MEETING MINUTES
RESTORATION ADVISORY BOARD
NAVAL STATION TREASURE ISLAND
17 October 2006
Meeting Number 126

Community RAB Members in attendance:

Nathan Brennan	Dale Smith	

Regulatory Agency, City and Navy RAB Members in attendance:

James Sullivan (Navy)	Agnes Farres (Water Board)	David Rist (DTSC)

Other Agency, Navy Staff and Consultant Representatives in attendance:

Marcie Rash	Pete Bourgeois	Jim Whitcomb
Scott Anderson	Kristine Yager	
Pam Baur	Tommie Jean Damrel	

RAB Support from ITSI:

Arvind Acharya	Valerie Jensen, Court Reporter

Public Guests

Joanna Luddington	Marc McDonald	Reginald Hairston
D.W. Hughes		

Welcome Remarks and Introductions

James Sullivan (Base Realignment and Closure [BRAC] Environmental Coordinator) opened the 17 October 2006 meeting at 7:04 p.m. at the Casa de la Vista (Building 271).

Mr. Sullivan welcomed those in attendance, and stated that the meeting materials were mailed out about a week ago and pointed out that there were extra copies available at the back of the room. There were no changes or comments on the agenda so Mr. Sullivan moved directly to the next agenda item.

Public Comment and Announcements

Mr. Sullivan stated that there were two public comment periods included on the agenda to afford members of the public the opportunity to comment on the Navy's environmental program at Treasure Island (TI) and Yerba Buena Island (YBI). He added that the public is also welcome to comment during the meeting. There were no public comments or announcements so Mr. Sullivan moved directly to the next agenda item.

Field Activities Update

Mr. Sullivan introduced Pete Bourgeois, from Shaw Environmental & Infrastructure (Shaw E&I) to provide the update on the field activities. Mr. Bourgeois explained that Shaw is writing plans to do additional work at Site 21 (Youth Sailing Center) and Site 24 (former Dry Cleaning Facility at Building 99), the bioremediation areas. Shaw is also drafting plans for an arsenic in groundwater pilot study at Site 12 in the Building 1311 area.

On October 18th, Shaw will be continuing the data gap investigation at the Battery Site on Yerba Buena Island. Mr. Sullivan stated that Caltrans had discovered some buried dry cell

batteries during the replacement of a water line. Shaw conducted the investigation and excavation, and found that the batteries were confined to a concrete floor area with brick walls that looked like remnants of a basement. After the investigation Shaw took confirmation samples (between 0 to 2 feet) around the excavation site. Mr. Bourgeois presented a figure illustrating the locations of the confirmation samples and results indicating low levels of lead and benzo(a)pyrene.

After Shaw took the samples, Caltrans used the area to deposit soil for work they were doing on the new Bay Bridge. Caltrans since then has removed all the deposited soil and scraped down some of the original grade.

As a follow-up, Shaw is planning to take a few step-out samples to ensure that the activity by Caltrans has not impacted the area and that the area is now clean. The step-out samples will be surface samples and analyzed for lead and polycyclic aromatic hydrocarbons (PAHs). Mr. Bourgeois presented a figure illustrating the locations of the proposed samples. The sample results will be used to determine if there will be any future action at the site.

Mr. Sullivan then announced that field work at Sites 21, 24 and 12 is planned to start in January 2007, pending the review of plans by the Navy and other required agencies.

Site 12 Engineering Evaluation/Cost Evaluation (EE/CA)

Mr. Sullivan noted that the EE/CA document was released for public comment last week. An EE/CA fact sheet was distributed to the entire mailing list that included all of the residents on TI and YBI. Mr. Sullivan noted it was now an official comment period and there was a public meeting scheduled one week from today.

Next, he introduced Victor Early from Tetra Tech EM Inc. (Tetra Tech) to present an overview of the EE/CA. Mr. Early introduced himself as the project manager for the Site 12 EE/CA. Mr. Early reminded everyone that in June 2006 Tetra Tech gave a similar presentation on the Proposed Removal Action planned for this winter. He had extra copies of the EE/CA for those who did not receive it. He stated that tonight's presentation was just to describe the EE/CA process and what steps the Navy has completed in relation to the planned Removal Action.

A planned Non-Time Critical Removal Action is proposed for a portion of Site 12 (the housing area at the north end of the island) primarily in areas along the shoreline). Mr. Early presented figures illustrating the planned removal areas. Mr. Early stated that the previously excavated areas will not be addressed during this Removal Action.

Mr. Early stated that the Navy has collected soil samples in those areas, and the primary issues were lead, polychlorinated biphenyls (PCBs), dioxins, PAHs; and methane in one area (Solid Waste Disposal Areas A and B). Methane was probably being generated from decomposing waste.

Tetra Tech had completed a risk evaluation to determine if there was a risk based on the concentrations of these chemicals. Based on the sampling, they identified that most of the contamination occurs within the solid waste disposal areas. Outside of those areas, there were

scattered detections. The results illustrated that lead, PCBs, dioxin and PAHs were chemicals of concern within the solid waste disposal areas.

Tetra Tech had developed cleanup levels in conjunction with the regulatory agencies to determine whether it would pose a long-term risk. Those cleanup levels were then applied to define the boundaries of the solid waste disposal areas.

Mr. Early stated that the objective of the Removal Action was to reduce the potential risk for human contact with the chemical-contaminated soil under the current land and utility configuration. As a result, the prescribed cleanup levels include: lead as 400 milligrams per kilogram (mg/kg), PCBs as 1 mg/kg, PAHs as 0.62 mg/kg, and dioxin as 12 nanograms per kilogram (the ambient level). As a result, any area above those levels will get cleaned up; below that level, the soil can remain in place. If gross physical solid waste is found during the excavation, it would also be removed from the area.

Five alternatives were developed in the EE/CA. Currently, the Navy has not chosen which alternative to implement. Alternative 1 would be to excavate the soil within the solid waste disposal areas down to a depth of two feet, excluding the hardscape areas (i.e. concrete driveways and sidewalks). The Navy considers the concrete to be an effective long-term barrier to protect direct contact with the soil. The roadways would be excavated if they were in poor condition since the Navy would not consider that pavement to be an effective long-term barrier to direct contact. As a result, the removal action would include the soil beneath the roadways, the common areas and the backyards, and leave the soil beneath the hardscape in place. In addition, if there is a utility line within the area, the Navy would excavate six inches below that utility line, to a maximum depth of four feet, to be protective of the utility worker who might have to come in contact with existing soil to do maintenance on the utility. Alternative 2 is very similar to Alternative 1, except it would include the hardscape areas. Alternative 3 is similar to Alternative 1, which excluded the hardscape, except the Navy would excavate to a depth of four feet instead of two feet excluding the hardscape. Alternative 4 is similar to Alternative 2, which included the hardscape, except the Navy would excavate to a depth of four feet. Alternative 5 is to cap the entire site with concrete and have minimal excavation. The only excavation that would occur would be to clear and grub the surface to prepare the surface for placement of the concrete.

Mr. Early displayed a table that illustrated a comparative analysis between the five alternatives. He stated that there was considerable range in cost; the capping being the lowest cost and Alternative 4, which is the greatest area and the greatest depth, being the greatest cost.

Mr. Early reiterated Mr. Sullivan's earlier comment that the Navy is in the public comment period for the EE/CA, since it was issued last week. The public comment period ends November 11. Mr. Early stated that the next step would be to publish the Draft Action Memorandum. In the Action Memorandum, the Navy will propose the preferred alternative. The Final Action Memorandum would be completed in late January, and the field removal action work would start soon after.

In addition to the EE/CA a remedial investigation (RI) is also being completed at Site 12. The RI report is addressing the whole site, which includes the ecological, groundwater, and human

health risks throughout the site. The Action Memorandum will address the solid waste disposal areas only.

During the construction phase of the removal action there will be dust controls and monitoring for dust. The removal action work is planned to start in the winter when there will be less dust. Traffic controls and notifications to the residents and the public will occur before the construction starts. The Navy will do their best to prevent utility outages.

In addition, the Navy will be conducting radiological screening of the excavated materials. No radiological materials are expected to be found in the excavated materials, but the Navy is planning on screening the material for confirmation. Mr. Early asked if there were any questions.

Mr. McDonald asked if the community would notice that this project is going on. Mr. Early replied that the community will be aware of this project, since there will be additional truck traffic on the island, especially in the north end of the island. However, construction will occur only during the weekdays during normal work hours.

Ms. Smith asked if the comments made on the previous EE/CA were taken into consideration and were located in the document. Mr. Early replied that all comments made on the Pre-Draft EE/CA were reviewed and the EE/CA was changed to reflect these comments. Mr. Whitcomb stated that the response to comments on the Pre-Draft version will not be found in the EE/CA, but will be incorporated together in the Responsiveness Summary and put in the Action Memorandum.

Ms. Smith asked when looking at the radiological materials, will only specific radiological elements be screened or all radiological elements. Mr. Whitcomb replied based on the Historical Radiological Assessment (HRA), it was recommended that the excavated soils will be both screened in the field and sampled for confirmation laboratory radiological analysis. The soil screening will include using detectors capable of detecting gamma, beta and alpha emissions, but it does not identify any particular isotope. The screening and radiological laboratory analysis techniques are capable of identifying those isotopes that were used on the island.

Ms. Smith noted materials from the Leona Quarry was used in the process of constructing concrete structures, which contained high levels of thorium, which degrades to either radium 226 or 228. It was found in landfills as an emitter, as well as in pads that were used to construct buildings. Mr. Whitcomb replied that the screening workplan will cover the full radiological spectrum.

Mr. McDonald asked regarding the five alternatives if there will be levels of impact to the community. Mr. Early replied that the first two alternatives would involve a lot less soil volume; therefore there would be a lot less truck traffic and for a shorter duration. The second two alternatives include twice the volume of soil materials; therefore there would be twice the amount of truck traffic for a longer duration. Tetra Tech discussed the duration and impacts on the community in the EE/CA report and the differences between the alternatives.

Mr. McDonald asked if there will be any alternative that will have an impact, aside from truck traffic. Mr. Early responded, besides the truck traffic there will be additional noise and dust. The areas where the Navy will be working are going to be fenced off from the community; therefore the public will not have access to the work areas.

Mr. Sullivan then stated that a fact sheet was mailed out as the EE/CA was being produced. The fact sheet had a summary of the EE/CA document, along with information on the public meeting, which will occur on October 24, 2006, Tuesday, in the Casa, at 7 p.m. Viewable copies of the EE/CA document are available in two information repositories: the San Francisco Main Library and Building 1 in the Navy Caretaker Site Office (CSO). Additional copies can be made available, if specifically requested. Everyone was invited to come to the public meeting next week and/or to take part in the public comment period that will end on November 11.

Mr. Hairston asked when will the project start and has the project start date been finalized. Mr. Sullivan responded that there is no firm start date. Currently, the Navy is looking to start mobilizing equipment to the site towards the latter part of January and probably beginning work by the beginning of February. The schedule ultimately will be determined by the schedule to finish the EE/CA, collect all the comments, develop the Action Memorandum, and develop the actual construction work plans.

Mr. Sullivan reiterated that at next week's public meeting, there will be a poster session from 6-7 p.m. The posters and other information will be set up for people to come and talk to the Navy one-on-one, and then the formal meeting will start at 7 p.m. Mr. Sullivan also stated that he is planning to attend the community residents' monthly meeting tomorrow night to say a few words.

Draft Site 31 (Former South Storage Yard/School Playground)
Feasibility Study (FS) RAB Comments

Mr. Sullivan stated he was filling in for La Rae Landers, the Navy's lead remedial project manager who is also the project manager for Site 31. Presentations on Site 31 and both the RI and the FS reports were held in prior RAB meetings, therefore, Mr. Sullivan would not be presenting those reports. The Navy also produced a fact sheet on Site 31, which was mailed out recently.

He explained, as part of the CERCLA process, there is a RI, FS, Proposed Plan (PP), Record of Decision (ROD), and then finally a remedial action. In the case of Site 12, the RI has not been completed, but the decision has been made to take early action on this site. As a result, the Navy examined alternatives in the Engineering Evaluation.

