	0.49	0.022	0.12	Y
BAI-24A-053-00	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Cadmium	7440-43-9	0.29	0.055	0.29	N
BAI-24A-053-00	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Chromium	7440-47-3	18	0.11	0.33	Y
BAI-24A-053-00	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Cobalt	7440-48-4	8.1	0.22	0.66	Y
BAI-24A-053-00	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Copper	7440-50-8	36	0.11	0.33	Y
BAI-24A-053-00	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Vanadium	7440-62-2	37	0.11	0.33	Y
BAI-24A-053-00	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Zinc	7440-66-6	68	0.22	1.2	Y
BAI-24A-053-00	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Selenium	7782-49-2	0.42	0.18	0.58	Y
BAI-24A-053-00	Grenade Impact	3	7470A	0-2	MG_KG	Inorganic	Mercury	7439-97-6	0.014	0.0075	0.024	N
BAI-24A-053-00	Grenade Impact	3	8330	0-2	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	232.5581395	15.11627907	232.5581395	N
BAI-24A-053-00	Grenade Impact	3	8330	0-2	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	232.5581395	22.09302326	232.5581395	N
BAI-24A-053-00	Grenade Impact	3	8330	0-2	UG_KG	Explosive	RDX	121-82-4	232.5581395	45.34883721	232.5581395	N
BAI-24A-053-00	Grenade Impact	3	8330	0-2	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	232.5581395	32.55813953	232.5581395	N
BAI-24A-053-00	Grenade Impact	3	8330	0-2	UG_KG	Explosive	HMX	2691-41-0	232.5581395	30.23255814	232.5581395	N
BAI-24A-053-00	Grenade Impact	3	8330	0-2	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	232.5581395	30.23255814	232.5581395	N
BAI-24A-053-00	Grenade Impact	3	8330	0-2	UG_KG	Explosive	Tetryl	479-45-8	232.5581395	76.74418605	232.5581395	N
BAI-24A-053-00	Grenade Impact	3	8330	0-2	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	232.5581395	20.93023256	232.5581395	N
BAI-24A-053-00	Grenade Impact	3	8330	0-2	UG_KG	Explosive	2-Nitrotoluene	88-72-2	465.1162791	18.60465116	465.1162791	N
BAI-24A-053-00	Grenade Impact	3	8330	0-2	UG_KG	SVOC	Nitrobenzene	98-95-3	232.5581395	20.93023256	232.5581395	N
BAI-24A-053-00	Grenade Impact	3	8330	0-2	UG_KG	Explosive	3-Nitrotoluene	99-08-1	465.1162791	70.93023256	465.1162791	N
BAI-24A-053-00	Grenade Impact	3	8330	0-2	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	232.5581395	40.69767442	232.5581395	N
BAI-24A-053-00	Grenade Impact	3	8330	0-2	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	232.5581395	23.25581395	232.5581395	N
BAI-24A-053-00	Grenade Impact	3	8330	0-2	UG_KG	Explosive	4-Nitrotoluene	99-99-0	465.1162791	36.04651163	465.1162791	N
BAI-24A-053-00	Grenade Impact	3	D2216	0-2	PCT	Other	Percent Moisture	-86	16.27906977	0	1.162790698	Y
BAI-24A-053-18	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Lead	7439-92-1	32	0.071	0.27	Y
BAI-24A-053-18	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Molybdenum	7439-98-7	0.62	0.21	0.62	N
BAI-24A-053-18	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Nickel	7440-02-0	15	0.21	0.62	Y
BAI-24A-053-18	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Silver	7440-22-4	0.27	0.051	0.27	N
BAI-24A-053-18	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Thallium	7440-28-0	0.54	0.14	0.54	N
BAI-24A-053-18	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Antimony	7440-36-0	1	0.15	0.54	Y
BAI-24A-053-18	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Arsenic	7440-38-2	5.2	0.074	0.27	Y
BAI-24A-053-18	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Barium	7440-39-3	110	0.1	0.31	Y
BAI-24A-053-18	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Beryllium	7440-41-7	0.46	0.021	0.11	Y
BAI-24A-053-18	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Cadmium	7440-43-9	0.27	0.051	0.27	N
BAI-24A-053-18	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Chromium	7440-47-3	22	0.1	0.31	Y
BAI-24A-053-18	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Cobalt	7440-48-4	8	0.21	0.62	Y
BAI-24A-053-18	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Copper	7440-50-8	28	0.1	0.31	Y
BAI-24A-053-18	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Vanadium	7440-62-2	35	0.1	0.31	Y
BAI-24A-053-18	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Zinc	7440-66-6	81	0.21	1.1	Y
BAI-24A-053-18	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Selenium	7782-49-2	0.54	0.16	0.54	Y
BAI-24A-053-18	Grenade Impact	3	7470A	0-2	MG_KG	Inorganic	Mercury	7439-97-6	0.011	0.0071	0.023	N
BAI-24A-053-18	Grenade Impact	3	8330	0-2	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	217.3913043	14.13043478	217.3913043	N

PARENT_SAMPLE_NAME	SI Designation	Exposure Unit	ANALYTICAL_METHOD	Depth Interval	RESULT_UNITS	Analyte Group	Analyte Name	ANALYTE_ID	dw_Analyte Value	dw_MDL	dw_MRL	DETECTED
BAI-24A-053-18	Grenade Impact	3	8330	0-2	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	217.3913043	20.65217391	217.3913043	N
BAI-24A-053-18	Grenade Impact	3	8330	0-2	UG_KG	Explosive	RDX	121-82-4	217.3913043	42.39130435	217.3913043	N
BAI-24A-053-18	Grenade Impact	3	8330	0-2	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	217.3913043	30.43478261	217.3913043	N
BAI-24A-053-18	Grenade Impact	3	8330	0-2	UG_KG	Explosive	HMX	2691-41-0	217.3913043	28.26086957	217.3913043	N
BAI-24A-053-18	Grenade Impact	3	8330	0-2	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	217.3913043	28.26086957	217.3913043	N
BAI-24A-053-18	Grenade Impact	3	8330	0-2	UG_KG	Explosive	Tetryl	479-45-8	217.3913043	70.65217391	217.3913043	N
BAI-24A-053-18	Grenade Impact	3	8330	0-2	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	217.3913043	19.56521739	217.3913043	N
BAI-24A-053-18	Grenade Impact	3	8330	0-2	UG_KG	Explosive	2-Nitrotoluene	88-72-2	423.9130435	17.39130435	423.9130435	N
BAI-24A-053-18	Grenade Impact	3	8330	0-2	UG_KG	SVOC	Nitrobenzene	98-95-3	217.3913043	19.56521739	217.3913043	N
BAI-24A-053-18	Grenade Impact	3	8330	0-2	UG_KG	Explosive	3-Nitrotoluene	99-08-1	423.9130435	65.2173913	423.9130435	N
BAI-24A-053-18	Grenade Impact	3	8330	0-2	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	217.3913043	38.04347826	217.3913043	N
BAI-24A-053-18	Grenade Impact	3	8330	0-2	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	217.3913043	20.65217391	217.3913043	N
BAI-24A-053-18	Grenade Impact	3	8330	0-2	UG_KG	Explosive	4-Nitrotoluene	99-99-0	423.9130435	32.60869565	423.9130435	N
BAI-24A-053-18	Grenade Impact	3	D2216	0-2	PCT	Other	Percent Moisture	-86	8.695652174	0	1.086956522	Y
BAI-24A-054-00	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Lead	7439-92-1	100	0.074	0.29	Y
BAI-24A-054-00	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Molybdenum	7439-98-7	0.64	0.21	0.64	N
BAI-24A-054-00	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Nickel	7440-02-0	15	0.21	0.64	Y
BAI-24A-054-00	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Silver	7440-22-4	0.29	0.053	0.29	N
BAI-24A-054-00	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Thallium	7440-28-0	0.57	0.15	0.57	N
BAI-24A-054-00	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Antimony	7440-36-0	1.2	0.16	0.57	Y
BAI-24A-054-00	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Arsenic	7440-38-2	5.1	0.077	0.29	Y
BAI-24A-054-00	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Barium	7440-39-3	130	0.11	0.32	Y
BAI-24A-054-00	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Beryllium	7440-41-7	0.49	0.021	0.11	Y
BAI-24A-054-00	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Cadmium	7440-43-9	0.29	0.053	0.29	N
BAI-24A-054-00	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Chromium	7440-47-3	19	0.11	0.32	Y
BAI-24A-054-00	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Cobalt	7440-48-4	8	0.21	0.64	Y
BAI-24A-054-00	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Copper	7440-50-8	21	0.11	0.32	Y
BAI-24A-054-00	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Vanadium	7440-62-2	37	0.11	0.32	Y
BAI-24A-054-00	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Zinc	7440-66-6	61	0.21	1.1	Y
BAI-24A-054-00	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Selenium	7782-49-2	0.43	0.17	0.57	Y
BAI-24A-054-00	Grenade Impact	3	7470A	0-2	MG_KG	Inorganic	Mercury	7439-97-6	0.026	0.008	0.026	N
BAI-24A-054-00	Grenade Impact	3	8330	0-2	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	229.8850575	14.94252874	229.8850575	N
BAI-24A-054-00	Grenade Impact	3	8330	0-2	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	229.8850575	21.83908046	229.8850575	N
BAI-24A-054-00	Grenade Impact	3	8330	0-2	UG_KG	Explosive	RDX	121-82-4	229.8850575	44.82758621	229.8850575	N
BAI-24A-054-00	Grenade Impact	3	8330	0-2	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	229.8850575	32.18390805	229.8850575	N
BAI-24A-054-00	Grenade Impact	3	8330	0-2	UG_KG	Explosive	HMX	2691-41-0	229.8850575	29.88505747	229.8850575	N
BAI-24A-054-00	Grenade Impact	3	8330	0-2	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	229.8850575	29.88505747	229.8850575	N
BAI-24A-054-00	Grenade Impact	3	8330	0-2	UG_KG	Explosive	Tetryl	479-45-8	229.8850575	73.56321839	229.8850575	N
BAI-24A-054-00	Grenade Impact	3	8330	0-2	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	229.8850575	20.68965517	229.8850575	N
BAI-24A-054-00	Grenade Impact	3	8330	0-2	UG_KG	Explosive	2-Nitrotoluene	88-72-2	448.2758621	18.3908046	448.2758621	N
BAI-24A-054-00	Grenade Impact	3	8330	0-2	UG_KG	SVOC	Nitrobenzene	98-95-3	229.8850575	20.68965517	229.8850575	N
BAI-24A-054-00	Grenade Impact	3	8330	0-2	UG_KG	Explosive	3-Nitrotoluene	99-08-1	448.2758621	68.96551724	448.2758621	N
BAI-24A-054-00	Grenade Impact	3	8330	0-2	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	229.8850575	39.08045977	229.8850575	N
BAI-24A-054-00	Grenade Impact	3	8330	0-2	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	229.8850575	21.83908046	229.8850575	N
BAI-24A-054-00	Grenade Impact	3	8330	0-2	UG_KG	Explosive	4-Nitrotoluene	99-99-0	448.2758621	34.48275862	448.2758621	N
BAI-24A-054-00	Grenade Impact	3	D2216	0-2	PCT	Other	Percent Moisture	-86	14.94252874	0	1.149425287	Y
BAI-24A-054-18	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Lead	7439-92-1	9.7	0.076	0.28	Y
BAI-24A-054-18	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Molybdenum	7439-98-7	0.66	0.22	0.66	N
BAI-24A-054-18	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Nickel	7440-02-0	15	0.22	0.66	Y

PARENT_SAMPLE_NAME	SI Designation	Exposure Unit	ANALYTICAL_METHOD	Depth Interval	RESULT_UNITS	Analyte Group	Analyte Name	ANALYTE_ID	dw_Analyte Value	dw_MDL	dw_MRL	DETECTED
BAI-24A-054-18	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Silver	7440-22-4	0.28	0.055	0.28	N
BAI-24A-054-18	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Thallium	7440-28-0	0.57	0.15	0.57	N
BAI-24A-054-18	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Antimony	7440-36-0	0.47	0.16	0.57	Y
BAI-24A-054-18	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Arsenic	7440-38-2	6	0.079	0.28	Y
BAI-24A-054-18	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Barium	7440-39-3	100	0.11	0.33	Y
BAI-24A-054-18	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Beryllium	7440-41-7	0.54	0.022	0.11	Y
BAI-24A-054-18	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Cadmium	7440-43-9	0.28	0.055	0.28	N
BAI-24A-054-18	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Chromium	7440-47-3	19	0.11	0.33	Y
BAI-24A-054-18	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Cobalt	7440-48-4	8.7	0.22	0.66	Y
BAI-24A-054-18	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Copper	7440-50-8	21	0.11	0.33	Y
BAI-24A-054-18	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Vanadium	7440-62-2	39	0.11	0.33	Y
BAI-24A-054-18	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Zinc	7440-66-6	53	0.22	1.1	Y
BAI-24A-054-18	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Selenium	7782-49-2	0.52	0.17	0.57	Y
BAI-24A-054-18	Grenade Impact	3	7470A	0-2	MG_KG	Inorganic	Mercury	7439-97-6	0.019	0.007	0.023	N
BAI-24A-054-18	Grenade Impact	3	8330	0-2	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	227.2727273	14.77272727	227.2727273	N
BAI-24A-054-18	Grenade Impact	3	8330	0-2	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	227.2727273	21.59090909	227.2727273	N
BAI-24A-054-18	Grenade Impact	3	8330	0-2	UG_KG	Explosive	RDX	121-82-4	227.2727273	44.31818182	227.2727273	N
BAI-24A-054-18	Grenade Impact	3	8330	0-2	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	227.2727273	31.81818182	227.2727273	N
BAI-24A-054-18	Grenade Impact	3	8330	0-2	UG_KG	Explosive	HMX	2691-41-0	227.2727273	29.54545455	227.2727273	N
BAI-24A-054-18	Grenade Impact	3	8330	0-2	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	227.2727273	29.54545455	227.2727273	N
BAI-24A-054-18	Grenade Impact	3	8330	0-2	UG_KG	Explosive	Tetryl	479-45-8	227.2727273	72.72727273	227.2727273	N
BAI-24A-054-18	Grenade Impact	3	8330	0-2	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	227.2727273	20.45454545	227.2727273	N
BAI-24A-054-18	Grenade Impact	3	8330	0-2	UG_KG	Explosive	2-Nitrotoluene	88-72-2	443.1818182	18.18181818	443.1818182	N
BAI-24A-054-18	Grenade Impact	3	8330	0-2	UG_KG	SVOC	Nitrobenzene	98-95-3	227.2727273	20.45454545	227.2727273	N
BAI-24A-054-18	Grenade Impact	3	8330	0-2	UG_KG	Explosive	3-Nitrotoluene	99-08-1	443.1818182	68.18181818	443.1818182	N
BAI-24A-054-18	Grenade Impact	3	8330	0-2	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	227.2727273	38.63636364	227.2727273	N
BAI-24A-054-18	Grenade Impact	3	8330	0-2	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	227.2727273	21.59090909	227.2727273	N
BAI-24A-054-18	Grenade Impact	3	8330	0-2	UG_KG	Explosive	4-Nitrotoluene	99-99-0	443.1818182	34.09090909	443.1818182	N
BAI-24A-054-18	Grenade Impact	3	D2216	0-2	PCT	Other	Percent Moisture	-86	13.63636364	0	1.136363636	Y
BAI-24A-055-00	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Lead	7439-92-1	62	0.0735	0.29	Y
BAI-24A-055-00	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Molybdenum	7439-98-7	0.1625	0.1575	0.4775	Y
BAI-24A-055-00	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Nickel	7440-02-0	15	0.21	0.635	Y
BAI-24A-055-00	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Silver	7440-22-4	0.29	0.053	0.29	N
BAI-24A-055-00	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Thallium	7440-28-0	0.59	0.15	0.59	N
BAI-24A-055-00	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Antimony	7440-36-0	1.45	0.16	0.59	Y
BAI-24A-055-00	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Arsenic	7440-38-2	5.7	0.0765	0.29	Y
BAI-24A-055-00	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Barium	7440-39-3	125	0.11	0.32	Y
BAI-24A-055-00	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Beryllium	7440-41-7	0.52	0.021	0.12	Y
BAI-24A-055-00	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Cadmium	7440-43-9	0.29	0.053	0.29	N
BAI-24A-055-00	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Chromium	7440-47-3	21	0.11	0.32	Y
BAI-24A-055-00	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Cobalt	7440-48-4	8.75	0.21	0.635	Y
BAI-24A-055-00	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Copper	7440-50-8	22	0.11	0.32	Y
BAI-24A-055-00	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Vanadium	7440-62-2	39.5	0.11	0.32	Y
BAI-24A-055-00	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Zinc	7440-66-6	54	0.21	1.2	Y
BAI-24A-055-00	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Selenium	7782-49-2	0.535	0.17	0.59	Y
BAI-24A-055-00	Grenade Impact	3	7470A	0-2	MG_KG	Inorganic	Mercury	7439-97-6	0.0245	0.0077	0.0245	N
BAI-24A-055-00	Grenade Impact	3	8330	0-2	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	229.4117647	15.29411765	229.4117647	N
BAI-24A-055-00	Grenade Impact	3	8330	0-2	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	229.4117647	22.35294118	229.4117647	N
BAI-24A-055-00	Grenade Impact	3	8330	0-2	UG_KG	Explosive	RDX	121-82-4	229.4117647	45.29411765	229.4117647	N

PARENT_SAMPLE_NAME	SI Designation	Exposure Unit	ANALYTICAL_METHOD	Depth Interval	RESULT_UNITS	Analyte Group	Analyte Name	ANALYTE_ID	dw_Analyte Value	dw_MDL	dw_MRL	DETECTED
BAI-24A-055-00	Grenade Impact	3	8330	0-2	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	229.4117647	32.94117647	229.4117647	N
BAI-24A-055-00	Grenade Impact	3	8330	0-2	UG_KG	Explosive	HMX	2691-41-0	229.4117647	30.58823529	229.4117647	N
BAI-24A-055-00	Grenade Impact	3	8330	0-2	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	229.4117647	30.58823529	229.4117647	N
BAI-24A-055-00	Grenade Impact	3	8330	0-2	UG_KG	Explosive	Tetryl	479-45-8	229.4117647	75.88235294	229.4117647	N
BAI-24A-055-00	Grenade Impact	3	8330	0-2	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	229.4117647	21.17647059	229.4117647	N
BAI-24A-055-00	Grenade Impact	3	8330	0-2	UG_KG	Explosive	2-Nitrotoluene	88-72-2	458.8235294	18.23529412	458.8235294	N
BAI-24A-055-00	Grenade Impact	3	8330	0-2	UG_KG	SVOC	Nitrobenzene	98-95-3	229.4117647	21.17647059	229.4117647	N
BAI-24A-055-00	Grenade Impact	3	8330	0-2	UG_KG	Explosive	3-Nitrotoluene	99-08-1	458.8235294	70	458.8235294	N
BAI-24A-055-00	Grenade Impact	3	8330	0-2	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	229.4117647	40.58823529	229.4117647	N
BAI-24A-055-00	Grenade Impact	3	8330	0-2	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	229.4117647	22.35294118	229.4117647	N
BAI-24A-055-00	Grenade Impact	3	8330	0-2	UG_KG	Explosive	4-Nitrotoluene	99-99-0	458.8235294	35.29411765	458.8235294	N
BAI-24A-055-00	Grenade Impact	3	D2216	0-2	PCT	Other	Percent Moisture	-86	17.64705882	0	1.176470588	Y
BAI-24A-055-18	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Lead	7439-92-1	4.2	0.07	0.28	Y
BAI-24A-055-18	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Molybdenum	7439-98-7	0.61	0.2	0.61	N
BAI-24A-055-18	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Nickel	7440-02-0	14	0.2	0.61	Y
BAI-24A-055-18	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Silver	7440-22-4	0.28	0.051	0.28	N
BAI-24A-055-18	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Thallium	7440-28-0	0.56	0.14	0.56	N
BAI-24A-055-18	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Antimony	7440-36-0	0.36	0.15	0.56	Y
BAI-24A-055-18	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Arsenic	7440-38-2	5.1	0.073	0.28	Y
BAI-24A-055-18	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Barium	7440-39-3	61	0.1	0.3	Y
BAI-24A-055-18	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Beryllium	7440-41-7	0.42	0.02	0.11	Y
BAI-24A-055-18	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Cadmium	7440-43-9	0.28	0.051	0.28	N
BAI-24A-055-18	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Chromium	7440-47-3	15	0.1	0.3	Y
BAI-24A-055-18	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Cobalt	7440-48-4	7.2	0.2	0.61	Y
BAI-24A-055-18	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Copper	7440-50-8	17	0.1	0.3	Y
BAI-24A-055-18	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Vanadium	7440-62-2	28	0.1	0.3	Y
BAI-24A-055-18	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Zinc	7440-66-6	46	0.2	1.1	Y
BAI-24A-055-18	Grenade Impact	3	6010B	0-2	MG_KG	Inorganic	Selenium	7782-49-2	0.43	0.16	0.56	Y
BAI-24A-055-18	Grenade Impact	3	7470A	0-2	MG_KG	Inorganic	Mercury	7439-97-6	0.013	0.007	0.022	N
BAI-24A-055-18	Grenade Impact	3	8330	0-2	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	222.2222222	14.44444444	222.2222222	N
BAI-24A-055-18	Grenade Impact	3	8330	0-2	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	222.2222222	21.11111111	222.2222222	N
BAI-24A-055-18	Grenade Impact	3	8330	0-2	UG_KG	Explosive	RDX	121-82-4	222.2222222	43.33333333	222.2222222	N
BAI-24A-055-18	Grenade Impact	3	8330	0-2	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	222.2222222	31.11111111	222.2222222	N
BAI-24A-055-18	Grenade Impact	3	8330	0-2	UG_KG	Explosive	HMX	2691-41-0	222.2222222	28.88888889	222.2222222	N
BAI-24A-055-18	Grenade Impact	3	8330	0-2	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	222.2222222	28.88888889	222.2222222	N
BAI-24A-055-18	Grenade Impact	3	8330	0-2	UG_KG	Explosive	Tetryl	479-45-8	222.2222222	72.22222222	222.2222222	N
BAI-24A-055-18	Grenade Impact	3	8330	0-2	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	222.2222222	20	222.2222222	N
BAI-24A-055-18	Grenade Impact	3	8330	0-2	UG_KG	Explosive	2-Nitrotoluene	88-72-2	433.3333333	17.77777778	433.3333333	N
BAI-24A-055-18	Grenade Impact	3	8330	0-2	UG_KG	SVOC	Nitrobenzene	98-95-3	222.2222222	20	222.2222222	N
BAI-24A-055-18	Grenade Impact	3	8330	0-2	UG_KG	Explosive	3-Nitrotoluene	99-08-1	433.3333333	66.66666667	433.3333333	N
BAI-24A-055-18	Grenade Impact	3	8330	0-2	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	222.2222222	38.88888889	222.2222222	N
BAI-24A-055-18	Grenade Impact	3	8330	0-2	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	222.2222222	21.11111111	222.2222222	N
BAI-24A-055-18	Grenade Impact	3	8330	0-2	UG_KG	Explosive	4-Nitrotoluene	99-99-0	433.3333333	33.33333333	433.3333333	N
BAI-24A-055-18	Grenade Impact	3	D2216	0-2	PCT	Other	Percent Moisture	-86	11.11111111	0	1.111111111	Y
BAI-24A-07-00	Drainage Channel	2	6010B	0-2	MG_KG	Inorganic	Lead	7439-92-1	7100	1.6	4.8	Y
BAI-24A-07-00	Drainage Channel	2	6010B	0-2	MG_KG	Inorganic	Molybdenum	7439-98-7	0.69	0.23	0.69	N
BAI-24A-07-00	Drainage Channel	2	6010B	0-2	MG_KG	Inorganic	Nickel	7440-02-0	23	0.23	0.69	Y
BAI-24A-07-00	Drainage Channel	2	6010B	0-2	MG_KG	Inorganic	Silver	7440-22-4	0.3	0.057	0.3	N
BAI-24A-07-00	Drainage Channel	2	6010B	0-2	MG_KG	Inorganic	Thallium	7440-28-0	0.4	0.16	0.6	Y

PARENT_SAMPLE_NAME	SI Designation	Exposure Unit	ANALYTICAL_METHOD	Depth Interval	RESULT_UNITS	Analyte Group	Analyte Name	ANALYTE_ID	dw_Analyte Value	dw_MDL	dw_MRL	DETECTED
BAI-24A-07-00	Drainage Channel	2	6010B	0-2	MG_KG	Inorganic	Antimony	7440-36-0	45	0.17	0.6	Y
BAI-24A-07-00	Drainage Channel	2	6010B	0-2	MG_KG	Inorganic	Arsenic	7440-38-2	18	0.083	0.3	Y
BAI-24A-07-00	Drainage Channel	2	6010B	0-2	MG_KG	Inorganic	Barium	7440-39-3	60	0.11	0.34	Y
BAI-24A-07-00	Drainage Channel	2	6010B	0-2	MG_KG	Inorganic	Beryllium	7440-41-7	0.26	0.023	0.12	Y
BAI-24A-07-00	Drainage Channel	2	6010B	0-2	MG_KG	Inorganic	Cadmium	7440-43-9	0.3	0.057	0.3	N
BAI-24A-07-00	Drainage Channel	2	6010B	0-2	MG_KG	Inorganic	Chromium	7440-47-3	31	0.11	0.34	Y
BAI-24A-07-00	Drainage Channel	2	6010B	0-2	MG_KG	Inorganic	Cobalt	7440-48-4	14	0.23	0.69	Y
BAI-24A-07-00	Drainage Channel	2	6010B	0-2	MG_KG	Inorganic	Copper	7440-50-8	190	2.3	6.9	Y
BAI-24A-07-00	Drainage Channel	2	6010B	0-2	MG_KG	Inorganic	Vanadium	7440-62-2	64	0.11	0.34	Y
BAI-24A-07-00	Drainage Channel	2	6010B	0-2	MG_KG	Inorganic	Zinc	7440-66-6	310	0.23	1.2	Y
BAI-24A-07-00	Drainage Channel	2	6010B	0-2	MG_KG	Inorganic	Selenium	7782-49-2	0.47	0.18	0.6	Y
BAI-24A-07-00	Drainage Channel	2	7470A	0-2	MG_KG	Inorganic	Mercury	7439-97-6	0.25	0.007	0.024	Y
BAI-24A-07-00	Drainage Channel	2	8330	0-2	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	240.9638554	26.5060241	240.9638554	N
BAI-24A-07-00	Drainage Channel	2	8330	0-2	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	240.9638554	50.60240964	240.9638554	N
BAI-24A-07-00	Drainage Channel	2	8330	0-2	UG_KG	Explosive	RDX	121-82-4	240.9638554	13.25301205	240.9638554	N
BAI-24A-07-00	Drainage Channel	2	8330	0-2	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	240.9638554	61.44578313	240.9638554	N
BAI-24A-07-00	Drainage Channel	2	8330	0-2	UG_KG	Explosive	HMX	2691-41-0	240.9638554	14.45783133	240.9638554	N
BAI-24A-07-00	Drainage Channel	2	8330	0-2	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	240.9638554	25.30120482	240.9638554	N
BAI-24A-07-00	Drainage Channel	2	8330	0-2	UG_KG	Explosive	Tetryl	479-45-8	240.9638554	67.46987952	240.9638554	N
BAI-24A-07-00	Drainage Channel	2	8330	0-2	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	240.9638554	59.03614458	240.9638554	N
BAI-24A-07-00	Drainage Channel	2	8330	0-2	UG_KG	Explosive	2-Nitrotoluene	88-72-2	481.9277108	13.25301205	481.9277108	N
BAI-24A-07-00	Drainage Channel	2	8330	0-2	UG_KG	SVOC	Nitrobenzene	98-95-3	240.9638554	31.3253012	240.9638554	N
BAI-24A-07-00	Drainage Channel	2	8330	0-2	UG_KG	Explosive	3-Nitrotoluene	99-08-1	481.9277108	21.68674699	481.9277108	N
BAI-24A-07-00	Drainage Channel	2	8330	0-2	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	240.9638554	27.71084337	240.9638554	N
BAI-24A-07-00	Drainage Channel	2	8330	0-2	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	240.9638554	12.04819277	240.9638554	N
BAI-24A-07-00	Drainage Channel	2	8330	0-2	UG_KG	Explosive	4-Nitrotoluene	99-99-0	481.9277108	28.91566265	481.9277108	N
BAI-24A-07-00	Drainage Channel	2	D2216	0-2	PCT	Other	Percent Moisture	-86	20.48192771	0	1.204819277	Y
BAI-24A-07-18	Drainage Channel	2	6010B	0-2	MG_KG	Inorganic	Lead	7439-92-1	460	0.074	0.29	Y
BAI-24A-07-18	Drainage Channel	2	6010B	0-2	MG_KG	Inorganic	Molybdenum	7439-98-7	0.64	0.21	0.64	N
BAI-24A-07-18	Drainage Channel	2	6010B	0-2	MG_KG	Inorganic	Nickel	7440-02-0	20	0.21	0.64	Y
BAI-24A-07-18	Drainage Channel	2	6010B	0-2	MG_KG	Inorganic	Silver	7440-22-4	0.29	0.053	0.29	N
BAI-24A-07-18	Drainage Channel	2	6010B	0-2	MG_KG	Inorganic	Thallium	7440-28-0	0.58	0.15	0.58	N
BAI-24A-07-18	Drainage Channel	2	6010B	0-2	MG_KG	Inorganic	Antimony	7440-36-0	2.5	0.16	0.58	Y
BAI-24A-07-18	Drainage Channel	2	6010B	0-2	MG_KG	Inorganic	Arsenic	7440-38-2	7	0.077	0.29	Y
BAI-24A-07-18	Drainage Channel	2	6010B	0-2	MG_KG	Inorganic	Barium	7440-39-3	170	0.11	0.32	Y
BAI-24A-07-18	Drainage Channel	2	6010B	0-2	MG_KG	Inorganic	Beryllium	7440-41-7	0.37	0.021	0.12	Y
BAI-24A-07-18	Drainage Channel	2	6010B	0-2	MG_KG	Inorganic	Cadmium	7440-43-9	3	0.053	0.29	Y
BAI-24A-07-18	Drainage Channel	2	6010B	0-2	MG_KG	Inorganic	Chromium	7440-47-3	22	0.11	0.32	Y
BAI-24A-07-18	Drainage Channel	2	6010B	0-2	MG_KG	Inorganic	Cobalt	7440-48-4	8.8	0.21	0.64	Y
BAI-24A-07-18	Drainage Channel	2	6010B	0-2	MG_KG	Inorganic	Copper	7440-50-8	75	0.11	0.32	Y
BAI-24A-07-18	Drainage Channel	2	6010B	0-2	MG_KG	Inorganic	Vanadium	7440-62-2	33	0.11	0.32	Y
BAI-24A-07-18	Drainage Channel	2	6010B	0-2	MG_KG	Inorganic	Zinc	7440-66-6	1600	4.3	21	Y
BAI-24A-07-18	Drainage Channel	2	6010B	0-2	MG_KG	Inorganic	Selenium	7782-49-2	4.4	0.17	0.58	Y
BAI-24A-07-18	Drainage Channel	2	7470A	0-2	MG_KG	Inorganic	Mercury	7439-97-6	0.04	0.0068	0.023	Y
BAI-24A-07-18	Drainage Channel	2	8330	0-2	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	232.5581395	25.58139535	232.5581395	N
BAI-24A-07-18	Drainage Channel	2	8330	0-2	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	232.5581395	48.8372093	232.5581395	N
BAI-24A-07-18	Drainage Channel	2	8330	0-2	UG_KG	Explosive	RDX	121-82-4	232.5581395	12.79069767	232.5581395	N
BAI-24A-07-18	Drainage Channel	2	8330	0-2	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	232.5581395	59.30232558	232.5581395	N
BAI-24A-07-18	Drainage Channel	2	8330	0-2	UG_KG	Explosive	HMX	2691-41-0	232.5581395	13.95348837	232.5581395	N

PARENT_SAMPLE_NAME	SI Designation	Exposure Unit	ANALYTICAL_METHOD	Depth Interval	RESULT_UNITS	Analyte Group	Analyte Name	ANALYTE_ID	dw_Analyte Value	dw_MDL	dw_MRL	DETECTED
BAI-24A-07-18	Drainage Channel	2	8330	0-2	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	232.5581395	24.41860465	232.5581395	N
BAI-24A-07-18	Drainage Channel	2	8330	0-2	UG_KG	Explosive	Tetryl	479-45-8	232.5581395	65.11627907	232.5581395	N
BAI-24A-07-18	Drainage Channel	2	8330	0-2	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	232.5581395	56.97674419	232.5581395	N
BAI-24A-07-18	Drainage Channel	2	8330	0-2	UG_KG	Explosive	2-Nitrotoluene	88-72-2	465.1162791	12.79069767	465.1162791	N
BAI-24A-07-18	Drainage Channel	2	8330	0-2	UG_KG	SVOC	Nitrobenzene	98-95-3	232.5581395	30.23255814	232.5581395	N
BAI-24A-07-18	Drainage Channel	2	8330	0-2	UG_KG	Explosive	3-Nitrotoluene	99-08-1	465.1162791	20.93023256	465.1162791	N
BAI-24A-07-18	Drainage Channel	2	8330	0-2	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	232.5581395	26.74418605	232.5581395	N
BAI-24A-07-18	Drainage Channel	2	8330	0-2	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	232.5581395	11.62790698	232.5581395	N
BAI-24A-07-18	Drainage Channel	2	8330	0-2	UG_KG	Explosive	4-Nitrotoluene	99-99-0	465.1162791	27.90697674	465.1162791	N
BAI-24A-07-18	Drainage Channel	2	D2216	0-2	PCT	Other	Percent Moisture	-86	16.27906977	0	1.162790698	Y
BAI-24A-08-00	Drainage Channel	1	6010B	0-2	MG_KG	Inorganic	Lead	7439-92-1	35	0.076	0.28	Y
BAI-24A-08-00	Drainage Channel	1	6010B	0-2	MG_KG	Inorganic	Molybdenum	7439-98-7	0.66	0.22	0.66	N
BAI-24A-08-00	Drainage Channel	1	6010B	0-2	MG_KG	Inorganic	Nickel	7440-02-0	15	0.22	0.66	Y
BAI-24A-08-00	Drainage Channel	1	6010B	0-2	MG_KG	Inorganic	Silver	7440-22-4	0.28	0.055	0.28	N
BAI-24A-08-00	Drainage Channel	1	6010B	0-2	MG_KG	Inorganic	Thallium	7440-28-0	0.17	0.15	0.57	Y
BAI-24A-08-00	Drainage Channel	1	6010B	0-2	MG_KG	Inorganic	Antimony	7440-36-0	0.49	0.16	0.57	Y
BAI-24A-08-00	Drainage Channel	1	6010B	0-2	MG_KG	Inorganic	Arsenic	7440-38-2	10	0.079	0.28	Y
BAI-24A-08-00	Drainage Channel	1	6010B	0-2	MG_KG	Inorganic	Barium	7440-39-3	120	0.11	0.33	Y
BAI-24A-08-00	Drainage Channel	1	6010B	0-2	MG_KG	Inorganic	Beryllium	7440-41-7	0.36	0.022	0.11	Y
BAI-24A-08-00	Drainage Channel	1	6010B	0-2	MG_KG	Inorganic	Cadmium	7440-43-9	0.11	0.055	0.28	Y
BAI-24A-08-00	Drainage Channel	1	6010B	0-2	MG_KG	Inorganic	Chromium	7440-47-3	24	0.11	0.33	Y
BAI-24A-08-00	Drainage Channel	1	6010B	0-2	MG_KG	Inorganic	Cobalt	7440-48-4	7.9	0.22	0.66	Y
BAI-24A-08-00	Drainage Channel	1	6010B	0-2	MG_KG	Inorganic	Copper	7440-50-8	23	0.11	0.33	Y
BAI-24A-08-00	Drainage Channel	1	6010B	0-2	MG_KG	Inorganic	Vanadium	7440-62-2	33	0.11	0.33	Y
BAI-24A-08-00	Drainage Channel	1	6010B	0-2	MG_KG	Inorganic	Zinc	7440-66-6	270	0.22	1.1	Y
BAI-24A-08-00	Drainage Channel	1	6010B	0-2	MG_KG	Inorganic	Selenium	7782-49-2	2	0.17	0.57	Y
BAI-24A-08-00	Drainage Channel	1	7470A	0-2	MG_KG	Inorganic	Mercury	7439-97-6	0.023	0.0069	0.023	N
BAI-24A-08-00	Drainage Channel	1	8330	0-2	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	227.2727273	25	227.2727273	N
BAI-24A-08-00	Drainage Channel	1	8330	0-2	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	227.2727273	47.72727273	227.2727273	N
BAI-24A-08-00	Drainage Channel	1	8330	0-2	UG_KG	Explosive	RDX	121-82-4	227.2727273	12.5	227.2727273	N
BAI-24A-08-00	Drainage Channel	1	8330	0-2	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	227.2727273	57.95454545	227.2727273	N
BAI-24A-08-00	Drainage Channel	1	8330	0-2	UG_KG	Explosive	HMX	2691-41-0	227.2727273	13.63636364	227.2727273	N
BAI-24A-08-00	Drainage Channel	1	8330	0-2	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	227.2727273	25	227.2727273	N
BAI-24A-08-00	Drainage Channel	1	8330	0-2	UG_KG	Explosive	Tetryl	479-45-8	227.2727273	63.63636364	227.2727273	N
BAI-24A-08-00	Drainage Channel	1	8330	0-2	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	227.2727273	56.81818182	227.2727273	N
BAI-24A-08-00	Drainage Channel	1	8330	0-2	UG_KG	Explosive	2-Nitrotoluene	88-72-2	454.5454545	12.5	454.5454545	N
BAI-24A-08-00	Drainage Channel	1	8330	0-2	UG_KG	SVOC	Nitrobenzene	98-95-3	227.2727273	30.68181818	227.2727273	N
BAI-24A-08-00	Drainage Channel	1	8330	0-2	UG_KG	Explosive	3-Nitrotoluene	99-08-1	454.5454545	20.45454545	454.5454545	N
BAI-24A-08-00	Drainage Channel	1	8330	0-2	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	227.2727273	27.27272727	227.2727273	N
BAI-24A-08-00	Drainage Channel	1	8330	0-2	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	227.2727273	12.5	227.2727273	N
BAI-24A-08-00	Drainage Channel	1	8330	0-2	UG_KG	Explosive	4-Nitrotoluene	99-99-0	454.5454545	27.27272727	454.5454545	N
BAI-24A-08-00	Drainage Channel	1	D2216	0-2	PCT	Other	Percent Moisture	-86	13.63636364	0	1.136363636	Y
BAI-24A-08-18	Drainage Channel	1	6010B	0-2	MG_KG	Inorganic	Lead	7439-92-1	20	0.076	0.29	Y
BAI-24A-08-18	Drainage Channel	1	6010B	0-2	MG_KG	Inorganic	Molybdenum	7439-98-7	0.66	0.22	0.66	N
BAI-24A-08-18	Drainage Channel	1	6010B	0-2	MG_KG	Inorganic	Nickel	7440-02-0	15	0.22	0.66	Y
BAI-24A-08-18	Drainage Channel	1	6010B	0-2	MG_KG	Inorganic	Silver	7440-22-4	0.29	0.055	0.29	N
BAI-24A-08-18	Drainage Channel	1	6010B	0-2	MG_KG	Inorganic	Thallium	7440-28-0	0.34	0.15	0.57	Y
BAI-24A-08-18	Drainage Channel	1	6010B	0-2	MG_KG	Inorganic	Antimony	7440-36-0	0.38	0.16	0.57	Y
BAI-24A-08-18	Drainage Channel	1	6010B	0-2	MG_KG	Inorganic	Arsenic	7440-38-2	5.8	0.08	0.29	Y

PARENT_SAMPLE_NAME	SI Designation	Exposure Unit	ANALYTICAL_METHOD	Depth Interval	RESULT_UNITS	Analyte Group	Analyte Name	ANALYTE_ID	dw_Analyte Value	dw_MDL	dw_MRL	DETECTED
BAI-24A-08-18	Drainage Channel	1	6010B	0-2	MG_KG	Inorganic	Barium	7440-39-3	150	0.11	0.33	Y
BAI-24A-08-18	Drainage Channel	1	6010B	0-2	MG_KG	Inorganic	Beryllium	7440-41-7	0.34	0.022	0.11	Y
BAI-24A-08-18	Drainage Channel	1	6010B	0-2	MG_KG	Inorganic	Cadmium	7440-43-9	0.24	0.055	0.29	Y
BAI-24A-08-18	Drainage Channel	1	6010B	0-2	MG_KG	Inorganic	Chromium	7440-47-3	17	0.11	0.33	Y
BAI-24A-08-18	Drainage Channel	1	6010B	0-2	MG_KG	Inorganic	Cobalt	7440-48-4	7.8	0.22	0.66	Y
BAI-24A-08-18	Drainage Channel	1	6010B	0-2	MG_KG	Inorganic	Copper	7440-50-8	22	0.11	0.33	Y
BAI-24A-08-18	Drainage Channel	1	6010B	0-2	MG_KG	Inorganic	Vanadium	7440-62-2	34	0.11	0.33	Y
BAI-24A-08-18	Drainage Channel	1	6010B	0-2	MG_KG	Inorganic	Zinc	7440-66-6	850	4.4	22	Y
BAI-24A-08-18	Drainage Channel	1	6010B	0-2	MG_KG	Inorganic	Selenium	7782-49-2	0.46	0.17	0.57	Y
BAI-24A-08-18	Drainage Channel	1	7470A	0-2	MG_KG	Inorganic	Mercury	7439-97-6	0.023	0.0071	0.023	N
BAI-24A-08-18	Drainage Channel	1	8330	0-2	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	229.8850575	25.28735632	229.8850575	N
BAI-24A-08-18	Drainage Channel	1	8330	0-2	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	229.8850575	48.27586207	229.8850575	N
BAI-24A-08-18	Drainage Channel	1	8330	0-2	UG_KG	Explosive	RDX	121-82-4	229.8850575	12.64367816	229.8850575	N
BAI-24A-08-18	Drainage Channel	1	8330	0-2	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	229.8850575	58.62068966	229.8850575	N
BAI-24A-08-18	Drainage Channel	1	8330	0-2	UG_KG	Explosive	HMX	2691-41-0	229.8850575	13.79310345	229.8850575	N
BAI-24A-08-18	Drainage Channel	1	8330	0-2	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	229.8850575	24.13793103	229.8850575	N
BAI-24A-08-18	Drainage Channel	1	8330	0-2	UG_KG	Explosive	Tetryl	479-45-8	229.8850575	64.36781609	229.8850575	N
BAI-24A-08-18	Drainage Channel	1	8330	0-2	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	229.8850575	57.47126437	229.8850575	N
BAI-24A-08-18	Drainage Channel	1	8330	0-2	UG_KG	Explosive	2-Nitrotoluene	88-72-2	459.7701149	12.64367816	459.7701149	N
BAI-24A-08-18	Drainage Channel	1	8330	0-2	UG_KG	SVOC	Nitrobenzene	98-95-3	229.8850575	31.03448276	229.8850575	N
BAI-24A-08-18	Drainage Channel	1	8330	0-2	UG_KG	Explosive	3-Nitrotoluene	99-08-1	459.7701149	20.68965517	459.7701149	N
BAI-24A-08-18	Drainage Channel	1	8330	0-2	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	229.8850575	26.43678161	229.8850575	N
BAI-24A-08-18	Drainage Channel	1	8330	0-2	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	229.8850575	11.49425287	229.8850575	N
BAI-24A-08-18	Drainage Channel	1	8330	0-2	UG_KG	Explosive	4-Nitrotoluene	99-99-0	459.7701149	27.5862069	459.7701149	N
BAI-24A-08-18	Drainage Channel	1	D2216	0-2	PCT	Other	Percent Moisture	-86	14.94252874	0	1.149425287	Y
BAI-24A-09-00	Drainage Channel	1	6010B	0-2	MG_KG	Inorganic	Lead	7439-92-1	5	0.079	0.28	Y
BAI-24A-09-00	Drainage Channel	1	6010B	0-2	MG_KG	Inorganic	Molybdenum	7439-98-7	0.68	0.23	0.68	N
BAI-24A-09-00	Drainage Channel	1	6010B	0-2	MG_KG	Inorganic	Nickel	7440-02-0	13	0.23	0.68	Y
BAI-24A-09-00	Drainage Channel	1	6010B	0-2	MG_KG	Inorganic	Silver	7440-22-4	0.28	0.057	0.28	N
BAI-24A-09-00	Drainage Channel	1	6010B	0-2	MG_KG	Inorganic	Thallium	7440-28-0	0.16	0.16	0.57	Y
BAI-24A-09-00	Drainage Channel	1	6010B	0-2	MG_KG	Inorganic	Antimony	7440-36-0	0.4	0.17	0.57	Y
BAI-24A-09-00	Drainage Channel	1	6010B	0-2	MG_KG	Inorganic	Arsenic	7440-38-2	4.4	0.083	0.28	Y
BAI-24A-09-00	Drainage Channel	1	6010B	0-2	MG_KG	Inorganic	Barium	7440-39-3	55	0.11	0.34	Y
BAI-24A-09-00	Drainage Channel	1	6010B	0-2	MG_KG	Inorganic	Beryllium	7440-41-7	0.28	0.023	0.11	Y
BAI-24A-09-00	Drainage Channel	1	6010B	0-2	MG_KG	Inorganic	Cadmium	7440-43-9	0.28	0.057	0.28	N
BAI-24A-09-00	Drainage Channel	1	6010B	0-2	MG_KG	Inorganic	Chromium	7440-47-3	15	0.11	0.34	Y
BAI-24A-09-00	Drainage Channel	1	6010B	0-2	MG_KG	Inorganic	Cobalt	7440-48-4	7	0.23	0.68	Y
BAI-24A-09-00	Drainage Channel	1	6010B	0-2	MG_KG	Inorganic	Copper	7440-50-8	11	0.11	0.34	Y
BAI-24A-09-00	Drainage Channel	1	6010B	0-2	MG_KG	Inorganic	Vanadium	7440-62-2	28	0.11	0.34	Y
BAI-24A-09-00	Drainage Channel	1	6010B	0-2	MG_KG	Inorganic	Zinc	7440-66-6	51	0.23	1.1	Y
BAI-24A-09-00	Drainage Channel	1	6010B	0-2	MG_KG	Inorganic	Selenium	7782-49-2	1.5	0.18	0.57	Y
BAI-24A-09-00	Drainage Channel	1	7470A	0-2	MG_KG	Inorganic	Mercury	7439-97-6	0.024	0.0074	0.024	N
BAI-24A-09-00	Drainage Channel	1	8330	0-2	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	227.2727273	25	227.2727273	N
BAI-24A-09-00	Drainage Channel	1	8330	0-2	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	227.2727273	47.72727273	227.2727273	N
BAI-24A-09-00	Drainage Channel	1	8330	0-2	UG_KG	Explosive	RDX	121-82-4	227.2727273	12.5	227.2727273	N
BAI-24A-09-00	Drainage Channel	1	8330	0-2	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	227.2727273	57.95454545	227.2727273	N
BAI-24A-09-00	Drainage Channel	1	8330	0-2	UG_KG	Explosive	HMX	2691-41-0	227.2727273	13.63636364	227.2727273	N
BAI-24A-09-00	Drainage Channel	1	8330	0-2	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	227.2727273	25	227.2727273	N
BAI-24A-09-00	Drainage Channel	1	8330	0-2	UG_KG	Explosive	Tetryl	479-45-8	227.2727273	63.63636364	227.2727273	N

PARENT_SAMPLE_NAME	SI Designation	Exposure Unit	ANALYTICAL_METHOD	Depth Interval	RESULT_UNITS	Analyte Group	Analyte Name	ANALYTE_ID	dw_Analyte Value	dw_MDL	dw_MRL	DETECTED
BAI-24A-09-00	Drainage Channel	1	8330	0-2	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	227.2727273	56.81818182	227.2727273	N
BAI-24A-09-00	Drainage Channel	1	8330	0-2	UG_KG	Explosive	2-Nitrotoluene	88-72-2	454.5454545	12.5	454.5454545	N
BAI-24A-09-00	Drainage Channel	1	8330	0-2	UG_KG	SVOC	Nitrobenzene	98-95-3	227.2727273	30.68181818	227.2727273	N
BAI-24A-09-00	Drainage Channel	1	8330	0-2	UG_KG	Explosive	3-Nitrotoluene	99-08-1	454.5454545	20.45454545	454.5454545	N
BAI-24A-09-00	Drainage Channel	1	8330	0-2	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	227.2727273	26.13636364	227.2727273	N
BAI-24A-09-00	Drainage Channel	1	8330	0-2	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	227.2727273	11.36363636	227.2727273	N
BAI-24A-09-00	Drainage Channel	1	8330	0-2	UG_KG	Explosive	4-Nitrotoluene	99-99-0	454.5454545	27.27272727	454.5454545	N
BAI-24A-09-00	Drainage Channel	1	D2216	0-2	PCT	Other	Percent Moisture	-86	13.63636364	0	1.136363636	Y
BAI-24A-09-18	Drainage Channel	1	6010B	0-2	MG_KG	Inorganic	Lead	7439-92-1	2.1	0.075	0.27	Y
BAI-24A-09-18	Drainage Channel	1	6010B	0-2	MG_KG	Inorganic	Molybdenum	7439-98-7	0.65	0.22	0.65	N
BAI-24A-09-18	Drainage Channel	1	6010B	0-2	MG_KG	Inorganic	Nickel	7440-02-0	13	0.22	0.65	Y
BAI-24A-09-18	Drainage Channel	1	6010B	0-2	MG_KG	Inorganic	Silver	7440-22-4	0.27	0.054	0.27	N
BAI-24A-09-18	Drainage Channel	1	6010B	0-2	MG_KG	Inorganic	Thallium	7440-28-0	0.55	0.15	0.55	N
BAI-24A-09-18	Drainage Channel	1	6010B	0-2	MG_KG	Inorganic	Antimony	7440-36-0	0.55	0.16	0.55	N
BAI-24A-09-18	Drainage Channel	1	6010B	0-2	MG_KG	Inorganic	Arsenic	7440-38-2	4.9	0.078	0.27	Y
BAI-24A-09-18	Drainage Channel	1	6010B	0-2	MG_KG	Inorganic	Barium	7440-39-3	50	0.11	0.32	Y
BAI-24A-09-18	Drainage Channel	1	6010B	0-2	MG_KG	Inorganic	Beryllium	7440-41-7	0.32	0.022	0.11	Y
BAI-24A-09-18	Drainage Channel	1	6010B	0-2	MG_KG	Inorganic	Cadmium	7440-43-9	0.27	0.054	0.27	N
BAI-24A-09-18	Drainage Channel	1	6010B	0-2	MG_KG	Inorganic	Chromium	7440-47-3	13	0.11	0.32	Y
BAI-24A-09-18	Drainage Channel	1	6010B	0-2	MG_KG	Inorganic	Cobalt	7440-48-4	7.4	0.22	0.65	Y
BAI-24A-09-18	Drainage Channel	1	6010B	0-2	MG_KG	Inorganic	Copper	7440-50-8	10	0.11	0.32	Y
BAI-24A-09-18	Drainage Channel	1	6010B	0-2	MG_KG	Inorganic	Vanadium	7440-62-2	26	0.11	0.32	Y
BAI-24A-09-18	Drainage Channel	1	6010B	0-2	MG_KG	Inorganic	Zinc	7440-66-6	45	0.22	1.1	Y
BAI-24A-09-18	Drainage Channel	1	6010B	0-2	MG_KG	Inorganic	Selenium	7782-49-2	1.3	0.17	0.55	Y
BAI-24A-09-18	Drainage Channel	1	7470A	0-2	MG_KG	Inorganic	Mercury	7439-97-6	0.022	0.0071	0.022	N
BAI-24A-09-18	Drainage Channel	1	8330	0-2	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	219.7802198	24.17582418	219.7802198	N
BAI-24A-09-18	Drainage Channel	1	8330	0-2	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	219.7802198	46.15384615	219.7802198	N
BAI-24A-09-18	Drainage Channel	1	8330	0-2	UG_KG	Explosive	RDX	121-82-4	219.7802198	12.08791209	219.7802198	N
BAI-24A-09-18	Drainage Channel	1	8330	0-2	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	219.7802198	56.04395604	219.7802198	N
BAI-24A-09-18	Drainage Channel	1	8330	0-2	UG_KG	Explosive	HMX	2691-41-0	219.7802198	13.18681319	219.7802198	N
BAI-24A-09-18	Drainage Channel	1	8330	0-2	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	219.7802198	23.07692308	219.7802198	N
BAI-24A-09-18	Drainage Channel	1	8330	0-2	UG_KG	Explosive	Tetryl	479-45-8	219.7802198	61.53846154	219.7802198	N
BAI-24A-09-18	Drainage Channel	1	8330	0-2	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	219.7802198	54.94505495	219.7802198	N
BAI-24A-09-18	Drainage Channel	1	8330	0-2	UG_KG	Explosive	2-Nitrotoluene	88-72-2	439.5604396	12.08791209	439.5604396	N
BAI-24A-09-18	Drainage Channel	1	8330	0-2	UG_KG	SVOC	Nitrobenzene	98-95-3	219.7802198	29.67032967	219.7802198	N
BAI-24A-09-18	Drainage Channel	1	8330	0-2	UG_KG	Explosive	3-Nitrotoluene	99-08-1	439.5604396	19.78021978	439.5604396	N
BAI-24A-09-18	Drainage Channel	1	8330	0-2	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	219.7802198	25.27472527	219.7802198	N
BAI-24A-09-18	Drainage Channel	1	8330	0-2	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	219.7802198	10.98901099	219.7802198	N
BAI-24A-09-18	Drainage Channel	1	8330	0-2	UG_KG	Explosive	4-Nitrotoluene	99-99-0	439.5604396	26.37362637	439.5604396	N
BAI-24A-09-18	Drainage Channel	1	D2216	0-2	PCT	Other	Percent Moisture	-86	9.89010989	0	1.098901099	Y
BAI-24A-10-00	Drainage Channel	1	6010B	0-2	MG_KG	Inorganic	Lead	7439-92-1	14	0.079	0.29	Y
BAI-24A-10-00	Drainage Channel	1	6010B	0-2	MG_KG	Inorganic	Molybdenum	7439-98-7	0.68	0.23	0.68	N
BAI-24A-10-00	Drainage Channel	1	6010B	0-2	MG_KG	Inorganic	Nickel	7440-02-0	17	0.23	0.68	Y
BAI-24A-10-00	Drainage Channel	1	6010B	0-2	MG_KG	Inorganic	Silver	7440-22-4	0.29	0.057	0.29	N
BAI-24A-10-00	Drainage Channel	1	6010B	0-2	MG_KG	Inorganic	Thallium	7440-28-0	0.51	0.16	0.58	Y
BAI-24A-10-00	Drainage Channel	1	6010B	0-2	MG_KG	Inorganic	Antimony	7440-36-0	0.21	0.17	0.58	Y
BAI-24A-10-00	Drainage Channel	1	6010B	0-2	MG_KG	Inorganic	Arsenic	7440-38-2	6.7	0.083	0.29	Y
BAI-24A-10-00	Drainage Channel	1	6010B	0-2	MG_KG	Inorganic	Barium	7440-39-3	90	0.11	0.34	Y
BAI-24A-10-00	Drainage Channel	1	6010B	0-2	MG_KG	Inorganic	Beryllium	7440-41-7	0.41	0.023	0.12	Y

Attachment B-4.2
Processed Data

PARENT_SAMPLE_NAME	SI Designation	Exposure Unit	ANALYTICAL_METHOD	Depth Interval	RESULT_UNITS	Analyte Group	Analyte Name	ANALYTE_ID	dw_Analyte Value	dw_MDL	dw_MRL	DETECTED
BAI-24A-10-00	Drainage Channel	1	6010B	0-2	MG_KG	Inorganic	Cadmium	7440-43-9	0.2	0.057	0.29	Y
BAI-24A-10-00	Drainage Channel	1	6010B	0-2	MG_KG	Inorganic	Chromium	7440-47-3	19	0.11	0.34	Y
BAI-24A-10-00	Drainage Channel	1	6010B	0-2	MG_KG	Inorganic	Cobalt	7440-48-4	9.4	0.23	0.68	Y
BAI-24A-10-00	Drainage Channel	1	6010B	0-2	MG_KG	Inorganic	Copper	7440-50-8	27	0.11	0.34	Y
BAI-24A-10-00	Drainage Channel	1	6010B	0-2	MG_KG	Inorganic	Vanadium	7440-62-2	38	0.11	0.34	Y
BAI-24A-10-00	Drainage Channel	1	6010B	0-2	MG_KG	Inorganic	Zinc	7440-66-6	490	0.23	1.2	Y
BAI-24A-10-00	Drainage Channel	1	6010B	0-2	MG_KG	Inorganic	Selenium	7782-49-2	1.9	0.18	0.58	Y
BAI-24A-10-00	Drainage Channel	1	7470A	0-2	MG_KG	Inorganic	Mercury	7439-97-6	0.032	0.0076	0.024	Y
BAI-24A-10-00	Drainage Channel	1	8330	0-2	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	232.5581395	25.58139535	232.5581395	N
BAI-24A-10-00	Drainage Channel	1	8330	0-2	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	232.5581395	48.8372093	232.5581395	N
BAI-24A-10-00	Drainage Channel	1	8330	0-2	UG_KG	Explosive	RDX	121-82-4	232.5581395	12.79069767	232.5581395	N
BAI-24A-10-00	Drainage Channel	1	8330	0-2	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	232.5581395	59.30232558	232.5581395	N
BAI-24A-10-00	Drainage Channel	1	8330	0-2	UG_KG	Explosive	HMX	2691-41-0	232.5581395	13.95348837	232.5581395	N
BAI-24A-10-00	Drainage Channel	1	8330	0-2	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	232.5581395	25.58139535	232.5581395	N
BAI-24A-10-00	Drainage Channel	1	8330	0-2	UG_KG	Explosive	Tetryl	479-45-8	232.5581395	65.11627907	232.5581395	N
BAI-24A-10-00	Drainage Channel	1	8330	0-2	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	232.5581395	58.13953488	232.5581395	N
BAI-24A-10-00	Drainage Channel	1	8330	0-2	UG_KG	Explosive	2-Nitrotoluene	88-72-2	465.1162791	12.79069767	465.1162791	N
BAI-24A-10-00	Drainage Channel	1	8330	0-2	UG_KG	SVOC	Nitrobenzene	98-95-3	232.5581395	31.39534884	232.5581395	N
BAI-24A-10-00	Drainage Channel	1	8330	0-2	UG_KG	Explosive	3-Nitrotoluene	99-08-1	465.1162791	20.93023256	465.1162791	N
BAI-24A-10-00	Drainage Channel	1	8330	0-2	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	232.5581395	26.74418605	232.5581395	N
BAI-24A-10-00	Drainage Channel	1	8330	0-2	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	232.5581395	11.62790698	232.5581395	N
BAI-24A-10-00	Drainage Channel	1	8330	0-2	UG_KG	Explosive	4-Nitrotoluene	99-99-0	465.1162791	27.90697674	465.1162791	N
BAI-24A-10-00	Drainage Channel	1	D2216	0-2	PCT	Other	Percent Moisture	-86	16.27906977	0	1.162790698	Y
BAI-24A-10-18	Drainage Channel	1	6010B	0-2	MG_KG	Inorganic	Lead	7439-92-1	7.4	0.077	0.3	Y
BAI-24A-10-18	Drainage Channel	1	6010B	0-2	MG_KG	Inorganic	Molybdenum	7439-98-7	0.66	0.22	0.66	N
BAI-24A-10-18	Drainage Channel	1	6010B	0-2	MG_KG	Inorganic	Nickel	7440-02-0	18	0.22	0.66	Y
BAI-24A-10-18	Drainage Channel	1	6010B	0-2	MG_KG	Inorganic	Silver	7440-22-4	0.3	0.055	0.3	N
BAI-24A-10-18	Drainage Channel	1	6010B	0-2	MG_KG	Inorganic	Thallium	7440-28-0	0.21	0.15	0.6	Y
BAI-24A-10-18	Drainage Channel	1	6010B	0-2	MG_KG	Inorganic	Antimony	7440-36-0	0.6	0.16	0.6	N
BAI-24A-10-18	Drainage Channel	1	6010B	0-2	MG_KG	Inorganic	Arsenic	7440-38-2	9.9	0.08	0.3	Y
BAI-24A-10-18	Drainage Channel	1	6010B	0-2	MG_KG	Inorganic	Barium	7440-39-3	91	0.11	0.33	Y
BAI-24A-10-18	Drainage Channel	1	6010B	0-2	MG_KG	Inorganic	Beryllium	7440-41-7	0.69	0.022	0.12	Y
BAI-24A-10-18	Drainage Channel	1	6010B	0-2	MG_KG	Inorganic	Cadmium	7440-43-9	0.3	0.055	0.3	N
BAI-24A-10-18	Drainage Channel	1	6010B	0-2	MG_KG	Inorganic	Chromium	7440-47-3	22	0.11	0.33	Y
BAI-24A-10-18	Drainage Channel	1	6010B	0-2	MG_KG	Inorganic	Cobalt	7440-48-4	10	0.22	0.66	Y
BAI-24A-10-18	Drainage Channel	1	6010B	0-2	MG_KG	Inorganic	Copper	7440-50-8	35	0.11	0.33	Y
BAI-24A-10-18	Drainage Channel	1	6010B	0-2	MG_KG	Inorganic	Vanadium	7440-62-2	45	0.11	0.33	Y
BAI-24A-10-18	Drainage Channel	1	6010B	0-2	MG_KG	Inorganic	Zinc	7440-66-6	65	0.22	1.2	Y
BAI-24A-10-18	Drainage Channel	1	6010B	0-2	MG_KG	Inorganic	Selenium	7782-49-2	2.4	0.18	0.6	Y
BAI-24A-10-18	Drainage Channel	1	7470A	0-2	MG_KG	Inorganic	Mercury	7439-97-6	0.037	0.0068	0.024	Y
BAI-24A-10-18	Drainage Channel	1	8330	0-2	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	238.0952381	26.19047619	238.0952381	N
BAI-24A-10-18	Drainage Channel	1	8330	0-2	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	238.0952381	50	238.0952381	N
BAI-24A-10-18	Drainage Channel	1	8330	0-2	UG_KG	Explosive	RDX	121-82-4	238.0952381	13.0952381	238.0952381	N
BAI-24A-10-18	Drainage Channel	1	8330	0-2	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	238.0952381	60.71428571	238.0952381	N
BAI-24A-10-18	Drainage Channel	1	8330	0-2	UG_KG	Explosive	HMX	2691-41-0	238.0952381	14.28571429	238.0952381	N
BAI-24A-10-18	Drainage Channel	1	8330	0-2	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	238.0952381	26.19047619	238.0952381	N
BAI-24A-10-18	Drainage Channel	1	8330	0-2	UG_KG	Explosive	Tetryl	479-45-8	238.0952381	66.66666667	238.0952381	N
BAI-24A-10-18	Drainage Channel	1	8330	0-2	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	238.0952381	59.52380952	238.0952381	N
BAI-24A-10-18	Drainage Channel	1	8330	0-2	UG_KG	Explosive	2-Nitrotoluene	88-72-2	476.1904762	13.0952381	476.1904762	N

PARENT_SAMPLE_NAME	SI Designation	Exposure Unit	ANALYTICAL_METHOD	Depth Interval	RESULT_UNITS	Analyte Group	Analyte Name	ANALYTE_ID	dw_Analyte Value	dw_MDL	dw_MRL	DETECTED
BAI-24A-10-18	Drainage Channel	1	8330	0-2	UG_KG	SVOC	Nitrobenzene	98-95-3	238.0952381	32.14285714	238.0952381	N
BAI-24A-10-18	Drainage Channel	1	8330	0-2	UG_KG	Explosive	3-Nitrotoluene	99-08-1	476.1904762	21.42857143	476.1904762	N
BAI-24A-10-18	Drainage Channel	1	8330	0-2	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	238.0952381	27.38095238	238.0952381	N
BAI-24A-10-18	Drainage Channel	1	8330	0-2	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	238.0952381	11.9047619	238.0952381	N
BAI-24A-10-18	Drainage Channel	1	8330	0-2	UG_KG	Explosive	4-Nitrotoluene	99-99-0	476.1904762	28.57142857	476.1904762	N
BAI-24A-10-18	Drainage Channel	1	D2216	0-2	PCT	Other	Percent Moisture	-86	19.04761905	0	1.19047619	Y
BAI-24A-11-00	Drainage Channel	1	6010B	0-2	MG_KG	Inorganic	Lead	7439-92-1	24	0.0805	0.295	Y
BAI-24A-11-00	Drainage Channel	1	6010B	0-2	MG_KG	Inorganic	Molybdenum	7439-98-7	0.225	0.17	0.51	Y
BAI-24A-11-00	Drainage Channel	1	6010B	0-2	MG_KG	Inorganic	Nickel	7440-02-0	14.5	0.225	0.675	Y
BAI-24A-11-00	Drainage Channel	1	6010B	0-2	MG_KG	Inorganic	Silver	7440-22-4	0.295	0.0705	0.295	N
BAI-24A-11-00	Drainage Channel	1	6010B	0-2	MG_KG	Inorganic	Thallium	7440-28-0	0.59	0.175	0.59	N
BAI-24A-11-00	Drainage Channel	1	6010B	0-2	MG_KG	Inorganic	Antimony	7440-36-0	1.545	0.175	0.59	Y
BAI-24A-11-00	Drainage Channel	1	6010B	0-2	MG_KG	Inorganic	Arsenic	7440-38-2	7.75	0.0875	0.295	Y
BAI-24A-11-00	Drainage Channel	1	6010B	0-2	MG_KG	Inorganic	Barium	7440-39-3	115	0.115	0.34	Y
BAI-24A-11-00	Drainage Channel	1	6010B	0-2	MG_KG	Inorganic	Beryllium	7440-41-7	0.39	0.0225	0.115	Y
BAI-24A-11-00	Drainage Channel	1	6010B	0-2	MG_KG	Inorganic	Cadmium	7440-43-9	0.185	0.0565	0.295	Y
BAI-24A-11-00	Drainage Channel	1	6010B	0-2	MG_KG	Inorganic	Chromium	7440-47-3	21	0.115	0.34	Y
BAI-24A-11-00	Drainage Channel	1	6010B	0-2	MG_KG	Inorganic	Cobalt	7440-48-4	8.2	0.225	0.675	Y
BAI-24A-11-00	Drainage Channel	1	6010B	0-2	MG_KG	Inorganic	Copper	7440-50-8	19	0.115	0.34	Y
BAI-24A-11-00	Drainage Channel	1	6010B	0-2	MG_KG	Inorganic	Vanadium	7440-62-2	33.5	0.115	0.34	Y
BAI-24A-11-00	Drainage Channel	1	6010B	0-2	MG_KG	Inorganic	Zinc	7440-66-6	340	0.225	1.15	Y
BAI-24A-11-00	Drainage Channel	1	6010B	0-2	MG_KG	Inorganic	Selenium	7782-49-2	0.325	0.13	0.4475	Y
BAI-24A-11-00	Drainage Channel	1	7470A	0-2	MG_KG	Inorganic	Mercury	7439-97-6	0.0235	0.0069	0.0235	N
BAI-24A-11-00	Drainage Channel	1	8330	0-2	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	236.6863905	30.76923077	236.6863905	N
BAI-24A-11-00	Drainage Channel	1	8330	0-2	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	236.6863905	37.27810651	236.6863905	N
BAI-24A-11-00	Drainage Channel	1	8330	0-2	UG_KG	Explosive	RDX	121-82-4	236.6863905	18.93491124	236.6863905	N
BAI-24A-11-00	Drainage Channel	1	8330	0-2	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	236.6863905	53.25443787	236.6863905	N
BAI-24A-11-00	Drainage Channel	1	8330	0-2	UG_KG	Explosive	HMX	2691-41-0	236.6863905	15.97633136	236.6863905	N
BAI-24A-11-00	Drainage Channel	1	8330	0-2	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	236.6863905	23.07692308	236.6863905	N
BAI-24A-11-00	Drainage Channel	1	8330	0-2	UG_KG	Explosive	Tetryl	479-45-8	236.6863905	66.27218935	236.6863905	N
BAI-24A-11-00	Drainage Channel	1	8330	0-2	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	236.6863905	42.01183432	236.6863905	N
BAI-24A-11-00	Drainage Channel	1	8330	0-2	UG_KG	Explosive	2-Nitrotoluene	88-72-2	461.5384615	23.07692308	461.5384615	N
BAI-24A-11-00	Drainage Channel	1	8330	0-2	UG_KG	SVOC	Nitrobenzene	98-95-3	236.6863905	24.85207101	236.6863905	N
BAI-24A-11-00	Drainage Channel	1	8330	0-2	UG_KG	Explosive	3-Nitrotoluene	99-08-1	461.5384615	34.31952663	461.5384615	N
BAI-24A-11-00	Drainage Channel	1	8330	0-2	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	236.6863905	29.58579882	236.6863905	N
BAI-24A-11-00	Drainage Channel	1	8330	0-2	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	236.6863905	8.639053254	236.6863905	N
BAI-24A-11-00	Drainage Channel	1	8330	0-2	UG_KG	Explosive	4-Nitrotoluene	99-99-0	461.5384615	30.76923077	461.5384615	N
BAI-24A-11-00	Drainage Channel	1	D2216	0-2	PCT	Other	Percent Moisture	-86	18.34319527	0	1.183431953	Y
BAI-24A-11-18	Drainage Channel	1	6010B	0-2	MG_KG	Inorganic	Lead	7439-92-1	6.6	0.076	0.29	Y
BAI-24A-11-18	Drainage Channel	1	6010B	0-2	MG_KG	Inorganic	Molybdenum	7439-98-7	0.65	0.22	0.65	N
BAI-24A-11-18	Drainage Channel	1	6010B	0-2	MG_KG	Inorganic	Nickel	7440-02-0	14	0.22	0.65	Y
BAI-24A-11-18	Drainage Channel	1	6010B	0-2	MG_KG	Inorganic	Silver	7440-22-4	0.29	0.054	0.29	N
BAI-24A-11-18	Drainage Channel	1	6010B	0-2	MG_KG	Inorganic	Thallium	7440-28-0	0.38	0.15	0.58	Y
BAI-24A-11-18	Drainage Channel	1	6010B	0-2	MG_KG	Inorganic	Antimony	7440-36-0	0.58	0.16	0.58	N
BAI-24A-11-18	Drainage Channel	1	6010B	0-2	MG_KG	Inorganic	Arsenic	7440-38-2	5.8	0.079	0.29	Y
BAI-24A-11-18	Drainage Channel	1	6010B	0-2	MG_KG	Inorganic	Barium	7440-39-3	86	0.11	0.33	Y
BAI-24A-11-18	Drainage Channel	1	6010B	0-2	MG_KG	Inorganic	Beryllium	7440-41-7	0.36	0.022	0.12	Y
BAI-24A-11-18	Drainage Channel	1	6010B	0-2	MG_KG	Inorganic	Cadmium	7440-43-9	0.44	0.054	0.29	Y
BAI-24A-11-18	Drainage Channel	1	6010B	0-2	MG_KG	Inorganic	Chromium	7440-47-3	16	0.11	0.33	Y

