

**FINAL**  
**NAVAL AIR STATION ALAMEDA RESTORATION ADVISORY BOARD**  
**MEETING SUMMARY**

[www.bracpmo.navy.mil](http://www.bracpmo.navy.mil)

Building 1, Suite 140, Community Conference Center  
Alameda Point  
Alameda, California

August 2, 2007

The following participants attended the meeting:

**Co-Chairs:**

George Humphreys	Restoration Advisory Board (RAB) Community Co-chair
Thomas Macchiarella	Base Realignment and Closure (BRAC) Program Management Office (PMO) West, BRAC Environmental Coordinator (BEC), Navy Co-chair

**Attendees:**

Andrew Baughman	BRAC PMO West Remedial Project Manager (RPM)
Anna-Marie Cook	U.S. Environmental Protection Agency (EPA)
Alona Davis	Sullivan International Group (Sullivan)
Carolyn Hunter	Tetra Tech EM Inc. (TtEMI)
Michelle Hurst	BRAC PMO West RPM
Joan Konrad	RAB
John Kowalczyk	BRAC PMO West Lead RPM
James Leach	RAB
Dot Lofstrom	California Environmental Protection Agency (Cal/EPA) Department of Toxic Substances Control (DTSC)
Patrick Lynch	Community member
Donald McHugh	Richard Brady & Associates
John McMillan	Shaw Environmental and Infrastructure, Inc. (Shaw)
John Olson	Waste Solutions Group/Community member
Peter Russell	Russell Resources/City of Alameda
Timothy Shields	Richard Brady & Associates
Erich Simon	Regional Water Quality Control Board (Water Board)
Christy Smith	U.S. Fish and Wildlife Service (USFWS)
Dale Smith	RAB/Audubon Society
Jean Sweeney	RAB

Jim Sweeney	RAB
Michael John Torrey	RAB/Housing Authority of the City
Xuan-Mai Tran	U.S. Environmental Protection Agency (EPA)

The meeting agenda is provided in Attachment A.

## MEETING SUMMARY

### I. Approval of Minutes

Mr. Humphreys called the meeting to order at 6:30 p.m.

Mr. Torrey provided the following comment:

- Page 12 of 12, first paragraph, third sentence, “He asked about the original of the soil...” will be revised to “He asked about the origin of the soil....”

Ms. Smith provided the following comment:

- Page 8 of 12, first paragraph, first sentence, “...the Navy should investigate to identify...” will be revised to “...the Navy should identify.”
- Page 8 of 12, third paragraph, second sentence, “...will be addressed by a designer...” will be revised to “...will be addressed by remedial designers.”
- Page 11 of 12, second paragraph, seventh line, “...and it is not universally considered invasive” will be revised to “...and it is universally considered invasive.”

Mr. Humphreys provided the following comments:

- Page 3 of 12, third paragraph, last line, “...and the formal pistol range area on the map,” will be revised to “...and the former pistol range area on the map.”
- Page 5 of 12, second paragraph, third sentence, “...for caps on sanitary landfills,” will be revised to “...for caps on hazardous waste landfills.”
- Page 5 of 12, second paragraph, the following sentence will be added after the third sentence, “Mr. Bricknell replied that the criterion for cap permeability is  $10^{-6}$  centimeters per second for municipal solid waste landfills.”
- Page 6 of 12, second paragraph, first sentence, “...plume is tangent to,” will be revised to “...plume is depicted tangent to.”
- Page 6 of 12, third paragraph, last sentence, “...of oxidative reagents or metals with ISCO,” will be revised to “...of oxidative reagents on metals with ISCO.”

Ms. Lofstrom provided the following comments:

- Page 11 of 12, last paragraph, eighth line, “The Navy focused on copper migrating...” will be revised to “The Navy focused on the potential of copper migrating....”

The minutes were approved as amended.

### II. Co-Chair Announcements

Mr. Humphreys announced that Mr. Neil Coe has an excused absence. Ms. Sweeney noted that Mr. Kurt Peterson was unable to attend the meeting.

Mr. Humphreys distributed the list of documents and correspondence received during June and July 2007. The handout is included as Attachment B-1. One noteworthy document was the draft work plan for the site characterization and analysis penetrometer system (SCAPS) laser induced fluorescence (LIF) technology that is being presented at this RAB meeting.

Mr. Macchiarella announced that the next Fleet and Industrial Supply Center Oakland, Alameda Facility/Alameda Annex (FISCA), RAB meeting is in September 2007. Three Alameda Point RAB members are also on the FISCA RAB. The RAB will discuss combining the two RABs at the September meeting.

Mr. Macchiarella noted important updates to Site 1 work based on input from the Alameda Reuse and Redevelopment Authority (ARRA) and community members. The Navy is moving forward on trenching to confirm assumptions about the site, and Mr. Baughman's presentation will provide more detail.

### **III. Operable Unit (OU) 3 Installation Restoration (IR) Site 1 Field Work Update**

Mr. Baughman began a presentation on the OU-3 IR Site 1 field work. The handout of the presentation is included at Attachment B-2. The presentation covered background, removal update, and schedule for the time-critical removal action (TCRA), and the objectives, locations, and schedule of trenching at IR Site 1.

IR Site 1 is in the northwestern corner of Alameda Point and was a disposal area from 1943 to 1956. IR Site 2 is in the southwestern corner of Alameda Point and was a disposal area from 1952 to 1978. IR Site 32 is east of IR Site 1 and includes Buildings 594 and 82. The removal action objectives are specific to radiological issues and to munitions and explosives of concern (MEC) and material potentially presenting an explosive hazard (MPPEH). The radiological-specific removal action objectives are the following:

- To prevent ingestion of, dermal contact with, or inhalation of radioactive contamination at levels above background concentrations.
- To assure that the dose received from potential pathways from the radium-contaminated waste to a member of the public in the accessible environment does not exceed 15 millirems per year (mrem/yr).

The MEC and MPPEH-specific removal action objectives are the following:

- To reduce the risk to humans and the environment from MEC- and MPPEH-related items buried at the site.
- To reduce the risk that the public will come into contact with MEC and MPPEH, resulting in severe injury or even death.
- To reduce the risk to humans and the environment from contaminants in site soils.
- To minimize impacts to the surrounding areas and surface waters.

Radium-226 contamination in surface soils is being removed from IR Site 1, as stated in Alternative 6-4 of the final feasibility study (FS) for IR Site 1 (except in Area 1a). The removal action also addresses data from the radiological survey completed in November 2006. MPPEH are also being removed and disposed of off site. To date, 4,250 cubic yards (yd<sup>3</sup>) of soil have been excavated from the berm area, screened for radioactive material and unexploded ordinance (UXO), and sorted using the trommel. Additionally, 168 yd<sup>3</sup> from the test pits at the bottom of the berm and 780 yd<sup>3</sup> from the debris pit north of the berm have also been excavated, screened, and passed through the trommel for sorting. A total of 52,339 20-millimeter (mm) shell casings have been recovered, and all have been cleared as "not live." Mr. Torrey asked if the shell casings were screened for lead. Mr. Baughman said that lead is the

contaminant in the berm from the shells. The soil has been characterized to identify the landfill where it will be disposed. Slide 7 showed photographs of 20-mm shell casings. Slide 8 showed a photograph of the berm area after excavation. Mr. Baughman noted that the Navy has built up the riprap along the shoreline with concrete blocks from the berm.

As of July 26, 2007, 50 radiological point sources have been recovered, which are currently stored and secured in the Radioactive Materials Area (RMA). The RMA has high-security locks and is double-fenced. Mr. Torrey asked what keeps people from climbing over the fence. Mr. Baughman replied that the fence is 12 feet tall and the RMA is inside other locked areas as well. In addition, the point sources recovered are inside of a box with high-security locks. Fences are checked for breaches every morning.

There is a total of 52 yd<sup>3</sup> of radiological waste. This total includes the soil excavated from a 1- to 2-foot radius surrounding the collected radioactive anomalies, disposal trench soils, and field worker's personal protective equipment (PPE). Slides 10 and 11 showed photographs of recovered point sources such as an empty glass vial, instrument gauge, toggle switch, and soil clump. Mr. Baughman noted that soil is screened for radioactivity three times to make sure all anomalies are found. Mr. Humphreys speculated that there could have been some objects such as paint rags contaminated with radium, which would have disintegrated; the radium contamination would be found in the soil, and not at a point source. Mr. Baughman said that the contaminated soil is also removed. Ms. Sweeney asked Mr. Baughman if the amount of radiological waste recovered is unexpected. Mr. Baughman said the number of small point sources found is not unexpected for the berm area. Ms. Smith asked why the Navy is recovering soil clumps. Mr. Baughman replied that a clump of soil is treated as a point source when it is contaminated at concentrations above cleanup goals.

Slide 12 showed the TCRA schedule. Demobilization of field activities will be completed by the end of August or the middle of September 2007. The survey team will then move to the IR Sites 5 and 10 storm drain and sewer line TCRA.

Trenching will begin at Site 1 after a work plan addendum is final. The objectives of trenching at Site 1 are to validate assumptions in the Record of Decision (ROD), such as verifying estimates of waste volume and confirming the absence of intact drums. The conceptual plan has already been developed with input from the regulatory agencies and the ARRA representative, Mr. Russell. Trenches will be excavated in all waste cells. There will be 11 trenches in total, and each trench will be approximately 25 feet long and 3 to 3.5 feet wide. Cover soil will be removed, and then waste will be excavated to the greatest depth possible. A UXO technician and a radiological technician will be available to remove any radiological point sources or MEC and MPPEH that are found. Observations will be recorded and photographs will be taken of the waste contents. The trench and the surface soil will then be returned to pre-existing conditions. Slide 15 showed a map of proposed test trench locations. Mr. Macchiarella commented that there is at least one trench in each waste cell, and two trenches in some cases. Mr. Baughman noted that no trenches will be dug in wetlands or on the runway. Ms. Konrad inquired about the direction in which the trenching will occur. Mr. Baughman replied that there is no set direction for the trenching. Ms. Sweeney asked about the depth of trenching. Mr. Baughman said the trenching would continue to the maximum depth of the waste but will cease before dewatering is needed. Ms. Konrad asked how the locations were chosen. Mr. Baughman replied that at least one randomly chosen location is near the center of each cell where the waste is expected to be the deepest. Some locations are near the edge of cells to evaluate whether waste becomes shallower near the edges. In addition, one location was chosen at the area above the center of the volatile organic compound (VOC) plume in groundwater.

Ms. Sweeney asked if the RAB could visit the site. Mr. Baughman said there would be too many safety issues for this to happen because it has on-going construction/removal activities and there is much

training needed before someone can enter the site. All work within the RMA must stop when the regulatory agencies or any person who is not properly trained visit. Mr. Humphreys asked if the area within the waste cell area that was identified as a hot spot in the historical radiological assessment would be investigated or removed. Mr. Baughman replied that the purpose of trenching is to validate the Navy's assumptions and to ensure that the remedy is protective. Mr. Baughman said that no areas that are planned for removal will be trenched. Mr. Macchiarella asked if a hot spot was identified within Area 1a. Mr. Baughman said that the remedy for Area 1a is a soil cover, so there will be no removal. Mr. Humphreys commented that it is not good scientific method to try to confirm assumptions instead of trying to find the truth. He asked if the Navy is trying to find the truth. Mr. Baughman replied that the Navy is trying to confirm its assumptions. Mr. Macchiarella said that it may be possible to move one of the trenching locations closer to the known hot spot area. Mr. Humphreys described the hot spot location as near the seasonal wetland that is located across two waste cells. Mr. Baughman said that the locations were chosen to estimate the depth of the waste in the cells, but that he would review the issue of the hot spot.

Slide 16 showed the trenching schedule. The draft work plan addendum is scheduled for August 3, 2007, with the final version issued on August 10. Trenching is scheduled to begin on August 13 and will last 15 days. A post-trenching closeout report will be prepared, and the Site 1 ROD schedule will resume unless the assumptions in the ROD are found to be significantly flawed. Ms. Sweeney asked the name of the company that has been retained for the work at Site 1. Mr. Baughman replied that the company is Tetra Tech EC Inc. Mr. Humphreys asked if trenches would reach the maximum depth of the waste cell. Mr. Baughman said the Navy would attempt to reach the maximum depth of the waste. Ms. Konrad said that the 25-foot trenches seem to be a small area to represent the entire waste cell. Mr. Baughman replied that the purpose is not to characterize the waste, but to obtain a better understanding, such as its depth and if any intact drums are located there. Mr. Humphreys asked if plans must be significantly revised if the Navy finds that its assumptions are incorrect. Mr. Baughman said that the plans would be re-evaluated if major flaws are found with the Navy's initial assumptions. Ms. Sweeney asked if the Navy has only guessed at the location of the waste cells that are shown on the map. Mr. Baughman replied that the Navy knows generally where the waste cells are located, but that the exact edge of the cell is not well known. The edges will be identified during the remedial design (RD) phase so that the entire waste area can be covered. Ms. Smith asked if Mr. Baughman had identified the threshold wind speed for stopping work. Mr. Baughman said that 25 miles per hour is the stop-work threshold wind speed. He added that work occurs only in the mornings when there is little wind for the disposal trench area. Water and dust suppressants are also on site if necessary. Ms. Smith asked if an ecologist or biologist would be available in case animals are found on the site. Mr. Baughman said that a biologist is on site.

#### **IV. Site Management Plan (SMP) Annual Amendment Presentation**

Mr. Kowalczyk began a presentation on the SMP annual amendment. A handout of the presentation is included as Attachment B-3. The presentation included an overview of the SMP process and a listing of the schedule highlights for the remainder of 2007 and the year 2008.

The original SMP was issued in 2000 and included a schedule of deliverables and field work and short narratives of the site status. The Federal Facility Agreement (FFA) called for annual amendments to the SMP, which are due in draft form on June 15 of each year. There was no RAB meeting in July 2007, so this meeting is the first opportunity to present the amendment to the RAB. The FFA requires that schedules be related to funding.

The draft final amendment to the SMP (Attachment B-4) was issued August 2, 2007. Comments are due on September 4, 2007. Mr. Kowalczyk encouraged the RAB members to contact him regarding any comments or questions about the SMP amendment. The Navy will address the comments formally before

the final version is issued. Mr. Torrey suggested the comment due date be extended to September 5, 2007, because of the holiday weekend. Mr. Kowalczyk said that the date was flexible and could be extended.

The SMP may change because of the following reasons:

- Schedules of contractors may change during the preparation phase of a project
- The Navy's internal review schedule may be extended
- The regulatory agency review phase may be extended as a result of scheduling conflicts
- Comment resolution often takes more time than was originally scheduled
- There may be a change in the strategy at the site; for example, some projects are streamlined because an investigation may result in a recommendation for no further action

Mr. Kowalczyk noted that there had been no delays in schedule as a result of funding problems. Slides 4 and 5 listed schedule highlights for 2007 and 2008. Ms. Smith asked why some documents are labeled primary or secondary while other documents are not labeled as either. Mr. Kowalczyk said that primary and secondary documents are listed in the FFA. Ms. Cook said that the important distinction between primary and secondary documents for the regulatory agencies is that primary documents can be taken to dispute if there is an issue that cannot be resolved between the Navy and the agencies. Secondary documents are also called "feeder documents," such as a technical memorandum or a data gap report, and provide information that is incorporated into a primary document. Any document that is associated with a regulation or policy or that makes a decision about a site is generally a primary document. Ms. Cook added that the agencies wanted to provide input into post-ROD documents such as RDs and remedial action/work plans (RA/WP). Ms. Smith asked about the meaning of the column titled "precedent." Mr. Kowalczyk said that the software allows the user to link dates to previous dates in the "predecessor" column. Ms. Smith asked about the meaning of "eday." Mr. Kowalczyk replied that the number of days listed are calendar days but he was uncertain why they are called "edays" in the Microsoft Project software. Ms. Sweeney commented that the last time she had reviewed the SMP there were more dates in 2015 compared with this SMP. She asked if many projects schedules have been accelerated. Ms. Cook replied that the Navy and the agencies are progressing more quickly. Ms. Sweeney said that she was surprised that there were so few with dates in 2014 and 2015. Ms. Smith said that it will be hasty work and not well done. Ms. Cook commented that Ms. Smith's comment was not a fair statement.

## **V. Site 13 Tarry Refinery Waste (TRW) Work Plan Presentation**

Ms. Hurst introduced Mr. McHugh and Mr. Shields. Mr. McHugh began a presentation on the SCAPS (Site Characterization Analysis Penetrometer System) LIF (Laser Induced Fluorescence) TRW investigation. A handout of the presentation is included as Attachment B-5.

Historically, the site is the former Pacific Coast Oil Works Company refinery and was in operation from 1879 to 1903. The refinery distilled crude oil to kerosene; fuel oil and wastes were disposed of on site and in surrounding former tidal lands. The refinery occupied IR Sites 13, 19, 22, and 23. There have been 13 previous investigations and five removal actions to date. The purpose of the SCAPS LIF investigation is to refine the conceptual site model and optimize the FS. Mr. McHugh identified IR Sites 13, 19, and 22 on the site location map on Slide 3. Slide 4 showed the current site conditions. Mr. McHugh identified the area where the TRW is known to exist and the area to the east where the TRW is inferred to occur.

Mr. Shields continued the presentation. Slide 5 showed photographs of the exterior of the SCAPS truck and a short video of subsurface soil captured with the SCAPS GeoVIS video microscope probe. Slide 6

showed photographs of the SCAPS work elements, including hydraulic rams that push the rod string into the ground, the instrumented tool that is at the bottom of the rod string, and the data display inside the SCAPS vehicle. The measurement tool is pushed into the ground. The standard cone penetrometer test (CPT) collects data on tip resistance and sleeve friction along the side of the tool. The CPT data are analyzed by an on-board computer, and soil classifications are displayed in real time with the LIF sensor data. Slide 7 described the CPT and the soil classification system.

The petroleum hydrocarbon assessment is to be conducted using the SCAPS LIF. The laser source is an ultraviolet (UV) xenon chloride excimer laser. The laser excites 2-ring and higher polynuclear aromatic hydrocarbons (PAH). Mr. Torrey asked if the laser emits radiation into the soil. Mr. Shields said that the radiation is similar to sunlight. The PPE used by workers who handle the low-power laser are cotton gloves and goggles with UV protection. Mr. McHugh added that the laser is similar to the device used in Lasik eye surgery. Ms. Sweeney asked if the color from tar is different from lighter oil. Mr. Shields said that the returned wavelength of the fluorescence is different between heavier and lighter compounds.

LIF generally detects fuel concentrations greater than 100 parts per million (ppm) in soil. One of the trade-offs of using an in-situ tool in the ground is that a great deal of data is obtained but cannot be quantified as precisely or detected in as low concentrations as in the laboratory. Surface area affects the detection threshold of the LIF system. The detection threshold may be several hundred ppm higher in clay, where there is a greater surface area, than in sand, where the LIF is more sensitive. The advantage of the LIF is that, compared to traditional sampling, a very large amount of data can be obtained in real time. The data can then be used in the field to optimize areas where analytical samples should be collected. Slide 8 showed a generalized schematic of the SCAPS LIF sensor and detection system. Slide 9 showed a photograph of the xenon chloride laser UV light source.

Several factors are used to evaluate fuel and PAH in interpreting the LIF data. These factors include an increase in fluorescence, a corresponding change in wavelength, and a spectral curve that is consistent with fuel or PAHs. Slide 10 showed graphs of wavelengths, peak intensity, and spectral curve shapes. Mr. Shields identified the curves that are typical of fuel. Other factors used to evaluate the presence of PAHs are the thickness of the contaminant interval, a spatial location that is consistent with expected migration patterns, and comparison with analytical results.

Slide 11 showed an example of PAHs detected in an interval 2 feet thick. The LIF was pushed through the depth interval, and the resulting data suggested the presence of free product. Two confirmation soil samples were collected next to the location. One soil sample was sent to the analytical laboratory; the reported concentrations of total petroleum hydrocarbon (TPH)-gasoline and TPH-diesel were 953 mg/kg and 2,920 mg/kg, which are high but not representative of free product. TPH analyses are typically conducted on a 5- to 10- gram subsample – a very small amount compared to the whole 6-inch-long sample tube. The second sample was sent to a core analysis laboratory, which reported a fuel saturation of 28.9 percent for the 6-inch sample tube, demonstrating the difference in the methods and the small-scale heterogeneity in subsurface soil samples. Ms. Sweeney asked if global positioning system (GPS) data are collected for each location. Mr. Shields replied that the locations are marked as soon as they are completed using flagging of paint, and then GPS is used afterward.

Slides 12 through 19 showed video microscope images taken of soils and separate-phase at increasing depths through the capillary fringe and saturated zone. Mr. Shields indicated fuel, vapor bubbles, water, and soil grains in the images. Slide 20 showed an example of 3-dimensional data visualization using a cross-section of the soil types and a map of sampling locations and a 3-dimensional interpolated depiction of LIF response. Mr. Shields indicated that in this example the areas of fluorescence generally are in the sand below the clay. He added that there may be some artifacts in the data modeling if there are not enough data. Slide 21 showed another example of 3-dimensional data visualization using an animated

graphic of overall fluorescence intensity. SCAPS also collects samples to corroborate real-time sensor data. Soil samples are collected for laboratory analysis and results are compared with LIF and CPT data. In general, groundwater samples may be collected, but will not be part of this investigation. Mr. Humphreys asked if the probe can penetrate asphalt. Mr. McHugh said that the probe can penetrate asphalt, but not concrete.

Mr. McHugh continued the presentation. The proposed work includes up to 300 SCAPS LIF push locations to delineate the horizontal and vertical extent of the TRW in the vicinity of the former oil refinery (IR Site 13). LIF data will be used to refine the conceptual site model and optimize the subsequent FS to select a remedy for the site. Soil or TRW matrix samples will be collected from a minimum of 15 percent of the LIF locations for laboratory analysis to evaluate the LIF data. Real-time SCAPS LIF and CPT data will be transmitted to the data quality objectives (DQO) planning team to optimize the investigation using dynamic work strategies. The DQO planning team — which includes the field team, the Navy, and the regulatory agencies — will optimize the sampling design to add or delete investigative points based on DQO decision rules and real-time data. Three-dimensional visualization software will be used to refine the conceptual site model while the SCAPS is in the field. Slide 25 showed a map of potential SCAPS LIF locations. The SCAPS LIF will begin in the area of known contaminated soil and will delineate outward. Slide 26 showed the proposed schedule. The final project planning document will be issued in August or September 2007. Investigations will begin as early as possible afterward.

Ms. Sweeney asked if the red line on the map of potential locations represents the boundary of the petroleum plume. Mr. McHugh replied that the red line represents the TRW and the petroleum plume is addressed under a different contract.

Mr. Lynch asked how the SCAPS technology is different from the cone penetrometer system that was used on Site 13 in the past. Mr. McHugh replied that truck is new and the system is upgraded. The original truck was used to obtain certification from EPA and DTSC in 1994. Mr. Lynch asked if the data collected at that time were incomplete. He added that this work seems redundant. Mr. McHugh said that the goal of the original project (in 1994) was not to delineate the TRW, but to validate the system and start the certification process. The total extent of the waste is unknown but will need to be delineated to develop an effective remedy. Mr. Shields asked how many pushes were completed in 1994. Mr. McHugh said about 40 pushes were completed, and the main purpose of the 1994 work was to compare LIF system results with analytical results for soil samples. Mr. Lynch asked if laboratory characterization of the soil will be used to examine pH, sulfides, and metals. Mr. McHugh said the statement is correct.

## **VI. Summary of the July 5 Special RAB Meeting**

Mr. Humphreys began an overview discussion on the RAB focus group meeting held on July 5, 2007. A handout of the meeting summary is included as Attachment B-6. Several RAB members attended, as well as city council member Frank Matarrese and Alameda Housing Collaborative representative Doug Biggs. The meeting was held to discuss the status of the Navy's cleanup efforts at Alameda Point and possible ways of contacting state and national political leaders and the public to expedite or change the direction of cleanup. RAB members were upset about the tenor of the rebuttal to many of their comments on Site 1. Mr. Humphreys said the Navy seemed unwavering from its decision to cover the site.

During the meeting, the group identified the following four major areas that were of particular concern because of the large quantities of wastes and the complexities in these areas:

- Site 1
- Site 2
- Site 25 Soil and OU-5 contaminated plume under parts of Site 25, FISCA, Bayport, and College of Alameda
- OU-2B (located between east gate and the Seaplane Lagoon)

Mr. Biggs had downloaded a copy of the document titled “*Application of the CERCLA Municipal Landfill Presumptive Remedy to Military Landfills*” (EPA/540/F-96/020, December 1996). The document discusses military installations where the wastes are more akin to municipal solid wastes and installations where wastes are likely more similar to industrial wastes. An installation with “aircraft or equipment repair depots” falls under the category of industrial or hazardous waste. In addition, site-specific conditions that include “presence of high water tables, wetlands, and other sensitive environments” may limit the use of the presumptive remedy at military landfills. This information leads the group to question whether the presumptive remedy can be applied to this site.