No action is planned at this time at Site 31; therefore the regular CERCLA process is proceeding normally. The RI is complete, and now the Navy has analyzed the alternatives in the FS. The Draft FS examined five different alternatives for cleanup. The fact sheet briefly described the five alternatives. The Draft FS discussed each alternative in detail that ranged from no action to a combination of engineering controls (EC) and institutional controls (IC). The last three alternatives: Alternatives 3, 4 and 5 represent different ranges of excavation,

either including or excluding the pavement. Alternative 5 is the maximum alternative. This alternative is the complete removal of all of the identified debris areas in Site 31. This would result in no restrictions on future use of the property. All of the other alternatives would be a combination of some cleanup action, but would result in some continued restrictions on future use of the property. The Navy has not decided which alternative to implement at this time. The proposed alternative will be documented in a Proposed Plan (PP).

Mr. Sullivan stated the PP public meeting for two other sites, Sites 9 and 10 occurred earlier in the evening and the posters for those sites are in the back of the room.

Following the FS on Site 31, a PP will be prepared. The purpose of this agenda item was to provide an opportunity for the RAB members to comment on the Draft FS during the RAB meeting. The comment period for the Draft FS ends October 31st. Mr. Sullivan opened the floor to RAB comments.

Ms. Smith asked why the Navy chose on Executive Summary page 3 and elsewhere to change the risk nomenclature for the presentation of risk from 10^{-6}, as was used in previous documents, to 1×10^{-6}. There was some discussion over nomenclature for presenting risks, and Mr. Brennan stated that the "E" abbreviation, which is also sometimes used, is for Exponent. The Navy agreed to review the previous documents and to update the FS to be consistent.

Ms. Smith commented about the vagueness of the source of the landfill material (dredge material). She asked if the material came from the San Francisco Bay delta or from the bay or both. Mr. Brennan stated that the material is defined in sections 9 and 10 of the document.

Ms. Smith asked for the definition of a microwell. Mr. Anderson commented that a microwell is a small diameter well (approximately one-inch diameter casing) with a prepacked screen from the manufacturer. It is constructed the same way as the regular monitoring well except that it is installed with a direct-push rig instead of a hollow stem augur. Microwells are used more as temporary wells rather than for continuous monitoring.

Ms. Smith asked about the lead spread analysis and were there at-risk kids who are living at the site. She stated that the at-risk kids probably do not live in homes that everybody else lives in. As a result, does the lead spread take into consideration the possibility that they are exposed to lead in other parts of their lives, such as their home. Mr. Anderson was not able to answer Ms. Smith's concern about the lead spread analyses. Mr. Rist replied that he did not know if the lead spread model accounts for sources outside the home, but that it does account for what's in the soil, drinking water and produce, if it's grown at home. Ms. Smith asked if the lead spread analysis was just soil based and has nothing to do with a "built" environment. Mr. Rist responded, no.

Ms. Smith stated that the Navy was not taking into account the synergistic effects of these multiple chemicals. She is worried about the compartmentalizing of exposure to multiple chemicals. Mr. Anderson responded, as part of the RI process, the Navy evaluates the chemicals individually and cumulatively.

Ms. Smith stated that in Section 6, it is unclear what the Navy is sampling to determine the extent of remediation. Mr. Anderson stated that they will be taking bottom and side wall samples to confirm the lateral extent of the contamination.

According to Ms. Smith, Section 4 and Section 6 had a lot of errors in them, both typographical, spelling and syntax. The sections needed to be reviewed and cleaned up. Ms. Smith also stated at other Navy bases solutions are shown in a tabular form making it easier for the public to understand. Finally, Ms. Smith asked why the PRG for dioxin wasn't used as a remediation goal, as stated on Page 3-4, instead of 12 mg/kg. Mr. Anderson replied that the PRG was less than the ambient level; therefore the background ambient level will be used as the remediation goal at Treasure Island.

Mr. Sullivan opened the floor to any other questions or comments regarding the Site 31 FS. The public comment period is open to October 31st.

Draft Site 32 (Former Training and Storage Area)
Remedial Investigation Report (RI)

Mr. Sullivan introduced Scott Anderson who is the project manager for Site 32. Mr. Anderson in turn introduced Pam Baur with Sullivan Consulting Group who presented Sullivan/Tetra Tech's (SulTech's) overview of the site along with some findings. Mr. Anderson stated that the draft RI for Site 32 is scheduled to be submitted on October 20th. Ms. Baur stated that the RI followed the CERCLA process.

Site 32 is located on the northern corner near Site 12 (housing area), between the shore and the waste water treatment plant. Ms. Baur displayed an aerial photograph of the site. She pointed out the three structures that are still remaining at the site which are all unoccupied: Buildings 462, 463, and 445. It consists of approximately 2.6 acres, mostly parcels T111 and T115. The outside areas were used for parking of vehicles and forklifts, outdoor storage for hazardous materials and miscellaneous materials. A former tear gas training structure, the USS Pandemonium and other structures, were also located at the site. Building 462, the most northern structure, was used as offices and classrooms. Building 463, the odd-shaped building is where tear gas training was performed and Building 445, located at the southern end, was used for forklift maintenance, boat motor storage, general shop activities and administrative offices.

There were two investigations performed at the site. The initial investigation, the environmental base survey (EBS) data gaps investigation was performed during April and August of 2003 which included soil and groundwater sampling. Then dioxin trenching, which included only soil sampling occurred in November 2005. The chemicals detected in soil above the screening criteria for TI were total petroleum hydrocarbons (TPH), semivolatiles, PCBs, three pesticides, metals and dioxin. The chemicals that were detected in grab groundwater samples include total TPH and metals.

Site 32 is paved; therefore, there were no significant mobile ecological terrestrial habitats. Site 32 groundwater contaminants consisted of low level metals and TPH. SulTech concluded that there was no risk to the bay. This site will be included in the Tier 1 Screening Level

Ecological Risk Assessment (SLERA). The RI report will be updated once the SLERA is produced.

Both the Environmental Protection Agency (EPA) and Department of Toxic Substances Control (DTSC) guidelines were used to conduct the Baseline Human Health Risk Assessment (HHRA). It was based on soil and groundwater data from the two investigations.

The southern edge of Building 445 at Site 32 is used by Rubicon Landscaping, a contractor on the island that does landscaping services. SulTech did not evaluate the potential for this contractor to be exposed to contaminants since their area is currently paved and the pathway was incomplete.

Two methods were used in the selection of chemicals of potential concern for the Risk Assessment: Method 1(Navy and EPA based risk assessment method) and Method 2 (DTSC's preferred method). Method 1 uses an essential nutrient screen, frequency of detection, ambient background and risk based criteria screening. Method 2 includes an essential nutrient screen and the ambient background. The exposure assessment identified the complete exposure pathways for the commercial/industrial workers, adult and child residents, construction workers, and the recreational visitor. The exposure pathways were through dermal contact and ingestion of soil, inhalation of particulates and chemical vapors. For groundwater, the pathway was direct contact for the construction worker and the inhalation of chemical vapors for the other human receptors.

The risk characterization combined all the previous steps and the chemicals of potential concern (COPC) selection to estimate the potential cancer risk and the non-cancer adverse health effects. The risk management/cancer risk range was defined as 10^{-6} to 10^{-4}. The non-cancer hazard index was defined as a threshold of 1.

The current construction worker pathway was incomplete for exposure to soil, therefore that pathway was not evaluated. The cancer risks to the hypothetical future resident, commercial/industrial worker, construction worker, and the recreational visitor were all within the risk management range. The non-cancer hazard index for the future commercial/industrial worker was also below one, while the non-cancer hazard indices for the hypothetical future resident and construction worker were greater than one.

The dioxin toxicity equivalent (TEQ) was a cancer risk driver (Method 1) for the hypothetical future resident and commercial/industrial worker. Aroclor-1260 was a cancer and noncancer risk driver (Method 1) for the hypothetical future resident and a non-cancer risk (Method 1) driver for the future construction worker.

The dioxin TEQ and Aroclor-1260 were cancer risk drivers (Method 2) for a hypothetical future resident and commercial/industrial worker. Aroclor-1260 was also a cancer risk driver and noncancer risk driver (Method 2) along with arsenic as a cancer risk driver for the future construction worker. Benzo(a)pyrene was a cancer risk driver (Method 2) for the hypothetical future resident.

The blood-lead results, which predicts blood-lead concentrations for the hypothetical adult and child resident, were below 10 micrograms per deciliter and the exposure point concentration for lead was below the industrial PRG.

The conclusion at Site 32 is that the site has been characterized. Based on the human health and ecological assessments, soil and groundwater do not pose an unacceptable risk under current land conditions since the site is fenced and paved. For future use scenarios, however, the elevated risk is based on Aroclor-1260, which was a cancer risk driver and also a non-cancer hazard risk of greater than 1.

SulTech recommended that for future use scenarios, an FS needs to be completed with the assumptions that the fencing is removed and the soil covering will be demolished. Mr. Sullivan asked if there were any questions.

Mr. Brennan asked if the ecological risk of migration of groundwater to the bay has been investigated. Ms. Baur replied that it was investigated. SulTech considered groundwater, approaching the bay and terrestrial habitat at the site. Only low levels of chemicals, mostly metals were present in the grab groundwater samples. Mr. Brennan stated that the groundwater at the site flows to the Bay. Ms. Baur replied, although groundwater flows to the Bay, the groundwater samples were grab samples and contain sediments. Those contaminants found in the grab samples have a high affinity to adhere to the sediment particles which would not be mobile, therefore not migrating to the bay. Ms. Smith asked, if the contaminants found will be absorbed into the soil. Ms. Baur replied yes. Ms. Smith asked if the TPH would migrate. Ms. Baur stated, that low-level TPH detections were mostly the heaver hydrocarbons, diesel and motor oil, which have an affinity to adhere to soil particles.

Mr. Brennan asked if there was only one chemical of concern. Ms. Baur replied that Aroclor-1260 was the only chemical with a noncancer risk above the threshold of 1. The detected concentrations were limited to the upper 2-feet across the site between Building 455 and extending to Building 462 to the north. A figure in the RI report presents the Aroclor-1260 concentrations across the site.

Ms. Smith asked if Aroclor-1260 was migrating to the bay. Ms. Baur replied that Aroclor-1260 was not migrating because it was in the soil just below the pavement. Mr. Anderson added that the Aroclor-1260 detections were above the groundwater. Ms. Smith stated that she is concerned about access to the bay for these chemicals and if recent use of them produced the contamination. Mr. Anderson stated that the Navy will be evaluating Aroclor-1260 in shallow soils in the FS.

Ms. Smith stated that Site 32 is proposed to become a marsh and asked what is the Navy's plan for the asphalt at the site. Mr. Anderson replied, as part of the FS, the Navy will be evaluating various alternatives. One and/or more remedial alternatives will include the actual removal of the shallow soils that are contaminated with PCBs. For future use as a marsh, other chemical concentrations might become ecological concerns. Mr. Rist added that the site may be developed other than the current plan. An IC would limit the activities at the site, and would require the future property owner to take into consideration the site's present state, as well as addressing the remaining contamination as part of any future use.

Ms. Smith asked if the Navy decided to remove the shallow soil, would they need ICs or LUCs (Land Use Covenant). Mr. Rist replied if contamination was still left in place, then the Navy will assess the risk and determine whether or not a future remedy would be warranted as part of the transfer process in the form of an IC.

Mr. Sullivan asked if there were any other questions or comments. He also stated that the document has not been released yet, but it will be released the following week and that will be the start of the comment period for the Site 32 draft RI.

Mr. Hughes stated that all of these various proposals with evaluations are based on hypotheticals. A proposed land use plan exists for TI that has about an 80 % probability of being correct as of today. He questioned why that plan was not being used during the Navy's evaluations and assessments. For example, for Site 31, the architectural proposal is to have a green area around that whole school. Why is the Navy evaluating other alternatives in the FS? Mr. Sullivan replied at the stage the City is in now, the developer's proposal has not yet been approved by the Board of Supervisors. The Board of Supervisors only approved the Draft 1996 Reuse Plan. In order to provide a basis for the decisions and as agreed to between the Navy and the City, the Navy is evaluating the future land use using the 1996 Draft Reuse Plan, although in the case of the Site 31 FS, the Navy is still evaluating a full range of alternatives. Ms. Baur added that the human health risk for all the sites are being evaluated as the most conservative. The SLERA must be performed to account for ecological concerns.