Attachment B-4.2
Processed Data

PARENT_SAMPLE_NAME	SI Designation	Exposure Unit	ANALYTICAL_METHOD	Depth Interval	RESULT_UNITS	Analyte Group	Analyte Name	ANALYTE_ID	dw_Analyte Value	dw_MDL	dw_MRL	DETECTED
BAI-24A-11-18	Drainage Channel	1	6010B	0-2	MG_KG	Inorganic	Cobalt	7440-48-4	7.7	0.22	0.65	Y
BAI-24A-11-18	Drainage Channel	1	6010B	0-2	MG_KG	Inorganic	Copper	7440-50-8	17	0.11	0.33	Y
BAI-24A-11-18	Drainage Channel	1	6010B	0-2	MG_KG	Inorganic	Vanadium	7440-62-2	29	0.11	0.33	Y
BAI-24A-11-18	Drainage Channel	1	6010B	0-2	MG_KG	Inorganic	Zinc	7440-66-6	1300	4.3	22	Y
BAI-24A-11-18	Drainage Channel	1	6010B	0-2	MG_KG	Inorganic	Selenium	7782-49-2	2.1	0.17	0.58	Y
BAI-24A-11-18	Drainage Channel	1	7470A	0-2	MG_KG	Inorganic	Mercury	7439-97-6	0.17	0.0076	0.024	Y
BAI-24A-11-18	Drainage Channel	1	8330	0-2	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	232.5581395	25.58139535	232.5581395	N
BAI-24A-11-18	Drainage Channel	1	8330	0-2	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	232.5581395	48.8372093	232.5581395	N
BAI-24A-11-18	Drainage Channel	1	8330	0-2	UG_KG	Explosive	RDX	121-82-4	232.5581395	12.79069767	232.5581395	N
BAI-24A-11-18	Drainage Channel	1	8330	0-2	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	232.5581395	59.30232558	232.5581395	N
BAI-24A-11-18	Drainage Channel	1	8330	0-2	UG_KG	Explosive	HMX	2691-41-0	232.5581395	13.95348837	232.5581395	N
BAI-24A-11-18	Drainage Channel	1	8330	0-2	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	232.5581395	25.58139535	232.5581395	N
BAI-24A-11-18	Drainage Channel	1	8330	0-2	UG_KG	Explosive	Tetryl	479-45-8	232.5581395	65.11627907	232.5581395	N
BAI-24A-11-18	Drainage Channel	1	8330	0-2	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	232.5581395	58.13953488	232.5581395	N
BAI-24A-11-18	Drainage Channel	1	8330	0-2	UG_KG	Explosive	2-Nitrotoluene	88-72-2	465.1162791	12.79069767	465.1162791	N
BAI-24A-11-18	Drainage Channel	1	8330	0-2	UG_KG	SVOC	Nitrobenzene	98-95-3	232.5581395	31.39534884	232.5581395	N
BAI-24A-11-18	Drainage Channel	1	8330	0-2	UG_KG	Explosive	3-Nitrotoluene	99-08-1	465.1162791	20.93023256	465.1162791	N
BAI-24A-11-18	Drainage Channel	1	8330	0-2	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	232.5581395	26.74418605	232.5581395	N
BAI-24A-11-18	Drainage Channel	1	8330	0-2	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	232.5581395	11.62790698	232.5581395	N
BAI-24A-11-18	Drainage Channel	1	8330	0-2	UG_KG	Explosive	4-Nitrotoluene	99-99-0	465.1162791	27.90697674	465.1162791	N
BAI-24A-11-18	Drainage Channel	1	D2216	0-2	PCT	Other	Percent Moisture	-86	16.27906977	0	1.162790698	Y
BAI-24A-07-00	Drainage Channel	4	6010B	0-0.5	MG_KG	Inorganic	Lead	7439-92-1	7100	1.6	4.8	Y
BAI-24A-07-00	Drainage Channel	4	6010B	0-0.5	MG_KG	Inorganic	Molybdenum	7439-98-7	0.69	0.23	0.69	N
BAI-24A-07-00	Drainage Channel	4	6010B	0-0.5	MG_KG	Inorganic	Nickel	7440-02-0	23	0.23	0.69	Y
BAI-24A-07-00	Drainage Channel	4	6010B	0-0.5	MG_KG	Inorganic	Silver	7440-22-4	0.3	0.057	0.3	N
BAI-24A-07-00	Drainage Channel	4	6010B	0-0.5	MG_KG	Inorganic	Thallium	7440-28-0	0.4	0.16	0.6	Y
BAI-24A-07-00	Drainage Channel	4	6010B	0-0.5	MG_KG	Inorganic	Antimony	7440-36-0	45	0.17	0.6	Y
BAI-24A-07-00	Drainage Channel	4	6010B	0-0.5	MG_KG	Inorganic	Arsenic	7440-38-2	18	0.083	0.3	Y
BAI-24A-07-00	Drainage Channel	4	6010B	0-0.5	MG_KG	Inorganic	Barium	7440-39-3	60	0.11	0.34	Y
BAI-24A-07-00	Drainage Channel	4	6010B	0-0.5	MG_KG	Inorganic	Beryllium	7440-41-7	0.26	0.023	0.12	Y
BAI-24A-07-00	Drainage Channel	4	6010B	0-0.5	MG_KG	Inorganic	Cadmium	7440-43-9	0.3	0.057	0.3	N
BAI-24A-07-00	Drainage Channel	4	6010B	0-0.5	MG_KG	Inorganic	Chromium	7440-47-3	31	0.11	0.34	Y
BAI-24A-07-00	Drainage Channel	4	6010B	0-0.5	MG_KG	Inorganic	Cobalt	7440-48-4	14	0.23	0.69	Y
BAI-24A-07-00	Drainage Channel	4	6010B	0-0.5	MG_KG	Inorganic	Copper	7440-50-8	190	2.3	6.9	Y
BAI-24A-07-00	Drainage Channel	4	6010B	0-0.5	MG_KG	Inorganic	Vanadium	7440-62-2	64	0.11	0.34	Y
BAI-24A-07-00	Drainage Channel	4	6010B	0-0.5	MG_KG	Inorganic	Zinc	7440-66-6	310	0.23	1.2	Y
BAI-24A-07-00	Drainage Channel	4	6010B	0-0.5	MG_KG	Inorganic	Selenium	7782-49-2	0.47	0.18	0.6	Y
BAI-24A-07-00	Drainage Channel	4	7470A	0-0.5	MG_KG	Inorganic	Mercury	7439-97-6	0.25	0.007	0.024	Y
BAI-24A-07-00	Drainage Channel	4	8330	0-0.5	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	240.9638554	26.5060241	240.9638554	N
BAI-24A-07-00	Drainage Channel	4	8330	0-0.5	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	240.9638554	50.60240964	240.9638554	N
BAI-24A-07-00	Drainage Channel	4	8330	0-0.5	UG_KG	Explosive	RDX	121-82-4	240.9638554	13.25301205	240.9638554	N
BAI-24A-07-00	Drainage Channel	4	8330	0-0.5	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	240.9638554	61.44578313	240.9638554	N
BAI-24A-07-00	Drainage Channel	4	8330	0-0.5	UG_KG	Explosive	HMX	2691-41-0	240.9638554	14.45783133	240.9638554	N
BAI-24A-07-00	Drainage Channel	4	8330	0-0.5	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	240.9638554	25.30120482	240.9638554	N
BAI-24A-07-00	Drainage Channel	4	8330	0-0.5	UG_KG	Explosive	Tetryl	479-45-8	240.9638554	67.46987952	240.9638554	N
BAI-24A-07-00	Drainage Channel	4	8330	0-0.5	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	240.9638554	59.03614458	240.9638554	N
BAI-24A-07-00	Drainage Channel	4	8330	0-0.5	UG_KG	Explosive	2-Nitrotoluene	88-72-2	481.9277108	13.25301205	481.9277108	N
BAI-24A-07-00	Drainage Channel	4	8330	0-0.5	UG_KG	SVOC	Nitrobenzene	98-95-3	240.9638554	31.3253012	240.9638554	N
BAI-24A-07-00	Drainage Channel	4	8330	0-0.5	UG_KG	Explosive	3-Nitrotoluene	99-08-1	481.9277108	21.68674699	481.9277108	N

PARENT_SAMPLE_NAME	SI Designation	Exposure Unit	ANALYTICAL_METHOD	Depth Interval	RESULT_UNITS	Analyte Group	Analyte Name	ANALYTE_ID	dw_Analyte Value	dw_MDL	dw_MRL	DETECTED
BAI-24A-07-00	Drainage Channel	4	8330	0-0.5	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	240.9638554	27.71084337	240.9638554	N
BAI-24A-07-00	Drainage Channel	4	8330	0-0.5	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	240.9638554	12.04819277	240.9638554	N
BAI-24A-07-00	Drainage Channel	4	8330	0-0.5	UG_KG	Explosive	4-Nitrotoluene	99-99-0	481.9277108	28.91566265	481.9277108	N
BAI-24A-07-00	Drainage Channel	4	D2216	0-0.5	PCT	Other	Percent Moisture	-86	20.48192771	0	1.204819277	Y
BAI-24A-07-18	Drainage Channel	4	6010B	1.5-2	MG_KG	Inorganic	Lead	7439-92-1	460	0.074	0.29	Y
BAI-24A-07-18	Drainage Channel	4	6010B	1.5-2	MG_KG	Inorganic	Molybdenum	7439-98-7	0.64	0.21	0.64	N
BAI-24A-07-18	Drainage Channel	4	6010B	1.5-2	MG_KG	Inorganic	Nickel	7440-02-0	20	0.21	0.64	Y
BAI-24A-07-18	Drainage Channel	4	6010B	1.5-2	MG_KG	Inorganic	Silver	7440-22-4	0.29	0.053	0.29	N
BAI-24A-07-18	Drainage Channel	4	6010B	1.5-2	MG_KG	Inorganic	Thallium	7440-28-0	0.58	0.15	0.58	N
BAI-24A-07-18	Drainage Channel	4	6010B	1.5-2	MG_KG	Inorganic	Antimony	7440-36-0	2.5	0.16	0.58	Y
BAI-24A-07-18	Drainage Channel	4	6010B	1.5-2	MG_KG	Inorganic	Arsenic	7440-38-2	7	0.077	0.29	Y
BAI-24A-07-18	Drainage Channel	4	6010B	1.5-2	MG_KG	Inorganic	Barium	7440-39-3	170	0.11	0.32	Y
BAI-24A-07-18	Drainage Channel	4	6010B	1.5-2	MG_KG	Inorganic	Beryllium	7440-41-7	0.37	0.021	0.12	Y
BAI-24A-07-18	Drainage Channel	4	6010B	1.5-2	MG_KG	Inorganic	Cadmium	7440-43-9	3	0.053	0.29	Y
BAI-24A-07-18	Drainage Channel	4	6010B	1.5-2	MG_KG	Inorganic	Chromium	7440-47-3	22	0.11	0.32	Y
BAI-24A-07-18	Drainage Channel	4	6010B	1.5-2	MG_KG	Inorganic	Cobalt	7440-48-4	8.8	0.21	0.64	Y
BAI-24A-07-18	Drainage Channel	4	6010B	1.5-2	MG_KG	Inorganic	Copper	7440-50-8	75	0.11	0.32	Y
BAI-24A-07-18	Drainage Channel	4	6010B	1.5-2	MG_KG	Inorganic	Vanadium	7440-62-2	33	0.11	0.32	Y
BAI-24A-07-18	Drainage Channel	4	6010B	1.5-2	MG_KG	Inorganic	Zinc	7440-66-6	1600	4.3	21	Y
BAI-24A-07-18	Drainage Channel	4	6010B	1.5-2	MG_KG	Inorganic	Selenium	7782-49-2	4.4	0.17	0.58	Y
BAI-24A-07-18	Drainage Channel	4	7470A	1.5-2	MG_KG	Inorganic	Mercury	7439-97-6	0.04	0.0068	0.023	Y
BAI-24A-07-18	Drainage Channel	4	8330	1.5-2	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	232.5581395	25.58139535	232.5581395	N
BAI-24A-07-18	Drainage Channel	4	8330	1.5-2	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	232.5581395	48.8372093	232.5581395	N
BAI-24A-07-18	Drainage Channel	4	8330	1.5-2	UG_KG	Explosive	RDX	121-82-4	232.5581395	12.79069767	232.5581395	N
BAI-24A-07-18	Drainage Channel	4	8330	1.5-2	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	232.5581395	59.30232558	232.5581395	N
BAI-24A-07-18	Drainage Channel	4	8330	1.5-2	UG_KG	Explosive	HMX	2691-41-0	232.5581395	13.95348837	232.5581395	N
BAI-24A-07-18	Drainage Channel	4	8330	1.5-2	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	232.5581395	24.41860465	232.5581395	N
BAI-24A-07-18	Drainage Channel	4	8330	1.5-2	UG_KG	Explosive	Tetryl	479-45-8	232.5581395	65.11627907	232.5581395	N
BAI-24A-07-18	Drainage Channel	4	8330	1.5-2	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	232.5581395	56.97674419	232.5581395	N
BAI-24A-07-18	Drainage Channel	4	8330	1.5-2	UG_KG	Explosive	2-Nitrotoluene	88-72-2	465.1162791	12.79069767	465.1162791	N
BAI-24A-07-18	Drainage Channel	4	8330	1.5-2	UG_KG	SVOC	Nitrobenzene	98-95-3	232.5581395	30.23255814	232.5581395	N
BAI-24A-07-18	Drainage Channel	4	8330	1.5-2	UG_KG	Explosive	3-Nitrotoluene	99-08-1	465.1162791	20.93023256	465.1162791	N
BAI-24A-08-00	Drainage Channel	4	8330	0-0.5	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	227.2727273	27.27272727	227.2727273	N
BAI-24A-07-18	Drainage Channel	4	8330	1.5-2	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	232.5581395	11.62790698	232.5581395	N
BAI-24A-07-18	Drainage Channel	4	8330	1.5-2	UG_KG	Explosive	4-Nitrotoluene	99-99-0	465.1162791	27.90697674	465.1162791	N
BAI-24A-07-18	Drainage Channel	4	D2216	1.5-2	PCT	Other	Percent Moisture	-86	16.27906977	0	1.162790698	Y
BAI-24A-08-00	Drainage Channel	4	6010B	0-0.5	MG_KG	Inorganic	Lead	7439-92-1	35	0.076	0.28	Y
BAI-24A-08-00	Drainage Channel	4	6010B	0-0.5	MG_KG	Inorganic	Molybdenum	7439-98-7	0.66	0.22	0.66	N
BAI-24A-08-00	Drainage Channel	4	6010B	0-0.5	MG_KG	Inorganic	Nickel	7440-02-0	15	0.22	0.66	Y
BAI-24A-08-00	Drainage Channel	4	6010B	0-0.5	MG_KG	Inorganic	Silver	7440-22-4	0.28	0.055	0.28	N
BAI-24A-08-00	Drainage Channel	4	6010B	0-0.5	MG_KG	Inorganic	Thallium	7440-28-0	0.17	0.15	0.57	Y
BAI-24A-08-00	Drainage Channel	4	6010B	0-0.5	MG_KG	Inorganic	Antimony	7440-36-0	0.49	0.16	0.57	Y
BAI-24A-08-00	Drainage Channel	4	6010B	0-0.5	MG_KG	Inorganic	Arsenic	7440-38-2	10	0.079	0.28	Y
BAI-24A-08-00	Drainage Channel	4	6010B	0-0.5	MG_KG	Inorganic	Barium	7440-39-3	120	0.11	0.33	Y
BAI-24A-08-00	Drainage Channel	4	6010B	0-0.5	MG_KG	Inorganic	Beryllium	7440-41-7	0.36	0.022	0.11	Y
BAI-24A-08-00	Drainage Channel	4	6010B	0-0.5	MG_KG	Inorganic	Cadmium	7440-43-9	0.11	0.055	0.28	Y
BAI-24A-08-00	Drainage Channel	4	6010B	0-0.5	MG_KG	Inorganic	Chromium	7440-47-3	24	0.11	0.33	Y
BAI-24A-08-00	Drainage Channel	4	6010B	0-0.5	MG_KG	Inorganic	Cobalt	7440-48-4	7.9	0.22	0.66	Y
BAI-24A-08-00	Drainage Channel	4	6010B	0-0.5	MG_KG	Inorganic	Copper	7440-50-8	23	0.11	0.33	Y

PARENT_SAMPLE_NAME	SI Designation	Exposure Unit	ANALYTICAL_METHOD	Depth Interval	RESULT_UNITS	Analyte Group	Analyte Name	ANALYTE_ID	dw_Analyte Value	dw_MDL	dw_MRL	DETECTED
BAI-24A-08-00	Drainage Channel	4	6010B	0-0.5	MG_KG	Inorganic	Vanadium	7440-62-2	33	0.11	0.33	Y
BAI-24A-08-00	Drainage Channel	4	6010B	0-0.5	MG_KG	Inorganic	Zinc	7440-66-6	270	0.22	1.1	Y
BAI-24A-08-00	Drainage Channel	4	6010B	0-0.5	MG_KG	Inorganic	Selenium	7782-49-2	2	0.17	0.57	Y
BAI-24A-08-00	Drainage Channel	4	7470A	0-0.5	MG_KG	Inorganic	Mercury	7439-97-6	0.023	0.0069	0.023	N
BAI-24A-08-00	Drainage Channel	4	8330	0-0.5	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	227.2727273	25	227.2727273	N
BAI-24A-08-00	Drainage Channel	4	8330	0-0.5	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	227.2727273	47.72727273	227.2727273	N
BAI-24A-08-00	Drainage Channel	4	8330	0-0.5	UG_KG	Explosive	RDX	121-82-4	227.2727273	12.5	227.2727273	N
BAI-24A-08-00	Drainage Channel	4	8330	0-0.5	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	227.2727273	57.95454545	227.2727273	N
BAI-24A-08-00	Drainage Channel	4	8330	0-0.5	UG_KG	Explosive	HMX	2691-41-0	227.2727273	13.63636364	227.2727273	N
BAI-24A-08-00	Drainage Channel	4	8330	0-0.5	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	227.2727273	25	227.2727273	N
BAI-24A-08-00	Drainage Channel	4	8330	0-0.5	UG_KG	Explosive	Tetryl	479-45-8	227.2727273	63.63636364	227.2727273	N
BAI-24A-08-00	Drainage Channel	4	8330	0-0.5	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	227.2727273	56.81818182	227.2727273	N
BAI-24A-08-00	Drainage Channel	4	8330	0-0.5	UG_KG	Explosive	2-Nitrotoluene	88-72-2	454.5454545	12.5	454.5454545	N
BAI-24A-08-00	Drainage Channel	4	8330	0-0.5	UG_KG	SVOC	Nitrobenzene	98-95-3	227.2727273	30.68181818	227.2727273	N
BAI-24A-08-00	Drainage Channel	4	8330	0-0.5	UG_KG	Explosive	3-Nitrotoluene	99-08-1	454.5454545	20.45454545	454.5454545	N
BAI-24A-09-00	Drainage Channel	4	8330	0-0.5	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	227.2727273	26.13636364	227.2727273	N
BAI-24A-08-00	Drainage Channel	4	8330	0-0.5	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	227.2727273	12.5	227.2727273	N
BAI-24A-08-00	Drainage Channel	4	8330	0-0.5	UG_KG	Explosive	4-Nitrotoluene	99-99-0	454.5454545	27.27272727	454.5454545	N
BAI-24A-08-00	Drainage Channel	4	D2216	0-0.5	PCT	Other	Percent Moisture	-86	13.63636364	0	1.136363636	Y
BAI-24A-08-18	Drainage Channel	4	6010B	1.5-2	MG_KG	Inorganic	Lead	7439-92-1	20	0.076	0.29	Y
BAI-24A-08-18	Drainage Channel	4	6010B	1.5-2	MG_KG	Inorganic	Molybdenum	7439-98-7	0.66	0.22	0.66	N
BAI-24A-08-18	Drainage Channel	4	6010B	1.5-2	MG_KG	Inorganic	Nickel	7440-02-0	15	0.22	0.66	Y
BAI-24A-08-18	Drainage Channel	4	6010B	1.5-2	MG_KG	Inorganic	Silver	7440-22-4	0.29	0.055	0.29	N
BAI-24A-08-18	Drainage Channel	4	6010B	1.5-2	MG_KG	Inorganic	Thallium	7440-28-0	0.34	0.15	0.57	Y
BAI-24A-08-18	Drainage Channel	4	6010B	1.5-2	MG_KG	Inorganic	Antimony	7440-36-0	0.38	0.16	0.57	Y
BAI-24A-08-18	Drainage Channel	4	6010B	1.5-2	MG_KG	Inorganic	Arsenic	7440-38-2	5.8	0.08	0.29	Y
BAI-24A-08-18	Drainage Channel	4	6010B	1.5-2	MG_KG	Inorganic	Barium	7440-39-3	150	0.11	0.33	Y
BAI-24A-08-18	Drainage Channel	4	6010B	1.5-2	MG_KG	Inorganic	Beryllium	7440-41-7	0.34	0.022	0.11	Y
BAI-24A-08-18	Drainage Channel	4	6010B	1.5-2	MG_KG	Inorganic	Cadmium	7440-43-9	0.24	0.055	0.29	Y
BAI-24A-08-18	Drainage Channel	4	6010B	1.5-2	MG_KG	Inorganic	Chromium	7440-47-3	17	0.11	0.33	Y
BAI-24A-08-18	Drainage Channel	4	6010B	1.5-2	MG_KG	Inorganic	Cobalt	7440-48-4	7.8	0.22	0.66	Y
BAI-24A-08-18	Drainage Channel	4	6010B	1.5-2	MG_KG	Inorganic	Copper	7440-50-8	22	0.11	0.33	Y
BAI-24A-08-18	Drainage Channel	4	6010B	1.5-2	MG_KG	Inorganic	Vanadium	7440-62-2	34	0.11	0.33	Y
BAI-24A-08-18	Drainage Channel	4	6010B	1.5-2	MG_KG	Inorganic	Zinc	7440-66-6	850	4.4	22	Y
BAI-24A-08-18	Drainage Channel	4	6010B	1.5-2	MG_KG	Inorganic	Selenium	7782-49-2	0.46	0.17	0.57	Y
BAI-24A-08-18	Drainage Channel	4	7470A	1.5-2	MG_KG	Inorganic	Mercury	7439-97-6	0.023	0.0071	0.023	N
BAI-24A-08-18	Drainage Channel	4	8330	1.5-2	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	229.8850575	25.28735632	229.8850575	N
BAI-24A-08-18	Drainage Channel	4	8330	1.5-2	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	229.8850575	48.27586207	229.8850575	N
BAI-24A-08-18	Drainage Channel	4	8330	1.5-2	UG_KG	Explosive	RDX	121-82-4	229.8850575	12.64367816	229.8850575	N
BAI-24A-08-18	Drainage Channel	4	8330	1.5-2	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	229.8850575	58.62068966	229.8850575	N
BAI-24A-08-18	Drainage Channel	4	8330	1.5-2	UG_KG	Explosive	HMX	2691-41-0	229.8850575	13.79310345	229.8850575	N
BAI-24A-08-18	Drainage Channel	4	8330	1.5-2	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	229.8850575	24.13793103	229.8850575	N
BAI-24A-08-18	Drainage Channel	4	8330	1.5-2	UG_KG	Explosive	Tetryl	479-45-8	229.8850575	64.36781609	229.8850575	N
BAI-24A-08-18	Drainage Channel	4	8330	1.5-2	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	229.8850575	57.47126437	229.8850575	N
BAI-24A-08-18	Drainage Channel	4	8330	1.5-2	UG_KG	Explosive	2-Nitrotoluene	88-72-2	459.7701149	12.64367816	459.7701149	N
BAI-24A-08-18	Drainage Channel	4	8330	1.5-2	UG_KG	SVOC	Nitrobenzene	98-95-3	229.8850575	31.03448276	229.8850575	N
BAI-24A-08-18	Drainage Channel	4	8330	1.5-2	UG_KG	Explosive	3-Nitrotoluene	99-08-1	459.7701149	20.68965517	459.7701149	N
BAI-24A-10-00	Drainage Channel	4	8330	0-0.5	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	232.5581395	26.74418605	232.5581395	N
BAI-24A-08-18	Drainage Channel	4	8330	1.5-2	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	229.8850575	11.49425287	229.8850575	N

PARENT_SAMPLE_NAME	SI Designation	Exposure Unit	ANALYTICAL_METHOD	Depth Interval	RESULT_UNITS	Analyte Group	Analyte Name	ANALYTE_ID	dw_Analyte Value	dw_MDL	dw_MRL	DETECTED
BAI-24A-08-18	Drainage Channel	4	8330	1.5-2	UG_KG	Explosive	4-Nitrotoluene	99-99-0	459.7701149	27.5862069	459.7701149	N
BAI-24A-08-18	Drainage Channel	4	D2216	1.5-2	PCT	Other	Percent Moisture	-86	14.94252874	0	1.149425287	Y
BAI-24A-09-00	Drainage Channel	4	6010B	0-0.5	MG_KG	Inorganic	Lead	7439-92-1	5	0.079	0.28	Y
BAI-24A-09-00	Drainage Channel	4	6010B	0-0.5	MG_KG	Inorganic	Molybdenum	7439-98-7	0.68	0.23	0.68	N
BAI-24A-09-00	Drainage Channel	4	6010B	0-0.5	MG_KG	Inorganic	Nickel	7440-02-0	13	0.23	0.68	Y
BAI-24A-09-00	Drainage Channel	4	6010B	0-0.5	MG_KG	Inorganic	Silver	7440-22-4	0.28	0.057	0.28	N
BAI-24A-09-00	Drainage Channel	4	6010B	0-0.5	MG_KG	Inorganic	Thallium	7440-28-0	0.16	0.16	0.57	Y
BAI-24A-09-00	Drainage Channel	4	6010B	0-0.5	MG_KG	Inorganic	Antimony	7440-36-0	0.4	0.17	0.57	Y
BAI-24A-09-00	Drainage Channel	4	6010B	0-0.5	MG_KG	Inorganic	Arsenic	7440-38-2	4.4	0.083	0.28	Y
BAI-24A-09-00	Drainage Channel	4	6010B	0-0.5	MG_KG	Inorganic	Barium	7440-39-3	55	0.11	0.34	Y
BAI-24A-09-00	Drainage Channel	4	6010B	0-0.5	MG_KG	Inorganic	Beryllium	7440-41-7	0.28	0.023	0.11	Y
BAI-24A-09-00	Drainage Channel	4	6010B	0-0.5	MG_KG	Inorganic	Cadmium	7440-43-9	0.28	0.057	0.28	N
BAI-24A-09-00	Drainage Channel	4	6010B	0-0.5	MG_KG	Inorganic	Chromium	7440-47-3	15	0.11	0.34	Y
BAI-24A-09-00	Drainage Channel	4	6010B	0-0.5	MG_KG	Inorganic	Cobalt	7440-48-4	7	0.23	0.68	Y
BAI-24A-09-00	Drainage Channel	4	6010B	0-0.5	MG_KG	Inorganic	Copper	7440-50-8	11	0.11	0.34	Y
BAI-24A-09-00	Drainage Channel	4	6010B	0-0.5	MG_KG	Inorganic	Vanadium	7440-62-2	28	0.11	0.34	Y
BAI-24A-09-00	Drainage Channel	4	6010B	0-0.5	MG_KG	Inorganic	Zinc	7440-66-6	51	0.23	1.1	Y
BAI-24A-09-00	Drainage Channel	4	6010B	0-0.5	MG_KG	Inorganic	Selenium	7782-49-2	1.5	0.18	0.57	Y
BAI-24A-09-00	Drainage Channel	4	7470A	0-0.5	MG_KG	Inorganic	Mercury	7439-97-6	0.024	0.0074	0.024	N
BAI-24A-09-00	Drainage Channel	4	8330	0-0.5	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	227.2727273	25	227.2727273	N
BAI-24A-09-00	Drainage Channel	4	8330	0-0.5	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	227.2727273	47.72727273	227.2727273	N
BAI-24A-09-00	Drainage Channel	4	8330	0-0.5	UG_KG	Explosive	RDX	121-82-4	227.2727273	12.5	227.2727273	N
BAI-24A-09-00	Drainage Channel	4	8330	0-0.5	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	227.2727273	57.95454545	227.2727273	N
BAI-24A-09-00	Drainage Channel	4	8330	0-0.5	UG_KG	Explosive	HMX	2691-41-0	227.2727273	13.63636364	227.2727273	N
BAI-24A-09-00	Drainage Channel	4	8330	0-0.5	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	227.2727273	25	227.2727273	N
BAI-24A-09-00	Drainage Channel	4	8330	0-0.5	UG_KG	Explosive	Tetryl	479-45-8	227.2727273	63.63636364	227.2727273	N
BAI-24A-09-00	Drainage Channel	4	8330	0-0.5	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	227.2727273	56.81818182	227.2727273	N
BAI-24A-09-00	Drainage Channel	4	8330	0-0.5	UG_KG	Explosive	2-Nitrotoluene	88-72-2	454.5454545	12.5	454.5454545	N
BAI-24A-09-00	Drainage Channel	4	8330	0-0.5	UG_KG	SVOC	Nitrobenzene	98-95-3	227.2727273	30.68181818	227.2727273	N
BAI-24A-09-00	Drainage Channel	4	8330	0-0.5	UG_KG	Explosive	3-Nitrotoluene	99-08-1	454.5454545	20.45454545	454.5454545	N
BAI-24A-11-00	Drainage Channel	4	8330	0-0.5	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	236.6863905	29.58579882	236.6863905	N
BAI-24A-09-00	Drainage Channel	4	8330	0-0.5	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	227.2727273	11.36363636	227.2727273	N
BAI-24A-09-00	Drainage Channel	4	8330	0-0.5	UG_KG	Explosive	4-Nitrotoluene	99-99-0	454.5454545	27.27272727	454.5454545	N
BAI-24A-09-00	Drainage Channel	4	D2216	0-0.5	PCT	Other	Percent Moisture	-86	13.63636364	0	1.136363636	Y
BAI-24A-09-18	Drainage Channel	4	6010B	1.5-2	MG_KG	Inorganic	Lead	7439-92-1	2.1	0.075	0.27	Y
BAI-24A-09-18	Drainage Channel	4	6010B	1.5-2	MG_KG	Inorganic	Molybdenum	7439-98-7	0.65	0.22	0.65	N
BAI-24A-09-18	Drainage Channel	4	6010B	1.5-2	MG_KG	Inorganic	Nickel	7440-02-0	13	0.22	0.65	Y
BAI-24A-09-18	Drainage Channel	4	6010B	1.5-2	MG_KG	Inorganic	Silver	7440-22-4	0.27	0.054	0.27	N
BAI-24A-09-18	Drainage Channel	4	6010B	1.5-2	MG_KG	Inorganic	Thallium	7440-28-0	0.55	0.15	0.55	N
BAI-24A-09-18	Drainage Channel	4	6010B	1.5-2	MG_KG	Inorganic	Antimony	7440-36-0	0.55	0.16	0.55	N
BAI-24A-09-18	Drainage Channel	4	6010B	1.5-2	MG_KG	Inorganic	Arsenic	7440-38-2	4.9	0.078	0.27	Y
BAI-24A-09-18	Drainage Channel	4	6010B	1.5-2	MG_KG	Inorganic	Barium	7440-39-3	50	0.11	0.32	Y
BAI-24A-09-18	Drainage Channel	4	6010B	1.5-2	MG_KG	Inorganic	Beryllium	7440-41-7	0.32	0.022	0.11	Y
BAI-24A-09-18	Drainage Channel	4	6010B	1.5-2	MG_KG	Inorganic	Cadmium	7440-43-9	0.27	0.054	0.27	N
BAI-24A-09-18	Drainage Channel	4	6010B	1.5-2	MG_KG	Inorganic	Chromium	7440-47-3	13	0.11	0.32	Y
BAI-24A-09-18	Drainage Channel	4	6010B	1.5-2	MG_KG	Inorganic	Cobalt	7440-48-4	7.4	0.22	0.65	Y
BAI-24A-09-18	Drainage Channel	4	6010B	1.5-2	MG_KG	Inorganic	Copper	7440-50-8	10	0.11	0.32	Y
BAI-24A-09-18	Drainage Channel	4	6010B	1.5-2	MG_KG	Inorganic	Vanadium	7440-62-2	26	0.11	0.32	Y
BAI-24A-09-18	Drainage Channel	4	6010B	1.5-2	MG_KG	Inorganic	Zinc	7440-66-6	45	0.22	1.1	Y

Attachment B-4.2
Processed Data

PARENT_SAMPLE_NAME	SI Designation	Exposure Unit	ANALYTICAL_METHOD	Depth Interval	RESULT_UNITS	Analyte Group	Analyte Name	ANALYTE_ID	dw_Analyte Value	dw_MDL	dw_MRL	DETECTED
BAI-24A-09-18	Drainage Channel	4	6010B	1.5-2	MG_KG	Inorganic	Selenium	7782-49-2	1.3	0.17	0.55	Y
BAI-24A-09-18	Drainage Channel	4	7470A	1.5-2	MG_KG	Inorganic	Mercury	7439-97-6	0.022	0.0071	0.022	N
BAI-24A-09-18	Drainage Channel	4	8330	1.5-2	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	219.7802198	24.17582418	219.7802198	N
BAI-24A-09-18	Drainage Channel	4	8330	1.5-2	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	219.7802198	46.15384615	219.7802198	N
BAI-24A-09-18	Drainage Channel	4	8330	1.5-2	UG_KG	Explosive	RDX	121-82-4	219.7802198	12.08791209	219.7802198	N
BAI-24A-09-18	Drainage Channel	4	8330	1.5-2	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	219.7802198	56.04395604	219.7802198	N
BAI-24A-09-18	Drainage Channel	4	8330	1.5-2	UG_KG	Explosive	HMX	2691-41-0	219.7802198	13.18681319	219.7802198	N
BAI-24A-09-18	Drainage Channel	4	8330	1.5-2	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	219.7802198	23.07692308	219.7802198	N
BAI-24A-09-18	Drainage Channel	4	8330	1.5-2	UG_KG	Explosive	Tetryl	479-45-8	219.7802198	61.53846154	219.7802198	N
BAI-24A-09-18	Drainage Channel	4	8330	1.5-2	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	219.7802198	54.94505495	219.7802198	N
BAI-24A-09-18	Drainage Channel	4	8330	1.5-2	UG_KG	Explosive	2-Nitrotoluene	88-72-2	439.5604396	12.08791209	439.5604396	N
BAI-24A-09-18	Drainage Channel	4	8330	1.5-2	UG_KG	SVOC	Nitrobenzene	98-95-3	219.7802198	29.67032967	219.7802198	N
BAI-24A-09-18	Drainage Channel	4	8330	1.5-2	UG_KG	Explosive	3-Nitrotoluene	99-08-1	439.5604396	19.78021978	439.5604396	N
BAI-24A-09-18	Drainage Channel	4	8330	1.5-2	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	219.7802198	10.98901099	219.7802198	N
BAI-24A-09-18	Drainage Channel	4	8330	1.5-2	UG_KG	Explosive	4-Nitrotoluene	99-99-0	439.5604396	26.37362637	439.5604396	N
BAI-24A-09-18	Drainage Channel	4	D2216	1.5-2	PCT	Other	Percent Moisture	-86	9.89010989	0	1.098901099	Y
BAI-24A-10-00	Drainage Channel	4	6010B	0-0.5	MG_KG	Inorganic	Lead	7439-92-1	14	0.079	0.29	Y
BAI-24A-10-00	Drainage Channel	4	6010B	0-0.5	MG_KG	Inorganic	Molybdenum	7439-98-7	0.68	0.23	0.68	N
BAI-24A-10-00	Drainage Channel	4	6010B	0-0.5	MG_KG	Inorganic	Nickel	7440-02-0	17	0.23	0.68	Y
BAI-24A-10-00	Drainage Channel	4	6010B	0-0.5	MG_KG	Inorganic	Silver	7440-22-4	0.29	0.057	0.29	N
BAI-24A-10-00	Drainage Channel	4	6010B	0-0.5	MG_KG	Inorganic	Thallium	7440-28-0	0.51	0.16	0.58	Y
BAI-24A-10-00	Drainage Channel	4	6010B	0-0.5	MG_KG	Inorganic	Antimony	7440-36-0	0.21	0.17	0.58	Y
BAI-24A-10-00	Drainage Channel	4	6010B	0-0.5	MG_KG	Inorganic	Arsenic	7440-38-2	6.7	0.083	0.29	Y
BAI-24A-10-00	Drainage Channel	4	6010B	0-0.5	MG_KG	Inorganic	Barium	7440-39-3	90	0.11	0.34	Y
BAI-24A-10-00	Drainage Channel	4	6010B	0-0.5	MG_KG	Inorganic	Beryllium	7440-41-7	0.41	0.023	0.12	Y
BAI-24A-10-00	Drainage Channel	4	6010B	0-0.5	MG_KG	Inorganic	Cadmium	7440-43-9	0.2	0.057	0.29	Y
BAI-24A-10-00	Drainage Channel	4	6010B	0-0.5	MG_KG	Inorganic	Chromium	7440-47-3	19	0.11	0.34	Y
BAI-24A-10-00	Drainage Channel	4	6010B	0-0.5	MG_KG	Inorganic	Cobalt	7440-48-4	9.4	0.23	0.68	Y
BAI-24A-10-00	Drainage Channel	4	6010B	0-0.5	MG_KG	Inorganic	Copper	7440-50-8	27	0.11	0.34	Y
BAI-24A-10-00	Drainage Channel	4	6010B	0-0.5	MG_KG	Inorganic	Vanadium	7440-62-2	38	0.11	0.34	Y
BAI-24A-10-00	Drainage Channel	4	6010B	0-0.5	MG_KG	Inorganic	Zinc	7440-66-6	490	0.23	1.2	Y
BAI-24A-10-00	Drainage Channel	4	6010B	0-0.5	MG_KG	Inorganic	Selenium	7782-49-2	1.9	0.18	0.58	Y
BAI-24A-10-00	Drainage Channel	4	7470A	0-0.5	MG_KG	Inorganic	Mercury	7439-97-6	0.032	0.0076	0.024	Y
BAI-24A-10-00	Drainage Channel	4	8330	0-0.5	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	232.5581395	25.58139535	232.5581395	N
BAI-24A-10-00	Drainage Channel	4	8330	0-0.5	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	232.5581395	48.8372093	232.5581395	N
BAI-24A-10-00	Drainage Channel	4	8330	0-0.5	UG_KG	Explosive	RDX	121-82-4	232.5581395	12.79069767	232.5581395	N
BAI-24A-10-00	Drainage Channel	4	8330	0-0.5	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	232.5581395	59.30232558	232.5581395	N
BAI-24A-10-00	Drainage Channel	4	8330	0-0.5	UG_KG	Explosive	HMX	2691-41-0	232.5581395	13.95348837	232.5581395	N
BAI-24A-10-00	Drainage Channel	4	8330	0-0.5	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	232.5581395	25.58139535	232.5581395	N
BAI-24A-10-00	Drainage Channel	4	8330	0-0.5	UG_KG	Explosive	Tetryl	479-45-8	232.5581395	65.11627907	232.5581395	N
BAI-24A-10-00	Drainage Channel	4	8330	0-0.5	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	232.5581395	58.13953488	232.5581395	N
BAI-24A-10-00	Drainage Channel	4	8330	0-0.5	UG_KG	Explosive	2-Nitrotoluene	88-72-2	465.1162791	12.79069767	465.1162791	N
BAI-24A-10-00	Drainage Channel	4	8330	0-0.5	UG_KG	SVOC	Nitrobenzene	98-95-3	232.5581395	31.39534884	232.5581395	N
BAI-24A-10-00	Drainage Channel	4	8330	0-0.5	UG_KG	Explosive	3-Nitrotoluene	99-08-1	465.1162791	20.93023256	465.1162791	N
BAI-24A-07-00	Drainage Channel	4	8330	0-2	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	240.9638554	27.71084337	240.9638554	N
BAI-24A-10-00	Drainage Channel	4	8330	0-0.5	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	232.5581395	11.62790698	232.5581395	N
BAI-24A-10-00	Drainage Channel	4	8330	0-0.5	UG_KG	Explosive	4-Nitrotoluene	99-99-0	465.1162791	27.90697674	465.1162791	N
BAI-24A-10-00	Drainage Channel	4	D2216	0-0.5	PCT	Other	Percent Moisture	-86	16.27906977	0	1.162790698	Y
BAI-24A-10-18	Drainage Channel	4	6010B	1.5-2	MG_KG	Inorganic	Lead	7439-92-1	7.4	0.077	0.3	Y

PARENT_SAMPLE_NAME	SI Designation	Exposure Unit	ANALYTICAL_METHOD	Depth Interval	RESULT_UNITS	Analyte Group	Analyte Name	ANALYTE_ID	dw_Analyte Value	dw_MDL	dw_MRL	DETECTED
BAI-24A-10-18	Drainage Channel	4	6010B	1.5-2	MG_KG	Inorganic	Molybdenum	7439-98-7	0.66	0.22	0.66	N
BAI-24A-10-18	Drainage Channel	4	6010B	1.5-2	MG_KG	Inorganic	Nickel	7440-02-0	18	0.22	0.66	Y
BAI-24A-10-18	Drainage Channel	4	6010B	1.5-2	MG_KG	Inorganic	Silver	7440-22-4	0.3	0.055	0.3	N
BAI-24A-10-18	Drainage Channel	4	6010B	1.5-2	MG_KG	Inorganic	Thallium	7440-28-0	0.21	0.15	0.6	Y
BAI-24A-10-18	Drainage Channel	4	6010B	1.5-2	MG_KG	Inorganic	Antimony	7440-36-0	0.6	0.16	0.6	N
BAI-24A-10-18	Drainage Channel	4	6010B	1.5-2	MG_KG	Inorganic	Arsenic	7440-38-2	9.9	0.08	0.3	Y
BAI-24A-10-18	Drainage Channel	4	6010B	1.5-2	MG_KG	Inorganic	Barium	7440-39-3	91	0.11	0.33	Y
BAI-24A-10-18	Drainage Channel	4	6010B	1.5-2	MG_KG	Inorganic	Beryllium	7440-41-7	0.69	0.022	0.12	Y
BAI-24A-10-18	Drainage Channel	4	6010B	1.5-2	MG_KG	Inorganic	Cadmium	7440-43-9	0.3	0.055	0.3	N
BAI-24A-10-18	Drainage Channel	4	6010B	1.5-2	MG_KG	Inorganic	Chromium	7440-47-3	22	0.11	0.33	Y
BAI-24A-10-18	Drainage Channel	4	6010B	1.5-2	MG_KG	Inorganic	Cobalt	7440-48-4	10	0.22	0.66	Y
BAI-24A-10-18	Drainage Channel	4	6010B	1.5-2	MG_KG	Inorganic	Copper	7440-50-8	35	0.11	0.33	Y
BAI-24A-10-18	Drainage Channel	4	6010B	1.5-2	MG_KG	Inorganic	Vanadium	7440-62-2	45	0.11	0.33	Y
BAI-24A-10-18	Drainage Channel	4	6010B	1.5-2	MG_KG	Inorganic	Zinc	7440-66-6	65	0.22	1.2	Y
BAI-24A-10-18	Drainage Channel	4	6010B	1.5-2	MG_KG	Inorganic	Selenium	7782-49-2	2.4	0.18	0.6	Y
BAI-24A-10-18	Drainage Channel	4	7470A	1.5-2	MG_KG	Inorganic	Mercury	7439-97-6	0.037	0.0068	0.024	Y
BAI-24A-10-18	Drainage Channel	4	8330	1.5-2	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	238.0952381	26.19047619	238.0952381	N
BAI-24A-10-18	Drainage Channel	4	8330	1.5-2	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	238.0952381	50	238.0952381	N
BAI-24A-10-18	Drainage Channel	4	8330	1.5-2	UG_KG	Explosive	RDX	121-82-4	238.0952381	13.0952381	238.0952381	N
BAI-24A-10-18	Drainage Channel	4	8330	1.5-2	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	238.0952381	60.71428571	238.0952381	N
BAI-24A-10-18	Drainage Channel	4	8330	1.5-2	UG_KG	Explosive	HMX	2691-41-0	238.0952381	14.28571429	238.0952381	N
BAI-24A-10-18	Drainage Channel	4	8330	1.5-2	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	238.0952381	26.19047619	238.0952381	N
BAI-24A-10-18	Drainage Channel	4	8330	1.5-2	UG_KG	Explosive	Tetryl	479-45-8	238.0952381	66.66666667	238.0952381	N
BAI-24A-10-18	Drainage Channel	4	8330	1.5-2	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	238.0952381	59.52380952	238.0952381	N
BAI-24A-10-18	Drainage Channel	4	8330	1.5-2	UG_KG	Explosive	2-Nitrotoluene	88-72-2	476.1904762	13.0952381	476.1904762	N
BAI-24A-10-18	Drainage Channel	4	8330	1.5-2	UG_KG	SVOC	Nitrobenzene	98-95-3	238.0952381	32.14285714	238.0952381	N
BAI-24A-10-18	Drainage Channel	4	8330	1.5-2	UG_KG	Explosive	3-Nitrotoluene	99-08-1	476.1904762	21.42857143	476.1904762	N
BAI-24A-07-18	Drainage Channel	4	8330	0-2	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	232.5581395	26.74418605	232.5581395	N
BAI-24A-10-18	Drainage Channel	4	8330	1.5-2	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	238.0952381	11.9047619	238.0952381	N
BAI-24A-10-18	Drainage Channel	4	8330	1.5-2	UG_KG	Explosive	4-Nitrotoluene	99-99-0	476.1904762	28.57142857	476.1904762	N
BAI-24A-10-18	Drainage Channel	4	D2216	1.5-2	PCT	Other	Percent Moisture	-86	19.04761905	0	1.19047619	Y
BAI-24A-11-00	Drainage Channel	4	6010B	0-0.5	MG_KG	Inorganic	Lead	7439-92-1	24	0.0805	0.295	Y
BAI-24A-11-00	Drainage Channel	4	6010B	0-0.5	MG_KG	Inorganic	Molybdenum	7439-98-7	0.225	0.17	0.51	Y
BAI-24A-11-00	Drainage Channel	4	6010B	0-0.5	MG_KG	Inorganic	Nickel	7440-02-0	14.5	0.225	0.675	Y
BAI-24A-11-00	Drainage Channel	4	6010B	0-0.5	MG_KG	Inorganic	Silver	7440-22-4	0.295	0.0705	0.295	N
BAI-24A-11-00	Drainage Channel	4	6010B	0-0.5	MG_KG	Inorganic	Thallium	7440-28-0	0.59	0.175	0.59	N
BAI-24A-11-00	Drainage Channel	4	6010B	0-0.5	MG_KG	Inorganic	Antimony	7440-36-0	1.545	0.175	0.59	Y
BAI-24A-11-00	Drainage Channel	4	6010B	0-0.5	MG_KG	Inorganic	Arsenic	7440-38-2	7.75	0.0875	0.295	Y
BAI-24A-11-00	Drainage Channel	4	6010B	0-0.5	MG_KG	Inorganic	Barium	7440-39-3	115	0.115	0.34	Y
BAI-24A-11-00	Drainage Channel	4	6010B	0-0.5	MG_KG	Inorganic	Beryllium	7440-41-7	0.39	0.0225	0.115	Y
BAI-24A-11-00	Drainage Channel	4	6010B	0-0.5	MG_KG	Inorganic	Cadmium	7440-43-9	0.185	0.0565	0.295	Y
BAI-24A-11-00	Drainage Channel	4	6010B	0-0.5	MG_KG	Inorganic	Chromium	7440-47-3	21	0.115	0.34	Y
BAI-24A-11-00	Drainage Channel	4	6010B	0-0.5	MG_KG	Inorganic	Cobalt	7440-48-4	8.2	0.225	0.675	Y
BAI-24A-11-00	Drainage Channel	4	6010B	0-0.5	MG_KG	Inorganic	Copper	7440-50-8	19	0.115	0.34	Y
BAI-24A-11-00	Drainage Channel	4	6010B	0-0.5	MG_KG	Inorganic	Vanadium	7440-62-2	33.5	0.115	0.34	Y
BAI-24A-11-00	Drainage Channel	4	6010B	0-0.5	MG_KG	Inorganic	Zinc	7440-66-6	340	0.225	1.15	Y
BAI-24A-11-00	Drainage Channel	4	6010B	0-0.5	MG_KG	Inorganic	Selenium	7782-49-2	0.325	0.13	0.4475	Y
BAI-24A-11-00	Drainage Channel	4	7470A	0-0.5	MG_KG	Inorganic	Mercury	7439-97-6	0.0235	0.0069	0.0235	N
BAI-24A-11-00	Drainage Channel	4	8330	0-0.5	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	236.6863905	30.76923077	236.6863905	N

Attachment B-4.2
Processed Data

PARENT_SAMPLE_NAME	SI Designation	Exposure Unit	ANALYTICAL_METHOD	Depth Interval	RESULT_UNITS	Analyte Group	Analyte Name	ANALYTE_ID	dw_Analyte Value	dw_MDL	dw_MRL	DETECTED
BAI-24A-11-00	Drainage Channel	4	8330	0-0.5	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	236.6863905	37.27810651	236.6863905	N
BAI-24A-11-00	Drainage Channel	4	8330	0-0.5	UG_KG	Explosive	RDX	121-82-4	236.6863905	18.93491124	236.6863905	N
BAI-24A-11-00	Drainage Channel	4	8330	0-0.5	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	236.6863905	53.25443787	236.6863905	N
BAI-24A-11-00	Drainage Channel	4	8330	0-0.5	UG_KG	Explosive	HMX	2691-41-0	236.6863905	15.97633136	236.6863905	N
BAI-24A-11-00	Drainage Channel	4	8330	0-0.5	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	236.6863905	23.07692308	236.6863905	N
BAI-24A-11-00	Drainage Channel	4	8330	0-0.5	UG_KG	Explosive	Tetryl	479-45-8	236.6863905	66.27218935	236.6863905	N
BAI-24A-11-00	Drainage Channel	4	8330	0-0.5	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	236.6863905	42.01183432	236.6863905	N
BAI-24A-11-00	Drainage Channel	4	8330	0-0.5	UG_KG	Explosive	2-Nitrotoluene	88-72-2	461.5384615	23.07692308	461.5384615	N
BAI-24A-11-00	Drainage Channel	4	8330	0-0.5	UG_KG	SVOC	Nitrobenzene	98-95-3	236.6863905	24.85207101	236.6863905	N
BAI-24A-11-00	Drainage Channel	4	8330	0-0.5	UG_KG	Explosive	3-Nitrotoluene	99-08-1	461.5384615	34.31952663	461.5384615	N
BAI-24A-08-00	Drainage Channel	4	8330	0-2	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	227.2727273	27.27272727	227.2727273	N
BAI-24A-11-00	Drainage Channel	4	8330	0-0.5	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	236.6863905	8.639053254	236.6863905	N
BAI-24A-11-00	Drainage Channel	4	8330	0-0.5	UG_KG	Explosive	4-Nitrotoluene	99-99-0	461.5384615	30.76923077	461.5384615	N
BAI-24A-11-00	Drainage Channel	4	D2216	0-0.5	PCT	Other	Percent Moisture	-86	18.34319527	0	1.183431953	Y
BAI-24A-11-18	Drainage Channel	4	6010B	1.5-2	MG_KG	Inorganic	Lead	7439-92-1	6.6	0.076	0.29	Y
BAI-24A-11-18	Drainage Channel	4	6010B	1.5-2	MG_KG	Inorganic	Molybdenum	7439-98-7	0.65	0.22	0.65	N
BAI-24A-11-18	Drainage Channel	4	6010B	1.5-2	MG_KG	Inorganic	Nickel	7440-02-0	14	0.22	0.65	Y
BAI-24A-11-18	Drainage Channel	4	6010B	1.5-2	MG_KG	Inorganic	Silver	7440-22-4	0.29	0.054	0.29	N
BAI-24A-11-18	Drainage Channel	4	6010B	1.5-2	MG_KG	Inorganic	Thallium	7440-28-0	0.38	0.15	0.58	Y
BAI-24A-11-18	Drainage Channel	4	6010B	1.5-2	MG_KG	Inorganic	Antimony	7440-36-0	0.58	0.16	0.58	N
BAI-24A-11-18	Drainage Channel	4	6010B	1.5-2	MG_KG	Inorganic	Arsenic	7440-38-2	5.8	0.079	0.29	Y
BAI-24A-11-18	Drainage Channel	4	6010B	1.5-2	MG_KG	Inorganic	Barium	7440-39-3	86	0.11	0.33	Y
BAI-24A-11-18	Drainage Channel	4	6010B	1.5-2	MG_KG	Inorganic	Beryllium	7440-41-7	0.36	0.022	0.12	Y
BAI-24A-11-18	Drainage Channel	4	6010B	1.5-2	MG_KG	Inorganic	Cadmium	7440-43-9	0.44	0.054	0.29	Y
BAI-24A-11-18	Drainage Channel	4	6010B	1.5-2	MG_KG	Inorganic	Chromium	7440-47-3	16	0.11	0.33	Y
BAI-24A-11-18	Drainage Channel	4	6010B	1.5-2	MG_KG	Inorganic	Cobalt	7440-48-4	7.7	0.22	0.65	Y
BAI-24A-11-18	Drainage Channel	4	6010B	1.5-2	MG_KG	Inorganic	Copper	7440-50-8	17	0.11	0.33	Y
BAI-24A-11-18	Drainage Channel	4	6010B	1.5-2	MG_KG	Inorganic	Vanadium	7440-62-2	29	0.11	0.33	Y
BAI-24A-11-18	Drainage Channel	4	6010B	1.5-2	MG_KG	Inorganic	Zinc	7440-66-6	1300	4.3	22	Y
BAI-24A-11-18	Drainage Channel	4	6010B	1.5-2	MG_KG	Inorganic	Selenium	7782-49-2	2.1	0.17	0.58	Y
BAI-24A-11-18	Drainage Channel	4	7470A	1.5-2	MG_KG	Inorganic	Mercury	7439-97-6	0.17	0.0076	0.024	Y
BAI-24A-11-18	Drainage Channel	4	8330	1.5-2	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	232.5581395	25.58139535	232.5581395	N
BAI-24A-11-18	Drainage Channel	4	8330	1.5-2	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	232.5581395	48.8372093	232.5581395	N
BAI-24A-11-18	Drainage Channel	4	8330	1.5-2	UG_KG	Explosive	RDX	121-82-4	232.5581395	12.79069767	232.5581395	N
BAI-24A-11-18	Drainage Channel	4	8330	1.5-2	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	232.5581395	59.30232558	232.5581395	N
BAI-24A-11-18	Drainage Channel	4	8330	1.5-2	UG_KG	Explosive	HMX	2691-41-0	232.5581395	13.95348837	232.5581395	N
BAI-24A-11-18	Drainage Channel	4	8330	1.5-2	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	232.5581395	25.58139535	232.5581395	N
BAI-24A-11-18	Drainage Channel	4	8330	1.5-2	UG_KG	Explosive	Tetryl	479-45-8	232.5581395	65.11627907	232.5581395	N
BAI-24A-11-18	Drainage Channel	4	8330	1.5-2	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	232.5581395	58.13953488	232.5581395	N
BAI-24A-11-18	Drainage Channel	4	8330	1.5-2	UG_KG	Explosive	2-Nitrotoluene	88-72-2	465.1162791	12.79069767	465.1162791	N
BAI-24A-11-18	Drainage Channel	4	8330	1.5-2	UG_KG	SVOC	Nitrobenzene	98-95-3	232.5581395	31.39534884	232.5581395	N
BAI-24A-11-18	Drainage Channel	4	8330	1.5-2	UG_KG	Explosive	3-Nitrotoluene	99-08-1	465.1162791	20.93023256	465.1162791	N
BAI-24A-08-18	Drainage Channel	4	8330	0-2	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	229.8850575	26.43678161	229.8850575	N
BAI-24A-11-18	Drainage Channel	4	8330	1.5-2	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	232.5581395	11.62790698	232.5581395	N
BAI-24A-11-18	Drainage Channel	4	8330	1.5-2	UG_KG	Explosive	4-Nitrotoluene	99-99-0	465.1162791	27.90697674	465.1162791	N
BAI-24A-11-18	Drainage Channel	4	D2216	1.5-2	PCT	Other	Percent Moisture	-86	16.27906977	0	1.162790698	Y
BAI-24A-07-00	Drainage Channel	4	6010B	0-2	MG_KG	Inorganic	Lead	7439-92-1	7100	1.6	4.8	Y
BAI-24A-07-00	Drainage Channel	4	6010B	0-2	MG_KG	Inorganic	Molybdenum	7439-98-7	0.69	0.23	0.69	N
BAI-24A-07-00	Drainage Channel	4	6010B	0-2	MG_KG	Inorganic	Nickel	7440-02-0	23	0.23	0.69	Y

PARENT_SAMPLE_NAME	SI Designation	Exposure Unit	ANALYTICAL_METHOD	Depth Interval	RESULT_UNITS	Analyte Group	Analyte Name	ANALYTE_ID	dw_Analyte Value	dw_MDL	dw_MRL	DETECTED
BAI-24A-07-00	Drainage Channel	4	6010B	0-2	MG_KG	Inorganic	Silver	7440-22-4	0.3	0.057	0.3	N
BAI-24A-07-00	Drainage Channel	4	6010B	0-2	MG_KG	Inorganic	Thallium	7440-28-0	0.4	0.16	0.6	Y
BAI-24A-07-00	Drainage Channel	4	6010B	0-2	MG_KG	Inorganic	Antimony	7440-36-0	45	0.17	0.6	Y
BAI-24A-07-00	Drainage Channel	4	6010B	0-2	MG_KG	Inorganic	Arsenic	7440-38-2	18	0.083	0.3	Y
BAI-24A-07-00	Drainage Channel	4	6010B	0-2	MG_KG	Inorganic	Barium	7440-39-3	60	0.11	0.34	Y
BAI-24A-07-00	Drainage Channel	4	6010B	0-2	MG_KG	Inorganic	Beryllium	7440-41-7	0.26	0.023	0.12	Y
BAI-24A-07-00	Drainage Channel	4	6010B	0-2	MG_KG	Inorganic	Cadmium	7440-43-9	0.3	0.057	0.3	N
BAI-24A-07-00	Drainage Channel	4	6010B	0-2	MG_KG	Inorganic	Chromium	7440-47-3	31	0.11	0.34	Y
BAI-24A-07-00	Drainage Channel	4	6010B	0-2	MG_KG	Inorganic	Cobalt	7440-48-4	14	0.23	0.69	Y
BAI-24A-07-00	Drainage Channel	4	6010B	0-2	MG_KG	Inorganic	Copper	7440-50-8	190	2.3	6.9	Y
BAI-24A-07-00	Drainage Channel	4	6010B	0-2	MG_KG	Inorganic	Vanadium	7440-62-2	64	0.11	0.34	Y
BAI-24A-07-00	Drainage Channel	4	6010B	0-2	MG_KG	Inorganic	Zinc	7440-66-6	310	0.23	1.2	Y
BAI-24A-07-00	Drainage Channel	4	6010B	0-2	MG_KG	Inorganic	Selenium	7782-49-2	0.47	0.18	0.6	Y
BAI-24A-07-00	Drainage Channel	4	7470A	0-2	MG_KG	Inorganic	Mercury	7439-97-6	0.25	0.007	0.024	Y
BAI-24A-07-00	Drainage Channel	4	8330	0-2	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	240.9638554	26.5060241	240.9638554	N
BAI-24A-07-00	Drainage Channel	4	8330	0-2	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	240.9638554	50.60240964	240.9638554	N
BAI-24A-07-00	Drainage Channel	4	8330	0-2	UG_KG	Explosive	RDX	121-82-4	240.9638554	13.25301205	240.9638554	N
BAI-24A-07-00	Drainage Channel	4	8330	0-2	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	240.9638554	61.44578313	240.9638554	N
BAI-24A-07-00	Drainage Channel	4	8330	0-2	UG_KG	Explosive	HMX	2691-41-0	240.9638554	14.45783133	240.9638554	N
BAI-24A-07-00	Drainage Channel	4	8330	0-2	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	240.9638554	25.30120482	240.9638554	N
BAI-24A-07-00	Drainage Channel	4	8330	0-2	UG_KG	Explosive	Tetryl	479-45-8	240.9638554	67.46987952	240.9638554	N
BAI-24A-07-00	Drainage Channel	4	8330	0-2	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	240.9638554	59.03614458	240.9638554	N
BAI-24A-07-00	Drainage Channel	4	8330	0-2	UG_KG	Explosive	2-Nitrotoluene	88-72-2	481.9277108	13.25301205	481.9277108	N
BAI-24A-07-00	Drainage Channel	4	8330	0-2	UG_KG	SVOC	Nitrobenzene	98-95-3	240.9638554	31.3253012	240.9638554	N
BAI-24A-07-00	Drainage Channel	4	8330	0-2	UG_KG	Explosive	3-Nitrotoluene	99-08-1	481.9277108	21.68674699	481.9277108	N
BAI-24A-09-00	Drainage Channel	4	8330	0-2	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	227.2727273	26.13636364	227.2727273	N
BAI-24A-07-00	Drainage Channel	4	8330	0-2	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	240.9638554	12.04819277	240.9638554	N
BAI-24A-07-00	Drainage Channel	4	8330	0-2	UG_KG	Explosive	4-Nitrotoluene	99-99-0	481.9277108	28.91566265	481.9277108	N
BAI-24A-07-00	Drainage Channel	4	D2216	0-2	PCT	Other	Percent Moisture	-86	20.48192771	0	1.204819277	Y
BAI-24A-07-18	Drainage Channel	4	6010B	0-2	MG_KG	Inorganic	Lead	7439-92-1	460	0.074	0.29	Y
BAI-24A-07-18	Drainage Channel	4	6010B	0-2	MG_KG	Inorganic	Molybdenum	7439-98-7	0.64	0.21	0.64	N
BAI-24A-07-18	Drainage Channel	4	6010B	0-2	MG_KG	Inorganic	Nickel	7440-02-0	20	0.21	0.64	Y
BAI-24A-07-18	Drainage Channel	4	6010B	0-2	MG_KG	Inorganic	Silver	7440-22-4	0.29	0.053	0.29	N
BAI-24A-07-18	Drainage Channel	4	6010B	0-2	MG_KG	Inorganic	Thallium	7440-28-0	0.58	0.15	0.58	N
BAI-24A-07-18	Drainage Channel	4	6010B	0-2	MG_KG	Inorganic	Antimony	7440-36-0	2.5	0.16	0.58	Y
BAI-24A-07-18	Drainage Channel	4	6010B	0-2	MG_KG	Inorganic	Arsenic	7440-38-2	7	0.077	0.29	Y
BAI-24A-07-18	Drainage Channel	4	6010B	0-2	MG_KG	Inorganic	Barium	7440-39-3	170	0.11	0.32	Y
BAI-24A-07-18	Drainage Channel	4	6010B	0-2	MG_KG	Inorganic	Beryllium	7440-41-7	0.37	0.021	0.12	Y
BAI-24A-07-18	Drainage Channel	4	6010B	0-2	MG_KG	Inorganic	Cadmium	7440-43-9	3	0.053	0.29	Y
BAI-24A-07-18	Drainage Channel	4	6010B	0-2	MG_KG	Inorganic	Chromium	7440-47-3	22	0.11	0.32	Y
BAI-24A-07-18	Drainage Channel	4	6010B	0-2	MG_KG	Inorganic	Cobalt	7440-48-4	8.8	0.21	0.64	Y
BAI-24A-07-18	Drainage Channel	4	6010B	0-2	MG_KG	Inorganic	Copper	7440-50-8	75	0.11	0.32	Y
BAI-24A-07-18	Drainage Channel	4	6010B	0-2	MG_KG	Inorganic	Vanadium	7440-62-2	33	0.11	0.32	Y
BAI-24A-07-18	Drainage Channel	4	6010B	0-2	MG_KG	Inorganic	Zinc	7440-66-6	1600	4.3	21	Y
BAI-24A-07-18	Drainage Channel	4	6010B	0-2	MG_KG	Inorganic	Selenium	7782-49-2	4.4	0.17	0.58	Y
BAI-24A-07-18	Drainage Channel	4	7470A	0-2	MG_KG	Inorganic	Mercury	7439-97-6	0.04	0.0068	0.023	Y
BAI-24A-07-18	Drainage Channel	4	8330	0-2	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	232.5581395	25.58139535	232.5581395	N
BAI-24A-07-18	Drainage Channel	4	8330	0-2	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	232.5581395	48.8372093	232.5581395	N
BAI-24A-07-18	Drainage Channel	4	8330	0-2	UG_KG	Explosive	RDX	121-82-4	232.5581395	12.79069767	232.5581395	N

PARENT_SAMPLE_NAME	SI Designation	Exposure Unit	ANALYTICAL_METHOD	Depth Interval	RESULT_UNITS	Analyte Group	Analyte Name	ANALYTE_ID	dw_Analyte Value	dw_MDL	dw_MRL	DETECTED
BAI-24A-07-18	Drainage Channel	4	8330	0-2	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	232.5581395	59.30232558	232.5581395	N
BAI-24A-07-18	Drainage Channel	4	8330	0-2	UG_KG	Explosive	HMX	2691-41-0	232.5581395	13.95348837	232.5581395	N
BAI-24A-07-18	Drainage Channel	4	8330	0-2	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	232.5581395	24.41860465	232.5581395	N
BAI-24A-07-18	Drainage Channel	4	8330	0-2	UG_KG	Explosive	Tetryl	479-45-8	232.5581395	65.11627907	232.5581395	N
BAI-24A-07-18	Drainage Channel	4	8330	0-2	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	232.5581395	56.97674419	232.5581395	N
BAI-24A-07-18	Drainage Channel	4	8330	0-2	UG_KG	Explosive	2-Nitrotoluene	88-72-2	465.1162791	12.79069767	465.1162791	N
BAI-24A-07-18	Drainage Channel	4	8330	0-2	UG_KG	SVOC	Nitrobenzene	98-95-3	232.5581395	30.23255814	232.5581395	N
BAI-24A-07-18	Drainage Channel	4	8330	0-2	UG_KG	Explosive	3-Nitrotoluene	99-08-1	465.1162791	20.93023256	465.1162791	N
BAI-24A-09-18	Drainage Channel	4	8330	0-2	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	219.7802198	25.27472527	219.7802198	N
BAI-24A-07-18	Drainage Channel	4	8330	0-2	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	232.5581395	11.62790698	232.5581395	N
BAI-24A-07-18	Drainage Channel	4	8330	0-2	UG_KG	Explosive	4-Nitrotoluene	99-99-0	465.1162791	27.90697674	465.1162791	N
BAI-24A-07-18	Drainage Channel	4	D2216	0-2	PCT	Other	Percent Moisture	-86	16.27906977	0	1.162790698	Y
BAI-24A-08-00	Drainage Channel	4	6010B	0-2	MG_KG	Inorganic	Lead	7439-92-1	35	0.076	0.28	Y
BAI-24A-08-00	Drainage Channel	4	6010B	0-2	MG_KG	Inorganic	Molybdenum	7439-98-7	0.66	0.22	0.66	N
BAI-24A-08-00	Drainage Channel	4	6010B	0-2	MG_KG	Inorganic	Nickel	7440-02-0	15	0.22	0.66	Y
BAI-24A-08-00	Drainage Channel	4	6010B	0-2	MG_KG	Inorganic	Silver	7440-22-4	0.28	0.055	0.28	N
BAI-24A-08-00	Drainage Channel	4	6010B	0-2	MG_KG	Inorganic	Thallium	7440-28-0	0.17	0.15	0.57	Y
BAI-24A-08-00	Drainage Channel	4	6010B	0-2	MG_KG	Inorganic	Antimony	7440-36-0	0.49	0.16	0.57	Y
BAI-24A-08-00	Drainage Channel	4	6010B	0-2	MG_KG	Inorganic	Arsenic	7440-38-2	10	0.079	0.28	Y
BAI-24A-08-00	Drainage Channel	4	6010B	0-2	MG_KG	Inorganic	Barium	7440-39-3	120	0.11	0.33	Y
BAI-24A-08-00	Drainage Channel	4	6010B	0-2	MG_KG	Inorganic	Beryllium	7440-41-7	0.36	0.022	0.11	Y
BAI-24A-08-00	Drainage Channel	4	6010B	0-2	MG_KG	Inorganic	Cadmium	7440-43-9	0.11	0.055	0.28	Y
BAI-24A-08-00	Drainage Channel	4	6010B	0-2	MG_KG	Inorganic	Chromium	7440-47-3	24	0.11	0.33	Y
BAI-24A-08-00	Drainage Channel	4	6010B	0-2	MG_KG	Inorganic	Cobalt	7440-48-4	7.9	0.22	0.66	Y
BAI-24A-08-00	Drainage Channel	4	6010B	0-2	MG_KG	Inorganic	Copper	7440-50-8	23	0.11	0.33	Y
BAI-24A-08-00	Drainage Channel	4	6010B	0-2	MG_KG	Inorganic	Vanadium	7440-62-2	33	0.11	0.33	Y
BAI-24A-08-00	Drainage Channel	4	6010B	0-2	MG_KG	Inorganic	Zinc	7440-66-6	270	0.22	1.1	Y
BAI-24A-08-00	Drainage Channel	4	6010B	0-2	MG_KG	Inorganic	Selenium	7782-49-2	2	0.17	0.57	Y
BAI-24A-08-00	Drainage Channel	4	7470A	0-2	MG_KG	Inorganic	Mercury	7439-97-6	0.023	0.0069	0.023	N
BAI-24A-08-00	Drainage Channel	4	8330	0-2	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	227.2727273	25	227.2727273	N
BAI-24A-08-00	Drainage Channel	4	8330	0-2	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	227.2727273	47.72727273	227.2727273	N
BAI-24A-08-00	Drainage Channel	4	8330	0-2	UG_KG	Explosive	RDX	121-82-4	227.2727273	12.5	227.2727273	N
BAI-24A-08-00	Drainage Channel	4	8330	0-2	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	227.2727273	57.95454545	227.2727273	N
BAI-24A-08-00	Drainage Channel	4	8330	0-2	UG_KG	Explosive	HMX	2691-41-0	227.2727273	13.63636364	227.2727273	N
BAI-24A-08-00	Drainage Channel	4	8330	0-2	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	227.2727273	25	227.2727273	N
BAI-24A-08-00	Drainage Channel	4	8330	0-2	UG_KG	Explosive	Tetryl	479-45-8	227.2727273	63.63636364	227.2727273	N
BAI-24A-08-00	Drainage Channel	4	8330	0-2	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	227.2727273	56.81818182	227.2727273	N
BAI-24A-08-00	Drainage Channel	4	8330	0-2	UG_KG	Explosive	2-Nitrotoluene	88-72-2	454.5454545	12.5	454.5454545	N
BAI-24A-08-00	Drainage Channel	4	8330	0-2	UG_KG	SVOC	Nitrobenzene	98-95-3	227.2727273	30.68181818	227.2727273	N
BAI-24A-08-00	Drainage Channel	4	8330	0-2	UG_KG	Explosive	3-Nitrotoluene	99-08-1	454.5454545	20.45454545	454.5454545	N
BAI-24A-10-00	Drainage Channel	4	8330	0-2	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	232.5581395	26.74418605	232.5581395	N
BAI-24A-08-00	Drainage Channel	4	8330	0-2	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	227.2727273	12.5	227.2727273	N
BAI-24A-08-00	Drainage Channel	4	8330	0-2	UG_KG	Explosive	4-Nitrotoluene	99-99-0	454.5454545	27.27272727	454.5454545	N
BAI-24A-08-00	Drainage Channel	4	D2216	0-2	PCT	Other	Percent Moisture	-86	13.63636364	0	1.136363636	Y
BAI-24A-08-18	Drainage Channel	4	6010B	0-2	MG_KG	Inorganic	Lead	7439-92-1	20	0.076	0.29	Y
BAI-24A-08-18	Drainage Channel	4	6010B	0-2	MG_KG	Inorganic	Molybdenum	7439-98-7	0.66	0.22	0.66	N
BAI-24A-08-18	Drainage Channel	4	6010B	0-2	MG_KG	Inorganic	Nickel	7440-02-0	15	0.22	0.66	Y
BAI-24A-08-18	Drainage Channel	4	6010B	0-2	MG_KG	Inorganic	Silver	7440-22-4	0.29	0.055	0.29	N
BAI-24A-08-18	Drainage Channel	4	6010B	0-2	MG_KG	Inorganic	Thallium	7440-28-0	0.34	0.15	0.57	Y