During a discussion of Site 1, Mr. Russell had reported that the city sent a letter to EPA asking that seven waste cells be trenched to the water table. The Navy had recommended two trenches in each of seven waste cells and no sampling unless the Navy encountered intact drums. Mr. Humphreys noted that it seems that the Navy will be screening for radioactivity and UXO. There may be intact drums in the waste cells because the practice of crushing drums did not begin until after wastes were deposited at Site 2. EPA put a hold on the ROD. The Navy and the city disagree about how much waste is in the waste cells. The city would like a better estimate of the quantity of waste and the cost of removal.

Potential problems at Site 1 include the following: radium in the waste cell area; UXO; buried intact drums; proximity of waste cells to the public beach; exposed barges; burrowing animals, including squirrels, skunks, rabbits, and gophers (which may burrow deeper than the 4 feet cover); seismic damage to soil at the edge of the bay and to the soil cover; intrusion of water into the waste cells; wave damage to the shoreline; and lead shot carried ashore by storm waves. In regard to the seismic damage issue, the Navy’s previous proposal included rock columns and soil cement, which costs about \$10 million that the Navy seems unwilling to spend. The Navy has alluded to seismic vents to prevent liquefaction. Mr. Humphreys commented that the vents may allow contamination, such as radioactivity, to reach the golf course surface. Wastes exposed by liquefaction would have to be monitored and cleaned up. The key issue with Site 1 is that the Navy has assumed that the wastes are municipal solid wastes and that the presumptive remedy applies. The presumptive remedy is containment; the document lists an example of containment at Mare Island where a clay soil cap and membrane liner was used on top of the landfill and the cells are surrounded with a slurry cutoff wall tied into the Bay Mud layer. Mr. Humphreys said that he proposed a similar plan several years ago for this site, but it has been circumvented by the Navy’s approach of fragmenting the site. The Navy’s proposal is not containment because it does not meet the correct permeability criteria.

The issues at Site 2 are similar to Site 1. However, the property is not being transferred to the city in this case, and the problems at Site 2 are aggravated because the area is a wildlife refuge and contaminant plumes are migrating into the wetland areas. Mr. Humphreys noted that the handout includes diagrams of the Site 1 plume as shown in the FS and the most recent groundwater monitoring report. The figure from the groundwater monitoring report shows the plume in areas along the edge of the bay. It would be difficult for the Navy to implement in situ treatment in that narrow zone. The contamination is flowing into the bay. The third diagram in the handout shows the plume for Site 2. The fourth diagram shows the plume beneath the U.S. Coast Guard housing, the College of Alameda, Bayport, Marina Village, and Woodstock Childcare/Island High School. The plume is not well defined. The final diagram shows the plume of VOCs at OU-2B. The remedial investigation (RI) found a cancer risk of  $6.8 \times 10^{-2}$ , which is

approaching 1 in 10. The noncancer hazard index is 342, a high risk. The RAB feels that the Navy should implement an extraction system to prevent the plume from flowing into the Seaplane Lagoon, in addition to treating the heaviest liquids beneath Building 360.

After the meeting, James Leach of the RAB wrote a letter to the city council, which he also submitted to the *Alameda Journal*. The letter became the basis for an article that was published in the *Alameda Journal*. A handout of the letter and article is included as Attachment B-7. In addition, on July 18, 2007, Mr. Humphreys, Ms. Konrad, and Mr. Leach attended an ARRA meeting. Mr. Humphreys said that he and Ms. Konrad supported the city's action in putting forth the proposal to trench to characterize the wastes at Site 1.

## **VII. BCT Activities**

Ms. Cook reported that the presentations at the RAB meeting were the same that the BCT viewed during the July 2007 BCT meeting. The majority of the conference calls that have taken place among EPA, DTSC, the city, and the Navy outside of the BCT meeting have been about trenching at Site 1. The discussions have focused on finding the best way to address the concerns raised in the city's letter to EPA and to find a means to fill the data gaps that were presented in the letter.

Ms. Cook said that she wanted to obtain feedback from the RAB members about the content and agenda of the RAB meetings, rather than continuing to discuss the presentations that were already given. She added that she had heard from some RAB and community members that the RAB meetings are not presented in the most beneficial way. It is possible that the Navy contractors presenting current work are not providing information the RAB would like to hear. Several years ago, the RAB was divided into several individual focus groups. The focus groups would choose a subject of interest, such as radiological issues or particular sites or plumes, and hold meetings outside of the monthly RAB meetings. The relevant Navy RPM and regulators would attend the meetings. Then, the focus groups would report the findings at the monthly RAB meeting. The meetings were much more interactive and more information was presented by RAB members.

One idea for changing the RAB format to be more beneficial to RAB members is to include a panel discussion and question and answer session with the regulators and the Navy, where the RAB could ask questions about any subject. A second idea is a poster board session on subjects of the RAB's choosing; the Navy and regulators would be available for discussion. A third idea is to request that members of the RAB help the Navy develop the meeting agenda. Lastly, field trips, such as observing the SCAPS, may be of interest to the RAB. Ms. Cook commented that there are ways to raise other issues, and she would like to hear what the RAB would like to appear on the meeting agenda. She asked the RAB for feedback and said members could also e-mail or call her with questions or ideas.

Ms. Sweeney said that she likes the proposal for the panel discussion because the presentations on a site are often limited to only groundwater or only soil or other issues. A discussion or presentation would be valuable that covered all of the issues for a single site and to invite regulators who are prepared to talk to the RAB about the larger picture. Ms. Smith said that the consultants are focused in their knowledge of the site, and that the regulators are also narrow in their answers. She added that the RAB has tried asking about the bigger picture for 4 years, so it would be an improvement if the meetings could be managed differently to show the "bigger picture," but she has been raising the issue for some time. Ms. Lofstrom said that she was not sure what was meant by the term "bigger picture." Mr. Humphreys provided the example of Site OU-2B. Petroleum corrective action areas (CAA), dense nonaqueous phase liquid (DNAPL) plumes under a building, and a solvent plume moving toward Seaplane Lagoon have been delineated at the site. There has never been a presentation or discussion that ties all of these issues together so the RAB can appreciate the entire site instead of one small aspect. Another example is at Site

25, where soil is contaminated and a plume is beneath, and it would be interesting to know how these issues interact. Ms. Lofstrom said she understands. Ms. Sweeney said that another example is that in the petroleum program, when the gas station area cleanup was presented, the Navy noted that it had encountered Marsh Crust at 3 to 5 feet, but did not have any other information about soil conditions. There will be housing in the area, and the Navy has been aggressive in cleaning up all of the petroleum spills and plumes, but there are many other issues such as PAHs that are not mentioned about the site until a later report is submitted. She would prefer that these issues be discussed as a whole. Ms. Konrad agreed that she would like to see a bigger picture discussed, but she also finds the contractors' presentations valuable because they have a much better understanding of the specific problem at a site. She added that the issues need to be connected. The regulators and the RAB should have a discussion period where the RAB can ask questions. She continued that she needs more time to think about the presentations before she can formulate her questions — for example, with the SCAPS presentation. Ms. Cook asked if the concern is that there may not be a later time or date when questions could be asked about a presentation. Ms. Konrad said she would like the opportunity to have ongoing discussions of a presentation, though these continuing discussions may require extra work. Ms. Cook said that the value of the focus groups would be that interested RAB members could follow the SCAPS work and report back to the RAB. Ms. Konrad said that the focus group could look into how the other issues at the same site connect with other work. She added that the RAB receives a great deal of information but she is not always able connect it herself. Mr. Humphreys said that he has been on the RAB for 6 years. At that time, many members signed up for focus groups but people did not participate much. He added that there may not be enough RAB members to form these groups. Ms. Smith said that RAB members could not be on multiple focus groups, but Ms. Cook said that members could be on more than one. Ms. Smith countered that she was told specifically that she could not participate on multiple focus groups. Ms. Cook said she was unaware of that requirement. Ms. Sweeney said that she sat in on a focus group and found that the time was not well spent because the RAB members who led the group did not fully understand the subject matter. Ms. Cook replied that it would be important to have representation from the Navy and the regulators to answer questions. It would require work and dedication on the part of the focus group to meet and organize. Ms. Sweeney said it would also require several years of college. Ms. Cook said that the discussions do not have to be esoteric, but that the Navy and regulators must be able to discuss the issues in a manner that is understandable to the RAB.

Ms. Smith said that there have been many meetings outside of the RAB concerning various sites, but the regulators have attended only once. She said the regulators have never showed any interest meeting with the RAB members. Ms. Cook countered that she did not know of one time when the regulators were invited to a meeting and did not attend. EPA representatives have routinely attended meetings they have been invited to. EPA does not invite itself to meetings because it is assumed that, depending on the purpose of the meeting, the presence of regulators may not be wanted or necessary. If EPA is ever invited to a meeting, a representative attends. Ms. Smith replied that Mr. Mark Ripperda always wanted to be included in meetings, but that Ms. Cook has never volunteered and has always said she is busy. Ms. Cook responded that any time she is asked to go to any meeting, she has accepted the invitation, such as for the school district, the city, a RAB group, or an open house. She said that if the RAB asks her or Ms. Tran to come to a meeting, they will attend. Ms. Smith said that they do not need junior-level staff attending the meetings who do not know the scope of the entire problem well enough to discuss the complicated issues. Mr. Macchiarella said that there seems to be a geographic connection that needs to be made when the Navy presents information about issues at a site. He suggested that a short-term "fix" is that the Navy will dedicate a few slides of a presentation to show how an issue or site presented fits into the larger context of the entire geographic area. For example, the TRW work will feed into the FS, but other work will be required at the site. The Navy would provide information on how those various elements fit together for the geographic area. Mr. Humphreys added that in the past year there was a presentation on contaminated soil under an area where containers are lined up. That area is part of the same site as the TRW, and the soil contamination could be related to contamination underground.

Mr. Humphreys asked why the SCAPS technology was not used for the PAH contamination at Site 25. More data could have been obtained in that area, where the fill is heterogeneous. Some areas declared clean may have hot spots that could have been detected if more samples were collected.

Mr. Torrey asked if the panel discussion would be an open forum. Ms. Cook said it could be. She added that she wants to make certain that the time spent at the RAB meetings is beneficial to the RAB members and the agenda covers items of interest. Mr. Torrey commented that he believes that a panel discussion should be an open forum, where the public is invited to attend and ask questions. Mr. Humphreys said that it has always been a problem to persuade the public to come to meetings and it takes time to understand the cleanup. He said that the public may be unable to understand the discussions. He noted that two or three community members attend the RAB meetings regularly but is surprised that more do not attend. Part of the reason may be that no notice appears in the newspaper. Ms. Sweeney said that she has seen some notices in the newspaper. Mr. Humphreys said that the Navy publishes notices in the newspaper for the proposed plans but not for the RAB meetings. Mr. Macchiarella said that notices are issued for the proposed plans but he was uncertain whether notices still appear about the monthly RAB meetings.

Ms. Lofstrom commented that the last pages of the SMP include a status summary of the various sites and the installation as a whole that is written in plain language. She said it is a helpful resource for understanding activities basewide. Mr. Leach commented that work on the base has narrowed to a few sites still under investigation. It would be valuable if the RAB was able to observe work that is under way, such as the trommel operation. There is not a lot of opportunity for the RAB to view work as it is in progress to help in understanding the work. He added that he would like to see objects discovered during trenching at Site 1. Ms. Cook responded that viewing the site helps to understand the scale of the work that is discussed in the reports. Mr. Leach said that some of the issues are complex so that only one should be presented during each meeting. He added that he was overall satisfied with the RAB meetings.

## **VIII. Community and RAB Comment Period**

Mr. Lynch commented that he saw it as refreshing about this RAB meeting that one of the presentations was given by a RAB member rather than a Navy contractor. He said that aspect has been missing from the meetings. The presenters are generally one-sided and are not critical, which does not encourage public participation. The public does not have an opportunity to suggest that cleanup be carried other ways because the presentations are intended to “sell” the plan to the public. They are not impartial presentations. More outside presenters would be valuable to the meetings and involving the public. He added that he was unable to attend the July RAB meeting, but that he had appreciated the letter sent by Mr. Leach to the city and noted that this was the first time that a RAB meeting led to an article that was published in the newspaper. In one article, the city expresses concern about accepting a landfill with only a 4-foot cover; in the other article, the city says it wants to use a park that contains contaminated soil with a 2-foot cover as a sports field for children. It should not make a difference whether the waste was deposited by the Navy or some historical industry. If the contamination is harmful or could migrate, then people are inadequately protected at the park.

Mr. Lynch continued that in the June meeting he announced that a tree was removed in an area where soil is contaminated. To date, no action has been taken to address the contaminated soil that may have been brought to the surface. Mr. Lynch said that he also observed that four additional trees have died next to the tree that was removed, which he attributes to injection of potassium permanganate into the soil. He commented that it is not effective at reducing PAHs concentrations but it is effective at killing trees. The city will probably proceed with its plans to put a sports field on this area, but it should be pointed out that there is an error in the city engineer’s Marsh Crust estimation map that shows that there is no contamination in the top 10 feet of soil in that area. In fact, Navy sampling has detected concentrations of

benzo(a)pyrene at 100 ppm above that depth. Mr. Lynch stated that he has little confidence in the way the city is using the space and the result will be that it will end up hurting somebody. The city's consultant is not ensuring that city's plans comply with the Marsh Crust ordinance and work is under way without observing these laws. Mr. Lynch added that he has seen only gross incompetence on the part of the city. Mr. Humphreys said that he included Mr. Lynch's observation about the orange plastic at the site of the removed tree. He added that he visited the spot, which is on the east side of the site near the school building, and observed the orange plastic. There are more than 100 trees in that area. The Coast Guard has vacated the site, and the grass is dying in that area. Mr. Humphreys commented that he has little confidence in institutional controls because people forget or do not care. He regrets that the Navy has never sampled beneath the roads or buildings at Site 25 and is leaving the contamination in place. This issue is reflected in the meeting minutes that state, "the Navy responds that there has been no evidence to suggest the presence or location of time-delayed pockets of material or drummed wastes." He said that this statement is similar to President Nixon claim that there is no evidence that a crime has been committed while knowing evidence existed. Mr. Humphreys said that there is no evidence of the waste because the Navy has not investigated or characterized it, so the statement is misleading. Mr. Humphreys said that in the July meeting he asked about the effect of peroxide on radium and other metals in the landfill. The Navy replied that no observed migration has been caused by oxidative reagents on metals through in situ chemical oxidation (ISCO). That statement implies that all metals behave alike chemically. Mr. Humphreys said that it is insulting to read such a condescending response. Ms. Konrad suggested there be a time during the RAB meetings when questions can be asked and a response, would be provided at the next meeting. Mr. Humphreys responded that Mr. Lynch reported on an issue at the last meeting and received no response. Ms. Konrad said that the response period should be an item on the agenda. Ms. Smith said that was tried in the past but the RAB does not write its own minutes, and the minutes are "sanitized" to make it appear that the RAB does not object to the results. Mr. Macchiarella responded that when a question is raised and the Navy cannot respond at a meeting, he tries to obtain the information and report back to the RAB at the next meeting. He added that he tried to find out about a tree that was removed in the Site 25 area, but was unable to obtain any information about torn up orange fencing, and has not had the opportunity to visit the site. Mr. Humphreys asked if Navy projects are in progress in that area. Mr. Macchiarella said that he contacted local Navy staff but no trees were removed. Mr. Lynch said that Mr. Macchiarella's statement was "ridiculous" and then left the meeting. Ms. Smith stated that both Mr. Lynch and Mr. Humphreys observed the orange plastic. Mr. Macchiarella said that he would ask Navy staff to look for it again. Mr. Humphreys commented that this issue is illustrative of future events. Mr. Macchiarella said that the fact that a tree has been removed does not mean that any rules have been broken. Mr. Humphreys countered that the Navy has never analyzed the soil around the tree. He said that the presence of orange plastic indicates that the excavation has exceeded 2 feet and probably extended farther from the base of the tree because the Navy did not replace soil around the base of the tree. Mr. Macchiarella said that until he knows where this tree is located he cannot comment. He said it is possible that the orange plastic could be associated with construction nearby and not with the Navy's work. Mr. Humphreys said that a stump grinder may have removed the orange plastic from the ground.

The meeting adjourned at 8:40 p.m.

**ATTACHMENT A**

**NAVAL AIR STATION ALAMEDA  
RESTORATION ADVISORY BOARD MEETING AGENDA  
August 2, 2007**

**(One Page)**

# ***RESTORATION ADVISORY BOARD***

***NAVAL AIR STATION, ALAMEDA***

## ***AGENDA***

**AUGUST 2, 2007, 6:30 PM**

**ALAMEDA POINT – BUILDING 1 – SUITE 140**

**COMMUNITY CONFERENCE ROOM**

**(FROM PARKING LOT ON W MIDWAY AVE, ENTER THROUGH MIDDLE WING)**

<b><u>TIME</u></b>	<b><u>SUBJECT</u></b>	<b><u>PRESENTER</u></b>
<b>6:30 - 6:40</b>	<b>Approval of Minutes</b>	<b>Mr. George Humphreys</b>
<b>6:40 - 6:50</b>	<b>Co-Chair Announcements</b>	<b>Co-Chairs</b>
<b>6:50 – 7:05</b>	<b>Site 1 Fieldwork Update</b>	<b>Mr. Andrew Baughman</b>
<b>7:05 – 7:20</b>	<b>Site Management Plan Annual Amendment Presentation</b>	<b>Mr. John Kowalczyk</b>
<b>7:20 – 7:45</b>	<b>Site 13 Tarry Refinery Waste Workplan Presentation</b>	<b>Ms. Michelle Hurst</b>
<b>7:45 – 8:00</b>	<b>Summary of July 5<sup>th</sup> Special RAB Meeting</b>	<b>Mr. George Humphreys</b>
<b>8:00 – 8:10</b>	<b>BCT Activities</b>	<b>Ms. Anna-Marie Cook</b>
<b>8:10 – 8:30</b>	<b>Community &amp; RAB Comment Period</b>	<b>Community &amp; RAB</b>
<b>8:30</b>	<b>RAB Meeting Adjournment</b>	

## **ATTACHMENT B**

### **NAVAL AIR STATION ALAMEDA RESTORATION ADVISORY BOARD MEETING HANDOUT MATERIALS**

- B-1 List of Reports and Correspondence Received during June and July 2007, distributed by George Humphreys, RAB Community Co-Chair (2 pages)
- B-2 Presentation on the OU-3 IR Site 1 Field Work Update, presented by Andrew Baughman, BRAC PMO West (9 pages)
- B-3 Presentation on the Site Management Plan Annual Amendment, presented by John Kowalczyk, BRAC PMO West (3 pages)
- B-4 Draft Final 2008 Amendment to the Site Management Plan, distributed by John Kowalczyk, BRAC PMO West (18 pages)
- B-5 Presentation on the Site 13 Tarry Refinery Waste Work Plan, presented by Tim Shields and Don McHugh, Patrick Brady and Associates (13 pages)
- B-6 Meeting Notes from the RAB Focus Group Meeting on July 5, 2007, distributed by George Humphreys, RAB Community Co-Chair (8 pages)
- B-7 Letter from James Leach to the Alameda City Council and article titled “City, Navy to address potentially toxic site,” from July 24, 2007, *Alameda Journal* (4 pages)

**ATTACHMENT B-1**

**LIST OF REPORTS AND CORRESPONDENCE RECEIVED JUNE AND JULY 2007**

**(Two Pages)**

Restoration Advisory Board  
Documents and Correspondence Received  
During June and July 2007

Documents

1. June 7, 2007, "Final Historical Radiological Assessment Report, Alameda Point, California", prepared by Weston Solutions, Inc. for BRAC Program Management Office West.
2. June 19, 2007, "Final Work plan, Data Gap Sampling Investigation for Site 28, Alameda Point, Alameda, California", prepared by Innovative Technical Solutions, Inc. for BRAC Program Management Office West.
3. June 19, 2007, "Draft Feasibility Study for Site 32, Alameda Point, Alameda, California", prepared by Bechtel Environmental, Inc. for BRAC Program Management Office West.
4. June 24, 2007 (received July 5, 2007), "Final Data Gap Sampling Work Plan for IR Site 14 at Alameda Point, Alameda, California", cover page and title page, prepared by Innovative Technical Solutions, Inc. for BRAC Program Management Office West.
5. July 2, 2007, "Draft Final Data Gap Sampling Work Plan for Operable Unit 1 (IR Sites 6, 7, 8, 16), Alameda Point, Alameda, California", prepared by Tetra Tech EC, Inc. for BRAC Program Management Office West.
6. July 5, 2007, "Draft Work Plan, SCAPS Laser Induced Fluorescence, Tarry Refinery Waste Investigation, Former Oil Refinery, Alameda Point, Alameda, California", prepared by Richard Brady & Associates for BRAC Program Management Office West.
7. July 6, 2007, "Draft Final Soil Remedial Investigation Report for IR Site 31, Marina Village Housing, Alameda Point, Alameda, California", prepared by CDM Federal Program Corporation for BRAC Program Management Office West.
8. July 19, 2007, "Final Data Gap Sampling Report for IR Site 26, Alameda Point, Alameda, California", coversheet and replacement pages prepared by Innovative Technical Solutions, Inc. for BRAC Program Management Office West.

Correspondence

1. May 8, 2007, (received June 6, 2007), "Review of Draft Site Investigation Report, Western Bayside and Breakwater Beach, Alameda Point, Alameda County", letter from Ms. Susan F. Goss, P. G., DTSC, to Mr. Thomas L. Macchiarella, BRAC Program Management Office West.
2. June 4, 2007, "Review of Draft Final Feasibility Study Report IR Site 2, West Beach Landfill and Wetlands, Alameda Point, Alameda, California", letter from Ms. Xuan-Mai Tran, U. S. EPA Region IX, to Mr. Thomas L. Macchiarella, BRAC Program Management Office West.

3. June 4, 2007, "California Department of Health Services Review of Draft Revision 1, Remedial Investigation (RI) Report, Installation Restoration (IR) Site 20 (Oakland Inner Harbor) and IR Site 24 (Pier Area) Alameda Point, Alameda, California", letter from Ms. Dot Lofstrom, P. G., DTSC, to Mr. Thomas L. Macchiarella, BRAC Program Management Office West.
4. July 23, 2007, "2008 Draft Amendment to the Site Management Plan, Alameda Point", letter from Ms. Anna-Marie Cook, U. S. EPA Region IX, to Mr. Thomas Macchiarella, BRAC Program Management Office West.

**ATTACHMENT B-2**  
**OU-3 IR SITE 1 FIELD WORK UPDATE**  
**(Nine Pages)**



## Welcome

**BRAC**  
PMO WEST

# IR Site 1 Update



**Andrew Baughman, PE**  
**Remedial Project Manager**  
**August 2, 2007**



## Overview

**BRAC**  
PMO WEST

- Time-critical Removal Action (TCRA)
  - Background
  - Update on Removals
  - Schedule
- IR Site 1 Trenching
  - Objectives
  - Locations
  - Schedule



## TCRA Background

**BRAC**  
PMO WEST

- Installation Restoration (IR) Site 1
  - Northwest corner of Alameda Point
  - 1943-1956 disposal
- IR Site 2
  - Southwest corner of Alameda Point
  - Disposal area from 1952-1978
- IR Site 32 (Northwest Ordnance Storage Area)
  - Northwest corner of Alameda Point (east of IR Site 1)
  - 2 Buildings
    - Building 594
    - Building 82

2 August 2007

3



## Removal Action Objectives

**BRAC**  
PMO WEST

- Radiological Specific
  - To prevent ingestion, dermal contact, or inhalation of radioactive contamination above background concentrations.
  - To assure that the dose received from potential pathways from the radium-impacted waste to a member of the public in the accessible environment does not exceed 15 millirem per year (mrem/yr).
- MEC/MPPEH Specific
  - To reduce the risk to humans and the environment from MPPEH/MEC-related items buried at the site
  - To reduce the risk of the public coming into contact with MPPEH/MEC, resulting in severe injury or even death
  - To reduce the risk to humans and the environment from contaminants in site soils
  - To minimize impacts to the surrounding areas and surface waters

2 August 2007

4



## TCRA Background

**BRAC**  
PMO WEST

- Radium-226
  - Currently, surface radium-226 contamination at IR Site 1 is being removed as stated in Alternative 6-4 of the Final Feasibility Study Report for IR Site 1 (except in Area 1a).
  - This removal action also addresses data from the Radiological Survey completed in November 2006
- MEC/MPPEH
  - Material potentially presenting an explosive hazard (MPPEH) at IR Site 1 is also being removed and disposed at an off-site facility.