Mr. Hughes stated that the proposed remedial action might be irrelevant depending on the plans that the City has for this island. He stated that there should be a concentration of effort on making the island completely safe for the residents here. The future use includes about six thousand housing units and hotels and so forth and in the interim all the existing residential units will still be inhabited.

Mr. Hughes asked if the alternatives will be completed in the next three to six years, and if new work needs to be completed, will the City have to pay for or redo the work. Mr. Sullivan replied that the Navy will still evaluate the range of alternatives accounting for all risks. If an alternative that was chosen does not completely remove the contaminants, then the site will still be protected by some engineering control in the form of pavement or some institutional control that might limit how the property is used. The future owner would have to account for those restrictions and, if necessary, make further modifications to the property to suit whatever the future use is. At the end, there is still a protection that may be either a combination of cleanup and controls or complete cleanup. The purpose of the RI is to fully characterize all the risks on the site.. Mr. Rist also stated that the City is a part of this process. Therefore, at all of the Navy's meetings the City is involved with us in terms of understanding the sites and planning for the remedial activities with the idea of what they're going to do in the future. The City has a full understanding of what the Navy is doing, what is planned and what the City's residual liability may be in the future. Since the future use is a moving target the Navy had to establish some baseline to work from which was the 1996 Reuse Plan.

Mr. Rist stated that the current reuse proposal changed numerous times within the last three years. When the Navy is done with their process, the redevelopment process will pick up from

that point. Mr. Brennan stated that the City and Navy, when they did the EIS and the EIR, both used the 1996 Reuse Plan.

Sites 9 and 10 Proposed Plan RAB Comments, and Preview of Site 33 (Waterline Replacement Area) Draft RI

Mr. Sullivan announced the next technical item was the Sites 9 and 10 PP. Mr. Anderson stated that a PP meeting for Sites 9 and 10 for the public to comment occurred earlier in the evening. The posters and extra copies of the PP were still available for viewing. The comment period ends October 31st. Mr. Anderson asked if there were any comments on the PP.

Ms. Smith asked if anyone attended the earlier meeting. Mr. Anderson stated that Nathan Brennan attended the meeting. Ms. Smith stated that she had no comments on the PP. Mr. Sullivan stated that extra copies of Dave Donohue's presentation at the public meeting were still available.

Mr. Anderson stated that another the Site 33 RI Report, Former Water Line Replacement Area, will be submitted this month on the 27th. Mr. Anderson replied the site is located near 4th Street and next to Site 24. Mr. Anderson stated, as part of the SEBS, the Navy determined there were two data gaps on the island: one of which was the observation of debris in the water line replacement trenches. As a result, as part of the SEBS data gaps investigation, the Navy investigated and took additional sampling to determine the extent of the contaminated areas, which is documented in the Site 33 RI. The RI report will be sent out in the next couple of weeks. Mr. Anderson asked if there are any questions. There were no questions.

Upcoming Documents and Field Schedule

Documents

Mr. Sullivan introduced Marcie Rash from TtEMI to provide an update on Documents and the Field Schedule. Ms. Rash reported the following schedule of document submittals:

1. Technical Memorandum for the Lake of the Nations footprint is expected to be finalized at the end of November;
2. Site 21 RI report is expected to be issued final on November 20;
3. Environmental Closeout Strategy and Schedule will be finalized by mid November;
4. Site 30 FS is expected to be issued final on November 22;
5. Tier 1 SLERA is expected to be issued final on December 28;
6. Site 31 FS report – agency review comments are due October 31;
7. Site 32 RI report will be submitted October 20, with comments due November 20;
8. Site 27 Lead Shot Field Screening Level White Paper is expected to be finalized October 18
9. Site 33 RI report is expected to be issued October 27, with review comments due November 27;
10. Site 12 Action Memorandum will be coming out in draft on December 13;
11. Fall/Winter 2006 Island Times Newsletter will be issued draft on November 13, with review comments due 2 weeks after;

12. Summary report of all the PCB sampling that occurred in the FOST and FOSET property will be coming out draft on October 27 with review comments due on November 27; and
13. Building 233 radiological survey report will be coming out draft on October 18 with review comments due on November 20.

Field Schedule

Ms. Rash reported the upcoming field activities for the next two months are as follows:

1. Site 12 Annual Groundwater Sampling to start on November 6;
2. Stepout Soil Confirmation Sampling at the Battery Site to start on October 17 and end on October 19; and
3. PCB indoor air sampling at Halyburton Court to finish at the end of November.

August 2006 Meeting Minutes

Mr. Sullivan opened the floor for discussion of the draft August meeting minutes. Mr. Brennan requested a change to the text on Page 9 of 11, in the second-to-last paragraph from "According to Mr. Brennan, the city will be in the red for this project until 2013." Mr. Brennan requested the change from city to developer. Ms. Smith requested a change on page 5 of 11 under "Draft Site 30 Daycare Center Feasibility Study RAB Comments," the third line should state, "Navy did receive comments from". Mr. Sullivan proposed a motion to accept the minutes with Mr. Brennan's and Ms. Smith's comment incorporated, and contingent on checking with the some of the other regular RAB members to see if they have additional comments. The August 2006 minutes were approved with those provisions.

Co-Chair Announcements

Mr. Sullivan stated that Alice Pilram, RAB Co-Chair was unable to attend the meeting. He stated unless there's other items, he will confirm the schedule for the December meeting.

BRAC Cleanup Team Update

Mr. Sullivan explained that the BCT meetings were still being held once a month, and two meetings occurred since the October RAB meeting. The September meeting reviewed Site 6 boundaries, the former firefighting school, as both a CERCLA and a petroleum site. A discussion concerning the solid waste disposal area boundaries in Site 12 also took place.

The October BCT meeting included a discussion regarding vapor intrusion modeling and how it related to the investigation reports for Site 12 (Halyburton Court area) and other sites. In addition, Mr. Sullivan stated that they discussed the Response to Comments on the Site 30 FS.

The next BCT meeting was scheduled for the first Tuesday on November 7.

Other Public Comment and Announcements

Nathan Brennan stated that the Citizen's Advisory Board (CAB) meeting was held the first of the month with TI Development Authority (TIDA), the development authority. They were provided with a presentation on the development plan and the term sheet. The City and its partners have been working on the development plan design that needs to be approved by the

Board of Supervisors, possibly in December. The development plan included transportation, housing, infrastructure, financing, and public hearing components.

Mr. Brennan stated that this level of information is provided on the City of San Francisco Web site. Mr. Brennan stated that the next meeting will make recommendations on the development and will take place on November 7th. Mr. Sullivan stated that there is a wealth of information on the TIDA Web site regarding the island's development.

Mr. Rist announced that he will be leaving the position of Department of Toxic Substances Control (DTSC) Project Manager for Treasure Island effective October 23. Mr. Sullivan publicly thanked David Rist. Mr. Rist indicated that his replacement has not been chosen yet.

Future Meeting Agenda Items

Mr. Sullivan opened the floor for future agenda items, adding that they would include whatever is topical if there were no suggestions. He reminded those in attendance that the next RAB conference call is scheduled for Wednesday, December 6.

Closing Remarks/End of Meeting

Mr. Sullivan stated the next RAB meeting is scheduled for December 19 and a holiday social from 6:00 to 7:00 p.m. will precede the next RAB meeting. The conference call is scheduled for December 6. The call-in number and participant code were included on the agenda. The next BCT meeting was scheduled for November 7. He then thanked everyone for attending and brought the meeting to a close. Mr. Sullivan adjourned the meeting at 8:47 p.m.

October 2006 Handouts

- Revised Engineering Evaluation/Cost Analysis, Solid Waste Disposal Areas, Site 12, Old Bunker Area
- Data Gaps Investigation of Battery Site at Yerba Buena Island
- Document Tracking Sheet
- Navy Field Schedule

Revised Engineering Evaluation/Cost Analysis Solid Waste Disposal Areas Site 12, Old Bunker Area

October 17, 2006
NAVSTA Treasure Island
RAB Meeting

Overview

1. Definition - Non-Time Critical Removal Action
2. Site Location and Removal Action Areas
3. Chemicals within Removal Action Areas
4. Identification of Removal Action Objectives (RAOs) and Action Levels
5. Removal Action Alternatives

Removal Action - Definitions

CERCLA and NCP Definitions:

- Cleanup or removal of hazardous substances from the environment
- Actions to monitor the release or threat of release of hazardous substances
- Actions to mitigate or prevent damage to the public health or welfare or to the environment

Removal Action Classification

Emergency Removal Action
Initiated within hours after a release or threat of release has been verified

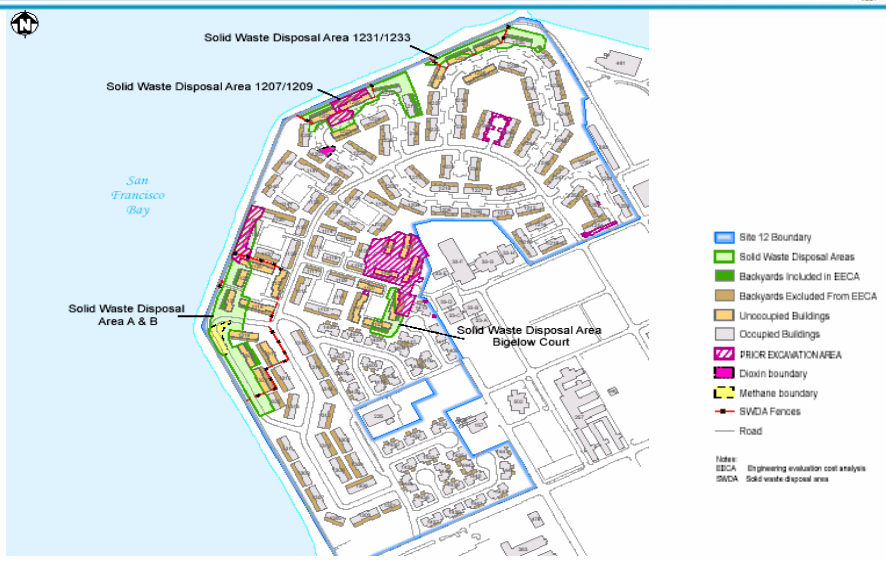
↓

Time Critical Removal Action (TCRA)
A period of 6 months or less exists before on-site removal activities must be initiated

↓

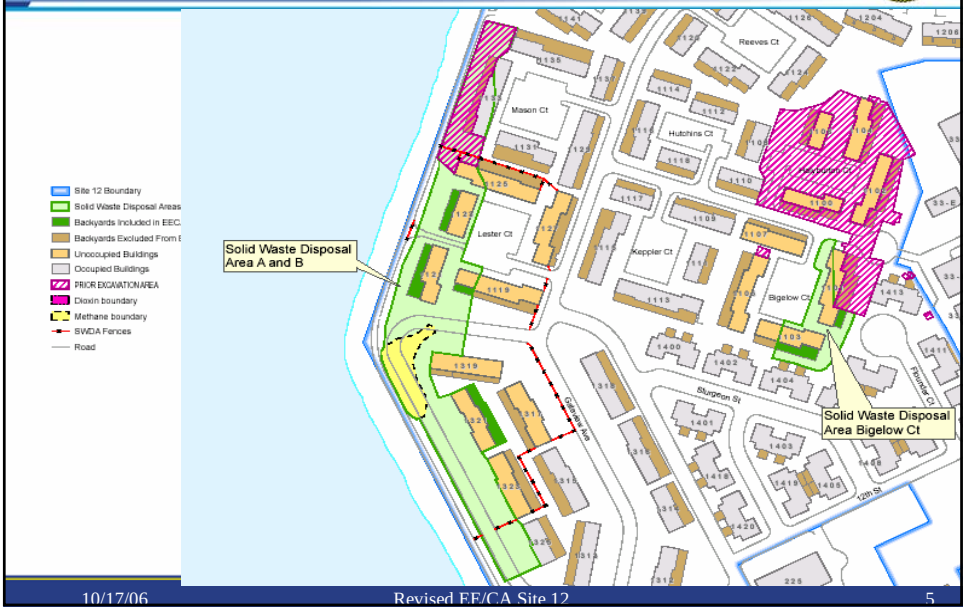
Non-Time Critical Removal Action (NTCRA)
On-site action can be taken more than 6 months after the planning period begins