PARENT_SAMPLE_NAME	SI Designation	Exposure Unit	ANALYTICAL_METHOD	Depth Interval	RESULT_UNITS	Analyte Group	Analyte Name	ANALYTE_ID	dw_Analyte Value	dw_MDL	dw_MRL	DETECTED
BAI-24A-08-18	Drainage Channel	4	6010B	0-2	MG_KG	Inorganic	Antimony	7440-36-0	0.38	0.16	0.57	Y
BAI-24A-08-18	Drainage Channel	4	6010B	0-2	MG_KG	Inorganic	Arsenic	7440-38-2	5.8	0.08	0.29	Y
BAI-24A-08-18	Drainage Channel	4	6010B	0-2	MG_KG	Inorganic	Barium	7440-39-3	150	0.11	0.33	Y
BAI-24A-08-18	Drainage Channel	4	6010B	0-2	MG_KG	Inorganic	Beryllium	7440-41-7	0.34	0.022	0.11	Y
BAI-24A-08-18	Drainage Channel	4	6010B	0-2	MG_KG	Inorganic	Cadmium	7440-43-9	0.24	0.055	0.29	Y
BAI-24A-08-18	Drainage Channel	4	6010B	0-2	MG_KG	Inorganic	Chromium	7440-47-3	17	0.11	0.33	Y
BAI-24A-08-18	Drainage Channel	4	6010B	0-2	MG_KG	Inorganic	Cobalt	7440-48-4	7.8	0.22	0.66	Y
BAI-24A-08-18	Drainage Channel	4	6010B	0-2	MG_KG	Inorganic	Copper	7440-50-8	22	0.11	0.33	Y
BAI-24A-08-18	Drainage Channel	4	6010B	0-2	MG_KG	Inorganic	Vanadium	7440-62-2	34	0.11	0.33	Y
BAI-24A-08-18	Drainage Channel	4	6010B	0-2	MG_KG	Inorganic	Zinc	7440-66-6	850	4.4	22	Y
BAI-24A-08-18	Drainage Channel	4	6010B	0-2	MG_KG	Inorganic	Selenium	7782-49-2	0.46	0.17	0.57	Y
BAI-24A-08-18	Drainage Channel	4	7470A	0-2	MG_KG	Inorganic	Mercury	7439-97-6	0.023	0.0071	0.023	N
BAI-24A-08-18	Drainage Channel	4	8330	0-2	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	229.8850575	25.28735632	229.8850575	N
BAI-24A-08-18	Drainage Channel	4	8330	0-2	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	229.8850575	48.27586207	229.8850575	N
BAI-24A-08-18	Drainage Channel	4	8330	0-2	UG_KG	Explosive	RDX	121-82-4	229.8850575	12.64367816	229.8850575	N
BAI-24A-08-18	Drainage Channel	4	8330	0-2	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	229.8850575	58.62068966	229.8850575	N
BAI-24A-08-18	Drainage Channel	4	8330	0-2	UG_KG	Explosive	HMX	2691-41-0	229.8850575	13.79310345	229.8850575	N
BAI-24A-08-18	Drainage Channel	4	8330	0-2	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	229.8850575	24.13793103	229.8850575	N
BAI-24A-08-18	Drainage Channel	4	8330	0-2	UG_KG	Explosive	Tetryl	479-45-8	229.8850575	64.36781609	229.8850575	N
BAI-24A-08-18	Drainage Channel	4	8330	0-2	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	229.8850575	57.47126437	229.8850575	N
BAI-24A-08-18	Drainage Channel	4	8330	0-2	UG_KG	Explosive	2-Nitrotoluene	88-72-2	459.7701149	12.64367816	459.7701149	N
BAI-24A-08-18	Drainage Channel	4	8330	0-2	UG_KG	SVOC	Nitrobenzene	98-95-3	229.8850575	31.03448276	229.8850575	N
BAI-24A-08-18	Drainage Channel	4	8330	0-2	UG_KG	Explosive	3-Nitrotoluene	99-08-1	459.7701149	20.68965517	459.7701149	N
BAI-24A-10-18	Drainage Channel	4	8330	0-2	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	238.0952381	27.38095238	238.0952381	N
BAI-24A-08-18	Drainage Channel	4	8330	0-2	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	229.8850575	11.49425287	229.8850575	N
BAI-24A-08-18	Drainage Channel	4	8330	0-2	UG_KG	Explosive	4-Nitrotoluene	99-99-0	459.7701149	27.5862069	459.7701149	N
BAI-24A-08-18	Drainage Channel	4	D2216	0-2	PCT	Other	Percent Moisture	-86	14.94252874	0	1.149425287	Y
BAI-24A-09-00	Drainage Channel	4	6010B	0-2	MG_KG	Inorganic	Lead	7439-92-1	5	0.079	0.28	Y
BAI-24A-09-00	Drainage Channel	4	6010B	0-2	MG_KG	Inorganic	Molybdenum	7439-98-7	0.68	0.23	0.68	N
BAI-24A-09-00	Drainage Channel	4	6010B	0-2	MG_KG	Inorganic	Nickel	7440-02-0	13	0.23	0.68	Y
BAI-24A-09-00	Drainage Channel	4	6010B	0-2	MG_KG	Inorganic	Silver	7440-22-4	0.28	0.057	0.28	N
BAI-24A-09-00	Drainage Channel	4	6010B	0-2	MG_KG	Inorganic	Thallium	7440-28-0	0.16	0.16	0.57	Y
BAI-24A-09-00	Drainage Channel	4	6010B	0-2	MG_KG	Inorganic	Antimony	7440-36-0	0.4	0.17	0.57	Y
BAI-24A-09-00	Drainage Channel	4	6010B	0-2	MG_KG	Inorganic	Arsenic	7440-38-2	4.4	0.083	0.28	Y
BAI-24A-09-00	Drainage Channel	4	6010B	0-2	MG_KG	Inorganic	Barium	7440-39-3	55	0.11	0.34	Y
BAI-24A-09-00	Drainage Channel	4	6010B	0-2	MG_KG	Inorganic	Beryllium	7440-41-7	0.28	0.023	0.11	Y
BAI-24A-09-00	Drainage Channel	4	6010B	0-2	MG_KG	Inorganic	Cadmium	7440-43-9	0.28	0.057	0.28	N
BAI-24A-09-00	Drainage Channel	4	6010B	0-2	MG_KG	Inorganic	Chromium	7440-47-3	15	0.11	0.34	Y
BAI-24A-09-00	Drainage Channel	4	6010B	0-2	MG_KG	Inorganic	Cobalt	7440-48-4	7	0.23	0.68	Y
BAI-24A-09-00	Drainage Channel	4	6010B	0-2	MG_KG	Inorganic	Copper	7440-50-8	11	0.11	0.34	Y
BAI-24A-09-00	Drainage Channel	4	6010B	0-2	MG_KG	Inorganic	Vanadium	7440-62-2	28	0.11	0.34	Y
BAI-24A-09-00	Drainage Channel	4	6010B	0-2	MG_KG	Inorganic	Zinc	7440-66-6	51	0.23	1.1	Y
BAI-24A-09-00	Drainage Channel	4	6010B	0-2	MG_KG	Inorganic	Selenium	7782-49-2	1.5	0.18	0.57	Y
BAI-24A-09-00	Drainage Channel	4	7470A	0-2	MG_KG	Inorganic	Mercury	7439-97-6	0.024	0.0074	0.024	N
BAI-24A-09-00	Drainage Channel	4	8330	0-2	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	227.2727273	25	227.2727273	N
BAI-24A-09-00	Drainage Channel	4	8330	0-2	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	227.2727273	47.72727273	227.2727273	N
BAI-24A-09-00	Drainage Channel	4	8330	0-2	UG_KG	Explosive	RDX	121-82-4	227.2727273	12.5	227.2727273	N
BAI-24A-09-00	Drainage Channel	4	8330	0-2	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	227.2727273	57.95454545	227.2727273	N
BAI-24A-09-00	Drainage Channel	4	8330	0-2	UG_KG	Explosive	HMX	2691-41-0	227.2727273	13.63636364	227.2727273	N

PARENT_SAMPLE_NAME	SI Designation	Exposure Unit	ANALYTICAL_METHOD	Depth Interval	RESULT_UNITS	Analyte Group	Analyte Name	ANALYTE_ID	dw_Analyte Value	dw_MDL	dw_MRL	DETECTED
BAI-24A-09-00	Drainage Channel	4	8330	0-2	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	227.2727273	25	227.2727273	N
BAI-24A-09-00	Drainage Channel	4	8330	0-2	UG_KG	Explosive	Tetryl	479-45-8	227.2727273	63.63636364	227.2727273	N
BAI-24A-09-00	Drainage Channel	4	8330	0-2	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	227.2727273	56.81818182	227.2727273	N
BAI-24A-09-00	Drainage Channel	4	8330	0-2	UG_KG	Explosive	2-Nitrotoluene	88-72-2	454.5454545	12.5	454.5454545	N
BAI-24A-09-00	Drainage Channel	4	8330	0-2	UG_KG	SVOC	Nitrobenzene	98-95-3	227.2727273	30.68181818	227.2727273	N
BAI-24A-09-00	Drainage Channel	4	8330	0-2	UG_KG	Explosive	3-Nitrotoluene	99-08-1	454.5454545	20.45454545	454.5454545	N
BAI-24A-11-00	Drainage Channel	4	8330	0-2	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	236.6863905	29.58579882	236.6863905	N
BAI-24A-09-00	Drainage Channel	4	8330	0-2	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	227.2727273	11.36363636	227.2727273	N
BAI-24A-09-00	Drainage Channel	4	8330	0-2	UG_KG	Explosive	4-Nitrotoluene	99-99-0	454.5454545	27.27272727	454.5454545	N
BAI-24A-09-00	Drainage Channel	4	D2216	0-2	PCT	Other	Percent Moisture	-86	13.63636364	0	1.136363636	Y
BAI-24A-09-18	Drainage Channel	4	6010B	0-2	MG_KG	Inorganic	Lead	7439-92-1	2.1	0.075	0.27	Y
BAI-24A-09-18	Drainage Channel	4	6010B	0-2	MG_KG	Inorganic	Molybdenum	7439-98-7	0.65	0.22	0.65	N
BAI-24A-09-18	Drainage Channel	4	6010B	0-2	MG_KG	Inorganic	Nickel	7440-02-0	13	0.22	0.65	Y
BAI-24A-09-18	Drainage Channel	4	6010B	0-2	MG_KG	Inorganic	Silver	7440-22-4	0.27	0.054	0.27	N
BAI-24A-09-18	Drainage Channel	4	6010B	0-2	MG_KG	Inorganic	Thallium	7440-28-0	0.55	0.15	0.55	N
BAI-24A-09-18	Drainage Channel	4	6010B	0-2	MG_KG	Inorganic	Antimony	7440-36-0	0.55	0.16	0.55	N
BAI-24A-09-18	Drainage Channel	4	6010B	0-2	MG_KG	Inorganic	Arsenic	7440-38-2	4.9	0.078	0.27	Y
BAI-24A-09-18	Drainage Channel	4	6010B	0-2	MG_KG	Inorganic	Barium	7440-39-3	50	0.11	0.32	Y
BAI-24A-09-18	Drainage Channel	4	6010B	0-2	MG_KG	Inorganic	Beryllium	7440-41-7	0.32	0.022	0.11	Y
BAI-24A-09-18	Drainage Channel	4	6010B	0-2	MG_KG	Inorganic	Cadmium	7440-43-9	0.27	0.054	0.27	N
BAI-24A-09-18	Drainage Channel	4	6010B	0-2	MG_KG	Inorganic	Chromium	7440-47-3	13	0.11	0.32	Y
BAI-24A-09-18	Drainage Channel	4	6010B	0-2	MG_KG	Inorganic	Cobalt	7440-48-4	7.4	0.22	0.65	Y
BAI-24A-09-18	Drainage Channel	4	6010B	0-2	MG_KG	Inorganic	Copper	7440-50-8	10	0.11	0.32	Y
BAI-24A-09-18	Drainage Channel	4	6010B	0-2	MG_KG	Inorganic	Vanadium	7440-62-2	26	0.11	0.32	Y
BAI-24A-09-18	Drainage Channel	4	6010B	0-2	MG_KG	Inorganic	Zinc	7440-66-6	45	0.22	1.1	Y
BAI-24A-09-18	Drainage Channel	4	6010B	0-2	MG_KG	Inorganic	Selenium	7782-49-2	1.3	0.17	0.55	Y
BAI-24A-09-18	Drainage Channel	4	7470A	0-2	MG_KG	Inorganic	Mercury	7439-97-6	0.022	0.0071	0.022	N
BAI-24A-09-18	Drainage Channel	4	8330	0-2	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	219.7802198	24.17582418	219.7802198	N
BAI-24A-09-18	Drainage Channel	4	8330	0-2	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	219.7802198	46.15384615	219.7802198	N
BAI-24A-09-18	Drainage Channel	4	8330	0-2	UG_KG	Explosive	RDX	121-82-4	219.7802198	12.08791209	219.7802198	N
BAI-24A-09-18	Drainage Channel	4	8330	0-2	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	219.7802198	56.04395604	219.7802198	N
BAI-24A-09-18	Drainage Channel	4	8330	0-2	UG_KG	Explosive	HMX	2691-41-0	219.7802198	13.18681319	219.7802198	N
BAI-24A-09-18	Drainage Channel	4	8330	0-2	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	219.7802198	23.07692308	219.7802198	N
BAI-24A-09-18	Drainage Channel	4	8330	0-2	UG_KG	Explosive	Tetryl	479-45-8	219.7802198	61.53846154	219.7802198	N
BAI-24A-09-18	Drainage Channel	4	8330	0-2	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	219.7802198	54.94505495	219.7802198	N
BAI-24A-09-18	Drainage Channel	4	8330	0-2	UG_KG	Explosive	2-Nitrotoluene	88-72-2	439.5604396	12.08791209	439.5604396	N
BAI-24A-09-18	Drainage Channel	4	8330	0-2	UG_KG	SVOC	Nitrobenzene	98-95-3	219.7802198	29.67032967	219.7802198	N
BAI-24A-09-18	Drainage Channel	4	8330	0-2	UG_KG	Explosive	3-Nitrotoluene	99-08-1	439.5604396	19.78021978	439.5604396	N
BAI-24A-11-18	Drainage Channel	4	8330	0-2	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	232.5581395	26.74418605	232.5581395	N
BAI-24A-09-18	Drainage Channel	4	8330	0-2	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	219.7802198	10.98901099	219.7802198	N
BAI-24A-09-18	Drainage Channel	4	8330	0-2	UG_KG	Explosive	4-Nitrotoluene	99-99-0	439.5604396	26.37362637	439.5604396	N
BAI-24A-09-18	Drainage Channel	4	D2216	0-2	PCT	Other	Percent Moisture	-86	9.89010989	0	1.098901099	Y
BAI-24A-10-00	Drainage Channel	4	6010B	0-2	MG_KG	Inorganic	Lead	7439-92-1	14	0.079	0.29	Y
BAI-24A-10-00	Drainage Channel	4	6010B	0-2	MG_KG	Inorganic	Molybdenum	7439-98-7	0.68	0.23	0.68	N
BAI-24A-10-00	Drainage Channel	4	6010B	0-2	MG_KG	Inorganic	Nickel	7440-02-0	17	0.23	0.68	Y
BAI-24A-10-00	Drainage Channel	4	6010B	0-2	MG_KG	Inorganic	Silver	7440-22-4	0.29	0.057	0.29	N
BAI-24A-10-00	Drainage Channel	4	6010B	0-2	MG_KG	Inorganic	Thallium	7440-28-0	0.51	0.16	0.58	Y
BAI-24A-10-00	Drainage Channel	4	6010B	0-2	MG_KG	Inorganic	Antimony	7440-36-0	0.21	0.17	0.58	Y
BAI-24A-10-00	Drainage Channel	4	6010B	0-2	MG_KG	Inorganic	Arsenic	7440-38-2	6.7	0.083	0.29	Y

PARENT_SAMPLE_NAME	SI Designation	Exposure Unit	ANALYTICAL_METHOD	Depth Interval	RESULT_UNITS	Analyte Group	Analyte Name	ANALYTE_ID	dw_Analyte Value	dw_MDL	dw_MRL	DETECTED
BAI-24A-10-00	Drainage Channel	4	6010B	0-2	MG_KG	Inorganic	Barium	7440-39-3	90	0.11	0.34	Y
BAI-24A-10-00	Drainage Channel	4	6010B	0-2	MG_KG	Inorganic	Beryllium	7440-41-7	0.41	0.023	0.12	Y
BAI-24A-10-00	Drainage Channel	4	6010B	0-2	MG_KG	Inorganic	Cadmium	7440-43-9	0.2	0.057	0.29	Y
BAI-24A-10-00	Drainage Channel	4	6010B	0-2	MG_KG	Inorganic	Chromium	7440-47-3	19	0.11	0.34	Y
BAI-24A-10-00	Drainage Channel	4	6010B	0-2	MG_KG	Inorganic	Cobalt	7440-48-4	9.4	0.23	0.68	Y
BAI-24A-10-00	Drainage Channel	4	6010B	0-2	MG_KG	Inorganic	Copper	7440-50-8	27	0.11	0.34	Y
BAI-24A-10-00	Drainage Channel	4	6010B	0-2	MG_KG	Inorganic	Vanadium	7440-62-2	38	0.11	0.34	Y
BAI-24A-10-00	Drainage Channel	4	6010B	0-2	MG_KG	Inorganic	Zinc	7440-66-6	490	0.23	1.2	Y
BAI-24A-10-00	Drainage Channel	4	6010B	0-2	MG_KG	Inorganic	Selenium	7782-49-2	1.9	0.18	0.58	Y
BAI-24A-10-00	Drainage Channel	4	7470A	0-2	MG_KG	Inorganic	Mercury	7439-97-6	0.032	0.0076	0.024	Y
BAI-24A-10-00	Drainage Channel	4	8330	0-2	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	232.5581395	25.58139535	232.5581395	N
BAI-24A-10-00	Drainage Channel	4	8330	0-2	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	232.5581395	48.8372093	232.5581395	N
BAI-24A-10-00	Drainage Channel	4	8330	0-2	UG_KG	Explosive	RDX	121-82-4	232.5581395	12.79069767	232.5581395	N
BAI-24A-10-00	Drainage Channel	4	8330	0-2	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	232.5581395	59.30232558	232.5581395	N
BAI-24A-10-00	Drainage Channel	4	8330	0-2	UG_KG	Explosive	HMX	2691-41-0	232.5581395	13.95348837	232.5581395	N
BAI-24A-10-00	Drainage Channel	4	8330	0-2	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	232.5581395	25.58139535	232.5581395	N
BAI-24A-10-00	Drainage Channel	4	8330	0-2	UG_KG	Explosive	Tetryl	479-45-8	232.5581395	65.11627907	232.5581395	N
BAI-24A-10-00	Drainage Channel	4	8330	0-2	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	232.5581395	58.13953488	232.5581395	N
BAI-24A-10-00	Drainage Channel	4	8330	0-2	UG_KG	Explosive	2-Nitrotoluene	88-72-2	465.1162791	12.79069767	465.1162791	N
BAI-24A-10-00	Drainage Channel	4	8330	0-2	UG_KG	SVOC	Nitrobenzene	98-95-3	232.5581395	31.39534884	232.5581395	N
BAI-24A-10-00	Drainage Channel	4	8330	0-2	UG_KG	Explosive	3-Nitrotoluene	99-08-1	465.1162791	20.93023256	465.1162791	N
BAI-24A-10-00	Drainage Channel	4	8330	0-2	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	232.5581395	11.62790698	232.5581395	N
BAI-24A-10-00	Drainage Channel	4	8330	0-2	UG_KG	Explosive	4-Nitrotoluene	99-99-0	465.1162791	27.90697674	465.1162791	N
BAI-24A-10-00	Drainage Channel	4	D2216	0-2	PCT	Other	Percent Moisture	-86	16.27906977	0	1.162790698	Y
BAI-24A-10-18	Drainage Channel	4	6010B	0-2	MG_KG	Inorganic	Lead	7439-92-1	7.4	0.077	0.3	Y
BAI-24A-10-18	Drainage Channel	4	6010B	0-2	MG_KG	Inorganic	Molybdenum	7439-98-7	0.66	0.22	0.66	N
BAI-24A-10-18	Drainage Channel	4	6010B	0-2	MG_KG	Inorganic	Nickel	7440-02-0	18	0.22	0.66	Y
BAI-24A-10-18	Drainage Channel	4	6010B	0-2	MG_KG	Inorganic	Silver	7440-22-4	0.3	0.055	0.3	N
BAI-24A-10-18	Drainage Channel	4	6010B	0-2	MG_KG	Inorganic	Thallium	7440-28-0	0.21	0.15	0.6	Y
BAI-24A-10-18	Drainage Channel	4	6010B	0-2	MG_KG	Inorganic	Antimony	7440-36-0	0.6	0.16	0.6	N
BAI-24A-10-18	Drainage Channel	4	6010B	0-2	MG_KG	Inorganic	Arsenic	7440-38-2	9.9	0.08	0.3	Y
BAI-24A-10-18	Drainage Channel	4	6010B	0-2	MG_KG	Inorganic	Barium	7440-39-3	91	0.11	0.33	Y
BAI-24A-10-18	Drainage Channel	4	6010B	0-2	MG_KG	Inorganic	Beryllium	7440-41-7	0.69	0.022	0.12	Y
BAI-24A-10-18	Drainage Channel	4	6010B	0-2	MG_KG	Inorganic	Cadmium	7440-43-9	0.3	0.055	0.3	N
BAI-24A-10-18	Drainage Channel	4	6010B	0-2	MG_KG	Inorganic	Chromium	7440-47-3	22	0.11	0.33	Y
BAI-24A-10-18	Drainage Channel	4	6010B	0-2	MG_KG	Inorganic	Cobalt	7440-48-4	10	0.22	0.66	Y
BAI-24A-10-18	Drainage Channel	4	6010B	0-2	MG_KG	Inorganic	Copper	7440-50-8	35	0.11	0.33	Y
BAI-24A-10-18	Drainage Channel	4	6010B	0-2	MG_KG	Inorganic	Vanadium	7440-62-2	45	0.11	0.33	Y
BAI-24A-10-18	Drainage Channel	4	6010B	0-2	MG_KG	Inorganic	Zinc	7440-66-6	65	0.22	1.2	Y
BAI-24A-10-18	Drainage Channel	4	6010B	0-2	MG_KG	Inorganic	Selenium	7782-49-2	2.4	0.18	0.6	Y
BAI-24A-10-18	Drainage Channel	4	7470A	0-2	MG_KG	Inorganic	Mercury	7439-97-6	0.037	0.0068	0.024	Y
BAI-24A-10-18	Drainage Channel	4	8330	0-2	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	238.0952381	26.19047619	238.0952381	N
BAI-24A-10-18	Drainage Channel	4	8330	0-2	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	238.0952381	50	238.0952381	N
BAI-24A-10-18	Drainage Channel	4	8330	0-2	UG_KG	Explosive	RDX	121-82-4	238.0952381	13.0952381	238.0952381	N
BAI-24A-10-18	Drainage Channel	4	8330	0-2	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	238.0952381	60.71428571	238.0952381	N
BAI-24A-10-18	Drainage Channel	4	8330	0-2	UG_KG	Explosive	HMX	2691-41-0	238.0952381	14.28571429	238.0952381	N
BAI-24A-10-18	Drainage Channel	4	8330	0-2	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	238.0952381	26.19047619	238.0952381	N
BAI-24A-10-18	Drainage Channel	4	8330	0-2	UG_KG	Explosive	Tetryl	479-45-8	238.0952381	66.66666667	238.0952381	N
BAI-24A-10-18	Drainage Channel	4	8330	0-2	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	238.0952381	59.52380952	238.0952381	N

PARENT_SAMPLE_NAME	SI Designation	Exposure Unit	ANALYTICAL_METHOD	Depth Interval	RESULT_UNITS	Analyte Group	Analyte Name	ANALYTE_ID	dw_Analyte Value	dw_MDL	dw_MRL	DETECTED
BAI-24A-10-18	Drainage Channel	4	8330	0-2	UG_KG	Explosive	2-Nitrotoluene	88-72-2	476.1904762	13.0952381	476.1904762	N
BAI-24A-10-18	Drainage Channel	4	8330	0-2	UG_KG	SVOC	Nitrobenzene	98-95-3	238.0952381	32.14285714	238.0952381	N
BAI-24A-10-18	Drainage Channel	4	8330	0-2	UG_KG	Explosive	3-Nitrotoluene	99-08-1	476.1904762	21.42857143	476.1904762	N
BAI-24A-10-18	Drainage Channel	4	8330	0-2	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	238.0952381	11.9047619	238.0952381	N
BAI-24A-10-18	Drainage Channel	4	8330	0-2	UG_KG	Explosive	4-Nitrotoluene	99-99-0	476.1904762	28.57142857	476.1904762	N
BAI-24A-10-18	Drainage Channel	4	D2216	0-2	PCT	Other	Percent Moisture	-86	19.04761905	0	1.19047619	Y
BAI-24A-11-00	Drainage Channel	4	6010B	0-2	MG_KG	Inorganic	Lead	7439-92-1	24	0.0805	0.295	Y
BAI-24A-11-00	Drainage Channel	4	6010B	0-2	MG_KG	Inorganic	Molybdenum	7439-98-7	0.225	0.17	0.51	Y
BAI-24A-11-00	Drainage Channel	4	6010B	0-2	MG_KG	Inorganic	Nickel	7440-02-0	14.5	0.225	0.675	Y
BAI-24A-11-00	Drainage Channel	4	6010B	0-2	MG_KG	Inorganic	Silver	7440-22-4	0.295	0.0705	0.295	N
BAI-24A-11-00	Drainage Channel	4	6010B	0-2	MG_KG	Inorganic	Thallium	7440-28-0	0.59	0.175	0.59	N
BAI-24A-11-00	Drainage Channel	4	6010B	0-2	MG_KG	Inorganic	Antimony	7440-36-0	1.545	0.175	0.59	Y
BAI-24A-11-00	Drainage Channel	4	6010B	0-2	MG_KG	Inorganic	Arsenic	7440-38-2	7.75	0.0875	0.295	Y
BAI-24A-11-00	Drainage Channel	4	6010B	0-2	MG_KG	Inorganic	Barium	7440-39-3	115	0.115	0.34	Y
BAI-24A-11-00	Drainage Channel	4	6010B	0-2	MG_KG	Inorganic	Beryllium	7440-41-7	0.39	0.0225	0.115	Y
BAI-24A-11-00	Drainage Channel	4	6010B	0-2	MG_KG	Inorganic	Cadmium	7440-43-9	0.185	0.0565	0.295	Y
BAI-24A-11-00	Drainage Channel	4	6010B	0-2	MG_KG	Inorganic	Chromium	7440-47-3	21	0.115	0.34	Y
BAI-24A-11-00	Drainage Channel	4	6010B	0-2	MG_KG	Inorganic	Cobalt	7440-48-4	8.2	0.225	0.675	Y
BAI-24A-11-00	Drainage Channel	4	6010B	0-2	MG_KG	Inorganic	Copper	7440-50-8	19	0.115	0.34	Y
BAI-24A-11-00	Drainage Channel	4	6010B	0-2	MG_KG	Inorganic	Vanadium	7440-62-2	33.5	0.115	0.34	Y
BAI-24A-11-00	Drainage Channel	4	6010B	0-2	MG_KG	Inorganic	Zinc	7440-66-6	340	0.225	1.15	Y
BAI-24A-11-00	Drainage Channel	4	6010B	0-2	MG_KG	Inorganic	Selenium	7782-49-2	0.325	0.13	0.4475	Y
BAI-24A-11-00	Drainage Channel	4	7470A	0-2	MG_KG	Inorganic	Mercury	7439-97-6	0.0235	0.0069	0.0235	N
BAI-24A-11-00	Drainage Channel	4	8330	0-2	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	236.6863905	30.76923077	236.6863905	N
BAI-24A-11-00	Drainage Channel	4	8330	0-2	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	236.6863905	37.27810651	236.6863905	N
BAI-24A-11-00	Drainage Channel	4	8330	0-2	UG_KG	Explosive	RDX	121-82-4	236.6863905	18.93491124	236.6863905	N
BAI-24A-11-00	Drainage Channel	4	8330	0-2	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	236.6863905	53.25443787	236.6863905	N
BAI-24A-11-00	Drainage Channel	4	8330	0-2	UG_KG	Explosive	HMX	2691-41-0	236.6863905	15.97633136	236.6863905	N
BAI-24A-11-00	Drainage Channel	4	8330	0-2	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	236.6863905	23.07692308	236.6863905	N
BAI-24A-11-00	Drainage Channel	4	8330	0-2	UG_KG	Explosive	Tetryl	479-45-8	236.6863905	66.27218935	236.6863905	N
BAI-24A-11-00	Drainage Channel	4	8330	0-2	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	236.6863905	42.01183432	236.6863905	N
BAI-24A-11-00	Drainage Channel	4	8330	0-2	UG_KG	Explosive	2-Nitrotoluene	88-72-2	461.5384615	23.07692308	461.5384615	N
BAI-24A-11-00	Drainage Channel	4	8330	0-2	UG_KG	SVOC	Nitrobenzene	98-95-3	236.6863905	24.85207101	236.6863905	N
BAI-24A-11-00	Drainage Channel	4	8330	0-2	UG_KG	Explosive	3-Nitrotoluene	99-08-1	461.5384615	34.31952663	461.5384615	N
BAI-24A-07-18	Drainage Channel	4	8330	1.5-2	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	232.5581395	26.74418605	232.5581395	N
BAI-24A-11-00	Drainage Channel	4	8330	0-2	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	236.6863905	8.639053254	236.6863905	N
BAI-24A-11-00	Drainage Channel	4	8330	0-2	UG_KG	Explosive	4-Nitrotoluene	99-99-0	461.5384615	30.76923077	461.5384615	N
BAI-24A-11-00	Drainage Channel	4	D2216	0-2	PCT	Other	Percent Moisture	-86	18.34319527	0	1.183431953	Y
BAI-24A-11-18	Drainage Channel	4	6010B	0-2	MG_KG	Inorganic	Lead	7439-92-1	6.6	0.076	0.29	Y
BAI-24A-11-18	Drainage Channel	4	6010B	0-2	MG_KG	Inorganic	Molybdenum	7439-98-7	0.65	0.22	0.65	N
BAI-24A-11-18	Drainage Channel	4	6010B	0-2	MG_KG	Inorganic	Nickel	7440-02-0	14	0.22	0.65	Y
BAI-24A-11-18	Drainage Channel	4	6010B	0-2	MG_KG	Inorganic	Silver	7440-22-4	0.29	0.054	0.29	N
BAI-24A-11-18	Drainage Channel	4	6010B	0-2	MG_KG	Inorganic	Thallium	7440-28-0	0.38	0.15	0.58	Y
BAI-24A-11-18	Drainage Channel	4	6010B	0-2	MG_KG	Inorganic	Antimony	7440-36-0	0.58	0.16	0.58	N
BAI-24A-11-18	Drainage Channel	4	6010B	0-2	MG_KG	Inorganic	Arsenic	7440-38-2	5.8	0.079	0.29	Y
BAI-24A-11-18	Drainage Channel	4	6010B	0-2	MG_KG	Inorganic	Barium	7440-39-3	86	0.11	0.33	Y
BAI-24A-11-18	Drainage Channel	4	6010B	0-2	MG_KG	Inorganic	Beryllium	7440-41-7	0.36	0.022	0.12	Y
BAI-24A-11-18	Drainage Channel	4	6010B	0-2	MG_KG	Inorganic	Cadmium	7440-43-9	0.44	0.054	0.29	Y
BAI-24A-11-18	Drainage Channel	4	6010B	0-2	MG_KG	Inorganic	Chromium	7440-47-3	16	0.11	0.33	Y

PARENT_SAMPLE_NAME	SI Designation	Exposure Unit	ANALYTICAL_METHOD	Depth Interval	RESULT_UNITS	Analyte Group	Analyte Name	ANALYTE_ID	dw_Analyte Value	dw_MDL	dw_MRL	DETECTED
BAI-24A-11-18	Drainage Channel	4	6010B	0-2	MG_KG	Inorganic	Cobalt	7440-48-4	7.7	0.22	0.65	Y
BAI-24A-11-18	Drainage Channel	4	6010B	0-2	MG_KG	Inorganic	Copper	7440-50-8	17	0.11	0.33	Y
BAI-24A-11-18	Drainage Channel	4	6010B	0-2	MG_KG	Inorganic	Vanadium	7440-62-2	29	0.11	0.33	Y
BAI-24A-11-18	Drainage Channel	4	6010B	0-2	MG_KG	Inorganic	Zinc	7440-66-6	1300	4.3	22	Y
BAI-24A-11-18	Drainage Channel	4	6010B	0-2	MG_KG	Inorganic	Selenium	7782-49-2	2.1	0.17	0.58	Y
BAI-24A-11-18	Drainage Channel	4	7470A	0-2	MG_KG	Inorganic	Mercury	7439-97-6	0.17	0.0076	0.024	Y
BAI-24A-11-18	Drainage Channel	4	8330	0-2	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	232.5581395	25.58139535	232.5581395	N
BAI-24A-11-18	Drainage Channel	4	8330	0-2	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	232.5581395	48.8372093	232.5581395	N
BAI-24A-11-18	Drainage Channel	4	8330	0-2	UG_KG	Explosive	RDX	121-82-4	232.5581395	12.79069767	232.5581395	N
BAI-24A-11-18	Drainage Channel	4	8330	0-2	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	232.5581395	59.30232558	232.5581395	N
BAI-24A-11-18	Drainage Channel	4	8330	0-2	UG_KG	Explosive	HMX	2691-41-0	232.5581395	13.95348837	232.5581395	N
BAI-24A-11-18	Drainage Channel	4	8330	0-2	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	232.5581395	25.58139535	232.5581395	N
BAI-24A-11-18	Drainage Channel	4	8330	0-2	UG_KG	Explosive	Tetryl	479-45-8	232.5581395	65.11627907	232.5581395	N
BAI-24A-11-18	Drainage Channel	4	8330	0-2	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	232.5581395	58.13953488	232.5581395	N
BAI-24A-11-18	Drainage Channel	4	8330	0-2	UG_KG	Explosive	2-Nitrotoluene	88-72-2	465.1162791	12.79069767	465.1162791	N
BAI-24A-11-18	Drainage Channel	4	8330	0-2	UG_KG	SVOC	Nitrobenzene	98-95-3	232.5581395	31.39534884	232.5581395	N
BAI-24A-11-18	Drainage Channel	4	8330	0-2	UG_KG	Explosive	3-Nitrotoluene	99-08-1	465.1162791	20.93023256	465.1162791	N
BAI-24A-08-18	Drainage Channel	4	8330	1.5-2	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	229.8850575	26.43678161	229.8850575	N
BAI-24A-11-18	Drainage Channel	4	8330	0-2	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	232.5581395	11.62790698	232.5581395	N
BAI-24A-11-18	Drainage Channel	4	8330	0-2	UG_KG	Explosive	4-Nitrotoluene	99-99-0	465.1162791	27.90697674	465.1162791	N
BAI-24A-11-18	Drainage Channel	4	D2216	0-2	PCT	Other	Percent Moisture	-86	16.27906977	0	1.162790698	Y
BAI-24A-09-18	Drainage Channel	4	8330	1.5-2	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	219.7802198	25.27472527	219.7802198	N
BAI-24A-10-18	Drainage Channel	4	8330	1.5-2	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	238.0952381	27.38095238	238.0952381	N
BAI-24A-11-18	Drainage Channel	4	8330	1.5-2	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	232.5581395	26.74418605	232.5581395	N
BAI-24A-033-18	Target Berm	2	8330	0-2	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	212.7659574	37.23404255	212.7659574	N
BAI-24A-033-18	Target Berm	4	8330	0-2	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	212.7659574	37.23404255	212.7659574	N
BAI-24A-033-18	Target Berm	2	8330	0-2	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	212.7659574	21.27659574	212.7659574	N
BAI-24A-033-18	Target Berm	4	8330	0-2	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	212.7659574	21.27659574	212.7659574	N
BAI-24A-033-18	Target Berm	2	8330	0-2	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	212.7659574	13.82978723	212.7659574	N
BAI-24A-033-18	Target Berm	4	8330	0-2	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	212.7659574	13.82978723	212.7659574	N
BAI-24A-033-18	Target Berm	2	8330	0-2	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	212.7659574	20.21276596	212.7659574	N
BAI-24A-033-18	Target Berm	4	8330	0-2	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	212.7659574	20.21276596	212.7659574	N
BAI-24A-033-18	Target Berm	2	8330	0-2	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	212.7659574	19.14893617	212.7659574	N
BAI-24A-033-18	Target Berm	4	8330	0-2	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	212.7659574	19.14893617	212.7659574	N
BAI-24A-033-18	Target Berm	2	8330	0-2	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	212.7659574	27.65957447	212.7659574	N
BAI-24A-033-18	Target Berm	4	8330	0-2	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	212.7659574	27.65957447	212.7659574	N
BAI-24A-033-18	Target Berm	2	8330	0-2	UG_KG	Explosive	2-Nitrotoluene	88-72-2	425.5319149	17.0212766	425.5319149	N
BAI-24A-033-18	Target Berm	4	8330	0-2	UG_KG	Explosive	2-Nitrotoluene	88-72-2	425.5319149	17.0212766	425.5319149	N
BAI-24A-033-18	Target Berm	2	8330	0-2	UG_KG	Explosive	3-Nitrotoluene	99-08-1	425.5319149	63.82978723	425.5319149	N
BAI-24A-033-18	Target Berm	4	8330	0-2	UG_KG	Explosive	3-Nitrotoluene	99-08-1	425.5319149	63.82978723	425.5319149	N
BAI-24A-033-18	Target Berm	2	8330	0-2	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	212.7659574	29.78723404	212.7659574	N
BAI-24A-033-18	Target Berm	4	8330	0-2	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	212.7659574	29.78723404	212.7659574	N
BAI-24A-033-18	Target Berm	2	8330	0-2	UG_KG	Explosive	4-Nitrotoluene	99-99-0	425.5319149	31.91489362	425.5319149	N
BAI-24A-033-18	Target Berm	4	8330	0-2	UG_KG	Explosive	4-Nitrotoluene	99-99-0	425.5319149	31.91489362	425.5319149	N
BAI-24A-033-18	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Antimony	7440-36-0	7.2	0.16	0.53	Y
BAI-24A-033-18	Target Berm	4	6010B	0-2	MG_KG	Inorganic	Antimony	7440-36-0	7.2	0.16	0.53	Y
BAI-24A-033-18	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Arsenic	7440-38-2	4.7	0.083	0.27	Y
BAI-24A-033-18	Target Berm	4	6010B	0-2	MG_KG	Inorganic	Arsenic	7440-38-2	4.7	0.083	0.27	Y
BAI-24A-033-18	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Barium	7440-39-3	130	0.099	0.3	Y

PARENT_SAMPLE_NAME	SI Designation	Exposure Unit	ANALYTICAL_METHOD	Depth Interval	RESULT_UNITS	Analyte Group	Analyte Name	ANALYTE_ID	dw_Analyte Value	dw_MDL	dw_MRL	DETECTED
BAI-24A-033-18	Target Berm	4	6010B	0-2	MG_KG	Inorganic	Barium	7440-39-3	130	0.099	0.3	Y
BAI-24A-033-18	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Beryllium	7440-41-7	0.47	0.02	0.11	Y
BAI-24A-033-18	Target Berm	4	6010B	0-2	MG_KG	Inorganic	Beryllium	7440-41-7	0.47	0.02	0.11	Y
BAI-24A-033-18	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Cadmium	7440-43-9	0.15	0.05	0.27	Y
BAI-24A-033-18	Target Berm	4	6010B	0-2	MG_KG	Inorganic	Cadmium	7440-43-9	0.15	0.05	0.27	Y
BAI-24A-033-18	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Chromium	7440-47-3	18	0.099	0.3	Y
BAI-24A-033-18	Target Berm	4	6010B	0-2	MG_KG	Inorganic	Chromium	7440-47-3	18	0.099	0.3	Y
BAI-24A-033-18	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Cobalt	7440-48-4	9.3	0.2	0.6	Y
BAI-24A-033-18	Target Berm	4	6010B	0-2	MG_KG	Inorganic	Cobalt	7440-48-4	9.3	0.2	0.6	Y
BAI-24A-033-18	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Copper	7440-50-8	83	0.099	0.3	Y
BAI-24A-033-18	Target Berm	4	6010B	0-2	MG_KG	Inorganic	Copper	7440-50-8	83	0.099	0.3	Y
BAI-24A-033-18	Target Berm	2	8330	0-2	UG_KG	Explosive	HMX	2691-41-0	212.7659574	27.65957447	212.7659574	N
BAI-24A-033-18	Target Berm	4	8330	0-2	UG_KG	Explosive	HMX	2691-41-0	212.7659574	27.65957447	212.7659574	N
BAI-24A-033-18	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Lead	7439-92-1	1500	0.36	1.1	Y
BAI-24A-033-18	Target Berm	4	6010B	0-2	MG_KG	Inorganic	Lead	7439-92-1	1500	0.36	1.1	Y
BAI-24A-033-18	Target Berm	2	7470A	0-2	MG_KG	Inorganic	Mercury	7439-97-6	0.021	0.0067	0.021	N
BAI-24A-033-18	Target Berm	4	7470A	0-2	MG_KG	Inorganic	Mercury	7439-97-6	0.021	0.0067	0.021	N
BAI-24A-033-18	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Molybdenum	7439-98-7	0.39	0.2	0.6	Y
BAI-24A-033-18	Target Berm	4	6010B	0-2	MG_KG	Inorganic	Molybdenum	7439-98-7	0.39	0.2	0.6	Y
BAI-24A-033-18	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Nickel	7440-02-0	16	0.2	0.6	Y
BAI-24A-033-18	Target Berm	4	6010B	0-2	MG_KG	Inorganic	Nickel	7440-02-0	16	0.2	0.6	Y
BAI-24A-033-18	Target Berm	2	8330	0-2	UG_KG	SVOC	Nitrobenzene	98-95-3	212.7659574	19.14893617	212.7659574	N
BAI-24A-033-18	Target Berm	4	8330	0-2	UG_KG	SVOC	Nitrobenzene	98-95-3	212.7659574	19.14893617	212.7659574	N
BAI-24A-033-18	Target Berm	2	D2216	0-2	PCT	Other	Percent Moisture	-86	6.382978723	0	1.063829787	Y
BAI-24A-033-18	Target Berm	4	D2216	0-2	PCT	Other	Percent Moisture	-86	6.382978723	0	1.063829787	Y
BAI-24A-033-18	Target Berm	2	8330	0-2	UG_KG	Explosive	RDX	121-82-4	212.7659574	41.4893617	212.7659574	N
BAI-24A-033-18	Target Berm	4	8330	0-2	UG_KG	Explosive	RDX	121-82-4	212.7659574	41.4893617	212.7659574	N
BAI-24A-033-18	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Selenium	7782-49-2	0.53	0.15	0.53	N
BAI-24A-033-18	Target Berm	4	6010B	0-2	MG_KG	Inorganic	Selenium	7782-49-2	0.53	0.15	0.53	N
BAI-24A-033-18	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Silver	7440-22-4	0.27	0.074	0.27	N
BAI-24A-033-18	Target Berm	4	6010B	0-2	MG_KG	Inorganic	Silver	7440-22-4	0.27	0.074	0.27	N
BAI-24A-033-18	Target Berm	2	8330	0-2	UG_KG	Explosive	Tetryl	479-45-8	212.7659574	69.14893617	212.7659574	N
BAI-24A-033-18	Target Berm	4	8330	0-2	UG_KG	Explosive	Tetryl	479-45-8	212.7659574	69.14893617	212.7659574	N
BAI-24A-033-18	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Thallium	7440-28-0	0.53	0.16	0.53	N
BAI-24A-033-18	Target Berm	4	6010B	0-2	MG_KG	Inorganic	Thallium	7440-28-0	0.53	0.16	0.53	N
BAI-24A-033-18	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Vanadium	7440-62-2	33	0.099	0.3	Y
BAI-24A-033-18	Target Berm	4	6010B	0-2	MG_KG	Inorganic	Vanadium	7440-62-2	33	0.099	0.3	Y
BAI-24A-033-18	Target Berm	2	6010B	0-2	MG_KG	Inorganic	Zinc	7440-66-6	71	0.2	1.1	Y
BAI-24A-033-18	Target Berm	4	6010B	0-2	MG_KG	Inorganic	Zinc	7440-66-6	71	0.2	1.1	Y
BAI-24A-033-18	Target Berm	2	8330	1.5-2	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	212.7659574	37.23404255	212.7659574	N
BAI-24A-033-18	Target Berm	4	8330	1.5-2	UG_KG	Explosive	1,3,5-Trinitrobenzene	99-35-4	212.7659574	37.23404255	212.7659574	N
BAI-24A-033-18	Target Berm	2	8330	1.5-2	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	212.7659574	21.27659574	212.7659574	N
BAI-24A-033-18	Target Berm	4	8330	1.5-2	UG_KG	Explosive	1,3-Dinitrobenzene	99-65-0	212.7659574	21.27659574	212.7659574	N
BAI-24A-033-18	Target Berm	2	8330	1.5-2	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	212.7659574	13.82978723	212.7659574	N
BAI-24A-033-18	Target Berm	4	8330	1.5-2	UG_KG	Explosive	2,4,6-Trinitrotoluene	118-96-7	212.7659574	13.82978723	212.7659574	N
BAI-24A-033-18	Target Berm	2	8330	1.5-2	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	212.7659574	20.21276596	212.7659574	N
BAI-24A-033-18	Target Berm	4	8330	1.5-2	UG_KG	SVOC	2,4-Dinitrotoluene	121-14-2	212.7659574	20.21276596	212.7659574	N
BAI-24A-033-18	Target Berm	2	8330	1.5-2	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	212.7659574	19.14893617	212.7659574	N
BAI-24A-033-18	Target Berm	4	8330	1.5-2	UG_KG	SVOC	2,6-Dinitrotoluene	606-20-2	212.7659574	19.14893617	212.7659574	N

Attachment B-4.2
Processed Data

PARENT_SAMPLE_NAME	SI Designation	Exposure Unit	ANALYTICAL_METHOD	Depth Interval	RESULT_UNITS	Analyte Group	Analyte Name	ANALYTE_ID	dw_Analyte Value	dw_MDL	dw_MRL	DETECTED
BAI-24A-033-18	Target Berm	2	8330	1.5-2	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	212.7659574	27.65957447	212.7659574	N
BAI-24A-033-18	Target Berm	4	8330	1.5-2	UG_KG	Explosive	2-amino-4,6-Dinitrotoluene	35572-78-2	212.7659574	27.65957447	212.7659574	N
BAI-24A-033-18	Target Berm	2	8330	1.5-2	UG_KG	Explosive	2-Nitrotoluene	88-72-2	425.5319149	17.0212766	425.5319149	N
BAI-24A-033-18	Target Berm	4	8330	1.5-2	UG_KG	Explosive	2-Nitrotoluene	88-72-2	425.5319149	17.0212766	425.5319149	N
BAI-24A-033-18	Target Berm	2	8330	1.5-2	UG_KG	Explosive	3-Nitrotoluene	99-08-1	425.5319149	63.82978723	425.5319149	N
BAI-24A-033-18	Target Berm	4	8330	1.5-2	UG_KG	Explosive	3-Nitrotoluene	99-08-1	425.5319149	63.82978723	425.5319149	N
BAI-24A-033-18	Target Berm	2	8330	1.5-2	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	212.7659574	29.78723404	212.7659574	N
BAI-24A-033-18	Target Berm	4	8330	1.5-2	UG_KG	Explosive	4-amino-2,6-Dinitrotoluene	19406-51-0	212.7659574	29.78723404	212.7659574	N
BAI-24A-033-18	Target Berm	2	8330	1.5-2	UG_KG	Explosive	4-Nitrotoluene	99-99-0	425.5319149	31.91489362	425.5319149	N
BAI-24A-033-18	Target Berm	4	8330	1.5-2	UG_KG	Explosive	4-Nitrotoluene	99-99-0	425.5319149	31.91489362	425.5319149	N
BAI-24A-033-18	Target Berm	2	6010B	1.5-2	MG_KG	Inorganic	Antimony	7440-36-0	7.2	0.16	0.53	Y
BAI-24A-033-18	Target Berm	4	6010B	1.5-2	MG_KG	Inorganic	Antimony	7440-36-0	7.2	0.16	0.53	Y
BAI-24A-033-18	Target Berm	2	6010B	1.5-2	MG_KG	Inorganic	Arsenic	7440-38-2	4.7	0.083	0.27	Y
BAI-24A-033-18	Target Berm	4	6010B	1.5-2	MG_KG	Inorganic	Arsenic	7440-38-2	4.7	0.083	0.27	Y
BAI-24A-033-18	Target Berm	2	6010B	1.5-2	MG_KG	Inorganic	Barium	7440-39-3	130	0.099	0.3	Y
BAI-24A-033-18	Target Berm	4	6010B	1.5-2	MG_KG	Inorganic	Barium	7440-39-3	130	0.099	0.3	Y
BAI-24A-033-18	Target Berm	2	6010B	1.5-2	MG_KG	Inorganic	Beryllium	7440-41-7	0.47	0.02	0.11	Y
BAI-24A-033-18	Target Berm	4	6010B	1.5-2	MG_KG	Inorganic	Beryllium	7440-41-7	0.47	0.02	0.11	Y
BAI-24A-033-18	Target Berm	2	6010B	1.5-2	MG_KG	Inorganic	Cadmium	7440-43-9	0.15	0.05	0.27	Y
BAI-24A-033-18	Target Berm	4	6010B	1.5-2	MG_KG	Inorganic	Cadmium	7440-43-9	0.15	0.05	0.27	Y
BAI-24A-033-18	Target Berm	2	6010B	1.5-2	MG_KG	Inorganic	Chromium	7440-47-3	18	0.099	0.3	Y
BAI-24A-033-18	Target Berm	4	6010B	1.5-2	MG_KG	Inorganic	Chromium	7440-47-3	18	0.099	0.3	Y
BAI-24A-033-18	Target Berm	2	6010B	1.5-2	MG_KG	Inorganic	Cobalt	7440-48-4	9.3	0.2	0.6	Y
BAI-24A-033-18	Target Berm	4	6010B	1.5-2	MG_KG	Inorganic	Cobalt	7440-48-4	9.3	0.2	0.6	Y
BAI-24A-033-18	Target Berm	2	6010B	1.5-2	MG_KG	Inorganic	Copper	7440-50-8	83	0.099	0.3	Y
BAI-24A-033-18	Target Berm	4	6010B	1.5-2	MG_KG	Inorganic	Copper	7440-50-8	83	0.099	0.3	Y
BAI-24A-033-18	Target Berm	2	8330	1.5-2	UG_KG	Explosive	HMX	2691-41-0	212.7659574	27.65957447	212.7659574	N
BAI-24A-033-18	Target Berm	4	8330	1.5-2	UG_KG	Explosive	HMX	2691-41-0	212.7659574	27.65957447	212.7659574	N
BAI-24A-033-18	Target Berm	2	6010B	1.5-2	MG_KG	Inorganic	Lead	7439-92-1	1500	0.36	1.1	Y
BAI-24A-033-18	Target Berm	4	6010B	1.5-2	MG_KG	Inorganic	Lead	7439-92-1	1500	0.36	1.1	Y
BAI-24A-033-18	Target Berm	2	7470A	1.5-2	MG_KG	Inorganic	Mercury	7439-97-6	0.021	0.0067	0.021	N
BAI-24A-033-18	Target Berm	4	7470A	1.5-2	MG_KG	Inorganic	Mercury	7439-97-6	0.021	0.0067	0.021	N
BAI-24A-033-18	Target Berm	2	6010B	1.5-2	MG_KG	Inorganic	Molybdenum	7439-98-7	0.39	0.2	0.6	Y
BAI-24A-033-18	Target Berm	4	6010B	1.5-2	MG_KG	Inorganic	Molybdenum	7439-98-7	0.39	0.2	0.6	Y
BAI-24A-033-18	Target Berm	2	6010B	1.5-2	MG_KG	Inorganic	Nickel	7440-02-0	16	0.2	0.6	Y
BAI-24A-033-18	Target Berm	4	6010B	1.5-2	MG_KG	Inorganic	Nickel	7440-02-0	16	0.2	0.6	Y
BAI-24A-033-18	Target Berm	2	8330	1.5-2	UG_KG	SVOC	Nitrobenzene	98-95-3	212.7659574	19.14893617	212.7659574	N
BAI-24A-033-18	Target Berm	4	8330	1.5-2	UG_KG	SVOC	Nitrobenzene	98-95-3	212.7659574	19.14893617	212.7659574	N
BAI-24A-033-18	Target Berm	2	D2216	1.5-2	PCT	Other	Percent Moisture	-86	6.382978723	0	1.063829787	Y
BAI-24A-033-18	Target Berm	4	D2216	1.5-2	PCT	Other	Percent Moisture	-86	6.382978723	0	1.063829787	Y
BAI-24A-033-18	Target Berm	2	8330	1.5-2	UG_KG	Explosive	RDX	121-82-4	212.7659574	41.4893617	212.7659574	N
BAI-24A-033-18	Target Berm	4	8330	1.5-2	UG_KG	Explosive	RDX	121-82-4	212.7659574	41.4893617	212.7659574	N
BAI-24A-033-18	Target Berm	2	6010B	1.5-2	MG_KG	Inorganic	Selenium	7782-49-2	0.53	0.15	0.53	N
BAI-24A-033-18	Target Berm	4	6010B	1.5-2	MG_KG	Inorganic	Selenium	7782-49-2	0.53	0.15	0.53	N
BAI-24A-033-18	Target Berm	2	6010B	1.5-2	MG_KG	Inorganic	Silver	7440-22-4	0.27	0.074	0.27	N
BAI-24A-033-18	Target Berm	4	6010B	1.5-2	MG_KG	Inorganic	Silver	7440-22-4	0.27	0.074	0.27	N
BAI-24A-033-18	Target Berm	2	8330	1.5-2	UG_KG	Explosive	Tetryl	479-45-8	212.7659574	69.14893617	212.7659574	N
BAI-24A-033-18	Target Berm	4	8330	1.5-2	UG_KG	Explosive	Tetryl	479-45-8	212.7659574	69.14893617	212.7659574	N
BAI-24A-033-18	Target Berm	2	6010B	1.5-2	MG_KG	Inorganic	Thallium	7440-28-0	0.53	0.16	0.53	N

Attachment B-4.2
Processed Data

PARENT_SAMPLE_NAME	SI Designation	Exposure Unit	ANALYTICAL_METHOD	Depth Interval	RESULT_UNITS	Analyte Group	Analyte Name	ANALYTE_ID	dw_Analyte Value	dw_MDL	dw_MRL	DETECTED
BAI-24A-033-18	Target Berm	4	6010B	1.5-2	MG_KG	Inorganic	Thallium	7440-28-0	0.53	0.16	0.53	N
BAI-24A-033-18	Target Berm	2	6010B	1.5-2	MG_KG	Inorganic	Vanadium	7440-62-2	33	0.099	0.3	Y
BAI-24A-033-18	Target Berm	4	6010B	1.5-2	MG_KG	Inorganic	Vanadium	7440-62-2	33	0.099	0.3	Y
BAI-24A-033-18	Target Berm	2	6010B	1.5-2	MG_KG	Inorganic	Zinc	7440-66-6	71	0.2	1.1	Y
BAI-24A-033-18	Target Berm	4	6010B	1.5-2	MG_KG	Inorganic	Zinc	7440-66-6	71	0.2	1.1	Y

Notes:
a) For explosives only wet weights were available. Wet weights were converted to dry weights by the following equation: wet weight concentration * (100/(100-percent moisture))
b) If duplicates exist, the average of the duplicate results is used as a single data point. If one duplicate is detected and the other not, the non-detect MDL was averaged with the detected concentration and treated as detected concentration.
All concentrations are displayed in dry weight.

APPENDIX C
Applicable or Relevant and Appropriate Requirements

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ACRONYMS AND ABBREVIATIONS

ARAR	applicable or relevant and appropriate requirement
BAAQMD	Bay Area Air Quality Management District
CAA	Clean Air Act
Cal. Code Regs	California Code of Regulations
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
C.F.R.	Code of Federal Regulations
ch.	Chapter
DoD	Department of Defense
EE/CA	engineering evaluation/cost analysis
Fed. Reg	Federal Register
IR	Installation Restoration (Program)
LDR	land disposal restriction
LUC	land use control
MBTA	Migratory Bird Treaty Act
MEC	munitions and explosives of concern
Navy	Department of the Navy
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
OEW	ordnance or explosive waste
OSWER	Office of Solid Waste and Emergency Response
pt.	Part
§	Section
SI	site inspection
SIP	site implementation plan
subpt.	Subpart
TBC	to be considered
TCLP	toxicity characteristic leaching procedure
tit.	Title
U.S.C.	United States Code
USEPA	United States Environmental Protection Agency
UXO	unexploded ordnance

C.1.0 INTRODUCTION

This appendix identifies and evaluates potential federal applicable or relevant and appropriate requirements (ARARs) from the universe of regulations, requirements, and guidance and sets forth the Department of the Navy (Navy) determinations regarding those potential ARARs for each response action alternative retained for detailed analysis in this Engineering Evaluation/Cost Analysis (EE/CA) for Former Naval Weapons Station Seal Beach Detachment Concord Installation Restoration (IR) Site 24A – Former Pistol Range.

C-1.1 SUMMARY OF CERCLA AND NCP REQUIREMENTS

Section 121(d) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) (42 United States Code [U.S.C]. § 9621[d]), as amended, states that remedial actions at CERCLA sites must attain (or the decision document must justify the waiver of) any federal or more stringent state environmental standards, requirements, criteria, or limitations determined to be legally applicable or relevant and appropriate. Although Section 121 of CERCLA does not itself expressly require that CERCLA removal actions comply with ARARs, the United States Environmental Protection Agency (USEPA) has promulgated a requirement in the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) mandating that CERCLA removal actions ". . . shall, to the extent practicable considering the exigencies of the situation, attain applicable or relevant and appropriate requirements under federal environmental or state environmental or facility siting laws" (Title 40 Code of Federal Regulations [40 C.F.R.] § 300.415[j]). It is Navy policy to follow this requirement. Certain specified waivers may be used for removal actions, as is the case with remedial actions.

Applicable requirements are those cleanup standards, standards of control, and other substantive environmental protection requirements, criteria, or limitations promulgated under federal or state law that specifically address circumstances at a CERCLA site. The requirement is applicable if the jurisdictional prerequisites of the standard show a direct correspondence when objectively compared to the conditions at the site. An applicable federal requirement is an ARAR. An applicable state requirement is an ARAR only if it is more stringent than federal ARARs.

If the requirement is not legally applicable, then the requirement is evaluated to determine whether it is relevant and appropriate. Relevant and appropriate requirements are those cleanup

standards, standards of control, and other substantive environmental protection requirements, criteria, or limitations promulgated under federal or state law that, while not applicable, address problems or situations similar to the circumstances of the proposed response action and are well suited to the conditions of the site (USEPA 1988a). A requirement must be determined to be both relevant and appropriate to be considered an ARAR.

The criteria for determining relevance and appropriateness are listed in 40 C.F.R. § 300.400(g)(2) and include the following:

- The purpose of both the requirement and the CERCLA action
- The medium regulated or affected by the requirement and the medium contaminated or affected at the CERCLA site
- The substances regulated by the requirement and the substances found at the CERCLA site
- The actions or activities regulated by the requirement and the response action contemplated at the CERCLA site
- Any variances, waivers, or exemptions of the requirement and their availability for the circumstances at the CERCLA site
- The type of place regulated and the type of place affected by the release or CERCLA action
- The type and size of structure or facility regulated and the type and size of structure or facility affected by the release or proposed in the CERCLA action
- Any consideration of use or potential use of affected resources in the requirement and the use or potential use of the affected resources at the CERCLA site

According to CERCLA ARARs guidance (USEPA 1988a), a requirement may be "applicable" or "relevant and appropriate," but not both. ARARs must be identified on a site-specific basis and involve a two-part analysis: first, a determination whether a given requirement is applicable; then, if it is not applicable, a determination whether it is both relevant and appropriate. It is important to explain that some regulations may be applicable or, if not applicable, may still be

relevant and appropriate. When the analysis determines that a requirement is both relevant and appropriate, such a requirement must be complied with to the same degree as if it were applicable (USEPA 1988a).

Tables included in this appendix present each potential ARAR with an initial determination of ARAR status (i.e., applicable, relevant and appropriate, or not an ARAR). For the determination of relevance and appropriateness, the pertinent criteria were examined to determine whether the requirements addressed problems or situations sufficiently similar to the circumstances of the release or response action contemplated, and whether the requirement was well suited to the site. A negative determination of relevance and appropriateness indicates that the requirement did not meet the pertinent criteria. Negative determinations are documented in the tables of this appendix and are discussed in the text only for specific cases.

To qualify as a state ARAR under CERCLA and the NCP, a state requirement must be:

- A state law or regulation
- An environmental or facility siting law or regulation
- Promulgated (of general applicability and legally enforceable)
- Substantive (not procedural or administrative)
- More stringent than federal requirements
- Identified in a timely manner
- Consistently applied

To constitute an ARAR, a requirement must be substantive. Therefore, only the substantive provisions of requirements identified as ARARs in this analysis are considered to be ARARs. Permits are considered to be procedural or administrative requirements. Provisions of generally relevant federal and state statutes and regulations that were determined to be procedural or nonenvironmental, including permit requirements, are not considered to be ARARs. CERCLA Section 121(e)(1), 42 U.S.C. § 9621(e)(1), states, "No Federal, State, or local permit shall be required for the portion of any removal or remedial action conducted entirely on-site, where such

remedial action is selected and carried out in compliance with this section." The term on-site is defined for purposes of this ARARs discussion as "the areal extent of contamination and all suitable areas in very close proximity to the contamination necessary for implementation of the response action" (40 C.F.R. § 300.5).

Nonpromulgated advisories or guidance issued by federal or state governments are not legally binding and do not have the status of ARARs. Such requirements may, however, be useful and are "to be considered" (TBC). TBC requirements (40 C.F.R. § 300.400[g][3]) complement ARARs but do not override them. They are useful for guiding decisions regarding cleanup levels or methodologies when regulatory standards are not available.

Pursuant to USEPA guidance (USEPA 1988a), ARARs are generally divided into three categories: chemical-, location-, and action-specific requirements. This classification was developed to aid in the identification of ARARs; some ARARs do not fall precisely into one group or another. ARARs are identified on a site-specific basis for remedial actions where CERCLA authority is the basis for cleanup.

As the lead federal agency, the Navy has primary responsibility for identifying federal ARARs for IR Site 24A. Pursuant to the definition of the term on-site in 40 C.F.R. § 300.5, the on-station areas that are part of this action include the IR Site 24A former pistol range areas described in the EE/CA.

Identification of potential state ARARs was initiated through a Navy request that the California Environmental Protection Agency, Department of Toxic Substances Control (DTSC) identify potential state ARARs, an action described in more detail in Section C1.2.2. Potential state ARARs have not been identified for IR Site 24A at the time of this ARARs evaluation.

C-1.2 METHODOLOGY DESCRIPTION

The process of identifying and evaluating potential federal and state ARARs is described in this subsection.

C-1.2.1 General

As the lead federal agency, the Navy has primary responsibility for identification of potential ARARs for IR Site 24A. In preparing this ARARs analysis, the Navy undertook the following measures, consistent with CERCLA and the NCP:

- Identified federal ARARs for each response action alternative addressed in the EE/CA, taking into account site-specific information for IR Site 24A
- Reached a conclusion as to which federal ARARs are the most stringent and/or "controlling" ARARs for each alternative

As described in Section 4.0 of the EE/CA Report, the removal action objectives for IR Site 24A are primarily to reduce potential exposures of human and ecological receptors to metals- and PAH-impacted soil at the site and include the following:

- Prevention or abatement of actual or potential exposure to nearby human populations, animals, or the food chain from hazardous substances, pollutants, or chemicals
- Prevention or abatement of actual or potential contamination of sensitive ecosystems
- Treatment or elimination of high levels of hazardous substances, pollutants, or chemicals in soils largely at or near the surface that may migrate.
- Minimization or elimination of the effects of weather conditions that may cause hazardous substances, pollutants, or chemicals to migrate or to be released.
- Mitigation or abatement of other situations or factors that may pose threats to public health, welfare, or the environment.

The IR Site 24A removal action alternatives considered for detailed analysis, and for which an ARARs analysis is presented in this appendix, are as follows:

- Alternative 1 - No Action
- Alternative 2 - Land Use Controls (LUCs)
- Alternative 3 - Placement of Soil Cap, Munitions of Explosive Concern (MEC) Screening, and LUCs

- Alternative 4 - Soil Excavation with Off-Site Disposal and MEC Screening
- Alternative 5 – Soil Excavation with Stabilization, Off-Site Disposal, MEC Screening, and Recycling of Metal

This analysis focuses on identifying and evaluating federal ARARs. The Navy is responsible for identifying federal ARARs as the lead federal agency under CERCLA and the NCP. The final determination of federal ARARs will be made when the Navy issues the Action Memorandum. The federal government implements a number of federal environmental statutes that are the source of potential federal ARARs, either in the form of the statutes or regulations promulgated thereunder. Examples include the Resource Conservation and Recovery Act (RCRA), the Clean Water Act, the Safe Drinking Water Act, the Toxic Substances Control Act, and their implementing regulations. See NCP preamble at 55 Federal Register (Fed. Reg.) 8764–8765 (1990) for a more complete listing.

The Navy reviewed the proposed response action and alternatives against all potential federal ARARs, including but not limited to those set forth at 55 Fed. Reg. 8764–8765 (1990), in order to determine whether they were applicable or relevant and appropriate using the CERCLA and NCP criteria and procedures for ARARs identification by lead federal agencies.

C-1.2.2 Identifying and Evaluating State ARARs

The process of identifying and evaluating potential state ARARs by the state and the Navy is described in this subsection.

C-1.2.2.1 Solicitation of State ARARs Under NCP

USEPA guidance recommends that the lead federal agency consult with the state when identifying state ARARs for response actions (USEPA 1988b). The CERCLA/NCP requirements at 40 C.F.R. § 300.515 for identification of ARARs and TBCs provide that the lead federal agency request that the state identify chemical- and location-specific state ARARs upon completion of site characterization. The requirements also provide that the lead federal agency request identification of all categories of state ARARs (chemical-, location-, and action-specific) upon completion of identification of response action alternatives for detailed analysis. The state must respond within 30 days of receipt of the lead federal agency requests. The remainder of

this subsection documents the Navy's efforts to date to identify and evaluate state ARARs. The Navy followed the process set forth in 40 C.F.R. § 300.515 and Section 10.6 of the Federal Facilities Agreement (FFA) (USEPA 2001) in seeking state assistance with identification of state ARARs.

C-1.2.2.2 Chronology of Efforts to Identify State ARARs

The following chronology summarizes the Navy's efforts to obtain state assistance with identification of state ARARs for the removal action at IR Site 24A. Key correspondence between the Navy and the state agencies relating to this effort has been included in the Administrative Record for this EE/CA.