2 August 2007

5



## Removal Update

**BRAC**  
PMO WEST

- Berm (Excavated & Trommel)
  - 4,250 Cubic Yards (yd<sup>3</sup>)
- Test Pits (Excavated & Trommel)
  - 168 yd<sup>3</sup>
- Debris Pits (Excavated & Trommel)
  - 780 yd<sup>3</sup>
  - 4,105 square feet (1/10<sup>th</sup> of an acre)
- MEC/MPPEH
  - 52,339 20mm Shell Casings recovered
    - 2164 of those were 3X – all cleared and became 5X (not live)

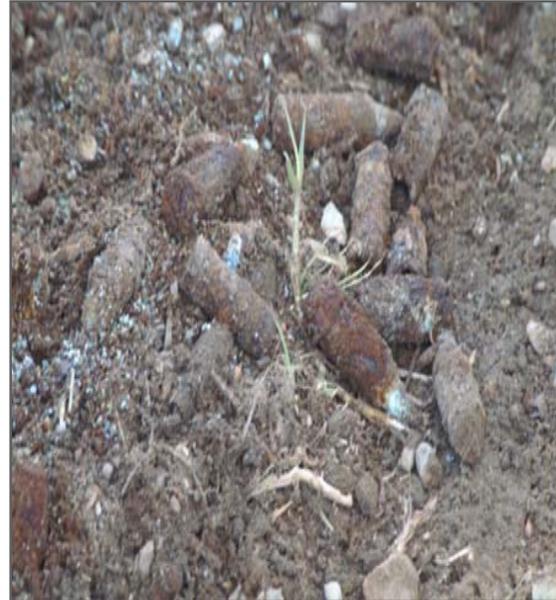
2 August 2007

6



## 20mm Casings (Practice)

**BRAC**  
PMO WEST



2 August 2007

7



## Former Firing Range Berm

**BRAC**  
PMO WEST

•Post-Excavation



2 August 2007

8



# Radiological Material

**BRAC**  
PMO WEST

- **As of 7/26/2007**

- **50 Radioactive Point Sources** – stored and secured in the Radioactive Materials Area (RMA).

- **52 cubic yards**

- soil excavated to date from the immediately adjacent (1-2 foot radius) soils surrounding radioactive anomalies that have been collected.
- Disposal Trench Soils
- Personal Protective Equipment

2 August 2007

9



# Recovered Radiological Point Sources

**BRAC**  
PMO WEST



2 August 2007

10



## Recovered Radiological Point Sources

**BRAC**  
PMO WEST



Toggle Switch



Debris Chip



Soil Clump

2 August 2007

11



## TCRA Schedule

**BRAC**  
PMO WEST

- The Final Action Memorandum was completed on January 31, 2007
- Final Time-Critical Removal Action (TCRA) Work Plan was completed on March 2, 2007.
- Mobilization activities began late February 2007.
- Demobilization will be completed by end of August 2007.
- Mobilize to IR Sites 5 and 10 for Storm Drain and Sewer Line TCRA

2 August 2007

12



## Trenching Objectives

**BRAC**  
PMO WEST

- To validate certain assumptions in the ROD
  - Verify waste volume estimates
  - Confirm absence of in-tact drums
- Conceptual Plan already developed with Agencies and ARRA representative

2 August 2007

13



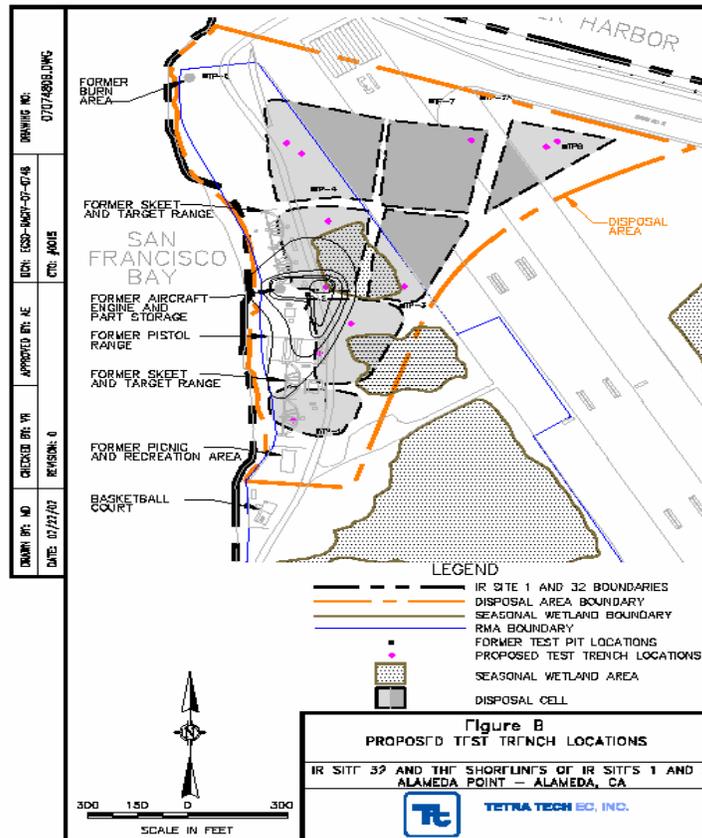
## Trenching Scope

**BRAC**  
PMO WEST

- Trenches will be excavated in all waste cells
  - 11 Trenches Total
    - Approximately 25 feet long and 3-3½ feet wide
    - Remove cover soil
    - Remove waste (UXO Tech. and Radiological Tech.)
      - Photograph and note waste contents
      - Remove any Radiological Point Sources or MEC/MPPEH that are found
      - Return trench and surface to pre-existing condition

2 August 2007

14



2 August 2007

15



## Trenching Schedule

- Draft Work Plan Addendum – 08/03/2007
- Final Work Plan Addendum – 08/10/2007
- Trenching Begins – 08/13/2007
  - Field Work to last 15 days
- Post-Trenching Closeout Report
- Resume Site 1 ROD schedule unless assumptions are found to be significantly flawed

2 August 2007

16



# Questions?

**BRAC**  
PMO WEST



2 August 2007

17

**ATTACHMENT B-3**

**SITE MANAGEMENT PLAN ANNUAL AMENDMENT PRESENTATION**

**(Three Pages)**



**Welcome**

**BRAC**  
PMO WEST

## **Site Management Plan Annual Amendment**



**John Kowalczyk, PG**  
**Lead Remedial Project Manager**  
**August 2, 2007**



**Overview**

**BRAC**  
PMO WEST

- **Site Management Plan (SMP) Process**
- **Schedule Highlights**
  - Remainder 2007
  - 2008



## SMP Process

**BRAC**  
PMO WEST

- Federal Facility Agreement (FFA)
  - Original 2000
  - Annual Amendments -- June 15 (Draft)
  - Schedules Tied to Funding
  - Next Comments Due Sept. 4, 2007
- Change Occurs At:
  - Preparation Phase
  - Review Phase
  - Comment Resolution
  - Strategy Change
- No Delays Due to Funding

3



## Schedule Highlights

**BRAC**  
PMO WEST

- Remainder 2007
  - Final ROD OU-1 (Sites 6, 7, 8, 16), Aug. 2007
  - Supplemental RI Fieldwork OU-2C (Sites 5, 10, 12) through Sept. 2007
  - TCRA Fieldwork Site 1 through Aug. 2007
  - Exploratory trenching Site 1, Aug. 2007
  - Final ROD Site 1, Nov. 2007
  - Final FS Site 2, Sept. 2007
  - Final RI Site 20, Aug. 2007
  - Final RI Site 24, Aug. 2007
  - Final ROD Site 25 Soil, Oct. 2007
  - Final ROD OU-5/IR02 Groundwater, Aug. 2007
  - Final RD and Work Plan Site 26, Dec. 2007
  - Final ROD Site 27, Oct. 2007
  - Final ROD Site 28, Sept. 2007
  - Final RI Site 31, Aug. 2007
  - Final FS Site 32, Nov. 2007
  - Proposed Plan Site 35, Nov. 2007

4



## Schedule Highlights

**BRAC**  
PMO WEST

- 2008
  - Final FS OU-2A (Sites 9, 13, 19, 22, 23), May 2008
  - Data Gap Sampling Tech Memo OU-2B (Sites 3, 4, 11, 21), Feb. 2008
  - Final FS OU-2B, Oct. 2008
  - Draft RI Report OU-2C, Apr. 2008
  - TCRA Fieldwork Sites 5 and 10 through Feb. 2008
  - Final RD and Work Plan Site 17, Jan. 2008
  - Final FS Site 24, Apr. 2008
  - Final ROD Site 20, Oct. 2008
  - Final RI Addendum Site 30, May 2008
  - Final FS Site 31, Apr. 2008
  - Proposed Plan Site 32, June 2008
  - Final RI Site 34, Jan. 2008
  - Final FS Site 34, Sep. 2008
  - Final ROD Site 35, Aug. 2008
  - Final 2007 Basewide GW Monitoring Report, Feb. 2008

5



## Questions?

**BRAC**  
PMO WEST



6

**ATTACHMENT B-4**

**DRAFT FINAL 2008 AMENDMENT TO THE SITE MANAGEMENT PLAN**

**(Eighteen Pages)**



**BRAC  
PMO**

**2008**

**Draft Final Amendment to the Site Management Plan**

**Alameda Point  
Alameda, California**

**August 2, 2007**

ID	Task Name	Primary or Secondary	Duration	Start	Finish	Predecessor
1	<b>OU-1 Site 14</b>		<b>1038 days</b>	<b>Wed 1/31/07</b>	<b>Mon 1/24/11</b>	
2	Final Record of Decision Approval	P	0 days	Wed 1/31/07	Wed 1/31/07	
3	Preliminary Remedial Design and Draft Remedial Action Wo	P	300 edays	Wed 1/31/07	Tue 11/27/07	2
4	Agency Review		62 edays	Tue 11/27/07	Mon 1/28/08	3
5	Draft Final Remedial Design and Draft Final RAWP	P	60 edays	Mon 1/28/08	Fri 3/28/08	4
6	Agency Review/Concurrence Period		31 edays	Fri 3/28/08	Mon 4/28/08	5
7	Final Remedial Design and Remedial Action Work Plan	P	0 days	Mon 4/28/08	Mon 4/28/08	6
8	Remedial Action		730 edays	Mon 4/28/08	Wed 4/28/10	7
9	Remedial Actions Complete		0 days	Wed 4/28/10	Wed 4/28/10	8
10	Draft Remedial Action Report	P	120 edays	Wed 4/28/10	Thu 8/26/10	9
11	Agency Review		60 edays	Thu 8/26/10	Mon 10/25/10	10
12	Draft Final Remedial Action Report/Response to Comments	P	60 edays	Mon 10/25/10	Fri 12/24/10	11
13	Agency Review/Concurrence Period		31 edays	Fri 12/24/10	Mon 1/24/11	12
14	Final Remedial Action Report	P	0 days	Mon 1/24/11	Mon 1/24/11	13
15	Draft Long-Term Monitoring Plan	P	120 edays	Wed 4/28/10	Thu 8/26/10	9
16	Agency Review		60 edays	Thu 8/26/10	Mon 10/25/10	15
17	Draft Final Long-Term Monitoring Plan/Response to Comme	P	60 edays	Mon 10/25/10	Fri 12/24/10	16
18	Agency Review/Concurrence Period		31 edays	Fri 12/24/10	Mon 1/24/11	17
19	Final Long-Term Monitoring Plan	P	0 days	Mon 1/24/11	Mon 1/24/11	18
20						
21	<b>OU-1 Sites 6, 7, 8, 16</b>		<b>1016 days</b>	<b>Fri 8/31/07</b>	<b>Mon 7/25/11</b>	
22	Final Record of Decision Approval	P	0 days	Fri 8/31/07	Fri 8/31/07	
23	Preliminary Remedial Design and Draft Remedial Action Wo	P	270 edays	Fri 8/31/07	Tue 5/27/08	22
24	Agency Review		62 edays	Tue 5/27/08	Mon 7/28/08	23
25	Draft Final Remedial Design and Draft Final RAWP	P	60 edays	Mon 7/28/08	Fri 9/26/08	24
26	Agency Review/Concurrence Period		31 edays	Fri 9/26/08	Mon 10/27/08	25
27	Final Remedial Design and Remedial Action Work Plan	P	0 days	Mon 10/27/08	Mon 10/27/08	26
28	Remedial Action		730 edays	Mon 10/27/08	Wed 10/27/10	27
29	Remedial Actions Complete		0 days	Wed 10/27/10	Wed 10/27/10	28
30	Draft Remedial Action Report	P	120 edays	Wed 10/27/10	Thu 2/24/11	29
31	Agency Review		60 edays	Thu 2/24/11	Mon 4/25/11	30
32	Draft Final Remedial Action Report/Response to Comments	P	60 edays	Mon 4/25/11	Fri 6/24/11	31
33	Agency Review/Concurrence Period		31 edays	Fri 6/24/11	Mon 7/25/11	32
34	Final Remedial Action Report	P	0 days	Mon 7/25/11	Mon 7/25/11	33
35	Draft Long-Term Monitoring Plan	P	120 edays	Wed 10/27/10	Thu 2/24/11	29
36	Agency Review		60 edays	Thu 2/24/11	Mon 4/25/11	35
37	Draft Final Long-Term Monitoring Plan/Response to Comme	P	60 edays	Mon 4/25/11	Fri 6/24/11	36
38	Agency Review/Concurrence Period		31 edays	Fri 6/24/11	Mon 7/25/11	37
39	Final Long-Term Monitoring Plan	P	0 days	Mon 7/25/11	Mon 7/25/11	38
40						
41	<b>OU-2A Sites 9, 13, 19, 22, 23</b>		<b>1526 days</b>	<b>Fri 6/1/07</b>	<b>Mon 4/8/13</b>	
42	Revised Draft FS Report	P	196 edays	Fri 6/1/07	Fri 12/14/07	
43	Agency Review		62 edays	Fri 12/14/07	Thu 2/14/08	42
44	Draft Final FS Report/Response to Comments	P	60 edays	Thu 2/14/08	Mon 4/14/08	43
45	Agency Review/Concurrence Period		31 edays	Mon 4/14/08	Thu 5/15/08	44
46	Final FS Report	P	0 days	Thu 5/15/08	Thu 5/15/08	45
47	Draft Proposed Plan	P	91 edays	Thu 5/15/08	Thu 8/14/08	46
48	Agency Review		32 edays	Thu 8/14/08	Mon 9/15/08	47
49	Draft Final Proposed Plan/Response to Comments	P	30 edays	Mon 9/15/08	Wed 10/15/08	48
50	Proposed Plan Preparation	P	44 edays	Wed 10/15/08	Fri 11/28/08	49
51	Public Meeting and Public Comment Period		31 edays	Fri 11/28/08	Mon 12/29/08	50
52	Draft Record of Decision	P	91 edays	Mon 12/29/08	Mon 3/30/09	51
53	Agency Review		60 edays	Mon 3/30/09	Fri 5/29/09	52

ID	Task Name	Primary or Secondary	Duration	Start	Finish	Predecessor
54	Draft Final Record of Decision/Response to Comments	P	60 edays	Fri 5/29/09	Tue 7/28/09	53
55	Agency Review/Concurrence Period		31 edays	Tue 7/28/09	Fri 8/28/09	54
56	Final Record of Decision Approval	P	0 days	Fri 8/28/09	Fri 8/28/09	55
57	Preliminary Remedial Design/Design Sampling	P	211 edays	Tue 7/28/09	Wed 2/24/10	54
58	Agency Review		47 edays	Wed 2/24/10	Mon 4/12/10	57
59	Final Remedial Design	P	32 edays	Mon 4/12/10	Fri 5/14/10	58
60	Final Agency Review		14 edays	Fri 5/14/10	Fri 5/28/10	59
61	Draft Remedial Action Work Plan	P	122 edays	Tue 1/12/10	Fri 5/14/10	59FF
62	Agency Review		60 edays	Fri 5/14/10	Tue 7/13/10	61
63	Draft Final Remedial Action Work Plan/Response to Comments	P	59 edays	Tue 7/13/10	Fri 9/10/10	62
64	Agency Review/Concurrence Period		31 edays	Fri 9/10/10	Mon 10/11/10	63
65	Final Remedial Action Work Plan	P	0 days	Mon 10/11/10	Mon 10/11/10	64
66	Remedial Actions		732 edays	Mon 10/11/10	Fri 10/12/12	60,65
67	Remedial Actions Complete		0 days	Fri 10/12/12	Fri 10/12/12	66
68	Draft Remedial Action Report	P	122 edays	Tue 7/10/12	Fri 11/9/12	67FF+2
69	Agency Review		60 edays	Fri 11/9/12	Tue 1/8/13	68
70	Draft Final Remedial Action Report/Response to Comments	P	59 edays	Tue 1/8/13	Fri 3/8/13	69
71	Agency Review/Concurrence Period		31 edays	Fri 3/8/13	Mon 4/8/13	70
72	Final Remedial Action Report	P	0 days	Mon 4/8/13	Mon 4/8/13	71
73	Draft Long-Term Monitoring Plan	P	122 edays	Tue 7/10/12	Fri 11/9/12	67FF+2
74	Agency Review		60 edays	Fri 11/9/12	Tue 1/8/13	73
75	Draft Final Long-Term Monitoring Plan/Response to Comments	P	59 edays	Tue 1/8/13	Fri 3/8/13	74
76	Agency Review/Concurrence Period		31 edays	Fri 3/8/13	Mon 4/8/13	75
77	Final Long-Term Monitoring Plan	P	0 days	Mon 4/8/13	Mon 4/8/13	76
78						
79	<b>OU-2B Sites 3, 4, 11, 21</b>		<b>1617 days</b>	<b>Thu 8/9/07</b>	<b>Mon 10/21/13</b>	
80	Field Work		119 edays	Thu 8/9/07	Thu 12/6/07	
81	Data Gap Sampling Tech Memo	P	81 edays	Thu 12/6/07	Mon 2/25/08	80
82	Revised Draft FS Report	P	120 edays	Thu 1/31/08	Fri 5/30/08	80FS+2
83	Agency Review		60 edays	Fri 5/30/08	Tue 7/29/08	82
84	Draft Final FS Report/Response to Comments	P	62 edays	Tue 7/29/08	Mon 9/29/08	83
85	Agency Review/Concurrence Period		31 edays	Mon 9/29/08	Thu 10/30/08	84
86	Final FS Report	P	0 days	Thu 10/30/08	Thu 10/30/08	85
87	Draft Proposed Plan	P	90 edays	Thu 10/30/08	Wed 1/28/09	86
88	Agency Review		30 edays	Wed 1/28/09	Fri 2/27/09	87
89	Draft Final Proposed Plan/Response to Comments	P	31 edays	Fri 2/27/09	Mon 3/30/09	88
90	Proposed Plan Preparation	P	45 edays	Mon 3/30/09	Thu 5/14/09	89
91	Public Meeting and Public Comment Period		32 edays	Thu 5/14/09	Mon 6/15/09	90
92	Draft Record of Decision	P	91 edays	Mon 6/15/09	Mon 9/14/09	91
93	Agency Review		60 edays	Mon 9/14/09	Fri 11/13/09	92
94	Draft Final Record of Decision/Response to Comments	P	60 edays	Fri 11/13/09	Tue 1/12/10	93
95	Agency Review/Concurrence Period		30 edays	Tue 1/12/10	Thu 2/11/10	94
96	Final Record of Decision Approval	P	0 days	Thu 2/11/10	Thu 2/11/10	95
97	Preliminary Remedial Design/Design Sampling	P	240 edays	Tue 1/12/10	Thu 9/9/10	94
98	Agency Review		46 edays	Thu 9/9/10	Mon 10/25/10	97
99	Final Remedial Design	P	30 edays	Mon 10/25/10	Wed 11/24/10	98
100	Final Agency Review		14 edays	Wed 11/24/10	Wed 12/8/10	99
101	Draft Remedial Action Work Plan	P	120 edays	Tue 7/27/10	Wed 11/24/10	99FF
102	Agency Review		61 edays	Wed 11/24/10	Mon 1/24/11	101
103	Draft Final Remedial Action Work Plan/Response to Comments	P	60 edays	Mon 1/24/11	Fri 3/25/11	102
104	Agency Review/Concurrence Period		31 edays	Fri 3/25/11	Mon 4/25/11	103
105	Final Remedial Action Work Plan	P	0 days	Mon 4/25/11	Mon 4/25/11	104

ID	Task Name	Primary or Secondary	Duration	Start	Finish	Predecessor
106	Remedial Actions		730 edays	Mon 4/25/11	Wed 4/24/13	100,105
107	Remedial Actions Complete		0 days	Wed 4/24/13	Wed 4/24/13	106
108	Draft Remedial Action Report	P	120 edays	Tue 1/22/13	Wed 5/22/13	107FF+
109	Agency Review		61 edays	Wed 5/22/13	Mon 7/22/13	108
110	Draft Final Remedial Action Report/Response to Comments	P	60 edays	Mon 7/22/13	Fri 9/20/13	109
111	Agency Review/Concurrence Period		31 edays	Fri 9/20/13	Mon 10/21/13	110
112	Final Remedial Action Report	P	0 days	Mon 10/21/13	Mon 10/21/13	111
113	Draft Long-Term Monitoring Plan	P	120 edays	Tue 1/22/13	Wed 5/22/13	107FF+
114	Agency Review		61 edays	Wed 5/22/13	Mon 7/22/13	113
115	Draft Final Long-Term Monitoring Plan/Response to Comm	P	60 edays	Mon 7/22/13	Fri 9/20/13	114
116	Agency Review/Concurrence Period		31 edays	Fri 9/20/13	Mon 10/21/13	115
117	Final Long-Term Monitoring Plan	P	0 days	Mon 10/21/13	Mon 10/21/13	116
118						
119	<b>OU-2C Sites 5, 10, 12</b>		<b>2058 days</b>	<b>Fri 6/23/06</b>	<b>Thu 5/15/14</b>	
120	Six-Phase Heating Removal Action		574 edays	Fri 6/23/06	Fri 1/18/08	
121	Removal Action Field Summary Report	S	60 days	Mon 1/21/08	Fri 4/11/08	120
122	Final Supplemental RI Work Plan	P	0 edays	Mon 5/7/07	Mon 5/7/07	
123	Supplemental RI Fieldwork		122 edays	Mon 5/7/07	Thu 9/6/07	122
124	Draft Supplemental RI Report	P	230 edays	Thu 9/6/07	Wed 4/23/08	123
125	Agency Review		61 edays	Wed 4/23/08	Mon 6/23/08	124
126	Draft Final Supplemental RI Report/Response to Comments	P	60 edays	Mon 6/23/08	Fri 8/22/08	125
127	Agency Review/Concurrence Period		31 edays	Fri 8/22/08	Mon 9/22/08	126
128	Final Supplemental RI Report	P	0 days	Mon 9/22/08	Mon 9/22/08	127
129	Draft FS Report	P	91 edays	Mon 9/22/08	Mon 12/22/08	128
130	Agency Review		60 edays	Mon 12/22/08	Fri 2/20/09	129
131	Draft Final FS Report/Response to Comments	P	60 edays	Fri 2/20/09	Tue 4/21/09	130
132	Agency Review/Concurrence Period		30 edays	Tue 4/21/09	Thu 5/21/09	131
133	Final FS Report	P	0 days	Thu 5/21/09	Thu 5/21/09	132
134	Draft Proposed Plan	P	90 edays	Thu 5/21/09	Wed 8/19/09	133
135	Agency Review		30 edays	Wed 8/19/09	Fri 9/18/09	134
136	Draft Final Proposed Plan/Response to Comments	P	31 edays	Fri 9/18/09	Mon 10/19/09	135
137	Proposed Plan Preparation	P	46 edays	Mon 10/19/09	Fri 12/4/09	136
138	Public Meeting and Public Comment Period		31 edays	Fri 12/4/09	Mon 1/4/10	137
139	Draft Record of Decision	P	91 edays	Mon 1/4/10	Mon 4/5/10	138
140	Agency Review		60 edays	Mon 4/5/10	Fri 6/4/10	139
141	Draft Final Record of Decision/Response to Comments	P	60 edays	Fri 6/4/10	Tue 8/3/10	140
142	Agency Review/Concurrence Period		31 edays	Tue 8/3/10	Fri 9/3/10	141
143	Final Record of Decision Approval	P	0 days	Fri 9/3/10	Fri 9/3/10	142
144	Preliminary Remedial Design/Design Sampling	P	241 edays	Tue 8/3/10	Fri 4/1/11	141
145	Agency Review		46 edays	Fri 4/1/11	Tue 5/17/11	144
146	Final Remedial Design	P	31 edays	Tue 5/17/11	Fri 6/17/11	145
147	Final Agency Review		14 edays	Fri 6/17/11	Fri 7/1/11	146
148	Draft Remedial Action Work Plan	P	122 edays	Tue 2/15/11	Fri 6/17/11	146FF
149	Agency Review		60 edays	Fri 6/17/11	Tue 8/16/11	148
150	Draft Final Remedial Action Work Plan/Response to Comm	P	62 edays	Tue 8/16/11	Mon 10/17/11	149
151	Agency Review/Concurrence Period		30 edays	Mon 10/17/11	Wed 11/16/11	150
152	Final Remedial Action Work Plan	P	0 days	Wed 11/16/11	Wed 11/16/11	151
153	Remedial Actions		733 edays	Wed 11/16/11	Mon 11/18/13	152,147
154	Remedial Actions Complete		0 days	Mon 11/18/13	Mon 11/18/13	153
155	Draft Remedial Action Report	P	122 edays	Fri 8/16/13	Mon 12/16/13	153FF+
156	Agency Review		60 edays	Mon 12/16/13	Fri 2/14/14	155
157	Draft Final Remedial Action Report/Response to Comments	P	60 edays	Fri 2/14/14	Tue 4/15/14	156
158	Agency Review/Concurrence Period		30 edays	Tue 4/15/14	Thu 5/15/14	157