Site 12 Features



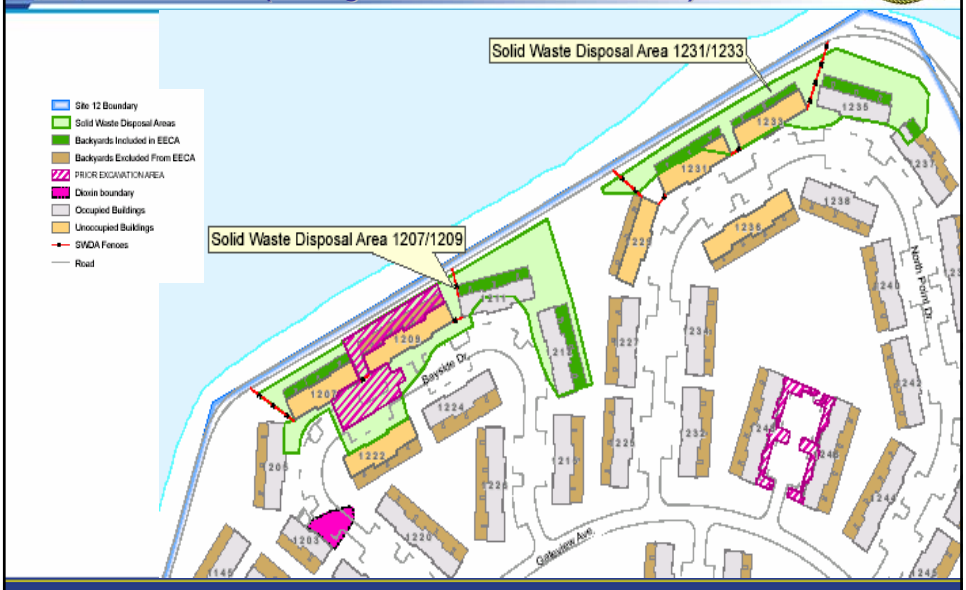
Removal Action Areas

(enlarged view of Site 12 slide)



Removal Action Areas (Cont'd)

(enlarged view of Site 12 slide)



What do the known SWDAs contain?

- Debris and waste material may be found in soil
- Primary Chemicals Of Concern
  - Lead
  - PCBs (used primarily in electrical equipment)
  - Dioxins
  - PAHs
- Methane appears to be present within an isolated area of SDWA A&B
  - Residual may be a result of decomposing material in the subsurface

Risk Evaluation

- Areas with highest concentrations of contamination have been located
  - Primarily within SWDAs
- Lead, PCBs, Dioxin, and PAHs in other areas were below site-specific cleanup levels
  - Cleanup levels developed with input from the BCT and regulatory agencies

Removal Action Objective (RAO)

Reduce the potential for human contact with chemical-contaminated soil within the Site 12 SWDAs under the current land use and utility configurations.

Removal Action Levels

(not to exceed for any sample)

Lead	EPA Region 9 residential risk-based PRG in soil = 400 mg/kg
PCBs	Site-specific criterion in soil = 1 mg/kg
PAHs	BAP equivalent concentration in soil = 0.62 mg/kg
Dioxin	NAVSTA TI ambient dioxin TEQ concentration in soil = 12 ng/kg

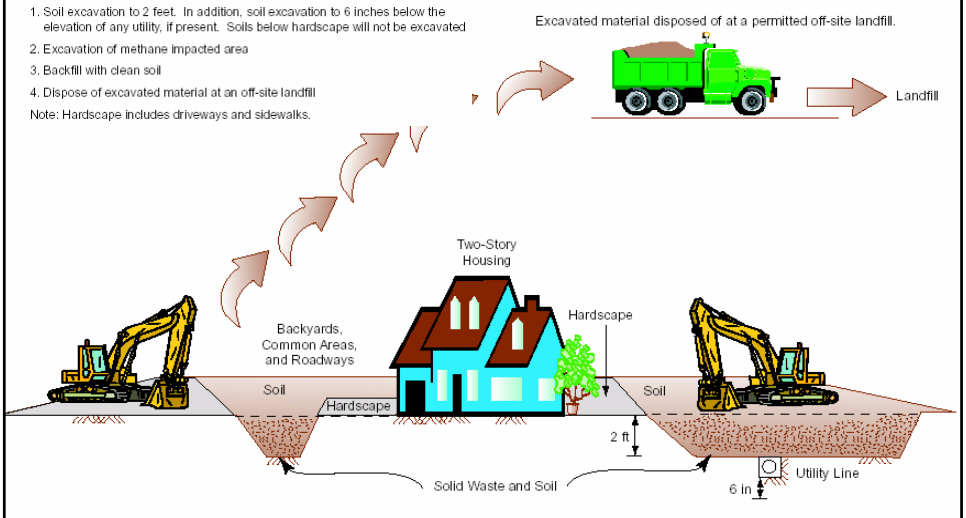
Solid waste-contaminated soil – visual observations will also be used to help direct solid waste removal

Alternative 1

(excluding hardscape)

1. Soil excavation to 2 feet. In addition, soil excavation to 6 inches below the elevation of any utility, if present. Soils below hardscape will not be excavated
2. Excavation of methane impacted area
3. Backfill with clean soil
4. Dispose of excavated material at an off-site landfill

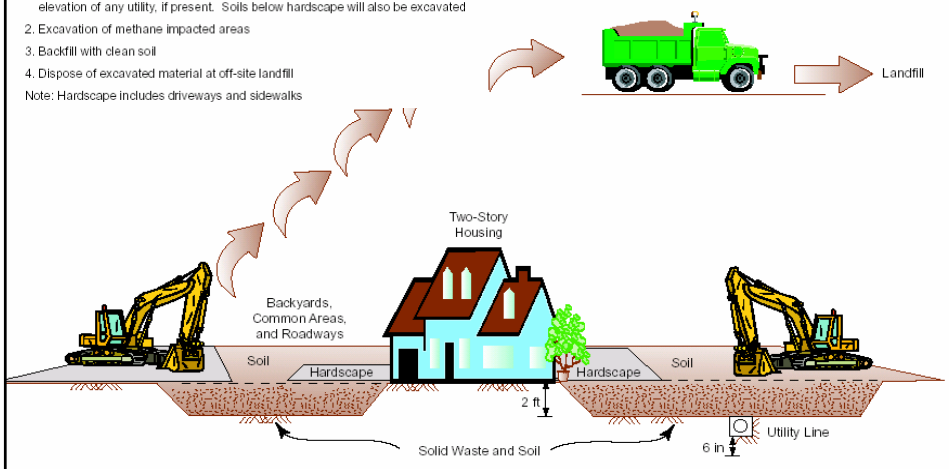
Note: Hardscape includes driveways and sidewalks.



Alternative 2
(including hardscape)

1. Soil excavation to 2 feet. In addition, soil excavation to 6 inches below the elevation of any utility, if present. Soils below hardscape will also be excavated
2. Excavation of methane impacted areas
3. Backfill with clean soil
4. Dispose of excavated material at off-site landfill

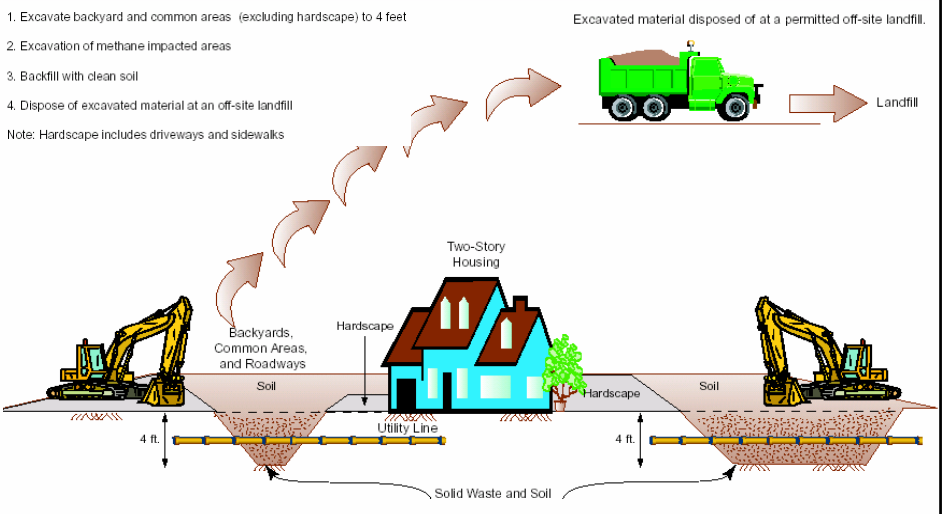
Note: Hardscape includes driveways and sidewalks



Alternative 3
(excluding hardscape)

1. Excavate backyard and common areas (excluding hardscape) to 4 feet
2. Excavation of methane impacted areas
3. Backfill with clean soil
4. Dispose of excavated material at an off-site landfill

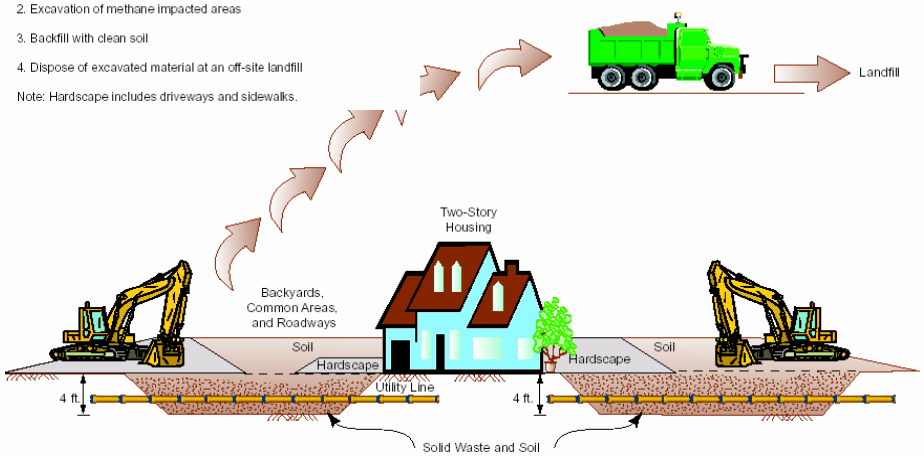
Note: Hardscape includes driveways and sidewalks



Alternative 4
(including hardscape)

1. Excavate backyard and common areas (including hardscape) to 4 feet.
2. Excavation of methane impacted areas
3. Backfill with clean soil
4. Dispose of excavated material at an off-site landfill

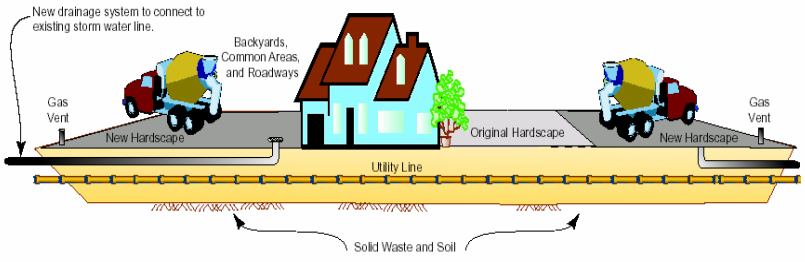
Note: Hardscape includes driveways and sidewalks.



Alternative 5
(capping)

1. Clear and grade surface to fill
2. Install drainage system and gas vents
3. Pave backyards and common areas with 4-inch, mesh-reinforced concrete slab on grade

Note: Hardscape includes driveways and sidewalks.



