

FINAL
NAVAL AIR STATION ALAMEDA RESTORATION ADVISORY BOARD
MEETING SUMMARY

<http://www.efdsww.navfac.navy.mil/environmental/AlamedaPoint.htm>
Building 1, Suite 140, Community Conference Center
Alameda Point
Alameda, California

March 9, 2004

The following participants attended the meeting:

Co-Chairs:

Gregory Lorton	Naval Facilities Engineering Command, Southwest Division (SWDIV) Lead Remedial Project Manager (RPM), <i>on behalf of</i> Thomas Macchiarella Community Co-chair, SWDIV, Base Realignment and Closure (BRAC) Environmental Coordinator (BEC)
Jean Sweeney	Restoration Advisory Board (RAB) Community Co-chair

Attendees:

Doug Bielskis	Engineering/Remediation Resources Group, Inc. (ERRG)
Peggy Bloisa	Camp, Dresser, and McKee, Inc. (CDM)
Susan Boyle	U.S. Coast Guard (USCG)
Cassie Cioci	USCG
Neil Coe	RAB
Debbie Collins	USCG
Kenneth Conner	SCA Environmental, Inc.
Anna-Marie Cook	U.S. Environmental Protection Agency (EPA)
Tracy Craig	Tetra Tech EM Inc. (Tetra Tech)
Doug DeHaan	RAB
Gwen Eng	Agency for Toxic Substances and Disease Registry (ATSDR)
Rezsín Jaulus-Gonzales	Alameda Point Collaborative
Dr. Linda Henry	Brown and Caldwell
Judy Huang	Regional Water Quality Control Board
George Humphreys	RAB
Elizabeth Johnson	City of Alameda
Beth Kelly	Tetra Tech
James D. Leach	RAB

Marcia Liao	Department of Toxic Substance Control (DTSC)
Lea Loizos	RAB/ARC Ecology
John McMillan	Shaw Environmental and Infrastructure Inc. (Shaw)
Darren Newton	SWDIV RPM
Lona Pearson	Tetra Tech
Kevin Reilly	RAB
Michael Schmitz	The Sanz Group/RAB Applicant
Maureen Sertich	St. Mary's College, Student
Jim Sweeney	RAB Vice Co-chair
Anthony Talamantez	ERRG
Kim Taylor	CDM
Luann Tetirick	RAB
Michael John Torrey	RAB/Housing Authority of the City of Alameda
Henry Wong	DTSC

The meeting agenda is provided in Attachment A.

MEETING SUMMARY

I. Approval of Minutes

Mr. Sweeney, Vice Community Co-chair, called the meeting to order at 6:32 p.m.

Mr. Sweeney asked for comments on the February 10, 2004, meeting minutes. Mr. Humphreys, Ms. Johnson, and Mr. Lorton provided the comments summarized below.

Mr. Humphreys' Comments

- On page 4 of 13, bottom of the fourth paragraph, add the sentence, "Mr. Leach pointed out that on page two of the handout, the air injection rates of 1.5 to 6 cubic feet per minute should be related to the area or volume affected."
- On page 9 of 13, second paragraph, fifth sentence, "...to attain a pH of less than 3..." should be revised to "...to attain a pH of less than 3..."
- On page 11 of 13, top bullet, "...of approximately 18.5 percent..." should be revised to "...of approximately 18.5 feet..."
- Mr. Humphreys also noted that the word "February" was misspelled on the heading of the Base Realignment and Closure (BRAC) Cleanup Team (BCT) Update attachment.

Ms. Johnson's Comment

- On page 13 of 13, third paragraph second sentence, "...ARRA representation on the RAB by the next ..." should be revised to "...ARRA representation on the RAB at their next..."

Mr. Lorton's Comment

- On page 4 of 13, second paragraph second sentence, "...combining the Site 25 soil FS with..." should be revised to "...combining the presentation of the Site 25 soil FS with..."

The minutes were approved based on incorporation of the comments summarized above.

II. Co-Chair Announcements

Mr. Sweeney stated that the following documents are now available for review in the Information Repository:

- Final Closeout Report Comprehensive Environmental Response, Compensation Liability Act (CERCLA) Time Critical Removal Action (TCRA) at West Housing Area (WHA), February 13, 2004
- Revision 0, Petroleum Fuel Corrective Action Area (CAA)-4C Subsurface Hydrocarbon Removal by Dual Vacuum Extraction and Biosparging, February 13, 2004
- Draft Operable Unit (OU)-1 Remedial Investigation (RI) Report, Sites 6, 7, 8, and 16, February 13, 2004
- Draft OU-2A RI Report, Sites 9, 13, 19, 22, and 23, February 26, 2004
- Draft RI Report Installation Restoration (IR) Site 28 Todd Shipyard, February 4, 2004
- Revision 0, Basewide Groundwater Monitoring Program Report, February 6, 2004

Ms. Sweeney made the following announcements.