The Navy formally requested state chemical-, location-, and action-specific ARARs for IR Site 24A on October 29, 2010. A letter requesting ARARs identification was sent to the DTSC based on preliminary removal action alternatives developed by the Navy. The identification of ARARs is an iterative process. The Navy's final determination regarding State ARARs will be set forth in the Action Memorandum, following coordination with state agencies.

C-1.3 OTHER GENERAL ISSUES

General issues identified during the evaluation of ARARs for IR Site 24A are discussed in the following subsections.

C-1.3.1 General Approach to Requirements of the Federal Resource Conservation and Recovery Act

RCRA is a federal statute passed in 1976 to meet four goals: protection of human health and the environment, reduction of waste, conservation of energy and natural resources, and elimination of the generation of hazardous waste as expeditiously as possible. The Hazardous and Solid Waste Amendments of 1984 significantly expanded the scope of RCRA by adding new corrective action requirements, land disposal restrictions (LDRs), and technical requirements. RCRA, as amended, contains several provisions that are potential ARARs for CERCLA sites.

Substantive RCRA requirements are applicable to response actions on CERCLA sites if the waste is a RCRA hazardous waste, and either:

- The waste was initially treated, stored, or disposed after the effective date of the particular RCRA requirement; or

- The activity at the CERCLA site constitutes treatment, storage, or disposal as defined by RCRA (USEPA 1988a).

The preamble to the NCP indicates that state regulations that are components of a federally authorized or delegated state program are generally considered federal requirements and potential federal ARARs for the purposes of ARARs analysis (55 Fed. Reg. 8666, 8742 [1990]). The State of California received approval for its base RCRA hazardous waste management program on 23 July 1992 (57 Fed. Reg. 32726 [1992]). The State of California "Environmental Health Standards for the Management of Hazardous Waste," set forth in Title 22 California Code of Regulations, Division 4.5 (Cal. Code Regs. tit. 22, div. 4.5), were approved by USEPA as a component of the federally authorized State of California RCRA program. On 26 September 2001, California received final authorization of its revised State Hazardous Waste Management Program from USEPA (63 Fed. Reg. 49118 [2001]).

The regulations of Cal. Code Regs. tit. 22, div. 4.5 are therefore a source of potential federal ARARs for CERCLA response actions. The exception is when a state regulation is "broader in scope" than the corresponding federal RCRA regulations. In that case, such regulations are not considered part of the federally authorized program or potential federal ARARs. Instead, they are purely state law requirements and potential state ARARs.

The USEPA notice of 23 July 1992, approving the State of California RCRA program (57 Fed. Reg. 32726 [1992]), specifically indicated that the state regulations addressed certain non-RCRA, state-regulated hazardous wastes that fell outside the scope of federal RCRA requirements. Cal. Code Regs. tit. 22, div. 4.5 requirements would be potential state ARARs for such non-RCRA, state-regulated wastes.

A key threshold question for the ARARs analysis is whether the contaminants at IR Site 24A could constitute federal hazardous waste as defined under RCRA and the state's authorized program or qualify as non-RCRA, state-regulated hazardous waste. A discussion of waste characterization is included in Section C1.4.

C-1.4 WASTE CHARACTERIZATION

Selection of ARARs involves the characterization of wastes as described below.

C-1.4.1 RCRA Hazardous Waste Determination

Federal RCRA hazardous waste determination is necessary to determine whether a waste is subject to RCRA requirements at Cal. Code Regs. tit. 22, div. 4.5 and other state requirements at Cal. Code Regs. tit. 23, div. 3, Chapter (ch.) 15. The first step in the RCRA hazardous waste characterization process is to evaluate contaminated media at the site(s) and determine whether the contaminant constitutes a "listed" RCRA waste. The preamble to the NCP states that ". . . it is often necessary to know the origin of the waste to determine whether it is a listed waste and that, if such documentation is lacking, the lead agency may assume it is not a listed waste" (55 Fed. Reg. 8666, 8758 [1990]).

This approach is confirmed in USEPA guidance for CERCLA compliance with other laws (USEPA 1988a) as follows:

> To determine whether a waste is a listed waste under RCRA, it is often necessary to know the source. However, at many Superfund sites, no information exists on the source of wastes. The lead agency should use available site information, manifests, storage records, and vouchers in an effort to ascertain the nature of these contaminants. When this documentation is not available, the lead agency may assume that the wastes are not listed RCRA hazardous wastes, unless further analysis or information becomes available that allows the lead agency to determine that the wastes are listed RCRA hazardous wastes.

RCRA hazardous wastes that have been assigned USEPA hazardous waste numbers (or codes) are listed in Cal. Code Regs. tit. 22, § 66261.30–66261.33. The lists include hazardous waste codes beginning with the letters "F," "K," "P," and "U."

Knowledge of the exact source of a waste is required for source-specific listed wastes (K waste codes). Some knowledge of the nature or source of the waste is required even for listed wastes from nonspecific sources, such as spent solvents (F waste codes) or commercial chemical products (P and U waste codes). These listed RCRA hazardous wastes are restricted to commercially pure chemicals used in particular processes such as degreasing.

P and U wastes cover only unused and unmixed commercial chemical products, particularly spilled or off-specification products (USEPA 1991a). Not every waste containing a P or U chemical is a hazardous waste. To determine whether a CERCLA investigation-derived waste contains a P or U waste, there must be direct evidence of product use. In particular, all the following criteria must be met. The chemicals must be:

- Discarded (as described in 40 C.F.R. § 261.2[a][2])
- Either off-specification commercial products or a commercially sold grade
- Not used (i.e., soil contaminated with spilled unused wastes is a P or U waste)
- The sole active ingredient in a formulation

The soil contaminants at IR Site 24A do not match any of the listed RCRA hazardous wastes.

The second step in the RCRA hazardous waste characterization process is to evaluate potential hazardous characteristics of the waste. The evaluation of characteristic waste is described in USEPA guidance as follows (USEPA 1988a):

> Under certain circumstances, although no historical information exists about the waste, it may be possible to identify the waste as RCRA characteristic waste. This is important in the event that (1) remedial alternatives under consideration at the site involve on-site treatment, storage, or disposal, in which case RCRA may be triggered as discussed in this section; or (2) a remedial alternative involves off-site shipment. Since the generator (in this case, the agency or responsible party conducting the Superfund action) is responsible for determining whether the wastes exhibit any of these characteristics (defined in 40 C.F.R. §261.21–261.24), testing may be required. The lead agency must use best professional judgment to determine, on a site-specific basis, if testing for hazardous characteristics is necessary.
>
> In determining whether to test for the toxicity characteristic using the extraction procedure (EP) toxicity test, it may be possible to assume that certain low concentrations of waste are not toxic. For example, if the total waste concentration in soil is 20 times or less the EP toxicity concentration, the waste cannot be characteristic hazardous waste. In such a case, RCRA requirements would not be applicable. In other instances, where it appears that the substances

may be characteristic hazardous waste (ignitable, corrosive, reactive, or EP toxic), testing should be performed.

Hazardous waste characteristics, as defined in 40 C.F.R. § 261.21–261.24, are commonly referred to as ignitability, corrosivity, reactivity, and toxicity. California environmental health standards for the management of hazardous waste set forth in Cal. Code Regs. tit. 22, div. 4.5 were approved by USEPA as a component of the federally authorized California RCRA program. Therefore, the characterization of RCRA waste is based on the state requirements.

The characteristics of ignitability, corrosivity, reactivity, and toxicity are defined in Cal. Code Regs. tit. 22, § 66261.21–66261.24. According to Cal. Code Regs. tit. 22, § 66261.24(a)(1)(A), "A waste that exhibits the characteristic of toxicity pursuant to subsection (a)(1) of this section has the EPA Hazardous Waste Number specified in Table I of this section which corresponds to the toxic contaminant causing it to be hazardous." Table I assigns hazardous waste codes beginning with the letter "D" to wastes that exhibit the characteristic of toxicity; D waste codes are limited to "characteristic" hazardous wastes.

According to Cal. Code Regs. tit. 22, § 66261.10, waste characteristics can be measured by an available standardized test method or be reasonably classified by generators of waste based on their knowledge of the waste, provided that the waste has already been reliably tested or there is documentation of chemicals used. Based on knowledge of the site and previous investigation sampling and analysis, the soil at IR Site 24A is not expected to be potentially ignitable or corrosive as defined by Cal. Code Regs. tit. 22, § 66261.21–66261.23. The soil may contain MEC and excavated soil may meet the definition of hazardous waste based on the characteristic of reactivity. Further discussion of potential for reactivity is included in Section C2.2.

The requirements at Cal. Code Regs. tit. 22, § 66261.24 list the toxic contaminant concentrations that determine the characteristic of toxicity. The concentration limits are in milligrams per liter (mg/L). These units are directly comparable to total concentrations in waste groundwater and surface water. For waste soils, these concentrations apply to the extract or leachate produced by the toxicity characteristic leaching procedure (TCLP).

A waste is considered hazardous if the contaminants in the wastewater or in the soil TCLP extract equal or exceed the TCLP limits. TCLP testing is required only if total contaminant

concentrations in soil equal or exceed 20 times the TCLP limits because TCLP uses a 20-to-1 dilution for the extract (USEPA 1988a).

The maximum concentrations of contaminants in soil samples at the site were compared to the TCLP limits at Cal. Code Regs. tit. 22, § 66261.24(a)(1). Maximum detected concentrations of arsenic, and lead exceeded 20 times the listed TCLP concentrations. Therefore, the contaminated soil may be a RCRA hazardous waste, based on the toxicity characteristic.

C.2.0 CHEMICAL-SPECIFIC ARARS

Chemical-specific ARARs are generally health- or risk-based numerical values or methodologies applied to site-specific conditions that result in the establishment of a cleanup level. Many potential ARARs associated with particular response alternatives (such as closure or discharge) can be characterized as action-specific but include numerical values or methodologies to establish them; therefore, they fit into both chemical- and action-specific categories. To simplify the comparison of numerical values, most action-specific requirements that include numerical values are included in this chemical-specific section and, if repeated in the action-specific section, the discussion refers back to this section.

This section presents the ARARs determination conclusions that address numerical values for soil and air and a summary of the potential ARARs followed by a more detailed discussion of the ARARs.

Potential federal chemical-specific ARARs are summarized in Table C2-1.

C-2.1 SUMMARY OF ARARS CONCLUSIONS BY MEDIUM

Soil is the environmental medium of concern for this removal action. Air may also be potentially affected by the removal action. The conclusions for ARARs pertaining to these media are presented in the following sections. There is no threat to groundwater or surface water and no ARARs are identified for these media. Since the soil has potential MEC, an additional discussion has been added for unexploded ordnance (UXO) and munitions ARARs.

C-2.1.1 Soil ARARs Conclusions

The soil chemicals of concern are metals and PAHs from past operations at the former pistol range. There is also potential for MEC. The following potential federal ARARs have been identified for the IR Site 24A soil removal action:

- Definitions of RCRA hazardous waste at Cal. Code Regs. tit. 22, § 66261.21, 66261.22(a)(1), 66261.23, 66261.24(a)(1), and 66261.100
- Groundwater protection standards at Cal. Code Regs. tit. 22, § 66264.94(a)(1) and (3), (c), (d), and (e)

C-2.1.2 Air ARARs Conclusions

Although air is not a medium of concern for this removal action, there is the potential for the removal action to emit dust during the removal action. Therefore, air requirements were evaluated for ARARs status. The Bay Area Air Quality Management District (BAAQMD) rules that have been approved into the site implementation plan (SIP) are considered potential federal ARARs. The following potential federal ARARs for air have been identified for the IR Site 24A soil removal action: visible emissions prohibition at BAAQMD Regulation 6-301.

C-2.2 DETAILED DISCUSSION OF ARARS BY MEDIUM

The following subsections provide a detailed discussion of federal and state ARARs by medium.

C-2.2.1 Soil ARARs

The key threshold question for soil ARARs is whether the wastes located at IR Site 24A would be classified as hazardous waste. Based on the characterization in Section C1.4.1, the soil at IR Site 24A may be classified as federal hazardous waste as defined by RCRA.

C-2.2.1.1 Federal

Federal requirements evaluated as potential ARARs for soil are discussed in the subsections below.

C-2.2.1.2 RCRA Hazardous Waste and Groundwater Protection Standards

The federal RCRA requirements at 40 C.F.R. pt. 261 do not apply in California because the state RCRA program is authorized. The authorized state RCRA requirements are therefore considered potential federal ARARs (Section C1.3.1). The applicability of RCRA requirements depends on whether the waste is a RCRA hazardous waste; whether the waste was initially treated, stored, or disposed after the effective date of the particular RCRA requirement; and whether the activity at the site constitutes treatment, storage, or disposal as defined by RCRA. However, RCRA requirements may be relevant and appropriate even if they are not applicable. Examples include activities that are similar to the definition of RCRA treatment, storage, or disposal for waste that is similar to RCRA hazardous waste.

Determination of whether a waste is a RCRA hazardous waste can be made by comparing site waste to the definition of RCRA hazardous waste. RCRA requirements at Cal. Code Regs. tit. 22, § 66261.21, 66261.22(a)(1), 66261.23, 66261.24(a)(1), and 66261.100 are potential ARARs because they define RCRA hazardous waste. A waste can meet the definition of hazardous waste if it has the toxicity characteristic of hazardous waste. This determination is made by using the TCLP. The maximum concentrations allowable for the TCLP listed in § 66261.24(a)(1)(B) are potential federal ARARs for determining whether hazardous waste is present at the site. If the site waste has concentrations exceeding these values, it is determined to be a characteristic RCRA hazardous waste (Section C1.4.1).

The requirements at Cal. Code Regs. tit. 22, § 66264.94(a)(1), (a)(3), (c), (d), and (e) are potential federal ARARs for contamination in the vadose zone (i.e., the unsaturated zone). These sections set concentration limits for the unsaturated zone as well as for groundwater and surface water. These requirements are considered to be potential federal ARARs because they are part of the approved state RCRA program.

C-2.2.1.3 State

No State requirements had been identified at the time of this ARARs evaluation.

C-2.2.2 Air ARARs

Air is not a medium of concern for the IR Site 24A removal action. However, air may be affected by the proposed removal action alternatives that include excavation and other handling of soil that could result is dust emissions. ARARs for air are also discussed under action-specific requirements. This section includes the chemical-specific air ARARs.

C-2.2.2.1 Federal

The Clean Air Act (CAA) air emission requirements are discussed below.

C-2.2.2.2 Clean Air Act

The CAA establishes the National Ambient Air Quality Standards (NAAQS) in 40 C.F.R. § 50.4–50.12. NAAQS are not enforceable in and of themselves; they are translated into source-specific emissions limitations by the state (USEPA 1990). Substantive requirements of the

BAAQMD rules that have been approved by USEPA as part of the SIP under the CAA are potential federal ARARs for air emissions (CAA Section 110). The SIP includes rules for emissions restrictions for particulates, organic compounds, and hazardous air pollutants, as well as standards of performance for new sources.

C-2.2.2.3 State

No State requirements had been identified at the time of this ARARs evaluation.

C-2.2.3 Unexploded Ordnance (UXO) and Munitions ARARs

Addressing the unique problems associated with UXO on military installations requires a specialized approach under the CERCLA response and RCRA corrective action programs. The most significant reason for this specialized approach is the absolute need to minimize explosives safety risks in planning, conducting, and implementing response actions. Acute hazards associated with military munitions (especially UXO) are the primary factors relevant to determining the scope, sequence, and types of actions appropriately considered for response to the UXO and munitions impacted sites. These concerns are unique to military installations in that most actions on CERCLA response or RCRA corrective action sites do not need to consider an explosion hazard posed by the presence of munitions or explosives. Removal actions to address potentially live ordnance items require a different approach to balance the risks and impacts of addressing the military munitions and/or UXO with the risks of inaction. Minimizing explosives safety risks while achieving the proper balance between these competing concerns is the goal of this removal action. Therefore, prior to commencement of the removal action activities, an explosives safety remediation plan will be prepared in accordance with the Department of Defense (DoD) guidance titled DoD Ammunition and Explosives Safety Standards, dated 05 October 2004 (DoD 2004).

At IR Site 24A, the alternative to sift ordnance items from fill soils would produce solid wastes, including potential ordnance or explosive waste (OEW), OEW scrap, and buried debris. Therefore, certain substantive requirements of RCRA are ARARs for handling the waste material from IR Site 24A.

C-2.2.3.1 Federal

Military Munitions Rule. Ammunition products produced or owned by the DoD are regulated under the Military Munitions Rule (62 Fed. Reg. 6621, 12 February 1997). The Military Munitions Rule (DoD 1998) identifies when conventional and chemical military munitions become a hazardous waste under RCRA. It also provides for safe storage and transport of such waste. Munitions are defined under 40 C.F.R. § 260.10, and the definition includes items such as explosive rounds and small arms rounds. A military munition is classified as hazardous waste if it is either a listed waste or exhibits a hazardous characteristic. The DoD has tested small arms ammunition (less than .50 caliber) and these items were found to not exhibit a reactive characteristic with respect to 40 C.F.R. §261.23(a)(6). See Office of Solid Waste and Emergency Response (OSWER) Directives 9442.1994 (06) (03 November 1994), 9443.1998 (07) (06 June 1988), and 9443.1984 (10) (30 November 1984). Munitions rounds of .50 caliber or greater may be reactive and the individual items may constitute a hazardous waste due to reactivity. Hazardous waste classification analysis of military munitions must also consider other hazardous waste characteristics such as toxicity and ignitability.

The requirements for military munitions have been consolidated into 40 C.F.R. pt. 266, subpt. M with appropriate references to other requirements (such as treatment and disposal).

RCRA Hazardous Waste Determination. In order to be a hazardous waste, the military munition waste needs to meet the definition of a solid waste under 40 C.F.R. §266.202. Therefore, the substantive provisions of 40 C.F.R. § 266.202 are potential ARARs for characterizing UXO and munitions.

Comparing the site waste to the definition of RCRA hazardous waste can make the determination of whether a solid waste is a RCRA hazardous waste. The RCRA requirements at Cal. Code Regs. tit. 22, § 66261.21, 66261.22(a)(I), 66261.23, 66261.24(a)(I), and 66261.100 are applicable ARARs because they define RCRA hazardous waste. Available information regarding the waste disposed at IR Site 24A, including OEW, solid wastes, scrap metal, and buried debris, indicates that this waste material is not considered a RCRA listed waste. However, UXO and other OEW materials may be considered a RCRA characteristic or D003

(reactive) hazardous waste. Under Cal. Code Regs. tit. 22, § 66261.23(a), recovered OEW is considered RCRA hazardous waste.

C-2.2.3.2 Reactivity Characteristic

The definition of reactivity in SW-846 is found in Cal. Code Regs. tit. 22, § 66261.23 and includes the following criteria: "(1) readily undergo violent chemical change; (2) react violently or form potentially explosive mixtures with water; (3) generate toxic fumes when mixed with water or, in the case of cyanide- or sulfide-bearing wastes, when exposed to mild acidic or basic conditions; (4) explode when subjected to a strong initiating force or heated under confinement; (5) explode at normal temperatures and pressures; or (6) fit within the Department of Transportation's forbidden explosives, Class A explosives, or Class B explosives classifications."

This definition of reactivity is intended to identify wastes that, because of their extreme instability and tendency to react violently or explode, pose a problem at all stages of the waste management process. The definition is to a large extent a paraphrase of the narrative definition employed by the National Fire Protection Association. The agency chose to rely almost entirely on a descriptive, prose definition of reactivity because most of the available tests for measuring the variegated class of effects embraced by the reactivity definition suffer from a number of deficiencies. Hundreds of different procedures/methods have been used to determine the reactivity of different munition items and the setup depends highly on the particular item for which the test is used. In the previously cited OSWER Directives (acknowledging that cartridges less that .50 caliber are not reactive), the USEPA cites the results of three different types of reactivity tests. First is heating under confinement, raising the item to 160 degrees Fahrenheit (71 degrees Celsius) for 48 hours. The second test is dropping the item from 5, 7, and 40 feet. The third test is the Sporting Arms and Ammunition Manufacturer's Institute impact test in which a steel ball is dropped on a pin positioned over the primer.

The reactivity criterion that is most applicable to the munitions in soil or sediment is "capability to explode when subjected to a strong initiating force." Larger caliber munitions may in fact explode if subjected to a large initiating force, such as the bucket of an excavator. This is not to say that all munitions larger than small arms ammunition are reactive. Many munitions

(including munitions greater than .50 caliber) that are manufactured and used by the DoD contain only small amounts of propellants and would not react even if subjected to a strong force. The explosive characteristic is inherent with high-explosive rounds (i.e., rounds that contain TNT or rounds with large amounts of propellants).

Waste generated during the removal action will be evaluated for the reactivity characteristic. However, any reactive wastes are to be detonated and then disposed of and are not expected to be reactive at the time of disposal.

C-2.2.3.3 State

No State requirements had been identified at the time of this ARARs evaluation.

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C.3.0 LOCATION-SPECIFIC ARARS

Potential location-specific ARARs are identified and discussed in this section. The discussions are presented based on various attributes of the site location, such as whether it is within a floodplain. Additional surveys will be performed in connection with the response action design and implementation to confirm location-specific ARARs where inadequate siting information currently exists, or in the event of changes to planned facility locations.

C-3.1 SUMMARY OF LOCATION-SPECIFIC ARARS

Biological resources is the only category of location-specific ARARs potentially affected by the IR Site 24A removal action. The conclusions for ARARs pertaining to these resources are presented in the following sections.

C-3.1.1 Cultural Resources ARARs Conclusions

No cultural resources were identified at IR Site 24A that could be potentially affected by the proposed removal action alternatives.

C-3.1.2 Wetlands Protection and Floodplain Management Conclusions

No wetlands or floodplain resources were identified at IR Site 24A that could be potentially affected by the proposed removal action alternatives.

C-3.1.3 Hydrologic Resources Conclusions

No hydrologic resources were identified at IR Site 24A that could be potentially affected by the proposed removal action alternatives.

C-3.1.4 Biological Resources Conclusions

There are potential listed federally threatened amphibians, the California red-legged frog and California tiger salamander potentially present on IR Site 24A. Therefore, substantive provisions of the Endangered Species Act at 16 U.S.C. §§ 1531–1543 are potentially relevant and appropriate ARARs for this removal action.

There are several bird species, Swainson's hawk, golden eagle, loggerhead shrike, and horned lark that are listed migratory birds that may be present on the site. Therefore, the substantive provisions of the Migratory Bird Treaty Act at 16 U.S.C. § 703 are potentially relevant and appropriate ARARs for this removal action.

C-3.1.5 Coastal Resources Conclusions

No coastal resources were identified at IR Site 24A that could be potentially affected by the proposed removal action alternatives.

C-3.1.6 Geologic Characteristics Conclusions

No geologic resources were identified at IR Site 24A that could be potentially affected by the proposed removal action alternatives.

C-3.2 DETAILED DISCUSSION OF ARARS

The following subsections provide a detailed discussion of federal ARARs by location-specific resources. Pertinent and substantive provisions of the potential ARARs listed and described below were reviewed to determine whether they are potential federal or state ARARs for the soil removal action at IR Site 24A.

Requirements that are determined to be ARARs or TBCs are identified in Table C3-1 (federal). ARARs determinations are presented in the column with the heading "ARAR Determination." Determinations of status for location-specific ARARs were generally based on maps or lists included in the regulation or prepared by the administering agency. References to the document or agency consulted are provided in the "Comments" column and may be provided in footnotes to the table. Specific issues concerning some of the requirements are discussed in the following sections.

C-3.3 BIOLOGICAL RESOURCES ARARS

There are potential threatened and migratory species at IR Site 24A. The following requirements were evaluated for potential ARAR status:

- Endangered Species Act of 1973 (substantive provisions of 16 U.S.C. §§ 1531–1543)

- Migratory Bird Treaty Act of 1972 (substantive provisions of 16 U.S.C. §§ 703–712)

C-3.3.1.1 Federal

Federal requirements evaluated as potential ARARs for biological resources are discussed in the subsections below.

C-3.3.1.2 Endangered Species Act of 1973

The Endangered Species Act (ESA) of 1973 (16 U.S.C. §§ 1531–1543) provides a means for conserving various species of fish, wildlife, and plants that are threatened with extinction. The ESA defines an endangered species and provides for the designation of critical habitats. Federal agencies may not jeopardize the continued existence of any listed species or cause the destruction or adverse modification of critical habitat. The substantive requirements at 16 U.S.C. §§ 1531–1543 are potentially relevant and appropriate for endangered and threatened species.

Consultation regulations at 50 C.F.R. pt. 402 are administrative in nature and are therefore not ARARs.

Table C3-1 lists federal requirements for the protection of threatened and endangered species that are potential location-specific ARARs for IR Site 24A. The federally threatened species: California red-legged frog and California tiger salamander may potentially be present at IR Site 24A. Therefore, the substantive provisions of the Endangered Species Act at 16 U.S.C. §§ 1531–1543 are potentially relevant and appropriate for the capping and excavation removal action alternatives.

C-3.3.1.3 Migratory Bird Treaty Act of 1972

The Migratory Bird Treaty Act (MBTA) (16 U.S.C. §§ 703–712) protects migratory bird species. The substantive provisions at 16 U.S.C. § 703 prohibit at any time, using any means or manner, the pursuit, hunting, capturing, and killing or the attempt to take, capture, or kill any migratory bird. The MBTA also prohibits the possession, sale, export, and import of any migratory bird or any part of a migratory bird, as well as nests and eggs. A list of migratory birds for which this requirement applies is found at 50 C.F.R. § 10.13. It is the Navy's position that this act is not legally applicable to Navy actions; however, the DoD recently signed (July 2006) a

Memorandum of Understanding with the United States Fish and Wildlife Service. The MBTA will continue to be evaluated as a potentially relevant and appropriate requirement for Navy CERCLA response actions.

The golden eagle, Swainson's hawk, loggerhead shrike, and horned lark are potentially present at IR Site 24A. Because the removal action may potentially affect migratory birds as prohibited by the MBTA, substantive provisions at 16 U.S.C. § 703 are potentially relevant and appropriate for the capping and excavation alternatives.

C-3.3.1.4 State

No State ARARs had been identified at the time of this ARARs evaluation.

C.4.0 ACTION-SPECIFIC ARARS

This EE/CA Report evaluates removal action alternatives for IR Site 24A. This ARARs analysis is based on five alternatives:

- Alternative 1: No Action
- Alternative 2: Land Use Controls
- Alternative 3: Placement of Soil Cap, MEC Screening, and LUCs
- Alternative 4: Soil Excavation with Off-Site Disposal and MEC Screening
- Alternative 5: Soil Excavation with Stabilization, Off-Site Disposal, MEC Screening, and Recycling of Metal

Table C4-1 presents and evaluates federal potential action-specific ARARs for IR Site 24A. A discussion of the requirements determined to be pertinent to each alternative being evaluated for the IR Site 24A removal action is presented in this section. A discussion of how the alternative complies with each identified ARAR is also provided.

C-4.1 ALTERNATIVE 1 – NO ACTION

There is no need to identify ARARs for the no action alternative because ARARs apply to "any removal or remedial action conducted entirely on-site" and "no action" is not a removal or remedial action (CERCLA Section 121[e], 42 U.S.C. § 9621[e]). CERCLA Section 121 (42 U.S.C. § 9621) cleanup standards for selection of a Superfund remedy, including the requirement to meet ARARs, are not triggered by the no action alternative (USEPA 1991b). Therefore, a discussion of compliance with action-specific ARARs is not appropriate for this alternative.

C-4.2 ALTERNATIVE 2 – LAND USE CONTROLS

It is planned for IR Site 24A to be transferred to the City of Concord. No federal ARARs were identified for land use controls. However, the land use controls are described in Section 5.2 of the EE/CA.

C-4.3 ALTERNATIVE 3 – PLACEMENT OF SOIL CAP, MEC SCREENING, AREA, AND LUCS

Alternative 3 includes excavation and MEC screening of soil from the grenade impact area. Waste generated from the MEC screening will be placed in containers and characterized for off-site disposal. The excavated and screened soil will be characterized for use as cover material. The site area impacted with lead and PAHs will be covered with the excavated soil once results demonstrate that it meets clean fill requirements. Land use controls will be implemented to prevent exposure to the covered material.

This section identifies potential federal ARARs for Alternative 3. No State requirements had been identified at the time of this ARARs evaluation.

C-4.3.1 MEC Screening

MEC materials at IR Site 24A will be managed as a RCRA hazardous waste. Action-specific ARARs and TBC requirements focus primarily on the management of MEC as a reactive hazardous waste until the waste is detonated. DoD and Navy publications that address the handling, storage, transportation, clearance, and disposal requirements for OEW can be used as guidance for the removal action. The following documents are not ARARs but the Navy will use them for guidance when removing MEC at IR Site 24A:

- U.S. Navy Manual, Naval Sea Systems Command OP-5. Ammunition and Explosives Ashore, Safety Regulations for Handling, Storing, Production, Renovation, and Shipping
- DoD Instruction 4145.26M. DoD Contractor's Safety Manual for Ammunition and Explosives
- DoD Manual 6055.09-M. DoD Ammunition and Explosives Safety Standards February 29, 2008 Administratively Reissued August 4, 2010
- DoD 6055.9-STD. DoD Ammunition and Explosives Safety Standards (DoD 2008)

Detonation of MEC items by base explosive ordnance disposal personnel or UXO-trained specialists is planned as part of this removal action if UXO is discovered during screening. Once the waste is no longer reactive (detonated), the same ARARs for handling and storing hazardous waste identified above for COCs are potential ARARs for the MEC screened waste.

C-4.3.2 Waste Storage and Characterization

The substantive RCRA on-site waste generation and characterization requirements at Cal. Code Regs. tit. 22, §§ 66262.10(a), 66262.11, and 66264.13(a) and (b) were identified as potentially applicable ARARs for characterizing waste prior to off-site disposal. The substantive provisions of the following RCRA storage and handling requirements are potentially applicable federal ARARs for this alternative since the waste planned to be generated may be hazardous:

- Cal. Code Regs. tit. 22, § 66262.34 for accumulating waste
- Cal. Code Regs. tit. 22, § 66264.171, .172, .173, .174, .175(a) and (b), .177, and .178 for container storage
- Cal. Code Regs. tit. 22, § 66264.553 (b), (d), (e), and (f) for temporary unit alternatives for containers
- 40 C.F.R. § 264.554(d)(1)(i–ii), (d)(2), (e), (f), (h), (i), (j), and (k) for Staging Piles

Excavated soil may be placed in a pile awaiting characterization and off-site transportation. The substantive provisions of 40 C.F.R. § 264.554(d)(1)(i–ii), (d)(2), (e), (f), (h), (i), (j), and (k) are potentially applicable ARARs for design, operating, and closure criteria for staging piles because the waste may be RCRA hazardous waste.

C-4.3.3 RCRA Landfill Cover Requirements

IR Site 24A is not a RCRA landfill and the requirements for a RCRA landfill cover are not applicable. However, the RCRA landfill cover requirements were further evaluated as potential relevant and appropriate requirements.

Cal. Code Regs. tit. 22, § 66264.310(a)(1) requires a cover designed to prevent the downward entry of water into the landfill for 100 years, and § 66264.310(a)(6) requires that the cover have a permeability less than or equal to the permeability of any bottom liner system or natural subsoils present. These requirements were further evaluated to determine whether they are potentially relevant and appropriate for the conditions at IR Site 24A. Overall, the data evaluated during the Munitions Response Program Site Inspection (SI) at IR Site 24A (BAI 2010) do not suggest that high-concentration localized contaminant source areas are present at

the site. In addition, the data generated historically and through conducting of the (SI) do not suggest that groundwater beneath the site is impacted by potential contaminants leaching from the site.

One purpose of the requirements at Cal. Code Regs. tit. 22, § 66264.310(a)(1) and (a)(6) is protection of groundwater from landfilled waste. Therefore, the purpose of the landfill closure requirements to prevent downward entry of water and the purpose of the CERCLA action proposed in this EE/CA Report are not the same. The medium regulated or affected by the requirement should match the medium contaminated or affected at the CERCLA site. Any consideration of use or potential use of affected resources in the requirements at Cal. Code Regs. tit. 22, § 66264.310(a)(1) and (a)(6) should match the use or potential use of the affected resources at the CERCLA site. The purpose of preventing downward entry of water into a landfill is to protect groundwater. Preventing a threat to groundwater is not one of the goals of this removal action. The medium regulated and the medium affected by the CERCLA action do not match.

Since the requirements at Cal. Code Regs. tit. 22, § 66264.310(a)(1) and (a)(6) do not meet the criteria discussed above, they are not potentially relevant and appropriate for IR Site 2. However, the soil cover that is considered in this EE/CA would be designed to keep water from accumulating on the surface and is expected to reduce the downward entry of water.

Landfill cover seismic requirements are found at Cal. Code Regs. tit. 22, § 66264.310(a)(5) and require a cover to be designed to withstand a maximum credible earthquake. These design requirements are potentially relevant and appropriate for the IR Site 24A removal action.

RCRA landfill and surface impoundment requirements for capping (Cal. Code Regs. tit. 22, § 66264.228 [e]–[r]) and 66264.310(a) and for site closure where waste may be left in place (Cal. Code Regs. tit. 22, § 66264.111 and 66264.310[b]) were evaluated to determine whether they are potential ARARs for the IR Site 24A cover. These requirements would not be applicable because IR Site 24A was not a RCRA-permitted hazardous waste treatment, storage, and disposal (TSD) facility. One of the criteria for evaluating whether requirements are potentially relevant and appropriate includes any variances, waivers, or exemptions of the requirement and their availability for the circumstances at the CERCLA site. The capping of RCRA-regulated

landfills must conform to the prescribed cap requirements of Cal. Code Regs. tit. 22, § 66264.228(e)–(r) according to Cal. Code Regs. tit. 22, § 66264.310(a) unless criteria for a variance is met. Under Cal. Code Regs. tit. 22, § 66264.310(a)(7), a variance is allowed from any of the prescriptive cap requirements as long as it is demonstrated that the prescriptive cap is not necessary to protect public health, water quality, or other environmental quality. Because the performance goal of the cover at IR Site 24A is to eliminate exposure pathways for potential site receptors with potential hazardous wastes left in place, the cover (proposed as an engineered alternative cap) would meet conditions for a variance. Preventing infiltration and protecting water quality are not objectives of the cover. Cal. Code Regs. tit. 22, § 66264.228(e), (f), and (g) delineate the basic construction specifications for the layers of the cover. Several of the physical specifications for a prescriptive RCRA cap (Cal. Code Regs. tit. 22, § 66264.228[e]–[r]) would not be necessary to achieve the performance requirement for the IR Site 24A cover. How specific subsection requirements of Cal. Code Regs. tit. 22, § 66264.228 (e)–(r) would be addressed as relevant and appropriate would be determined in the remedial design phase. Only the substantive provisions of subsections of Cal. Code Regs. tit. 22, § 66264.228(e)–(r) that are determined to be necessary for protection of human health and the environment are potentially relevant and appropriate.

C-4.3.4 Soil Disturbance

This removal action alternative is expected to involve disturbance of more than 2 acres of soil. Therefore, the substantive provisions of the general requirements for stormwater plans and BMPs set forth in 40 C.F.R. § 122.44(k)(2) and (4) are potential federal ARARs.

C-4.4 ALTERNATIVE 4 - SOIL EXCAVATION WITHIN THE FORMER PISTOL RANGE WITH OFF-SITE DISPOSAL AND MEC SCREENING

Alternative 4 includes the same soil excavation and MEC screening as Alternative 3. In addition, the PAH and lead contaminated soil will be excavation and characterized for off-site disposal. ARARs address on-site actions only. All applicable regulations will be complied with for off-site disposal.

C-4.4.1 MEC Screening

The ARARs for this alternative are the same as for Alternative 3 in Section C4.3.1.

C-4.4.2 Waste Storage and Characterization

The ARARs for this alternative are the same as for Alternative 3 in Section C4.3.2.

C-4.4.3 Soil Disturbance

The ARARs for this alternative are the same as for Alternative 3 in Section C4.3.4.

C-4.5 SOIL EXCAVATION WITHIN THE FORMER PISTOL RANGE WITH STABILIZATION AND OFF-SITE DISPOSAL, MEC SCREENING, AND RECYCLING OF METAL

Alternative 5 is the same as Alternative 4 except that some of the waste will be stabilized prior to off-site disposal or recycled off-site. Therefore, the on-site ARARs for this alternative are the same as Alternative 4.

C.5.0 REFERENCES

BAI. (Barajas and Associates, Inc). 2010. Final Site Inspection Report for Munitions and Explosives of Concern at Site 24A – Former Pistol Range (UXO 0001A). August

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TABLES

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Table C2-1 Federal Chemical-Specific[a] ARARs, IR Site 24A, Former Naval Weapons Station Seal Beach Detachment Concord

Requirement	Prerequisite	Citation [b]	ARAR Determination	Comments
SOIL				
Federal - Resource Conservation and Recovery Act (42 U.S.C. Chapter 82, §§ 6901–6991[i]) [c]				
Defines RCRA hazardous waste. A solid waste is characterized as toxic, based on the TCLP, if the waste exceeds the TCLP maximum concentrations.	Waste.	Cal. Code Regs. tit. 22, § 66261.21, 66261.22(a)(1), 66261.23, 66261.24(a)(1), and 66261.100	Applicable	Substantive provisions may be applicable for determining whether waste soil, if generated, is hazardous.
Groundwater Protection Standards: requirements to ensure that hazardous constituents entering the groundwater from a regulated unit do not exceed the concentration limits for contaminants of concern in the uppermost aquifer underlying the waste management area of concern at the POC.	A regulated unit that receives or has received hazardous waste before 26 July 1982 or regulated units that ceased receiving hazardous waste prior to 26 July 1982 where constituents in or derived from the waste may pose a threat to human health or the environment.	Cal. Code Regs. tit. 22, § 66264.94(a)(1) and (3), (c), (d), and (e)	Relevant and appropriate	Substantive provisions are potentially relevant and appropriate for setting soil cleanup levels.
AIR				
Federal - Clean Air Act (42 U.S.C, Chapter 85, §§ 7401–7671) [c]				
Provisions of SIP approved by USEPA under Section 110 of CAA.	Major sources of air pollutants.	42 U.S.C. § 7401; portions of 40 C.F.R. § 52.220 applicable to San Diego APCD	Applicable	*See pertinent specific provisions of the SIP below.*
A person shall not emit from any source for a period or periods aggregating more than 3 minutes in any hour a visible emission which is as dark as or darker than No. 1 on the Ringelmann Chart or of such opacity as to obscure an observer's view to an equivalent or greater degree.	Discharge of any air contaminant other than uncombined water vapor.	BAAQMD Regulation 6-301	Applicable	Substantive provisions are potentially applicable to emissions that may be caused by a soil removal action alternative.

Notes:

[a] Many potential action-specific ARARs contain chemical-specific limitations and are addressed in the action-specific ARAR tables.
[b] Only the substantive provisions of the requirements cited in this table are potential ARARs.
[c] Statutes and policies, and their citations, are provided as headings to identify general categories of potential ARARs for the convenience of the reader; listing the statutes and policies does not indicate that the DON accepts the entire statutes or policies as potential ARARs; specific potential ARARs are addressed in the table below each general heading; only pertinent substantive requirements of the specific citations are considered potential ARARs.

Acronyms/Abbreviations:

APCD – Air Pollution Control District
ARAR – applicable or relevant and appropriate requirement
BAAQMD – Bay Area Air Quality Management District
CAA – Clean Air Act
Cal. Code Regs. – *California Code of Regulations*
CERCLA – Comprehensive Environmental Response, Compensation, and Liability Act
C.F.R. – *Code of Federal Regulations*
DON – Department of the Navy
Fed. Reg. – *Federal Register*
IR – Installation Restoration (Program)
POC – point of compliance
RCRA – Resource Conservation and Recovery Act
§ – section
SIP – State Implementation Plan
tit. – Title
TCLP – toxicity characteristic leaching procedure
U.S.C. – *United States Code*
USEPA – United States Environmental Protection Agency

Table C3-1 Potential Federal Location-Specific ARARs
IR Site 24A, Former Naval Weapons Station Seal Beach Detachment Concord

Location	Requirement	Prerequisite	Citation[a]	ARAR Determination	Comments
National Historic Preservation Act of 1966, as Amended (16 U.S.C. § 470–470x-6)[b]					
Historic project owned or controlled by federal agency	Action to preserve historic properties; planning of action to minimize harm to properties listed on or eligible for listing on the National Register of Historic Places.	Property included in or eligible for the National Register of Historic Places.	16 U.S.C. § 470–470x-6 36 C.F.R. pt. 800 40 C.F.R. § 6.301(b)	Not an ARAR	No buildings at the site qualify as eligible for national Register of Historic Places (EFA West 2002).
Archaeological and Historic Preservation Act (16 U.S.C. § 469–469c-1)[b]					
Within area where action may cause irreparable harm, loss, or destruction of significant artifacts	Construction on previously undisturbed land would require an archaeological survey of the area. Data recovery and preservation would be required if significant archaeological or historical data were found on-site. The responsible official or Secretary of the Interior is authorized to undertake data recovery and preservation.	Regulated alteration of terrain caused as a result of a federal construction project or federally licensed activity or program where action may cause irreparable harm, loss, or destruction of significant artifacts.	16 U.S.C. § 469–469c-1 40 C.F.R. § 6.301(c)	Not an ARAR	No known archaeological resources at IR Site 24A that could be affected by the proposed removal actions. Only very shallow excavation is proposed.

Table C3-1 (continued)

Location	Requirement	Prerequisite	Citation[a]	ARAR Determination	Comments
Historic Sites, Buildings, and Antiquities Act of 1935 (16 U.S.C. §§ 461–467)[b]					
Historic sites	Avoid undesirable impacts on landmarks.	Areas designated as historic sites.	16 U.S.C. §§ 461–467	Not an ARAR	No landmarks are located at the site.
Archaeological Resources Protection Act of 1979, as Amended (16 U.S.C. § 470aa–470mm)[b]					
Archaeological resources on federal land	Prohibits unauthorized excavation, removal, damage, alteration, or defacement of archaeological resources located on public lands unless such action is conducted pursuant to a permit.	Archaeological resources on federal land.	Pub. L. No. 96-95 16 U.S.C. § 470aa–470mm	Not an ARAR	No known archaeological resources at IR Site 24A that could be affected by the proposed removal actions. Only very shallow excavation is proposed.

Table C3-1 (continued)

Location	Requirement	Prerequisite	Citation[a]	ARAR Determination	Comments
Exec. Order No. 11990, Protection of Wetlands[b]					
Wetland	Avoid, to the extent possible, the adverse impacts associated with the destruction or loss of wetlands and avoid support of new construction in wetlands if practicable alternatives exist.	Wetland meeting definition of Section 7(c) of the Exec. Order No. 11990.	40 C.F.R. § 6.302(a) and 40 C.F.R. pt. 6, app. A, § 6(a)(1), (3), and (5) (at the end of § 6.1007)	Not an ARAR	There are no wetlands at the site or potentially affected by proposed removal action alternatives.
Exec. Order No. 11988, Floodplain Management[b]					
Within floodplain	Evaluate potential effects of actions in a floodplain to avoid, to the extent possible, adverse effects associated with direct and indirect development of a floodplain.	Action that will occur in a floodplain (i.e., lowlands) and relatively flat areas adjoining inland and coastal waters and other flood-prone areas.	40 C.F.R. § 6.302(b) and 40 C.F.R. pt. 6, app. A, § 6(a)(1), (3), and (5) (at the end of § 6.1007)	Not an ARAR	IR Site 24A is not within the 100-year floodplain.
Clean Water Act of 1977, as Amended, Section 404 (33 U.S.C. § 1344)[b]					
Wetland	Action to prohibit discharge of dredged or fill material into wetland without permit.	Wetland as defined by Exec. Order No. 11990 Section 7.	33 U.S.C. § 1344	Not an ARAR	There are no wetlands at the site or potentially affected by proposed removal action alternatives.

Table C3-1 (continued)

Location	Requirement	Prerequisite	Citation[a]	ARAR Determination	Comments
Resource Conservation and Recovery Act (42 U.S.C. §§ 6901–6991[i])[b]					
Within 100-year floodplain	Facility must be designed, constructed, operated, and maintained to avoid washout.	RCRA hazardous waste; treatment, storage, or disposal of hazardous waste.	Cal. Code Regs. tit. 22, § 66264.18(b)	Not an ARAR	IR Site 24A is not within the 100-year floodplain.
Wild and Scenic Rivers Act (16 U.S.C. §§ 1271–1287)[b]					
Within area affecting national wild, scenic, or recreational river	Avoid taking or assisting in action that will have direct adverse effect on scenic river.	Activities that affect or may affect any of the rivers specified in 16 U.S.C. §1276(a).	16 U.S.C. §§ 1271–1287	Not an ARAR	There are no known wild and scenic rivers near the site.
Fish and Wildlife Coordination Act (16 U.S.C. §§ 661–666c)[b]					
Area affecting stream or other water body	Action taken should protect fish or wildlife.	Diversion, channeling, or other activity that modifies a stream or other water body and affects fish or wildlife.	16 U.S.C. § 662	Not an ARAR	No potential affect to a stream or water body is expected with proposed removal actions.

Table C3-1 (continued)

Location	Requirement	Prerequisite	Citation[a]	ARAR Determination	Comments
Rivers and Harbors Act of 1899 (33 U.S.C. §§ 401–413)[b]					
Navigable waters	Permits required for structures or work in or affecting navigable waters.	Activities affecting navigable waters.	33 U.S.C. § 403 33 C.F.R. § 322	Not an ARAR	No navigable waters are at the site or potentially affected by the site or proposed removal actions.
Endangered Species Act of 1973 (16 U.S.C. §§ 1531–1543)[b]					
Habitat upon which endangered species or threatened species depend	Federal agencies may not jeopardize the continued existence of any listed species or cause the destruction or adverse modification of critical habitat. The Endangered Species Committee may grant an exemption for agency action if reasonable mitigation and enhancement measures such as propagation, transplantation, and habitat acquisition and improvement are implemented.	Determination of effect upon endangered or threatened species or its habitat. Critical habitat upon which endangered species or threatened species depend.	16 U.S.C. § 1536(a), (h)(1)(B); 16 U.S.C. § 1538(a)(1)(B)and (G); and 16 U.S.C. § 1538(a)(2)(B) and (E)	Relevant and Appropriate	Potentially relevant and appropriate for the federally threatened California red-legged frog and California tiger salamander that could potentially be present at the site.

Table C3-1 (continued)

Location	Requirement	Prerequisite	Citation[a]	ARAR Determination	Comments
California Endangered Species Act, Fish and Game Code (§§ 2051 et seq. and §2080)[b]					
Habitat upon which endangered species or threatened species depend	The statute sections provide a declaration of policy and definitions. Section 2080 provides that no person shall take, possess, purchase, or sell within this state, any species, or any part or product thereof, that the commission determines to be an endangered species or a threatened species, or attempt any of those acts.	Determination of effect upon endangered or threatened species or its habitat. Critical habitat upon which endangered species or threatened species depend.	California Fish and Game Code §§ 2051 et seq. and §2080	Relevant and Appropriate	Section 2080 includes specific standards of control with respect to the taking of endangered or threatened species.
Migratory Bird Treaty Act of 1972 (16 U.S.C. §§ 703–712)[b]					
Migratory bird area	Protects almost all species of native migratory birds in the U.S. from unregulated "take," which can include poisoning at hazardous waste sites.	Presence of migratory birds.	16 U.S.C. § 703	Relevant and appropriate	Potentially relevant and appropriate for the golden eagle, Swainson's hawk, loggerhead shrike, and horned lark that could be present at the site.
Marine Mammal Protection Act (16 U.S.C. §§ 1361–1421h)[b]					
Marine mammal area	Protects any marine mammal in the U.S. except as provided by international treaties from unregulated "take."	Presence of marine mammals.	16 U.S.C. § 1372(a)(2)	Not an ARAR	No potential marine mammals on site.
Magnuson-Stevens Fishery Conservation and Management Act of 1976, as Amended (16 U.S.C. §§ 1801–1882)[b]					
Fishery under management	Provides for conservation and management of specified fisheries within specified fishery conservation zones.	Presence of managed fisheries.	16 U.S.C. §§ 1801–1882	Not an ARAR	No fisheries near site.

Table C3-1 (continued)

Location	Requirement	Prerequisite	Citation[a]	ARAR Determination	Comments
National Wildlife Refuge System Administration Act of 1996 (16 U.S.C. § 668dd–668ee)[b]					
Wildlife refuge	No person shall take any animal or plant on any national wildlife refuge, except as authorized under 50 C.F.R. § 27.51. The disposing or dumping of wastes is prohibited.	Area designated as part of National Wildlife Refuge System.	16 U.S.C § 668dd–668ee Substantive provisions of 50 C.F.R. § 27.11–27.97	Not an ARAR	No wildlife refuge is near the site.
Wilderness Act (16 U.S.C. §§ 1131–1136)[b]					
Wilderness area	Area must be administered in such a manner as will leave it unimpaired as wilderness and preserve its wilderness character.	Federally owned area designated as wilderness area.	16 U.S.C. §§ 1131–1136 50 C.F.R. § 35.1–35.14	Not an ARAR	No wilderness area is near the site.
Coastal Zone Management Act (16 U.S.C. §§ 1451–1464)[b]					
Within coastal zone	Conduct activities in a manner consistent with approved state management programs.	Activities affecting the coastal zone including lands thereunder and adjacent shore land.	16 U.S.C. § 1456(c) 15 C.F.R. § 930	Not an ARAR	The site is not within the coastal zone.
Resource Conservation and Recovery Act (42 U.S.C. §§ 6901–6991[i])[b]					
Within 61 meters (200 feet) of a fault displaced in Holocene time	New treatment, storage, or disposal of hazardous waste prohibited.	RCRA hazardous waste; treatment, storage, or disposal of hazardous waste.	Cal. Code Regs. tit. 22, § 66264.18(a)	Not an ARAR	There are no faults within 200 feet of the site.
Within salt dome formation, underground mine, or cave	Placement of noncontainerized or bulk liquid hazardous waste prohibited.	RCRA hazardous waste; placement.	Cal. Code Regs. tit. 22, § 66264.18(c)	Not an ARAR	The site is not within a salt dome formation underground mine or cave.

Table C3-1 (continued)

Notes:

[a] Only the substantive provisions of the requirements cited in this table are potential ARARs.

[b] Statutes and policies, and their citations, are provided as headings to identify general categories of potential ARARs for the convenience of the reader; listing the statutes and policies does not indicate that the DON accepts the entire statutes or policies as potential ARARs; specific potential ARARs are addressed in the table below each general heading; only substantive requirements of the specific citations are considered potential ARARs.

Acronyms/Abbreviations:

app. – appendix
ARAR – applicable or relevant and appropriate requirement
Cal. Code Regs. – *California Code of Regulations*
C.F.R. – *Code of Federal Regulations*
DON – Department of the Navy
Exec. Order No. – executive order number
IR – Installation Restoration (Program)
pt. – part
Pub. L. No. – public law number
RCRA – Resource Conservation and Recovery Act
§ – section
U.S. – United States
U.S.C. – *United States Code*

Table C4-1 Potential Federal Action-Specific ARARs
IR Site 24A, Former Naval Weapons Station Seal Beach Detachment Concord

Alternatives: 1 - No Action; 2 – Land Use Controls (LUCs); 3 – Placement of Soil Cap, MEC Screening, and LUCs; 4 - Soil Excavation with Off-Site Disposal and MEC Screening; 5 – Soil Excavation with Stabilization, Off-Site Disposal, MEC Screening, and Recycling of Metal

Action	Requirement	Prerequisite	Citation	ARAR Determination			Comments
				A	RA	TBC	
Resource Conservation and Recovery Act (42 U.S.C. §§ 6901–6991[i])*							
On-site waste generation	Person who generates waste shall determine if that waste is a hazardous waste.	Generator of waste.	Cal. Code Regs. tit. 22, § 66262.10(a), 66262.11	4,5			Substantive provisions are potentially applicable for any operation where hazardous waste is generated. Soil at IR Site 24A may be hazardous based on analytical results.
	Requirements for analyzing waste for determining whether waste is hazardous.	Generator of waste.	Cal. Code Regs. tit. 22, § 66264.13(a) and (b)	4,5			Substantive provisions are potentially applicable for any operation where hazardous waste is generated. Soil at IR Site 24A may be hazardous based on analytical results.
Hazardous waste accumulation	On-site hazardous waste accumulation is allowed for up to 90 days as long as the waste is stored in containers in accordance with § 66262.171–178 or in tanks, on drip pads, inside buildings, is labeled and dated, etc.	Accumulate hazardous waste.	Cal. Code Regs. tit. 22, § 66262.34	4,5			Substantive provisions are potentially applicable for accumulating waste on site during removal action.

Table C4-1 (continued)

Alternatives: 1 - No Action; 2 – Land Use Controls (LUCs); 3 – Placement of Soil Cap, MEC Screening, and LUCs; 4 - Soil Excavation with Off-Site Disposal and MEC Screening; 5 – Soil Excavation with Stabilization, Off-Site Disposal, MEC Screening, and Recycling of Metal

Action	Requirement	Prerequisite	Citation	ARAR Determination			Comments
				A	RA	TBC	
Site closure	Minimize the need for further maintenance controls and minimize or eliminate, to the extent necessary to protect human health and the environment, postclosure escape of hazardous waste, hazardous constituents, leachate, contaminated rainfall or runoff, or waste decomposition products to groundwater or surface water or to the atmosphere.	Hazardous waste management facility.	Cal. Code Regs. tit. 22, § 66264.111(a) and (b)		3,4,5		Substantive provisions are potentially relevant and appropriate for removal action alternatives that handle potential hazardous waste.
Clean closure	During the partial and final closure periods, all contaminated equipment, structures and soils shall be properly disposed or decontaminated by removing all hazardous waste and residues.	Hazardous waste management facility.	Cal. Code Regs. tit. 22, § 66264.114		4,5		Substantive provisions are potentially applicable for removal action alternatives that remove the contaminated soil.

Table C4-1 (continued)

Alternatives: 1 - No Action; 2 – Land Use Controls (LUCs); 3 – Placement of Soil Cap, MEC Screening, and LUCs; 4 - Soil Excavation with Off-Site Disposal and MEC Screening; 5 – Soil Excavation with Stabilization, Off-Site Disposal, MEC Screening, and Recycling of Metal

Action	Requirement	Prerequisite	Citation	ARAR Determination			Comments
				A	RA	TBC	
Container storage	Containers of RCRA hazardous waste must be: • maintained in good condition, • compatible with hazardous waste to be stored, and • closed during storage except to add or remove waste.	Storage of RCRA hazardous waste not meeting small-quantity generator criteria before treatment, disposal, or storage elsewhere, in a container.	Cal. Code Regs. tit. 22, § 66264.171, 66264.172, and 66264.173	3,4,5			Substantive provisions are potentially applicable for MEC screened waste.
	Inspect container storage areas weekly for deterioration.		Cal. Code Regs. tit. 22, § 66264.174	3,4,5			Substantive provisions are potentially applicable for MEC screened waste.
	Place containers on a sloped, crack-free base, and protect from contact with accumulated liquid. Provide containment system with a capacity of 10 percent of the volume of containers of free liquids. Remove spilled or leaked waste in a timely manner to prevent overflow of the containment system.	Storage in a container of RCRA hazardous waste not meeting small-quantity generator criteria before treatment, disposal, or storage elsewhere.	Cal. Code Regs. tit. 22, § 66264.175(a) and (b)	3,4,5			Substantive provisions are potentially applicable for MEC screened waste.
	Keep containers of ignitable or reactive waste at least 50 feet from the facility property line.	Ignitable or reactive waste.	Cal. Code Regs. tit. 22, § 66264.176	3,4,5			Substantive provisions are potentially applicable for MEC screened waste.

Table C4-1 (continued)

Alternatives: 1 - No Action; 2 – Land Use Controls (LUCs); 3 – Placement of Soil Cap, MEC Screening, and LUCs; 4 - Soil Excavation with Off-Site Disposal and MEC Screening; 5 – Soil Excavation with Stabilization, Off-Site Disposal, MEC Screening, and Recycling of Metal							
				ARAR Determination			
Action	**Requirement**	**Prerequisite**	**Citation**	**A**	**RA**	**TBC**	**Comments**
Container storage (continued)	Keep incompatible materials separate. Separate incompatible materials stored near each other by a dike or other barrier.		Cal. Code Regs. tit. 22, § 66264.177	3,4,5			Substantive provisions are potentially applicable for MEC screened waste.
	At closure, remove all hazardous waste and residues from the containment system, and decontaminate or remove all containers and liners.		Cal. Code Regs. tit. 22, § 66264.178	3,4,5			Substantive provisions are potentially applicable for MEC screened waste.

Table C4-1 (continued)

Alternatives: 1 - No Action; 2 – Land Use Controls (LUCs); 3 – Placement of Soil Cap, MEC Screening, and LUCs; 4 - Soil Excavation with Off-Site Disposal and MEC Screening; 5 – Soil Excavation with Stabilization, Off-Site Disposal, MEC Screening, and Recycling of Metal

				ARAR Determination			
Action	**Requirement**	**Prerequisite**	**Citation**	**A**	**RA**	**TBC**	**Comments**
Staging pile	Staging piles need to follow the federal requirements at 40 C.F.R. § 264.554.	RCRA or non-RCRA hazardous waste stored temporarily.	Cal. Code Regs. tit. 22, § 66264.552(f)	3,4,5			Substantive provisions are potentially applicable for MEC screened waste and staging excavated waste soil.
Temporary unit	Alternative requirements that are protective of human health or the environment may replace design, operating, or closure standards for temporary container storage areas.		Cal. Code Regs. tit. 22, § 66264.553(b), (d), (e), and (f)	3,4,5			Substantive provisions are potentially applicable for MEC screened waste.
Staging pile	Allows generators to accumulate solid remediation waste in a U.S. EPA-designated pile for storage only, up to 2 years, during remedial operations without triggering LDRs.	Hazardous remediation waste temporarily stored in piles.	40 C.F.R. § 264.554(d)(1)(i–ii) and (d)(2), (e), (f), (h), (i), (j), and (k)	3,4,5			Substantive provisions are potentially applicable staging waste soil.
	Prevent run-on and control and collect runoff from a 24-hour, 25-year storm (waste piles, land treatment facilities, landfills). Prevent overtopping of surface impoundments.	RCRA hazardous waste treated, stored, or disposed after the effective date of the requirements.	Cal. Code Regs. tit. 22, § 66264.221(c), (e), (h); § 66264.251(c), (d), (f), (g), (h), (k); § 66264.273(c), (d), (j)(1); § 66264.301(c), (d), (f), (g)	3,4,5			Substantive provisions are potentially applicable staging waste soil.

Table C4-1 (continued)

Alternatives: 1 - No Action; 2 – Land Use Controls (LUCs); 3 – Placement of Soil Cap, MEC Screening, and LUCs; 4 - Soil Excavation with Off-Site Disposal and MEC Screening; 5 – Soil Excavation with Stabilization, Off-Site Disposal, MEC Screening, and Recycling of Metal

Action	Requirement	Prerequisite	Citation	ARAR Determination			Comments
				A	RA	TBC	
Closure of staging pile	At closure, owner shall remove or decontaminate all waste residues, contaminated containment system components, contaminated subsoils, and structures and equipment contaminated with waste and leachate, and manage them as hazardous waste.	Staging pile used to temporarily store or treat waste.	Cal. Code Regs. tit. 22, § 66264.258(a)	3,4,5			Substantive provisions are potentially applicable staging waste soil.
Postclosure care	Postclosure care, after completion of closure of the unit and continuing for 30 years after that date, shall consist of at least the following: (A) monitoring and reporting in accordance with the requirements of articles 6, 11, 12, 13, and 14 of this chapter; and (B) maintenance and monitoring of waste containment systems in accordance with the requirements of articles 6, 11, 12, 13, and 14 of this chapter.	RCRA-permitted land-based unit containing hazardous waste.	Cal. Code Regs. tit. 22, § 66264.117(b)(1) and (2)		3		Substantive provisions are potentially relevant and appropriate for leaving waste under the soil cap.
	Any time during the postclosure period, (A) shorten the postclosure care period, or (B) extend the postclosure care period, based on whether the postclosure period is sufficient to protect human health and the environment.						
Capping	Requires a cover designed to prevent the downward entry of water into the landfill for 100 years.	Regulated RCRA hazardous waste treatment, storage or disposal facility.	Cal. Code Regs. tit. 22, § 66264.310(a)(1)				Not an ARAR. Preventing downward movement of water is not an objective of this removal action.
	The cover shall function with minimum maintenance.	Regulated RCRA hazardous waste treatment, storage or disposal facility.	Cal. Code Regs. tit. 22, § 66264.310(a)(2)		3		Substantive provisions are potentially relevant and appropriate.

The cover shall promote drainage and minimize erosion or abrasion of the cover.	Regulated RCRA hazardous waste treatment, storage or disposal facility.	Cal. Code Regs. tit. 22, § 66264.310(a)(3)	3	Substantive provisions are potentially relevant and appropriate.
The cover shall accommodate settling and subsidence so that 3ts integrity is maintained.	Regulated RCRA hazardous waste treatment, storage or disposal facility.	Cal. Code Regs. tit. 22, § 66264.310(a)(4)	4	Substantive provisions are potentially relevant and appropriate.
Require a cover to be designed to withstand a maximum credible earthquake.	Regulated RCRA hazardous waste treatment, storage or disposal facility.	Cal. Code Regs. tit. 22, § 66264.310(a)(5)	3	Substantive provisions are potentially relevant and appropriate.
Requires that the cover have a permeability less than or equal to the permeability of any bottom liner system or natural subsoils present.	Regulated RCRA hazardous waste treatment, storage or disposal facility.	Cal. Code Regs. tit. 22, § 66264.310(a)(6)		Not an ARAR. Reducing permeability is not an objective of this removal action.
Prescriptive landfill cover requirements for design of cap.	Regulated RCRA hazardous waste treatment, storage or disposal facility.	Cal. Code Regs. tit. 22, § 66264.228(e) through (r)	3	Substantive provisions are relevant and appropriate except for those provisions not necessary to protect public health, water quality, or other environmental quality.

Table C4-1 (continued)

Alternatives: 1 - No Action; 2 – Land Use Controls (LUCs); 3 – Placement of Soil Cap, MEC Screening, and LUCs; 4 - Soil Excavation with Off-Site Disposal and MEC Screening; 5 – Soil Excavation with Stabilization, Off-Site Disposal, MEC Screening, and Recycling of Metal

				ARAR Determination			
Action	**Requirement**	**Prerequisite**	**Citation**	**A**	**RA**	**TBC**	**Comments**
Military Munitions Rule (40 C.F.R. pt. 266 subpt. M)*							
Military munitions	Standards for transportation and storage of solid waste military munitions and treatment and disposal of waste military munitions.	Management of military munitions.	40 C.F.R. §266.203, 266.205, and 266.206	3,4,5			Substantive provisions are potentially applicable for MEC screening and disposal.
Clean Water Act, as Amended (33 U.S.C., ch. 26, §§ 1251–1387)*							
Discharge to surface waters	Owners and operators of construction activities must be in compliance with discharge standards.	Construction that disturbs 1 or more acres.	CWA Section 402 (33 U.S.C. ch. 26, § 1342); 40 C.F.R. § 122.44(k)(2) and (4)	3,4,5			Substantive provisions are potentially applicable for soil disturbance of an acre or more.

Note:

* Statutes and policies, and their citations, are provided as headings to identify general categories of potential ARARs for the convenience of the reader. Listing the statutes and policies does not indicate that the DON accepts the entire statutes or policies as potential ARARs; specific potential ARARs are addressed in the table below each general heading; only substantive requirements of specific citations are considered potential ARARs.

Acronyms/Abbreviations:

A – applicable
ARAR – applicable or relevant and appropriate requirement
Cal. Code Regs. – *California Code of Regulations*
C.F.R. – *Code of Federal Regulations*
ch. – chapter
CWA – Clean Water Act
DON – Department of the Navy
EE/CA – Engineering Evaluation/Cost Analysis
IR – Installation Restoration (Program)
LDR – land disposal restriction
pt. – part
RA – relevant and appropriate
RAO – remedial action objective
RCRA – Resource Conservation and Recovery Act
§ – section
subpt. – subpart
TBC – to be considered
tit. – title
U.S.C. – *United States Code*
USEPA – United States Environmental Protection Agency

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USEPA. See United States Environmental Protection Agency.

APPENDIX D
Removal Action Alternatives Cost Estimates

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ACRONYMS AND ABBREVIATIONS

COC	chemicals of concern
CY	cubic yards
HASP	health and safety Plan
LUCs	land use controls
MD	munitions debris
MDAS	material documented as safe
MEC	munitions and explosives of concern
mm	millimeter
MPPEH	material potentially presenting an explosive hazard
PAH	polycyclic aromatic hydrocarbons
RAWP	removal action work plan
SAP	sampling and analysis plan
SUXOS	senior unexploded ordnance supervisor
UXO	unexploded ordnance

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The Removal Action cost estimates presented in this appendix were developed utilizing R.S. Means Cost Data and cost data from experience on similar projects. The estimates are intended to provide an accuracy range of -30 to +50 percent of actual cost. The final project cost will depend on actual material and labor cost, productivity, competitive market conditions, final project scope and schedule, and other variable factors. The estimates provided in this evaluation are for relative comparison purposes only.

D-1.0 ALTERNATIVE 1: NO ACTION

No costs are associated with this alternative. Table D-1 presents a summary costs for all alternatives.

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D-2.0 ALTERNATIVE 2: LAND USE CONTROLS

Alternative 2 comprises the following main components:

- Installation of chain-link fencing to prevent contact with lead and bullet fragments and MEC hazards located at the site
- Land use controls (LUCs) and five-year reviews for the first 50 years

Costs associated with this alternative are presented in Table D-2.

D-2.1 CAPITAL COSTS

Capital costs include the following elements:

- Removal Action Design – This task will establish the LUCs for the project.
- Removal Action – Installations. The associated costs include the following:

    1. Installation of approximately 2,132 linear feet of chain-link fencing around the perimeter of the site to prevent contact with lead and Munitions and Explosives of Concern (MEC) hazards. Signage will be attached to the fencing at approximately 200-foot intervals. The fence will be monitored and maintained for the first period of 50 years.
    2. Work to be completed in Level D.

D-2.2 OPERATIONS AND MAINTENANCE COSTS

- Operation and maintenance for the first 50 years of the fencing. The associated costs include the following:

    3. Annual inspections of fencing will be conducted to ensure the fence is in good condition for first 50 years.
    4. Assume removal and replacement of 5% (110 linear feet) of the chain link fencing every two years.

D-2.3 PERIODIC COSTS

- The associated costs include the following components:

    5. Implement and maintain LUCs to prevent contact with contaminated soil for the first 50 years. Includes annual monitoring and enforcement of site and/or the LUCs to verify that they remain effective over time; review and revision will be performed. Costs for preparation of planning documents and attending planning meetings are included with the LUCs.

    6. Five-year reviews (10 total reviews) will be conducted over the first 50 years to evaluate regulatory compliance, applicability, protectiveness, etc. Each five-year review will consist of development of a five-year review report and one meeting.

D-3.0 ALTERNATIVE 3: PLACEMENT OF SOIL CAP OVER THE FORMER PISTOL RANGE, MEC SCREENING, AND LUCS

Alternative 3 comprises the following main components:

- Placement of approximately 2-feet of imported fill material
- Soil Scrapping and MEC Screening
- LUCs and five-year reviews for the first 50 years

Costs associated with this alternative are presented in Table D-3.

D-4.0 CAPITAL COSTS

Capital costs include the following elements:

- Removal Action Design – This task will establish removal areas and establish a grading plan
- Removal Action – MEC Screening and Placement of Soil Cap. The associated costs include the following:

    7. Silt fencing will be installed around the perimeter of the approximately 2.5-acre site.
    8. Removal and disposal of creosote-treated wood timbers.
    9. Removal and disposal of existing structures.
    10. Approximately 1,775 in-place cubic yards (CY) of soil will be mechanically excavated from the grenade impact area and stockpiled. The bulked volume of the excavated soil is expected to be approximately 2,050 CY.
    11. The excavated soil will be mechanically separated utilizing an armored triple-tray vibrating screening unit to remove any Material Potentially Presenting an Explosive Hazard (MPPEH) [40-millimeter (mm) grenades and ordnance related debris]. Screens will be set to remove any material larger than 1 inch (i.e., equivalent to the size of a 40 mm projectile). All MPPEH will be separated from other recovered Munitions debris (MD) for explosive venting. After venting the

metal will be inspected to ensure it no longer poses a hazard and placed with all other MD. It is assumed that approximately 2 tons of MPPEH will be recovered from the excavated soil.

12. The MD will be inspected by the authorized unexploded ordnance (UXO) technician [senior UXO supervisor (SUXOS) and/or UXO Technician 3) and certified as Material Documented as Safe (MDAS). Approximately 2 tons of MDAS will be placed into drums for shipment off-site and then transported to an off-site facility (foundry).

13. Characterization of the stockpiled material.

14. Placing, compacting, and grading stockpiled material over the approximately 1.1 acre lead and polycyclic aromatic hydrocarbons (PAH) impacted area in accordance with the grading plan. This estimate assumes that characterization of the stockpiled soil confirms the absence of chemicals of concern (COCs) and that it may be utilized as fill material.

15. Performance of a combination of manual test pits and a geophysical survey on the resulting excavation surface of the grenade impact area to confirm the absence of UXO.

16. Once grading activities have been completed, the entire site will be reseeded with a native seed mix.

17. Installation of approximately 1,050 linear feet of chain-link fencing around the perimeter of the site to prevent contact with lead and PAH impacted soils. Signage will be attached to the fencing at approximately 200-foot intervals. The fence will be monitored and maintained for the first period of 50 years.

18. Professional labor management costs include preparation and submittal of pre-draft, draft, draft final, and final versions of a detailed Removal Action Work Plan (RAWP) for this alternative. Costs also include a site-specific Health and Safety Plan (HASP) and a Sampling and Analysis Plan (SAP).

19. Work to be completed in Level D.

D-4.1 OPERATIONS AND MAINTENANCE COSTS

- Operation and maintenance for the first 50 years of the project area. The associated costs include the following:

    20. Annual inspections of the ground surface for erosion or settling will be conducted.

    21. Additional backfilling may be required where erosion or settling occurs. Assume approximately 15 CY of soil will be required every 5 years. Regraded areas will be reseeded with a native seed mix.