Alternative: Comparative Analysis

Alternative	Excavated Area (ft^2)	Estimated excavation Volume (CY)	Cost Opinion (millions)*
1	209,160	15,493	$7.3
2	228,126	16,898	$7.9
3	209,160	30,987	$11.2
4	228,126	33,796	$12.3
5	209,160	3,231	$3.6

* Costs were developed using means 2006 cost Indexes and vendor estimates

EE/CA and Removal Action Schedule

- 10/12/2006 – EE/CA 30 day public comment period through 11/11/2006
- 12/13/2006 - Draft Action Memo/Interim RAP 30 day public comment period through 1/12/2007
- 1/22/2007 - Final Action Memo/Interim RAP and Work Plans

Construction Health and Safety

- Dust controls and monitoring
- Traffic controls and notifications
- Utility Outage notifications and planning
- Radiological screening of excavated materials

Questions?

Draft
Remedial Investigation Report Installation Restoration Site 32 Former Training and Storage Area

October 17, 2006
NAVSTA Treasure Island
RAB Meeting

Outline

- Purpose of the Remedial Investigation (RI)
- Site History
- Investigation History and Results
- Ecological Risk Assessment
- Human Health Risk Assessment
- Conclusions
- Recommendations

Purpose

- The purpose of this remedial investigation (RI) as stated in U.S. Environmental Protection Agency (EPA) guidance under the Comprehensive, Environmental Response, Compensation, and Liability Act (CERCLA) is to:
  - "serve as the mechanism for collecting data to characterize site conditions, determine the nature of the waste, and assess risk to human health and the environment"
- If determined necessary during the RI, the results will be used to "evaluate the potential performance and cost of treatment technologies" in a Feasibility Study (FS).

Site 32 Location

Site 32 Aerial Photograph

Site 32 History

- Approximately 2.6 acres consisting of portions of Parcels T111 and T115
- Parking area for vehicles and forklifts, outdoor storage for hazardous materials, hazardous waste, and miscellaneous materials
- Tear gas training area and a storage area for former training structures (two steel training mock-ups and the *USS Pandemonium* vessel
- Three vacant structures remain at Site 32
  - •Building 462—Administrative offices and classrooms
  - •Building 463—Tear gas training exercises
  - •Building 445—Forklift maintenance, boat motor storage, general shop activities, and administrative offices

Site 32 Investigative History

- EBS Data Gaps
  - Initial soil borings advanced April 2003 (soil and grab groundwater sampling)
  - Step out soil borings advanced August 2003 (soil and grab groundwater sampling)
- Dioxin Trenching
  - Trenching in November 2005 (soil sampling)

Site 32 Soil Results

- Chemicals detected in soil above field screening criteria and ambient levels (where applicable) included:
  - TPH (diesel and motor oil)
  - SVOCs (benzo(a)pyrene)
  - PCBs (Aroclor-1260)
  - Pesticides (DDD,DDT, and heptachlor epoxide)
  - Metals (lead)
  - Dioxin TEQ

Site 32 Groundwater Results

- Chemicals detected in grab groundwater above field screening criteria and ambient levels (where applicable) included:
  - Total TPH
  - Metals (arsenic, barium, chromium, cobalt, copper, lead, mercury, nickel, silver, vanadium, and zinc)

Screening Level Ecological Risk Assessment

- Because the majority of the site is covered by asphalt, no significant mobile terrestrial habitat exists. Mobile terrestrial receptors were not evaluated because exposure pathways are incomplete. A Basewide Tier 1 screening-level ecological risk assessment (SLERA) is currently in progress.
- SLERA for the RI focused on groundwater chemicals, which have the potential to migrate and may impact aquatic receptors in the Bay.
  - Although chemicals of potential ecological concern were identified in groundwater they were determined to be the result of suspended soil particulates in the grab groundwater samples and not considered mobile and therefore would not migrate to the Bay.
- Conclusion: groundwater at Site 32 does not pose an unacceptable risk to aquatic receptors offshore of TI.

Human Health Risk Assessment

- Conducted baseline human health risk assessment (HHRA) to estimate potential lifetime cancer risks and adverse noncancer health effects associated with site-related activities at Site 32.
- Methods are consistent with EPA and DTSC guidelines and Navy policy.
- HHRA is based on soil and groundwater data collected from 2003 to 2004.
- Evaluated hypothetical reuse scenarios. The exposure pathway is incomplete for current commercial workers (Rubicon Landscaping)

COPC Selection Methodology

- Identify detected chemicals of potential concern (COPC) that are most likely associated with site-related health risks:
  - Method 1 (Navy / EPA based)
    - Essential nutrient screen
    - Frequency of detection screen
    - Ambient background screen
    - Risk-based criteria screen
  - Method 2 (DTSC preferred)
    - Essential nutrient screen
    - Ambient background screen

Exposure Assessment

- Identify most likely exposed human receptors and complete exposure pathways
  - Potentially exposed human receptors
    - Commercial/industrial worker
    - Adult/child residents
    - Construction worker (also protective of utility workers)
    - Recreational visitor
  - Exposure Pathways
    - Soil – surface soil (0 to 2 feet below ground surface [bgs]), combined surface and subsurface soil (0 feet bgs to groundwater)
      - Dermal contact
      - Incidental ingestion of soil
      - Inhalation of particulates
      - Inhalation of chemical vapors
    - Groundwater
      - Dermal contact (construction workers only)
      - Inhalation of chemical vapors

Risk Characterization

- Combines previous steps; COPC selection, Exposure Assessment, and Toxicity Assessment to estimate potential cancer risks and noncancer adverse health effects:
  - $1x10^{-6}$ to $1x10^{-4}$ cancer risk management range
  - Noncancer hazard index (HI) threshold of 1

Results of HHRA

- The pathway for current construction workers is incomplete and therefore was not evaluated.
- Cancer risks to hypothetical future residents, commercial/ industrial workers, construction workers, and recreational visitors are below or within the risk management range ($1x10^{-6}$ to $1x10^{-4}$).
- Noncancer HIs for hypothetical future commercial/ industrial workers are below 1.
- Noncancer HIs for hypothetical future residents and construction workers are greater than 1.

Results of HHRA (Continued)

- Dioxin toxic equivalent (TEQ) was identified as a cancer risk driver for the hypothetical future residents and commercial/ industrial worker (Method 1).
- Aroclor-1260 was identified as a cancer and noncancer risk driver for the hypothetical future resident (Method 1).
- Aroclor-1260 was identified as a noncancer risk driver for the construction worker (Method 1).
- Dioxin TEQ was identified as a cancer risk driver for the hypothetical future resident and commercial/ industrial worker (Method 2).
- Aroclor-1260 was identified as cancer risk driver for the hypothetical future resident, commercial/industrial worker, and construction worker (Method 2).
- Aroclor-1260 was identified as a noncancer risk driver for the hypothetical future resident and construction worker (Method 2).
- Benzo(a)pyrene was identified as a cancer risk driver for the hypothetical future resident (Method 2).
- Arsenic was identified as a cancer risk driver for the hypothetical future construction worker (Method 2).

Results of HHRA (Continued)

- Predicted blood-lead concentrations of the hypothetical adult and child resident are below 10 µg/dl.
- The exposure point concentration (EPC) for lead was below the industrial soil preliminary remediation goal (PRG).

Conclusions

- The nature and extent of contamination at Site 32 has been characterized.
- Based on the results of the human health and ecological risk assessments, soil and groundwater do not pose an unacceptable risk under current land use conditions.
- For future use scenarios, the elevated risk is based on the following chemical of concern:
  - Aroclor-1260

Recommendations

- A Feasibility Study should be conducted to evaluate remedial alternatives that would ensure protection of human health if the current soil covering is demolished and the area is developed for residential use or accessed for construction activities.

Questions ??

PROPOSED PLAN

INSTALLATION RESTORATION
SITE 09 - FORMER FOUNDRY
SITE 10 - FORMER BUS PAINTING SHOP

FORMER NAVAL STATION
TREASURE ISLAND
SAN FRANCISCO, CALIFORNIA

Public Meeting
October 17, 2006

PRESENTATION OUTLINE

- ENVIRONMENTAL PROGRAM
- SITE BACKGROUND
- SITE INVESTIGATIONS
- HUMAN HEALTH AND ECOLOGICAL RISK ASSESSMENTS
- CONCLUSIONS

ENVIRONMENTAL PROGRAM

- **1980** – Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)
- **1981** – Department of the Navy Installation Restoration (IR) Program
- **1987** – Former Naval Station Treasure Island IR Program
  - Basewide Preliminary Assessment/Site Investigation completed
  - 33 IR Sites currently identified
- **1992** – Federal Facilities Site Remediation Agreement (FFSRA)

CERCLA PROCESS

- **Preliminary Assessment/Site Investigation** – A review of existing information to determine if a release may require additional investigation or action
- **Remedial Investigation** – Assessment of the nature and extent of contamination and the associated health and environmental risk
- **Feasibility Study** – Development and evaluation of remedial alternatives
- **Proposed Plan** – Explanation of cleanup method likely to be chosen; allows for public comment
- **Record of Decision** – The official report documenting the background information on the site; describes the chosen cleanup method and how it was selected

CLEAN-UP PARTNERS

- **Federal Facility Site Remediation Agreement Members**
  - Department of the Navy
  - California Environmental Protection Agency (Cal EPA) Department of Toxic Substances Control
  - Cal EPA Regional Water Quality Control Board
- **Other Federal and State Regulatory Agencies**
  - United States Environmental Protection Agency
  - United States Fish and Wildlife Service
  - California Department of Fish and Game
  - National Oceanic and Atmospheric Administration
- **The Public**
  - Restoration Advisory Board
  - City of San Francisco

BACKGROUND

- Treasure Island (TI) resides within the City and County of San Francisco.
- TI was built in 1936 and 1937 and was used initially for the Golden Gate International Exposition in 1939.
- TI was leased to the Navy in 1941. The Navy gained title to TI in 1943.
- Naval operations were shut down in 1997. Reuse of the property is currently coordinated by the City of San Francisco.

BACKGROUND

- There are 33 IR sites at TI that have been, or are currently, under investigation as part of the CERCLA process.
- The purpose of the Sites 09 and 10 CERCLA investigations were to evaluate potential risk to human health and the environment from contamination associated with these sites.

FUTURE SITE REUSE

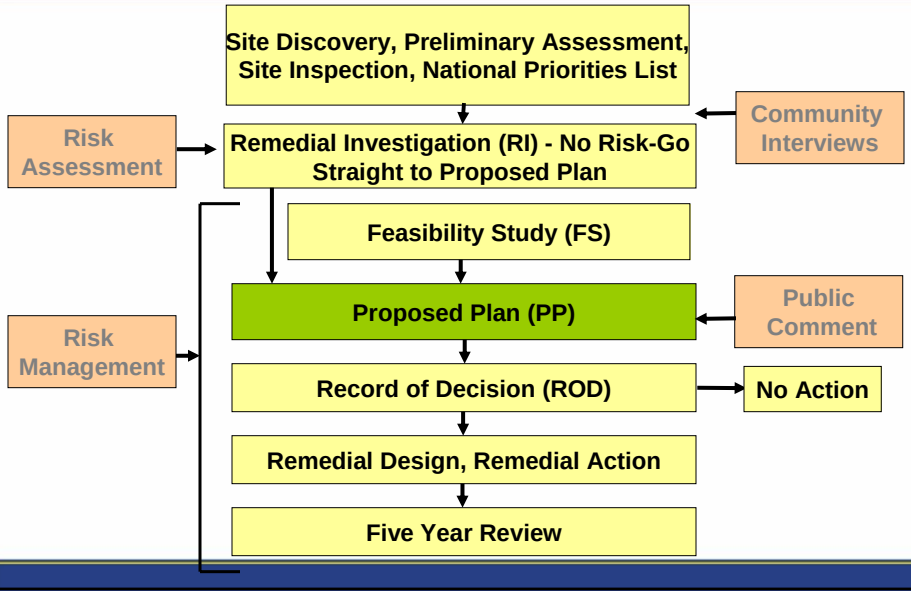
- Based on Draft 1996 Reuse Plan (City and County of San Francisco [CCSF] 1996)
  - **Site 09** area is designated as a “Film Production/Conference Center.” This includes land that could be used for “publicly-oriented recreation/cultural/entertainment” and specifically as a film/events district.
  - **Site 10** area is designated as “Residential/Open Space/Publicly Oriented Uses." This includes land designated for institutional use, specifically as a public facilities district.