Ms. Sweeney commented that during last month's RAB meeting, there was a motion to include as an agenda item the RAB meeting date change; however, the date change was inadvertently omitted from the March agenda. The date change was then discussed, and it was tentatively determined that the RAB meeting could be moved to the first Thursday of each month to satisfy most of the RAB members' schedules. The date change will be added to the April 13, 2004, RAB agenda, and a vote on the change will be taken at that time.

Ms. Sweeney announced that Mr. Schmitz, a resident and business owner of Alameda, has applied to become a RAB member. Ms. Sweeney then introduced Mr. Schmitz to the RAB. Mr. Schmitz stated that he, his wife, and their two children are residents of Alameda and that their 2-year old daughter attends the Home Sweet Home Childcare Center. He stated that his background is in planning and law and that he is currently representing a statewide coalition of environmental organizations and other parties concerned with toxics. Because he is a lawyer and resident, Mr. Schmitz feels that his experience in regulatory and environmental issues can be a great asset to the RAB both professionally and personally. More detailed information on

Mr. Schmitz's background is provided in his RAB application and resume in Attachment B-1 to these minutes.

Ms. Sweeney asked for a motion to accept Mr. Schmitz as a new member. Mr. Torrey presented the motion, and Mr. Sweeney seconded it. The RAB voted, and Mr. Schmitz was unanimously accepted.

Ms. Johnson announced that the Alameda City Council and Alameda Reuse and Redevelopment Authority (ARRA) Board has nominated an ARRA member, Frank Mataresse, to serve on the RAB. Ms. Johnson circulated Mr. Mataresse's RAB application to the RAB and asked if the RAB would like to vote on Mr. Mataresse's acceptance to the RAB now or at the next RAB meeting. Mr. Mataresse's RAB application is included as Attachment B-2 to these minutes.

Mr. Reilly commented that the original reason to move the RAB meeting date from the first Tuesday of each month to the second was to allow Alameda City Council members to attend RAB meetings. Because Mr. Mataresse has been nominated by the council as its representative to the RAB, he should be accepted. Ms. Loizos asked if there are RAB by-laws regarding the process of accepting new RAB members. She commented that her understanding is that potential RAB members apply, and the RAB then reviews applications and votes on their acceptance. The RAB application process was discussed further, and the RAB found that the acceptance process is undetermined. A motion to vote on Mr. Mataresse's acceptance to the RAB at the next RAB meeting was then passed.

Mr. Lorton announced that the annual Bay Area School Enterprise High School (BASE) Organize! event was held on February 24, 2004. Mr. Lorton introduced Ms. Craig to provide an overview of the event. Ms. Craig stated that BASE is a small alternative charter high school located in the northeast area of Alameda Point. BASE has about 65 students primarily from Alameda Point and the Oakland area. The Organize! event lasts 2 hours and features information booths to inform community and environmental organizations about projects on the base as well as to provide opportunities for people to volunteer. Dale Smith represented the RAB with an information booth co-sponsored by the Sierra Club. RAB applications, newsletters, and general information were available at the booth. Other groups or organizations sponsoring an informational booth at the event included the Wildlife Refuge, Indian People Organizing for Change, Alameda Point Collaborative, The Garden Cooperative, Home Project, Cross Alameda Trail, and the City of Alameda.

According to the school principal, the information booths are part of the sophomore class' effort to find a year-end project related to environmental issues at Alameda Point. Having the Alameda Point environmental groups present information booths will help the students create their project. Arthur Feinstein, head of the Bay Area Audubon Society, was the keynote speaker. Mr. Feinstein discussed interesting elements of the wildlife refuge, including the least tern nesting area on Alameda Point. Mr. Feinstein also invited the participants to a Family Day at the wildlife refuge on Sunday March 28, 2004, from noon to 4:00 p.m. to celebrate the least tern's return to the refuge for nesting.

Mr. Torrey suggested that BASE students might want to participate in the RAB or attend RAB meetings. Ms. Craig replied that Mr. Torrey's suggestion is a good one and that she provided the BASE principal with appropriate Navy contact information for site tours and additional Alameda Point environmental information.

Mr. Lorton announced that ATSDR issued a draft report to the RAB members and others in the community regarding the public health impacts of the former Naval Air Station (NAS) Alameda Point for comment. Mr. Lorton stated that after initial comments on the report were received, the ATSDR supplied replacement pages for pages 50 and 51 of the report. Also provided was a cover letter explaining the reason for the page replacement and a table that compares public health assessments and risk assessments. The replacement pages, cover letter, and comparison table were distributed to the RAB and are included as Attachment B-3 to these minutes.

Mr. Lorton introduced Ms. Eng as the local ATSDR representative. Ms. Eng stated that comments to the draft report should be submitted in writing by March 31, 2004, to the postal address listed on the replacement page cover letter. The final report will be distributed after all comments have been adequately addressed.

Mr. Torrey asked if the ATSDR has an office in the City of Alameda. Ms. Eng replied that it does not; the local ATSDR office is located in San Francisco in the same building as EPA; however, the San Francisco ATSDR office was not involved in writing the report, a special team from ATSDR's headquarters office was brought out to prepare the report.