ID	Task Name	Primary or Secondary	Duration	Start	Finish	Predecessor
159	Final Remedial Action Report	P	0 days	Thu 5/15/14	Thu 5/15/14	158
160	Draft Long-Term Monitoring Plan	P	122 edays	Fri 8/16/13	Mon 12/16/13	153FF+
161	Agency Review		60 edays	Mon 12/16/13	Fri 2/14/14	160
162	Draft Final Long-Term Monitoring Plan/Response to Comments	P	60 edays	Fri 2/14/14	Tue 4/15/14	161
163	Agency Review/Concurrence Period		30 edays	Tue 4/15/14	Thu 5/15/14	162
164	Final Long-Term Monitoring Plan	P	0 days	Thu 5/15/14	Thu 5/15/14	163
165						
166	<b>OU-2C Sites 5 and 10 Rad</b>		<b>386 days</b>	<b>Fri 3/2/07</b>	<b>Mon 8/25/08</b>	
167	Draft TCRA Action Mem & Removal Action Work Plan Sites	S	88 edays	Fri 3/2/07	Tue 5/29/07	
168	Agency Review		33 days	Wed 5/30/07	Fri 7/13/07	167
169	Draft-Final TCRA Action Memo/Removal Action Work Plan	S	14 edays	Fri 7/13/07	Fri 7/27/07	168
170	Agency Review/Concurrence Period	S	31 edays	Fri 7/27/07	Mon 8/27/07	169
171	TCRA Fieldwork		182 edays	Mon 8/27/07	Mon 2/25/08	170
172	Draft TCRA Report/Status Survey	S	91 edays	Mon 2/25/08	Mon 5/26/08	171
173	Agency Review/Concurrence Period		60 edays	Mon 5/26/08	Fri 7/25/08	172
174	Final TCRA Report	S	31 edays	Fri 7/25/08	Mon 8/25/08	173
175						
176	<b>OU-3 Site 1</b>		<b>1211 days</b>	<b>Mon 10/30/06</b>	<b>Mon 6/20/11</b>	
177	Final Lead and Rad TCRA Work Plan	S	32 edays	Mon 1/29/07	Fri 3/2/07	
178	Lead and Rad TCRA		182 edays	Fri 3/2/07	Fri 8/31/07	177
179	Draft Post-TCRA Report	S	91 edays	Fri 8/31/07	Fri 11/30/07	178
180	Agency Review		60 edays	Fri 11/30/07	Tue 1/29/08	179
181	Final Post-TCRA Report	S	31 edays	Tue 1/29/08	Fri 2/29/08	180
182	Draft Record of Decision	P	163 edays	Mon 10/30/06	Wed 4/11/07	
183	Agency Review		94 edays	Wed 4/11/07	Sat 7/14/07	182
184	Exploratory Trenching		15 days	Mon 8/13/07	Fri 8/31/07	
185	Draft Final Record of Decision/Response to Comments	P	45 edays	Fri 8/31/07	Mon 10/15/07	184
186	Agency Review/Concurrence Period		30 edays	Mon 10/15/07	Wed 11/14/07	185
187	Final Record of Decision Approval	P	0 days	Wed 11/14/07	Wed 11/14/07	186
188	Preliminary Remedial Design	P	211 edays	Mon 10/15/07	Tue 5/13/08	185
189	Agency Review		45 edays	Tue 5/13/08	Fri 6/27/08	188
190	Final Remedial Design	P	31 edays	Fri 6/27/08	Mon 7/28/08	189
191	Final Agency Review		14 edays	Mon 7/28/08	Mon 8/11/08	190
192	Draft Remedial Action Work Plan	P	119 edays	Mon 3/31/08	Mon 7/28/08	190FF
193	Agency Review		60 edays	Mon 7/28/08	Fri 9/26/08	192
194	Draft Final Remedial Action Work Plan/Response to Comments	P	59 edays	Fri 9/26/08	Mon 11/24/08	193
195	Agency Review/Concurrence Period		31 edays	Mon 11/24/08	Thu 12/25/08	194
196	Final Remedial Action Work Plan	P	0 days	Thu 12/25/08	Thu 12/25/08	195
197	Remedial Actions		729 edays	Thu 12/25/08	Fri 12/24/10	196,191
198	Remedial Actions Complete		0 days	Fri 12/24/10	Fri 12/24/10	197
199	Draft Remedial Action Report	P	119 edays	Fri 9/24/10	Fri 1/21/11	198FF+
200	Agency Review		60 edays	Fri 1/21/11	Tue 3/22/11	199
201	Draft Final Remedial Action Report/Response to Comments	P	59 edays	Tue 3/22/11	Fri 5/20/11	200
202	Agency Review/Concurrence Period		31 edays	Fri 5/20/11	Mon 6/20/11	201
203	Final Remedial Action Report	P	0 days	Mon 6/20/11	Mon 6/20/11	202
204	Draft Long-Term Monitoring Plan	P	119 edays	Fri 9/24/10	Fri 1/21/11	198FF+
205	Agency Review		60 edays	Fri 1/21/11	Tue 3/22/11	204
206	Draft Final Long-Term Monitoring Plan/Response to Comments	P	59 edays	Tue 3/22/11	Fri 5/20/11	205
207	Agency Review/Concurrence Period		31 edays	Fri 5/20/11	Mon 6/20/11	206
208	Final Long-Term Monitoring Plan	P	0 days	Mon 6/20/11	Mon 6/20/11	207
209						
210	<b>OU-4A Site 2</b>		<b>1478 days</b>	<b>Wed 12/20/06</b>	<b>Mon 8/20/12</b>	
211	Draft Final FS Report/Response to Comments	P	105 edays	Wed 12/20/06	Wed 4/4/07	

ID	Task Name	Primary or Secondary	Duration	Start	Finish	Precede
212	Agency Review/Concurrence Period		145 edays	Wed 4/4/07	Mon 8/27/07	211
213	Final FS Report	P	30 edays	Mon 8/27/07	Wed 9/26/07	212
214	Draft Proposed Plan	P	92 edays	Wed 9/26/07	Thu 12/27/07	213
215	Agency Review		32 edays	Thu 12/27/07	Mon 1/28/08	214
216	Draft Final Proposed Plan/Response to Comments	P	30 edays	Mon 1/28/08	Wed 2/27/08	215
217	Proposed Plan Preparation	P	47 edays	Wed 2/27/08	Mon 4/14/08	216
218	Public Meeting and Public Comment Period		30 edays	Mon 4/14/08	Wed 5/14/08	217
219	Draft Record of Decision	P	91 edays	Wed 5/14/08	Wed 8/13/08	218
220	Agency Review		61 edays	Wed 8/13/08	Mon 10/13/08	219
221	Draft Final Record of Decision/Response to Comments	P	60 edays	Mon 10/13/08	Fri 12/12/08	220
222	Agency Review/Concurrence Period		31 edays	Fri 12/12/08	Mon 1/12/09	221
223	Final Record of Decision Approval	P	0 days	Mon 1/12/09	Mon 1/12/09	222
224	Preliminary Remedial Design	P	210 edays	Fri 12/12/08	Fri 7/10/09	221
225	Agency Review		45 edays	Fri 7/10/09	Mon 8/24/09	224
226	Final Remedial Design	P	32 edays	Mon 8/24/09	Fri 9/25/09	225
227	Final Agency Review		14 edays	Fri 9/25/09	Fri 10/9/09	226
228	Draft Remedial Action Work Plan	P	122 edays	Tue 5/26/09	Fri 9/25/09	226FF
229	Agency Review		60 edays	Fri 9/25/09	Tue 11/24/09	228
230	Draft Final Remedial Action Work Plan/Response to Comm	P	59 edays	Tue 11/24/09	Fri 1/22/10	229
231	Agency Review/Concurrence Period		31 edays	Fri 1/22/10	Mon 2/22/10	230
232	Final Remedial Action Work Plan	P	0 days	Mon 2/22/10	Mon 2/22/10	231
233	Remedial Actions		732 edays	Mon 2/22/10	Fri 2/24/12	232,227
234	Remedial Actions Complete		0 days	Fri 2/24/12	Fri 2/24/12	233
235	Draft Remedial Action Report	P	122 edays	Tue 11/22/11	Fri 3/23/12	234FF+
236	Agency Review		60 edays	Fri 3/23/12	Tue 5/22/12	235
237	Draft Final Remedial Action Report/Response to Comments	P	60 edays	Tue 5/22/12	Sat 7/21/12	236
238	Agency Review/Concurrence Period		30 edays	Sat 7/21/12	Mon 8/20/12	237
239	Final Remedial Action Report	P	0 days	Mon 8/20/12	Mon 8/20/12	238
240	Draft Long-Term Monitoring Plan	P	122 edays	Tue 11/22/11	Fri 3/23/12	234FF+
241	Agency Review		60 edays	Fri 3/23/12	Tue 5/22/12	240
242	Draft Final Long-Term Monitoring Plan/Response to Comments	P	60 edays	Tue 5/22/12	Sat 7/21/12	241
243	Agency Review/Concurrence Period		30 edays	Sat 7/21/12	Mon 8/20/12	242
244	Final Long-Term Monitoring Plan	P	0 days	Mon 8/20/12	Mon 8/20/12	243
245						
246	<b>OU-4B Site 17</b>		<b>764 days</b>	<b>Wed 11/1/06</b>	<b>Mon 10/5/09</b>	
247	Final Record of Decision Approval	P	0 days	Wed 11/1/06	Wed 11/1/06	
248	Preliminary Remedial Design and Draft Remedial Action Wo	P	305 edays	Thu 11/2/06	Mon 9/3/07	247
249	Agency Review		60 edays	Mon 9/3/07	Fri 11/2/07	248
250	Draft Final Remedial Design and Draft Final RAWP	P	60 edays	Fri 11/2/07	Tue 1/1/08	249
251	Agency Review/Concurrence Period		30 edays	Tue 1/1/08	Thu 1/31/08	250
252	Final Remedial Design and Remedial Action Work Plan	P	0 days	Thu 1/31/08	Thu 1/31/08	251
253	Remedial Action		432 edays	Thu 1/31/08	Tue 4/7/09	252
254	Remedial Actions Complete		0 days	Tue 4/7/09	Tue 4/7/09	253
255	Draft Remedial Action Report	P	120 edays	Mon 1/5/09	Tue 5/5/09	254FF+
256	Agency Review		62 edays	Tue 5/5/09	Mon 7/6/09	255
257	Draft Final Remedial Action Report/Response to Comments	P	60 edays	Mon 7/6/09	Fri 9/4/09	256
258	Agency Review/Concurrence Period		31 edays	Fri 9/4/09	Mon 10/5/09	257
259	Final Remedial Action Report	P	0 days	Mon 10/5/09	Mon 10/5/09	258
260						
261	Draft Debris Piles TCRA Action Mem & Remedial Action Wo	S	88 edays	Fri 6/29/07	Tue 9/25/07	
262	Agency Review		45 edays	Tue 9/25/07	Fri 11/9/07	261
263	Final Debris Piles TCRA Action Mem & Remedial Action Wo	S	60 edays	Fri 11/9/07	Tue 1/8/08	262FF+

ID	Task Name	Primary or Secondary	Duration	Start	Finish	Predecessor
264	Debris Piles TCRA		181 edays	Tue 1/8/08	Mon 7/7/08	263
265	Draft TCRA Closure Report	S	91 edays	Mon 7/7/08	Mon 10/6/08	264
266	Agency Review		60 edays	Mon 10/6/08	Fri 12/5/08	265
267	Final TCRA Closure Report	S	31 edays	Fri 12/5/08	Mon 1/5/09	266
268						
269	<b>OU-4B Site 24</b>		<b>1490 days</b>	<b>Wed 8/2/06</b>	<b>Wed 4/18/12</b>	
270	Revised Draft RI Report	P	208 edays	Wed 8/2/06	Mon 2/26/07	
271	Agency Review		94 edays	Mon 2/26/07	Thu 5/31/07	270
272	Draft Final RI Report/Response to Comments	P	60 edays	Thu 5/31/07	Mon 7/30/07	271
273	Agency Review/Concurrence Period		30 edays	Mon 7/30/07	Wed 8/29/07	272
274	Final RI Report	P	0 days	Wed 8/29/07	Wed 8/29/07	273
275	Draft FS Report	P	91 edays	Wed 8/29/07	Wed 11/28/07	274
276	Agency Review		61 edays	Wed 11/28/07	Mon 1/28/08	275
277	Draft Final FS Report/Response to Comments	P	60 edays	Mon 1/28/08	Fri 3/28/08	276
278	Agency Review/Concurrence Period		31 edays	Fri 3/28/08	Mon 4/28/08	277
279	Final FS Report	P	0 days	Mon 4/28/08	Mon 4/28/08	278
280	Draft Proposed Plan	P	91 edays	Mon 4/28/08	Mon 7/28/08	279
281	Agency Review		30 edays	Mon 7/28/08	Wed 8/27/08	280
282	Draft Final Proposed Plan/Response to Comments	P	30 edays	Wed 8/27/08	Fri 9/26/08	281
283	Proposed Plan Preparation	P	45 edays	Fri 9/26/08	Mon 11/10/08	282
284	Public Meeting and Public Comment Period		30 edays	Mon 11/10/08	Wed 12/10/08	283
285	Draft Record of Decision	P	91 edays	Wed 12/10/08	Wed 3/11/09	284
286	Agency Review		61 edays	Wed 3/11/09	Mon 5/11/09	285
287	Draft Final Record of Decision/Response to Comments	P	60 edays	Mon 5/11/09	Fri 7/10/09	286
288	Agency Review/Concurrence Period		31 edays	Fri 7/10/09	Mon 8/10/09	287
289	Final Record of Decision Approval	P	0 days	Mon 8/10/09	Mon 8/10/09	288
290	Preliminary Remedial Design	P	241 edays	Fri 7/10/09	Mon 3/8/10	287
291	Agency Review		45 edays	Mon 3/8/10	Thu 4/22/10	290
292	Final Remedial Design	P	32 edays	Thu 4/22/10	Mon 5/24/10	291
293	Final Agency Review		14 edays	Mon 5/24/10	Mon 6/7/10	292
294	Draft Remedial Action Work Plan	P	122 edays	Fri 1/22/10	Mon 5/24/10	292FF
295	Agency Review		60 edays	Mon 5/24/10	Fri 7/23/10	294
296	Draft Final Remedial Action Work Plan/Response to Comments	P	60 edays	Fri 7/23/10	Tue 9/21/10	295
297	Agency Review/Concurrence Period		30 edays	Tue 9/21/10	Thu 10/21/10	296
298	Final Remedial Action Work Plan	P	0 days	Thu 10/21/10	Thu 10/21/10	297
299	Remedial Actions		365 edays	Thu 10/21/10	Fri 10/21/11	298,293
300	Remedial Actions Complete		0 days	Fri 10/21/11	Fri 10/21/11	299
301	Draft Remedial Action Report	P	120 edays	Thu 7/21/11	Fri 11/18/11	300FF+
302	Agency Review		60 edays	Fri 11/18/11	Tue 1/17/12	301
303	Draft Final Remedial Action Report/Response to Comments	P	62 edays	Tue 1/17/12	Mon 3/19/12	302
304	Agency Review/Concurrence Period		30 edays	Mon 3/19/12	Wed 4/18/12	303
305	Final Remedial Action Report	P	0 days	Wed 4/18/12	Wed 4/18/12	304
306						
307	<b>OU-4C Site 20</b>		<b>583 days</b>	<b>Wed 8/2/06</b>	<b>Mon 10/27/08</b>	
308	Revised Draft RI Report	P	208 edays	Wed 8/2/06	Mon 2/26/07	
309	Agency Review		94 edays	Mon 2/26/07	Thu 5/31/07	308
310	Draft Final RI Report/Response to Comments	P	60 edays	Thu 5/31/07	Mon 7/30/07	309
311	Agency Review/Concurrence Period		30 edays	Mon 7/30/07	Wed 8/29/07	310
312	Final RI Report	P	0 days	Wed 8/29/07	Wed 8/29/07	311
313	Draft Proposed Plan (No Action)	P	61 edays	Wed 8/29/07	Mon 10/29/07	312
314	Agency Review		30 edays	Mon 10/29/07	Wed 11/28/07	313
315	Draft Final Proposed Plan/Response to Comments	P	30 edays	Wed 11/28/07	Fri 12/28/07	314
316	Proposed Plan Preparation	P	31 edays	Fri 12/28/07	Mon 1/28/08	315

ID	Task Name	Primary or Secondary	Duration	Start	Finish	Predecessor
317	Public Meeting and Public Comment Period		30 edays	Mon 1/28/08	Wed 2/27/08	316
318	Draft Record of Decision (No Action)	P	90 edays	Wed 2/27/08	Tue 5/27/08	317
319	Agency Review		62 edays	Tue 5/27/08	Mon 7/28/08	318
320	Draft Final Record of Decision/Response to Comments	P	60 edays	Mon 7/28/08	Fri 9/26/08	319
321	Agency Review/Concurrence Period		31 edays	Fri 9/26/08	Mon 10/27/08	320
322	Final Record of Decision Approval	P	0 days	Mon 10/27/08	Mon 10/27/08	321
323						
324	<b>OU-5 Site 25 Soil</b>		<b>596 days</b>	<b>Wed 2/15/06</b>	<b>Thu 5/29/08</b>	
325	Draft Final Proposed Plan/Response to Comments	P	141 edays	Wed 2/15/06	Thu 7/6/06	
326	Proposed Plan Preparation	P	46 edays	Thu 7/6/06	Mon 8/21/06	325
327	Public Meeting and Public Comment Period		30 edays	Mon 8/21/06	Wed 9/20/06	326
328	Draft Record of Decision	P	91 edays	Wed 9/20/06	Wed 12/20/06	327
329	Agency Review		128 edays	Wed 12/20/06	Fri 4/27/07	328
330	Draft Final Record of Decision/Response to Comments	P	125 edays	Fri 4/27/07	Thu 8/30/07	329
331	Agency Review/Concurrence Period		32 edays	Thu 8/30/07	Mon 10/1/07	330
332	Final Record of Decision Approval	P	0 days	Mon 10/1/07	Mon 10/1/07	331
333	Draft LUC Remedial Design	P	91 edays	Mon 10/1/07	Mon 12/31/07	332
334	Agency Review		60 edays	Mon 12/31/07	Fri 2/29/08	333
335	Draft Final LUC Remedial Design/ Responses to Comments	P	60 edays	Fri 2/29/08	Tue 4/29/08	334
336	Agency Review/Concurrence Period		30 edays	Tue 4/29/08	Thu 5/29/08	335
337	Final LUC Remedial Design	P	0 days	Thu 5/29/08	Thu 5/29/08	336
338						
339	<b>OU-5 OU-05/IR02 Groundwater</b>		<b>1308 days</b>	<b>Mon 3/6/06</b>	<b>Thu 3/10/11</b>	
340	Draft Record of Decision	P	186 edays	Mon 3/6/06	Fri 9/8/06	
341	Agency Review		203 edays	Fri 9/8/06	Fri 3/30/07	340
342	Draft Final Record of Decision/Response to Comments	P	66 edays	Fri 3/30/07	Mon 6/4/07	341
343	Agency Review/Concurrence Period		72 edays	Mon 6/4/07	Wed 8/15/07	342
344	Final Record of Decision Approval	P	0 days	Wed 8/15/07	Wed 8/15/07	343
345	Preliminary Remedial Design and Draft Rem Action Work Pl	P	315 edays	Mon 6/4/07	Mon 4/14/08	342
346	Agency Review		60 edays	Mon 4/14/08	Fri 6/13/08	345
347	Draft Final Remedial Design and Remedial Action Work Plan	P	60 edays	Fri 6/13/08	Tue 8/12/08	346
348	Agency Review/Concurrence Period		30 edays	Tue 8/12/08	Thu 9/11/08	347
349	Final Remedial Design and Remedial Action Work Plan	P	0 days	Thu 9/11/08	Thu 9/11/08	348
350	Remedial Actions		732 edays	Thu 9/11/08	Mon 9/13/10	349
351	Remedial Actions Complete		0 days	Mon 9/13/10	Mon 9/13/10	350
352	Draft Remedial Action Report	P	122 edays	Fri 6/11/10	Mon 10/11/10	351FF+
353	Agency Review		60 edays	Mon 10/11/10	Fri 12/10/10	352
354	Draft Final Remedial Action Report/Response to Comments	P	60 edays	Fri 12/10/10	Tue 2/8/11	353
355	Agency Review/Concurrence Period		30 edays	Tue 2/8/11	Thu 3/10/11	354
356	Final Remedial Action Report	P	0 days	Thu 3/10/11	Thu 3/10/11	355
357	Draft Long-Term Monitoring Plan	P	122 edays	Fri 6/11/10	Mon 10/11/10	351FF+
358	Agency Review		60 edays	Mon 10/11/10	Fri 12/10/10	357
359	Draft Final Long-Term Monitoring Plan/Response to Comments	P	60 edays	Fri 12/10/10	Tue 2/8/11	358
360	Agency Review/Concurrence Period		30 edays	Tue 2/8/11	Thu 3/10/11	359
361	Final Long-Term Monitoring Plan	P	0 days	Thu 3/10/11	Thu 3/10/11	360
362						
363	<b>OU-6 Site 26</b>		<b>1051 days</b>	<b>Mon 8/7/06</b>	<b>Tue 8/17/10</b>	
364	Final Record of Decision Approval	P	0 days	Mon 8/7/06	Mon 8/7/06	
365	Preliminary Remedial Design and Draft Remedial Action Wo	P	364 edays	Mon 8/7/06	Mon 8/6/07	364
366	Agency Review		60 edays	Mon 8/6/07	Fri 10/5/07	365
367	Draft Final Remedial Design and Draft Final RAWP	P	45 edays	Fri 10/5/07	Mon 11/19/07	366
368	Agency Review/Concurrence Period		30 edays	Mon 11/19/07	Wed 12/19/07	367
369	Final Remedial Design and Remedial Action Work Plan	P	0 days	Wed 12/19/07	Wed 12/19/07	368