INVESTIGATION HISTORY

- 1988
- 1992-1996
- 1995, 1996, 1999
- 2002
- 1995-2001

- Preliminary Assessment/Site Inspection at Site 09
- Phase I, Phase IIA, Phase IIB Remedial Investigations
- Environmental Baseline Surveys
- Additional Remedial Investigation
- Other studies
  - Basewide Groundwater Monitoring;
  - Hydrogeologic and Aquifer Testing;
  - Tidal Influence;
  - Ambient Metals Studies

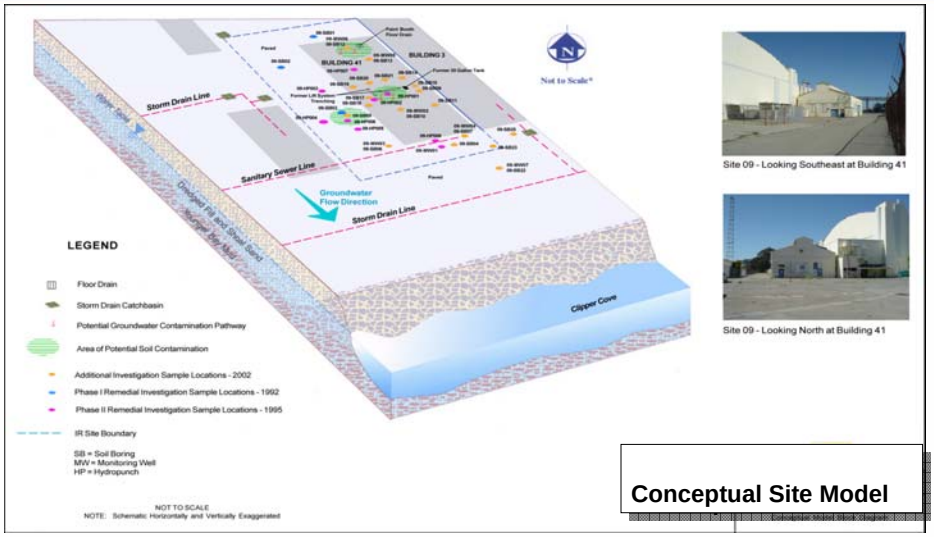
CERCLA Process



HISTORY – SITE 09

- Approximately 11,000 square feet. Includes Building 41 (the former foundry) and the paved area immediately adjacent to the building.
- Building 41 used for multiple purposes since the early 1940s, including:
  - forge and foundry; paint shop; vehicle maintenance shop; welding training school; small boat maintenance shop; wood shop for building movie sets; storage building for oil spill containment equipment.
- The building is currently vacant.

SITE 09



Site 09 - Looking Southeast at Building 41

Site 09 - Looking North at Building 41

Conceptual Site Model

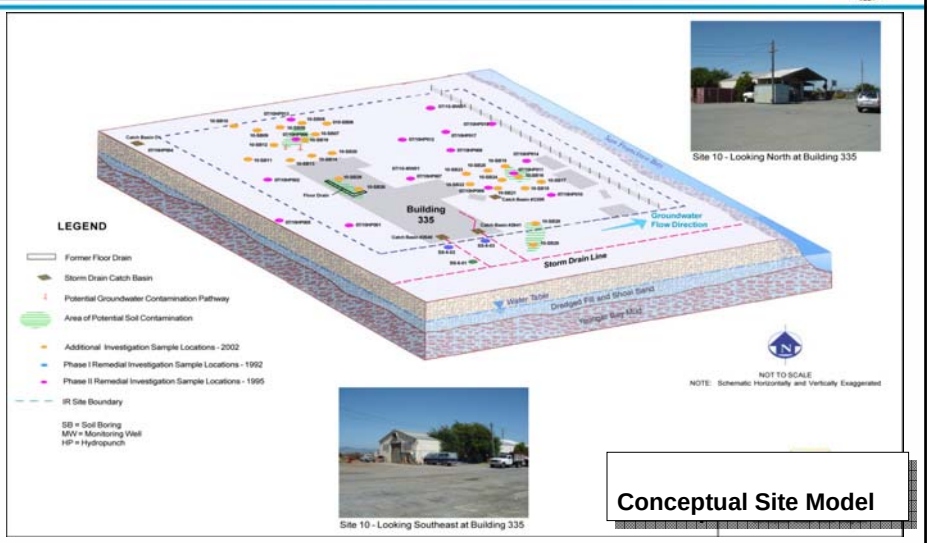
Site 09 Previous Investigations

- PA/SI
- Phase I RI
- Phase II RI
- 2002 Additional Investigation
  - Chemicals of Concern
  - Lead in Soil – west side of Building 41
  - TPH-diesel associated with hydraulic lift

HISTORY – SITE 10

- Approximately 32,000 square feet.
- Includes Building 335 (the former bus painting shop) and the area immediately surrounding the building. Building 335 was built during the mid-1940s.
- The Building was used for bus painting shop, paint mixing facility, pesticides and chlorinated herbicides mixing and handling.
- Currently, the building and surrounding area are leased by a local landscaping contractor.

SITE 10



Site 10 - Looking North at Building 335

Site 10 - Looking Southeast at Building 335

Conceptual Site Model

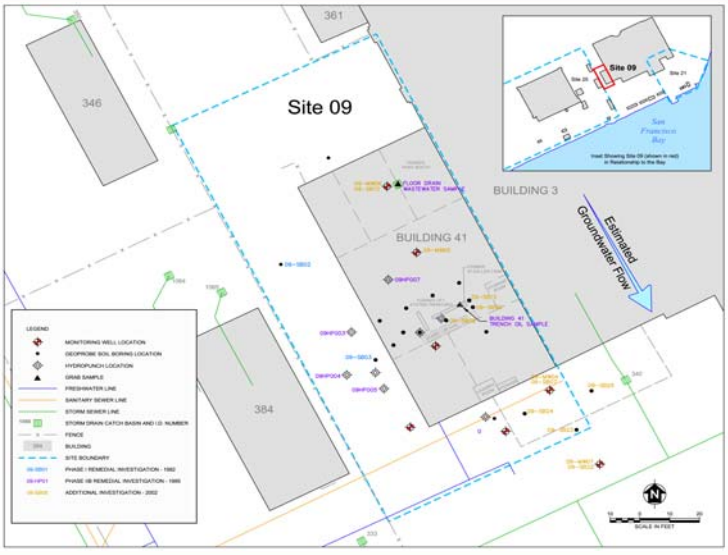
Site 10 Previous Investigations

- Phase I RI
- Phase II RI
- 2002 Additional Investigation
  - Chemicals of Concern
    - Pesticides in soil and groundwater
    - PAHs
  - Catch basins

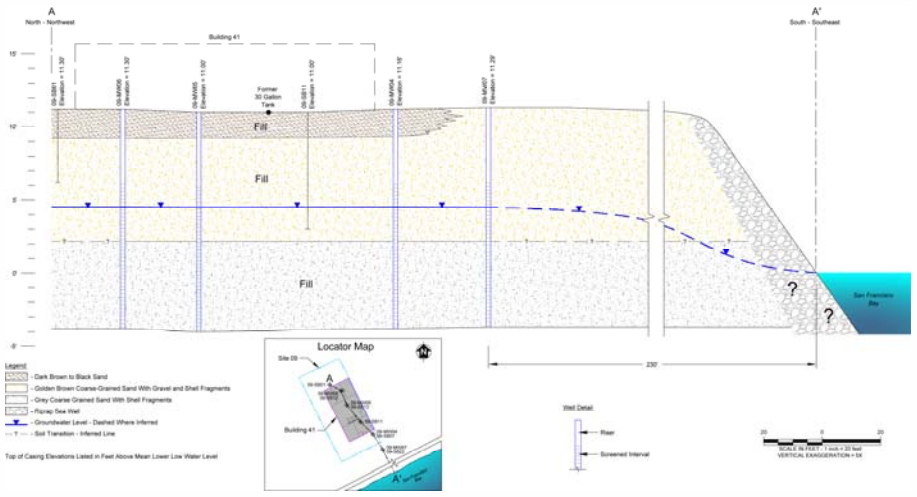
REMEDIAL INVESTIGATION AT SITES 09 and 10

- The purpose of the RI at Sites 09 and 10 was to collect data necessary to adequately characterize the site for the intention of developing and evaluating effective remedial alternatives.
- The RI provided information to assess the risks to human health and the environment and to support the development, evaluation, and selection of appropriate remedial alternatives, if necessary.

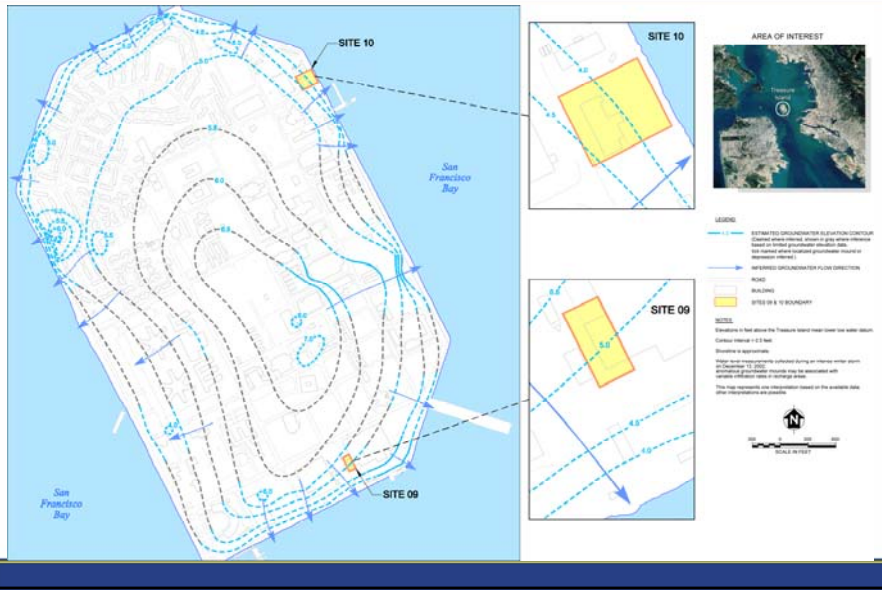
SITE 09 CHARACTERIZATION



SITE 09 - GEOLOGY



GROUNDWATER



SITE 09 NATURE AND EXTENT

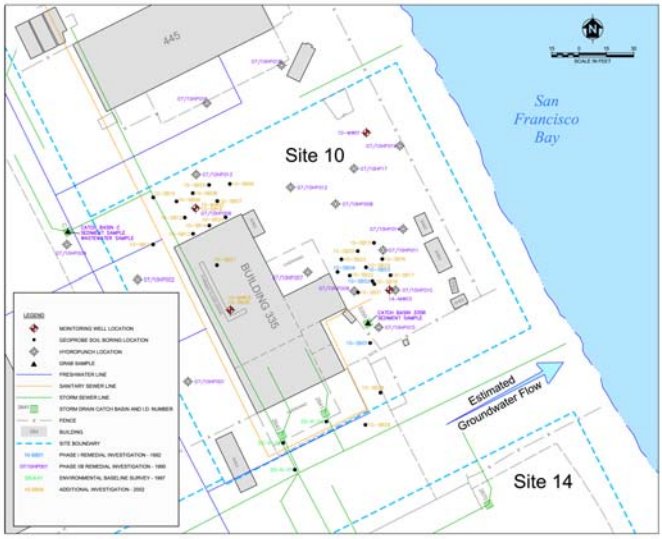
- PA/SI identified areas adjacent to Building 41 where disposal of hazardous wastes most likely occurred . No samples collected.
- Samples and analysis performed during the Phase I RI, Phase II RI, Quarterly groundwater sampling, EBS.
- Soils analyzed for chromium, hexavalent chromium, lead, toxicity characteristic leaching procedure (TCLP) lead, pesticides/PCBs, SVOCs, and TPH-e. Field immunoassay analysis were completed for PAHs, PCBs, and TPH.
- Groundwater samples were analyzed for metals, SVOCs, lead,MTBE, BTEX, TPH-p, and TPH-e.
- Waste oil samples were collected from trench inside Building 41 and in the vicinity; analyzed for fuel fingerprint and PCBs.
- Wastewater sample was also collected from the paint booth catch basin inside Building 41 and analyzed for metals and SVOCs.
- All Additional RI soil and groundwater samples were analyzed for VOCs, SVOCs, pesticides, PCBs, TPH-e, TPH-p, and metals.