Ms. Johnson asked for an outline of ATSDR's regulatory process and the duration of ATSDR's involvement in such processes. Ms. Eng replied that ATSDR would not be involved in the regulatory process even after the report is final. The report presents ATSDR's public health recommendation and is not a regulatory document. The purpose of the report is to review available data, determine if NAS Alameda Point is impacting the environment from previous use, and determine if NAS Alameda Point poses current or future risks to public health.

Mr. Reilly asked how the report correction sheets to the document would be publicized. Ms. Eng replied that copies would be sent out to the mailing list recipients but that she was unsure if there would be another press release.

The RAB also raised some concerns about environmental conditions at the base, proposed land reuse, and whether the data used in the report are out of date and therefore do not accurately reflect current conditions, land-use decisions, and risks. Ms. Eng replied that although she has not finished reviewing the document herself to be able to answer the questions at this time, all comments submitted in writing during the current comment period would be addressed.

Ms. Cook commented that although she is not completely familiar with ATSDR work, ATSDR's report differs from a CERCLA-driven document. The ATSDR looks at realistic exposure based on epidemiology and health issues resulting from current contamination, and the EPA has an ultra-conservative approach based on contamination exposure pathways, even if they are improbable (current or future hypothetical risks).

Mr. Schmitz commented that the opinion that ATSDR is being realistic and state and federal law is ultra-conservative is inaccurate. He stated that state and federal laws are based on the best science available at the time they are created and represent what people feel is necessary to ensure public health. The public should understand that the laws are in place to protect their health. Ms. Eng replied that Mr. Schmitz might not understand the ATSDR purpose. Ms. Eng stated that the ATSDR is a public health service, which is a sister agency to the Center for Disease Control (CDC) and that the ATSDR also actively writes toxicological profile documents on hazardous substances.

Mr. Lorton announced that the draft OU-2B RI report for Sites 3, 4, 11, and 21 will be submitted for review in a couple of weeks. The document consists of three volumes and will therefore require some time for review.

Ms. Cook commented that extensions on document reviews could be taken if needed to review large documents. Ms. Sweeney added that she receives a copy of the documents and that her copy can be borrowed for review at any time to reduce the review time taken from sharing documents.

III. EPA's Preliminary Comments on Draft OU-1 RI Report

Ms. Cook stated that comments on the draft OU-1 RI report for Sites 6, 7, 8, and 16 are due April 13, 2004. Ms. Cook provided a brief overview of the document and her preliminary comments to help the RAB decide whether to review the document. Ms. Cook indicated that she has reviewed about half of the document, specifically text relating to Sites 6 and 7, and has based her preliminary comments on this text. A handout discussing Ms. Cook's preliminary comments was provided and is included as Attachment B-4 to these minutes.

Mr. DeHaan asked about the proposed reuse for the sites. Ms. Cook replied that the sites will be used for commercial and mixed-use purposes and possibly for residential purposes; therefore, a residential risk scenario is used as the basis for the feasibility study (FS).

Mr. Lorton identified the location of each OU-1 site while referring to the Alameda Point map. Ms. Johnson stated that Sites 6 and 7 are residential, and Sites 8 and 16 are mixed use. Ms. Sweeney commented that since 1972, Site 7 has been continually undergoing some type of cleanup. Mr. Humphreys asked why OU-1 Sites 14 and 15 are not included in this report. Mr. Lorton replied that because Sites 14 and 15 are farther along in the CERCLA process, they have been separated from Sites 6, 7, 8, and 16. Ms. Cook stated that the revised proposed plan for Sites 14 and 15 should be coming out in a couple months.

Mr. Newton commented that the Navy is available to answer telephone calls and e-mail messages regarding documents, data, and issues under review that do not relate to comment period extensions.

IV. Navy Responses to Comments on Site 25 Soil FS and Groundwater RI/FS Reports

Mr. Newton stated that a soil FS and a groundwater RI/FS have been conducted at Site 25, the Coast Guard Housing Area, by separate contractors. Comments from the community and regulatory agencies have been received on both reports. In order to address similar comments on both the soil and groundwater issues, the Navy requested each document's authors to provide an overview of their respective document at tonight's meeting. Mr. Newton stated that CDM will provide a presentation for the soil FS report and ERRG will provide a presentation for the groundwater RI/FS report. A summary of each presentation is presented below.

Site 25 Soil FS Report

Ms. Taylor introduced herself as the project manager for the OU-5 soil FS. She stated that a lot of comments have been received on the draft FS report from the RAB as well as the regulatory agencies. Some of the comments are repeated by different agencies and relate to the same issues. Handouts of the soil FS presentation were provided and are included as Attachment B-5 to these minutes.

Ms. Taylor stated that during the RI previously conducted for Site 25 in 2002, Site 25 was separated into Parcels 181, 182, and 183. Parcel 181 was then further separated into seven Decision Areas (DA). Soil at DAs 4, 5, and 7 has already been addressed under a time-critical removal action (TCRA) to 2 feet below ground surface (bgs) in all unimproved areas. Soil at the remaining four DAs has not yet been addressed.