ID	Task Name	Primary or Secondary	Duration	Start	Finish	Predecessor
370	Remedial Action		730 edays	Mon 11/19/07	Wed 11/18/09	367
371	Remedial Actions Complete		0 days	Wed 11/18/09	Wed 11/18/09	370
372	Draft Remedial Action Report	P	120 edays	Wed 11/18/09	Thu 3/18/10	371
373	Agency Review		60 edays	Thu 3/18/10	Mon 5/17/10	372
374	Draft Final Remedial Action Report/Response to Comments	P	60 edays	Mon 5/17/10	Fri 7/16/10	373
375	Agency Review/Concurrence Period		31 edays	Fri 7/16/10	Mon 8/16/10	374
376	Final Remedial Action Report	P	0 days	Mon 8/16/10	Mon 8/16/10	375
377	Draft Long-Term Monitoring Plan	P	120 edays	Wed 11/18/09	Thu 3/18/10	371
378	Agency Review		61 edays	Thu 3/18/10	Tue 5/18/10	377
379	Draft Final Long-Term Monitoring Plan/Response to Comm	P	60 edays	Tue 5/18/10	Sat 7/17/10	378
380	Agency Review/Concurrence Period		31 edays	Sat 7/17/10	Tue 8/17/10	379
381	Final Long-Term Monitoring Plan	P	0 days	Tue 8/17/10	Tue 8/17/10	380
382						
383	<b>OU-6 Site 27</b>		<b>1306 days</b>	<b>Wed 4/18/07</b>	<b>Thu 4/19/12</b>	
384	Draft Record of Decision	P	1 day	Wed 4/18/07	Wed 4/18/07	
385	Agency Review		96 edays	Thu 4/19/07	Tue 7/24/07	
386	Draft Final Record of Decision/Response to Comments	P	59 edays	Tue 7/24/07	Fri 9/21/07	385
387	Agency Review/Concurrence Period		31 edays	Fri 9/21/07	Mon 10/22/07	386
388	Final Record of Decision Approval	P	0 days	Mon 10/22/07	Mon 10/22/07	387
389	Draft Remedial Design and Remedial Action Work Plan	P	240 edays	Mon 10/22/07	Wed 6/18/08	388
390	Agency Review		61 edays	Wed 6/18/08	Mon 8/18/08	389
391	Draft Final Remedial Design and RAWP	P	31 edays	Mon 8/18/08	Thu 9/18/08	390
392	Agency Review/Concurrence Period		32 edays	Thu 9/18/08	Mon 10/20/08	391
393	Final Remedial Design and Remedial Action Work Plan	P	0 days	Mon 10/20/08	Mon 10/20/08	392
394	Remedial Actions		1095 edays	Mon 10/20/08	Thu 10/20/11	393
395	Remedial Actions Complete		0 days	Thu 10/20/11	Thu 10/20/11	394
396	Draft Remedial Action Report	P	122 edays	Mon 7/18/11	Thu 11/17/11	395FF+
397	Agency Review		62 edays	Thu 11/17/11	Wed 1/18/12	396
398	Draft Final Remedial Action Report/Response to Comments	P	62 edays	Wed 1/18/12	Tue 3/20/12	397
399	Agency Review/Concurrence Period		30 edays	Tue 3/20/12	Thu 4/19/12	398
400	Final Remedial Action Report	P	0 days	Thu 4/19/12	Thu 4/19/12	399
401	Draft Long-Term Monitoring Plan	P	122 edays	Mon 7/18/11	Thu 11/17/11	395FF+
402	Agency Review		60 edays	Thu 11/17/11	Mon 1/16/12	401
403	Draft Final Long-Term Monitoring Plan/Response to Comm	P	60 edays	Mon 1/16/12	Fri 3/16/12	402
404	Agency Review/Concurrence Period		31 edays	Fri 3/16/12	Mon 4/16/12	403
405	Final Long-Term Monitoring Plan	P	0 days	Mon 4/16/12	Mon 4/16/12	404
406						
407	<b>OU-6 Site 28</b>		<b>1425 days</b>	<b>Mon 9/18/06</b>	<b>Mon 3/5/12</b>	
408	Draft Record of Decision	P	182 edays	Mon 9/18/06	Mon 3/19/07	
409	Agency Review		88 edays	Mon 3/19/07	Fri 6/15/07	408
410	Draft Final Record of Decision/Response to Comments	P	60 edays	Fri 6/15/07	Tue 8/14/07	409
411	Agency Review/Concurrence Period		31 edays	Tue 8/14/07	Fri 9/14/07	410
412	Final Record of Decision Approval	P	0 days	Fri 9/14/07	Fri 9/14/07	411
413	Preliminary Remedial Design and Draft Remedial Action Wo	P	300 edays	Fri 9/14/07	Thu 7/10/08	412
414	Agency Review		60 edays	Thu 7/10/08	Mon 9/8/08	413
415	Draft Final Remedial Design and Draft Final RAWP	P	60 edays	Mon 9/8/08	Fri 11/7/08	414
416	Agency Review/Concurrence Period		31 edays	Fri 11/7/08	Mon 12/8/08	415
417	Final Remedial Design and Remedial Action Work Plan	P	0 days	Mon 12/8/08	Mon 12/8/08	416
418	Remedial Action		729 edays	Mon 12/8/08	Tue 12/7/10	417
419	Remedial Actions Complete		0 days	Tue 12/7/10	Tue 12/7/10	418
420	Draft Remedial Action Report	P	122 edays	Tue 12/7/10	Fri 4/8/11	419
421	Agency Review		60 edays	Fri 4/8/11	Tue 6/7/11	420
422	Draft Final Remedial Action Report/Response to Comments	P	62 edays	Tue 6/7/11	Mon 8/8/11	416,421

ID	Task Name	Primary or Secondary	Duration	Start	Finish	Precede
423	Agency Review/Concurrence Period		30 edays	Mon 8/8/11	Wed 9/7/11	422
424	Final Remedial Action Report	P	0 days	Wed 10/5/11	Wed 10/5/11	423FF+
425	Agency Review		61 edays	Wed 10/5/11	Mon 12/5/11	424
426	Draft Final Remedial Action Report/Response to Comments	P	60 edays	Mon 12/5/11	Fri 2/3/12	425
427	Agency Review/Concurrence Period		31 edays	Fri 2/3/12	Mon 3/5/12	426
428	Final Remedial Action Report	P	0 days	Mon 3/5/12	Mon 3/5/12	427
429	Draft Long-Term Monitoring Plan	P	120 edays	Tue 6/7/11	Wed 10/5/11	423FF+
430	Agency Review		61 edays	Wed 10/5/11	Mon 12/5/11	429
431	Draft Final Long-Term Monitoring Plan/Response to Comme	P	60 edays	Mon 12/5/11	Fri 2/3/12	430
432	Agency Review/Concurrence Period		31 edays	Fri 2/3/12	Mon 3/5/12	431
433	Final Long-Term Monitoring Plan	P	0 days	Mon 3/5/12	Mon 3/5/12	432
434						
435	<b>Site 30</b>		<b>1276 days</b>	<b>Thu 8/24/06</b>	<b>Fri 7/15/11</b>	
436	Revised Draft RI Addendum/FS Report	P	469 edays	Thu 8/24/06	Thu 12/6/07	
437	Agency Review		62 edays	Thu 12/6/07	Wed 2/6/08	436
438	Draft Final RI Addendum/FS/Response to Comments	P	61 edays	Wed 2/6/08	Mon 4/7/08	437
439	Agency Review/Concurrence Period		31 edays	Mon 4/7/08	Thu 5/8/08	438
440	Final RI Addendum/FS Report	P	0 days	Thu 5/8/08	Thu 5/8/08	439
441	Draft Proposed Plan	P	60 edays	Thu 5/8/08	Mon 7/7/08	440
442	Agency Review		32 edays	Mon 7/7/08	Fri 8/8/08	441
443	Draft Final Proposed Plan/Response to Comments	P	31 edays	Fri 8/8/08	Mon 9/8/08	442
444	Proposed Plan Preparation	P	46 edays	Mon 9/8/08	Fri 10/24/08	443
445	Public Meeting and Public Comment Period		31 edays	Fri 10/24/08	Mon 11/24/08	444
446	Draft Record of Decision	P	91 edays	Mon 11/24/08	Mon 2/23/09	445
447	Agency Review		60 edays	Mon 2/23/09	Fri 4/24/09	446
448	Draft Final Record of Decision/Response to Comments	P	60 edays	Fri 4/24/09	Tue 6/23/09	447
449	Agency Review/Concurrence Period		31 edays	Tue 6/23/09	Fri 7/24/09	448
450	Final Record of Decision Approval	P	0 days	Fri 7/24/09	Fri 7/24/09	449
451	Draft Design and Remedial Action Work Plan	P	181 edays	Tue 6/23/09	Mon 12/21/09	448
452	Agency Review		60 edays	Mon 12/21/09	Fri 2/19/10	451
453	Draft Final Design and Remedial Action Work Plan/Respons	P	60 edays	Fri 2/19/10	Tue 4/20/10	452
454	Agency Review/Concurrence Period		31 edays	Tue 4/20/10	Fri 5/21/10	453
455	Final Design and Remedial Action Work Plan	P	0 days	Fri 5/21/10	Fri 5/21/10	454
456	Remedial Actions		241 edays	Fri 5/21/10	Mon 1/17/11	455
457	Remedial Actions Complete		0 days	Mon 1/17/11	Mon 1/17/11	456
458	Draft Remedial Action Report	P	91 edays	Mon 1/15/10	Mon 2/14/11	457FF+
459	Agency Review		60 edays	Mon 2/14/11	Fri 4/15/11	458
460	Draft Final Remedial Action Report/Response to Comments	P	60 edays	Fri 4/15/11	Tue 6/14/11	459
461	Agency Review/Concurrence Period		31 edays	Tue 6/14/11	Fri 7/15/11	460
462	Final Remedial Action Report	P	0 days	Fri 7/15/11	Fri 7/15/11	461
463						
464	<b>Site 31</b>		<b>1327 days</b>	<b>Thu 8/24/06</b>	<b>Mon 9/26/11</b>	
465	Revised Draft RI Report	P	98 edays	Thu 8/24/06	Thu 11/30/06	
466	Agency Review		151 edays	Thu 11/30/06	Mon 4/30/07	465
467	Draft Final RI Report/Response to Comments	P	67 edays	Mon 4/30/07	Fri 7/6/07	466
468	Agency Review/Concurrence Period		31 edays	Fri 7/6/07	Mon 8/6/07	467
469	Final RI Report	P	0 days	Mon 8/6/07	Mon 8/6/07	468
470	Draft FS Report	P	88 edays	Mon 8/6/07	Fri 11/2/07	469
471	Agency Review		60 edays	Fri 11/2/07	Tue 1/1/08	470
472	Draft Final FS Report/Response to Comments	P	62 edays	Tue 1/1/08	Mon 3/3/08	471
473	Agency Review/Concurrence Period		32 edays	Mon 3/3/08	Fri 4/4/08	472
474	Final FS Report	P	0 days	Fri 4/4/08	Fri 4/4/08	473
475	Draft Proposed Plan	P	90 edays	Fri 4/4/08	Thu 7/3/08	474

ID	Task Name	Primary or Secondary	Duration	Start	Finish	Predecessor
476	Agency Review		32 edays	Thu 7/3/08	Mon 8/4/08	475
477	Draft Final Proposed Plan/Response to Comments	P	30 edays	Mon 8/4/08	Wed 9/3/08	476
478	Proposed Plan Preparation	P	44 edays	Wed 9/3/08	Fri 10/17/08	477
479	Public Meeting and Public Comment Period		32 edays	Fri 10/17/08	Tue 11/18/08	478
480	Draft Record of Decision	P	91 edays	Tue 11/18/08	Tue 2/17/09	479
481	Agency Review		62 edays	Tue 2/17/09	Mon 4/20/09	480
482	Draft Final Record of Decision/Response to Comments	P	60 edays	Mon 4/20/09	Fri 6/19/09	481
483	Agency Review/Concurrence Period		31 edays	Fri 6/19/09	Mon 7/20/09	482
484	Final Record of Decision Approval	P	0 days	Mon 7/20/09	Mon 7/20/09	483
485	Preliminary Remedial Design	P	241 edays	Fri 6/19/09	Mon 2/15/10	482
486	Agency Review		45 edays	Mon 2/15/10	Thu 4/1/10	485
487	Final Remedial Design	P	29 edays	Thu 4/1/10	Fri 4/30/10	486
488	Final Agency Review		14 edays	Fri 4/30/10	Fri 5/14/10	487
489	Draft Remedial Action Work Plan	P	120 edays	Thu 12/31/09	Fri 4/30/10	487FF
490	Agency Review		61 edays	Fri 4/30/10	Wed 6/30/10	489
491	Draft Final Remedial Action Work Plan/Response to Comments	P	61 edays	Wed 6/30/10	Mon 8/30/10	490
492	Agency Review/Concurrence Period		31 edays	Mon 8/30/10	Thu 9/30/10	491
493	Final Remedial Action Work Plan	P	0 days	Thu 9/30/10	Thu 9/30/10	492
494	Remedial Actions		182 edays	Thu 9/30/10	Thu 3/31/11	493,488
495	Remedial Actions Complete		0 days	Thu 3/31/11	Thu 3/31/11	494
496	Draft Remedial Action Report	P	122 edays	Mon 12/27/10	Thu 4/28/11	495FF+
497	Agency Review		60 edays	Thu 4/28/11	Mon 6/27/11	496
498	Draft Final Remedial Action Report/Response to Comments	P	60 edays	Mon 6/27/11	Fri 8/26/11	497
499	Agency Review/Concurrence Period		31 edays	Fri 8/26/11	Mon 9/26/11	498
500	Final Remedial Action Report	P	0 days	Mon 9/26/11	Mon 9/26/11	499
501	Draft Long-Term Monitoring Plan	P	122 edays	Mon 12/27/10	Thu 4/28/11	495FF+
502	Agency Review		60 edays	Thu 4/28/11	Mon 6/27/11	501
503	Draft Final Long-Term Monitoring Plan/Response to Comments	P	60 edays	Mon 6/27/11	Fri 8/26/11	502
504	Agency Review/Concurrence Period		31 edays	Fri 8/26/11	Mon 9/26/11	503
505	Final Long-Term Monitoring Plan	P	0 days	Mon 9/26/11	Mon 9/26/11	504
506						
507	<b>Site 32</b>		<b>1458 days</b>	<b>Mon 4/9/07</b>	<b>Thu 11/8/12</b>	
508	Final RI Report	P	0 days	Mon 4/9/07	Mon 4/9/07	
509	Draft FS Report	P	71 edays	Mon 4/9/07	Tue 6/19/07	508
510	Agency Review		62 edays	Tue 6/19/07	Mon 8/20/07	509
511	Draft Final FS Report/Response to Comments	P	60 edays	Mon 8/20/07	Fri 10/19/07	510
512	Agency Review/Concurrence Period		31 edays	Fri 10/19/07	Mon 11/19/07	511
513	Final FS Report	P	0 days	Mon 11/19/07	Mon 11/19/07	512
514	Draft Proposed Plan	P	91 edays	Mon 11/19/07	Mon 2/18/08	513
515	Agency Review		32 edays	Mon 2/18/08	Fri 3/21/08	514
516	Draft Final Proposed Plan/Response to Comments	P	31 edays	Fri 3/21/08	Mon 4/21/08	515
517	Proposed Plan Preparation	P	45 edays	Mon 4/21/08	Thu 6/5/08	516
518	Public Meeting and Public Comment Period		32 edays	Thu 6/5/08	Mon 7/7/08	517
519	Draft Record of Decision	P	91 edays	Mon 7/7/08	Mon 10/6/08	518
520	Agency Review		60 edays	Mon 10/6/08	Fri 12/5/08	519
521	Draft Final Record of Decision/Response to Comments	P	60 edays	Fri 12/5/08	Tue 2/3/09	520
522	Agency Review/Concurrence Period		31 edays	Tue 2/3/09	Fri 3/6/09	521
523	Final Record of Decision Approval	P	0 days	Fri 3/6/09	Fri 3/6/09	522
524	Preliminary Remedial Design and Draft Remedial Action Work Plan	P	280 edays	Fri 3/6/09	Fri 12/11/09	523
525	Agency Review		60 edays	Fri 12/11/09	Tue 2/9/10	524
526	Draft Final Remedial Design and Draft Final RAWP	P	62 edays	Tue 2/9/10	Mon 4/12/10	525
527	Agency Review/Concurrence Period		30 edays	Mon 4/12/10	Wed 5/12/10	526
528	Final Remedial Design and Remedial Action Work Plan	P	0 days	Wed 5/12/10	Wed 5/12/10	527

ID	Task Name	Primary or Secondary	Duration	Start	Finish	Predecessor
529	Remedial Actions		730 edays	Wed 5/12/10	Fri 5/11/12	528
530	Remedial Actions Complete		0 days	Fri 5/11/12	Fri 5/11/12	529
531	Draft Remedial Action Report	P	120 edays	Thu 2/9/12	Fri 6/8/12	530FF+
532	Agency Review		61 edays	Fri 6/8/12	Wed 8/8/12	531
533	Draft Final Remedial Action Report/Response to Comments	P	61 edays	Wed 8/8/12	Mon 10/8/12	532
534	Agency Review/Concurrence Period		31 edays	Mon 10/8/12	Thu 11/8/12	533
535	Final Remedial Action Report	P	0 days	Thu 11/8/12	Thu 11/8/12	534
536	Draft Long-Term Monitoring Plan	P	120 edays	Thu 2/9/12	Fri 6/8/12	530FF+
537	Agency Review		61 edays	Fri 6/8/12	Wed 8/8/12	536
538	Draft Final Long-Term Monitoring Plan/Response to Comments	P	61 edays	Wed 8/8/12	Mon 10/8/12	537
539	Agency Review/Concurrence Period		31 edays	Mon 10/8/12	Thu 11/8/12	538
540	Final Long-Term Monitoring Plan	P	0 days	Thu 11/8/12	Thu 11/8/12	539
541						
542	<b>Site 34</b>		<b>1607 days</b>	<b>Tue 1/17/06</b>	<b>Thu 3/15/12</b>	
543	RI Field Work		437 edays	Tue 1/17/06	Fri 3/30/07	
544	Draft RI Report	P	154 edays	Fri 3/30/07	Fri 8/31/07	543
545	Agency Review		60 edays	Fri 8/31/07	Tue 10/30/07	544
546	Draft Final RI Report/Response to Comments	P	62 edays	Tue 10/30/07	Mon 12/31/07	545
547	Agency Review/Concurrence Period		30 edays	Mon 12/31/07	Wed 1/30/08	546
548	Final RI Report	P	0 days	Wed 1/30/08	Wed 1/30/08	547
549	Draft FS Report	P	91 edays	Wed 1/30/08	Wed 4/30/08	548
550	Agency Review		61 edays	Wed 4/30/08	Mon 6/30/08	549
551	Draft Final FS Report/Response to Comments	P	60 edays	Mon 6/30/08	Fri 8/29/08	550
552	Agency Review/Concurrence Period		31 edays	Fri 8/29/08	Mon 9/29/08	551
553	Final FS Report	P	0 days	Mon 9/29/08	Mon 9/29/08	552
554	Draft Proposed Plan	P	91 edays	Mon 9/29/08	Mon 12/29/08	553
555	Agency Review		30 edays	Mon 12/29/08	Wed 1/28/09	554
556	Draft Final Proposed Plan/Response to Comments	P	30 edays	Wed 1/28/09	Fri 2/27/09	555
557	Proposed Plan Preparation	P	45 edays	Fri 2/27/09	Mon 4/13/09	556
558	Public Meeting and Public Comment Period		32 edays	Mon 4/13/09	Fri 5/15/09	557
559	Draft Record of Decision	P	91 edays	Fri 5/15/09	Fri 8/14/09	558
560	Agency Review		60 edays	Fri 8/14/09	Tue 10/13/09	559
561	Draft Final Record of Decision/Response to Comments	P	62 edays	Tue 10/13/09	Mon 12/14/09	560
562	Agency Review/Concurrence Period		30 edays	Mon 12/14/09	Wed 1/13/10	561
563	Final Record of Decision Approval	P	0 days	Wed 1/13/10	Wed 1/13/10	562
564	Preliminary Remedial Design and Draft Remedial Action Work Plan	P	280 edays	Wed 1/13/10	Wed 10/20/10	563
565	Agency Review		61 edays	Wed 10/20/10	Mon 12/20/10	564
566	Draft Final Remedial Design and Draft Final RAWP	P	60 edays	Mon 12/20/10	Fri 2/18/11	565
567	Agency Review/Concurrence Period		31 edays	Fri 2/18/11	Mon 3/21/11	566
568	Final Remedial Design and Remedial Action Work Plan	P	0 days	Mon 3/21/11	Mon 3/21/11	567
569	Remedial Actions		182 edays	Mon 3/21/11	Mon 9/19/11	568
570	Remedial Actions Complete		0 days	Mon 9/19/11	Mon 9/19/11	569
571	Draft Remedial Action Report	P	122 edays	Fri 6/17/11	Mon 10/17/11	570FF+
572	Agency Review		60 edays	Mon 10/17/11	Fri 12/16/11	571
573	Draft Final Remedial Action Report/Response to Comments	P	60 edays	Fri 12/16/11	Tue 2/14/12	572
574	Agency Review/Concurrence Period		30 edays	Tue 2/14/12	Thu 3/15/12	573
575	Final Remedial Action Report	P	0 days	Thu 3/15/12	Thu 3/15/12	574
576	Draft Long-Term Monitoring Plan	P	122 edays	Fri 6/17/11	Mon 10/17/11	570FF+
577	Agency Review		60 edays	Mon 10/17/11	Fri 12/16/11	576
578	Draft Final Long-Term Monitoring Plan/Response to Comments	P	60 edays	Fri 12/16/11	Tue 2/14/12	577
579	Agency Review/Concurrence Period		30 edays	Tue 2/14/12	Thu 3/15/12	578
580	Final Long-Term Monitoring Plan	P	0 days	Thu 3/15/12	Thu 3/15/12	579
581						

ID	Task Name	Primary or Secondary	Duration	Start	Finish	Predecessor
582	<b>Site 35</b>		<b>974 days</b>	<b>Fri 4/13/07</b>	<b>Thu 1/6/11</b>	
583	Final RI/FS Report	P	0 days	Fri 4/13/07	Fri 4/13/07	
584	Draft Proposed Plan	P	103 edays	Fri 4/13/07	Wed 7/25/07	583
585	Agency Review for Proposed Plan		33 edays	Wed 7/25/07	Mon 8/27/07	584
586	Draft Final Proposed Plan/Response to Comments	P	30 edays	Mon 8/27/07	Wed 9/26/07	585
587	Proposed Plan Preparation	P	47 edays	Wed 9/26/07	Mon 11/12/07	586
588	Public Meeting and Public Comment Period		30 edays	Mon 11/12/07	Wed 12/12/07	587
589	Draft ROD	P	90 edays	Wed 12/12/07	Tue 3/11/08	588
590	Agency Review for Record of Decision		62 edays	Tue 3/11/08	Mon 5/12/08	589
591	Draft Final Record of Decision/Response to Comments	P	60 edays	Mon 5/12/08	Fri 7/11/08	590
592	Agency Review/Concurrence Period		31 edays	Fri 7/11/08	Mon 8/11/08	591
593	Final Record of Decision Approval	P	0 days	Mon 8/11/08	Mon 8/11/08	592
594	Preliminary Remedial Design and Draft Remedial Action Wo	P	280 edays	Mon 8/11/08	Mon 5/18/09	593
595	Agency Review		60 edays	Mon 5/18/09	Fri 7/17/09	594
596	Draft Final Remedial Design and Draft Final RAWP	P	60 edays	Fri 7/17/09	Tue 9/15/09	595
597	Agency Review/Concurrence Period		30 edays	Tue 9/15/09	Thu 10/15/09	596
598	Final Remedial Design and Remedial Action Work Plan	P	0 days	Thu 10/15/09	Thu 10/15/09	597
599	Remedial Actions		270 edays	Thu 10/15/09	Mon 7/12/10	598
600	Remedial Actions Complete		0 days	Mon 7/12/10	Mon 7/12/10	599
601	Draft Remedial Action Report	P	122 edays	Fri 4/9/10	Mon 8/9/10	600FF+
602	Agency Review		60 edays	Mon 8/9/10	Fri 10/8/10	601
603	Draft Final Remedial Action Report/Response to Comments	P	60 edays	Fri 10/8/10	Tue 12/7/10	602
604	Agency Review/Concurrence Period		30 edays	Tue 12/7/10	Thu 1/6/11	603
605	Final Remedial Action Report	P	0 days	Thu 1/6/11	Thu 1/6/11	604
606	Draft Long-Term Monitoring Plan	P	122 edays	Fri 4/9/10	Mon 8/9/10	600FF+
607	Agency Review		60 edays	Mon 8/9/10	Fri 10/8/10	606
608	Draft Final Long-Term Monitoring Plan/Response to Comme	P	60 edays	Fri 10/8/10	Tue 12/7/10	607
609	Agency Review/Concurrence Period		30 edays	Tue 12/7/10	Thu 1/6/11	608
610	Final Long-Term Monitoring Plan	P	0 days	Thu 1/6/11	Thu 1/6/11	609
611						
612	<b>FED-1A, -2B, and -2C</b>		<b>108 days</b>	<b>Fri 9/14/07</b>	<b>Wed 2/13/08</b>	
613	Revised Draft Site Inspection	S	0 edays	Fri 9/14/07	Fri 9/14/07	
614	Agency Review		60 edays	Fri 9/14/07	Tue 11/13/07	613
615	Draft Final Site Inspection/Response to Comments	S	62 edays	Tue 11/13/07	Mon 1/14/08	614
616	Agency Review/Concurrence Period		30 edays	Mon 1/14/08	Wed 2/13/08	615
617	Final Site Inspection	S	0 days	Wed 2/13/08	Wed 2/13/08	616
618						
619	<b>EDC-17</b>		<b>315 days</b>	<b>Mon 7/3/06</b>	<b>Mon 9/17/07</b>	
620	Revised Draft Site Inspection	S	165 edays	Mon 7/3/06	Fri 12/15/06	
621	Agency Review		60 edays	Fri 12/15/06	Tue 2/13/07	620
622	Draft Final Site Inspection/Response to Comments	S	185 edays	Tue 2/13/07	Fri 8/17/07	621
623	Agency Review/Concurrence Period		31 edays	Fri 8/17/07	Mon 9/17/07	622
624	Final Site Inspection	S	0 days	Mon 9/17/07	Mon 9/17/07	623
625						
626	<b>EDC-12</b>		<b>380 days</b>	<b>Mon 4/3/06</b>	<b>Mon 9/17/07</b>	
627	Revised Draft Site Inspection	S	196 edays	Mon 4/3/06	Mon 10/16/06	
628	Agency Review		60 edays	Mon 10/16/06	Fri 12/15/06	627
629	Draft Final Site Inspection/Response to Comments	S	245 edays	Fri 12/15/06	Fri 8/17/07	628
630	Agency Review/Concurrence Period		31 edays	Fri 8/17/07	Mon 9/17/07	629
631	Final Site Inspection	S	0 days	Mon 9/17/07	Mon 9/17/07	630
632						
633	<b>BASEWIDE COMMUNITY RELATIONS PLAN</b>		<b>652 days</b>	<b>Mon 9/1/08</b>	<b>Wed 3/2/11</b>	
634	2009 Draft Community Relations Plan Revisions (if necessar	S	30 edays	Mon 9/1/08	Wed 10/1/08	