SITE 09 NATURE AND EXTENT

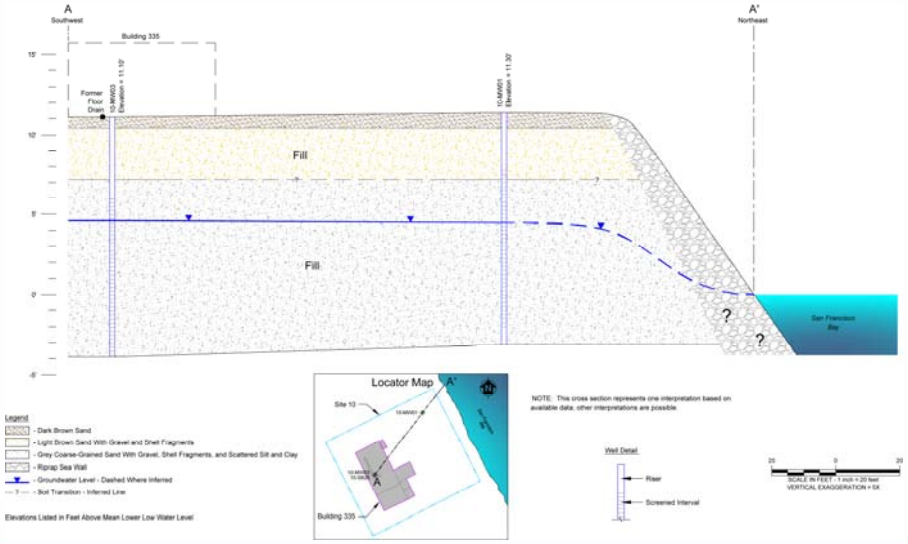
Site 09 Results

- No major sources of organic or inorganic contamination were identified to remain in soil or groundwater at Site 09. Two areas of minor soil contamination were identified at Site 09.
- The former hydraulic lift system was considered a potential source of total petroleum hydrocarbon (TPH) contamination. The hydraulic lift and associated UST were removed prior to the initial RI work.
  - TPH-d and TPH-m concentrations from samples collected during the additional RI are below TPH screening criteria.
- Elevated concentrations of TPH-d at 7,600 mg/kg and 7,100 mg/kg were identified near the southeast corner of the IR Site 09 boundary. Additional sampling was completed in the area. The contamination appears localized and does not impact groundwater.

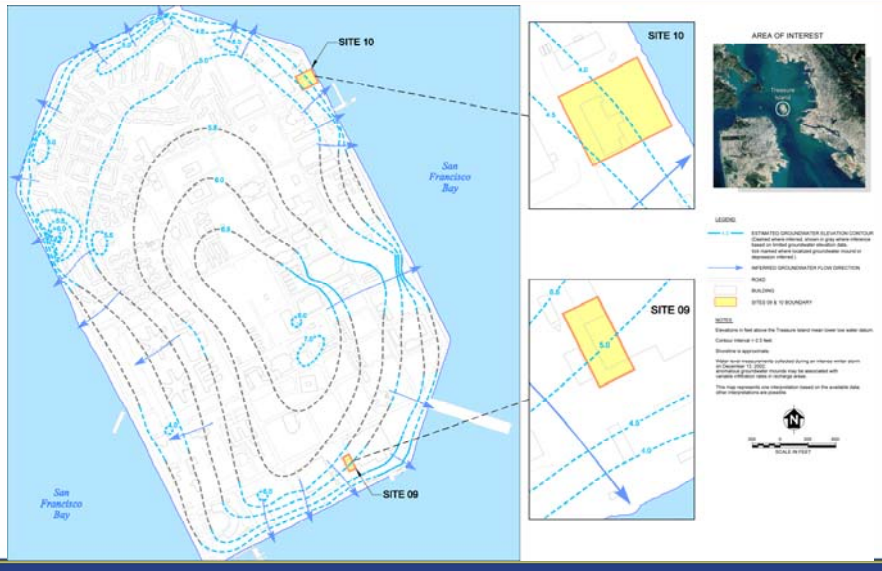
SITE 10 CHARACTERIZATION



SITE 10 - GEOLOGY



GROUNDWATER



SITE 10 NATURE AND EXTENT

- Areas adjacent to Building 335 at Site 10 where disposal of hazardous wastes most likely occurred were identified in the PA/SI. Building 335 was investigated in the RI.
- Samples and analysis performed during the Phase I RI, Phase II RI, Quarterly groundwater sampling, EBS.
  - Soil samples collected from soil borings were analyzed for VOCs, SVOCs, metals, pesticides/PCBs, chlorinated herbicides and TPH-e.
  - Groundwater samples collected from borings were field screened for total TPH. VOCs, SVOCs, pesticides, chlorinated herbicides, metals, TPH-p, and TPH-e.
  - In addition, two catch basins were sampled to check for contamination from storm water drainage from the site. Two sediment samples and one water sample collected from the catch basins were analyzed for VOCs, SVOCs, pesticides/PCBs, chlorinated herbicides, lead, TPH-e, and TPH-p.
- Additional RI soil and groundwater samples were analyzed for VOCs, SVOCs, pesticides, PCBs, TPH-e, TPH-p, and metals.

SITE 10 NATURE AND EXTENT

Site 10 Results

- No major sources of organic or inorganic contamination were identified to remain in soil or groundwater at Site 10.
- Pesticide contamination reported north of Building 335 at Site 10 during the phase II RI appears to have been associated with sediment entrained in the groundwater sample. Follow-up sampling during the additional RI did not identify pesticide concentrations in groundwater at this area.

HUMAN HEALTH RISK ASSESSMENT

- Human health risk assessments for Sites 09 and 10 were completed following Navy, DTSC, and EPA guidance.
- Data evaluation completed to assess data quality and assess data adequately reflects on-site conditions.
- Data sets:
  - Soil 0-2 feet bgs; 0-8 feet bgs.
  - Groundwater data

HUMAN HEALTH RISK ASSESSMENT

- Identify contaminants of potential concern (COPC) by screening data against criteria
- No groundwater COPCs identified
- Soil COPCs at both sites:
  - Iron, Benzo(a)pyrene, Dibenz(a,h)anthracene
  - Depths: 0-2 feet and/or 0-8 feet bgs
  - Current and future reuse

HUMAN HEALTH RISK ASSESSMENT

Exposure Assessment

- Current and future exposures evaluated spatially across Sites 09 and 10 as well as based on probable reuse patterns.
- Site 09: relatively small – 11,000 square feet (0.25 acres). Evaluated as one exposure area.
- Site 10: relatively small – 32,000 square feet (0.73 acres). Evaluated also as one exposure area.
- Most likely future land use at both sites: commercial/industrial.

HUMAN HEALTH RISK ASSESSMENT

Toxicity Assessment

- Identify toxicity values used to characterize cancer risks and noncancer health effects.
- Toxicity values were compiled for each COPC retained for Sites 09 and 10.
- Cancer risks and noncancer adverse health effects were estimated.

Human Health Risk Assessment

Risk Results

- HHRA found that the following scenarios are within the risk management range (10^{-4} to 10^{-6}) or considered to be insignificant risks at both Site 09 and 10:
  - Current industrial worker; future industrial worker; future construction worker; future resident adults and children
- In addition, noncancer adverse health effects for a specific (target) organ found to be all less than one.

SCREENING LEVEL ECOLOGICAL RISK ASSESSMENT

- Conducted following Navy and EPA guidance.
- Sites 09 and 10 – poor quality habitat and not evaluated for terrestrial receptor habitat.
- Groundwater discharge to impact marine ecological receptors in San Francisco Bay was evaluated.
- Ecological risk focused on groundwater chemicals with potential to migrate to offshore and are bioavailable or potentially bioavailable.

SCREENING LEVEL ECOLOGICAL RISK ASSESSMENT

- Groundwater contaminants screened against TI screening criteria.
- Chemicals of potential ecological concern (COPEC) for Site 09- nickel, alpha-chlordane, endosulfan II.
- No COPEC identified for Site 10.
- Fate and transport of COPECs in groundwater simulated with an analytical groundwater model.

SCREENING LEVEL ECOLOGICAL RISK ASSESSMENT

- After simulating the fate and transport of nickel, alpha-chlordane, and endosulfan II chemicals to the ecological point of exposure at Site 09, the specific groundwater chemical concentrations decreased to levels within the limits of the respective screening criteria.
- Groundwater at Sites 09 and 10 does not pose an unacceptable risk to aquatic biota offshore of NAVSTA TI.

RI RECOMMENDATIONS

- No additional soil or groundwater data are needed at Sites 09 and 10. The current level of site characterization was adequate to complete the human health and ecological risk assessments.
- Based on the results of the human health and ecological risk assessments, remedial action is not required for soil or groundwater at Sites 09 and 10.
- The IRP effort for soil and groundwater at Sites 09 and 10 should pursue site closure through a No Action Record of Decision.

PETROLEUM INVESTIGATION

(Continued)

- A burnt layer found in northern portion of Site 14/22 during petroleum program excavation up to the southern Site 10 boundary.
- A trenching investigation for dioxins and furans in soils extended north onto Site 10 was completed in November 2005 to confirm the extent of burnt material and dioxins.
- The burnt layer at Site 10 contained dioxins at concentrations above TI background levels. Shallow soil trenching and removal, along with confirmation soil sampling, was completed.
- Based on confirmation sample results, dioxin-impacted soils above TI background levels were successfully removed and, with BCT concurrence, the trench was backfilled with clean soil.

New Issue

Sites 9 and 10

- Final RI Report Issued – March 2005

Site 10

- Dioxin in soil discovered during Site 14/22 Petroleum Investigation – July 2004
- Dioxin Trenching Investigation Completed - November 2005
- Final Dioxin Trenching Investigation Report - March 2006

PETROLEUM INVESTIGATION

- August 2004 - Petroleum Investigation at adjacent Petroleum Site 14/22, a 2-inch thick layer of very viscous (heavy) petroleum encountered at 5-6 inches below surface.
- “Nuisance” soil traced off-site and north toward Site 10.
- 20-foot by 20-foot irregularly shaped excavation completed to depth of 1-foot below surface to remove soil and analyzed for dioxins, TPH, VOCs, PAHs.
- Four confirmation samples collected from excavation sidewalls confirmed complete removal of the petroleum layer.
- Excavation area was subsequently backfilled with clean imported topsoil.
- The Navy received no further action concurrence from the Water Board for the petroleum layer.

DIOXIN IN SOIL TRENCH INVESTIGATION

Completed Site 10 Trench Investigation

CONCLUSION

- Chemical levels present in the soil and groundwater at Sites 09 and 10 do not pose an unacceptable risk to human health or the environment.
- Soil excavations as part of the petroleum investigations has eliminated dioxin contamination from the soils at Site 10.
- With this Proposed Plan, the Navy is recommending no further investigation or action for Sites 09 and 10 at TI.
- Regulatory agencies concur with this recommendation.

Proposed Plan Process

Steps for PP public involvement:

- Publish a Notice of availability in a major local newspaper of general circulation (September 29, 2006).
- PP is available for review in the Information Repositories.
- Public Comment Period: 30 calendar days to submit written and oral comments (October 31, 2006).
- Public Meeting: Held during the Public Comment Period.
- A transcript of the Public Meeting is made available.
- Provide a Responsiveness Summary to comments received (provided in the Record of Decision).