Ms. Taylor introduced Dr. Henry, toxicologist for the project, to give the remainder of the presentation. Dr. Henry stated that a risk assessment was conducted in 2002 using the RI soil data only from Parcel 181, which had been sampled from 0 to 8 feet bgs. All chemicals detected in soil, soil gas, and groundwater, were initially identified as chemicals of potential concern (COPC) and included volatile organic compounds (VOC), polycyclic aromatic hydrocarbons (PAH), and metals.

The RI risk assessment was based on the assumption that the receptors included current residents (based on a 6-year occupancy), future residents (based on a 30-year occupancy), and construction workers. Exposure pathways assessed included soil ingestion, dermal contact, and inhalation of vapors from soil. Risks were also quantified for soil gas and shallow groundwater VOC volatilization to indoor and outdoor air.

The soil risk and exposure point calculations were determined using weighted averages based on average concentrations in soil samples from each depth interval. Current resident exposure was evaluated at 0 to 0.5, 0 to 2, and 0 to 4 feet bgs; future resident exposure was evaluated at 0 to 0.5, 0 to 2, 0 to 4, and 0 to 8 feet bgs. The purpose of evaluating risk at the different intervals was to determine which interval represented the most risk and where soil requires remediation.

Based on responses to EPA's comments on the draft RI report, risks were also recalculated at different intervals (0 to 0.5, 0.5 to 2, 2 to 4, and 4 to 8 feet bgs), and the concentrations were not weighted. This method resulted in different calculation methods for exposure risks during the RI and after the RI, which resulted in fairly comparable assessment results.

Results of the previous risk assessments indicate that a future resident's cancer risks from exposure to PAHs in soil from 0 to 4 feet bgs range from 1×10^{-5} to 2×10^{-4} , risk from metals in soil from 0 to 4 feet bgs is 1×10^{-5} (arsenic), and risk from VOCs in soil gas is 4×10^{-8} . The PAH risk was determined to be too high because it exceeds the acceptable risk management range of 1×10^{-5} or less. The metals risk is relative to background levels and may not drive remediation. Risks from VOCs in soil gas at 1×10^{-8} (less than 1×10^{-6}) are considered insignificant. The noncancer hazard indexes were equal to or less than 1 for both the current and future residential scenarios. In summary, the risk associated with PAHs in soil exceeds acceptable levels in some areas.

Mr. Schmitz asked if the assessment of noncancer hazard risks included reproductive toxicity and other toxicity tests. Dr. Henry replied that they did. Mr. Schmitz asked if the risk assessment is assuming an adult and children population. Dr. Henry replied that the assumption is that a person lives at the site for 30 years, 6 years as a child and 24 years as an adult. Dr. Henry stated that noncancer hazard risk is always based on children because children are the most sensitive population. Cancer risks are evaluated on a lifetime average based on a combined child and adult scenario.

Dr. Henry stated that the RI report recommends no further action (NFA) for DAs 1 and 3 of Parcel 181. TCRA's were performed in 2001 and 2002 during which the upper 2 feet of soil was removed from all of Parcels 182 and 183, and DAs 4, 5, and 7 of Parcel 181. At that time, DAs 2 and 6 were slated for additional investigation during the FS and were not included in the TCRA.

The FS report was then submitted to the agencies and comments were received. In response to the comments, the Navy decided to revise the FS report by changing the remedial alternatives to address comments.

Dr. Henry reviewed the remedial alternatives summarized below, which are presented in the revised draft FS report.

- Alternative 1 is no action.
- Alternative 2 consists of institutional controls (IC) only.
- Alternative 3 consists of excavation of the upper 2 feet of soil in unimproved areas of Parcel 181, DAs 2 and 6, and, if necessary, after risk recalculation for DAs 1 and 3; off-site disposal of soil and clean backfill; ICs for soil below 2 feet bgs; calculation of exposure risk assuming 0 to 2 feet of clean surface fill; and calculation of risk for homegrown produce plant uptake.

Dr. Henry stated that it is not standard practice to recalculate new exposure pathways during the FS; however, homegrown produce was commonly recommended as a pathway in comments on the FS report.

Ms. Taylor commented that the difference between Alternatives 3 and Alternatives 4 and Alternative 5 is that under Alternative 3, excavation would occur only in unimproved areas not previously excavated to 2 feet bgs. Under Alternatives 4 and 5, all unimproved areas of Site 25 would be excavated to a determined depth of either 4 or 8 feet bgs.

Mr. DeHaan asked how soil covered by buildings, roads, and other structures would be handled. Dr. Henry replied that it was assumed that soil under these improvements is the same as the soil from unimproved areas prior to cleanup and the risk would be calculated as such.

Dr. Henry then continued discussing the alternatives summarized below.

- Alternative 4 is the same as Alternative 3 except the upper 4 feet of soil would be excavated instead of the upper 2 feet over all of OU-5, including DAs 1 and 3, if recalculated risk results indicate that it is necessary.
- Alternative 5 is the same as Alternative 4 except that the upper 8 feet of soil would be excavated instead of the upper 4 feet.