    22. Annual inspections of fencing will be conducted to ensure the fence is in good condition for first 50 years.

    23. Assume removal and replacement of 5% (55 linear feet) of the chain link fencing every two years.

D-4.2 PERIODIC COSTS

- The associated costs include the following components:

    24. Implement and maintain LUCs to prevent contact with contaminated soil for the first 50 years. Includes annual monitoring and enforcement of site and/or the LUCs to verify that they remain effective over time; review and revision will be performed. Costs for preparation of planning documents and attending planning meetings are included with the LUCs.

    25. Five-year reviews (10 total reviews) will be conducted over the first 50 years to evaluate regulatory compliance, applicability, protectiveness, etc. Each five-year review will consist of development of a five-year review report and one meeting.

D-5.0 ALTERNATIVE 4: SOIL EXCAVATION WITHIN THE FORMER PISTOL RANGE WITH OFF-SITE DISPOSAL AND MEC SCREENING

Alternative 4 comprises the following main components:

- Soil Scrapping and MEC Screening
- Mechanical removal of soil containing COCs at concentrations exceeding cleanup goals
- Confirmation Sampling
- Disposal of excavated soil
- Disposal of MEC
- Site closeout

Costs associated with this alternative are presented in Table D-4.

D-6.0 CAPITAL COSTS

Capital costs include the following elements:

- Removal Action Design – This task will establish removal areas and the Removal Action Design.
- Removal Action – Soil Excavation with Off-Site Disposal and MEC Screening. The associated costs include the following:

    26. Silt fencing will be installed around the perimeter of the approximately 2.5-acre area.
    27. Removal and disposal of creosote-treated wood timbers.
    28. Removal and disposal of existing structures.
    29. Approximately 1,775 in-place CY of soil will be mechanically excavated from the grenade impact area and stockpiled. The bulked volume of the excavated soil is expected to be approximately 2,050 CY.

30. Performance of a combination of manual test pits and a geophysical survey on the resulting excavation surface of the grenade impact area to confirm the absence of UXO.

31. Approximately 637 in-place CY of soil will be mechanically excavated from the lead and PAH impacted area and stockpiled (separately from the grenade impact area soil stockpile). The bulked volume of the excavated soil is expected to be approximately 733 CY.

32. The excavated soil will be mechanically separated utilizing an armored triple-tray vibrating screening unit to remove any MPPEH (40-mm grenades and ordnance related debris). Screens will be set to remove any material larger than 1 inch (i.e., equivalent to the size of a 40 mm projectile). All MPPEH will be separated from other recovered MD for explosive venting. After venting the metal will be inspected to ensure it no longer poses a hazard and placed with all other MD. It is assumed that approximately 3 tons of MPPEH will be recovered from the excavated soil.

33. The MD will be inspected by the authorized UXO technician (SUXOS and/or UXO Technician 3) and certified as MDAS. Approximately 3 tons of MDAS will be placed into drums for shipment off-site and then transported to an off-site facility (foundry).

34. The resultant surface of the lead and PAH impacted area excavation will be visually inspected and tested for relevant COCs to confirm the excavation meets cleanup goals. One sample will be collected from the excavated surface every 50 linear feet (or one sample per 2,500 square feet). These samples will be combined into 4-point composite samples and submitted to the lab. Two (2) composite samples (eight total) will be collected and analyzed for relevant COCs. Note the number of discreet samples was rounded up so there were at least four discreet samples for each composite sample.

35. Characterization of the stockpiled material (both the grenade impact area stockpile and lead and PAH impacted area stockpile).

36. Soils excavated from the lead and PAH impacted area will be disposed of at an appropriate landfill based on characterization. Approximately 733 bulked CY will

be transported to the Clean Harbors Buttonwillow facility approximately 250 miles from the project site.

37. Backfilling and compaction of the lead and PAH impacted area excavation will be performed utilizing stockpiled material from the grenade impact area. This estimate assumes that characterization of the stockpiled soil confirms the absence of COCs and that it may be utilized as fill material. The site will be regraded to match existing grades and reseeded with a native seed mix.

38. Work to be completed in Level D.

39. Professional labor management costs include preparation and submittal of pre-draft, draft, draft final, and final versions of a detailed RAWP for this alternative. Costs also include a site-specific HASP and a SAP.

- Site Closeout. The associated costs include the following:

40. Three site closeout meetings will be conducted.

41. Prepare site closeout report and any related documentation.

D-7.0 ALTERNATIVE 5: SOIL EXCAVATION WITHIN THE FORMER PISTOL RANGE WITH STABILIZATION, OFF-SITE DISPOSAL, MEC SCREENING, AND RECYCLING OF METAL

Alternative 5 comprises the following main components:

- Soil Scrapping and MEC Screening
- Mechanical removal of soil containing COCs at concentrations exceeding cleanup goals
- Confirmation Sampling
- Stabilization of lead-contaminated soil
- Disposal of excavated soil
- Disposal of MEC
- Recycling of recovered lead and bullet fragments
- Site closeout

Costs associated with this alternative are presented in Table D-5.

D-8.0 CAPITAL COSTS

Capital costs include the following elements:

- Removal Action Design – This task will establish removal areas and the Removal Action Design
- Removal Action – Soil Excavation with Stabilization, Off-Site Disposal, MEC Screening, and Recycling of Metal. The associated costs include the following:

    42. Silt fencing will be installed around the perimeter of the approximately 2.5-acre area.

    43. Removal and disposal of creosote-treated wood timbers.

    44. Removal and disposal of existing structures.

45. Approximately 1,775 in-place CY of soil will be mechanically excavated from the grenade impact area and stockpiled. The bulked volume of the excavated soil is expected to be approximately 2,050 CY.

46. Performance of a combination of manual test pits and a geophysical survey on the resulting excavation surface of the grenade impact area to confirm the absence of UXO.

47. Approximately 637 in-place CY of soil will be mechanically excavated from the lead and PAH impacted area and stockpiled (separately from the grenade impact area soil stockpile). The bulked volume of the excavated soil is expected to be approximately 733 CY.

48. The excavated soil will be mechanically separated utilizing an armored triple-tray vibrating screening unit (or equivalent) to remove any MPPEH (40-mm grenades and ordnance related debris). Screens will be set to remove any material larger than 1 inch (i.e., equivalent to the size of a 40 mm projectile). All MPPEH will be separated from other recovered MD for explosive venting. After venting the metal will be inspected to ensure it no longer poses a hazard and placed with all other MD. It is assumed that approximately 3 tons of MPPEH will be recovered from the excavated soil.

49. The MD will be inspected by the authorized UXO technician (SUXOS and/or UXO Technician 3) and certified as MDAS. Approximately 3 tons of MDAS will be placed into drums for shipment off-site and then transported to an off-site facility (foundry).

50. The soil excavated from the lead and PAH impacted area will be mechanically separated further utilizing an armored triple-tray vibrating screening unit to remove any lead and bullet fragments. It is estimated that screening would result in the recovery of approximately 54 tons of lead and bullet fragments.

51. The lead and bullet fragments (approximately 54 tons) would be transported to Kinsbursky Brothers for recycling. Kinsbursky Brothers is located approximately 400 miles from the project site in Anaheim, CA.

52. The resultant surface of the lead and PAH impacted area excavation will be visually inspected and tested for relevant COCs to confirm the excavation meets

cleanup goals. One sample will be collected from the excavated surface every 50 linear feet (or one sample per 2,500 square feet). These samples will be combined into 4-point composite samples and submitted to the lab. Two (2) composite samples (eight total) will be collected and analyzed for relevant COCs. Note the number of discreet samples was rounded up so there were at least four discreet samples for each composite sample.

53. The stockpiled material from the lead and PAH impacted area will be treated onsite with Apatite II to stabilize any lead remaining in the soil following removal of pellets.

54. Characterization of the stockpiled material (both the grenade impact area stockpile and lead and PAH impacted area stockpile). Stockpiled soil from the lead and PAH impacted area will undergo further leachibility analysis to ensure stabilization has been successful.

55. Soils excavated from the lead and PAH impacted area will be disposed of at an appropriate landfill based on characterization. Approximately 733 bulked CY will be transported to the Clean Harbors Buttonwillow facility approximately 250 miles from the project site.

56. Backfilling and compaction of the lead and PAH impacted area excavation will be performed utilizing stockpiled material from the grenade impact area. This estimate assumes that characterization of the stockpiled soil confirms the absence of COCs and that it may be utilized as fill material. The site will be regraded to match existing grades and reseeded with a native seed mix.

57. Work to be completed in Level D.

58. Professional labor management costs include preparation and submittal of pre-draft, draft, draft final, and final versions of a detailed RAWP for this alternative. Costs also include a site-specific HASP and a SAP.

- Site Closeout. The associated costs include the following:

59. Three site closeout meetings will be conducted.

60. Prepare site closeout report and any related documentation.

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TABLES

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Table D-1
Summary of Removal Action Alternatives Cost Estimates

Criteria	Alternative 1 No Department of Defense Action Indicated	Alternative 2 LUCs	Alternative 3 Placement of Soil Cap, MEC Screening, and LUCs	Alternative 4 Soil Excavation with Off-Site Disposal and MEC Screening	Alternative 5 Soil Excavation with Off-Site Disposal, MEC Screening, and Recycling of Metals
Total Capital Costs	$0	$329,869	$671,812	$966,272	$948,887
Annual Reoccurring Costs	$0	$25,500	$33,000	$0	$0
Total Reoccurring Costs	$0	$351,900	$455,400	$0	$0
Total Present Day Cost of Alternative	**$0**	**$1,090,830**	**$1,803,539**	**$1,546,035**	**$1,518,219**

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Alternative 1: No Action

Item/Description	Units	Est. Unit Cost ($)	Quantitiy	Subtotal	Total	Assumptions
INITIAL COSTS						
Engineering Design	Lump Sum	$ -	0	$ -		
Work Plans and APP/SSHP	Lump Sum	$ -	0	$ -		
Assessment/Profiling/Confirmation Sampling	Lump Sum	$ -	0	$ -		
Mobilization/Demobilization	Day	$ -	0	$ -		
Site Security	L.F.	$ -	0	$ -		
Site Set-Up & UXO Clearance and Demo	day	$ -	0	$ -		
Project Field Oversight	day	$ -	0	$ -		
Brush Removal	Acre	$ -	0	$ -		
Surface Excavation, Stockpile, Screening	tons	$ -	0	$ -		
Transport and Disposal	tons	$ -	0	$ -		
Import Soil	tons	$ -	0	$ -		
Backfill / Grading / Surveying	days	$ -	0	$ -		
Reclaim (reseeding)	Acre	$ -	0	$ -		
Project Report	Lump Sum	$ -	0	$ -		
TOTAL INITIAL COST					$ -	
RECURRING COSTS (50 Years)						
Periodic Monitoring	year	$ -	0	$ -		
Meetings	year	$ -	0	$ -		
Status Update Report	year	$ -	0	$ -		
Periodic Maintenance	year	$ -	0	$ -		
Total Annual Recurring Cost				$ -		
TOTAL RECURRING COSTS (Net Present Worth for 50 years with 7% discount Rate)					$ -	
Contingency (25% of Initial and Recurring Costs)					$ -	
Project Administration (15% of Initial and Recurring Costs)					$ -	
Contractor's Overhead and Profit (20% of Initial and Recurring Costs)					$ -	
TOTAL ESTIMATED COST OF REMOVAL ALTERNATIVE					**$ -**	

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Table D-2
Alternative 2: Land Use Controls

Item/Description	Units	Est. Unit Cost ($)	Quantitiy	Subtotal	Total	Assumptions
INITIAL COSTS						
Engineering Design	Lump Sum	$ 35,000	1	$ 35,000		Design of fence, signage, etc.
Work Plans and APP/SSHP	Lump Sum	$ 75,000	1	$ 75,000		WP describing aspects of LUC and APP/SSHP to be followed during UXO clearance, fence installation and maintenance, includes coordination with regulators
Assessment/Profiling/Confirmation Sampling	Lump Sum	$ -	0	$ -		No additional assessment required
Mobilization/Demobilization	Day	$ 1,200	8	$ 9,600		Assumes 4 UXO staff from out of area, fence contractor local, one Porta-Potty on-site during field activity.
Site Security	L.F.	$ 53	2,132	$ 112,996		Install 8-ft chain-linked fence (@$50/L.F.with two gates (@ $2600 ea.) around lead-impacted area and grenade impact area, w/ signage every 200 feet, 200 L.F. of fence installed per day per installation crew (6 days with 2 crews)
Site Set-Up & UXO Clearance and Demo	day	$ 8,000	2	$ 16,000		UXO survey crew will survey 2,000 L.F. of fenceline per day (1 crew) for fence clearance (2 days)
Project Field Oversight	day	$ 1,100	9	$ 9,900		includes 20 hrs of UXO Supervisor ($165/hr), UXO SO/QA Mgr ($138/hr), UXO Tech III ($108/hr), & UXO Tech II ($92/hr) Includes 35 hrs PM and 90 hrs Sr. Sci., cargo van, equipment, and ODCs for all field work and per diem for personnel
Brush Removal	Acre	$ 12,000	0.5	$ 6,000		12-ft wide brush removal required for fence installation and signage, includes disposal of brush - higher cost due to smaller area - must be cleared by UXO team first, higher cost due to constrained area and limited quantity
Transport and Disposal of Brush	tons	$ 149	2.5	$ 373		
Surface Excavation, Stockpile, Screening	tons	$ -	0	$ -		No excavation or screening of MEC to be performed.
Transport and Disposal	tons	$ -	0	$ -		No off-site disposal required
Import Soil	tons	$ -	0	$ -		No import soil required
Backfill / Grading / Surveying	days	$ -	0	$ -		No grading along fenceline required
Reclaim (reseeding)	Acre	$ -	0	$ -		No reseeding along fenceline required
Project Report	Lump Sum	$ 65,000	1	$ 65,000		Report includes Pre-draft, Draft, RTCs, & Final
TOTAL INITIAL COST					**$ 329,869**	
RECURRING COSTS (50 Years)						
Periodic Monitoring	year	$ 8,000	1	$ 8,000		Assumes one inspection per year with Sr. Sci. and field vehicle each inspection.
Meetings	year	$ 2,000	1	$ 2,000		Assumes 1 meeting every 5 years
Status Update Report	year	$ 8,000	1	$ 8,000		Assumes a brief annual report, and a more comprehensive status report every 5 years
Periodic Maintenance	year	$ 7,500	1	$ 7,500		Assumes repair of fence (replace 5% [110 L.F.] per every 2 year), signage, etc. utililng local contractors.
Annual Recurring Cost				$ 25,500		
TOTAL RECURRING COSTS (Net Present Worth for 50 years with 7% discount Rate)					**$ 351,900**	
Contingency (25% of Initial and Recurring Costs)					$ 170,442	
Project Administration (15% of Initial and Recurring Costs)					$ 102,265	
Contractor's Overhead and Profit (20% of Initial and Recurring Costs)					$ 136,354	
TOTAL ESTIMATED COST OF REMOVAL ALTERNATIVE					**$ 1,090,830**	

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Table D-3
Alternative 3: Placement of Soil Cap over the Former Pistol Range, MEC Screening, and Land Use Controls

Item/Description	Units	Est. Unit Cost ($)	Quantitiy	Subtotal	Total	Assumptions
INITIAL COSTS						
Engineering Design	Lump Sum	$ 110,000	1	$ 110,000		Detailed design of Cap, scrapping/screening plan, cap maintenance, grading plan, fencing, signage, etc.
Work Plans, SAP, and APP/SSHP	Lump Sum	$ 105,000	1	$ 105,000		WP/SAP describing aspects of Cap construction and maintenance, UXO clearance, LUCs and APP/SSHP to be followed during UXO clearance, capping, fence installation and site inspection and maintenance.
Assessment/Profiling/Confirmation Sampling	Lump Sum	$ 15,000	1	$ 15,000		Collection of confirmation soil samples from scrapped area. Samples to be analyzed for metals and explosives after MEC screening
Mobilization/Demobilization	Day	$ 8,500	10	$ 85,000		Heavy Equipment for construction of 1.4 acre cap over lead-impact area, 2 Porta-potties, Assumes 4 days to complete scraping of MEC area and construction of CAP and 2 days of feeding screens, and 3 days grading areas.
Temporary Silt Fencing	L.F.	$ 1.3	2,132	$ 2,772		Silt fence to be installed around the perimeter of the approximately 2.5-acre site
Site Security	L.F.	$ 53	1,050	$ 55,650		Install 8-ft chain-linked fence (@$50/L.F.with two gates (@ $2600 ea.) around lead-impacted area following CAP construction. w/ signage every 200 feet, 200 L.F. of fence installed per day per installation crew (6 days with 2 crews). No fence required for scraped MEC area.
Site Set-Up & UXO Clearance and Demo	day	$ 9,000	11	$ 99,000		UXO survey crew will survey during brush clearance, scraping, excavation, screening, and CAP construction (10 days) Includes explosives venting/Demo/certification and T&D of MPPEH by UXO team.
Project Field Oversight	day	$ 1,100	12	$ 13,200		includes 110 hrs at UXO Supervisor ($165/hr), UXO SO/QA Mgr ($138/hr), UXO Tech III ($108/hr), & UXO Tech II ($92/hr) travel & per diem included Includes 30 hrs PM and 120 hrs Sr. Sci., cargo van, equipment, and ODCs for all field work, and travel and per diem.
Building Demolition	Each	$ 4,800	5	$ 24,000		Includes demolition of structure, foundations to remain in place
Brush Removal	Acre	$ 6,000	2.5	$ 15,000		Clear brush from all 2.5 acres of lead-impact and MEC areas with UXO oversight/clearance
Transport and Disposal of Brush	tons	$ 149	10	$ 1,490		Assumes transport and disposal at a local landfill
Surface Excavation, Stockpile, Screening	tons	$ 10	3,070	$ 30,700		Scrapping and screening of soil from MEC area and use as Cap material - excess used as fill in MEC area.
Transport and Disposal	tons	$ 250	10	$ 2,500		Assumes only brush (8 tons) and Screened MEC (2 tons) will be disposed off-site.
Import Soil	tons	$ -	0	$ -		Assumes screened scrapped soil from MEC area provides all soil req. for CAP, any remaining will be graded into MEC area.
Backfill / Grading / Surveying	days	$ 5,000	3	$ 12,500		Grading of cap and scrapped area with surveyor support
Reclaim (reseeding)	acre	$ 14,000	2.5	$ 35,000		Assumes hydroseed of 2.5 acre cap and MEC scrapped area @$0.33/S.F.
Project Report	Lump Sum	$ 65,000	1	$ 65,000		Report includes Pre-draft, Draft, RTCs, & Final , Assumes more comprehensive report than LUCs.
TOTAL INITIAL COST					**$ 671,812**	
RECURRING COSTS (50 Years)						
Periodic Monitoring	year	$ 8,000	1	$ 8,000		Assumes one inspection per year with Sr. Sci. and field vehicle each inspection transport and Per Diem Required.
Meetings	year	$ 2,000	1	$ 2,000		Assumes 1 meeting every 5 years. Transport and Per Diem Required.
Status Update Report	year	$ 8,000	1	$ 8,000		Assumes a brief annual report, and a more comprehensive status report every 5 years
Periodic Maintenance	year	$ 15,000	1	$ 15,000		Assumes repair of fence (replacement of 5% [55 L.F.] per every 2 years), signage, etc. and minor grading utilizing local contractors
Annual Recurring Cost				$ 33,000		
TOTAL RECURRING COSTS (Net Present Worth for 50 years with 7% discount Rate)					**$ 455,400**	
Contingency (25% of Initial and Recurring Costs)					$ 281,803	
Project Administration (15% of Initial and Recurring Costs)					$ 169,082	
Contractor's Overhead and Profit (20% of Initial and Recurring Costs)					$ 225,442	
TOTAL ESTIMATED COST OF REMOVAL ALTERNATIVE					**$ 1,803,539**	

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Table D-4
Alternative 4: Soil Excavation within the Former Pistol Range with Off-Site Disposal and MEC Screening

Item/Description	Units	Est. Unit Cost ($)	Quantitiy	Subtotal	Total	Assumptions
INITIAL COSTS						
Engineering Design	Lump Sum	$ 175,000	1	$ 175,000		Detailed design of excavation plan, scrapping plan, grading plan, etc.
Work Plans, SAP, and APP/SSHP	Lump Sum	$ 105,000	1	$ 105,000		WP describing aspects of excavation, scrapping, backfill, disposal, SAP describing sampling procedures, and APP/SSHP to be followed during UXO clearance, fence installation and maintenance
Assessment/Profiling/Confirmation Sampling	Lump Sum	$ 15,000	1	$ 15,000		Collection of waste profile and confirmation samples at end of excavation. Samples analyzed for metals and explosives.
Mobilization/Demobilization	Day	$ 8,500	10	$ 85,000		Heavy Equipment for excavation of 1076 tons in lead-impacted areas and scrapping of 1.5 acrees in MEC area, 2 Porta-potties, Assumes 4 days to complete scraping of MEC area and excavate lead-impacted areeas, 2 days of feeding screens, and 3 days grading areas.
Temporary Silt Fencing	L.F.	$ 1.3	2,132	$ 2,772		Silt fence to be installed around the perimeter of the approximately 2.5-acre site
Site Set-Up & UXO Clearance	day	$ 8,000	12	$ 96,000		UXO survey crew will survey soils during scrapping and excavation and screening activities (12 days for crew of 4)
Project Field Oversight	day	$ 1,100	13	$ 14,300		includes 20 hrs at UXO Supervisor ($165/hr), UXO SO/QA Mgr ($138/hr), UXO Tech III ($108/hr), & UXO Tech II ($92/hr) Includes 40 hrs PM and 130 hrs Sr. Sci., cargo van, equipment, and ODCs for all field work
Building Demolition	Each	$ 4,800	5	$ 24,000		Includes demolition of structure, foundations to remain in place
Brush Removal	Acre	$ 6,000	2.5	$ 15,000		Clear brush from all 2.5 acres of lead-impact and MEC areas
Transport and Disposal of Brush	tons	$ 149	10	$ 1,490		Assumes transport and disposal at a local landfill
Surface Excavation, Stockpile, Screening	tons	$ 10	4071	$ 40,710		Assumes excavation of 1076 tons of lead-impacted soil and scrapping and screening 2,995 tons of MEC soil
Transport and Disposal	tons	$ 250	1078	$ 269,500		Assumes disposal of lead-impacted soil (1076 tons) and screened MEC (2 tons).
Import Soil	tons	$ -	0	$ -		Assumes screened scrapped soil from MEC area provides all soil req. for backfilling, any remaining soil will be graded into MEC area.
Backfill / Grading / Surveying	days	$ 5,000	3	$ 12,500		Backfill lead areas with sccreened scrapped soil from MEC area and grading of cap and scrapped area with surveyor support
Reclaim (reseeding)	Acres	$ 14,000	2.5	$ 35,000		Assumes hydroseed of 2.5 acre lead-mpact and MEC scrapped areas @$0.33/S.F.
Project Report	Lump Sum	$ 75,000	1	$ 75,000		Report includes Pre-draft, Draft, RTCs, & Final , Assumes more comprehensive report than LUCs and Cap.
TOTAL INITIAL COST					**$ 966,272**	
RECURRING COSTS (50 Years)						
Periodic Monitoring	year	$ -	0	$ -		
Meetings	year	$ -	0	$ -		
Status Update Report	year	$ -	0	$ -		
Periodic Maintenance	year	$ -	0	$ -		
Annual Recurring Cost				$ -		
TOTAL RECURRING COSTS (Net Present Worth for 50 years with 7% discount Rate)					**$ -**	
Contingency (25% of Initial and Recurring Costs)					$ 241,568	
Project Administration (15% of Initial and Recurring Costs)					$ 144,941	
Contractor's Overhead and Profit (20% of Initial and Recurring Costs)					$ 193,254	
TOTAL ESTIMATED COST OF REMOVAL ALTERNATIVE					**$ 1,546,035**	

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Table D-5

Alternative 5: Soil Excavation within the Former Pistol Range with Stabilization of Lead-Contaminated Soil, Off-Site Disposal, MEC Screening , and Recycling of Metal

Item/Description	Units	Est. Unit Cost ($)	Quantitiy	Subtotal	Total	Assumptions
INITIAL COSTS						
Engineering Design	Lump Sum	$ 175,000	1	$ 175,000		Detailed design of excavation plan, scrapping plan, grading plan, etc.
Work Plans, SAP, and APP/SSHP	Lump Sum	$ 105,000	1	$ 105,000		WP describing aspects of excavation, scrapping, backfill, disposal, SAP describing sampling procedures, and APP/SSHP to be followed during UXO clearance, fence installation and maintenance
Assessment/Profiling/Confirmation Sampling	Lump Sum	$ 15,000	1	$ 15,000		Collection of confirmation samples at end of excavation. Samples analyzed for metals, and explosives.
Mobilization/Demobilization	Day	$ 8,500	12	$ 102,000		Heavy Equipment for excavation and screening of 1076 tons in lead-impacted areas and scrapping and screening 1.5 acres in MEC area, 2 Porta-potties, Assumes 4 days to complete scraping of MEC area and excavate lead-impacted areas, 5 days of feeding screens, and 3 days grading areas. More time required due to extra screening equipment needed for lead recycling.
Temporary Silt Fencing	L.F.	$ 1.3	2,132	$ 2,772		Silt fence to be installed around the perimeter of the approximately 2.5-acre site
Site Set-Up & UXO Clearance	day	$ 8,000	12	$ 96,000		UXO survey crew will survey 2,000 L.F. of fenceline per day (1 crew) for fence clearance (2 days) includes 20 hrs at UXO Supervisor ($165/hr), UXO SO/QA Mgr ($138/hr), UXO Tech III ($108/hr), & UXO Tech II ($92/hr)
Project Field Oversight	day	$ 1,100	13	$ 14,300		Includes 40 hrs PM and 130 hrs Sr. Sci., cargo van, equipment, and ODCs for all field work
Building Demolition	Each	$ 4,800	5	$ 24,000		Includes demolition of structure, foundations to remain in place
Brush Removal	Acre	$ 6,000	2.5	$ 15,000		Clear brush from all 2.5 acres of lead-impact and MEC areas
Transport and Disposal of Brush	tons	$ 149	10	$ 1,490		Assumes transport and disposal at a local landfill
Surface Excavation, Stockpile, Screening	tons	$ 10	4071	$ 40,710		Assumes excavation and screen of 1076 tons of lead-impacted soil and scrapping and screening 2,995 tons of MEC soil
Apatite II	tons	$ 1,000	103	$ 103,000		10% of total weight of soil
Onsite Treatment Activities	C.Y.	$ 50	800	$ 40,000		Mixing of Apatite II onsite
TCLP analysis	sample	$ 165	25	$ 4,125		Verification of effectiveness of treatment
Non-Haz Disposal	tons	$ 45	1022	$ 45,990		Assumes off-site disposal of stabilized lead-impacted soil (1022 tons) minus the recycleable lead (54 tons) and screened MEC (2 tons).
Transportation	per load	$ 1,050	40	$ 42,000		
Import Soil	tons	$ -	0	$ -		Assumes screened scrapped soil from MEC area provides all soil req. for backfilling, any remaining soil will be graded into MEC area.
Backfill / Grading / Surveying	days	$ 5,000	3	$ 12,500		Grading of cap and scrapped area with surveyor support
Reclaim (reseeding)	Acres	$ 14,000	2.5	$ 35,000		Assumes hydroseed of 2.5 acre lead-Impact and MEC scraped areas @$0.33/S.F.
Project Report	Lump Sum	$ 75,000	1	$ 75,000		Report includes Pre-draft, Draft, RTCs, & Final , Assumes more comprehensive report than LUCs and Cap.
TOTAL INITIAL COST					**$ 948,887**	
RECURRING COSTS (50 Years)						
Periodic Monitoring	year	$ -		$ -		
Meetings	year	$ -		$ -		
Status Update Report	year	$ -		$ -		
Periodic Maintenance	year	$ -		$ -		
Annual Recurring Cost				$ -		
TOTAL RECURRING COSTS (Net Present Worth for 50 years with 7% discount Rate)					**$ -**	
Contingency (25% of Initial and Recurring Costs)					$ 237,222	
Project Administration (15% of Initial and Recurring Costs)					$ 142,333	
Contractor's Overhead and Profit (20% of Initial and Recurring Costs)					$ 189,777	
TOTAL ESTIMATED COST OF REMOVAL ALTERNATIVE					**$ 1,518,219**	

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APPENDIX E
Site Inspection Report Figures

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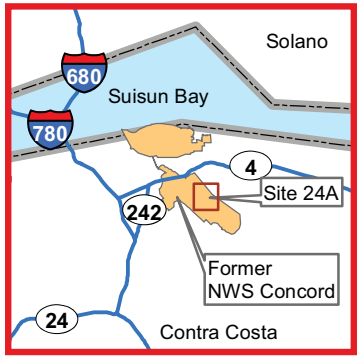


Munitions Debris

Munitions Response Site (MRS) Boundary

Munitions Response Area (MRA) Boundary

Fence Line

N

50 0 50

Scale in Feet

Barajas & Associates, Inc.

Former Naval Weapons Station Seal Beach Detachment Concord, Concord, California

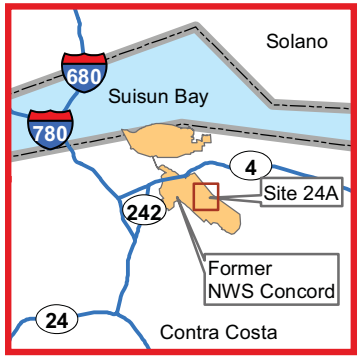
U.S. Department of Navy, BRAC PMO West, San Diego

FIGURE 4-1

Locations of Munitions Debris Identified During Visual Survey

SI Report for MEC at Site 24A - Former Pistol Range

4-1-Site24A-NWSSB-MDLocations-small.mxd/SK



Anomalies

Munitions Response Site (MRS) Boundary

Munitions Response Area (MRA) Boundary

Fence Line

N

50 0 50

Scale in Feet

Barajas & Associates, Inc.

Former Naval Weapons Station Seal Beach Detachment Concord, Concord, California

U.S. Department of Navy, BRAC PMO West, San Diego

FIGURE 4-2

Locations of Anomalies Identified During Visual Survey

SI Report for MEC at Site 24A - Former Pistol Range

4-2-Site24A-NWSSB-Anomalies-small.mxd/SK

APPENDIX F
Estimation of Background Metal Concentrations in the Inland Area Soils

APPENDIX C
ESTIMATION OF BACKGROUND METAL CONCENTRATIONS IN THE INLAND AREA SOILS

Note: This background study was conducted as part of the 1997 Remedial Investigation for Sites 13, 17, 22, 24A, and 27 (Tetra Tech EM Inc. 1997). The background study attached is a copy from the report. Background metals in soil were established for the site in consultation with the regulatory agencies. The attached figures (Figures 5-8, 6-8, 7-5, 8-3, and 9-3) are from the 1997 Remedial Investigation report (Tetra Tech EM Inc. 1997) and show the locations of the borings for background sampling.

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C.1.0 INTRODUCTION

This technical memorandum, prepared by PRC Environmental Management, Inc. (PRC), presents the approach for estimating background metal concentration limits in the Inland Area soils at Naval Weapons Station (WPNSTA) Concord, California (Figure 1). The estimated background concentration limits are intended for use in the baseline human health risk assessment, ecological risk assessment, and remedial investigation (RI) of WPNSTA Concord Installation Restoration Program sites.

The purpose of estimating background concentrations is to have a basis to assess whether the detection of a constituent indicates site-related contamination or may be attributed to naturally occurring or non-site-related anthropogenic sources. To evaluate the effects of site activities on the environment, constituent concentrations detected at a site are typically compared to the background concentrations, and the difference between the detected concentrations and background concentrations is assumed to be the impact of site activities.

Background metal levels were determined by collecting soil samples from each site, in areas considered unaffected by Navy operations or other industrial activities. The estimated background levels of metals in soils will be used to identify contaminants of potential concern at the sites.

This report is organized into the following sections. Section 2.0 discusses the conceptual model that summarizes the Inland Area geology and describes the rationale for using two separate groups of sites in determining metal background levels. Section 3.0 describes background sampling in the Inland Area sites. Section 4.0 explains the statistical procedures that were used to estimate background concentration levels of metals in soil. The results of the estimation are summarized in Section 5.0 and Tables 1 and 2.

C.2.0 CONCEPTUAL MODEL

The conceptual model developed for this task is a generalized representation of soil conditions based on published materials and the examination of boring logs from the Inland Area sites. Additionally, this model is used to substantiate the evaluation of the metals background levels for two different groups of sites.

WPNSTA Concord is the major naval transshipment facility on the west coast and is located in the north-central portion of Contra Costa County, California, approximately 30 miles from San Francisco. The facility, which encompasses approximately 13,000 acres, is bounded by Suisun Bay to the north and by the city of Concord to the south and west (Figure 1). Currently, the facility contains three main separate holdings: the Tidal Area, the Inland Area, and a radiography facility in Pittsburg, California. The Inland Area, which is separated from the Tidal Area by a range of hills not owned by the Navy, encompasses approximately 6,200 acres.

The regional geologic features include several north-trending fault systems that divide Contra Costa County into large blocks of rocks. Up-thrown blocks form the hills and down-thrown blocks form broad lowlands floored with thick, unconsolidated, Pleistocene-age deposits eroded from the up-thrown blocks.

The geology of the Inland Area is shown in Figure 2. Consolidated Tertiary rock formations are exposed along the eastern edge of the Inland Area in the Los Medanos Hills (Dibblee 1981). These rock formations are composed of interbedded units of sandstone, siltstone, and shale. The adjacent low-lying flatlands are covered by a veneer of younger Quaternary alluvium overlying basement rocks at depth. Older alluvium outcrops in the middle of the Inland Area in a north plunging anticline. Both younger and older alluvium consist of beds of sandy, silty, and clayey deposits. Silty and clayey deposits appear to predominate.

At the Inland Area sites, the uppermost several feet of soil from top to bottom are composed of coarse-grained sands and gravels grading to silty, sandy clay and to a more cohesive clay at a depth of over 10 feet. From depths of 10 to over 100 feet, the profile is largely undifferentiated sands and gravels interfingered with more than 10-foot-thick layers of silty clays.

Shallow sediments in the Inland Area have either alluvial/estuarine origin or represent materials eroded and deposited in the vicinity of Los Medanos Hills (colluvial deposits). Based on that, two groups of sites were initially identified. First group included Sites 13 and 22; Sites 17 and 24A formed a second group. Site 27, which is likely to be included in the second group of sites, is not discussed in this document because soil samples for metals were not collected for this site. The shallow deposits that underlie the Sites 13 and 22 were formed in the alluvial depositional environment. The shallow deposits underlying the Site 17 and especially Site 24A more likely consist of the erosional remnants of bedrock from adjacent Los Medanos Hills. The soil boring logs did not show a significant difference in lithology between the two groups of sites. However, it was assumed that these two groups of sites would differ because the sediments underlying these sites seem to be composed of different mineralized source materials.

To help to decide whether the evaluation of metals background levels should be performed separately for each group of sites, the soil metals data from all the four Inland Area sites were analyzed. Specifically, the histograms and probability plots of data sets for individual metals were prepared. The data sets contained the analytical results from background sampling locations of the four sites. For this analysis, metals detectable in all soil analyses were used. The concentrations of some metals (particularly, chromium, manganese, and vanadium) displayed two distinct populations: one population corresponded to the data from Sites 17 and 24A, and another population was formed by the data from Sites 13 and 22. The concentrations of lead, nickel, and copper formed less distinct populations, but also corresponded well to the two groups of sites. Figure 3 provides an example on how the two populations of chromium concentrations were depicted by a histogram and a probability plot.

Based on these findings, background levels of metals in soils were estimated using two different data sets: (1) from Sites 13 and 22 and (2) from Sites 17 and 24A. The background sampling and estimation procedures are discussed in Sections 3.0 and 4.0, respectively.

C.3.0 BACKGROUND SAMPLING

The determination of background metal levels at Site 13 (the Burn Area), Site 22 (Building 7SH5), Site 17 (Building IA-24), and Site 24A (the Pistol Firing Range) began by identifying background sampling locations. The locations were chosen in areas topographically upgradient from each site and not affected by Navy operations or other industrial activities. The areas for background sampling were about 25 feet in width and traversed the length of each site. The locations of soil borings were determined using a stratified random approach. Each background area was divided into four areas of equal size. These areas were further divided into four subareas of equal size, and one of these subareas was randomly selected for sampling.

The locations of the borings for background sampling at each site are shown in Figures 5-8, 6-8, 7-5, 8-3, and 9-3. Eight borings were performed at Site 13, six borings at Site 22, four borings at Site 17, and four borings at Site 24A. The soil samples from each boring were collected at the 0.5-foot and 10-foot depths. Shallow soil samples were expected to exhibit elevated metal concentrations if compared with deep samples. However, the inspection of the analytical data did not confirm that and the resulting metal data sets used in evaluation were represented by both shallow and deep samples.

It should be noted that Building 7SH5 (Site 22) is situated on a berm, which raises it above the street level about 7 to 10 feet. Two of six borings (7SHSB13 and 7SHSB14) were located on a berm composed of fill material. The soil samples were collected from 1-foot and 8-foot depths. Analysis of boring logs has shown that deeper samples were likely to represent native soil conditions. Since the source of the fill is unknown but is likely to be the same materials that build up surrounding native soils, two surface fill samples remained in the background data set. Additionally, these two samples out of 31 were not expected to have effect on the estimated background levels of metals in soils.

C.4.0 ESTIMATION METHODOLOGY

Statistical procedures consistent with U.S. Environmental Protection Agency (EPA) and Department of Toxic Substances Control (DTSC) guidance documents (EPA 1989; DTSC 1992, 1994) and current practices in the environmental industry were used to establish background soil concentrations of metals. When defining a reasonable upper level of the background or ambient concentrations for a site, the 95th and 99th percentiles of the distribution were used. For the data sets with greater than 20 values, the 95th and 99th percentiles were calculated using nonparametric formula (Gilbert 1997). The 95th percentile provides a more conservative estimate of the metal background level than the 99th percentile of the distribution. For smaller data sets (that is, with less than 20 data points), the maximum value in a data set was used as an estimate of the metal background level.

A step-by-step approach for estimating background metal concentration limits was formulated as follows:

Step 1. Query the database of RI soil analytical results for all metals except essential nutrients. Account for each nondetected result by substituting a value of one half the reported detection limit.

Step 2. Use probability plots to explore the data and exclude outliers from the metal data sets. Test the distribution of the resulting ambient data sets.

Step 3. To estimate the background levels for data sets greater than 20 and less than 50 values use a nonparametric formula to calculate the 95th percentile and use a maximum concentration to approximate the 99th percentile of the distribution; for data sets less than 20 values, use maximum detected concentration.

The evaluation was performed for all the metals available in the database of RI soil analytical results, excluding metals that are considered essential nutrients for human health (sodium, potassium, calcium, magnesium, and iron). The metal data set for naturally occurring soils at Sites 13 and 22 contained more than 20 concentration values for each metal, and the metal background levels were estimated as the 95th and 99th percentiles of the distribution. The 99th percentile was approximated as a maximum value in the background data set. The data set for naturally occurring soils at Sites 17 and 24A included only 16 concentration values for each metal, and the metal background level was estimated as maximum detected concentration. This estimation was considered reasonable based on observed narrow ranges of the soil metals from Sites 17 and 24A (Table 2).

The following three subsections describe briefly the statistical methods that were used to estimate background concentration limits for soil metals. A more detailed description of specific procedures used in the estimation may be found in the technical memorandum on estimating ambient metal concentrations in soils prepared for Mare Island Naval Shipyard in December 1995 (PRC 1995).

C.4.1 DATA SET PREPARATION

Before the upper limits of the background metal concentrations could be estimated, most of the data sets required special preparation. Preparation procedures included steps to account for the nondetected results and to perform exploratory data analysis using probability plots and histograms.

The process of estimating background metal concentrations must account for analytical results reported as nondetects. Similar to the treatment of nondetectable results in the risk assessment, a value of one-half the reported detection limit was substituted for each nondetect data point. For several metals, including antimony, beryllium, cadmium, and thallium nondetect results

constitute a significant percentage (nearly 50 percent or more) of the data set. For molybdenum, selenium, and silver the entire data set consists of nondetected results (see Tables 1 and 2).

For graphical analysis of soil metal data, the probability plots and histograms were prepared with Geo-EAS geostatistical software (EPA 1991). The probability plot is a graph of the ranked variable values, plotted against their cumulative percentiles. The vertical axis is scaled in units of the variable (metal concentrations), and the horizontal axis is scaled in units of cumulative percent. If the normal probability plot is a straight line, it is evidence of underlying normal distribution. A straight line on a lognormal probability plot (for which the vertical axis is scaled in units of the logarithm of the metal concentrations) suggests that the lognormal distribution is a better model. The histogram provides a more detailed look at a data set, while presenting an overall shape of the data set distribution (that is, whether it is symmetrical or skewed and unimodal or polymodal). Figure 3 is an example of probability plots and histograms.

To evaluate whether it was necessary to transform a specific data set to logarithms to approximate a normal distribution or to aid in visualizing the data, summary statistics, including the mean, standard deviation, coefficient of variation, skewness, and kurtosis were calculated. In particular, the values of skewness and kurtosis were useful indicators of the need for data set transformation. The skewness coefficient sums the deviations from the mean raised to the third power and indicates the asymmetry of the data set distribution. A normal distribution has a skewness coefficient of 0. The kurtosis coefficient sums the deviations from the mean raised to the fourth power and indicates the peakedness of the data set distribution. A normal distribution has a kurtosis coefficient of 3.

The statistical means described above may be less efficient for small data sets, as is the case for a data set from Sites 17 and 24A. The preparation procedures for each metal concentrations data set were completed after excluding anomalously high or low values and testing the distribution as described in Section 4.2.

C4.2 EXCLUSION OF OUTLIERS AND NORMALITY TESTING

In performing frequency distribution analysis, a few metal concentrations may be significantly greater or lower than the concentrations of the main population. These outliers can be initially identified on histograms and probability plots but are defined more rigorously as concentrations greater than 3 times the standard deviation from the mean (for normally or lognormally distributed data). The outliers were removed from the data sets to reduce their impact on the estimates of background levels. It should be noted that because the data points considered as anomalously high concentrations may also represent extreme values of actual background concentrations, their exclusion may lead to conservative (that is, low) estimates of ambient limits. The simultaneous exclusion of anomalously low or nondetect values from the data sets may partially compensate for this bias. Tables 1 and 2 provide information on the number of the data points excluded from each metal data set.

Among all the metals evaluated for each group of sites, only arsenic displayed a high variation. In four shallow samples from Site 22 borings 7SHSB13, 7SHSB14, 7SHSB21, and 7SHSB22 (at 0.5-foot and 1-foot depths) and one deep sample from boring 7SHSB22 (at 10.5-foot depth), the extreme arsenic concentrations ranged from 72.3 to 250 mg/kg. These anomalously high values were excluded from background data set as outliers.

After making final adjustments to the background data sets as described previously, a probability plot was prepared for each metal of interest to confirm the effectiveness of the preparation procedures and to proceed with estimation of background limits as described below.

4.3 CALCULATION OF BACKGROUND METAL CONCENTRATION LIMITS

After making final adjustments to the background data sets as described above, a probability plot was prepared for each metal of interest to confirm the effectiveness of the preparation procedures and to proceed with calculation of background limits. The metal data sets for naturally occurring soils at Sites 13 and 22 contained from 23 to 31 concentration values. For these data sets, the metal background levels were estimated as the 95th and 99th percentiles of the distribution (with the 99th percentile approximated as a maximum value in the background data set). The data sets for soils at Sites 17 and 24A included only 14 or 16 concentration values for each metal, and the metal background level was estimated as maximum detected concentration.

A step-by-step procedure to determine the 95th percentile of the distribution is discussed below (Gilbert 1987).

Step 1. Rank the data from minimum to maximum to obtain the sample order statistics:

$$x_1 \leq x_2 \leq \ldots \leq x_l \ldots \leq x_n$$

Step 2. Calculate l:

$$l = p\,(n + 1)$$

Where

p = 0.95

n = number of values in the background data set

Step 3. If the calculated l is an integer, then the 95th percentile is the lth largest datum (among the ranked concentrations) in the data set. If l is not an integer, estimate the 95th percentile by linear interpolation between the two concentrations closest to l.

The 99th percentile is estimated in the same way using $p = 0.99$. For data sets with less than 100 values, however, the calculated l exceeds the largest datum in the data set. Therefore, the 99th percentile is approximated as the maximum value in the data set.

C.5.0 SUMMARY OF FINDINGS

The background concentration limits in naturally occurring soils of two groups of sites (Sites 13, 22 and Sites 17, 24A) estimated for metals in soils as described in Section 4.0 are presented in Tables 1 and 2. The tables include EPA Region IX PRGs (EPA 1995) for comparison purposes. The estimated limits for arsenic and beryllium exceeded this criterion, as indicated in the tables by an asterisk.

Probability plots that support the estimations are shown on Figures 4 through 34. The plots include only the data points that remained in the data set after the exclusion of outliers; the number of data points used corresponds to the data set size column shown in Tables 1 and 2. The plots also provide summary statistics including the mean, standard deviation, coefficient of variation, skewness, and kurtosis**.** The population of nondetectable results is indicated on the plots as "ND" where significant. The type of underlying data set distribution (normal, lognormal, and nonparametric) is also noted. For some data sets with nonparametric distribution, the plots are given in logarithmic scale to facilitate their examination.

C.6.0 REFERENCES

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FIGURES

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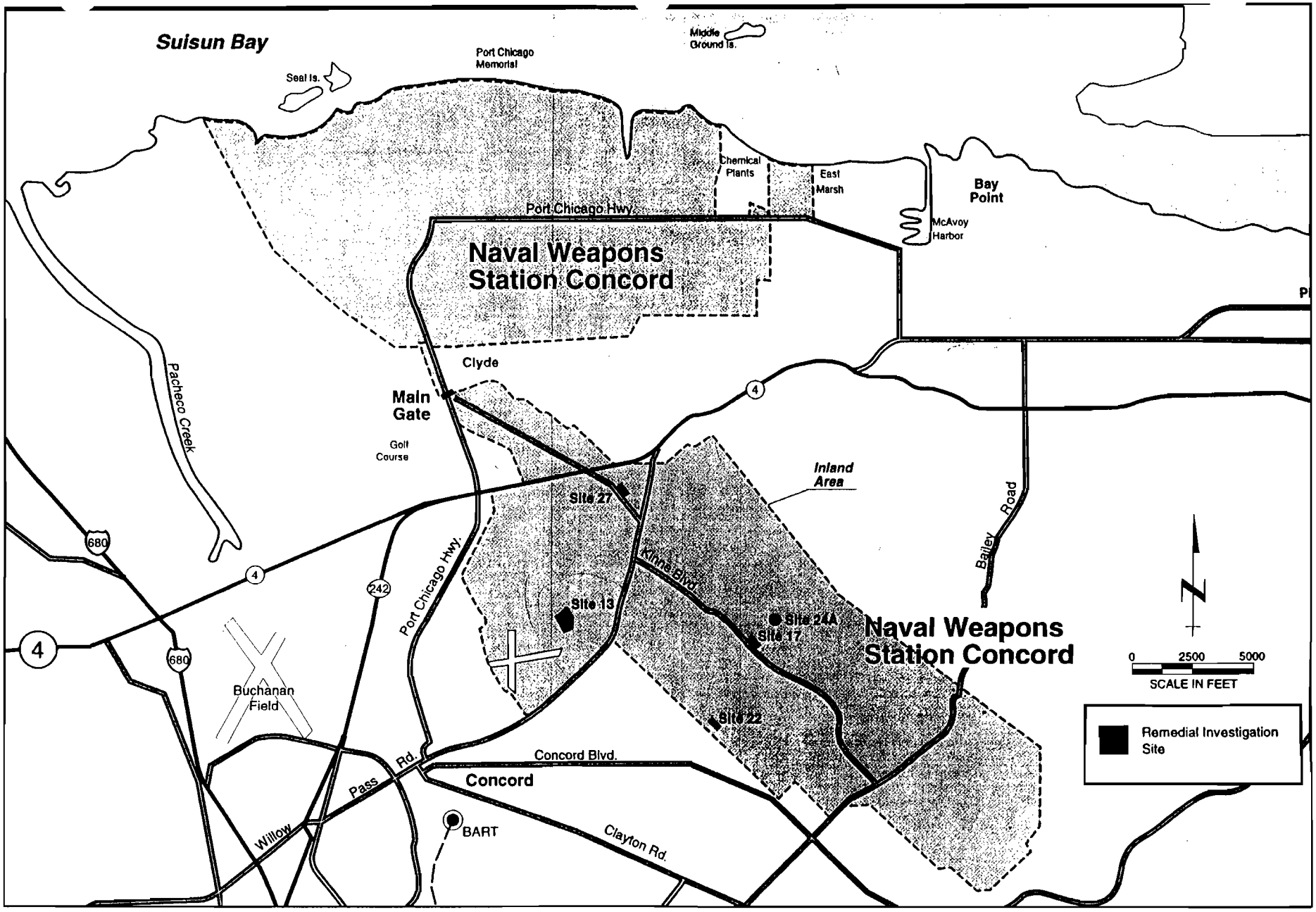
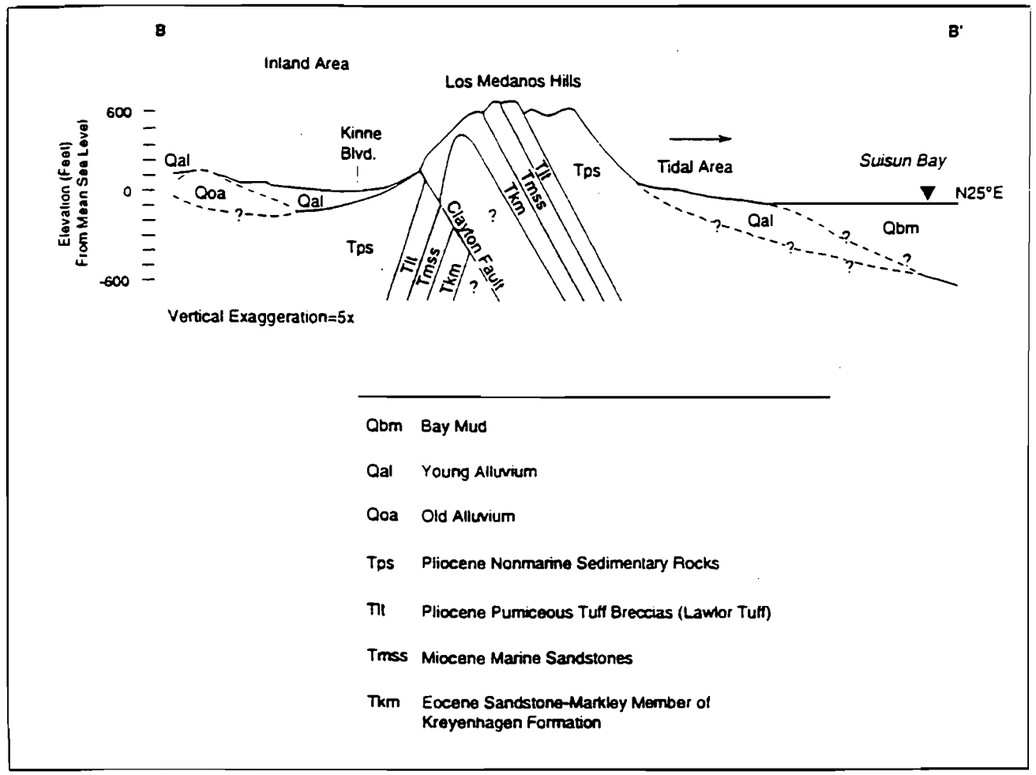
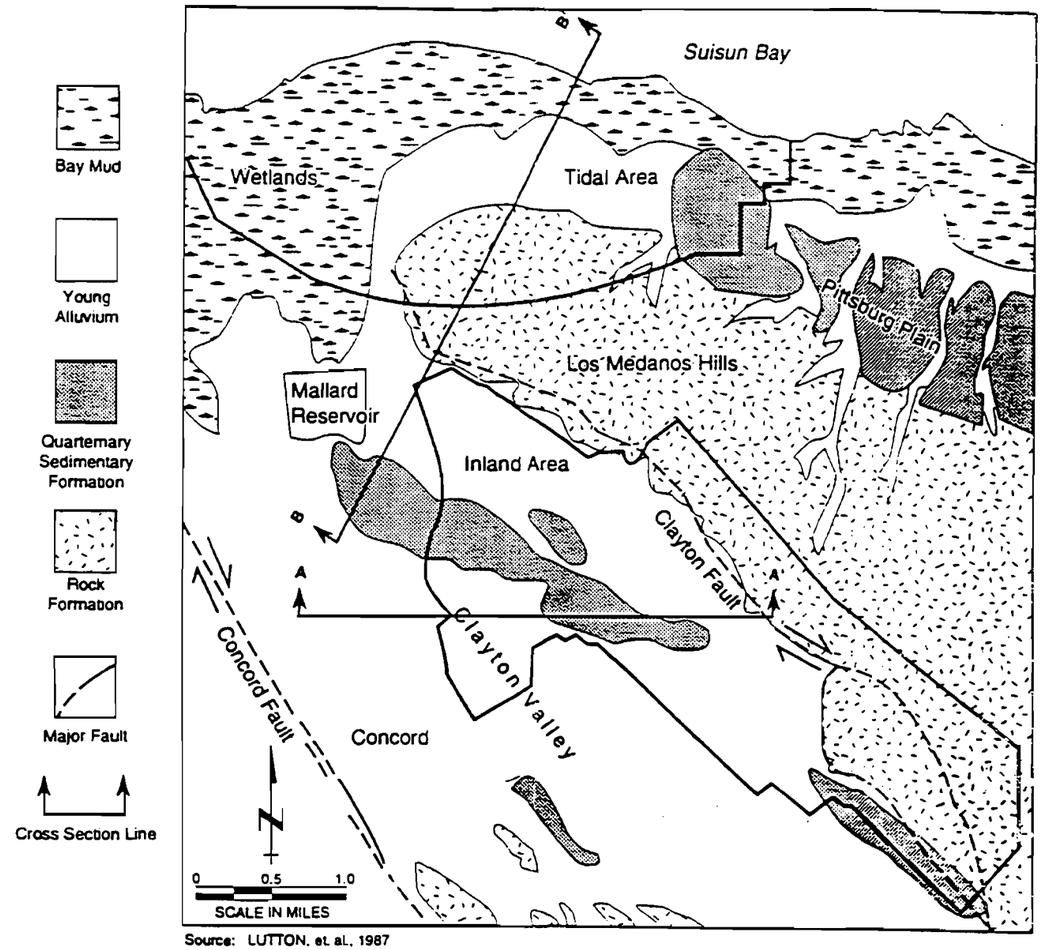


FIGURE 1
INLAND AREA INVESTIGATION SITES
NAVAL WEAPONS STATION CONCORD

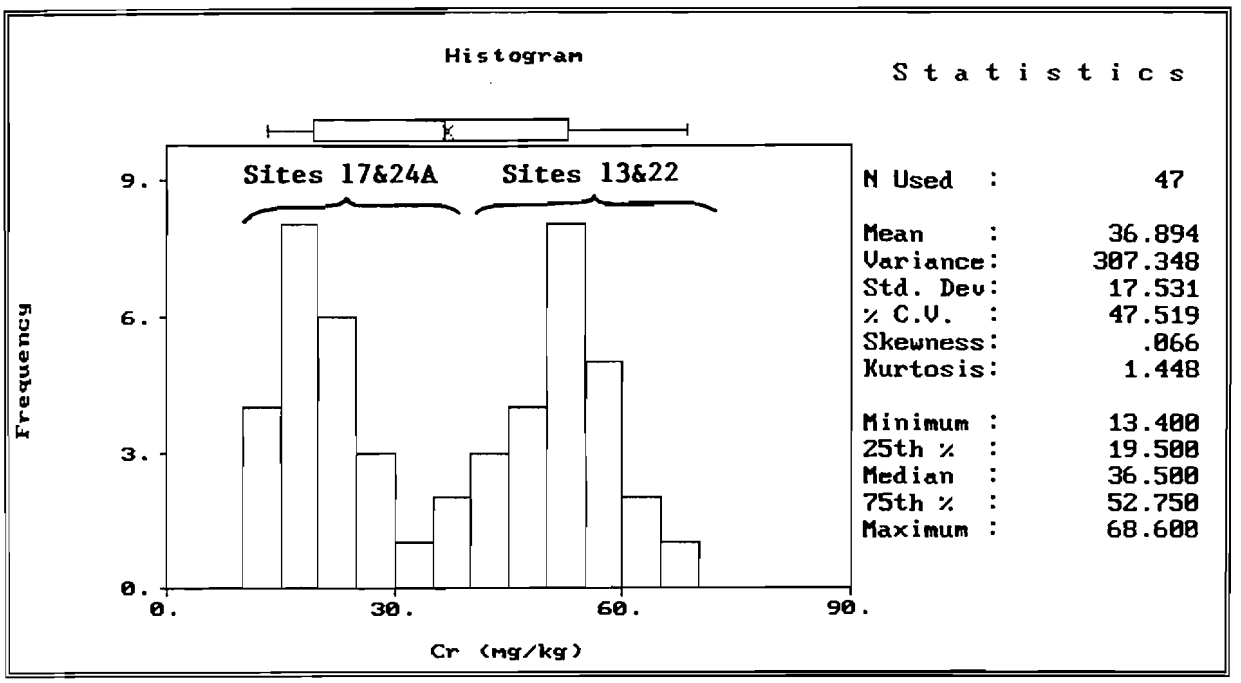


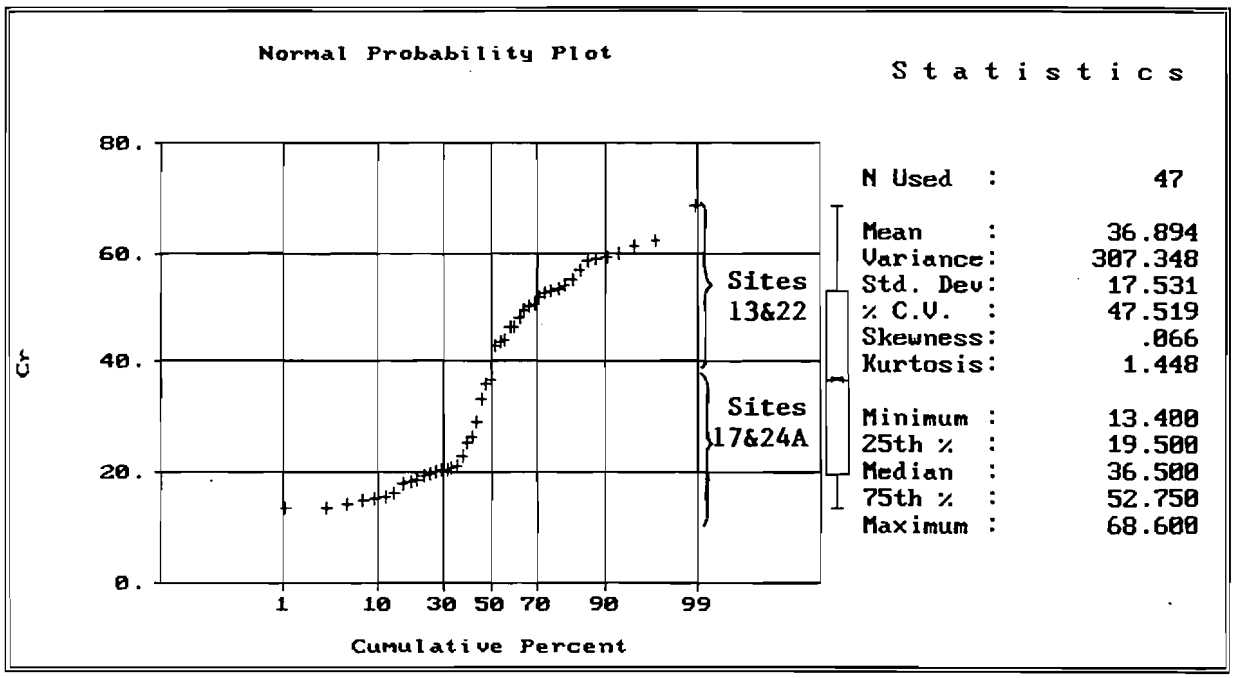
Source: Adapted from DIBBLEE, 1981



Source: LUTTON, et. al., 1987
DIBBLEE, 1980a,b,c, 1981

FIGURE 2
GEOLOGIC MAP
NAVAL WEAPONS
STATION CONCORD





Notes: Both plots illustrate distribution of chromium concentrations in soils of Sites 13, 22, 17, and 24A. Two groups of concentrations, shown with brackets on the plots, indicate the difference between two groups of sites (13 and 22; 17 and 24A).

FIGURE 3
HISTOGRAM AND PROBABILITY PLOT OF CHROMIUM CONCENTRATIONS IN SOILS OF THE INLAND AREA SITES 13, 22, 17, AND 24A
NAVAL WEAPONS STATION CONCORD

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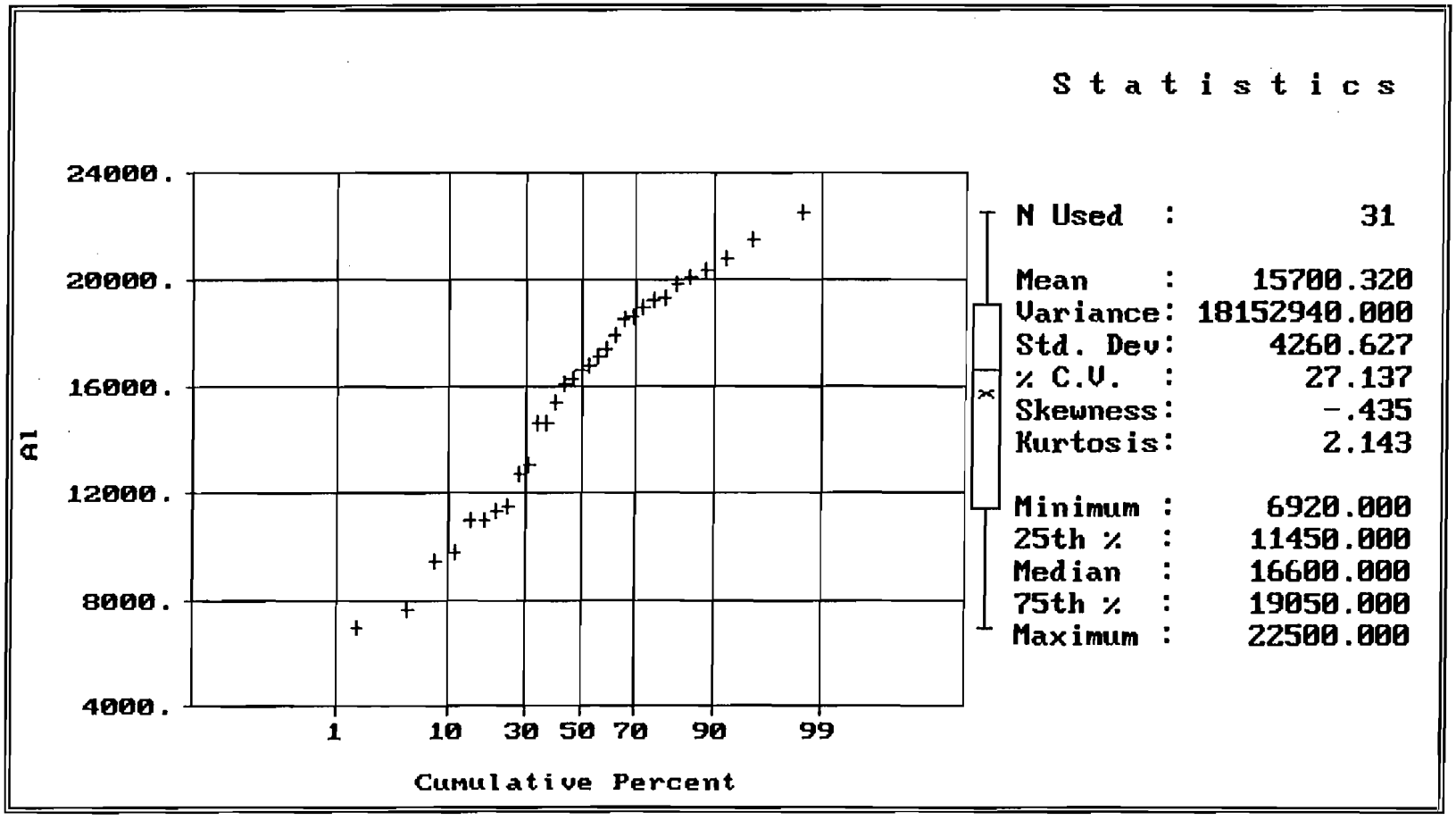
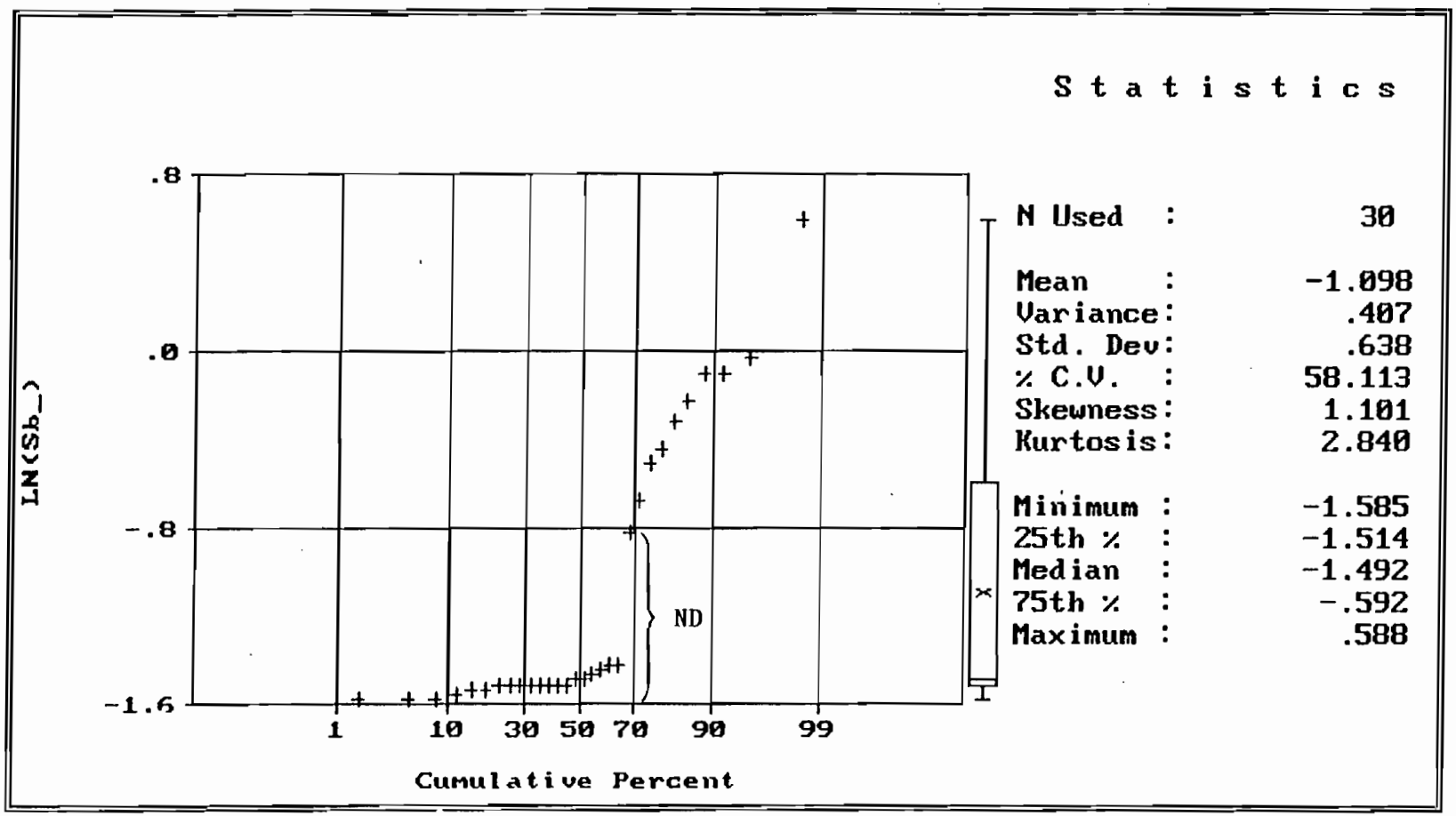


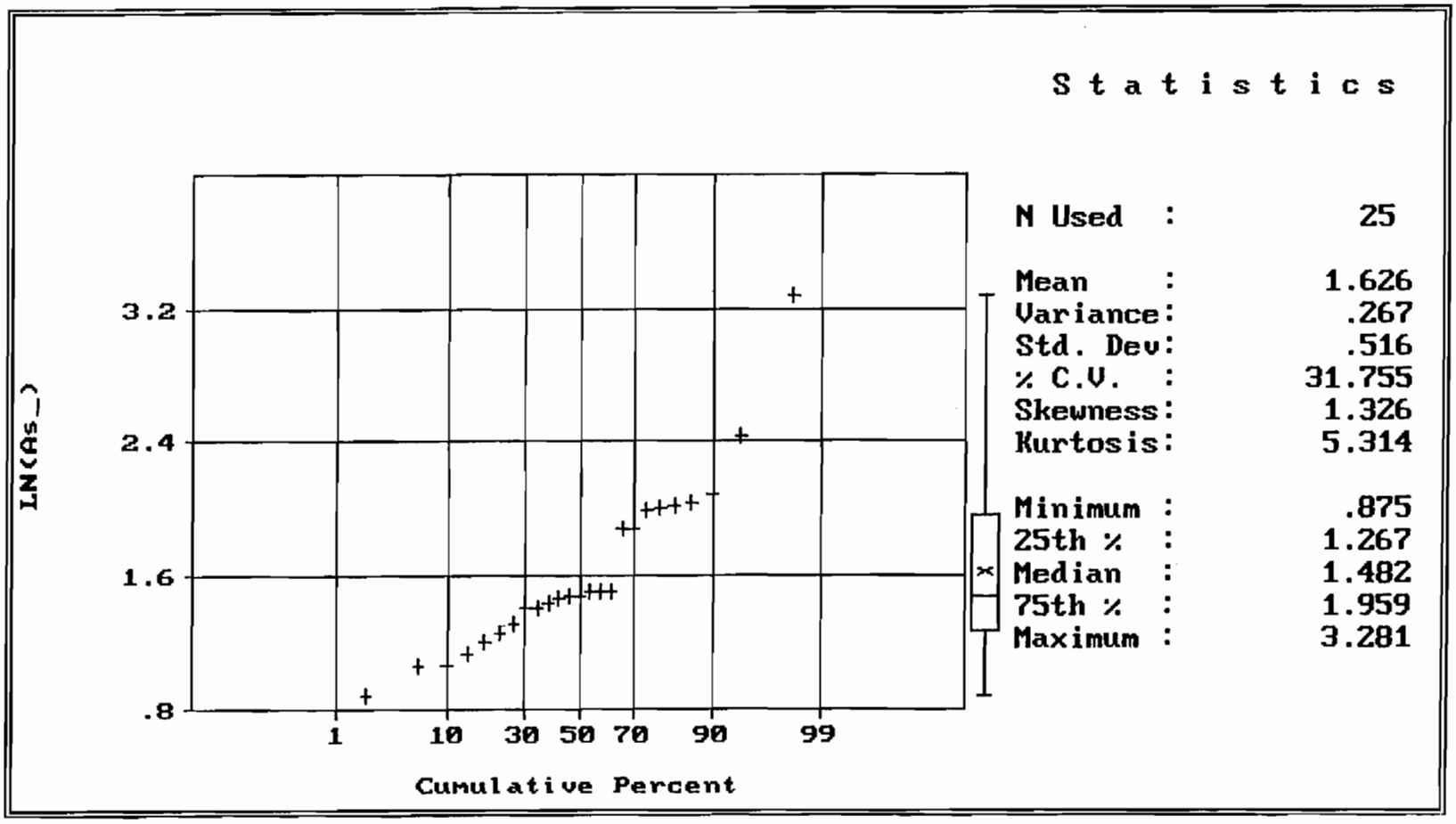
Note: The data set distribution is normal.