ID	Task Name	Primary or Secondary	Duration	Start	Finish	Predecessor
635	Agency Review		61 edays	Wed 10/1/08	Mon 12/1/08	634
636	2009 Draft Final Community Relations Plan Review and Cha		60 edays	Mon 12/1/08	Fri 1/30/09	635
637	Agency Review/Concurrence and Community Review		31 edays	Fri 1/30/09	Mon 3/2/09	636
638	2009 Final Community Relations Plan Review and Changes	S	0 days	Mon 3/2/09	Mon 3/2/09	637
639						
640	2011 Draft Community Relations Plan Revisions (if necessar		30 edays	Wed 9/1/10	Fri 10/1/10	
641	Agency Review		60 edays	Fri 10/1/10	Tue 11/30/10	640
642	2011 Draft Final Community Relations Plan Review and Cha	S	62 edays	Tue 11/30/10	Mon 1/31/11	641
643	Agency Review/Concurrence and Community Review		30 edays	Mon 1/31/11	Wed 3/2/11	642
644	2011 Final Community Relations Plan Review and Changes	S	0 days	Wed 3/2/11	Wed 3/2/11	643
645						
646	<b>BASEWIDE GROUNDWATER MONITORING REPORT</b>		<b>434 days</b>	<b>Tue 5/1/07</b>	<b>Mon 12/29/08</b>	
647	2007 Draft Annual Groundwater Monitoring Report	S	136 edays	Tue 5/1/07	Fri 9/14/07	
648	Agency Review		60 edays	Fri 9/14/07	Tue 11/13/07	647
649	2007 Draft Final Groundwater Monitoring Report	S	59 edays	Tue 11/13/07	Fri 1/11/08	648
650	Agency Review/Concurrence Period		31 edays	Fri 1/11/08	Mon 2/11/08	649
651	2007 Final Groundwater Monitoring Report	S	0 days	Mon 2/11/08	Mon 2/11/08	650
652						
653	2008 Draft Annual Groundwater Monitoring Report	S	90 edays	Thu 5/1/08	Wed 7/30/08	
654	Agency Review		61 edays	Wed 7/30/08	Mon 9/29/08	653
655	2008 Draft Final Groundwater Monitoring Report	S	60 edays	Mon 9/29/08	Fri 11/28/08	654
656	Agency Review/Concurrence Period		31 edays	Fri 11/28/08	Mon 12/29/08	655
657	2008 Final Groundwater Monitoring Report	S	0 days	Mon 12/29/08	Mon 12/29/08	656

## BASEWIDE ACTIVITIES

Each year, the Navy determines whether an update to the Community Relations Plan (CRP) is appropriate. No update was warranted for 2007. The next Draft CRP will be submitted by the Navy in October 2008 if appropriate.

Basewide groundwater monitoring results are compiled and reported annually in the form of a Basewide Groundwater Annual Report. The Navy will submit a draft of the report in September 2007.

### OPERABLE UNIT 1

**Current Status:** OU-1 includes Site 6 (Building 41 – Aircraft Intermediate Maintenance Facility), Site 7 (Building 459 – Navy Exchange Service Station), Site 8 (Building 114 – Pesticide Storage Area), Site 14 (Former Fire Training Area), Site 15 (Buildings 301 and 389 – Former Transformer Storage Area), and Site 16 (C-2 CANS Area – Shipping Container Storage). The Record of Decision (ROD) recommending no further action for Site 15 was approved in May 2006. The ROD for Site 14 was approved in January 2007 and recommends no further action for soil and active treatment of VOCs in groundwater.

The Draft Final ROD for Sites 6, 7, 8, and 16 was submitted in May 2007. Concurrence and issuance of the Final ROD is expected in August 2007. The preferred alternative for soil remediation for Sites 6, 7, 8, and 16 is sampling and excavation with off-site disposal of soil. The preferred alternative for groundwater remediation for Sites 6 and 16 (no action is proposed for Sites 7 and 8) is treatment to remediation goals with in-situ chemical oxidation and accelerated bioremediation, monitored natural attenuation, and institutional controls. Groundwater at Sites 7 and 8 is addressed through the Alameda Point TPH program.

### OPERABLE UNIT 2A

**Current Status:** OU-2A includes Site 9 (Building 410 – Paint Stripping Facility), Site 13 (Former Oil Refinery), Site 19 (Yard D-13 – Hazardous Waste Storage), Site 22 (Building 547 – Former Service Station), and Site 23 (Building 530 – Missile Rework Operations). A Draft Feasibility Study (FS) was submitted for agency review in September 2005, and comments were received in March 2006. As part of the comments, the agencies requested a revised Draft FS. The revised Draft FS is underway and expected to be submitted in December 2007. Additionally, fieldwork for a data gap investigation is planned to start in August 2007.

### OPERABLE UNIT 2B

**Current Status:** OU-2B includes Site 3 (Abandoned Fuel Storage Area), Site 4 (Building 360 – Aircraft Engine Facility), Site 11 (Building 14 – Engine Test Cell), and Site 21 (Building 162 – Ship

Fitting and Engine Repair). Fieldwork for a data gap investigation is planned to start in August 2007. A revised Draft FS for these sites is expected in May 2008.

### **OPERABLE UNIT 2C**

**Current Status:** OU-2C consists of Site 5 (Building 5 – Aircraft Rework Facility), Site 10 (Building 400 – Missile Rework Operations), and Site 12 (Building 10 – Power Plant). A groundwater removal action, consisting of six-phase heating, is scheduled to end in January 2008. A revised Final Remedial Investigation (RI) Work Plan was submitted in May 2007 and associated fieldwork is underway.

A Draft Time-Critical Removal Action (TCRA) Memorandum and Draft Work Plan for TCRA for removal of remaining radiologically-impacted storm drains and sewer lines were submitted in May 2007. Fieldwork for the TCRA is expected to start in August 2007.

### **OPERABLE UNIT 3**

**Current Status:** OU-3 consists of Site 1, which includes the 1943 – 1956 Disposal Area, surrounding paved and unpaved areas, surrounding shoreline, a former firing range berm, and former burn area. The Draft Record of Decision was submitted for agency review in April 2007 and the Final ROD is expected in November 2007. The preferred alternatives for soil remediation for the following areas are: Area 1 – excavation, off-site disposal, and radiological and munitions and explosives of concern screening at the former burn area (Area 1a), soil cover at the former disposal area (Area 1b) and, wetlands mitigation plan, and institutional controls (ICs) throughout; Area 2 – pavement maintenance and ICs; Area 3 – Tier 2 ecological risk assessment, hot spot relocation, and ICs; Area 4 – removal, screening, and off-site disposal; Area 5 – confirmation sampling, hot spot relocation, and ICs; Areas 3, 5, and 1B – removal of radium-impacted waste; and Area 1 – cover/cap remaining radium-impacted waste. The preferred alternative for groundwater remediation is in-situ chemical oxidation, monitored natural attenuation, monitoring, and ICs.

Currently, a TCRA is underway for the removal of the former pistol range berm in coordination with the removal of radium-impacted soils exceeding cleanup goals outside of Area 1A. Fieldwork is scheduled to conclude in August 2007.

### **OPERABLE UNIT 4A**

**Current Status:** OU-4A consists of Site 2, the West Beach Landfill and Wetlands. The Draft Final FS was issued in April 2007 and the Final is expected in September 2007. A radiological survey will be conducted at the shoreline areas and at the former location of the “rad shack” in the summer of 2007. Removal of site-wide radium-impacted soils that exceed cleanup goals is being conducted under the TCRA mentioned under Operable Unit 3.

### **OPERABLE UNIT 4B**

**Current Status:** OU-4B consists of Site 17 (Seaplane Lagoon) and Site 24 (Piers 1 and 2 Sediments). The Final ROD for Site 17 was submitted in November 2006. The preferred alternative for contaminated sediment at Site 17 is dredging, dewatering, and disposal at a permitted off-site waste disposal facility. A combined Draft Remedial Design/Remedial Action Work Plan is expected to be submitted in September 2007. A Draft TCRA Memorandum and Draft Remedial Action Work Plan for the Site 17 debris piles is also scheduled for September 2007.

A Draft Final RI for Site 24 was issued in July 2007.

### **OPERABLE UNIT 4C**

**Current Status:** OU-4C consists of Site 20 (Oakland Inner Harbor), the offshore portion of Site 28 (Todd Shipyard), and 29 (Skeet Range). A Final Record of Decision recommending no further action for Site 29 was issued in October 2005. The offshore portion of Site 28 was integrated with Site 20. The Site 20 Final RI is expected to be issued in August 2007.

### **OPERABLE UNIT 5**

**Current Status:** OU-5 consists of the groundwater plume beneath portions of Site 25, Site 30, and Site 31 and adjacent FISCA areas (OU-5/IR02). The Draft ROD was issued in September 2006 and the Final is expected in August 2007. The preferred alternative for groundwater remediation for is biosparging with SVE, nutrient/microorganism enhancement, monitored natural attenuation, and institutional controls.

Site 25 is the former North Village Housing and Estuary Park. The Site 25 soil Draft ROD was issued in September 2006 and the Final ROD is expected in October 2007. In addition to the soil remedial excavation that was already conducted, the preferred alternative for soil is Institutional Controls.

### **OPERABLE UNIT 6**

**Current Status:** OU-6 consists of Site 26 (Western Hangar Zone), Site 27 (Dock Zone), and Site 28 (Todd Shipyard). The Final ROD for Site 26 was signed in August 2006. The selected remedy for Site 26 groundwater is active treatment at a VOC plume along with short-term ICs and monitoring. No action was deemed necessary for Site 26 soil.

The Navy is preparing the Record of Decision for Site 27 which is scheduled to be finalized in October 2007. The preferred alternative for groundwater remediation for Site 27 is active treatment for the site wide plume. No action was deemed necessary for Site 27 soil.

The Final ROD for Site 28 is expected to be issued September 2007. The preferred alternative for groundwater remediation is active treatment, ICs, and monitoring. The preferred alternative for soil remediation at Site 28 is excavation of soil to a depth of 2 feet in designated areas and ICs.

## NEWER SITES

**Current Status:** The Navy is currently preparing Site Inspection (SI) reports for transfer parcels EDC-12 and 17, and the FED parcels 1A, 2B, and 2C. Final SI reports for EDC-12 and EDC-17 are expected to be issued in September 2007. The Final SI for the FED parcels is expected in February 2008.

IR Site 30 (Woodstock Child Development Center and Island High School): This soil site is currently in the RI Addendum/Feasibility Study phase. The groundwater contamination beneath this site is addressed as part of the OU-5/IR02 groundwater remedial action.

IR Site 31 (Marina Village (Coast Guard Housing)): This soil site is currently in the RI phase. The groundwater contamination beneath this site is being addressed as part of the OU-5/IR02 groundwater remedial action.

IR Site 32 (Northwest Ordnance Storage Area): The final RI for Site 32 was submitted in April 2007. The focus is on groundwater contamination, primarily chlorinated hydrocarbons. The Draft FS for Site 32 was submitted in June 2007 and is undergoing regulatory review.

IR Site 33 (South Tarmac and Runway Wetlands): This site has been identified as a CERCLA site for the purposes of long-range Navy budget planning, but is still in the SI phase of investigation, as part of the FED transfer parcels. The decision to formally identify this site in the SMP will be made upon the completion of the FED SI report, based on a determination of whether significant human health and/or ecological risk exist at the site.

IR Site 34 (Former Northwest Shop Area): The RI is currently underway, following a second round of sampling in newly installed groundwater monitoring wells. The Draft RI for Site 34 will be submitted in August 2007.

IR Site 35 (Areas of Concern in Transfer Parcel EDC-5): The combined Final RI/FS was submitted in April 2007. The SMP schedule was previously following an accelerated timeline for the PP and ROD. However, given the slower than expected progress on early transfer, the schedule was adjusted to a more conventional schedule for the PP and ROD. A Draft PP was submitted in July 2007.

**ATTACHMENT B-5**

**SITE 13 TARRY REFINERY WASTE WORK PLAN PRESENTATION**

**(Thirteen Pages)**

# SCAPS Laser Induced Fluorescence Tarry Refinery Waste Investigation OU-2A SITES 9, 13, 22, AND 23



**Restoration Advisory Board Meeting  
Alameda Point, California  
August 2, 2007**

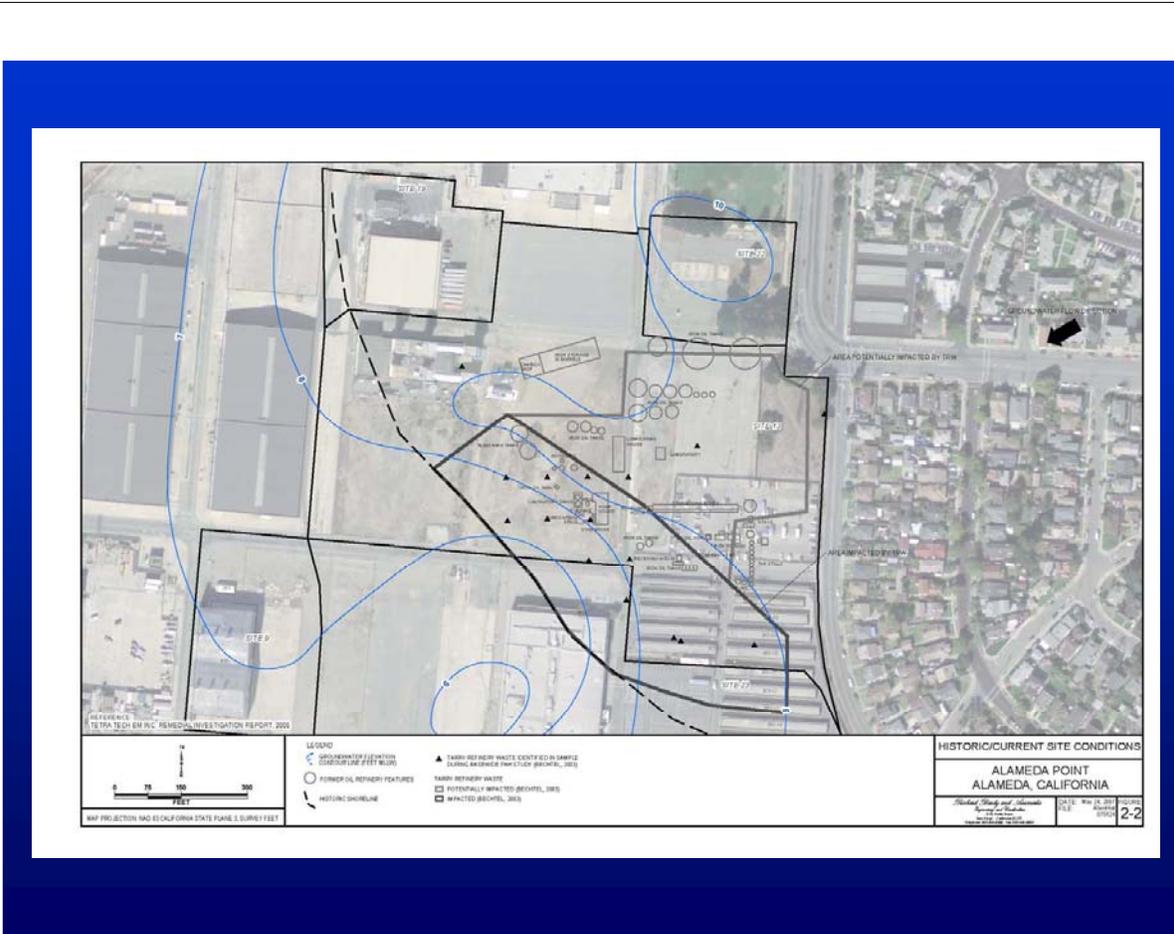
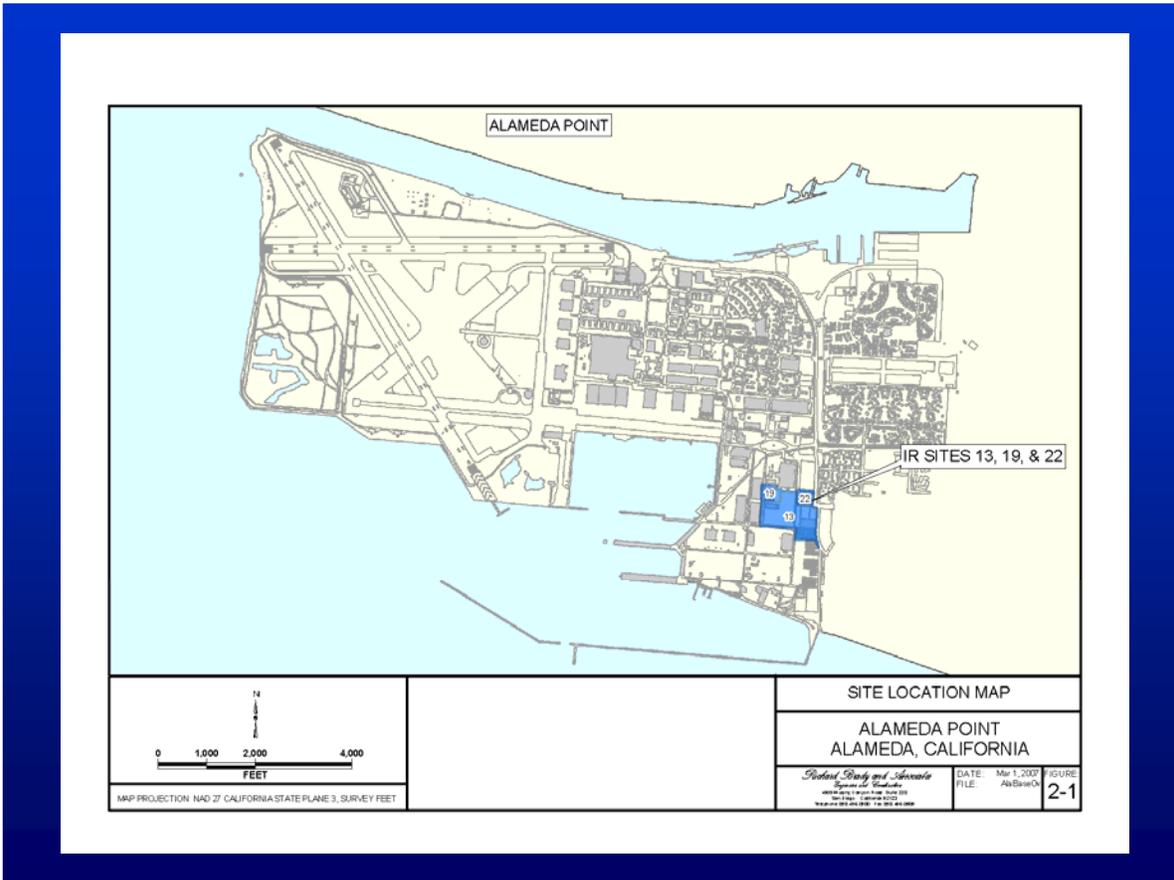
*Richard Brady & Associates*

*Engineering and Construction*

Timothy Shields and Donald McHugh  
(858) 496-0500

## *Former Oil Refinery Site History*

- Former Pacific Coast Oil Works Company Refinery in Operation from 1879 to 1903
- Refinery Occupied IR Sites 13, 19, 22, and 23
- Distilled Crude Oil to Kerosene and Fuel Oil
- Refinery Wastes Disposed of On-Site and Surrounding Former Tidal Lands
- 13 Previous Investigations and 5 Removal Actions to Date
- SCAPS LIF to Refine Conceptual Site Model and Optimize the Feasibility Study



## The Site Characterization and Analysis Penetrometer System



## SCAPS in Action

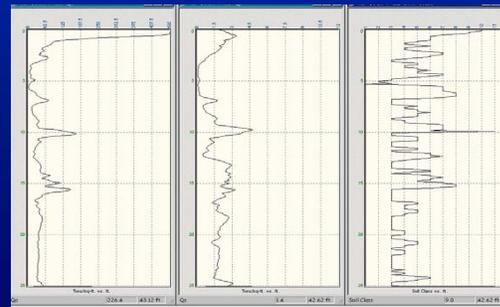
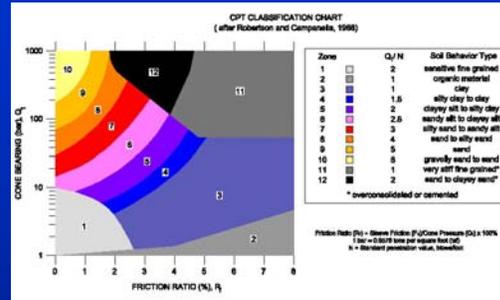
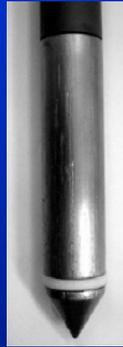


- Hydraulic rams grab the rod string and push it into the ground.
- The instrumented tool is at the bottom of the rod string.
- The investigator sees the data displayed immediately.