Ms. Taylor noted that DAs 1 and 3 were determined to require NFA in the RI report; however, based on comments on the FS, the Navy will recalculate risks in DAs 1 and 3.

Dr. Henry stated that the comparison of the cost of Alternatives 3, 4, and 5 versus reduction in risk would be presented in the revised draft FS report; in order to present this information, the risks will have to be recalculated. Each alternative assumes that excavated soil will be replaced with clean fill; risk would therefore be calculated for soil in the remaining intervals.

The risk assessment for PAHs will be conducted for current conditions at Parcel 181 (all seven DAs), Parcel 182, and Parcel 183. Risk will be recalculated for PAHs in soil from 0 to 2, 0 to 4, and 0 to 8 feet bgs. Risks from metals will not be recalculated, but the RI risk and the clean fill risk for arsenic will be added to the PAH risk. The risk for arsenic in the RI is 1×10^{-5} , and the exposure point concentration (EPC) ranges from 4.1 to 4.6 milligrams per kilogram (mg/kg). The arsenic risk from the clean fill is 2×10^{-5} , with an EPC of 5.8 mg/kg. These findings do not indicate that the soil brought in as fill was not clean because arsenic is a naturally occurring metal in the Alameda Point and San Francisco Bay (Bay) areas. The risk assessment process allows an arsenic risk of 1×10^{-5} , the total risk is calculated, and then arsenic is determined to be above or below the background level. The arsenic in soil for the RI and clean fill were both determined to be below background levels for the Bay area.

Ms. Cook commented that when the Navy was seeking clean backfill for Site 25, soil with arsenic similar to Alameda Point's background was difficult to find. Several truckloads of soil were rejected because naturally occurring arsenic in the soil were around 9 and 10 mg/kg. Naturally occurring arsenic concentrations in the Bay area range from about 4 to 11 mg/kg.

Dr. Henry stated that the risks would be recalculated using EPA's new statistical approach, which calculates the EPC using the land equation, student's T equation, or Chebyshev method. The calculation method will depend on the data distribution. She stated that over the last few years, the understanding of and ability to handle environmental data have greatly improved and that these methods have been effective.

Ms. Taylor stated that a lot of comments received on the draft FS report from the regulatory agencies had common themes. One common comment asks why the soil FS and the groundwater RI/FS for Site 25 were separated. The reason they were separated is because they address different issues. The soil FS is meant to address soil contaminants (presumably within the fill material), and the groundwater RI/FS is meant to address the groundwater benzene plume beneath a portion of OU-5. While referring to slide 24 on page 12 (see Attachment B-5), Ms. Taylor identified the groundwater plume location in relation to OU-5. Another common comment concerns how cleanup goals were derived. The revised FS report will discuss the cleanup goals and explain their development.

The revised FS report will also discuss the difference between the proposed cleanup goals and TCRA cleanup goals. Available air sampling results for the Coast Guard North Housing Area and Parcel 179 will be summarized in the revised draft FS as applicable. Homegrown produce pathways and plant uptake scenarios will also be evaluated in the revised FS report for Alternatives 3, 4, and 5. In addition, no risks will be calculated and no excavation will be proposed for areas beneath existing site improvements. The site will be transferred "as is," and ICs will be used to control exposure to contamination beneath existing improvements.

In response to a question by Ms. Loizos, Mr. Newton replied that the written responses to comments would be submitted when they are finalized; currently, some of the issues are still being worked out with the regulatory agencies.

Mr. Leach asked Dr. Henry if she is aware of any repeatable tests that indicate that toxic materials transfer across plant root membranes. He stated that he knows of only one case where toxic materials were found in the hollow pith stalk of wheat. Mr. Leach then asked if the root systems of vegetables filter out toxins, preventing uptake. Dr. Henry replied that plants can uptake toxins and that some good studies have been conducted in Denmark on plant uptake of PAHs and polychlorinated biphenyls (PCB) in soil for a whole range of vegetables. Toxins do not flow freely into the plants; however, there is a known relationship between soil conditions and plant uptake, so health concerns can be calculated. Mr. Leach commented that because ICs are one of the remedial options for this site, some commentary should be made on the ICs, because the IC for the Marsh Crust has been in place for 2 years and has not worked so far. Mr. Newton replied that the Navy's legal department is working on language to be inserted into the responses to comments regarding the ICs. Mr. Newton stated that the FS report does not identify the ICs. ICs are a process for handling potential risks. If potential risks are present and a chosen remedy does not permanently remove the risks, then ICs are put in place. The ICs cannot be removed unless the potential risks are removed. The details of ICs are worked out in the record of decision (ROD), not in the FS stage.

Mr. Humphreys asked Ms. Johnson if ICs apply to the City developer because in the Catellus Development, trenches were excavated to 6 to 8 feet bgs to install the new sewer lines. Ms. Johnson replied that the ICs apply to everyone. The Marsh Crust ordinance in question states that if excavation will occur within the Marsh Crust ordinance area, that a health and safety plan and other controls must be in place. Ms. Johnson added that the Catellus Development follows the guidance and stipulations of the Marsh Crust ordinance.