Naval Station Treasure Island
Environmental Cleanup Program
Document Tracking Sheet
October 2006 - May 2007

			INTERNAL DRAFT				DRAFT									FINAL					
								Agency Comments													
Item	Document Title & Information	CTO/DO	Internal Due to Navy		Navy Comments Due		Draft to Agencies	Date Due	DTSC	Water Board	EPA	TIDA	RAB	OTHER	Internal Final to Navy		Navy Comments Due		Final to Agencies		Comments
	Navy - Non Petroleum Related Documents																				
1	**Previous Investigative Activities within the Lake of the Nations Footprint Technical Memorandum** RPM: Scott Anderson	NA	NA		NA		08/30/04	✔ 09/17/04	✔	✔		✔			NA		NA		11/30/06		
	Tetra Tech EM Inc. - Non Petroleum Related Documents																				
2	**Site 21 Remedial Investigation Report** RPM: Scott Anderson PM: Dave Donohue	144	09/23/04	✔	11/01/04	✔	01/17/05	✔ 03/18/05	✔	✔	✔	✔			10/23/06		11/06/06		11/20/06		RTC to BCT on 09/01/06. RTC over the shoulder meeting scheduled for 10/16/06.
3	**Environmental Closeout Strategy 2006 Update** RPM: La Rae Landers PM: Marcie Rash	6	03/01/06	✔	04/05/06	✔	04/13/06	✔ 05/15/06	✔	✔		✔			07/06/06	✔	10/21/06		11/15/06		Final delayed to incorporate revised RI schedules.
	SulTech - Non Petroleum Related Documents																				
4	**Sites 9 and 10 Proposed Plan** RPM: Scott Anderson PM: Dave Donohue	24	02/03/05	✔	2/25/05 6/12/06	✔ ✔	06/30/06	✔ 07/30/06	✔	✔	✔	✔			08/28/06	✔	09/03/06	✔	09/29/06	✔	Public Notice scheduled for 09/29/06. Public Meeting scheduled for 10/17/06. Public comment period 09/29-10/31.
5	**Site 30 Feasibility Study** RPM: La Rae Landers PM: Deanna Rhoades	118	03/15/06	✔	04/06/06	✔	07/12/06	✔ 08/11/06	✔	✔		✔	✔		10/18/06		11/01/06		11/22/06		Discuss RTCs at BCT Meeting on 10/03/06. Revised RTCs submitted 10/11/12.
6	**Site 12 EE/CA** RPM: James Whitcomb PM: Victor Early	52	05/15/06	✔	05/29/06	✔	06/12/06	✔ 07/21/06	✔	✔		✔	✔		10/02/06	✔	10/06/06	✔	10/12/06	✔	RTC over the shoulder meeting scheduled for 9/7/06.
7	**Fact Sheet: Site 12 History (Prior to EE/CA Report)** RPM: James Whitcomb PM: Victor Early	52	04/25/06	✔	07/14/06	✔	08/18/06	✔ 08/28/06	✔			✔			09/05/06	✔	09/07/06	✔	09/14/06	✔	
8	**Fact Sheet: Site 12 EE/CA** RPM: James Whitcomb PM: Victor Early	129	08/22/06	✔	08/29/06	✔	09/06/06	✔ 09/23/06	✔			✔			09/26/06	✔	09/29/06	✔	10/06/06	✔	

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	SulTech - Non Petroleum Related Documents (continued)																				
9	**Tier I SLERA FOR TI (Sites 6, 12, 24, 30, 31, 32, and 33)** RPM: La Rae Landers PM: Cindi Rose	126	06/28/06	✔	07/24/06	✔	08/14/06	✔	09/25/06	✔	✔	✔	✔	✔		11/28/06		12/14/06		12/28/06		
10	**Site 31 Feasibility Study** RPM: Lara Urizar PM: Deanna Rhoades	118	7/7/06 8/29/06	✔	7/31/06 9/11/06	✔	09/29/06	✔	10/31/06							01/24/07		02/07/07		02/28/07		
11	**Fact Sheet: Site 31 Feasibility Study Alternatives** RPM: La Rae Landers PM: Deanna Rhoades	118	08/02/06	✔	08/25/06	✔	08/28/06	✔	09/20/06	✔	✔		✔			09/29/06	✔	10/05/06	✔	10/13/06	✔	Fact sheet will be distributed along with the draft FS report.
12	**Site 32 Remedial Investigation Report** RPM: Scott Anderson PM: Pam Baur	94	08/18/06	✔	09/17/06	✔	10/20/06		11/20/06							01/05/07		01/29/07		02/22/07		
13	**Site 27 Lead Shot Field Screening Level White Paper** RPM: La Rae Landers PM: Cindi Rose	43	08/22/06	✔	08/25/06	✔	08/28/06	✔	09/07/06	✔	✔	✔	✔			10/27/06		11/08/06		11/18/06		Agency comments were discussed at 09/07/06 and 10/3/06 BCT Tech meetings. Formal comments were not requested.
14	**Site 33 Remedial Investigation Report** RPM: Scott Anderson PM: Kevin Hoch	103	09/07/06	✔	10/17/06		10/27/06		11/28/06							12/29/06		01/08/07		01/22/07		
15	**Site 12 Action Memorandum** RPM: James Whitcomb PM: Deanna Rhoades	52	10/04/06	✔	12/01/06		12/13/06		01/12/07							01/19/07		01/22/07		01/26/07		The Draft dates represent the 30day public comment period for the internal final

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						Agency Comments										
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	SulTech - Non Petroleum Related Documents (continued)															
16	**Site 21 Feasibility Study** RPM: Scott Anderson PM: Dave Donohue	144	11/10/06 12/22/06	12/10/06	02/25/07	03/25/07							04/25/07	05/25/07	06/06/07	
17	**Site 12 Remedial Investigation Report** RPM: James Whitcomb PM: Ginna Demetrios	117	TBD	TBD	TBD	TBD							TBD	TBD	TBD	
18	**Fact Sheet: Site 12 RI Report** RPM: James Whitcomb PM: Ginna Demetrios	52	TBD	TBD	TBD	TBD							TBD	TBD	TBD	Fact sheet will be distributed near the submittal of the Draft RI Report.
19	**Sites 9 and 10 Record of Decision** RPM: Scott Anderson PM: Dave Donohue	24	12/21/06	02/01/07	02/15/07	03/17/07							04/16/07	04/26/07	05/10/07	
20	**Sites 27 SAP/HSP** RPM: La Rae Landers PM: Cindi Rose	43	01/04/07	02/15/07	03/01/07	04/02/07							04/23/07	05/07/07	05/21/07	Field investigation scheduled between April to June 2007
21	**Sites 8, 28, and 29 Revised Remedial Investigation Report** RPM: James Whitcomb PM: Dave Donohue	104	03/01/07	04/02/07	04/16/07	05/14/07							TBD	TBD	TBD	
22	**Site 6 Remedial Investigation Report** RPM: James Whitcomb PM: Pam Baur	91	TBD	TBD	TBD	TBD							TBD	TBD	TBD	
23	**Site 24 Remedial Investigation Report** RPM: Scott Anderson PM: Jean Michaels	92	TBD	TBD	03/26/07	04/25/07							TBD	TBD	07/24/07	
24	**Site 24 Focused Feasibility Study** RPM: Scott Anderson PM: Jean Michaels	123	TBD	TBD	03/26/07	04/25/07							TBD	TBD	07/24/07	

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	SulTech - Non Petroleum Related Documents (continued)															
25	**Site 12 EU Calculations White Paper** RPM: James Whitcomb PM: Victor Early	52	TBD		TBD		TBD							NA		NA	NA	
	SulTech - Community Relations Documents															
26	**Island Times Environmental Newsletter #12, Fall/Winter 2006** RPM: James Sullivan PM: Marcie Rash	6	10/23/06		11/06/06		11/13/06		11/28/06					12/04/06		12/11/06	12/18/06	
	Sullivan Consulting Group/Tetra Tech EM Inc. - Non Petroleum Related Documents															
27	**PCB Summary Report (Phase I and II)** RPM: Scott Anderson PM: Dan Kim	CLIN0001	09/12/06	✔	10/20/06		10/27/06		11/23/06					NA		NA	12/28/06	
	Shaw Environmental, Inc.															
28	**Building 233 Survey Report** RPM: James Whitcomb PM: Pete Bourgeois	134	07/05/06	✔	07/26/06		10/18/06		11/20/06					12/04/06		NA	12/31/06	
	Weston - Non Petroleum Related Documents															
29	**Fact Sheet: Historical Radiological Assessment** RPM: James Whitcomb PM: Marcie Rash	6	11/04/05	✔	TBD		TBD		TBD					TBD		TBD	TBD	

✔ Production or review of document is complete.

The "Comments" column contains other pertinent information for planning.

Blue shading indicates agency review comments are due within the next 60 days.

Yellow shading indicates documents that will be issued draft or final within the next 60 days.

Grey shading indicates the document is complete.

Abbreviations:

CTO = Contract Task Order
DO = Delivery Order
DTSC = Department of Toxic Substances Control
Water Board = Regional Water Quality Control Board
TI = Treasure Island
TBD = To Be Determined
NA = Not Applicable
PCB = Polychlorinated Biphenyls
PM = Project Manager
RPM = Remedial Project Manager
EE\CA = Engineering Evaluation\Cost Analysis
HSP = Health and Safety Plan
NOAEL = No Observed Adverse Effect Level
SLERA = Screening Level Ecological Risk Assessment
SAP = Sampling and Analysis Plan
RTC = Resonse to Comments
RI = Remedial Investigation
FS = Feasibility Study

Date Last Revised: 6/11/2007

Naval Station Treasure Island
Navy Field Schedule

October - December 2006

Item	Activity & Investigation Area	DTR #	Field Dates	Navy RPM	CTO/DO	PM	FTL	Complete
	Tetra Tech EM Inc.							
	None							
	Sullivan Consulting Group/ Tetra Tech EM Inc.							
1	Groundwater 2nd Quarter Sampling *Sites 6 and 25*	Doc N/A	Start: 10/10/06 Finish: 10/12/06	Jim Whitcomb (619) 532-0936	CL0002	Pamela Baur (415) 321-1795	Hannah Thompson (415) 321-1786	✔
2	Annual Groundwater Sampling *Site 12*	Doc N/A	Start: 11/06/06 Finish: 11/10/06	Jim Whitcomb (619) 532-0936	CL0002	Pamela Baur (415) 321-1795	Hannah Thompson (415) 321-1786	
	SulTech							
	None							
	Shaw							
3	Site 24 Treatability Study Phase II *Site 24*	Doc N/A	Start: TBD Finish: TBD	Scott Anderson (619) 532-0938	FZN1	Peter Bourgeois (415) 277-6983	David Cacciatore (925) 288-2299	
4	Site 21 Pilot Treatability Study *Site 21*	Doc N/A	Start: TBD Finish: TBD	Scott Anderson (619) 532-0938	FZN1	Peter Bourgeois (415) 277-6983	Dan Leigh (925) 288-2193	
5	Step-Out Confirmation Sampling *Battery Site*	Doc N/A	Start: 10/17/06 Finish: 10/19/06	Scott Anderson (619) 532-0938	106	Peter Bourgeois (415) 277-6983	Barbara Matz (925) 288-2337	
6	PCB Indoor Air Sampling *Halyburton Court*	Doc N/A	Start: 12/12/05 Finish: 11/30/06	Jim Whitcomb (619) 532-0936	52	Victor Early (415) 222-8332	Pamela Baur (415) 321-1795	

CTO - Contract Task Order
DO - Delivery Order
DTR # - Denotes document tracking reference. The number listed corresponds to the associated documentation listed on the Document Tracking Sheet
FTL - Field team lead
N/A - not applicable, there is no associated documentation listed on the DTS.

✔ Field work is complete.
RPM - Remedial Project Manager
TBD - To Be Determined

Yellow shading indicates field activities that will start or finish within the next 60 days.
Grey shading indicates fieldwork is complete.

Date Last Revised: 6/11/2007