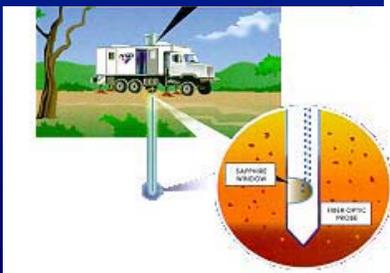
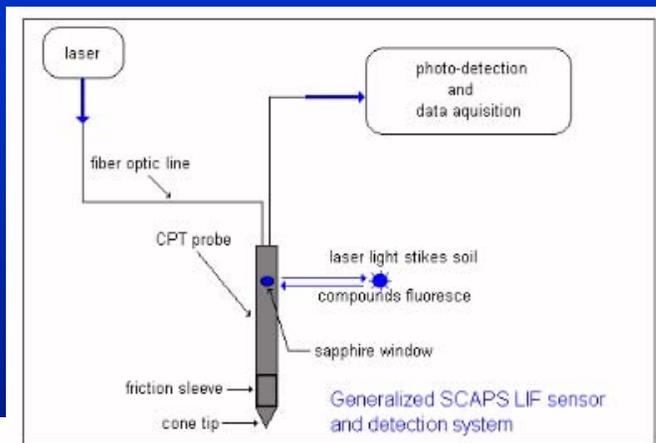
# Cone Penetrometer Test

- Standard Cone Penetrometer Test (CPT) tip resistance and sleeve friction data are collected according to ASTM standards
- CPT data is analyzed by on-board computer, and soil classifications are displayed in real time with the contaminant sensor data



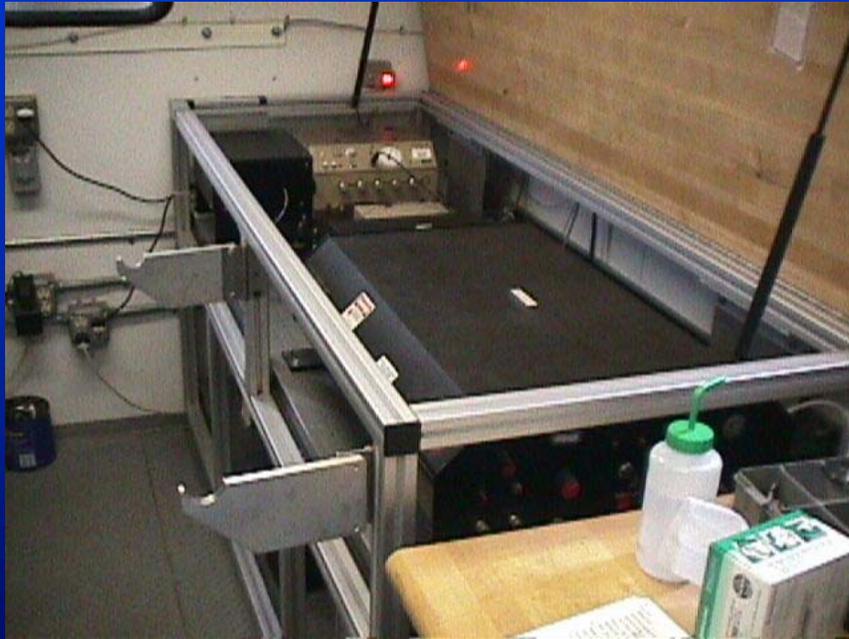
# Petroleum Hydrocarbon Assessment Using SCAPS Laser-Induced Fluorescence

- Laser Source: Ultraviolet (308 nm) Xenon Chloride Eximer laser
- Excites 2-ring and greater Polynuclear Aromatic Hydrocarbons (PAHs)



- LIF generally detects fuel concentrations greater than 100 ppm

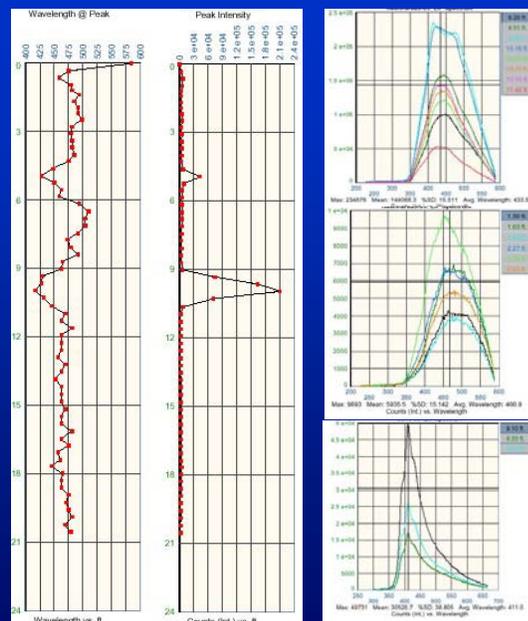
## XeCl Laser Ultraviolet Light Source



## LIF Data Interpretation

### Factors to Evaluate Fuel (PAH) Detection by LIF

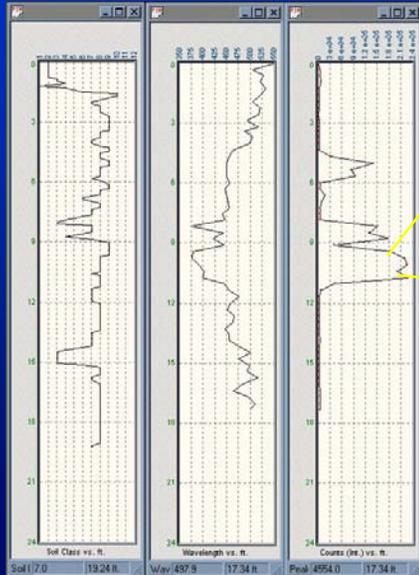
- Increase in Fluorescence Intensity
- Corresponding Change in Fluorescence Wavelength
- Spectral Curve Shape Consistent with Fuel or PAHs
- Significant Thickness of Interval
- Spatial Location Consistent with Expected Migration Patterns
- Comparison with Sample Analysis



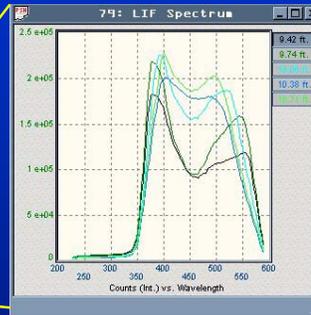
# "Confirmation" Sampling and Small Scale Subsurface Heterogeneity

LIF Profiles

Soil Wavelength Intensity

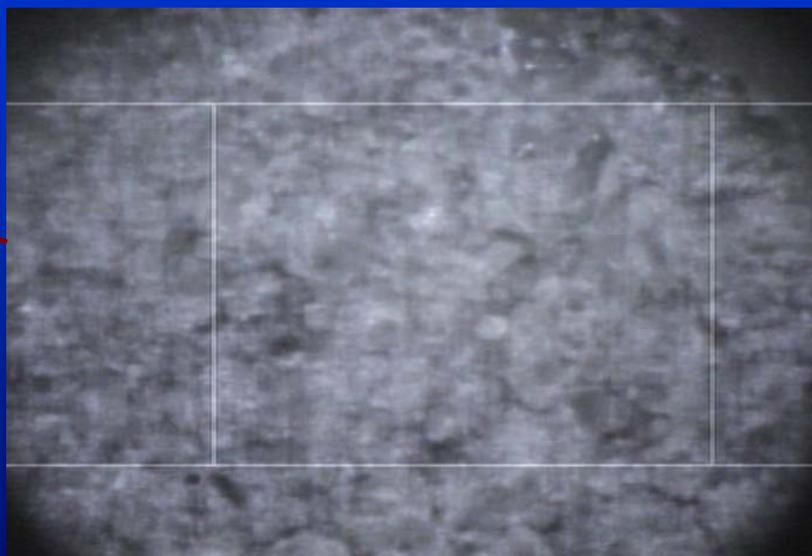
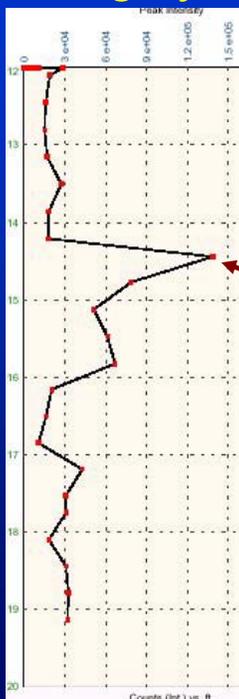


LIF Spectra



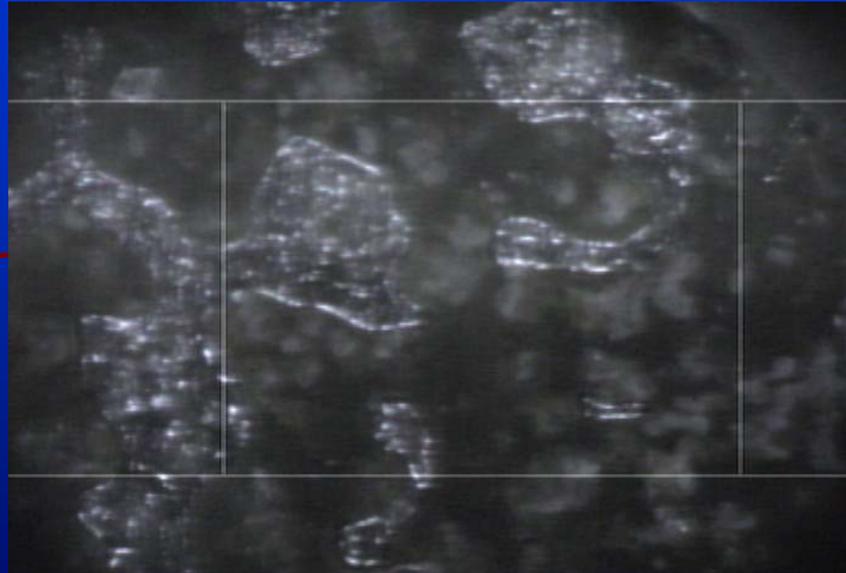
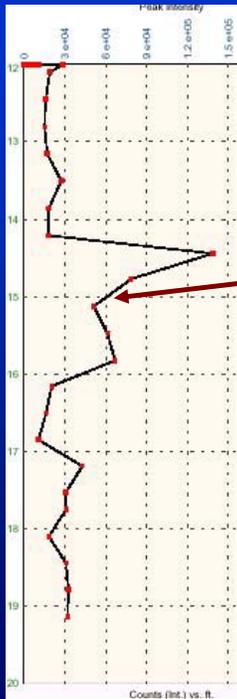
- LIF suggests free product
- TPH-gas = 953 mg/kg
- TPH-diesel = 2,920 mg/kg
- **Fuel saturation of 6-inch sample tube = 28.9 %**

# Fluorescence Requires Interpretation in Highly-Contaminated Unsaturated Sands



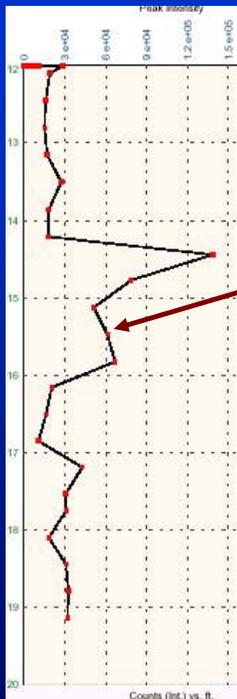
Blurriness is fuel smeared on probe window.

## First Indication of Saturation (Mix of Water, Fuel, and Gas Bubbles)



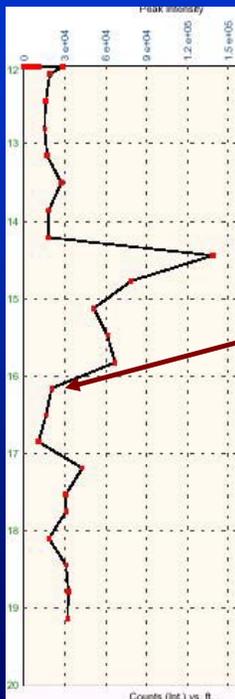
*Window has been cleaned by sand and water.*

## Fuel, Silty Water, and Gas Bubbles in Coarse Sand



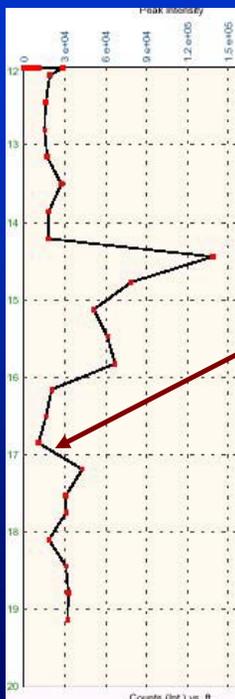
*Each SCAPS LIF data point is the average of 20 laser shots.*

## Fuel, Silty Water, and Gas Bubbles in Coarse Sand



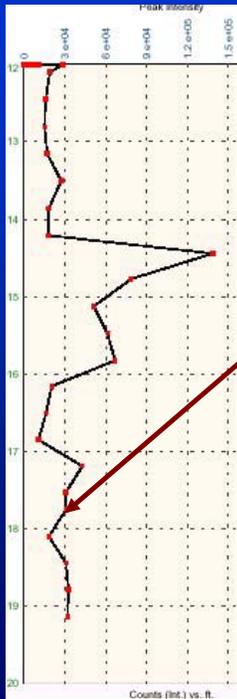
Fluorescence data is collected while probe is in motion.

## Fuel, Dirty Water, and Gas Bubbles in Coarse Sand



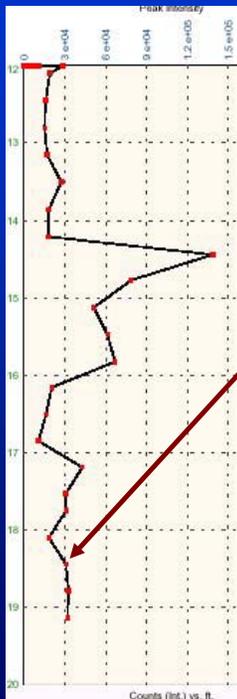
Fluorescence intensity in saturated sands may be controlled by laser beam hitting a fuel droplet.

## Fuel and Wet Fine Sand

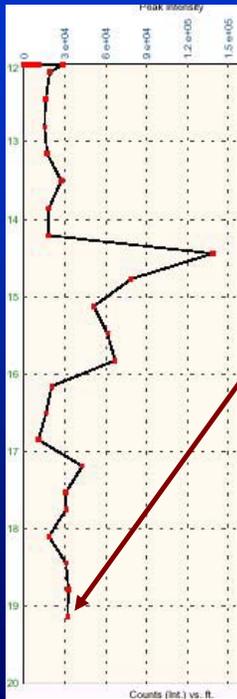


(Dry Angular Areas -- from Probe Pressure?)

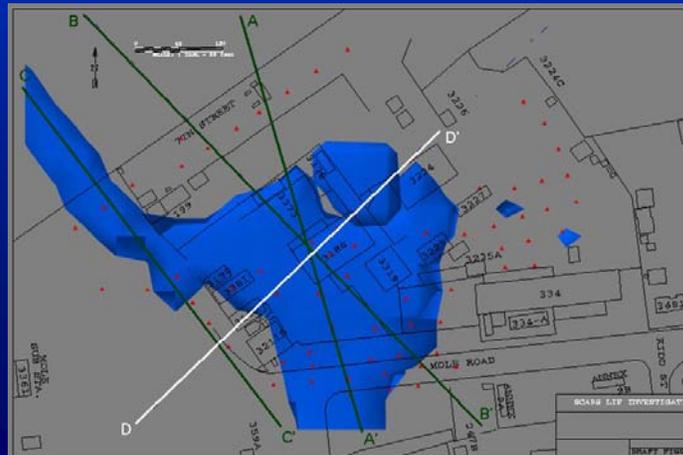
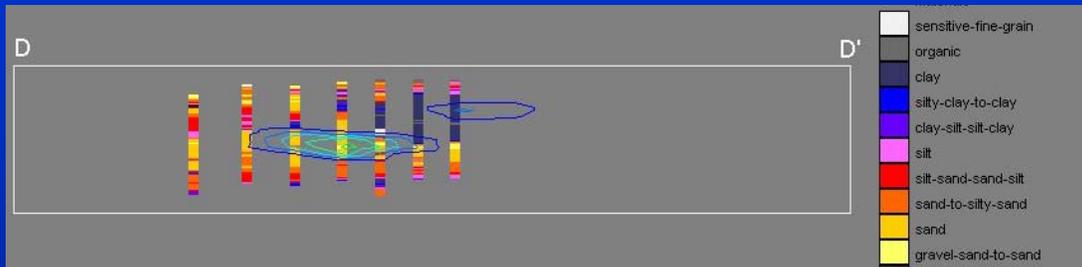
## Fuel and Saturated Fine Sand



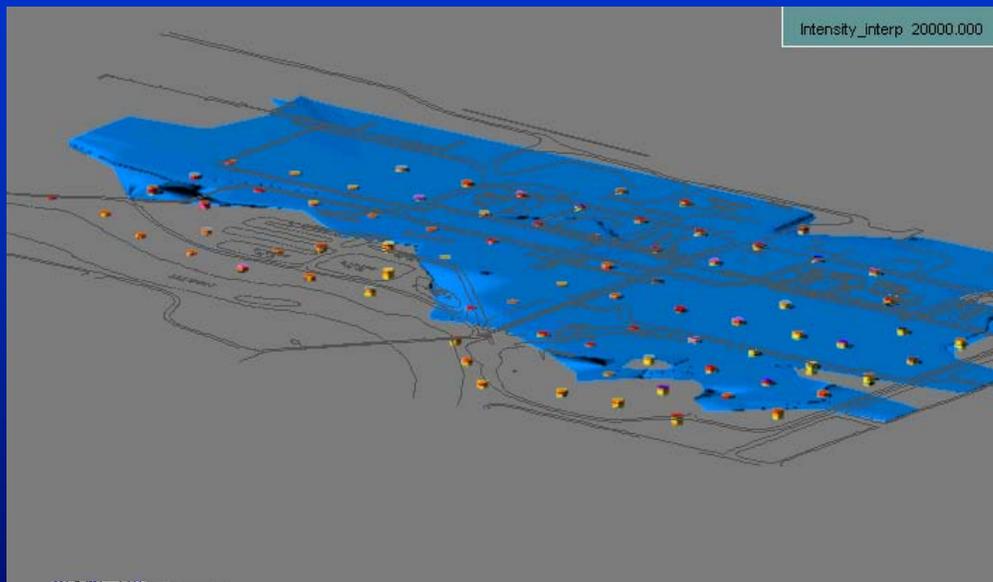
## Dark Fuel Corresponding to Rise in Wavelength to ~530 nm



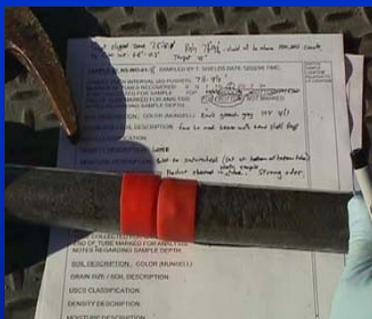
## Data Visualization



## Overall Fluorescence Intensity



## SCAPS Collects Samples to Corroborate Real-Time Sensor Data



- Soil Samples are Collected for Laboratory Analysis and Results Compared to LIF and CPT Data
- Groundwater Samples are Collected and Groundwater Elevations are Measured

## *Proposed Work at Former Oil Refinery Site*

- Up to 300 SCAPS LIF Push Locations to Delineate the Horizontal and Vertical Extent of Tarry Refinery Waste (TRW) in the Vicinity of the Former Oil Refinery (IR Site 13)
- LIF Data will be used to Refine the Conceptual Site Model and Optimize the Subsequent Feasibility Study
- Soil and/or TRW Matrix Samples will be Collected from a Minimum of 5% of the LIF Locations (*i.e.* 15 Samples) for Laboratory Analysis to Evaluate LIF Data Effectiveness

## *Proposed Work (continued)*

- Real-Time SCAPS LIF and CPT Data will be Transmitted Daily to the DQO Planning Team to Optimize the Investigation using Dynamic Work Strategies
- The DQO Planning Team will Optimize the Sampling Design to Add or Delete Investigative Points based on DQO Decision Rules and Real-Time Data
- 3-dimensional Visualization Software will be used to Refine the Conceptual Site Model while the SCAPS is in the Field



**ATTACHMENT B-6**

**MEETING NOTES FROM THE RAB FOCUS GROUP MEETING ON JULY 5, 2007**

**(Eight Pages)**

## RAB Focus Group Meeting

Thursday, July 5, 2007

6:30 pm, City Hall West

Attendees: Doug Biggs, Tony Dover, George Humphreys, Joan Konrad, Jim Leach, Frank Matarrese, Bert Morgan, Peter Russell, Dale Smith, Jean Sweeney, and Jim Sweeney.

### Introduction

The purpose of the meeting was to discuss the status of the Navy's cleanup efforts and whether there was anything we should be doing to contact various state and national political leaders and/or the public to expedite or change the direction of the cleanup. The RAB Focus Group identified four areas of particular concern because of the large quantities of wastes and the complexities of the areas. These were Site 1, Site 2, Site 25 and the OU-5 plume, and the OU-2B plume between the East Gate and the seaplane lagoon.

Doug Biggs, of the Housing Collaborative, had downloaded several documents from the internet relating to the application of the presumptive remedy to military landfills. He provided copies of these documents to the attendees. One of these is "Application of the CERCLA Municipal Landfill Presumptive Remedy to Military Landfills" EPA/540/F-96/020, dated December 1996. This is the document on which the Navy relies. However, upon perusal of the document, under characteristics of military landfills, it states..."some military facilities (e.g. ...major aircraft or equipment repair depots...there may be higher proportion of industrial (i.e. potentially hazardous) wastes present than at other less industrialized facilities." (emphasis added). Further, under "Sensitive environments", the document mentions that site-specific conditions such as the presence of high water tables, wetlands and other sensitive environments, and the possible destruction or alteration of existing habitats may limit the use of the presumptive remedy at military landfills. (emphasis added).

### Site 1-Dump Area

Councilman Frank Matarrese said that he intends to ask ARRA to reaffirm its position that the City will not accept an uncharacterized, unlined landfill. There has been a conversation between the City and EPA.

Dr. Peter Russell said that the City sent a letter to EPA asking that the seven waste cells be trenched to the water table. There would be two trenches in each of the seven waste cells. There would be no sampling unless they encounter intact drums. The practice of crushing drums did not start until after wastes were going to Site 2. EPA has put a hold on the Record of Decision (ROD). He feels that an item of important information is how much waste is actually there. He thinks it is two-thirds

of what the Navy says. The Navy has a figure of \$90 million to excavate and remove the material in the waste cells; whereas, the City thinks it should be more like \$40 or \$50 million. He thinks that trenching will happen within the next month or two. The burn area has water lapping on it. The Navy's estimate of 15,000 to 200,000 cu yd includes the material that went to the burn area.

Operated from 1943 to 1956. 7 waste cells, burn area, firing range berm, and seasonal wetlands. Time critical removal action of radium disposal pit outside waste cell area, firing range berm, and burn area. ROD proposes 4 ft soil cover and in-situ chemical oxidation of volatile organic compound plume.

Potential problems. Radium in cell area, unexploded ordnance, buried intact drums, public beach, exposed barges, burrowing animals (squirrels, skunks, rabbits and gophers), seismic damage to soil at edge of bay and to soil cover, intrusion of irrigation water into cells, wave damage to the shoreline, and lead shot carried ashore by storm waves.

Navy assumes municipal solid wastes and presumptive remedy of containment. However, not appropriate for sensitive environmental areas (S. F. Bay), where wastes are in contact with groundwater or where wastes are from aircraft maintenance facility. Also, proposed remedy is not containment, as sandy soil cover does not constitute a cap and there is no lateral containment.

## Site 2- Dump Area

Dr. Russell said he wasn't as familiar with this site because it wasn't going to be transferred to the City. However, he thought some trenching had been done at Site 2. Post meeting note ( The RI has a CD of trenching operation that shows 4 of 5 trenches being cut with a back hoe, but does not show location of trenches. Trenching apparently was done during wet season as water table was high and grass was lush. Wastes excavated not sampled, but limited samples of soil were taken along sides of excavated trench.)

Operated from 1956 to 1978. Landfill area 77 acres, wetlands area 33 acres (two lagoons, one connected to bay through a culvert). Time critical removal actions of radium storage shack, and spent munitions on the surface. Likely Navy proposed plan-2 ft of sandy soil cover and monitored natural attenuation of contaminant plume.

Potential problems are similar to Site 1, plus risk to wildlife refuge. Plume is already into lagoon area.

## Site 25 Soil and OU-5 Contaminated Plume under parts of Site 25, FISC Annex, Bayport and College of Alameda.

Soil in Site 25, Coast Guard Housing, had a time-critical removal action in which 2 ft of contaminated soil in two portions was replaced and re-sodded. There was no testing under buildings, roads, or around approx. 100 trees. An orange mesh was placed under the areas replaced and institutional controls were imposed to prevent people from digging deeper than 2 ft. This has already failed, as a citizen reported that someone removed one or more trees and the orange barrier material was strewn around the site. Also, grass sod hasn't been watered and is dead or dying, particularly in Estuary Park.

The contaminant plume comprised of benzene and naphthalene is located under portions of Coast Guard Housing, the school/childcare sites, the Marina Village Family Housing, the FISC Annex, Bay Port and the College of Alameda. The plume seems to be centered under Kollman Circle in the C. G. Housing area.

Problems. The plume is not completely defined. It appears to have higher concentrations with depth. Vapors are percolating upward through the soil and new duplexes in Bay Port are being constructed with a gravel layer and vapor barrier under the buildings. There was a large, fairly deep sanitary sewer main installed in an east-west direction in the Bay Port site that may provide a pathway for the plume to migrate. (This is distinct from the north-south storm sewer also in Bay Port/ Alameda Landing area.) There is also an area of discolored soil in the vicinity of Kollman Circle, which can be seen in historic aerial photos.

## OU-2B (located between East Gate and the Seaplane Lagoon).

This operable unit includes IR sites 3, 4, 11, and 21. There is a large, deep plume of volatile organics (VOC's) in this area, which is quite extensive. The calculated cancer and non-cancer risk from this plume is relatively high. In the same site, there are several deep plumes of heavy solvents under Building 360. It is planned to remediate these heavy liquids by using 6-phase heating. The heating may be a different process than that used in Building 5 because of utility lines crossing the area. The VOC plume may be emanating from the degradation of the dense solvents; however, the VOC plume should also be pumped and treated as it is probably flowing under the sheet pilings at the edge of the seaplane lagoon. It may also be forming a contamination layer in the seaplane lagoon that will be released by any dredging for the future ferry terminal. The OU-2B site also has several petroleum fuel corrective action areas, notably from former storage tanks in grassed oval. There also was a fire or explosion in an underground utility vault.