Ms. Boyle had a comment regarding remediation in unimproved areas of Site 25 only. She stated that the USCG would like to know how much it would cost to remediate the entire site. The USCG definition of a residential area is as a future residential area because current housing would not remain. Calculations will be made to determine the cost and risk associated with residential development of Site 25. The USCG and the City want to know how much liability will be assumed after transfer. Ms. Johnson added that after transfer from the Navy to the City, the site would be long-term leased back to the USCG until the USCG no longer needs it.

Mr. DeHaan asked if a barrier or marker would be placed vertically to indicate the hardscape location of sidewalks, structures or other improvements beneath the ground surface. Mr. Newton replied that he was unsure if a marker would be used.

Site 25 Groundwater RI/FS Report

Mr. Talamantez provided an update on the draft OU-5 groundwater RI/FS for combined Site 25 and Annex Site IR-02. A handout was provided and is included in Attachment B-6.

Mr. Talamantez stated that the draft version of the RI/FS report has been submitted to the agencies and that comments have been received. Most of the comments pertain to the RI portion of the document and are related to the characterization effort; most of the comments are relatively straightforward to resolve. Some regulators request additional sampling; however, the RI/FS report revisions will likely not require another field sampling event.

Ms. Sweeney asked if the groundwater RI/FS covers the same parcel as the previous presentation by CDM. Mr. Talamantez replied that the parcel is the same (OU-5); however, this presentation pertains to benzene contamination in groundwater and CDM covered PAH contamination in soil. Mr. Talamantez stated that up to this point, all analytes have been sampled for and the results have narrowed the focus to PAHs in soil and benzene and naphthalene in groundwater.

Mr. Talamantez discussed the structure of the RI report and stated that the intent of the report was to summarize previous RI data only because the previous reports present significant soil and groundwater characterization data.

Mr. Talamantez stated that most of the comments and concerns were RI-related and included various comments on the presentation of data characterization and various comments on groundwater technical issues. Mr. Talamantez then discussed proposed actions to address these concerns. Some of the proposed actions to address the data characterization issues include adding text, figures, tables, and references from previous reports used to prepare this report; adding recent data from ongoing groundwater monitoring; and modifying the plume maps. Actions to address the groundwater technical issues include refining the groundwater conceptual model and flow direction maps, further examining tidal influence and preferential pathways, conducting additional trend analyses for all plume wells, and including additional monitored natural attenuation (MNA) data in the analysis.

Mr. Talamantez stated that there were some FS-related concerns on the human health risk assessment (HHRA) and the proposed remediation technologies; however, the comments received were less than on the RI portion of the document. Mr. Talamantez discussed the proposed actions to address the concerns. Most of the HHRA-related concerns involve inhalation risk, soil gas, and indoor air quality. Inhalation risk will be added as a remedial action objective, and the previous inhalation risk study and findings will be summarized. Soil gas data provided by the USCG will be evaluated and summarized; however, no additional indoor air sampling is planned. Vapor control with monitoring will be included as a remedial alternative. In addition, further discussion on other alternatives will be added.

Mr. Talamantez stated the next steps are to produce the response to comments (RTC), meet with the agencies and discuss the RTC approach, submit the draft RTC, resolve any remaining issues, and submit the draft final RI/FS report.

Ms. Sweeney asked if vapors from the groundwater plume could contaminate excavated and replaced clean soil at Kollman Circle. Mr. Talamantez replied that usually soil contaminates groundwater (versus groundwater contaminating soils) through rain diffusion. It is usually not necessary to remove the soil from over the groundwater plume unless the soil is the source of contamination. To date, only low detections have been found in soil-gas samples, indication soil contamination is not contaminating groundwater.

V. TAPP Grant Comments on Site 25/IR-02 Groundwater RI/FS Report

Ms. Sweeney introduced Mr. Conner to provide the Technical Assistance for Public Participation (TAPP) Grant review comments on the Site 25 groundwater RI/FS report. The presentation was not initially provided at the meeting in hard copy; however, the presentation is included in Attachment B-7a of these minutes. Handouts that were provided during the presentation and included also in these minutes are; Attachment B-7b, examples of groundwater plume contouring

software and Attachment B-7c, the official TAPP Grant review comments that were submitted to the Navy.

Mr. Conner gave his presentation by the outline, which included an introduction, a summary of the draft groundwater RI/FS report, TAPP Grant review comments, and recommendations.

During the introduction, Mr. Conner described the evolution of the draft groundwater RI/FS between the Navy and ERRG and his involvement with the project.

During his summary of the draft groundwater RI/FS report, Mr. Conner summarized previous investigations and steps taken to initiate the RI/FS report. He also reviewed the remedial action objectives (RAO) set for the project, the remedial technologies identified and screened, the remedial alternatives developed and screened, and the detailed analysis of criteria for each alternative developed. Mr. Conner stated that based on the detailed analysis, the alternatives were compared and Alternative 3 was selected as the preferred alternative.