FIGURE 4
PROBABILITY PLOT OF BACKGROUND ALUMINUM
CONCENTRATIONS IN SOILS OF THE INLAND AREA
SITES 13 AND 22
NAVAL WEAPONS STATION CONCORD



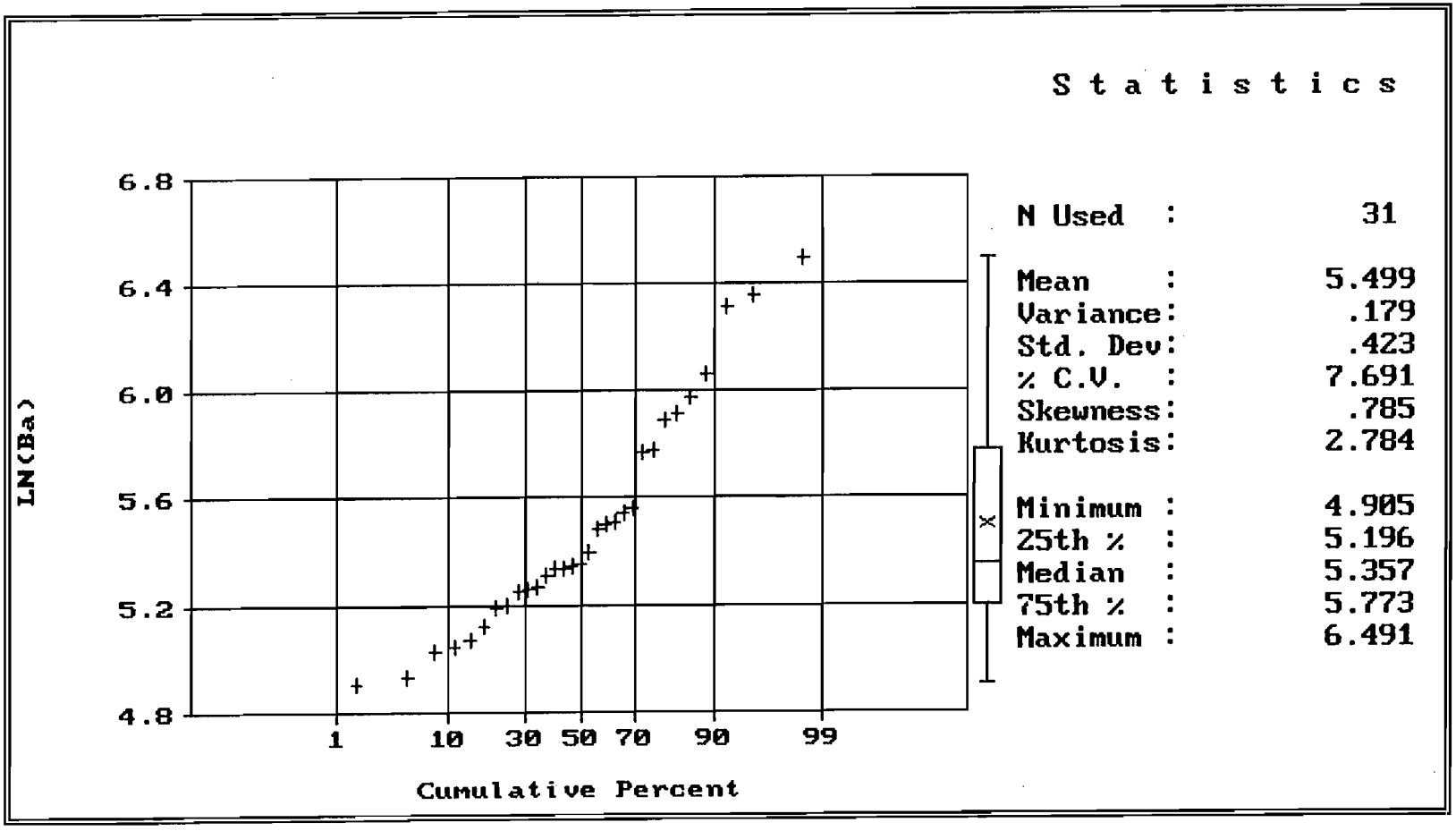
Note: The data set distribution is nonparametric.

FIGURE 5
PROBABILITY PLOT OF BACKGROUND ANTIMONY
CONCENTRATIONS IN SOILS OF THE INLAND AREA
SITES 13 AND 22
NAVAL WEAPONS STATION CONCORD



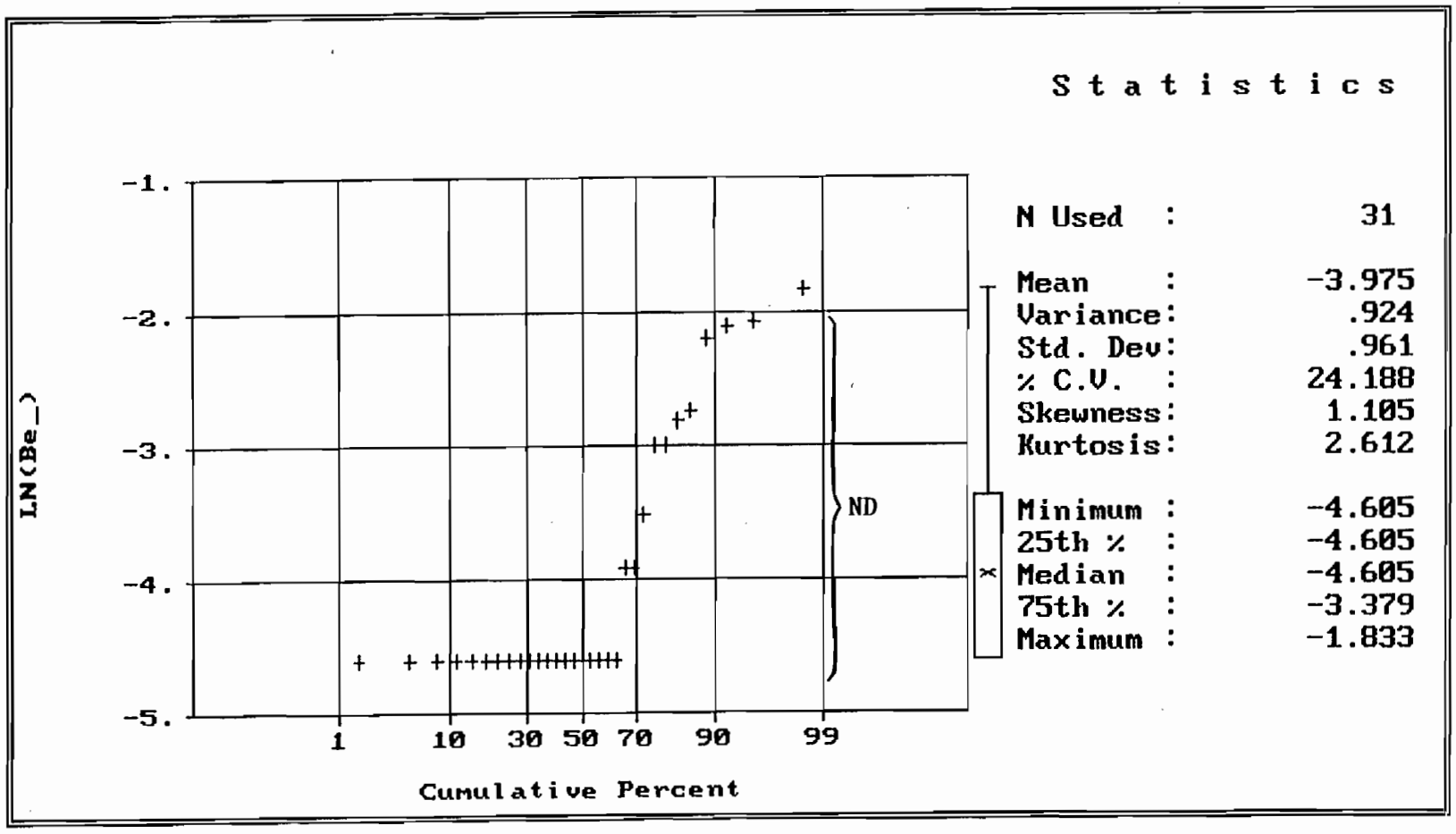
Note: The data set distribution is nonparametric.

FIGURE 6
PROBABILITY PLOT OF BACKGROUND ARSENIC
CONCENTRATIONS IN SOILS OF THE INLAND AREA
SITES 13 AND 22
NAVAL WEAPONS STATION CONCORD



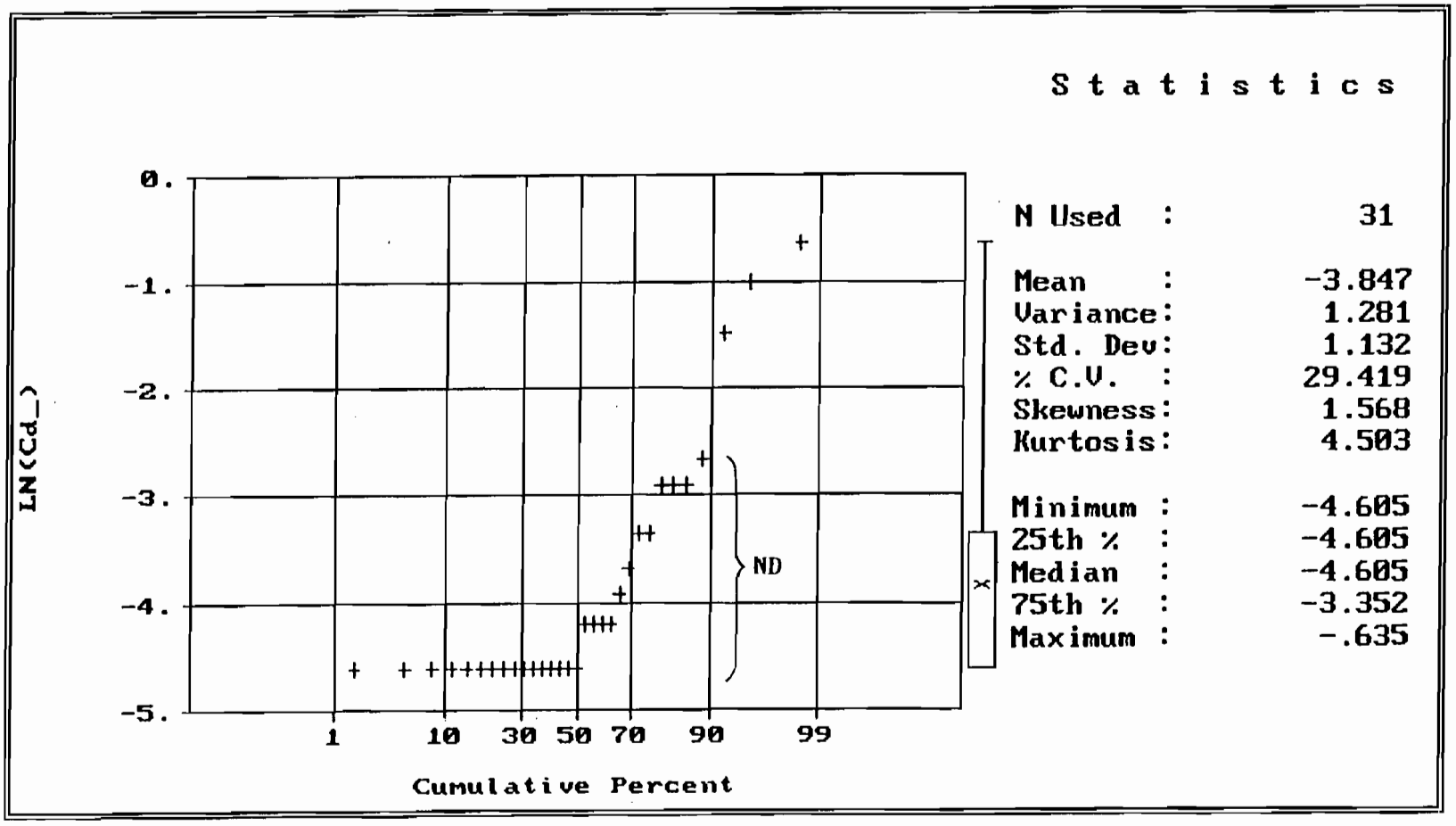
Note: The data set distribution is nonparametric.

FIGURE 7
PROBABILITY PLOT OF BACKGROUND BARIUM
CONCENTRATIONS IN SOILS OF THE INLAND AREA
SITES 13 AND 22
NAVAL WEAPONS STATION CONCORD



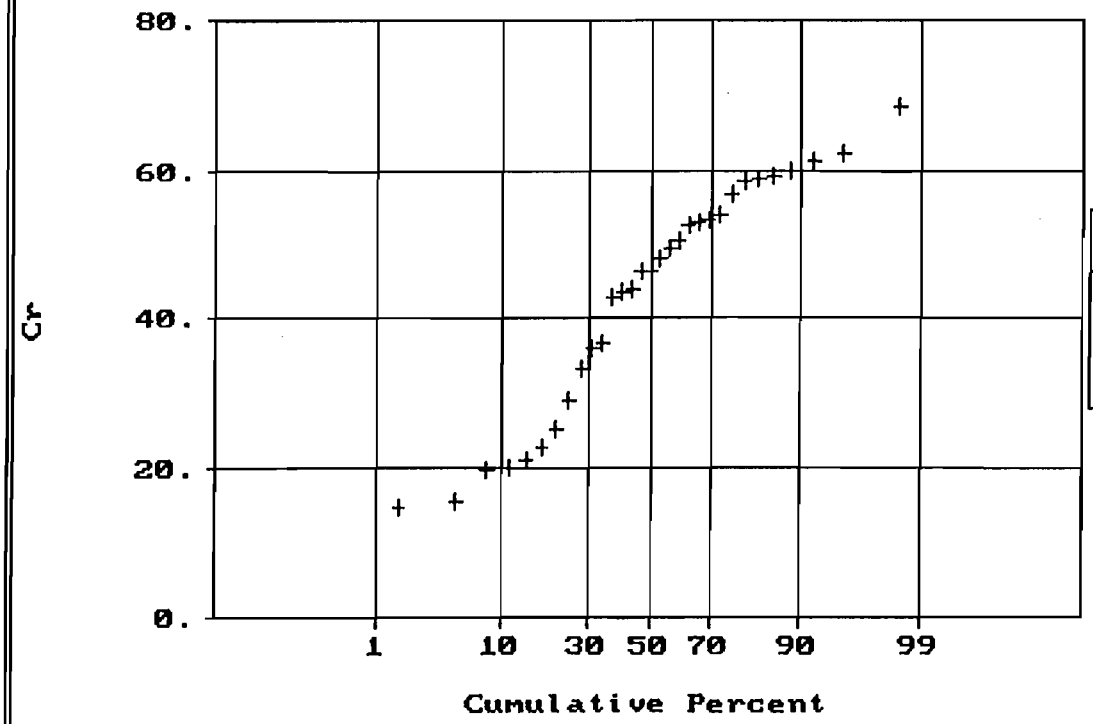
Note: The data set distribution is nonparametric.

FIGURE 8
PROBABILITY PLOT OF BACKGROUND BERYLLIUM
CONCENTRATIONS IN SOILS OF THE INLAND AREA
SITES 13 AND 22
NAVAL WEAPONS STATION CONCORD



Note: The data set distribution is nonparametric.

FIGURE 9
PROBABILITY PLOT OF BACKGROUND CADMIUM
CONCENTRATIONS IN SOILS OF THE INLAND AREA
SITES 13 AND 22
NAVAL WEAPONS STATION CONCORD

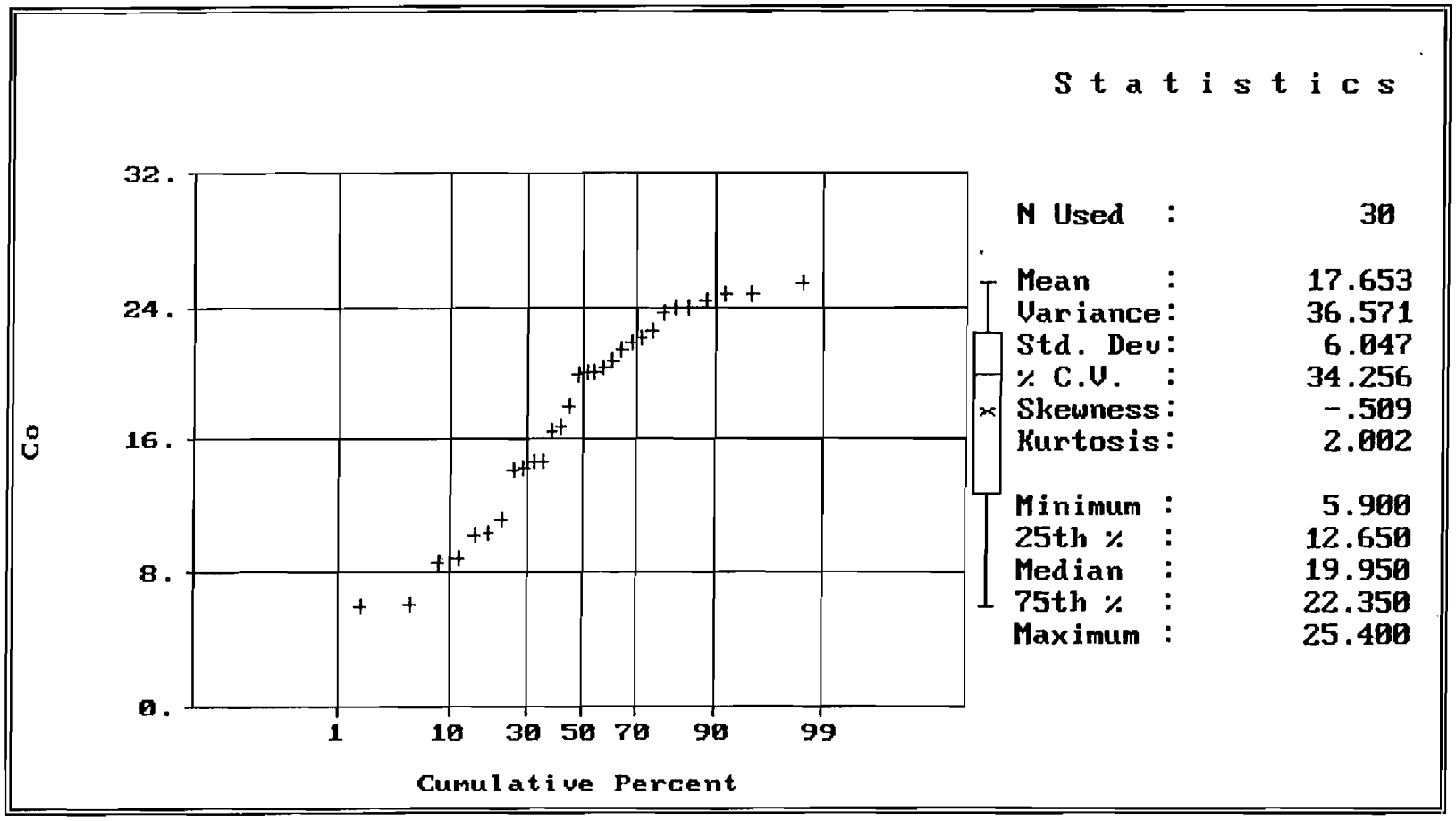


Statistics

N Used :	31
Mean :	43.303
Variance:	245.051
Std. Dev:	15.654
% C.V. :	36.150
Skewness:	-.437
Kurtosis:	1.957
Minimum :	14.900
25th % :	28.050
Median :	46.400
75th % :	54.500
Maximum :	68.600

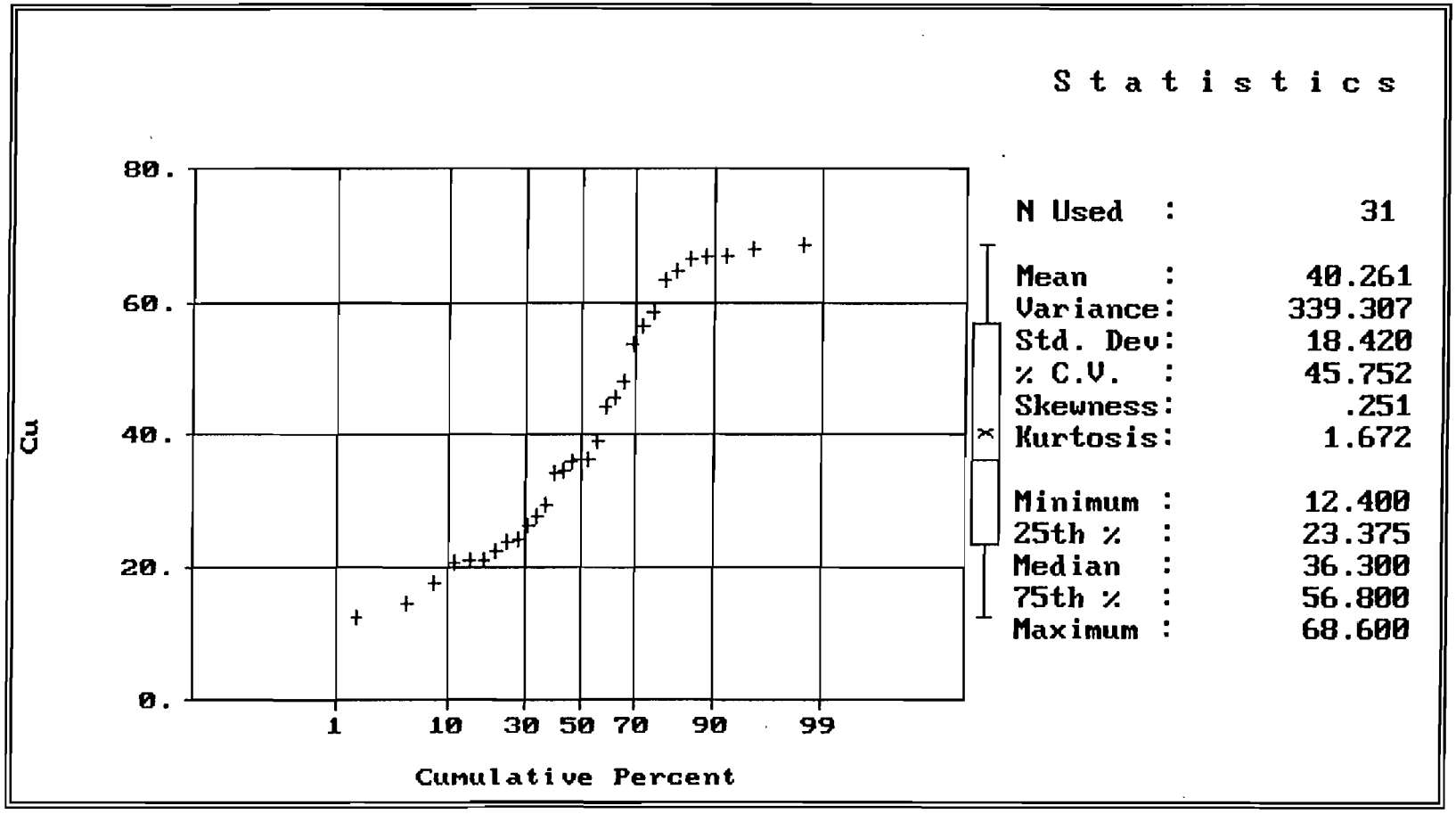
Note: The data set distribution is nonparametric.

FIGURE 10
PROBABILITY PLOT OF BACKGROUND CHROMIUM CONCENTRATIONS IN SOILS OF THE INLAND AREA SITES 13 AND 22
NAVAL WEAPONS STATION CONCORD



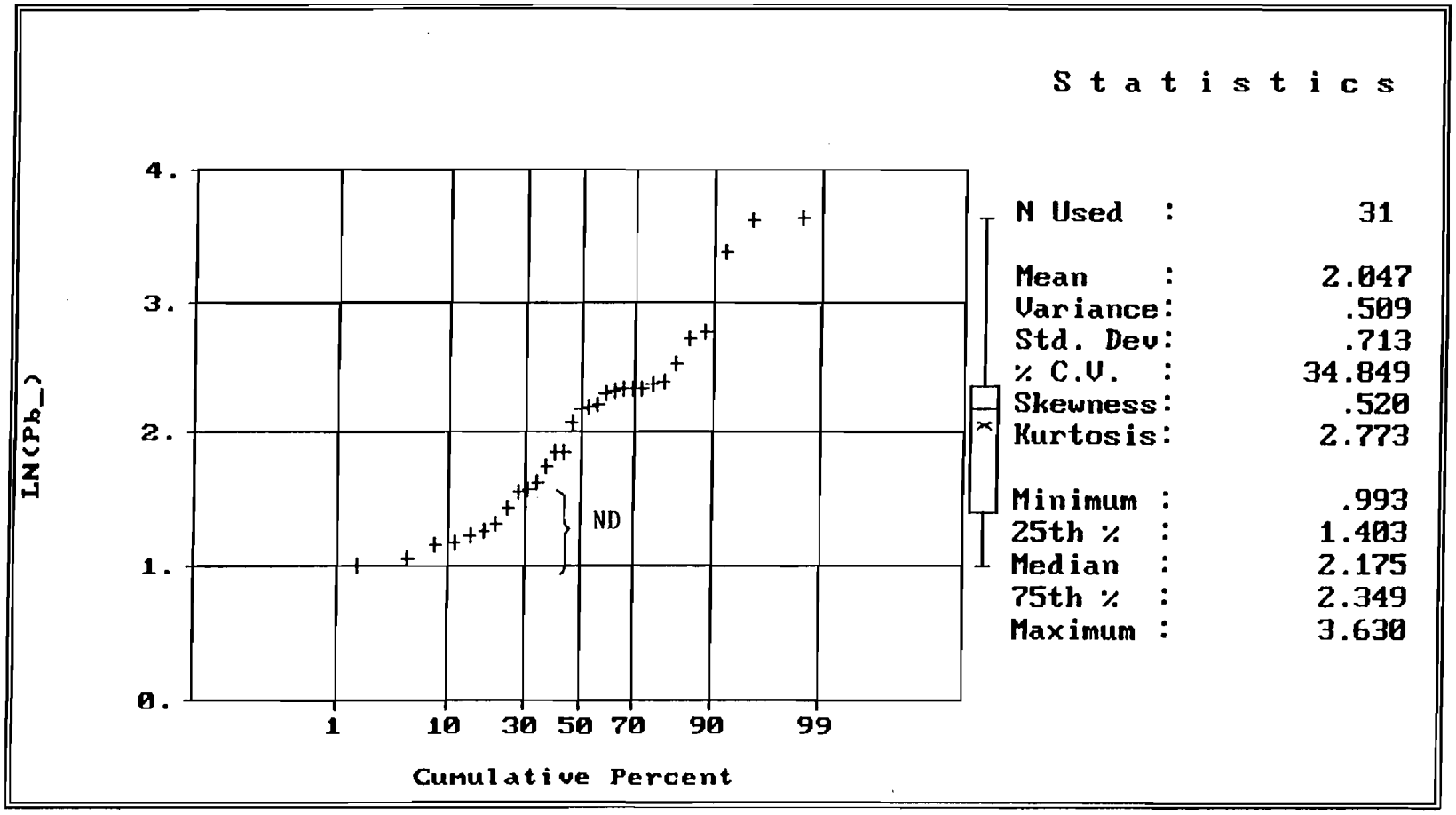
Note: The data set distribution is nonparametric.

FIGURE 11
PROBABILITY PLOT OF BACKGROUND COBALT
CONCENTRATIONS IN SOILS OF THE INLAND AREA
SITES 13 AND 22
NAVAL WEAPONS STATION CONCORD



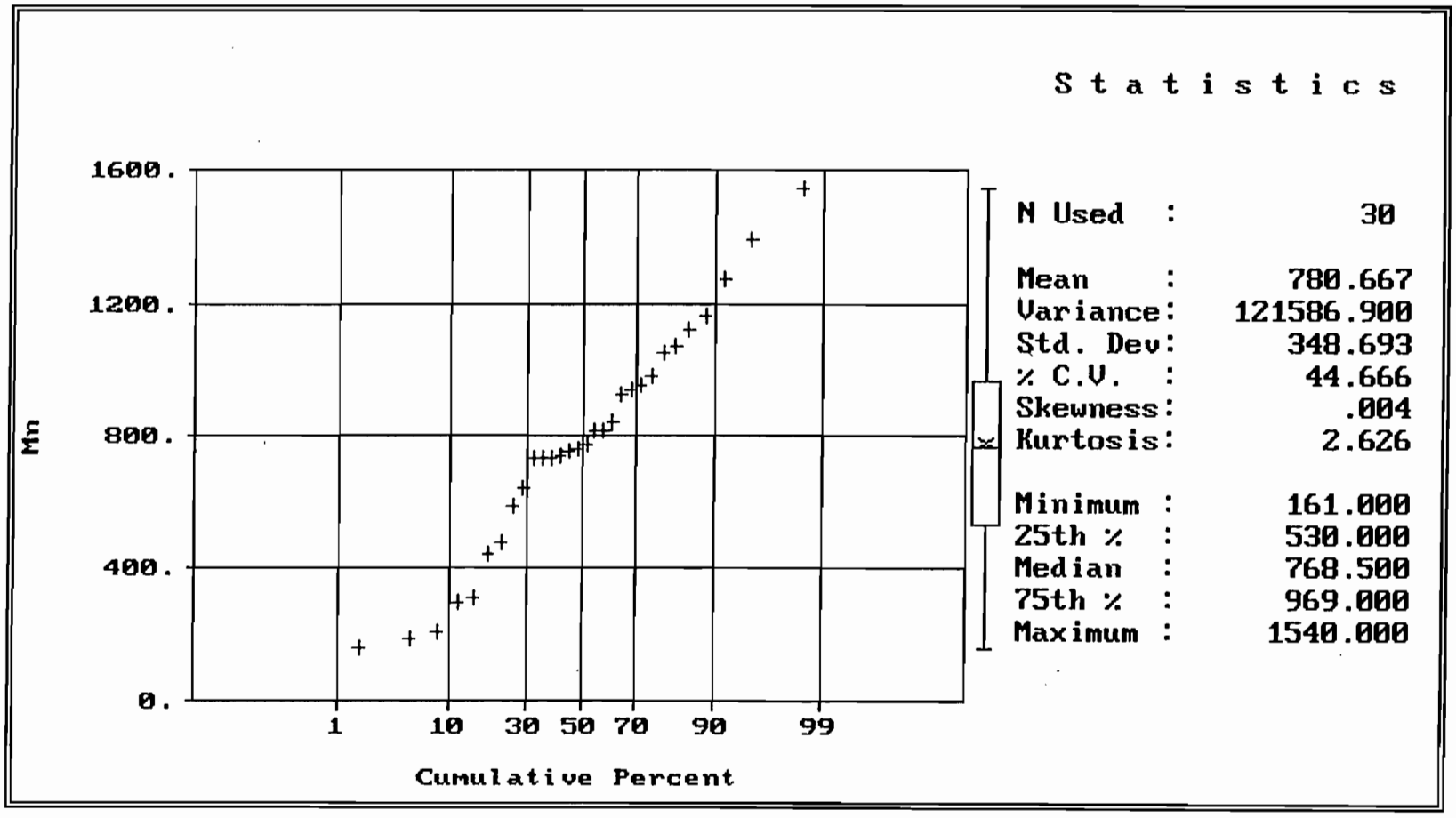
Note: The data set distribution is normal.

FIGURE 12
PROBABILITY PLOT OF BACKGROUND COPPER
CONCENTRATIONS IN SOILS OF THE INLAND AREA
SITES 13 AND 22
NAVAL WEAPONS STATION CONCORD



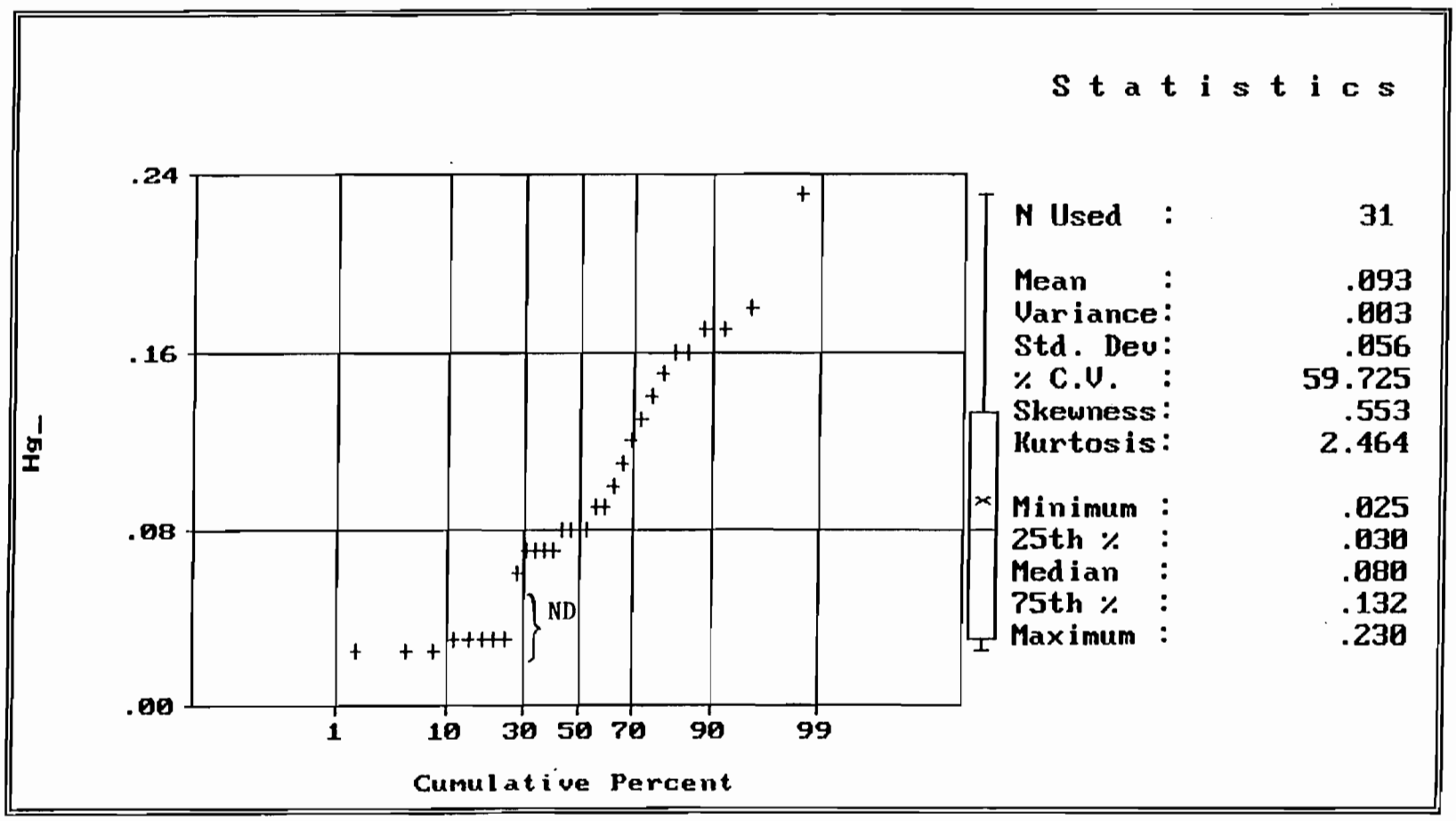
Note: The data set distribution is lognormal.

FIGURE 13
PROBABILITY PLOT OF BACKGROUND LEAD
CONCENTRATIONS IN SOILS OF THE INLAND AREA
SITES 13 AND 22
NAVAL WEAPONS STATION CONCORD



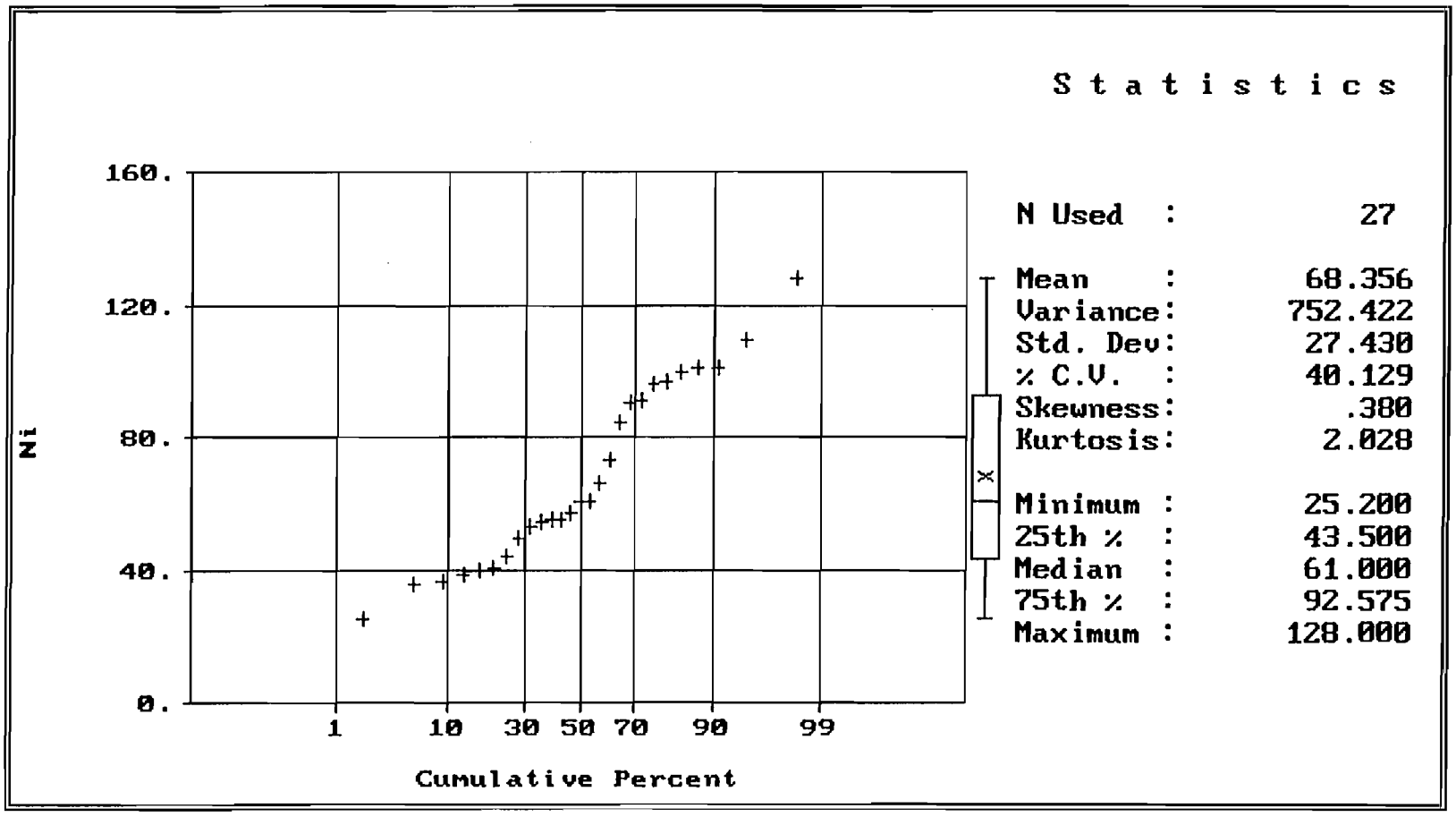
Note: The data set distribution is normal.

FIGURE 14
PROBABILITY PLOT OF BACKGROUND MANGANESE
CONCENTRATIONS IN SOILS OF THE INLAND AREA
SITES 13 AND 22
NAVAL WEAPONS STATION CONCORD



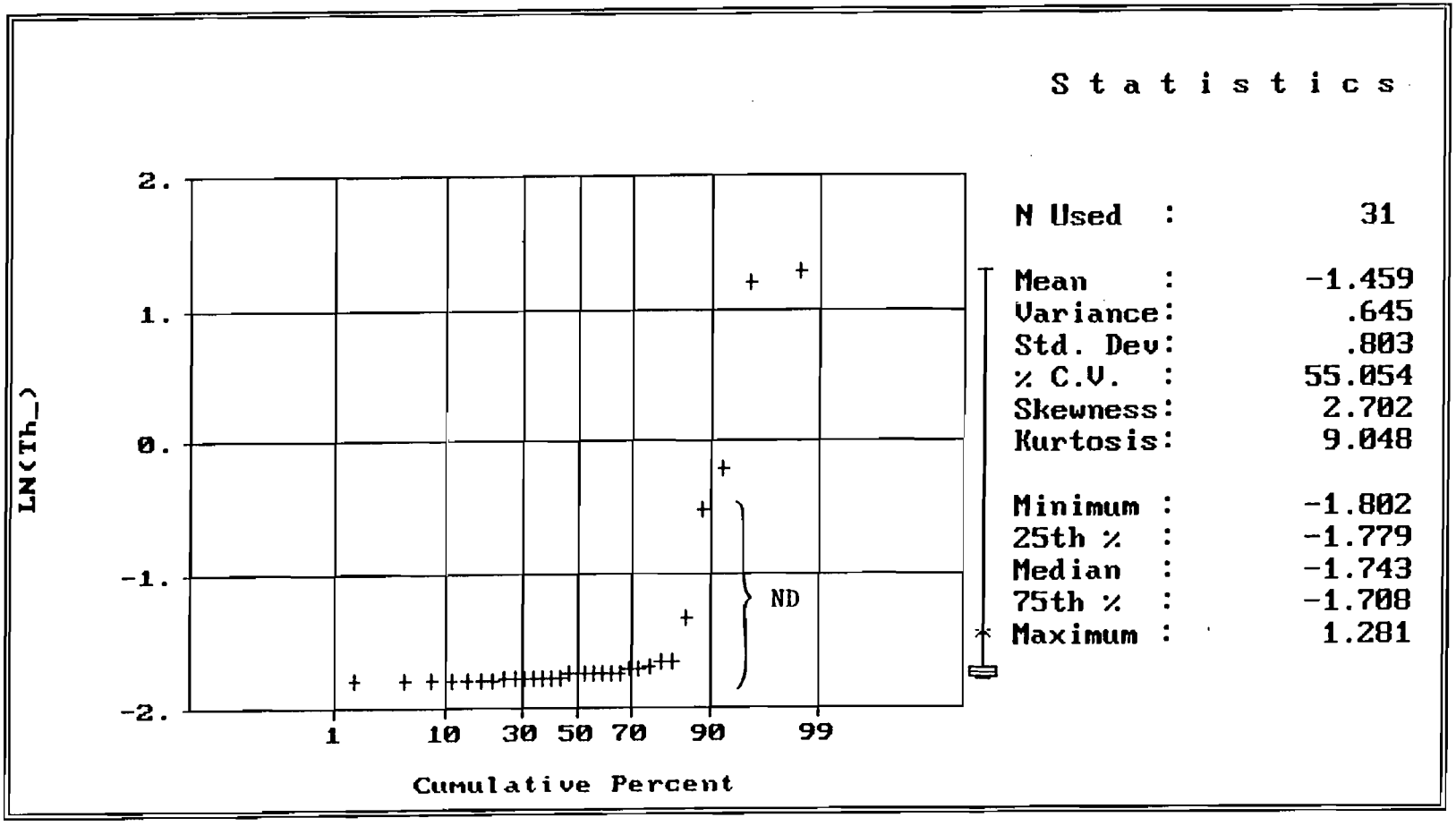
Note: The data set distribution is nonparametric.

FIGURE 15
PROBABILITY PLOT OF BACKGROUND MERCURY
CONCENTRATIONS IN SOILS OF THE INLAND AREA
SITES 13 AND 22
NAVAL WEAPONS STATION CONCORD



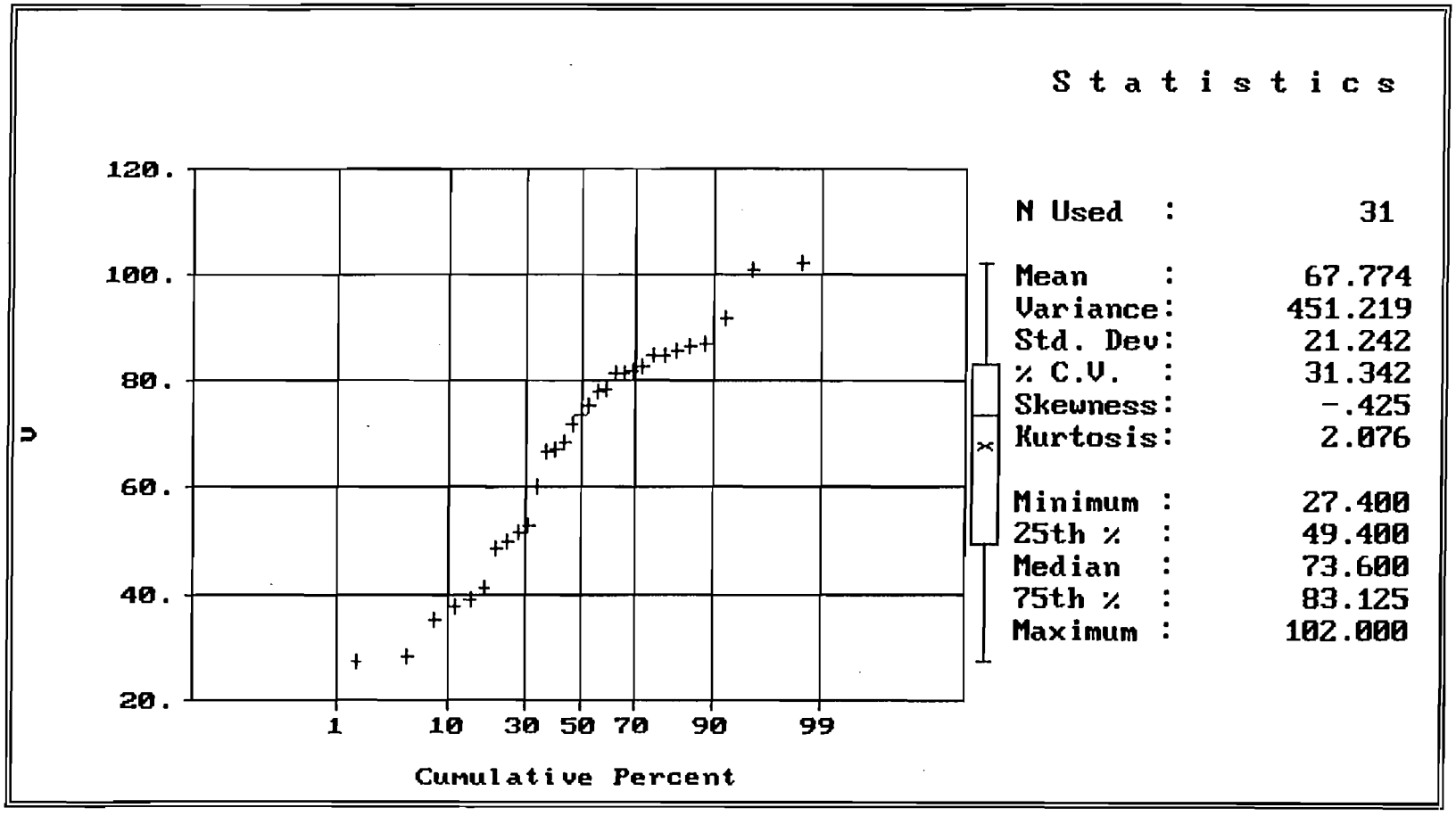
Note: The data set distribution is normal.

FIGURE 16
PROBABILITY PLOT OF BACKGROUND NICKEL
CONCENTRATIONS IN SOILS OF THE INLAND AREA
SITES 13 AND 22
NAVAL WEAPONS STATION CONCORD



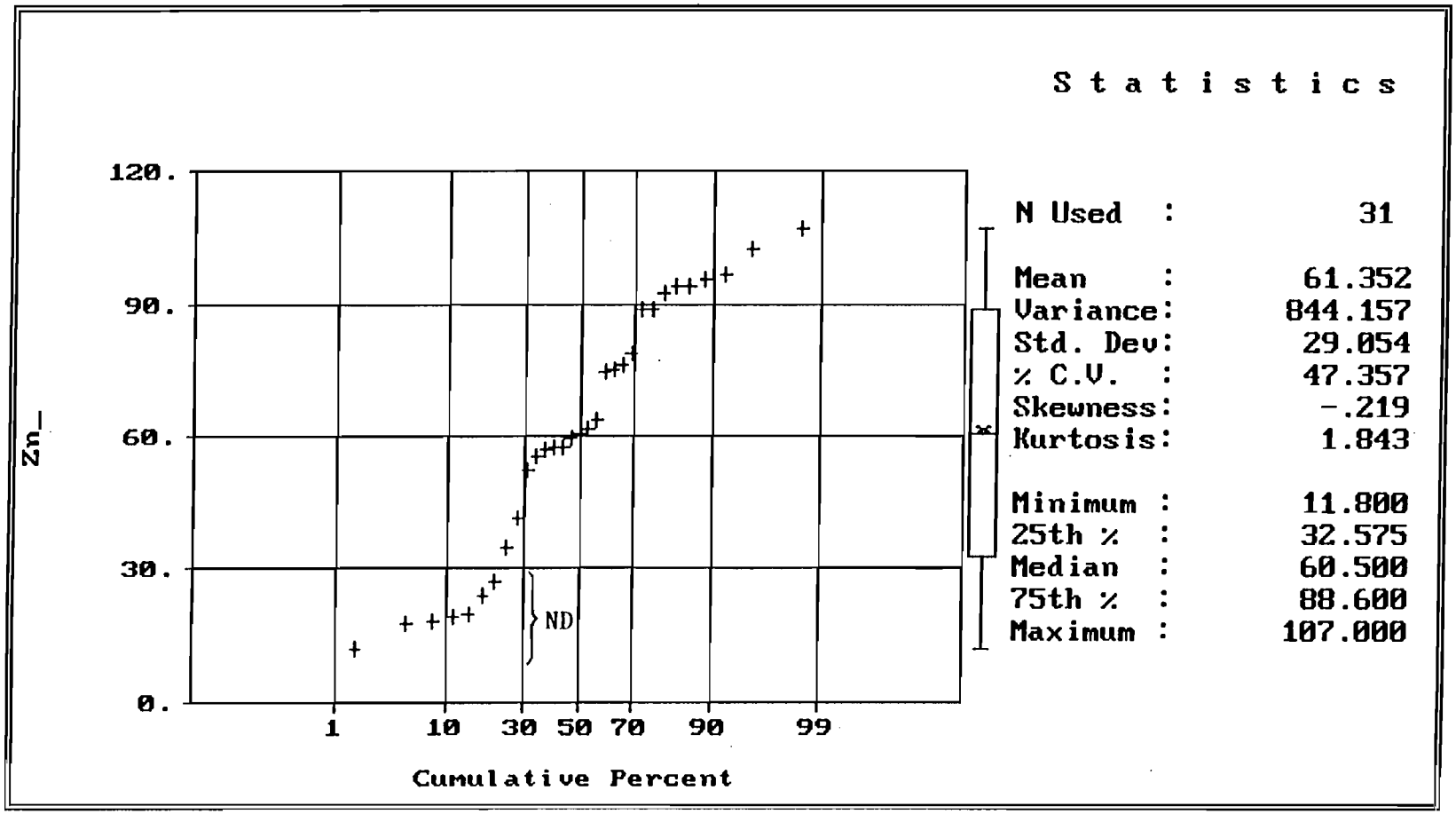
Note: The data set distribution is nonparametric.

FIGURE 17
PROBABILITY PLOT OF BACKGROUND THALLIUM
CONCENTRATIONS IN SOILS OF THE INLAND AREA
SITES 13 AND 22
NAVAL WEAPONS STATION CONCORD



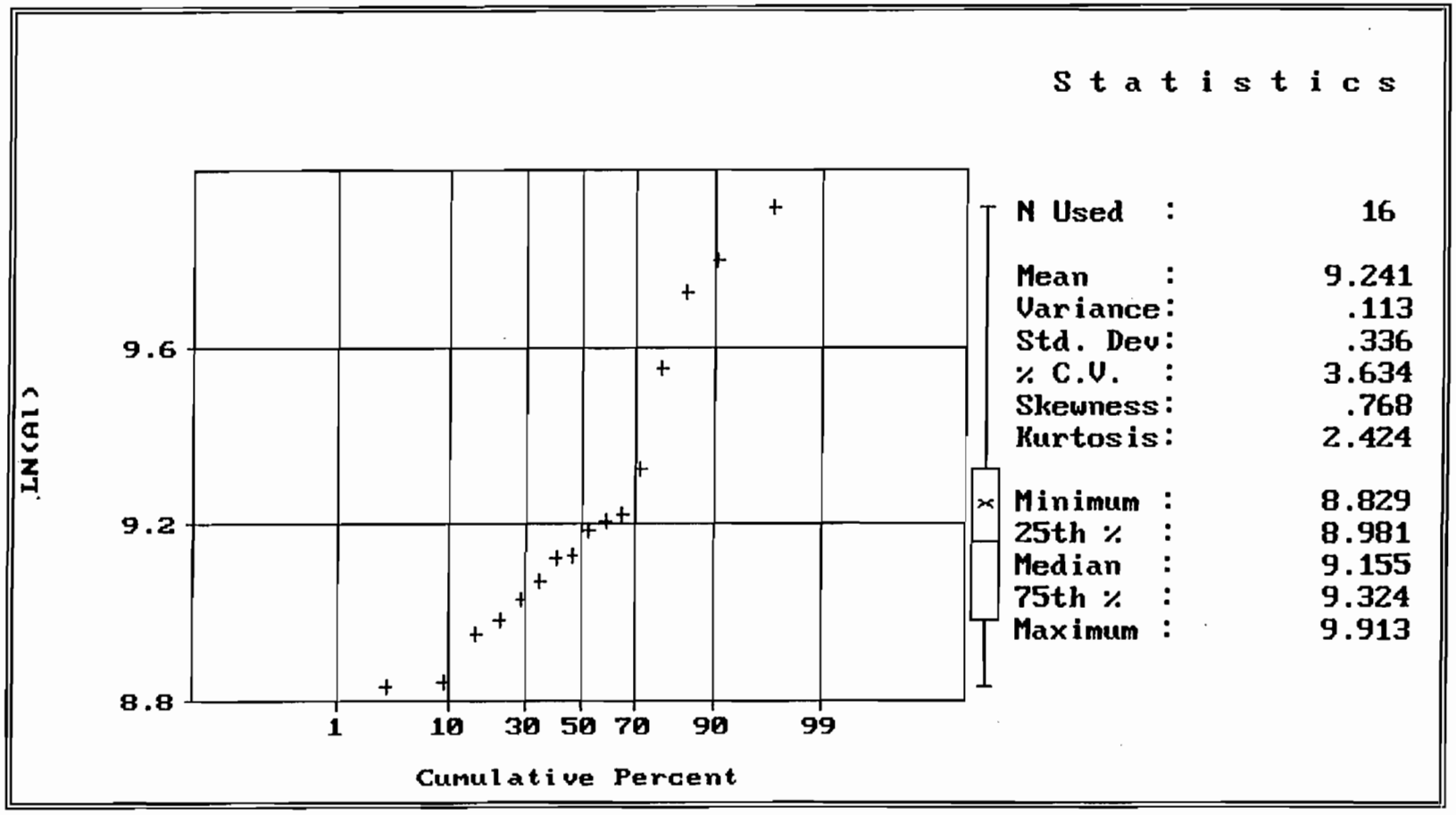
Note: The data set distribution is normal.

FIGURE 18
PROBABILITY PLOT OF BACKGROUND VANADIUM
CONCENTRATIONS IN SOILS OF THE INLAND AREA
SITES 13 AND 22
NAVAL WEAPONS STATION CONCORD



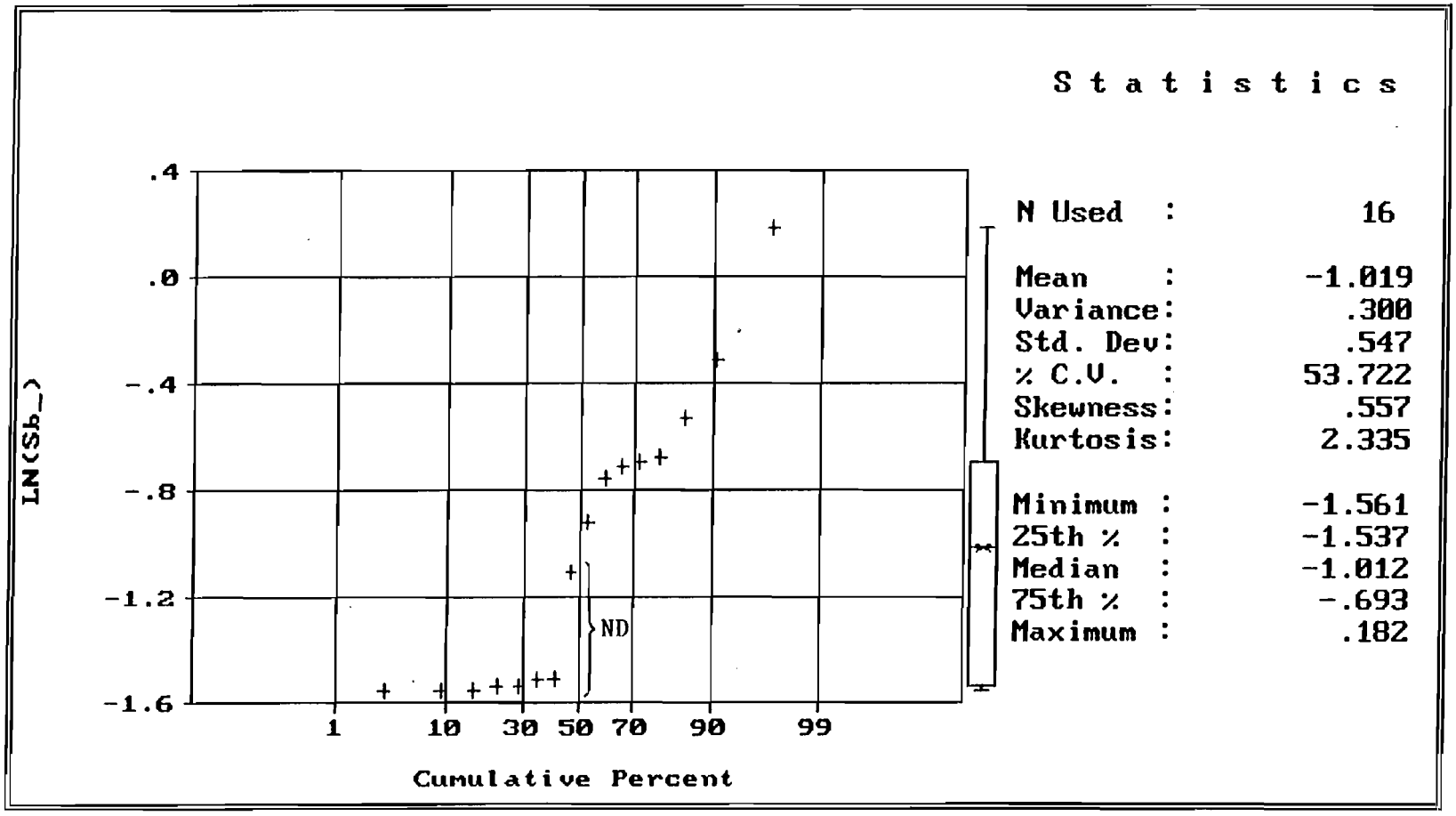
Note: The data set distribution is nonparametric.

FIGURE 19
PROBABILITY PLOT OF BACKGROUND ZINC
CONCENTRATIONS IN SOILS OF THE INLAND AREA
SITES 13 AND 22
NAVAL WEAPONS STATION CONCORD



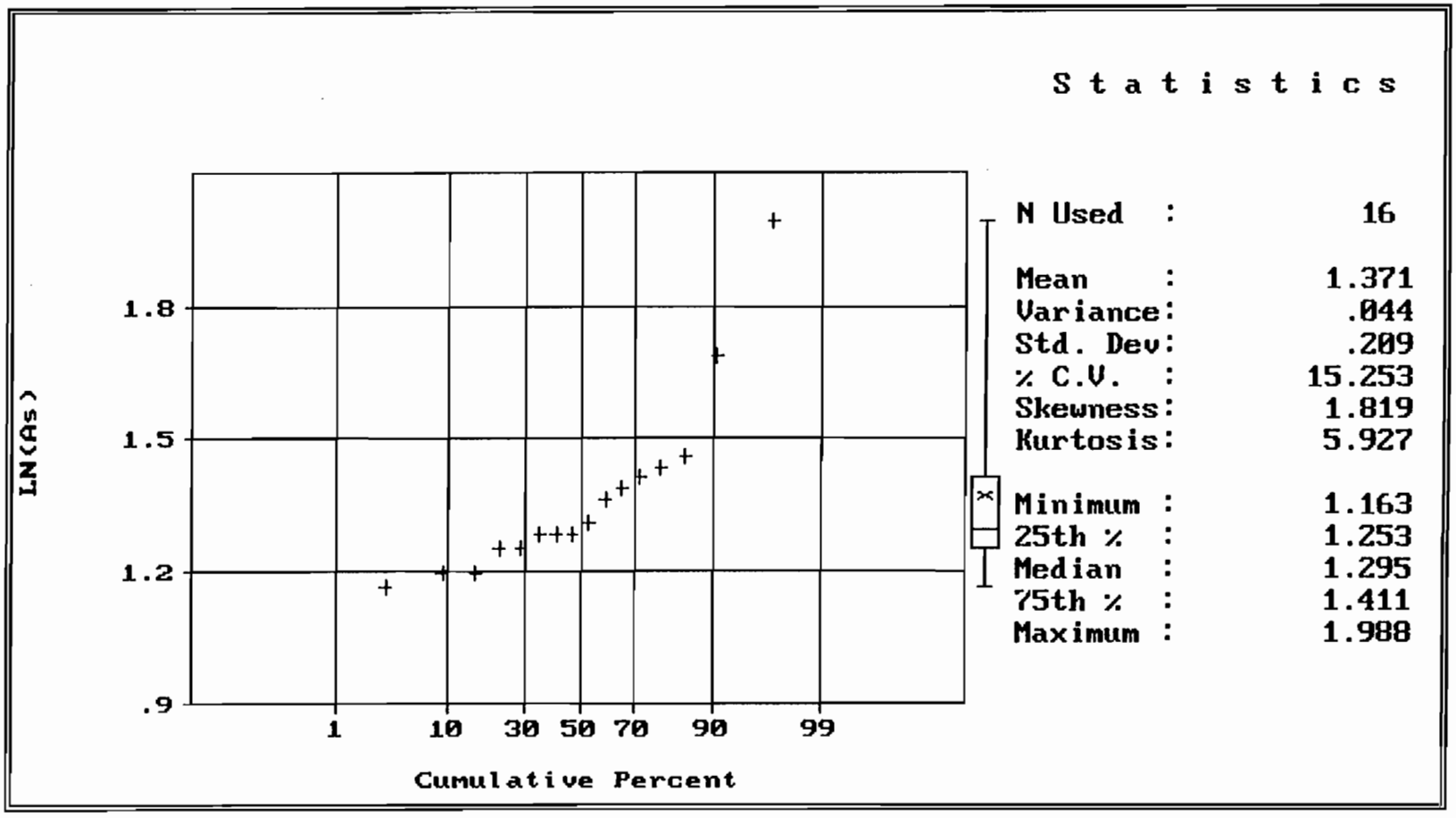
Note: The data set distribution is lognormal.

FIGURE 20
PROBABILITY PLOT OF BACKGROUND ALUMINUM
CONCENTRATIONS IN SOILS OF THE INLAND AREA
SITES 17 AND 24A
NAVAL WEAPONS STATION CONCORD



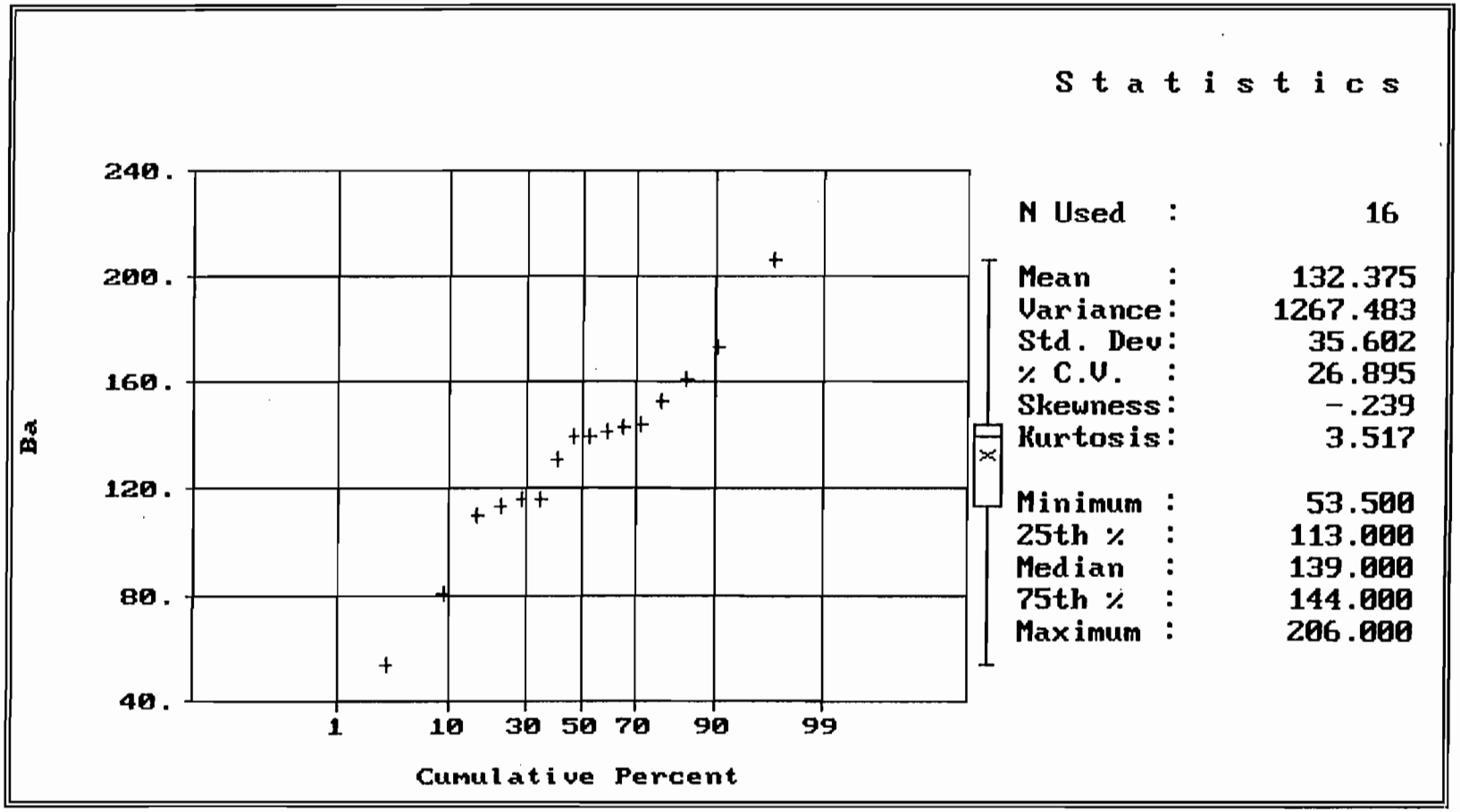
Note: The data set distribution is nonparametric.