Post-Meeting Actions- Jim Leach wrote a letter to the editor of the Alameda Journal. This was incorporated into an article that appeared on July 24<sup>th</sup>. Also, Humphreys, Konrad and Leach attended the July 18<sup>th</sup> ARRA meeting.

**NOTES:**

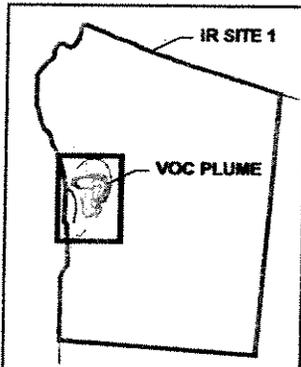
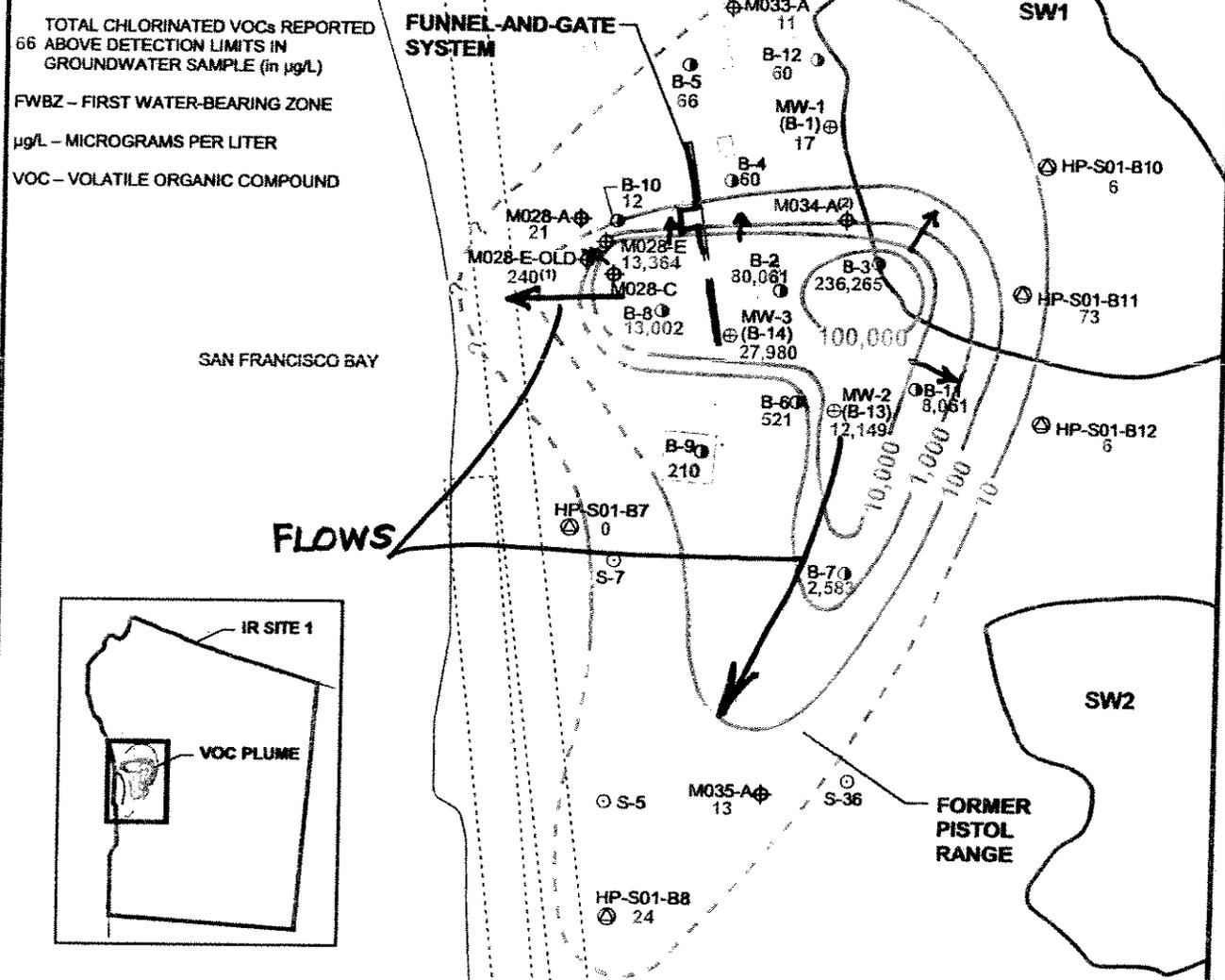
- (1) DATA IS FROM 1992
- (2) NOT CONSIDERED IN CONTOURING

TOTAL CHLORINATED VOCs REPORTED 66 ABOVE DETECTION LIMITS IN GROUNDWATER SAMPLE (in µg/L)

FWBZ – FIRST WATER-BEARING ZONE

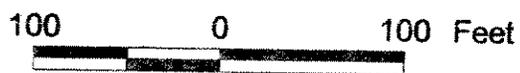
µg/L – MICROGRAMS PER LITER

VOC – VOLATILE ORGANIC COMPOUND



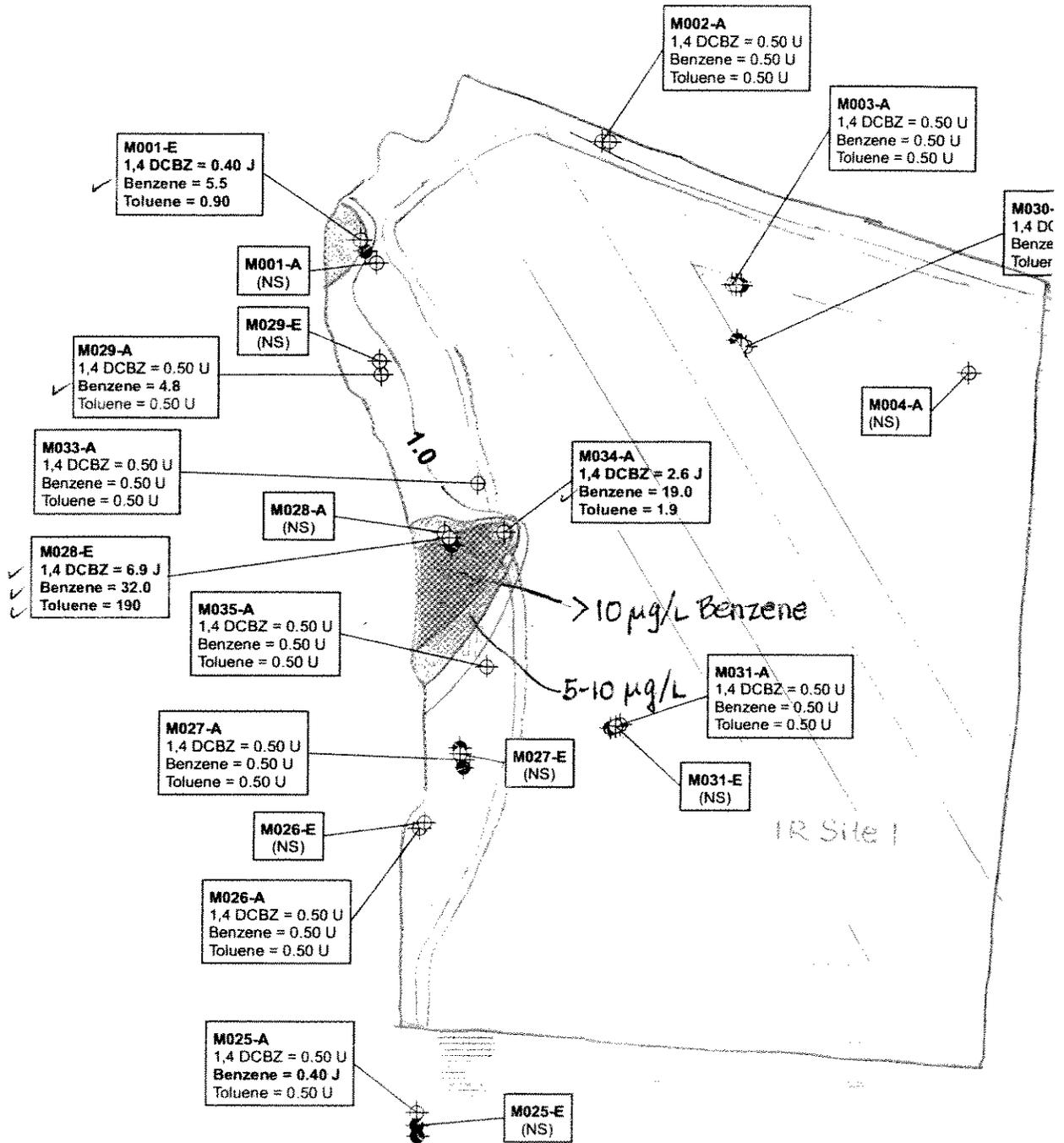
**LEGEND**

- ROAD OR RUNWAY
- BUILDING OR STRUCTURE
- WATER
- ~ APPROXIMATE SEASONAL WETLANDS BOUNDARY
- - - INTERPRETED EXTENT OF TOTAL CHLORINATED VOCs IN FWBZ (in µg/L) (DASHED WHERE INFERRED)
- - - INFERRED LOCATION OF SUNKEN BARGES
- ⊕ GROUNDWATER MONITORING WELL 2003
- ⊕ 1-INCH WATERLOO MONITORING WELL 1996
- MULTI LEVEL WATERLOO GROUNDWATER SAMPLING LOCATION 1996
- ⊙ HYDROPUNCH DISCRETE GROUNDWATER SAMPLING LOCATION 1999
- SOIL BORING DISCRETE GROUNDWATER SAMPLING LOCATION (LEAD ONLY)

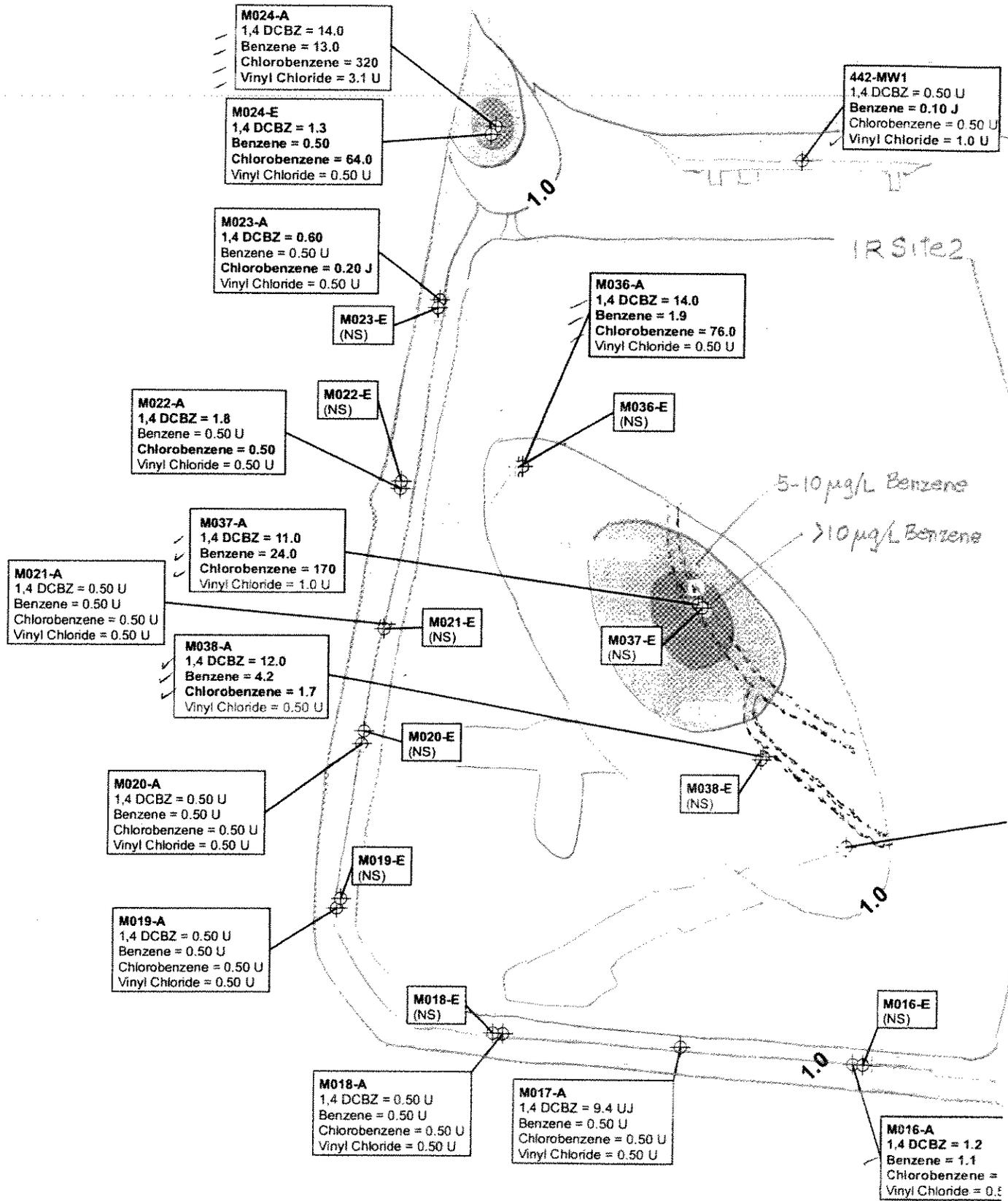


Revised Feasibility Study for IR Site 1 <b>Figure ES-5</b> Interpreted Extent of Total Chlorinated VOCs in FWBZ Groundwater	
Alameda, California	
 <b>Bechtel Environmental, Inc.</b> CLEAN 3 Program	Date: 5/3/05 File No.: 068V13698 Job No.: 23818-068 Rev No.: D

IR SITE 1  
PLUME 2005 FS

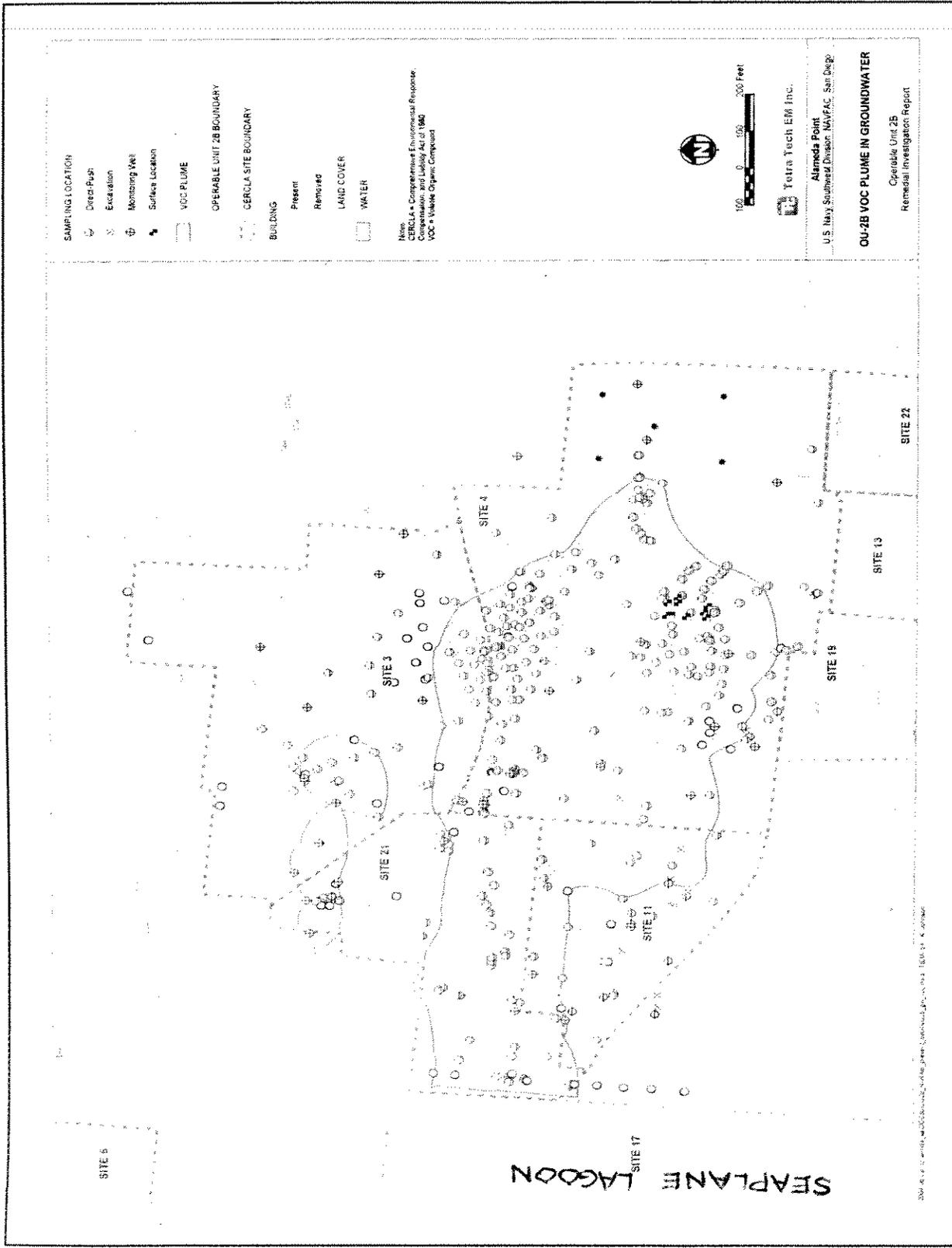


**FIGURE 3-4**  
IR SITES 1 AND 32  
GROUNDWATER DISTRIBUTION OF SELECTED  
AROMATIC HYDROCARBONS ABOVE CRITERIA  
SPRING 2006



**FIGURE 4-3**  
IR SITE 2  
GROUNDWATER DISTRIBUTION OF SELECTED  
VOLATILE ORGANIC HYDROCARBONS IN FWBZ WELLS  
SPRING 2006





**CANCER RISK  $6.8 \times 10^{-2}$**   
**NONCANCER HAZARD INDEX 342**

**OU-2B VOC PLUME**

DATE: 11/19/01, 11/20/01, 11/21/01, 11/22/01, 11/23/01, 11/24/01, 11/25/01, 11/26/01, 11/27/01, 11/28/01, 11/29/01, 11/30/01, 12/1/01, 12/2/01, 12/3/01, 12/4/01, 12/5/01, 12/6/01, 12/7/01, 12/8/01, 12/9/01, 12/10/01, 12/11/01, 12/12/01, 12/13/01, 12/14/01, 12/15/01, 12/16/01, 12/17/01, 12/18/01, 12/19/01, 12/20/01, 12/21/01, 12/22/01, 12/23/01, 12/24/01, 12/25/01, 12/26/01, 12/27/01, 12/28/01, 12/29/01, 12/30/01, 12/31/01

**ATTACHMENT B-7**

**LETTER FROM JAMES LEACH TO THE ALAMEDA CITY COUNCIL  
AND ARTICLE FROM JULY 24, 2007, *ALAMEDA JOURNAL* TITLED  
“CITY, NAVY TO ADDRESS POTENTIALLY TOXIC SITE,”**

**(Four Pages)**

To: The Alameda City Council, City Officials, and Fellow Citizens

Subject: Response to the Navy's Intended Closure Plan

For

## **INSTALLATION RESTORATION (IR) SITES 1**

### **ALAMEDA POINT**

My name is James Leach. I am a consulting Civil and Structural Engineer, President of my company, GLOBAL PERSPECTIVES, and a several year volunteer member of the Alameda Naval Air Station's Restoration Advisory Board (RAB).

I am here, appointed by the remaining non-agency members, to bring to your attention a matter of great concern to us. So great is our concern that we have made vigorous written rebuttal to the Navy's proposed plan for the closing of IR Site 1. We have also met to discuss the plan in depth; resulting in the consensus that brings me here before you as their representative.

IR Site 1 consists of 78 acres of land in the north-west corner of Alameda Point and between the airplane runway and the shoreline facing San Francisco. A place with spectacular views and magnificent potential for public use. It is also the location of the Naval Base's

landfill and waste disposal site from 1943 to 1956. It was the unregulated pit into which the Navy dumped anything and everything it didn't want, thus avoiding the expense and exposure of hauling the materials to an off-site public, regulated, landfill.

The waste disposal dump was created by excavating long, wide, trenches down to ground-water depth, and then covering the trash in the unlined trenches with previously excavated sandy soil. No inventory record was made of what went into the trenches. No high-level supervision was exercised; no procedure plan existed; no restrictions controlled what went into the landfill; it was indiscriminant and uncontrolled. From interviews with former employees at the base, and from the admissions of the Navy documents on the subject, it is known the many hazardous and toxic substances were disposed of in the land fill. There is convincing evidence that some of the materials were radioactive.

To the RAB Members "restoration" means to restore the site to, as near as possible, its original condition---clean, safe, and available for unrestricted use.

To the Navy and its Consultants, the word "remediation" is used to imply that the same objective will be achieved. They propose covering the site with four feet on non-engineered fill, and placing infinite-

term deed restrictions on the land, thus preventing most beneficial future uses.

We, the RAB Members, believe that, at a minimum, the landfill should be excavated so that its contents can be “characterized” and all toxic, hazardous, and environmentally sensitive materials be taken to environmentally controlled landfills designed for the appropriate containment of the materials discovered. True, this may be the most costly of the remediation alternatives, but we consider it to be long overdue payment for the cheap and easy method the Navy used to dispose of its unwanted materials during the 13 years of its expediency.

To allow “cover-it-up”, and “deed restrictions” as a solution for Navy release of the land is akin to a death sentence on the land.. It might as well be labeled a “grave yard”.

The RAB has made its case and documented it in writing. We are calling the issue to your attention. It is now up to you and the Alameda Citizens to form your own opinions and become vocal.

Thank you for your attention.

Tuesday, July 24, 2007

# City, Navy to address potentially toxic site

Former Air Station landfill may include radioactive materials, local engineer contends

By Alan Lopez  
STAFF WRITER

A landfill used for years by the Navy as a dump site for industrial waste is the subject of intense discussions.

Located on the northwest side of Alameda Point and called Installation Restoration Site 1, the landfill had been used for 13 years from 1943 to 1956. Anything and everything went in there, including solvents, oily waste and sludge, paint, thinners, industrial cleaners, acids, mercury and more.

According to a local civil and structural engineer, there's evidence that some of the materials were radioactive.

The Navy, in its work to clean up and restore hazardous waste sites at the former Naval Air Station, had recommended that the site be topped off with four feet of dirt.

However, the city, believing that the dump could contain hazardous industrial waste that eventually could leak into the environment, particularly San Francisco Bay, has protested the plan.

The navy has agreed to trench the site in an effort to discern what exactly is in the landfill and whether it includes "intact drums" of hazardous waste that eventually could pose an environmental hazard.

In a letter, James Leach, a citizen representative of a panel known as the Restoration Advisory Board that helps oversee the cleanup of hazardous waste sites at the former Naval Air Station, said covering up the site with dirt would prevent the area from being turned into a public use in the future.

At a minimum, the landfill should be excavated so its contents can be "characterized," said Leach, a civil and structural engineer, in his letter.

All toxic, hazardous and environmentally sensitive materials should be taken to "environmentally controlled" landfills designed for appropriate containment of the materials discovered, Leach's letter said.

"True, this may be the most costly of the remediation alter-

See LANDFILL, Page 6

## Landfill

FROM PAGE 1

natives," Leach's letter said, "but we consider it to be a long overdue payment for the cheap and easy method the Navy used to dispose of its unwanted materials during the 13 years of its expediency."

In agreeing to the trenching, the Navy is responding to the Environmental Protection Agency,

which received a separate letter from the city, complaining about the Navy's plan for the site.

In its letter to the EPA, dated June 25, the city argues there's "uncertainty" regarding whether large amounts of hazardous industrial wastes and intact drums — which may leak — are located there.

In addition, another, cheaper alternative for restoring the site has not been considered.

That option, according to the letter, consists of consolidating

the waste into a separate "properly designed" landfill on site.

The fate of the landfill won't be known until after the Navy completes the trenching of the site. When the trenching is completed in about two months, the "findings will inform the final cleanup remedy," according to a city report.

Reach Alan Lopez at  
510-748-1659 or e-mail  
alopez1@cctimes.com.