Mr. Conner discussed the TAPP Grant review comments portion of his presentation. Mr. Conner stated that on Slide 11 (see Attachment B-7a), the first bullet should read “draft groundwater RI/FS” not “draft soil FS.” Slides 11 through 19 in Attachment B-7a present Mr. Conner’s complete discussion. An additional handout (Attachment B-7b) was supplied to illustrate different examples of groundwater plume contouring software as stated on Slide 16.

Mr. Conner discussed his recommendations from the review (see Slides 20 through 22 of Attachment B-7a). A summary of the recommendations is provided below.

- Mr. Conner recommended that the RAB should ask the BCT to clarify its stance on the following:
 1. The horizontal and vertical plume delineation
 2. The presence of methyl tertiary butyl ether (MTBE) in the plume and the relevance of its age
 3. Inclusion of an alternative treatment in the RI/FS
- Mr. Conner recommended that the RAB ask the Navy to comment on any connection between the draft soil FS report for OU-5 and this draft groundwater RI/FS report.
- The RAB should request that the Navy include indoor air monitoring in existing structures for air modeling verification.
- The RAB should request that the Navy re-evaluate the conceptual site model to include a contamination source discussion and the presence of MTBE.
- The RAB should ask the BCT if the use of biosparging or air sparging could increase the potential for benzene to migrate to indoor air and if this consideration should be factored into treatment selection.
- The RAB should ask the BCT if the use of ICs and current monitoring programs for ICs are sufficient.
- The RAB should ask the Navy to
 1. Consider other groundwater treatment alternatives,
 2. Re-evaluate the use of biosparging or air sparging in a tidally influenced area,
 3. Provide more details on the MNA program proposed with the remedy, and
 4. Consider and incorporate these recommendations into the draft final RI/FS.

Mr. Humphreys asked Mr. Conner what the distinction is between the RAB asking the Navy for an action and the RAB asking the BCT for an action as listed in the recommendations.

Mr. Conner replied that the difference is that the Navy represents financial or funding issues and that the BCT represents regulatory issues. For example, the RAB asking the Navy to consider other groundwater alternatives could have financial repercussions, whereas asking the BCT to review the use of ICs and IC programs would concern regulations or regulatory issues. If both parties are asked for clarification or to provide more information, then it is easier to form an agreement between the two.

Mr. Reilly asked if Mr. Conner knew of any sites other than at Alameda Point where ICs regarding residential use are in place. Mr. Conner replied that ICs are not very common in his opinion and that usually they involve extensive discussions up front. He stated that he is involved with a site not in the Bay area with restricted versus nonrestricted residential use issues where DTSC has not agreed to the designation. Mr. Reilly asked where the site is located. Mr. Conner replied south of Carmel.

Mr. Newton stated that the RAB prepared some comments a few months ago and that one comment concerned comparing monitoring well sampling with Hydropunch™ sampling and a dilution effect. Mr. Newton asked Mr. Conner to review this concept globally so that everyone could understand the differences between the two sampling methods. Mr. Conner replied that a monitoring well is like a big straw that is either 2 or 4 inches in diameter and that might have a screened depth of 5 to 20 feet bgs. Water is drawn into the well from all the layers of groundwater. Mr. Conner stated that contaminants do not always distribute evenly throughout the water column. Water being drawn in from the complete water column could create a dilution effect for contaminants from one specific depth layer. A Hydropunch™ sampler has a smaller diameter of 0.5 to 0.75 inch and a shorter screen depth of 3 to 5 feet, so less water is drawn in at a pinpointed location. Each method has its own specific uses, and neither is better overall. Mr. Conner stated that he personally prefers the Hydropunch™ method.

VI. BCT Activities

Ms. Huang presented an update of the BCT activities from the previous month. A handout was provided and is included in Attachment B-8. Ms. Huang stated that two agenda topics covered during the February 17, 2004, BCT meeting had already been discussed tonight: the Site 25 soil FS report and the OU-1 draft RI report.

A meeting on the risk calculation approach was held on February 10, 2004. BCT members discussed the risk calculation approach for eight transfer parcels: Economic Development Conveyance (EDC)-5, Public Benefit Conveyance (PBC)-1A, EDC-3, Federal Transfer (FED)-1A, EDC-21, EDC-17, EDC-12, and PBC-3.

An FS strategy meeting on Seaplane Lagoon was held on February 24, 2004. Significant revisions to the draft final RI report were discussed. Highlights of the discussion addressed including new sediment data in the draft final RI report, not calculating human health preliminary remediation goals (PRG) but instead confirming that ecological PRGs are protective of human health, and the estimation of total risk in the draft final RI report by combining all risks from all chemical and radiological constituents. The preliminary RAOs were also discussed.

Another interesting highlight discussed the disposal options for sediments removed from Seaplane Lagoon. Sediment disposal at Site 1 as part of a landfill cover will only be allowed if

the sediments and any drainage from the sediments can be controlled so that sediments will not contact groundwater, surface water, or stormwater runoff.