FIGURE 21
PROBABILITY PLOT OF BACKGROUND ANTIMONY
CONCENTRATIONS IN SOILS OF THE INLAND AREA
SITES 17 AND 24A
NAVAL WEAPONS STATION CONCORD



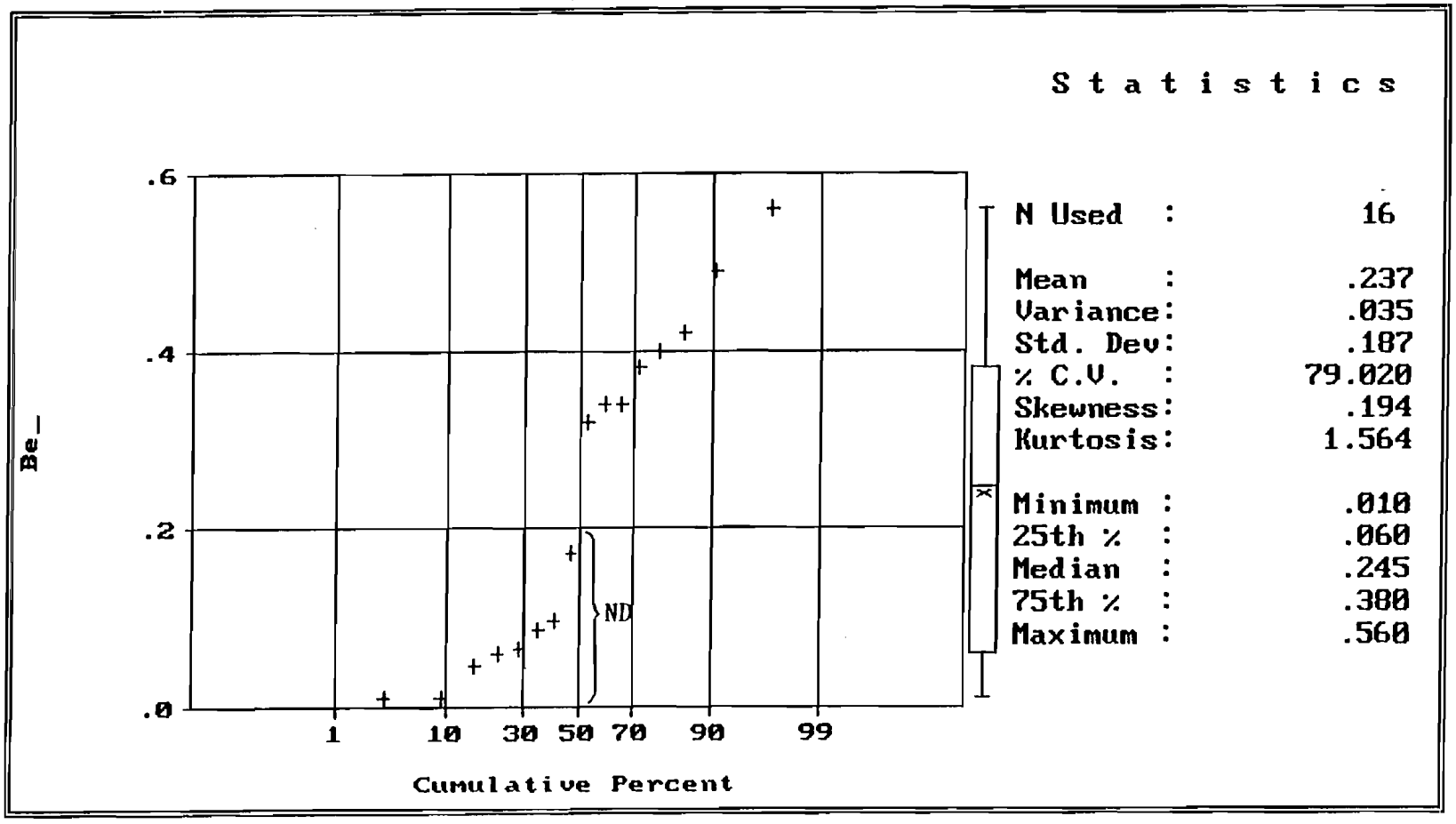
Note: The data set distribution is nonparametric.

FIGURE 22
PROBABILITY PLOT OF BACKGROUND ARSENIC
CONCENTRATIONS IN SOILS OF THE INLAND AREA
SITES 17 AND 24A
NAVAL WEAPONS STATION CONCORD



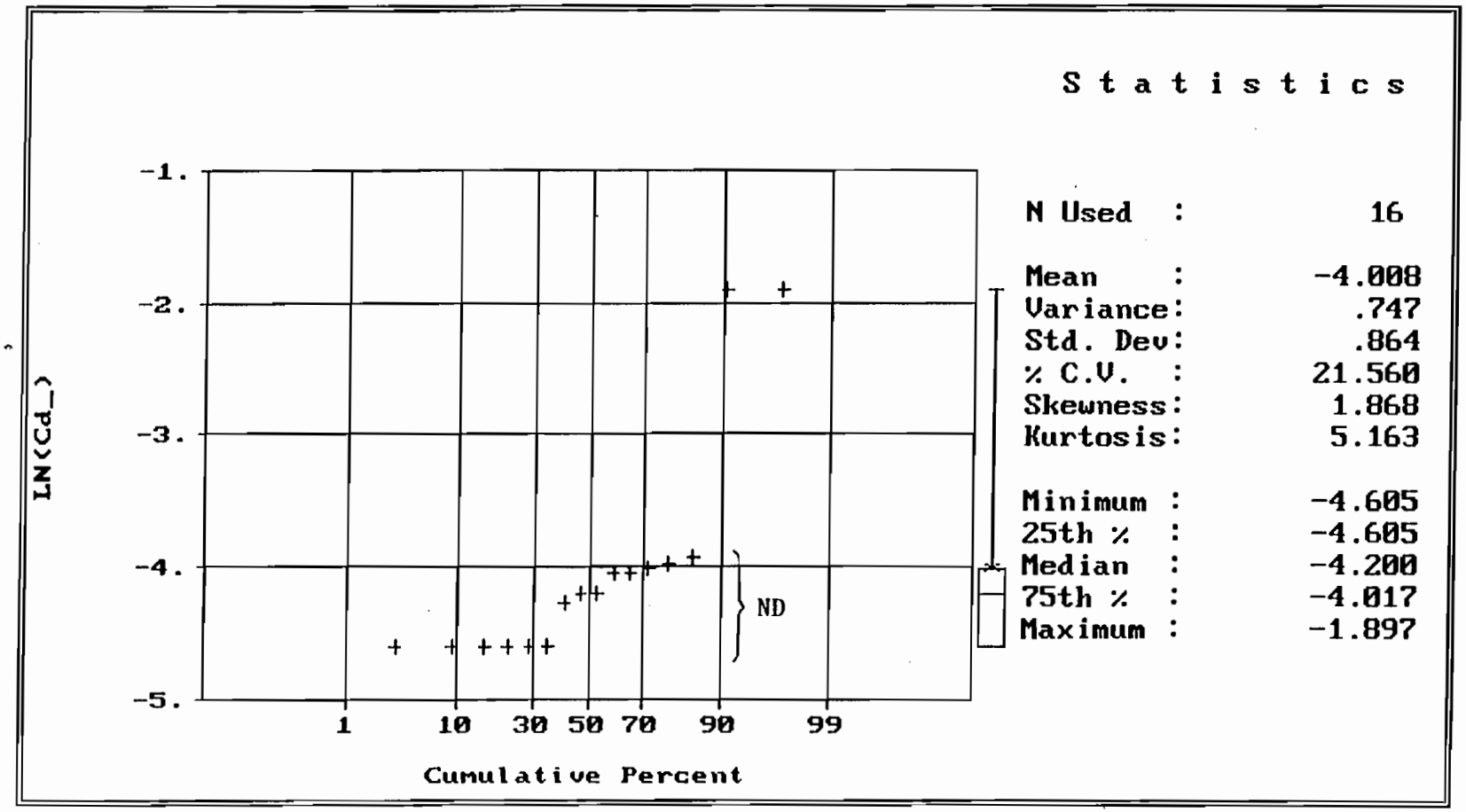
Note: The data set distribution is normal.

FIGURE 23
PROBABILITY PLOT OF BACKGROUND BARIUM
CONCENTRATIONS IN SOILS OF THE INLAND AREA
SITES 17 AND 24A
NAVAL WEAPONS STATION CONCORD



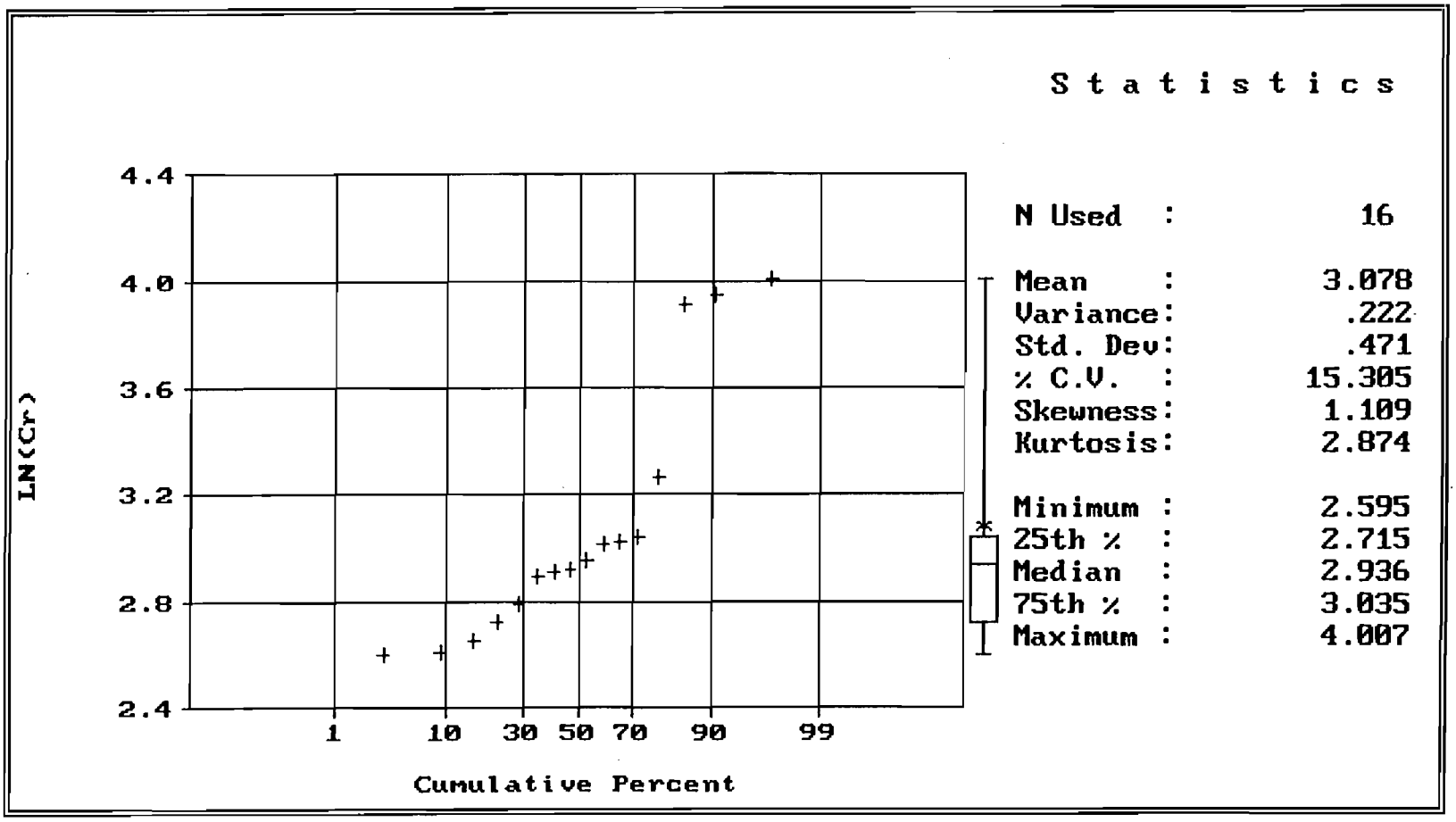
Note: The data set distribution is normal.

FIGURE 24
PROBABILITY PLOT OF BACKGROUND BERYLLIUM CONCENTRATIONS IN SOILS OF THE INLAND AREA SITES 17 AND 24A
NAVAL WEAPONS STATION CONCORD



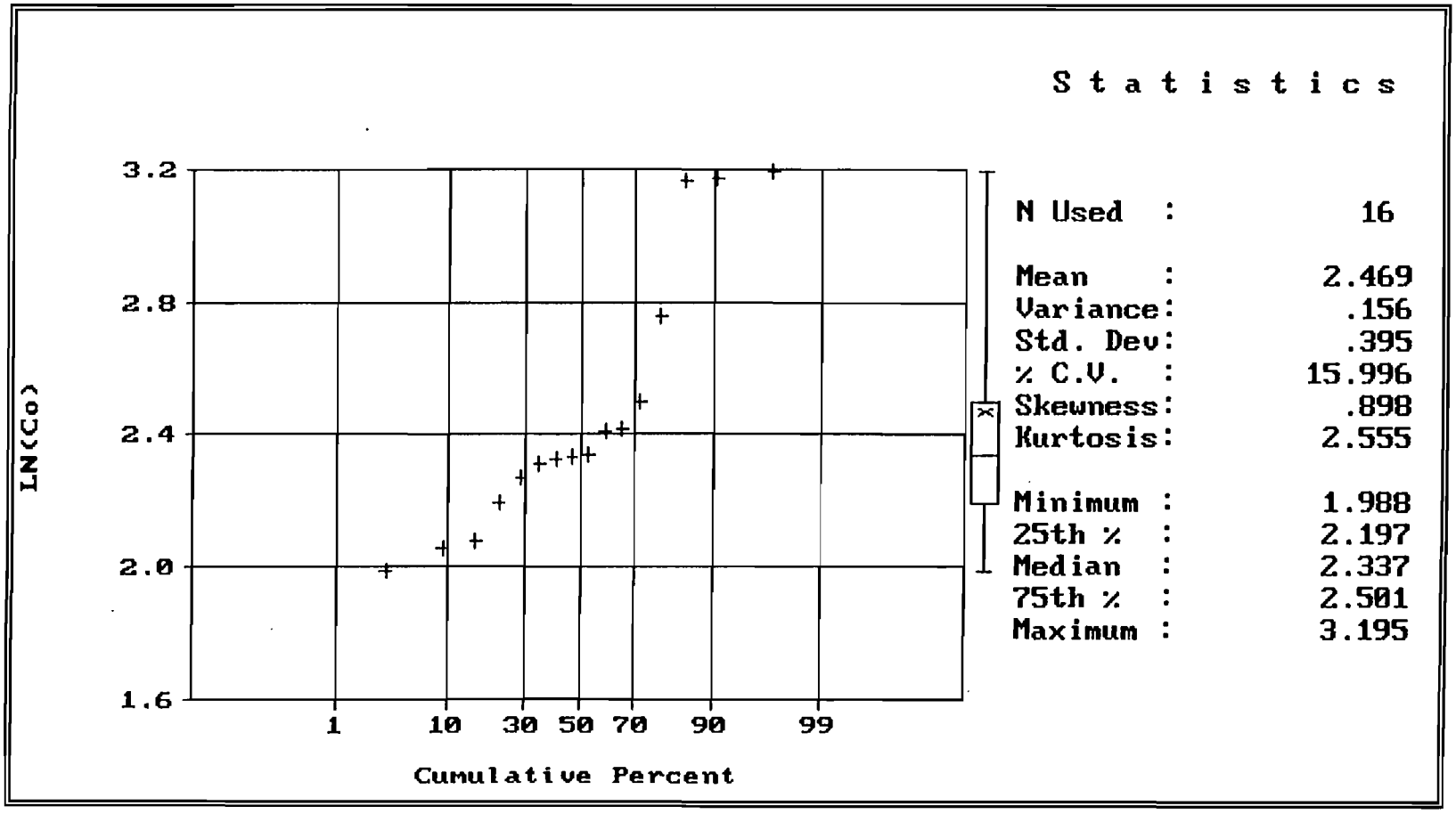
Note: The data set distribution is nonparametric.

FIGURE 25
PROBABILITY PLOT OF BACKGROUND CADMIUM
CONCENTRATIONS IN SOILS OF THE INLAND AREA
SITES 17 AND 24A
NAVAL WEAPONS STATION CONCORD



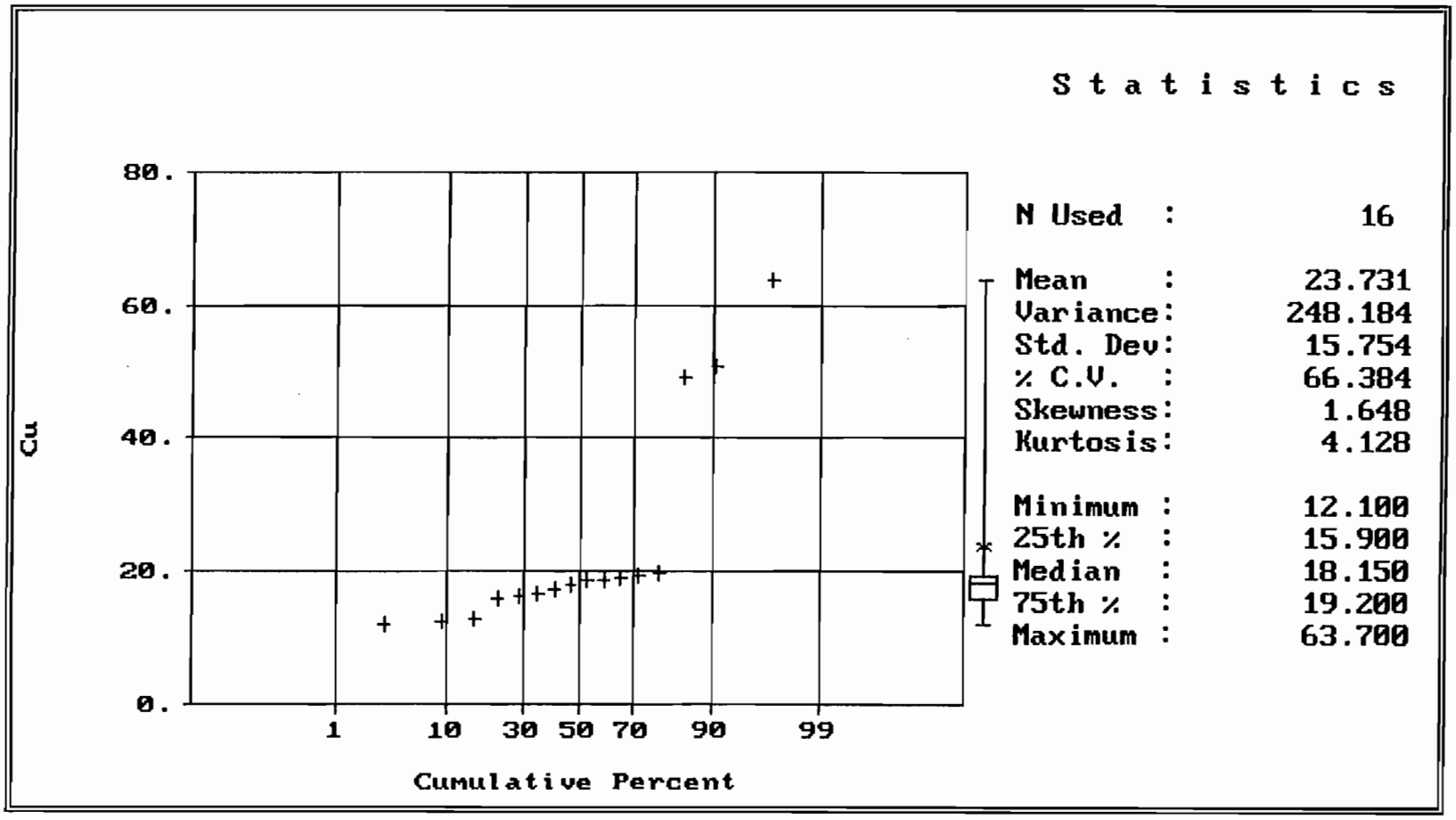
Note: The data set distribution is nonparametric.

FIGURE 26
PROBABILITY PLOT OF BACKGROUND CHROMIUM
CONCENTRATIONS IN SOILS OF THE INLAND AREA
SITES 17 AND 24A
NAVAL WEAPONS STATION CONCORD



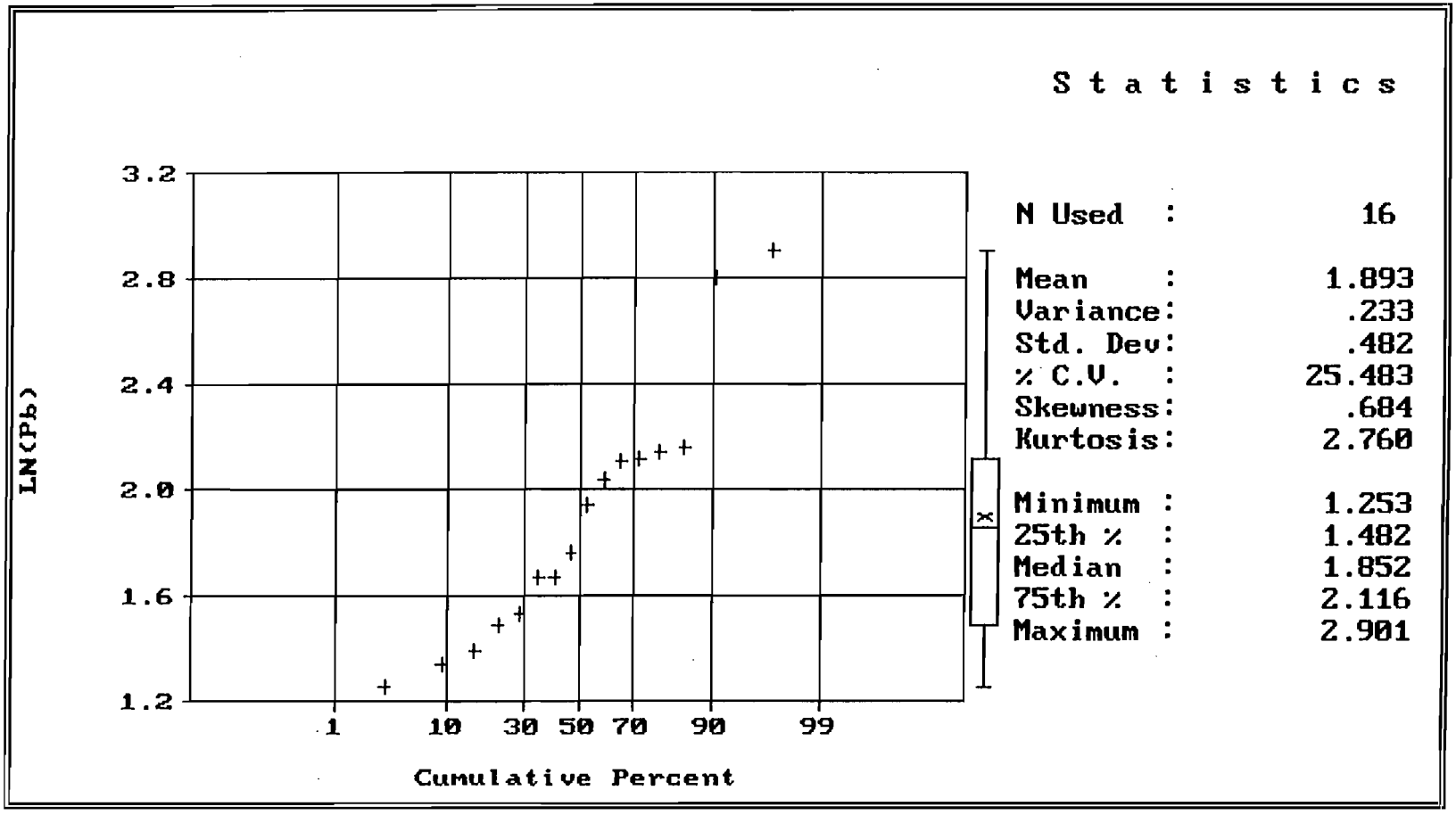
Note: The data set distribution is nonparametric.

FIGURE 27
PROBABILITY PLOT OF BACKGROUND COBALT
CONCENTRATIONS IN SOILS OF THE INLAND AREA
SITES 17 AND 24A
NAVAL WEAPONS STATION CONCORD



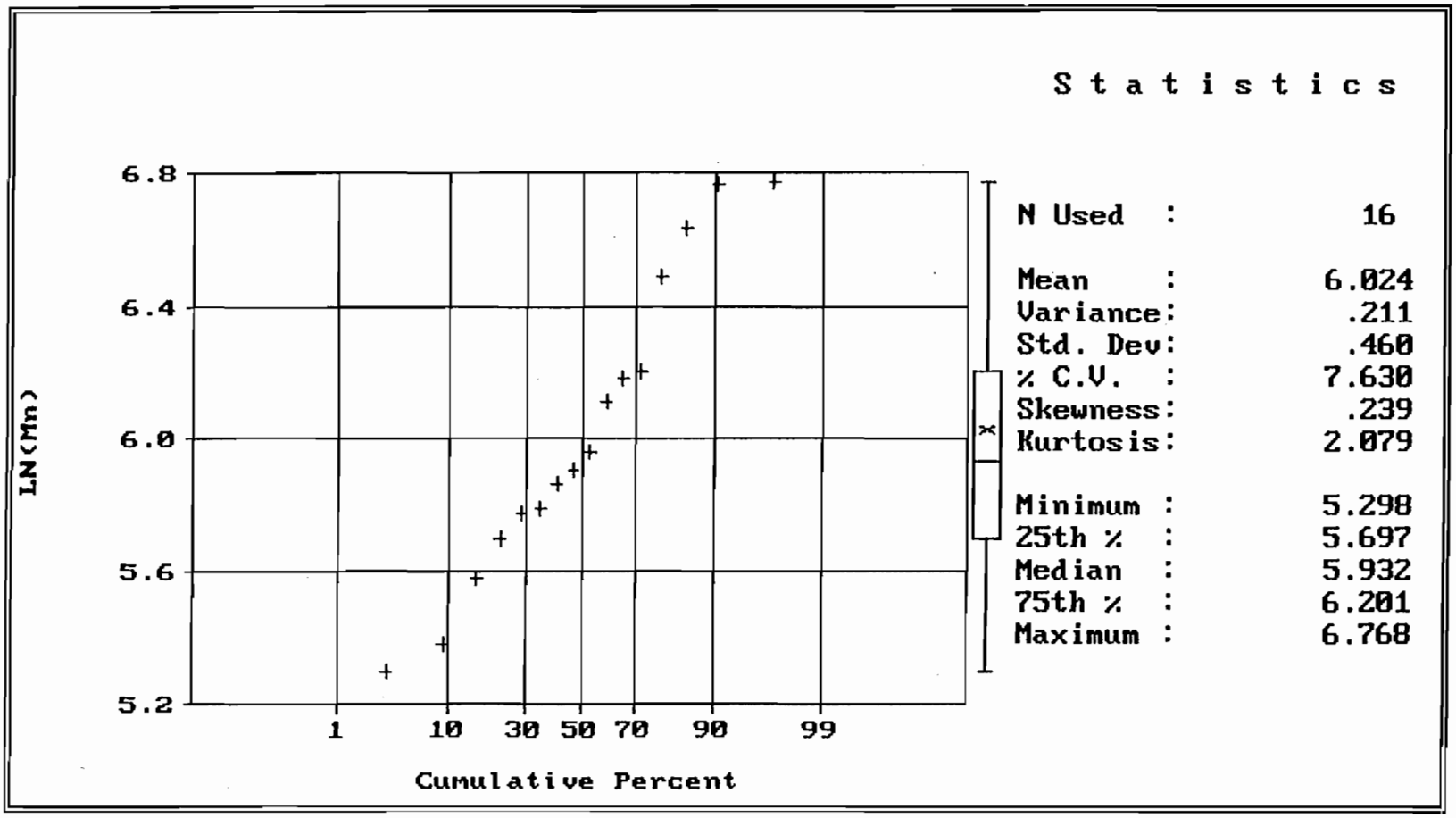
Note: The data set distribution is nonparametric.

FIGURE 28
PROBABILITY PLOT OF BACKGROUND COPPER
CONCENTRATIONS IN SOILS OF THE INLAND AREA
SITES 17 AND 24A
NAVAL WEAPONS STATION CONCORD



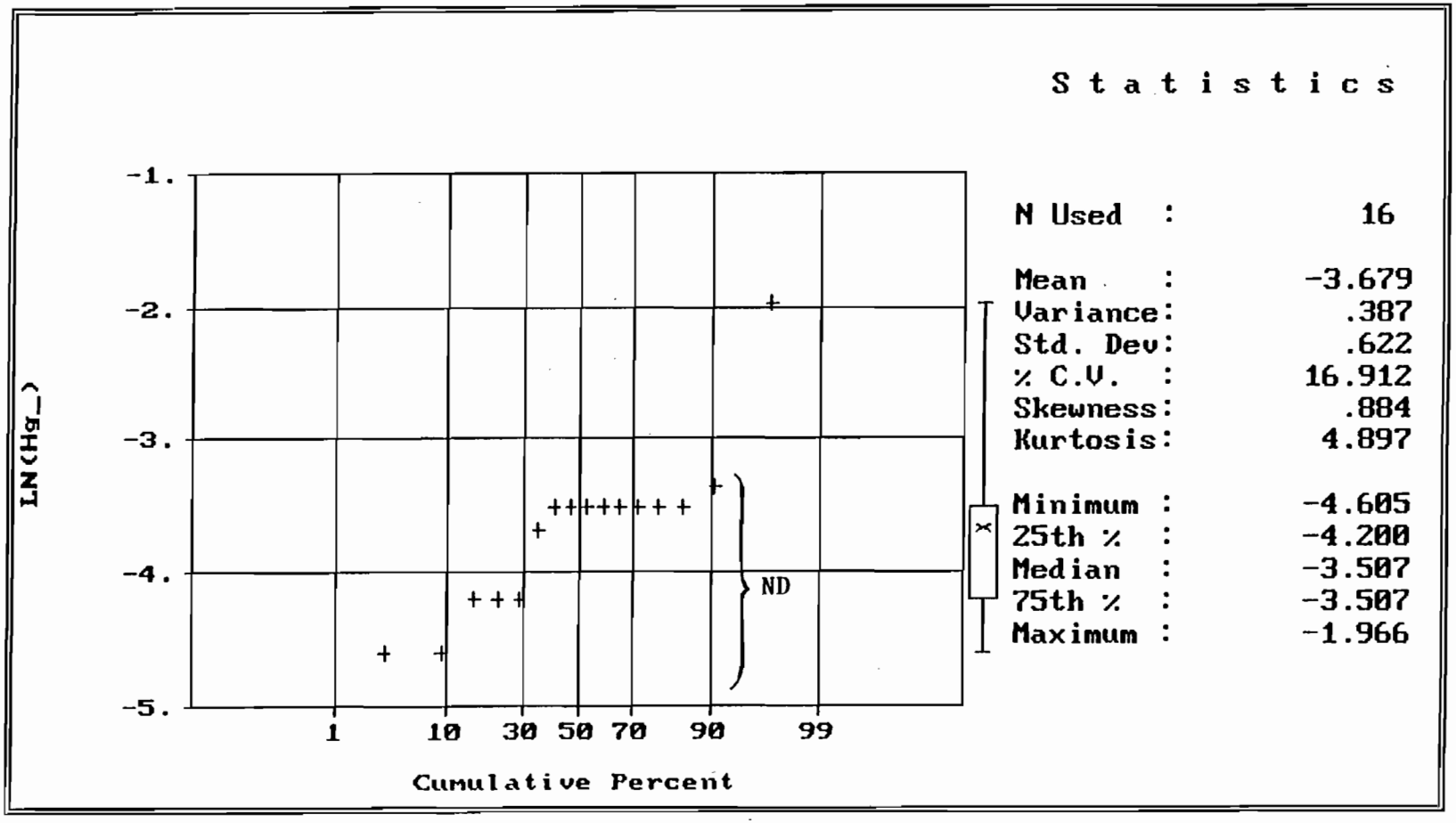
Note: The data set distribution is lognormal.

FIGURE 29
PROBABILITY PLOT OF BACKGROUND LEAD
CONCENTRATIONS IN SOILS OF THE INLAND AREA
SITES 17 AND 24A
NAVAL WEAPONS STATION CONCORD



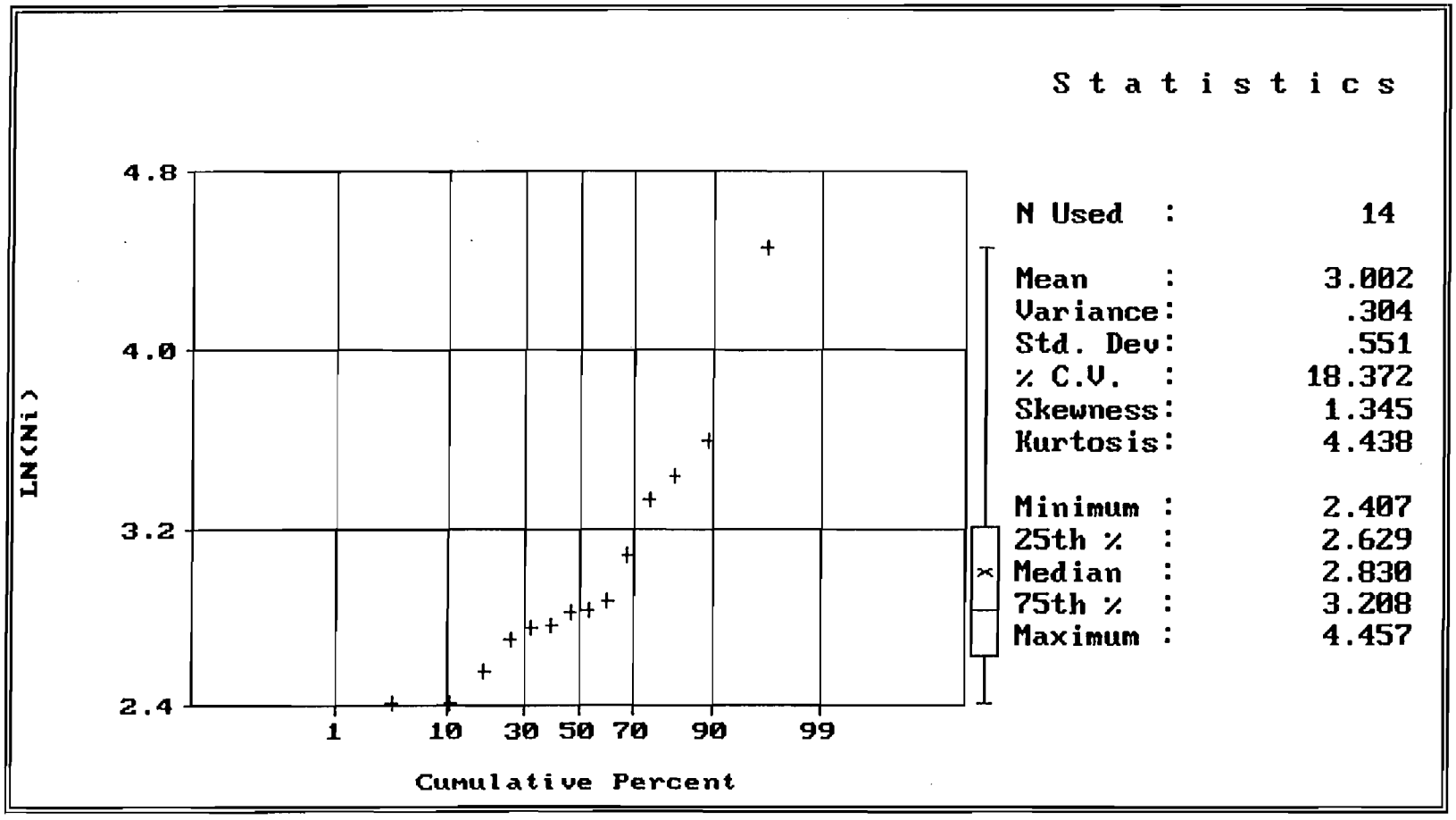
Note: The data set distribution is lognormal.

FIGURE 30
PROBABILITY PLOT OF BACKGROUND MANGANESE
CONCENTRATIONS IN SOILS OF THE INLAND AREA
SITES 17 AND 24A
NAVAL WEAPONS STATION CONCORD



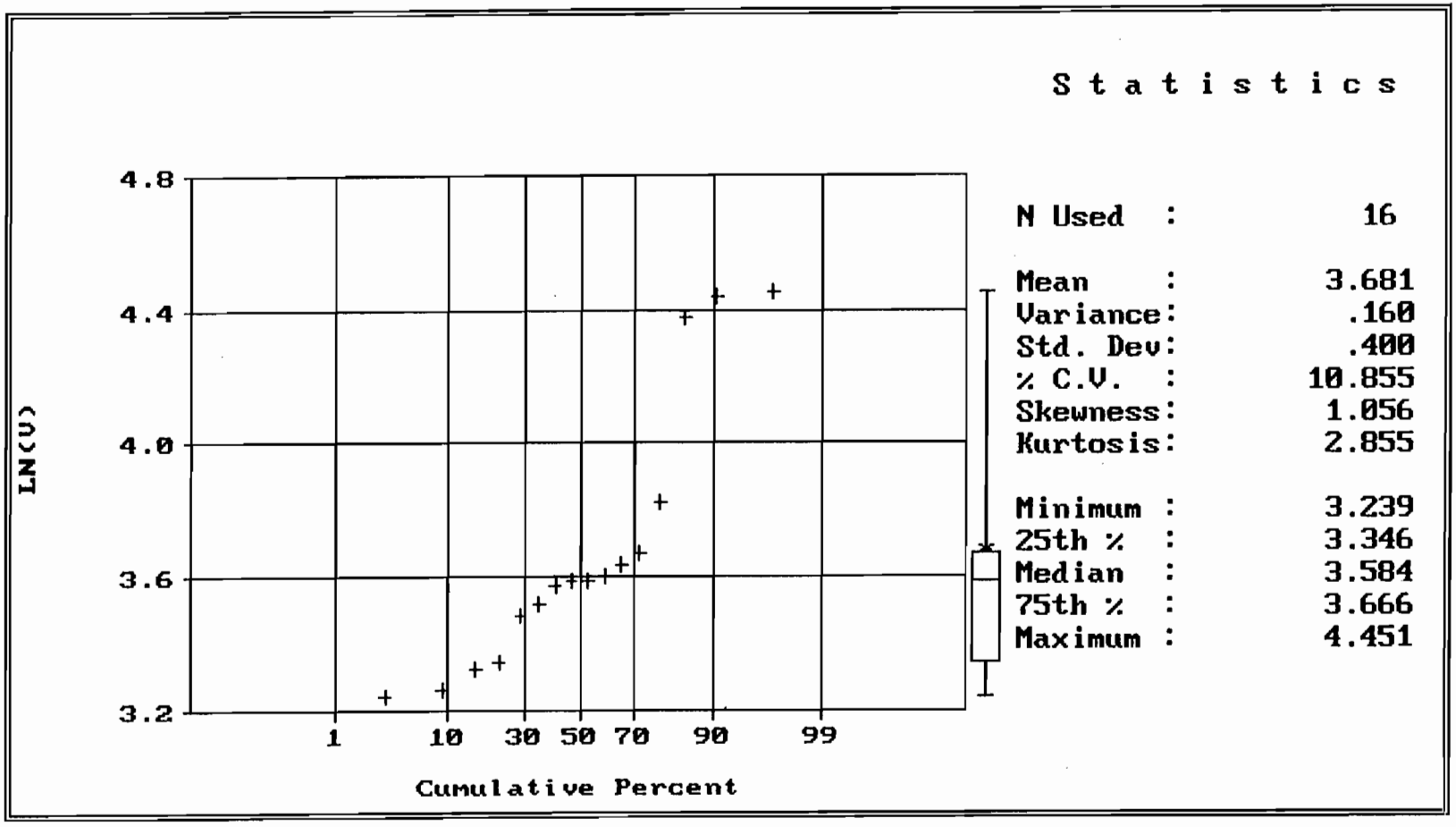
Note: The data set distribution is nonparametric.

FIGURE 31
PROBABILITY PLOT OF BACKGROUND MERCURY
CONCENTRATIONS IN SOILS OF THE INLAND AREA
SITES 17 AND 24A
NAVAL WEAPONS STATION CONCORD



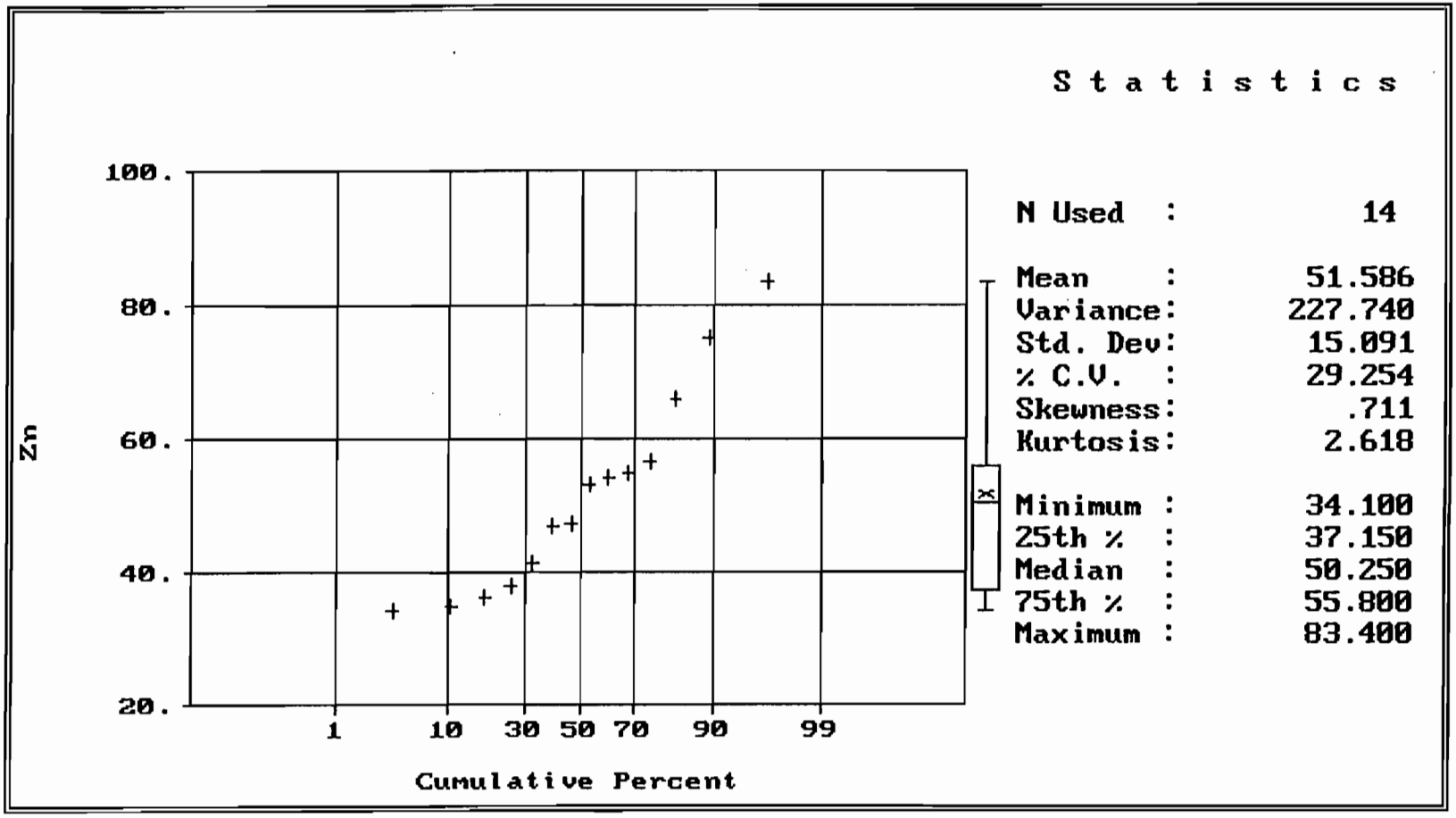
Note: The data set distribution is nonparametric.

FIGURE 32
PROBABILITY PLOT OF BACKGROUND NICKEL
CONCENTRATIONS IN SOILS OF THE INLAND AREA
SITES 17 AND 24A
NAVAL WEAPONS STATION CONCORD



Note: The data set distribution is nonparametric.

FIGURE 33
PROBABILITY PLOT OF BACKGROUND VANADIUM
CONCENTRATIONS IN SOILS OF THE INLAND AREA
SITES 17 AND 24A
NAVAL WEAPONS STATION CONCORD



Note: The data set distribution is normal.

FIGURE 34
PROBABILITY PLOT OF BACKGROUND ZINC
CONCENTRATIONS IN SOILS OF THE INLAND AREA
SITES 17 AND 24A
NAVAL WEAPONS STATION CONCORD

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TABLES

TABLE 1

BACKGROUND METALS CONCENTRATIONS IN SOILS OF THE INLAND AREA SITES 13 AND 22 NAVAL WEAPONS STATION CONCORD

Metal	Number of Detections/ Samples Analyzed	Values Excluded		Background Data Set Size[a]	Background Data Set Distribution	Soil Metal Concentration Statistics for Background Data Sets (mg/kg)				U.S. EPA PRG[f] (mg/kg)
		Too Low	Too High			Minimum Detected [b]	Maximum Detected [c]	Background Level 95th p[d]	Background Level 99th p[d]	
Aluminum	31/31	0	0	31	Normal	6,920.0	22,500.0	**21,000**	**22,000**	77,000
Antimony	9/30	0	0	30	Nonparam.	0.44	1.8	**0.9**	**1.6**	31
Arsenic	30/31	1	5	25	Nonparam.	2.4	26.6	**10***	**23***	0.38*
Barium	31/31	0	0	31	Nonparam.	135.0	659.0	**560**	**630**	5,300
Beryllium	1/31	0	0	31	Nonparam.	0.16	0.16	**0.12**	**0.15***	0.14
Cadmium	3/31	0	0	31	Nonparam.	0.23	0.53	**0.29**	**0.48**	9.0[g]/38
Chromium	31/31	0	0	31	Nonparam.	14.9	68.6	**62**	**67**	210[h]
Cobalt	31/31	0	1	30	Nonparam.	5.9	25.4	**25**	**25**	4,600
Copper	31/31	4	4	23	Normal	21.1	66.5	**65**	**66**	2,800
Lead	21/31	0	0	31	Lognormal	3.4	37.7	**33**	**38**	130[g]/400
Manganese	31/31	0	1	30	Normal	161.0	1,540.0	**1,200**	**1,400**	3,200
Mercury	23/31	0	0	31	Nonparam.	0.06	0.23	**0.17**	**0.21**	23[i]
Molybdenum	0/31	0	0	31	Nonparam.	N/A	N/A	**DL[e]**	**DL[e]**	380
Nickel	31/31	2	2	27	Lognormal	25.2	128.0	**100**	**101**	150[g]/1,500
Selenium	0/31	0	0	31	Nonparam.	N/A	N/A	**DL[e]**	**DL[e]**	380
Silver	0/31	0	0	31	Nonparam.	N/A	N/A	**DL[e]**	**DL[e]**	380
Thallium	3/31	0	0	31	Nonparam.	0.81	3.6	**1.9**	**3.5**	5.4[k]
Vanadium	31/31	0	0	31	Normal	27.4	102.0	**96**	**102**	540
Zinc	24/31	0	0	31	Nonparam.	34.5	107.0	**99**	**105**	23,000

TABLE 1 (Continued)

BACKGROUND METALS CONCENTRATIONS IN SOILS OF THE INLAND AREA SITES 13 AND 22 NAVAL WEAPONS STATION CONCORD

Notes:

a The background data set consists of both detected and nondetected results. Nondetected results are represented by values of one half the detection limit. The data set excludes anomalously low and high values.

b Minimum detected concentration in background data set, after exclusion of anomalously low values.

c Maximum detected concentration in background data set, after exclusion of anomalously high values.

d The 95th and 99th percentiles of the distribution were calculated using nonparametric formula. Results were rounded to two significant figures.

e The background level was set at the detection limit.

f U.S. Environmental Protection Agency (EPA) Region IX preliminary remediation goals (PRG) for residential use (EPA 1995). Listed PRG for manganese is based on the recently revised value of the oral Reference Dose (EPA 1996).

g California Environmental Protection Agency PRGs (listed as Cal-modified PRGs in EPA 1995)

h The PRG for total chromium assumes a one to six ratio of chromium VI/chromium III.

i PRG for mercuric chloride

k PRG for thallic oxide

DL Detection limit

N/A Not available

* The background level exceeds the PRG.

TABLE 2

BACKGROUND METALS CONCENTRATIONS IN SOILS OF THE INLAND AREA SITES 17 AND 24A NAVAL WEAPONS STATION CONCORD

Metal	Number of Detections/ Samples Analyzed	Values Excluded		Background Data Set Size [a]	Background Data Set Distribution	Soil Metal Concentration Statistics for Background Data Sets (mg/kg)			U.S. EPA PRG[f] (mg/kg)
		Too Low	Too High			Minimum Detected [b]	Maximum Detected [c]	**Background Level [d]**	
Aluminum	16/16	0	0	16	Lognormal	6,830.0	20,200.0	**20,000**	77,000
Antimony	8/16	0	0	16	Nonparam.	0.4	1.2	**1.2**	31
Arsenic	16/16	0	0	16	Nonparam.	3.2	7.3	**7.3***	0.38*
Barium	16/16	0	0	16	Normal	53.5	206.0	**210**	5,300
Beryllium	9/16	0	0	16	Normal	0.17	0.56	**0.56***	0.14*
Cadmium	2/16	0	0	16	Nonparam.	0.15	0.15	**0.15**	9.0[g]/38
Chromium	16/16	0	0	16	Nonparam.	13.4	55.0	**55**	210[h]
Cobalt	16/16	0	0	16	Nonparam.	7.3	24.4	**24**	4,600
Copper	16/16	0	0	16	Nonparam.	12.1	63.7	**64**	2,800
Lead	16/16	0	0	16	Lognormal	3.5	18.2	**18**	130[g]/400
Manganese	16/16	0	0	16	Lognormal	200.0	870.0	**870**	3,200
Mercury	1/16	0	0	16	Nonparam.	0.14	0.14	**0.14**	23[i]
Molybdenum	0/16	0	0	16	Nonparam.	N/A	N/A	**DL[e]**	380
Nickel	16/16	1	1	14	Nonparam.	11.1	86.2	**86**	150[g]/1,500
Selenium	0/16	0	0	16	Nonparam.	N/A	N/A	**DL[e]**	380
Silver	0/16	0	0	16	Nonparam.	N/A	N/A	**DL[e]**	380
Thallium	0/16	0	0	16	Nonparam.	N/A	N/A	**DL[e]**	5.4[k]
Vanadium	16/16	0	0	16	Nonparam.	25.5	85.7	**86**	540
Zinc	16/16	1	1	14	Normal	34.1	83.4	**83**	23,000

TABLE 2 (Continued)

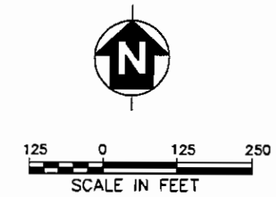
BACKGROUND METALS CONCENTRATIONS IN SOILS OF THE INLAND AREA SITES 17 AND 24A NAVAL WEAPONS STATION CONCORD

Notes:

a	The background data set consists of both detected and nondetected results. Nondetected results are represented by values of one-half of the detection limit. The data set excludes anomalously low and high values.
b	This is the minimum detected concentration in the background data set after exclusion of anomalously low values.
c	This is the maximum detected concentration in the background data set after exclusion of anomalously high values.
d	Background level was set at the maximum detected concentration after exclusion of outliers. Results were rounded to two significant figures.
e	The background limit was set at the detection limit.
f	U.S. Environmental Protection Agency (EPA) Region IX preliminary remediation goals (PRG) for residential use (EPA 1995). Listed PRG for manganese is based on the recently revised value of the oral Reference Dose (EPA 1996).
g	California Environmental Protection Agency PRGs (listed as Cal-modified PRGs in EPA 1995)
h	The PRG for total chromium assumes a one to six ratio of chromium VI/chromium III.
i	PRG for mercuric chloride
k	PRG for thallic oxide
DL	Detection limit
N/A	Not available
*	The background level exceeds the PRG.

ATTACHMENT

The attached figures (Figures 5-8, 6-8, 7-5, 8-3, and 9-3) are from the 1997 Remedial Investigation report (Tetra Tech EM Inc. 1997) and show the locations of the borings for background sampling.



LEGEND:

- FENCE
- DRAINAGE CHANNEL (WITH ARROW INDICATING FLOW DIRECTION)
- 190 GROUND SURFACE ELEVATION CONTOUR (FT MSL)
- PIEZOMETER LOCATION (50–110 FT BGS, INSTALLATION DATA UNKNOWN)
- UC-2 UNOCAL MONITORING WELLS (0–30 FT BGS, INSTALLED BY GTI, 1991)
- MONITORING WELL LOCATION (30 FT BGS)
- SOIL BORING LOCATION (30–100 FT BGS)
- TEST PIT LOCATION (SAMPLES COLLECTED AT 0.5 AND 2 FT BGS)

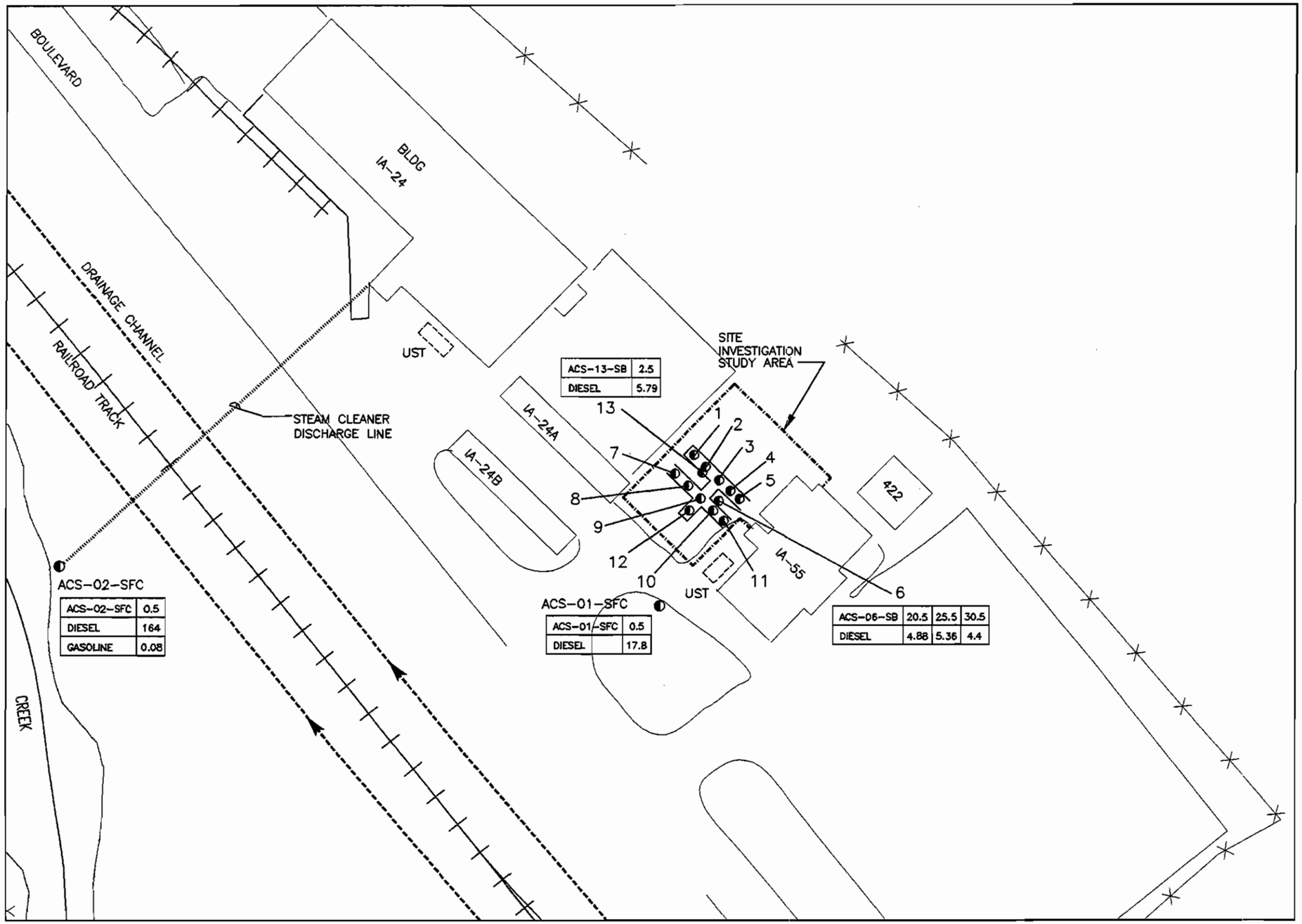
NWS CONCORD – INLAND AREA
CONCORD, CALIFORNIA

FIGURE 5-8

SITE 13 - SITE INVESTIGATION SAMPLING LOCATIONS

SIZE	DATE	DWG NAME	REV

JOB No. 2738.1325 FILE: RI-13 REV. 8/19/97 VIEW=MAIN



LEGEND:

- SOIL BORING LOCATION (SAMPLES COLLECTED AT VARIOUS DEPTHS BGS)
- SAMPLE LOCATION
- SAMPLE DEPTH

ACS-01-SFC	0.5
DIESEL	17.8

- CONCENTRATIONS IN MG/KG
- ANALYTE
- FENCE
- DRAINAGE CHANNEL (WITH ARROW INDICATING FLOW DIRECTION)

NOTES:

1. ONLY ORGANICS DETECTED AT CONCENTRATIONS EXCEEDING U.S. EPA PRELIMINARY REMEDIATION GOALS FOR RESIDENTIAL LAND USE ARE SHOWN.
2. ALL DETECTED CONCENTRATIONS FOR TPH ARE SHOWN.

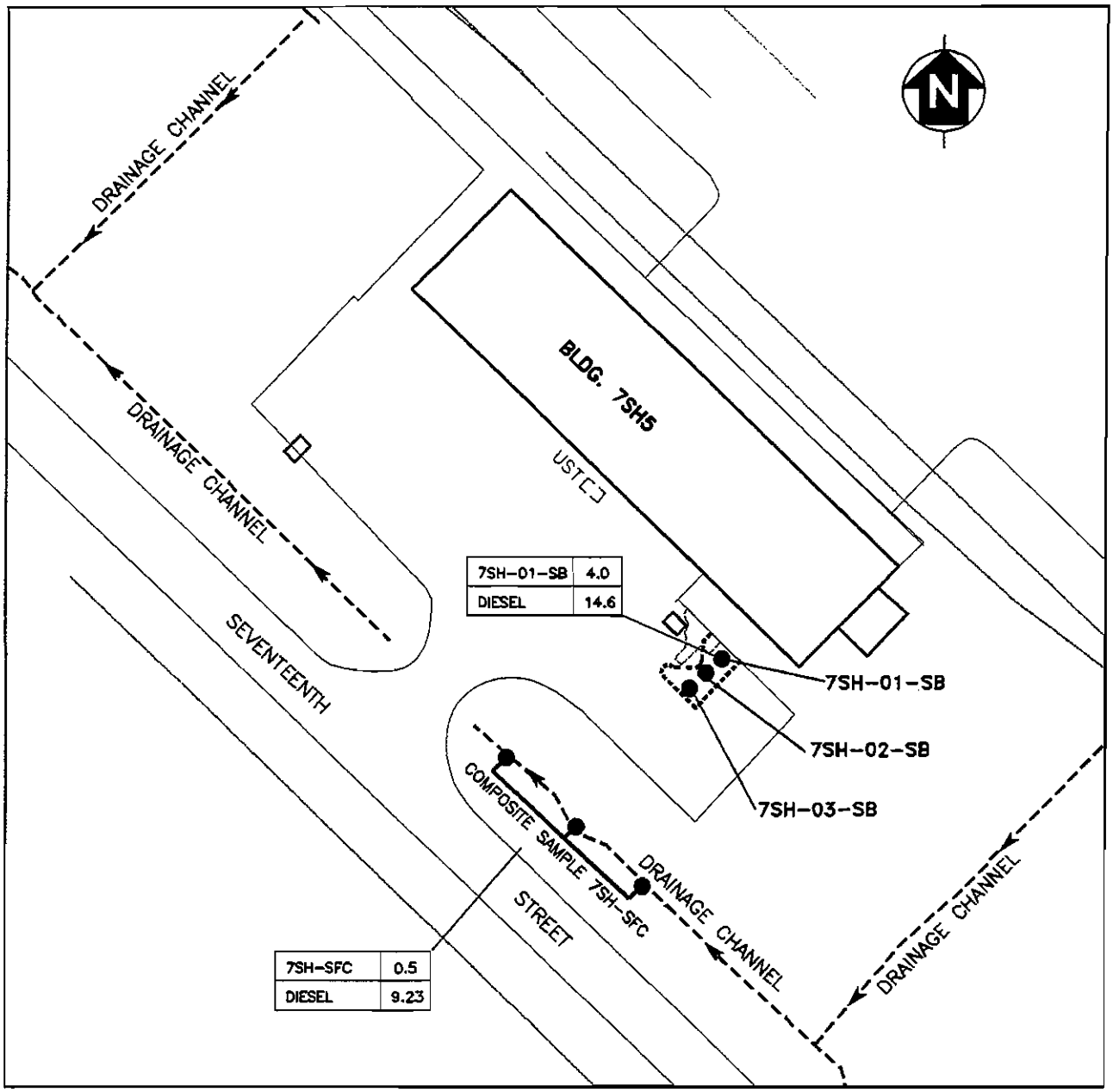
NAVAL WEAPONS STATION CONCORD
CONCORD, CALIFORNIA

FIGURE 6-8

ORGANIC CONSTITUENTS DETECTED DURING THE SI AT SITE 17 IN SOIL

SIZE	FSCM NO.	DWG NO.	REV
B		SITE17ORGANICS	2

KCH (SF) (044-D303) SITE17ORGANIC.DWG REV. 002 09/04/97 VEW-4WIN



LEGEND:

● SOIL BORING LOCATION (SAMPLES COLLECTED AT 0.5 AND 4 FT BGS)

SAMPLE LOCATION

SAMPLE DEPTH

7SH-01-SB	4.0
DIESEL	14.5

CONCENTRATIONS IN MG/KG

ANALYTE

—— x —— FENCE

DRAINAGE CHANNEL (WITH ARROW INDICATING FLOW DIRECTION)

NOTES:

1. ONLY ORGANICS DETECTED AT CONCENTRATIONS EXCEEDING U.S. EPA PRELIMINARY REMEDIATION GOALS FOR RESIDENTIAL LAND USE ARE SHOWN.
2. ALL DETECTED CONCENTRATIONS FOR TPH ARE SHOWN.

30 0 30 60

SCALE IN FEET

NAVAL WEAPONS STATION CONCORD
CONCORD, CALIFORNIA

FIGURE 7-5

ORGANIC CONSTITUENTS DETECTED DURING THE SI AT SITE 22 IN SOIL

SIZE	FSCM NO.	DWG NO.	REV
A		SITE22ORGANICS	2

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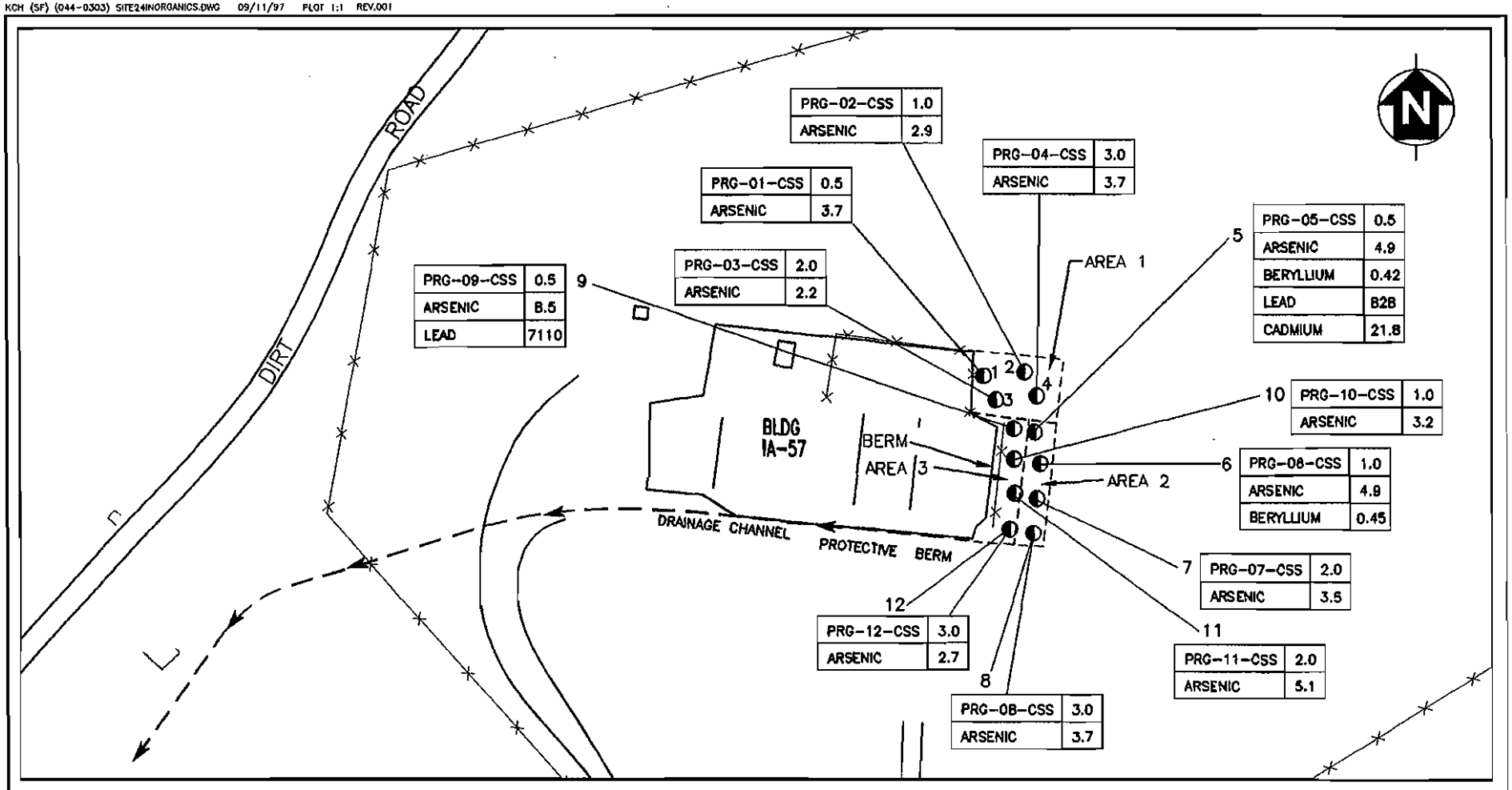
KCH (SF) (044-0303) SITE24INORGANICS.DWG 09/11/97 PLOT 1:1 REV.001



LEGEND:

◐ SOIL BORING LOCATION (SAMPLES COLLECTED AT VARIOUS DEPTHS BGS)

PRG-01-CSS	0.5
ARSENIC	3.7

SAMPLE LOCATION
SAMPLE DEPTH
CONCENTRATIONS IN MG/KG
ANALYTE

—— x —— FENCE

DRAINAGE CHANNEL (WITH ARROW INDICATING FLOW DIRECTION)

NOTES:

1. ONLY INORGANICS DETECTED AT CONCENTRATIONS EXCEEDING U.S. EPA PRELIMINARY REMEDIATION GOALS FOR RESIDENTIAL LAND USE ARE SHOWN.

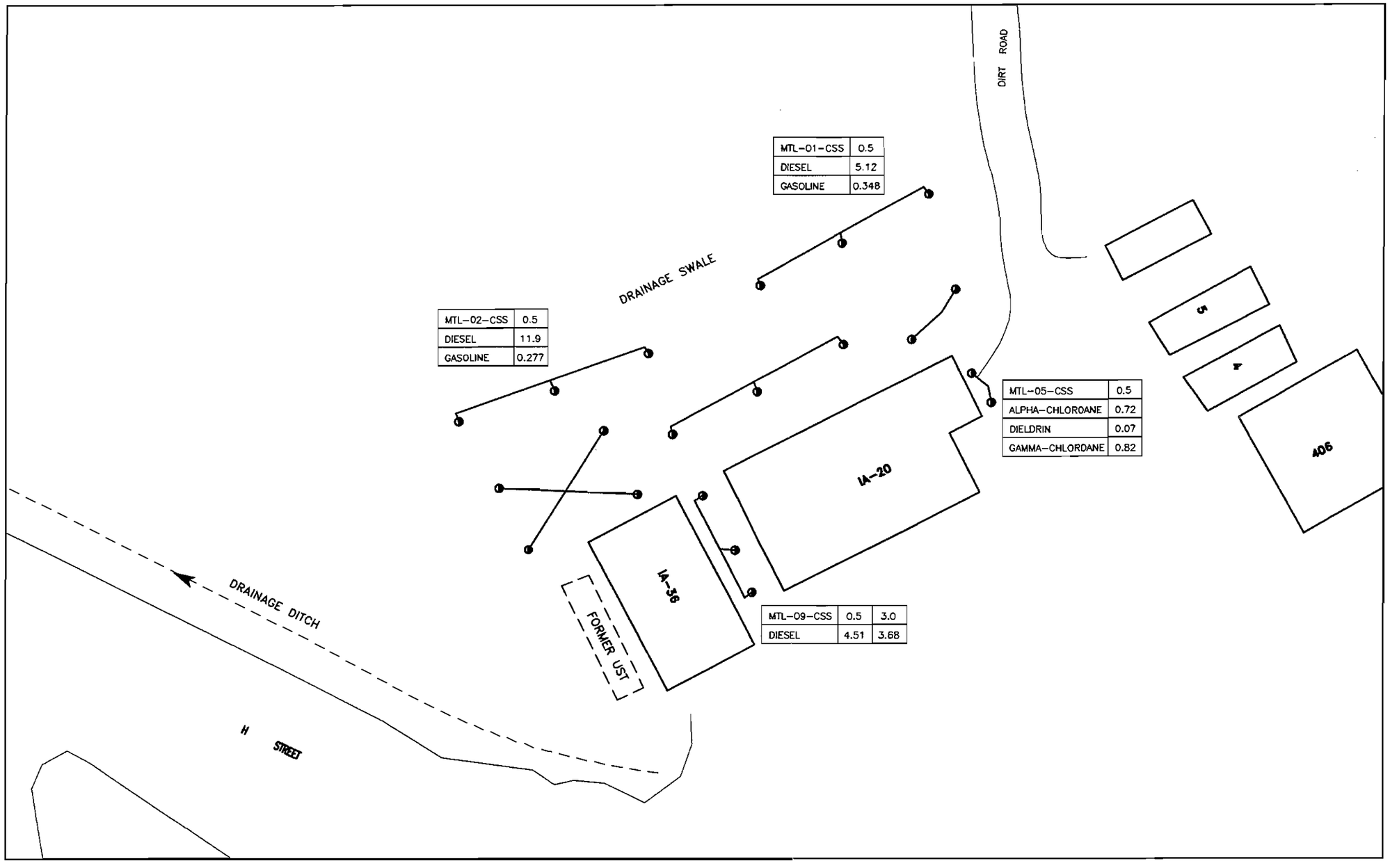
40' 0 40' 80'
SCALE: 1"=80'

NAVAL WEAPONS STATION CONCORD
CONCORD, CALIFORNIA

FIGURE 8-3

INORGANIC CONSTITUENTS DETECTED DURING THE SI AT SITE 24A IN SOIL

SIZE	Date:	DWG NO.	REV
A		SITE24INORGANICS	2



LEGEND:

- SI COMPOSITE SAMPLE LOCATION (SAMPLES COLLECTED AT 0.5 AND 3 FT BGS)
- —— x —— FENCE
- DRAINAGE CHANNEL (WITH ARROW INDICATING FLOW DIRECTION)

MTL-01-CSS	0.5
DIESEL	5.12

SAMPLE LOCATION
SAMPLE DEPTH
CONCENTRATIONS IN MG/KG
ANALYTE

NOTES:

1. ONLY ORGANICS DETECTED AT CONCENTRATIONS EXCEEDING U.S. EPA PRELIMINARY REMEDIATION GOALS FOR RESIDENTIAL LAND USE ARE SHOWN.
2. ALL DETECTED CONCENTRATIONS FOR TPH ARE SHOWN.

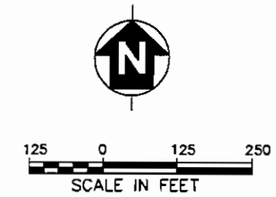
NAVAL WEAPONS STATION CONCORD
CONCORD, CALIFORNIA

FIGURE 9-3

ORGANIC CONSTITUENTS DETECTED DURING THE SI AT SITE 27 IN SOIL

SIZE	FSCM NO.	DWG NO.	REV
B		SITE27METAL	3

KCH (SF) (044-0303) SITE27METAL REV.003 10/14/97 VIEW=MAIN



LEGEND:

- FENCE
- DRAINAGE CHANNEL (WITH ARROW INDICATING FLOW DIRECTION)
- 190 GROUND SURFACE ELEVATION CONTOUR (FT MSL)
- PIEZOMETER LOCATION (50–110 FT BGS, INSTALLATION DATA UNKNOWN)
- UC-2 UNOCAL MONITORING WELLS (0–30 FT BGS, INSTALLED BY GTI, 1991)
- MONITORING WELL LOCATION (30 FT BGS)
- SOIL BORING LOCATION (30–100 FT BGS)
- TEST PIT LOCATION (SAMPLES COLLECTED AT 0.5 AND 2 FT BGS)

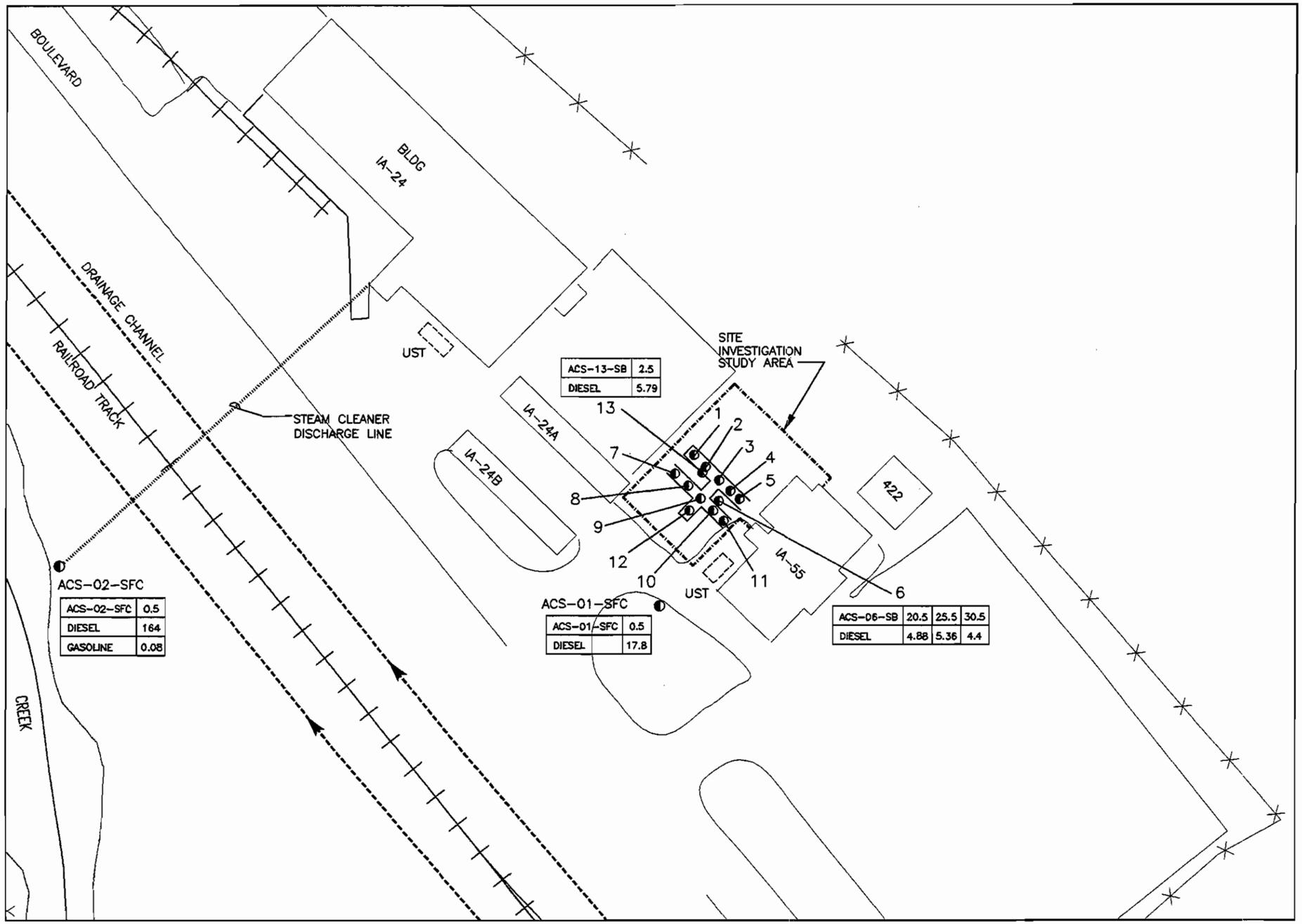
NWS CONCORD – INLAND AREA
CONCORD, CALIFORNIA

FIGURE 5-8

SITE 13 - SITE INVESTIGATION SAMPLING LOCATIONS

SIZE	DATE	DWG NAME	REV

JOB No. 2738.1325 FILE: RI-13 REV. 8/19/97 VIEW=MAIN



LEGEND:

- SOIL BORING LOCATION (SAMPLES COLLECTED AT VARIOUS DEPTHS BGS)
- SAMPLE LOCATION
- SAMPLE DEPTH

ACS-01-SFC	0.5
DIESEL	17.8

- CONCENTRATIONS IN MG/KG
- ANALYTE
- FENCE
- DRAINAGE CHANNEL (WITH ARROW INDICATING FLOW DIRECTION)

NOTES:

1. ONLY ORGANICS DETECTED AT CONCENTRATIONS EXCEEDING U.S. EPA PRELIMINARY REMEDIATION GOALS FOR RESIDENTIAL LAND USE ARE SHOWN.
2. ALL DETECTED CONCENTRATIONS FOR TPH ARE SHOWN.

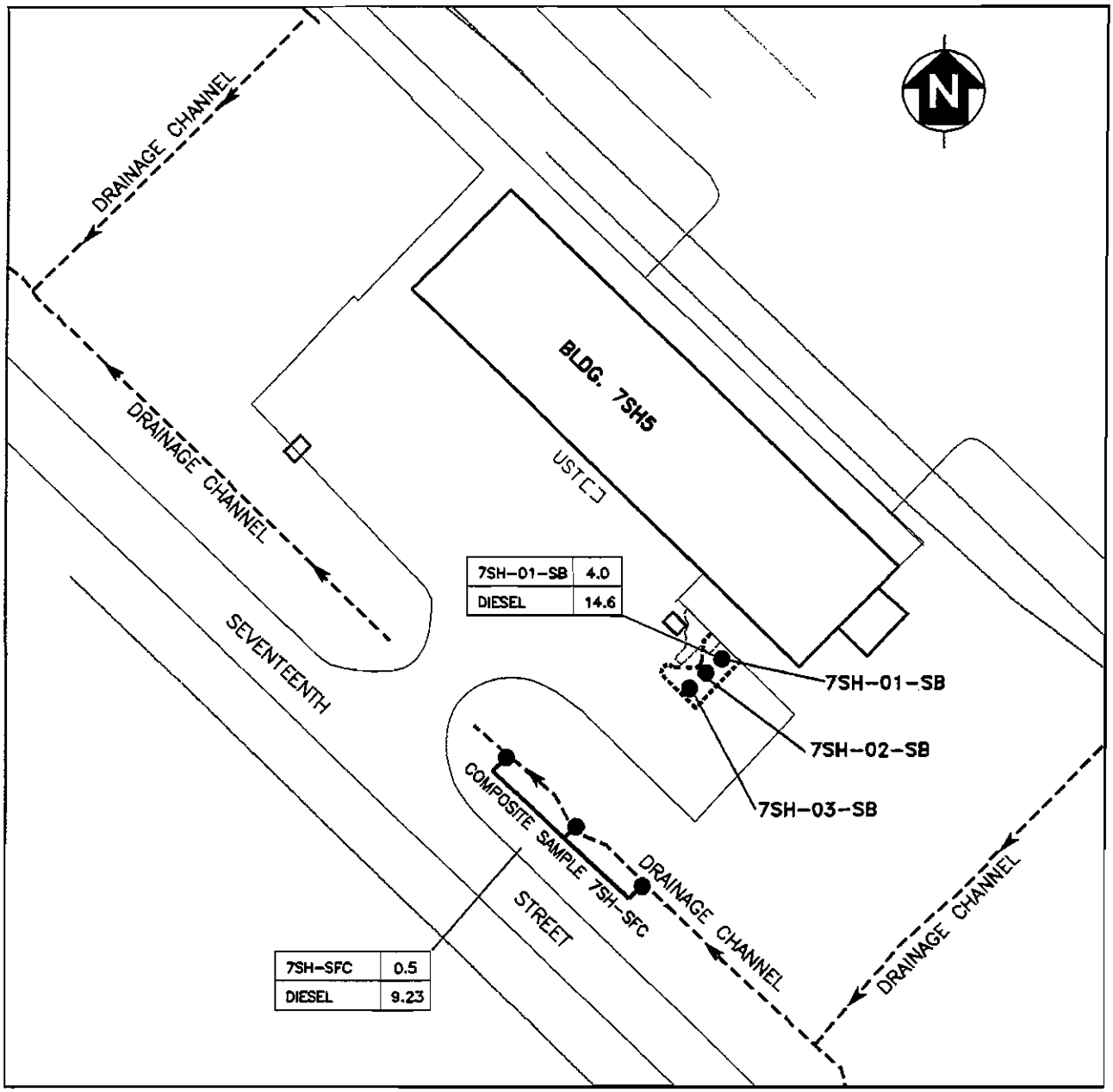
NAVAL WEAPONS STATION CONCORD
CONCORD, CALIFORNIA

FIGURE 6-8

ORGANIC CONSTITUENTS DETECTED DURING THE SI AT SITE 17 IN SOIL

SIZE	FSCM NO.	DWG NO.	REV
B		SITE17ORGANICS	2

KCH (SF) (044-D303) SITE17ORGANIC.DWG REV. 002 09/04/97 VEW-4WIN



LEGEND:

● SOIL BORING LOCATION (SAMPLES COLLECTED AT 0.5 AND 4 FT BGS)

SAMPLE LOCATION

SAMPLE DEPTH

7SH-01-SB	4.0
DIESEL	14.5

CONCENTRATIONS IN MG/KG

ANALYTE

—— x —— FENCE

DRAINAGE CHANNEL (WITH ARROW INDICATING FLOW DIRECTION)

NOTES:

1. ONLY ORGANICS DETECTED AT CONCENTRATIONS EXCEEDING U.S. EPA PRELIMINARY REMEDIATION GOALS FOR RESIDENTIAL LAND USE ARE SHOWN.
2. ALL DETECTED CONCENTRATIONS FOR TPH ARE SHOWN.

30 0 30 60

SCALE IN FEET

NAVAL WEAPONS STATION CONCORD
CONCORD, CALIFORNIA

FIGURE 7-5

ORGANIC CONSTITUENTS DETECTED DURING THE SI AT SITE 22 IN SOIL

SIZE	FSCM NO.	DWG NO.	REV
A		SITE22ORGANICS	2

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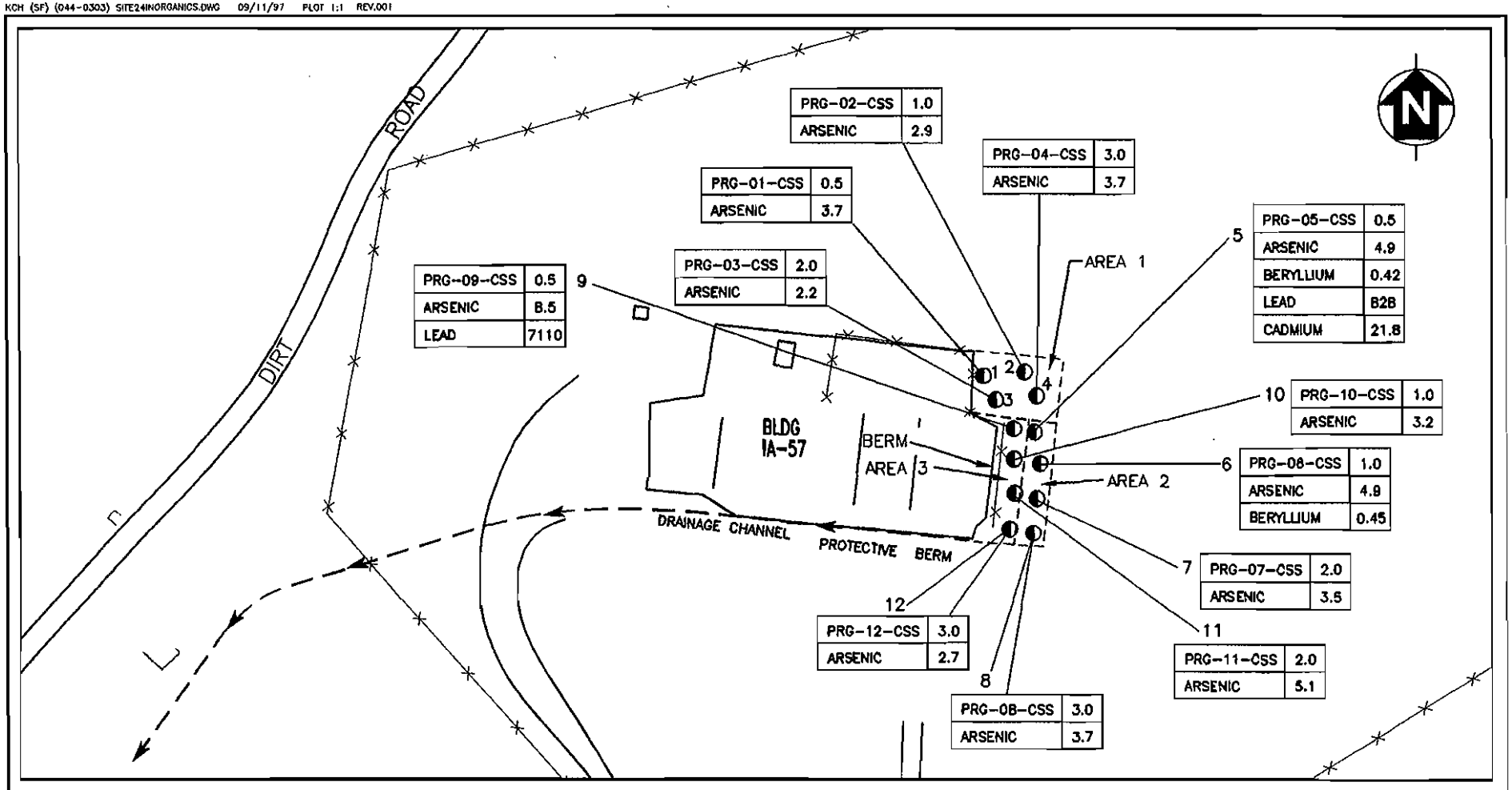
KCH (SF) (044-0303) SITE24INORGANICS.DWG 09/11/97 PLOT 1:1 REV.001



LEGEND:

◐ SOIL BORING LOCATION (SAMPLES COLLECTED AT VARIOUS DEPTHS BGS)

PRG-01-CSS	0.5
ARSENIC	3.7

SAMPLE LOCATION
SAMPLE DEPTH
CONCENTRATIONS IN MG/KG
ANALYTE

—— x —— FENCE

DRAINAGE CHANNEL (WITH ARROW INDICATING FLOW DIRECTION)

NOTES:

1. ONLY INORGANICS DETECTED AT CONCENTRATIONS EXCEEDING U.S. EPA PRELIMINARY REMEDIATION GOALS FOR RESIDENTIAL LAND USE ARE SHOWN.

40' 0 40' 80'
SCALE: 1"=80'

NAVAL WEAPONS STATION CONCORD
CONCORD, CALIFORNIA

FIGURE 8-3

INORGANIC CONSTITUENTS DETECTED DURING THE SI AT SITE 24A IN SOIL

SIZE	Date:	DWG NO.	REV
A		SITE24INORGANICS	2

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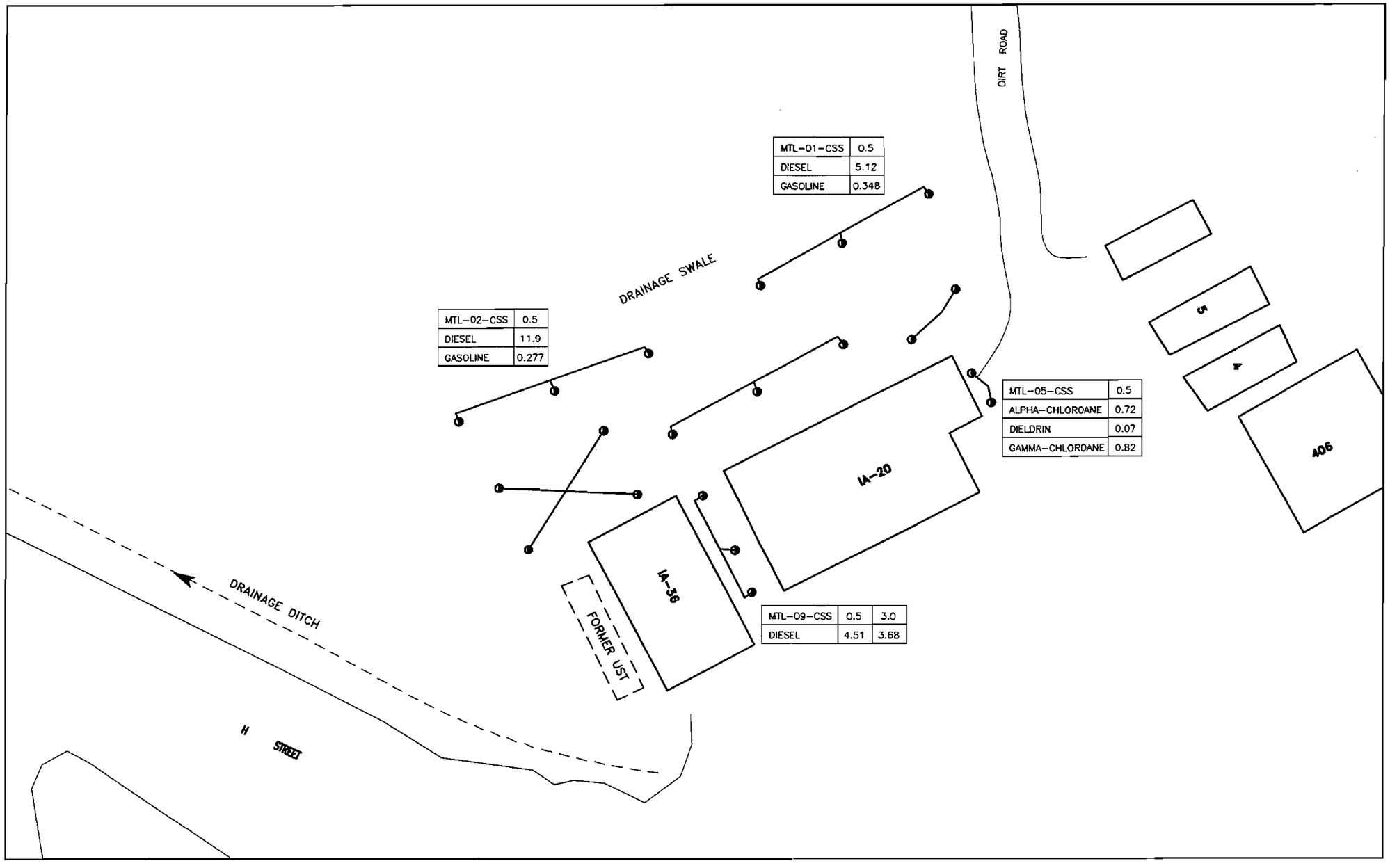

LEGEND:

- SI COMPOSITE SAMPLE LOCATION (SAMPLES COLLECTED AT 0.5 AND 3 FT BGS)
- —— x —— FENCE
- DRAINAGE CHANNEL (WITH ARROW INDICATING FLOW DIRECTION)

MTL-01-CSS	0.5
DIESEL	5.12

SAMPLE LOCATION
SAMPLE DEPTH
CONCENTRATIONS IN MG/KG
ANALYTE

NOTES:

1. ONLY ORGANICS DETECTED AT CONCENTRATIONS EXCEEDING U.S. EPA PRELIMINARY REMEDIATION GOALS FOR RESIDENTIAL LAND USE ARE SHOWN.
2. ALL DETECTED CONCENTRATIONS FOR TPH ARE SHOWN.

NAVAL WEAPONS STATION CONCORD
CONCORD, CALIFORNIA

FIGURE 9-3

ORGANIC CONSTITUENTS DETECTED DURING THE SI AT SITE 27 IN SOIL

SIZE	FSCM NO.	DWG NO.	REV
B		SITE27METAL	3

KCH (SF) (044-0303) SITE27METAL REV.003 10/14/97 VIEW=MAIN

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APPENDIX G
Responses to Agency Comments

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RESPONSES TO COMMENTS ON THE DRAFT Engineering Evaluation and Cost Analysis (EE/CA) Munitions and Explosives of Concern IR Site 24A Former Pistol Range (UXO 0001A), Former Naval Weapons Station Seal Beach Detachment Concord, Concord, California

This document presents the U.S. Department of the Navy's (Navy) responses to regulatory agency comments on the "Draft Engineering Evaluation and Cost Analysis (EE/CA) Munitions and Explosives of Concern IR Site 24A Former Pistol Range (UXO 0001A), Former Naval Weapons Station Seal Beach Detachment Concord, Concord, California" dated November 2010. The Navy received comments from (1) The U.S. Environmental Protection Agency (EPA) in a letter date January 28, 2011 and (2) The City of Concord in a letter dated January 26, 2011. The Navy's responses to the comments received are organized into two sections according to each entity that submitted comments and are presented below.

Responses to Comments from Melinda M. Garvey, Remedial Project Manager U.S. Environmental Protection Agency:

GENERAL COMMENTS:

1. Comment: It is unclear why an excavation depth of 0.5 feet is proposed for some areas at the base of the target berm and an excavation depth of 2 feet is proposed for other areas at the base of the target berm. The Site Investigation found that the fill material at the base of the berm was typically 1.1 to 2.3 feet deep. This fill material contained bullet fragments and is considered the source of metal contamination. Please provide a rational as to why the extent of the area at the base of the target berm area will not be excavated to a depth of at least 2 feet. Furthermore, it is documented that in the late 1970s or early 1980s the old target berm was capped with clean soil. Please include confirmation samples (soil cores) that extend to depths greater than 3 feet to confirm the old, capped soil containing bullet fragments has been removed.

Response: The non-time critical removal action will be performed, in part, to remove the loose soil from the target berm. The depth of the loose soil was estimated to be 1.1 feet near the top and 2.3 feet near the bottom of the target berm. Bullet fragments were identified in the loose soil only and not in the underlying consolidated soil. The consolidated soil appears to be native material that was part of the original hillside.

After the loose soil in the target berm is removed, confirmation samples (as stated in fourth paragraph of Section 4.2.4) will be collected in the consolidated material to evaluate metals concentrations. In addition, the consolidated material will be visually inspected for the presence of bullet fragments and two cores will be excavated to depth of 4 feet to confirm the consolidated material is not part of an older target berm.

Text in the first sentence of the second paragraph of Section 4.2.4 has been modified as follows: "Soil will be mechanically excavated to appropriate depths to remove soil with contaminant concentrations in excess of site cleanup goals (Figure 4-3). Excavation will include removal of all loose soil on the target berm since it was noted to contain lead bullet fragments during

the SI. After the loose soil is removed two cores will be excavated to a depth of 4 feet in the consolidated material to confirm it is not part of an older target berm. The excavated soil will be placed in an armored triple-tray vibrating screening unit to sort out any 40-mm grenade casing or debris."

2. Comment: Please use the correct state and federal listing references for the California red-legged frog (CRLF) and the California Tiger Salamander (CTS) throughout the Draft Engineering Evaluation and Cost Analysis (EE/CA) Munitions and Explosives of Concern IR Site 24A Former Pistol Range Report (Draft IR Site 24A EE/CA). CTS is listed both federally and state as threatened, however the text references the listing of CTS as sensitive."

Response: Portions of the second paragraph on page B-ES-3, first paragraph on page B-2-6, and third paragraph B-3-5 have been revised as follows (emphasis added to designate revisions): "The California red-legged frog (*Rana draytonii*) is currently a federally-listed threatened species and is a state species of special concern. The California tiger salamander is a federally- and **state-listed** threatened species at Concord. This information is based on the CDFG's most recent list of threatened and endangered species (January 2011) and CDFG's special animals list (January 2011)."

The word "sensitive" in reference to the CTS will be revised to "threatened" in all other appropriate locations in the EE/CA.

3. Comment: Although no unexploded 40-mm practice projectiles M407 series have been discovered on the Pistol Range, there is documented evidence that these munitions were fired there. The Draft IR Site 24A EE/CA does not address the fact that these projectiles could have impacted anywhere on the range from the firing line to approximately 400 meters forward thereof. The current area identified as the "Impact Area" begins approximately 90 meters downrange from the firing line and extends to approximately 160 meters downrange instead of covering the entire 400-meter distance from the firing line.

While this would not be an issue with the 40-mm practice projectiles M781 (these are inert), there is some concern with the M407 series. TM 43-0001-28 describes the functioning upon impact as follows: "Upon impact with the target, the firing pin is forced into the detonator. Concurrently, the detonator ignites the RDX booster pellet which fragments the plastic ball and ignites the two yellow smoke pellets, causing a puff of yellow smoke which simulates explosive impact." It is this fragmenting of the plastic ball and the explosive disassembly of the outer metal case of the projectile that results in this item being described as a serious hazard to humans. When this fragmenting by high explosives is combined with the sensitive fuzing system present in the munition, the danger to humans increases significantly.

Response: The area shown on the maps as "40-mm Grenade Impact Area" designates the primary target area and the area where most of the munitions debris was identified during the Site Inspection. In this area, soil will be screened for the presence of munitions debris to a depth of approximately 1 foot or to a depth determined during the MEC-related technical project planning process.

M407 series can travel downrange a distance of 400 meters. However, because there is an approximate vertical offset of 300 feet at the former Pistol Range the M407 series grenades would likely have only been able to travel an estimated maximum distance of 250 meters. The portions of Site 24A that are outside of the designated grenade impact area but within the 250-meters from the firing line will be cleared by walking transects with metal detectors.

The following text has been added to Section 2.1: "M407A1 practice grenades are generally recognized to be able to travel a maximum distance 400 meters downrange. However, because of the 300-foot vertical land rise it is estimated they would only be able to travel a maximum of approximately 250 meters at IR Site 24A. "

The following text has been added to the second paragraph in Section 4.2.4: "Areas outside the grenade impact area but within the estimated range of the M407 series grenades will be cleared by walking transects with metal detectors."

4. Comment: It would be helpful if a figure were added that displays the locations and quantities of munitions debris (MD) that has been discovered on the site. Please revise the Draft IR Site 24A EE/CA to include such a figure.

Response: Two figures from the SI have been added to the Final EE/CA as Appendix E to indicate the locations and quantities of MD identified during the SI. This figure is provided as an attachment to these responses to comments.

5. Comment: Executive Summary, Page A-ES-1: The following comments pertain to revisions of the Executive Summary.

- The last sentence of the first paragraph states that one of the primary methodological differences in the (human health risk assessment) HHRA between USEPA Method 1 and Department of Toxic Substances Control (DTSC) Method 2 involves differences in the receptors used to evaluate noncancer health hazards. This section states that USEPA Method 1 is based on childhood-only exposure, however, this is incorrect. USEPA risk assessment methods require the evaluation of both adult and children in a default residential scenario. Please remove this incorrect statement as this only applies to USEPA screening levels and not the baseline risk assessment process. Note this comment also applies to the first paragraph in Section 2.7.1, page 2-12.

- Following revision of the HHRA as detailed in the general and specific comments presented herein, please revise the Executive Summary accordingly.

Response: The response to this comment is provided below in two parts.

The statements implying that USEPA Method 1 requires childhood only evaluation for non-cancer hazards at both the screening and baseline levels will be deleted in both locations in the HHRA.

In the Executive Summary, the revised sentence will read as:

"The primary methodological differences in this HHRA between USEPA Method 1 and DTSC Method 2 involve differences in the values for some exposure factors, sources of toxicity criteria, and whether those toxicity criteria are extrapolated to different routes of exposure."

In Section 2.7.1, the following text will be deleted:

"For example, the receptors used to evaluate noncancer health hazards under USEPA Method 1 are based on childhood-only exposure, while DTSC Method 2 is based on childhood and adulthood exposure."

The Navy notes the human health risk assessment (HHRA) in this report is a "streamlined risk evaluation" (SRE) in accordance with USEPA guidance on non-time critical removal actions (USEPA, 1993). A streamlined HHRA constitutes a level-of-effort intermediate between a limited risk evaluation performed for an emergency removal action and a comprehensive baseline risk assessment typically conducted during a remedial investigation and feasibility study. The screening-level methods promoted by USEPA in their Regional Screening Levels (USEPA, 2010) were considered sufficiently health-protective for the EE/CA's streamlined HHRA with respect to Method 1 receptors and a separate evaluation of non-cancer health hazards for adults was not performed under Method 1. However, non-cancer hazards were estimated for both adult and child exposure under DTSC Method 2. Because the chemicals of potential concern (COPC) selection process was identical between USEPA Method 1 and DTSC Method 2, the reader may also rely on the DTSC Method 2 results for adult and childhood non-cancer residential exposures. DTSC Method 2 risk and hazard estimates will be higher than if calculated using strictly the USEPA Method 1 approach because DTSC Method 2 incorporates route extrapolation from oral doses to inhalation exposures whereas USEPA does not (i.e., there will be more quantitative risk and hazard estimates with DTSC Method 2 than with USEPA Method 1). Therefore, there are no gaps in the HHRA due to the exclusion of adult non-cancer exposures under Method.

USEPA. 1993. Guidance on Conducting Non-Time Critical Removal Actions under CERCLA. EPA/540-R-93-057. Office of Emergency and Remedial Response, U.S. Environmental Protection Agency, Washington, D.C. August.

USEPA. 2010. Regional Screening Levels (RSL) for Chemical Contaminants at Superfund Sites. RSL Table update. November 11, 2010.

http://www.epa.gov/reg3hwmd/risk/human/rb-concentration_table/index.htm (last accessed 3/15/2010).

6. Comment: **Appendix A, Human Health Risk Assessment:** The organization of the HHRA presented in Appendix A should more closely reflect the methodology described in the Risk Assessment Guidance for Superfund (RAGS; EPA 1989). RAGS details four steps in the baseline risk assessment process: (1)

data evaluation, (2) exposure assessment, (3) toxicity assessment, and (4) risk characterization. The organization of the HHRA should generally correspond to these four steps. However, data evaluation is discussed as a separate section in Section A2.0, Data Evaluation and Management and should be incorporated into Section A 3.0 Human Health Risk Assessment. The current Section 3.1, Selection of Chemicals of Potential Concern (COPC), should be discussed as the final step of the Data Evaluation and Management section. Please revise the document accordingly.

Response: The content of the HHRA will be reorganized to follow the format of a baseline risk assessment. As this constitutes a significant change to the organization of the document (but not to the content and conclusions, except for the modifications indicated in this response-to-comments document), the specific revisions are not provided herein. Presenting the HHRA in the format of a baseline risk assessment does not mean it is a baseline risk assessment. It is still a SRE that is focused only on the removal actions considered in the EE/CA.

7. **Comment:** **Appendix B, Section B2.1.2 Receptor Identification, Pages B-2-3 through B -2-13:** Potential ecological receptors are identified on the Conceptual Site Model (CSM) presented on Figure B-2 and are described in Section B2.1.1 Site Settings and Habitats but the interrelationships among the species are not shown on a food web. Because metals and PAHs identified as Chemical of Potential Concern (COPCs) are bioaccumulative and are transferred through the food chain, it would be helpful to include a food web diagram that shows the structure of the biological community and identifies the feeding guilds that are used to represent the species that may be exposed to chemicals at the site. Please provide a figure showing the interrelationships of the ecological receptors that are evaluated in the Ecological risk assessment (ERA).

Response: A food web diagram that shows the structure of the biological community and identifies the feeding guilds has been added as Figure B-3. Existing Figures B-3 and B-4 will be renumbered as B-4 and B-5, accordingly. This figure is provided as an attachment to these responses to comments.

The following text will be added to Section B.2.1.3, Identification of Complete Exposure Pathways:

"Figure B-3 presents the interrelationships between chemical transfer through ingestion of food items at different levels of the food chain within the ecosystem. Chemicals released through soil, seasonal sediment or surface water can traverse each trophic level to simulate chemical transfer or, in some cases, biomagnification from primary and secondary producers to top predators. For Site 24A, chemical uptake into the primary food resources include terrestrial plants, soil and, seasonally, benthic invertebrates. These organisms can then be consumed by amphibians, omnivorous reptiles, songbirds (American robin), and small mammals (California vole and western harvest mouse), which in turn can be consumed by predators, including carnivorous reptiles (snakes), carnivorous mammals (grey fox) and predatory birds (red-tailed hawk)."

SPECIFIC COMMENTS

1. **Comment:** **Section 1.1, Regulatory Framework, Page 1-2 and 1-2:** This section notes that, "The planned removal action is intended to address areas of the site impacted by its former use as a pistol range and to serve as a final remedy for the site." It also states that, "The removal action for IR Site 24A is determined to be a Non-Time Critical Removal Action. The Draft IR Site 24A EE/CA evaluates proposed removal action alternatives that are intended to reduce the likelihood of human or ecological exposure to contaminated soil at the site." This does not address the use of the range for the firing of 40-mm practice grenades and the potential for MEC and MD to be present on the range. Please revise the cited sentences to reflect the use of the range as a 40-mm practice grenade range and to reflect that the removal will include these MEC items.

   Response: The first two sentences of the last paragraph in Section 1.1 have been modified to state (emphasis added to designate revisions): "The removal action for IR Site 24A is determined to be a non-time critical removal action. The Draft IR Site 24A EE/CA evaluates proposed removal action alternatives that are intended to reduce the likelihood of human or ecological exposure to contaminated soil **and MEC** at the site."

2. **Comment:** **Section 1.2, Scope of the Engineering Evaluation/Cost Analysis. Page 1-3:** This section does not mention the process by which potential MEC will be addressed. Please provide a statement concerning the potential presence of MEC on the site and where this is addressed.

   Response: Section 1.2 only gives a general description of what will be addressed by the EE/CA and does not describe any specific processes. Processes are described in Section 4 of the EE/CA. However, to clarify that MEC is addressed in the EE/CA, the following sentence will be added to the end of Section 1.2: **"**In addition, this EE/CA addresses the possibility of encountering MEC at the site, although it was not found during the SI."

3. **Comment:** **Section 2.1, Site Location and Historic Operation, Page 2-2:** This section notes that, "The 40-mm Grenade Impact area covers approximately 2 acres of sloping land extending to the northeast of the pistol range. The land rises abruptly approximately 300 feet above the range floor. There are five targets made of 1-foot by 1-foot heavy timber that stand approximately 7 feet high on a steep slope just above the pistol range target berm." As is noted in the General Comments section above, the actual area that should be considered the impact area for 40-mm projectiles is much larger than 2 acres. Please revise the cited statement in light of the corrective actions noted in the referenced General Comment above.

   Response: The text has been revised to clarify that other portions of the site outside of the grenade impact area will be cleared by walking transects with metal detectors Please see response to USEPA General Comment #3 for specific text revisions.

4. Comment: **Section 2.7.1 Human Health Risk Assessment and Appendix A, Section A.3.2 Exposure Assessment:**

- In Section 2.7.1 on Page 2-12 and in Appendix A, Section A.3.2, Page A-3-3, the baseline HHRA describes scenarios for two receptors for IR Site 24A: future residents (unrestricted use) and future recreational users, however, additional receptors that will likely be exposed to chemicals during future redevelopment of the site likely would include construction workers and industrial workers. Section A 3.2.1.1 on Page A-3-4 states that development of the site will require some cleanup and likely excavation and construction. Therefore, the construction worker and industrial worker should be included as potential receptors in the CSM shown on Figure A-4 and the risks and hazards estimated accordingly. Otherwise the text should provide rationale for not including these receptors in the risk assessment evaluation. Please revise the applicable sections, as requested.

- According to Section 2.7.1 on Page 2-13, the 0-2 foot scenario was evaluated for both the residential and recreational user; however, an additional evaluation for chemicals in soil from the 0-6 inch depth interval was performed for the recreational user. It is conceivable that the residential receptor, particularly the child resident (0-6 years old), may be exposed to 0-6 inch soils during play activities. Exposure to COPCs in the soils from the 0-6 inch depth interval may occur through inhalation of dusts, incidental ingestion of soils, and through dermal contact. Please evaluate the residential receptor for exposure to soils from 0-6 inches or provide an explanation as to why the residential scenario was not evaluated for this depth interval.

Response: This HHRA focuses on whether concentrations of contaminants pose an unacceptable risk to human health under current and likely reuse scenarios. Unacceptable risks will be addressed through a non-time-critical removal action (NTCRA). In accordance with this approach, the receptors evaluated included adult and child residents (for unrestricted use) and recreational users. These receptors were selected because the current Concord Reuse Plan[1] includes the area of this site as future Open Space. Commercial/ industrial and construction worker receptors are not included because this area is not designated for redevelopment to accommodate this land use.[1] In addition, protection of residents would also address risk to commercial/industrial workers. Although cleanup activity at the site would likely involve some demolition and excavation, these activities would be addressed via a Site Safety and Health Plan and are not the focus of the streamlined HHRA.

Since the proposed land use for the site is Open Space, the recreational receptor represents the most likely exposures at the site. Therefore, the 0-2 ft bgs and the 0-6 inch depth intervals were both evaluated for this receptor, in order to estimate risks based on recreational activities that are slightly soil

[1] http://concordreuseproject.org

intrusive (0-6 inches) or more deeply soil intrusive (0-2 ft). The residential receptor is unlikely at the site and any future residential development would result in disturbance and regrading of the soil. Therefore, the soil depth range of 0-2 ft bgs is a more appropriate range to represent surface soil exposure to the residential receptors. The range is inclusive of the 0-6 inch range and the expanded range is typically considered a conservative measure.

5. **Comment:** **Section 3.6 Identification of Removal Action Extent, Table 3-1, Page 3-4:** Table 3-1 shows final Chemicals of concern (COCs) and cleanup goals for human and ecological receptors but the cleanup goal for arsenic is not protective of human health. The final cleanup goal for arsenic is shown as 88 mg/kg based on exposure to ecological receptors while the cleanup goal for arsenic, based on human health exposure to residential receptors, is shown as "not applicable" because arsenic was not identified as a COC. However, the cleanup goal for arsenic should be based on background arsenic concentrations in soil, reported as 7.3 milligrams per kilogram (mg/kg) in Section A3.4.2.4 and this cleanup goal would apply to the three localized elevated concentrations of arsenic ranging in concentration from 31 mg/kg to 120 mg/kg. Please revise the table and related discussions and ensure that the removal actions are based on a cleanup goal for arsenic that reflects background concentrations. In addition, the embedded table on page A-4-3 should also include arsenic since it was well above the Regional Screening Level (RSL) at three locations and was identified in the previous page as requiring remediation at these locations.

Response: With the exception of three outlier locations, BAI-24A-021-00, BAI-24A-029-00, and BAI-24A-025-00, detected concentrations of arsenic were generally within the range of background. The 95% UCL of the arsenic concentrations, excluding the three outliers, is 5.6 mg/kg, which is below the background level of 7.3 mg/kg (Tetra Tech 1997). In addition, all three outliers are already included within existing remedial boundaries and are proposed for removal.

Table 3-1, the embedded table on page A-4-3 and supporting text have been revised to include arsenic and to demonstrate that removal of the three areas with elevated arsenic concentrations locations will result in a residual 95% UCL that is below background levels.

6. **Comment:** **Figure 1-2, Site Vicinity Map, and Figure 4-3, Alternative 4:** There are issues concerning these two figures that include:

- The two figures show different areas for the "grenade impact area."
- Figure 4-3 shows the area identified as the "Munitions Response Site Boundary" and the area identified as the "40-mm grenade Impact Munitions Response Site" as having two differing outer boundaries.
- The "Drainage Channel" depicted on Figure 1-2 and the "2.0" Removal – Drainage Channel" shown on Figure 4-3 do not consistently coincide.

Please review the cited concerns and correct/explain them as necessary.

Response: The grenade impact area is the area where soil will be excavated to approximately 1 foot and then screened for MEC and MD and is within the Munitions Response Site Boundary. The remainder of the area within Munitions Response Site Boundary will be cleared by walking transects with metal detectors. All applicable figures in the EE/CA will also be revised to show the same area designated as the Drainage Channel. The revised figures will be provided under separate cover.

7. Comment: **Appendix A, Section A1.3 Regulatory Framework, Page A-1-4:** Section A 1.3 cites the 2010 EPA Region 9 Regional Screening Levels (RSLs) as a guidance document used in the HHRA preparation, however, it appears that the RSL values used in the HHRA are from the May 2010 version of the RSLs, according to the reference cited in Section A 6.0 References on page A-6-3. The RSLs were updated in November 2010. Please ensure that the RSL values cited in the HHRA are current and cite the most recent version of the RSLs.

Response: The EE/CA was submitted to the reviewing agencies in November 2010 prior to the release of the RSL update. Upon review of the November 2010 RSL tables, there were no quantitative changes to toxicity values for the COCs at Site 24A.

8. Comment: **Appendix A, Section A2.3.3 Soil Background Dataset, Page A-2-3:** The source of the background dataset appears to be derived from Sites 17 and 24A, however, the methodology for selecting background is not clearly explained, nor is there a table that summarizes background metals concentrations. Specifically, the text states, "In this background dataset, the representative background concentration was the maximum detected concentration after excluding any anomalously high concentrations ("outliers") or set at the analytical detection limit (molybdenum, selenium, silver, and thallium) (see Tetra Tech 1997) for details. The EPA (2002) issued guidance for metals background following the Tetra Tech (1997) study. Please describe the methodology used for establishing background. Also, this section should include a table of the background values used in the risk assessment and should reference the table.

Response: The Tetra Tech (1997) report represents the longstanding, and only available, evaluation of site-specific background concentrations of inorganic constituents. It has been referenced and used for other sites at Former Naval Weapons Station Detachment Concord by the Navy. The table (Table 2: Background Metals Concentrations in Soils of the Inland Area Sites 17 and 24A, Naval Weapons Station, Concord) and supporting methodological text from the Tetra Tech report has been added to the discussion of background concentrations provided in Appendix A. In addition, the 1997 background report prepared by Tetra Tech (Appendix C of TetraTech 1997) has been added to the Final EE/CA as Appendix F.

9. Comment: **Appendix A, Section A3.1 Selection of Chemicals of Potential Concern, Page A-3-1**: According to this section, the major difference between the USEPA and DTSC methodology is whether "chemical analytes can be screened out early in the process (by comparison to background or to health protective screening concentrations; i.e. USEPA Method 1) or must carried through the entire process (i.e. DTSC Method 2)." The process for selection COPCs is site-specific depending on criteria such as whether the chemical is an essential nutrient; concentrations exceed background concentrations; detection frequency; mobility, persistence, and bioaccumulation potential; historical evidence; and concentration and toxicity (USEPA, 1989). Please revise the discussion in Section A 3.1 to acknowledge that the COPC selection process is site and chemical specific and may involve consultation with the regulatory agencies.

Response: The following text has been added as the second sentence to the first paragraph of Section A3.1:

"Per USEPA (1989) risk assessment guidance, and paralleled in state guidance, COPC identification can be a complex integration of multiple sources of generalized and site-specific information: site history (e.g., known or suspected releases of chemicals), chemical factors (concentrations, essentiality, persistence, bioaccumulation potential, and toxicity of those chemicals), statistical factors (e.g., number of samples, detection frequencies) regulatory agency discussion, and other potential considerations."

10. Comment: **Appendix A, Section A3.2.4.1 General Exposure Parameters, Page A-3-9:** The following comments pertain to the exposure parameters selected for the recreational user:

- The exposure duration for the recreational user are given as 21 years (11 years as an adult and 10 years as a child) for the Reasonable Maximum Exposure (RME) scenario and 13 years (7 years as an adult and six years as a child) for the Central Tendency Exposure (CTE) scenario. The justification and sources of these input parameters are not cited in the text or in Table A-2 Exposure Factors. The selected duration values do not include exposure to the more sensitive receptor, young children (<6 years old) whom may accompany adult recreators.

- The exposure frequencies are assumed to be 5 days per week for the RME user and 1 day per week for the CTE user, however, a description of the activities that were used to determine these exposure frequencies is not provided.

Please provide justification to support the selection of the exposure durations and frequencies for the recreational receptors, otherwise more conservative assumptions should be used to include a young child recreator.

Response: Exposure factors were conservatively estimated based on professional judgment. Active recreational facilities such as play structures which are

likely to attract children are not proposed for this site. The open space areas are proposed for more passive recreational activities such as hiking and biking (DEIR, Page 2-17 to 2-18). It was conservatively assumed that adult and child residents from nearby housing may visit the Site 24A open space five days a week for 2 hours per day and use the area as an active park area and may be exposed by direct contact to the upper 6 inches of soil, as well as the upper two feet of soil.

Please refer to the second paragraph of Section A3.2.2.1 for a description of the activity patterns envisioned for the recreational receptor. The screening-level evaluation includes child-specific exposure factors (e.g., skin surface area, incidental soil ingestion rate) but not *age*-specific factors. Consequently, the "childhood recreational exposure period" could be *any* 10-year period (RME scenario) or 6-year period (CTE scenario) to a person under 18 years of age, and could include sensitive childhood ages.

11. Comment: **Appendix A3.4.1, Risk and Hazard Estimation, Pages A3-17 and A3-18:** The following comments are related to estimation of risk and hazard.

- Section A3.4.1.1 presents the generalized Hazard Quotient (HQ) equations but equations for chemical intake for the ingestion and inhalation routes of exposure and dose for the dermal route of exposure are not provided.

- Section A3.4.1.2 presents the generalized cancer risk equation but does not provide equations for chemical intake for the ingestion and inhalation routes of exposure and dose for the dermal route of exposure.

Please provide these equations and define all terms used in the equations in order that the calculations can be verified.

Response: The in-text equations are provided as general risk equations to support the text discussion. Specific equations for each exposure pathway and definition of variables are provided in the Attachment A3 tables. Following the general equations in the text, a note has been added indicating that specific equations and variable definitions are presented in Attachment A3, as well as the relevant table numbers.

12. Comment: **Appendix A, Section A3.4.2.1 Uncertainty in Site Characterization, Data Quality, and COPC Selection, Page A-3-23:** One of the datasets (presumably 0-6 inches bgs) used to calculate the EPC for PAHs consisted of five samples; therefore, the maximum concentration of the analyte was used in the risk calculations. Data for some of the PAHs were detected at concentrations ranging over two orders of magnitude. Please include a discussion of the representativeness and uncertainty associated with use of the maximum concentration as the EPC in the risk calculations as this limited data set and the range of concentrations suggest a data gap may exist.

Response: The referenced section has been revised. Table A-1 included some misrepresented measurement units for the organic constituents in the 0-6 inches bgs interval that have been corrected (column headings indicated units

of mg/kg, but the values represented units of µg/kg). However, the risk and hazard estimate calculations used the correct values and the correct measurement basis. With the corrected display of data (which only affected Table A-1), the difference among reported concentrations is much less. The corrected Table A-1 is included as Attachment 4 in this Response to Comments document.

The following text will be added as the third sentence in the referenced paragraph: "PAH exposures in the entire soil column (0 to 2 feet bgs) were based on 95UCL concentrations, but only 5 samples were collected from shallow soil (0 to 6 inches bgs). Exposure point concentrations for surface soil were based on the maximum detected concentrations because the sample size was too small to calculate a statistically reliable 95UCL. Comparison of maximum concentrations (0 to 6 inches bgs) to maximum and 95UCL concentrations (from 0 to 2 feet bgs) indicate that PAH concentrations are greater in the subsurface. The majority of the exposure scenarios evaluated in this HHRA were based on exposure to the 0 to 2 feet bgs soil interval; consequently, exposures to PAHs included the more-contaminated soil."

13. Comment: **Appendix A, Section A3.4.2.4 Uncertainty in Risk Characterization, Evaluation of Background, Page A-3-28:** According to Section A3.4.2.4, arsenic was detected in 79 of 80 samples in the dataset evaluated with an average concentration of approximately 10 mg/kg. The site-specific background is reported as 7.3 mg/kg based on samples collected from Site 13 and 24A. A comparison of risk results will provide additional information to support remediation that is not driven by naturally-occurring concentrations of arsenic. Please verify the previous risk calculations and in addition, perform a second set of risk calculations excluding arsenic and discuss the risk results with and without arsenic to differentiate site-related risk from contributions of risk from background conditions.

Response: As requested, risks related to arsenic with and without background concentrations have been calculated and are discussed in the HHRA. The referenced text section has been extensively revised, and is provided as Attachment 3 to this Response-to-Comments document, along with the risk estimates (Revised Tables A-5 and A-6).

14. Comment: **Appendix A, Section A4.0 HHRA Conclusions and Identification of Chemicals of Concern, Page A-4-1:** The risk assessment conclusions are based on an evaluation of total site risk although it appears that three hotspots with elevated arsenic are driving cancer risk. A hotspot evaluation of risk is recommended to focus remediation on the three areas of elevated arsenic and lead concentration. Please revise the conclusions in Section A 4.0, as appropriate, following an evaluation of the hotspots.

Response: It is demonstrated in Table A-4 that arsenic contributes 60 percent or more to the cumulative risk estimate under any of the exposure scenarios, and it is noted in Section A3.4.2.4 (see Specific Comment 13 and response) that only 3 individual sample concentrations of arsenic exceed the range of background concentrations. These 3 sample locations (BAI-24A-021-00, BAI-24A-029-

00, and BAI-24A-025-00) have already been identified as locations for consideration of focused remediation to mitigate above-background arsenic risks. (see response to Specific Comment #5).

Lead has been identified as a chemical of concern and its results were used to determine excavation areas for the removal action. Lead is further addressed in Comment #2 from the Specific Comments from Michael W. Wright of the City of Concord. No further evaluation is deemed necessary.

Discussion of a lead cleanup goal for recreational receptors has been revised in the EE/CA and HHRA. The presentation of the recreational child cleanup goal of 800 mg/kg in the report has been annotated with the following qualifier:

"This value is based upon the USEPA industrial RSL for adult exposure but is also protective of recreational child exposure, based on the recreational exposure assumptions for this site. Please refer to Section A3.3.1.1 for details regarding the application of this value to the recreational child scenario."

15. Comment: **Appendix A, Section 4.1 Identification of Chemicals of Concern, Page A4-2:** This section indicates that lead and arsenic are present in areas greater than regional background and will be remediated, however, it is not clear that these chemicals are not considered chemicals of concern. This is especially pertinent since Section A3.4.3.1 states that approximately 60 to 90 percent of the cancer risk estimates are due to predicted exposures to arsenic. Please explicitly indicate that a majority of the arsenic and lead detected at the site are representative of background conditions and are not considered chemicals of concern because detected concentrations are comparable to background, with the exception of hotspots.

Response: Additional text, similar to the response for Comment #5, has been added to indicate that most arsenic concentrations at the site are representative of background, with the exception of the three outlier locations. The response to USEPA Specific Comment #5 indicates, risks related to arsenic with and without background concentrations will be calculated and discussed in the HHRA (Appendix A to the EE/CA). The text section discussion (Appendix A, Section A3.4.2.4) has been extensively revised, and is provided in Attachment 3 to this response-to-comments document. It provides the basis for the conclusions that removal of the three outlier locations of arsenic will result in a residual 95% UCL (5.6-6.1 mg/kg in 0-2' and 0-6") that is below background levels (7.3 mg/kg)."

The first paragraph of Section A3.1 indicates the overall approach for identification of COPCs in this EE/CA HHRA: all detected chemicals were evaluated, and consideration of background is incorporated in risk characterization. Within the construct of this HHRA (conducted for an EE/CA and not a Superfund Baseline Risk Assessment) and its limited data set and exposure scenarios, this approach represents an integration of USEPA Method 1 and DTSC Method 2. Discussion of detected and background

concentrations of arsenic is present in Section A3.4.2.4 (the uncertainty section) and has been supplemented.

Lead. Although there are several locations where lead hot spots are clearly evident (e.g., concentrations of several thousand mg/kg), there are also many locations where lead concentrations exceed background (18 mg/kg) but are lower than the suggested remedial goal (59 mg/kg). These intermediate concentrations are neither low enough to be considered background nor high enough to be considered as hot spots or as exceedances of the risk-based remedial goals. Leaving these concentrations in place (i.e. not remediating at locations with lead less than 59 mg/kg) will be protective of both the ecological and human exposures considered for the site. A detailed discussion of lead distribution and decision-making is included in Attachment 5 of this Response-to-Comments document.

16. Comment: **Appendix B, Section B2.4 Method Detection Limit and Method Reporting Limits, Page B-2-18:** This section concludes that a review of the Method Detection Limit (MDL) and Method Reporting Limit (MRL) indicated that "analytical methods were sufficiently sensitive to be able to indicate concentrations below ecologically protective limits." However, this information is inconsistent with the information provided in Table B-36 Comparison of Method Reporting Limits for Non Detect Results for Soil (0-2 feet) to Soil Screening Benchmarks, where selenium, 1,3 Dinitrobenzene, 2,6 Dinitrotoluene, and nitrobenzene had maximum MRLs that exceeded the lowest screening benchmark for each chemical, respectively. The analytical data for 1,3 Dinitrobenzene and 2,6 Dinitrotoluene were reported as not detected (ND) and the maximum MDLs exceeded the lowest screening benchmark. These exceptions are noted on page B-3-15 in Section B3.6.1 so please revise Section B2.4 to be consistent with the information presented in Section B3.6.1.

Response: The following text has been added to Section B2.4 page B2-18

"With the following exceptions, MRLs did not exceed soil screening benchmarks for plants or invertebrates:

- Selenium – all MRLs exceeded the plant benchmark,
- 1,3-dinitrobenzene and nitrobenzene – all MRLs exceeded the benthic invertebrate benchmark, and
- 2,6-dinitrobenzene – all MRLs exceeded all three benchmarks (plant, soil invertebrate, and benthic invertebrate).

Based on a comparison of the benchmarks to MDLs, no exeedances occurred for selenium and nitrobenzene. The maximum MDL for 1,3-dinitrobenzene exceeded the benthic invertebrate benchmark, and the maximum MDL for 2,6-dinitrobenzene exceeded all three benchmarks (plant, soil invertebrate, and benthic invertebrate)."

17. Comment: **Appendix B, Section B2.4.1 Exposure Point Concentrations for COPEC Selection, Pages B-2-18 and B-2-19:** This section refers to Tables B-4 and B-5, which summarize statistics used to evaluate the site data, but does not discuss the statistics (i.e. 95th percentile of the upper confidence limit, maximum concentration, etc.) that were used to represent EPCs. Please provide additional detail in this section to include a description of the statistics used to represent EPCs and the software used to estimate EPCs (ex. ProUCL). Please also include a discussion of how ND values were handled in the calculation of EPCs.

Response: The following text has been added to Section B2.4.1 page B2-18 in front of the sentence that begins "Although the 0 to 2 feet…":

"A detailed description of the summary statistics used to estimate EPCs and how non-detect values were handled is discussed in Section B2.3." For Tier 1, the maximum detected concentration for a given Exposure Area (see also Section B.2.1.5) was used as the EPC. For Tier 2, the lower of the maximum detected concentration and UCL95 was used as the EPC."

The following revision has been made to the first paragraph of Section B2.3.1 for clarification purposes (emphasis added):

"In addition, MDLs and MRLs from non-detect samples were compared to risk-based screening levels to better understand the quality of the data and implications of using these results in ProUCL 4.00.04 **(**Singh, et al., 2009; Singh and Singh, 2009). The ProUCL software generally requires a minimum of five results and two detected results. If multiple non-detect values are present for a given chemical, the ProUCL software typically recommends the use of Kaplan-Meier non-parametric statistics."

Please refer to the response to Minor Comment #2 below, for additional discussion on ProUCL.

18. Comment: **Appendix C, Applicable or Relevant and Appropriate Requirements:** Please include the California Endangered Species Act, Fish and Game Code §2050 et seq. as an ARAR. Also, please explain why the Capping ARAR Cal. Code Regs. tit. 22, § 66264.310(a)(4) applies to Alternative 4.

Response: The Navy has added appropriate provisions of the Endangered Species Act, Fish and Game Code as ARARs in the final EE/CA. Capping ARAR, Cal. Code Regs. tit. 22, § 66264.310(a)(4) will be removed in reference to Alternative 4 since it is not applicable.

<u>MINOR COMMENTS</u>

1. **Comment:** Please ensure that all acronyms are defined in the text the first time they are used and that they are also included on the Acronyms and Abbreviations list (page v). For example, AM (Action Memorandum) is not defined in Section 3.1 Statutory Framework and it does not appear on the Acronyms and Abbreviations list.

Response: The document has been reviewed and modified to ensure all acronyms are defined after the first use and are present in the Acronyms and Abbreviations list.

2. **Comment:** **Appendix A, Section A3.2.3 Exposure Point Concentrations:** The following comments pertain to the calculation of exposure point concentrations (EPCs): Page A-3-7 states that EPCs were based on the 95 percent upper confidence limit on the mean (95UCL) using the USEPA statistical program, ProUCL 4.00.04. Please use and cite the most current version of ProUCL (version 4.00.05, dated May 2010) for calculating 95UCLs for a baseline human health risk assessment.

Response: ProUCL Version 4.00.04 was used in the calculation of EPCs for both the human health and ecological risk assessments. To address this comment, the EPCs were re-calculated using Version 4.00.05 and compared to the original results. Table 1 and Table 2 present the comparison of the EPC results from the two versions of ProUCL for the two key soil depth ranges (0-2 ft bgs and 0-0.5 ft bgs), respectively. Observed changes were minor except for a small list of chemicals (highlighted in the tables and summarized below) which changed significantly, but in all cases, the EPC values decreased. This is likely because where in Version 4.00.04 it used 99% Chebyshev (MVUE) or 99% Chebyshev (Mean,Sd), ProUCL Version 4.00.05 now recommends 95% Chebyshev (Mean,Sd) which made the UCLs decrease. The 99% Chebyshev is still being calculated and is the same as the prior version, but the recommended UCL is different.

The following is a list of chemicals with significant changes between ProUCL Version 4.00.04 and Version 4.00.05 (in all cases the values decreased).

0 -0.5 Site-wide (all)
Antimony
Copper
Lead
Zinc

0-0.5 Site-area 2
Arsenic

1.5-2 Site-wide (all)
Lead

1.5-2 Site-area 2
Copper

1.5-2 Site-area 3
Lead

0-2 Site-Wide (all)
Copper
Lead

0-2 Site-area 2
Antimony
Copper

Given these observed results and the fact that all significant changes trended downward resulting in lower concentrations, the results of the original calculations are deemed sufficiently conservative and valid. A summary of this analysis has been added to the discussion of uncertainties for both the human health and ecological risk assessments, but no changes have been made to the original calculations.

The following text was added to Appendix B (Ecological Risk Assessment), Section B.3.6.2, Uncertainties in Exposure Characterization:

"ProUCL Version 4.00.04 was used in the calculation of the EPCs. Version 4.00.05 has since been released. A comparison was performed for the soil EPCs for the 0 to 0.5 and 0 to 2 foot depths. For the 0 to 0.5 foot depth, differences in the EPCs varied for five chemicals (antimony, arsenic, copper, lead, and zinc). Four of these EPC differences (antimony, copper, lead, and zinc) were based on the Site-wide exposure unit, while the remaining EPC (arsenic) demonstrated a difference for the Area 2 exposure unit. For the 0 to 2 foot depth, which was the dataset used to develop the EPCs for this site, differences were noted for three COPCs (antimony, copper and lead) in either Area 2 or the Site-wide exposure unit (see summary table below). In all cases, the EPCs were greater using Version 4.00.04, indicating the ERA would not under-estimate risk and would not have a significant impact on the remedial boundaries already defined in this report."

The following table summarizes the differences for the 0 to 2 foot depth:

COPC	UCL95 Version .04	UCL95 Version .05
Antimony – Area 2	352	187
Copper – Site-wide	1,123	840
Copper – Area 2	5,106	2,540
Lead – Site-wide	10,212	5,400

Units are in mg/kg.

3. Comment: **Appendix C, Applicable or Relevant and Appropriate Requirements, Section C4.3.1, MEC Screening, Page C-4-2:** This section lists the following reference: "DoD 6055.9-STD. DoD Ammunition and Explosives Safety Standards." This standard has been cancelled and administratively reissued as DoDM 6055.09-M in eight volumes. It retains the February 29, 2008 date with a statement that reads, "Administratively Reissued August 4, 2010." Please correct this listing.

Response: The referenced listing has been corrected.

4. Comment: Sentences that appeared to be missing words and did not make sense were found in the document and should be corrected. A few examples are provided as follows:

- **Section 2.7.1.1, Cancer Risk Estimates, Page 2-15:** The last sentence states, "The primary additional contributors to the cancer risk estimates are PAHs detected in soil samples adjacent to creosote-treated timbers at the bottom were used as a retaining wall."

- **Appendix A, Section A3.2.2.1, Receptors, Page A-3-4**: The first sentence states, "Future land use assumes that development of the site will require some cleanup (e.g. of munitions-related debris and onsite-structures) and likely excavation, construction, and/or **regarding**."

- **Appendix A, Section A3.2.2.2, Exposure Pathways, Page A-3-5:** The second paragraph, last sentence states, "In addition, some pathways may be complete but then also considered to be inconsequential components relative to other complete pathways."

Response: The subject sentences will be revised and a comprehensive review was performed to correct any typographical errors. The sentences from above will be revised as follows:

- **Section 2.7.1.1, Cancer Risk Estimates, Page 2-15:** The last sentence states, "The primary additional contributors to the cancer risk estimates are PAHs detected in soil samples adjacent to creosote-treated timbers that were used as a retaining wall."

- **Appendix A, Section A3.2.2.1, Receptors, Page A-3-4**: The first sentence states (emphasis added to designate revision), "Future land use assumes that development of the site will require some cleanup (e.g. of munitions-related debris and onsite-structures) and likely excavation, construction, and/or **regrading**."

- **Appendix A, Section A3.2.2.2, Exposure Pathways, Page A-3-5:** The second paragraph, last sentence states, "In addition, some pathways may be complete but inconsequential relative to other complete pathways."

Responses to Comments from Michael W. Wright, Director, Community Reuse Planning City of Concord:

General Comments:

1. **Comment:** In general, the City is in agreement with and supportive of the approach being taken by the Navy to remediate Site 24A. The City however, would point out that the approach for Site 24A is in sharp contrast to that for Site 22. More specifically, removal action objectives (RAOs) for Site 24A are:

   - Prevent human exposure to soil at IR site 24A with an ECR [cancer risk] of greater than 1 x 10-6 and/or HI greater than 1.
   - Prevent exposure of ecological receptors to soil at IR Site 24A with HQ exceeding 1.
   - Remove potential explosive hazards from IR Site 24A.

   At Site 22, the Navy does not identify an issue unless the risks exceed a cancer risk of 10-4, which is 100 times less stringent than the approach taken at Site 24A. At Site 24A, the Navy has developed cleanup goals based on a target cancer risk of 10-6 and the EE/CA indicates that the Navy plans to remediate the site to meet those goals. The City requests that this more health-protective approach be considered at other sites.

   Response: A **removal** action is being performed at Site 24A whereas a **remedial** action is being conducted at Site 22. EPA guidance for objectives is different for a **removal** action than for a **remedial** action. Removal action objectives are more general in nature and are designed for the removal action alternatives that have been developed for the site. The Draft EE/CA incorrectly provided specific objectives. The removal action objectives have been revised as follows

   - Prevent human exposure to contaminated soil from IR Site 24A through removal, proper disposal, and institutional controls.
   - Prevent exposure of ecological receptors to contaminated soil at IR Site 24A through removal.
   - Remove potential explosive hazards from IR Site 24A.

   The cleanup goals to meet these removal action objectives are detailed in text and tables in Section 3.6 of the EE/CA.

Specific Comments:

1. **Comment:** The Site 24A EE/CA is unclear as to whether the cleanup is going to address the entire target berm, including the old, buried berm. According to the Site 24A EE/CA, in the late 1970s or early 1980s, the Navy planned to replace the target berm. The berm was not replaced due to the high cost of lead removal and the berm was capped with soil of an unknown thickness. Site 24A continued to be use as a pistol range. The Site 24A EE/CA calls for the removal of the upper 2 feet of impacted soil. Given that no samples were collected

Response: The intent of the non-time critical removal action will be to remove all loose soil from the target berm. The depth of the loose material was estimated to be 1.1 feet at the top and 2.3 feet at the bottom of the target berm. Exactly how the target berm was replaced and/or added on in the late 1970's or early 1980s is not known. Results from the Site Inspection (SI) did not find a differentiation between older or newer target berm soil; only difference noted was between loose and consolidated soil. Bullet fragments were seen in the loose soil and not in the consolidated soil. The consolidated soil appears to be native material that was part of the original hillside.

After the loose soil in the target berm is removed confirmation samples (as stated in Section 4.2.4) will be collected in the consolidated material to evaluate metals concentrations. In addition, the consolidated material will be visually inspected for the presence of bullet fragments.

Text in the first sentence of the second paragraph of Section 4.2.4 has been modified as follows: "Soil will be mechanically excavated to appropriate depths to remove soil with contaminant concentrations in excess of site cleanup goals (Figure 4-3). This will include removal of all loose soil on the target berm since it was noted to contain lead bullet fragments during the SI. The excavated soil will be placed in an armored triple-tray vibrating screening unit to sort out any 40-mm grenade casing or debris."

2. Comment: The City understands that the lead cleanup goal at Site 24A is driven by the ecological value of 59 mg/kg, which is more stringent than the recreational lead cleanup goal of 800 mg/kg and the unrestricted use/residential lead cleanup goal of 80 mg/kg identified in the Site 24A EE/CA. Given that the lead cleanup goal is driven by ecological risk, the City is providing this comment on the recreational cleanup goal for lead as a matter of principle because it can serve as a precedent for other sites in the future. The Site 24A EE/CA states the following:

The use of the 800 mg/kg based on the RSL [U.S. EPA Regional Screening Level] rather than the CHHSL [California Human Health Screening Level] for commercial industrial workers of 320 mg/kg is consistent with DTSC's recommendation in HHRA Note 4; Item G from November 2009 (http://www.dtsc.ca.gov/AssessingRisklupload/ HHRANote-4.pdf). This DTSC guidance indicates the use of the 2004 preliminary remediation goal, which is the same as the 2009 RSL is appropriate for the evaluation of nonresidential exposures. [Emphasis added.]

DTSC's HERD HHRA Note Number 4 Item G actually states the following:

"HERD recommends using the 2004 U.S. EPA industrial RSL for lead (800 mg/kg) to evaluate the industrial/commercial scenario and adult exposures to lead. This value is the same as the 2008 RSL for soil under the industrial scenario." (Emphasis added.) Thus, the lead value of 800 mg/kg can be applied to ADULT exposures, not non-residential CHILD exposures, which are relevant for an open space recreational exposure scenario. The City recommends that the recreational lead cleanup goal of 800 mg/kg be removed from the Site 24A EE/CA. A recreational cleanup goal is not necessarily needed at this time given that the remediation will be driven by the ecological cleanup goal. However; if one is needed in the future a site-specific recreational goal for lead should be developed that considers potential exposure to both children and women of child-bearing age.

Response: The text discussing the lead cleanup goal for recreational receptors has been revised in the EE/CA and HHRA. The presentation of the recreational child cleanup goal of 800 mg/kg in the report has been annotated with the following qualifier:

"This value is based upon the USEPA industrial RSL for adult exposure but is also protective of recreational child exposure, based on the recreational exposure assumptions for this site. Please refer to Section A4.1.1 for more information regarding the recreational child scenario."

The text states:

Section A4.1.1

Replicating OEHHA's method using LeadSpread to develop the residential CHHSL, but modifying the exposure frequency to 0.42 day per week (reflecting the 2 hours per day and 250 days per year exposure values for the recreational user scenario), results in a health-protective concentration of approximately **1,280 mg/kg** lead in soil or dust.

The HHRA is conducted without regard for the selection of final remedial goals for the project and, therefore, identification of a human-health-specific remedial goal may be warranted within the confines of the HHRA. The EE/CA can then be used to define final remedial action objectives based on potentially multiple alternative perspectives. Please note that bullet item #3 in Section A4.1.1 discusses the various lead screening criteria, including derivation of a CHHSL-like value protective of children. Based upon this evaluation, the clean-up goal of 800 mg/kg is also protective of the health-protective concentration estimated for a recreational child of 1,280 mg/kg.