Mr. Reilly asked if the sediments would be placed under the proposed cap. Ms. Huang replied that they would be placed as a foundation layer for the cap if the sediments can be controlled and not cause ecological risk. Mr. Humphreys stated that the Navy is not proposing an impervious cap but instead is proposing more sand. Ms. Huang replied that the sediments would not be allowed as a foundation layer in that case. The cap will probably be an evapo-transpiration cap. Ms. Sweeney asked if the sediment could be used with an evapo-transpiration cap. Ms. Huang replied that the sediment would have to be sealed somehow but that the topic is open for discussion.

VII. Community and RAB Comment Period

Mr. Reilly asked Ms. Cook about the timeline for Site 25. Ms. Cook replied that it depends on how well the next versions of the documents progress. The next version of the revised draft FS report for soil will need to be submitted, become draft final, and then become final. Finalizing a document can take more than 1 year if the comments are not addressed properly. The groundwater RI/FS report will probably require 4 to 6 months for finalization because the concerns are minor.

Ms. Sweeney asked how the RAB would handle Mr. Conner's recommendations (included as Attachment B-7c) to the Navy and the BCT. Ms. Loizos replied that the OU-5 Focus Group met with Mr. Conner and incorporated his relevant comments into the Focus Group comments and sent them to the Navy.

Mr. Humphreys stated that he brought in an article that appeared in the February 23, 2004, edition of the *Wall Street Journal*. The article is included as Attachment B-9 to these minutes. The article headline reads, "EPA Asks Experts to Weigh Danger of Solvent TCE." He stated that the article discusses a meeting held to determine if the toxicity level set for trichloroethene (TCE) is too high by an estimated 40 to 60 times. Mr. Humphreys commented that he is aware that changes to the regulations governing chemicals take time; however, TCE contamination is present on many areas of Alameda Point. This article is an example of what happens when cleanup standards change and the cost of cleanup escalates. Dr. Henry replied that EPA Region IX has been aware for some time of the potentially underestimated toxicity of TCE and that Region IX has drafted language in support of a lower value for TCE. She stated that most of the risk assessments currently conducted use the lower, more stringent draft value, including the recent risk assessments conducted at Alameda Point. Ms. Cook stated that TCE poses a greater risk than originally anticipated by EPA; lowering the cleanup level reduces this risk. Much of the controversy is politically driven, and the cost to clean up sites to the new draft level is being strongly debated in Washington. Dr. Henry stated that the number has not been finalized but that Region IX is using the most stringent number at this time. Ms. Cook stated that the draft value could not be used as a legal requirement until it is final, but its use is considered prudent, and the Navy has agreed to use the lower value. Ms. Cook added that the cleanup goals are set in accordance with applicable or relevant and appropriate requirements (ARAR). If no numerical goals are available, the cleanup goals are set to the new risk cleanup number. In the case of drinking water, the maximum contaminant levels (MCL) are the legal cleanup requirements. Every 5 years, a remedy will go through a required review under CERCLA. If a change occurred in the level of cleanup and a remedy is found to no longer be protective of human health, then that remedy would be deemed no longer acceptable and the ROD would have to be reopened.

Mr. Humphreys asked if someone could retroactively be required to reconduct a cleanup to meet a changed standard. Ms. Cook replied that this could happen if the remedy is deemed to be no longer effective and protective of human health.

Ms. Boyle asked what happens when ICs are no longer realistic and become inconsistent with the planned future land use. Ms. Cook replied that the purpose of the ROD is not to protect receptors from current conditions but rather from future potential pathways. If ICs are put into place and state that structures, roadways, and sidewalks cannot be removed, then that IC applies to future land use. The ROD has to be very carefully negotiated between the City, Navy, and USCG because the ROD can lock the property into IC requirements. If at a future date the USCG wants to redevelop, it would probably have to prove that the remedy is no longer effective so that the ROD can be reopened. Ms. Cook stated that ICs are not easy to manage because they last forever. Ms. Cook stated that she is glad that the ROD is reviewed every 5 years for remedy effectiveness. Ms. Boyle asked why ICs are even being discussed for soil at Site 25 when eventually, new residential redevelopment is planned by the USCG. Ms. Cook stated that ICs would be a huge issue when the ROD phase is reached because the USCG is such a big stakeholder. Issues also exist regarding on how much the Navy is willing to clean up when the property is planned for transfer to another entity for development.

Ms. Sweeney reported that during the Alameda Annex RAB, a pipeline spill was discussed that ran along the northern border between the Coast Guard Marina Housing and the previous warehouse area adjacent to the previous East Housing Area and headed toward Alameda Annex Site 02. Ms. Sweeney stated that the spill was cleaned up and contaminated soil was disposed of off site, and that the pipeline was removed and disposed of. No other information was available regarding this spill.

Mr. Wong stated that he is the DTSC project manager for Alameda Annex and can probably provide more information. He stated that during the October through November 2003 timeframe, Catellus Development was demolishing buildings and identifying utility lines when a 10-inch storm drain was discovered. This storm drain was not connected to any building. In order to eliminate future collapse of soil, the storm drain was removed. During this removal, evidence of contamination was discovered. The developer notified Environmental Resource Management Group, Inc. (ERM), who collected preliminary shallow soil samples and deeper samples down to 8 feet bgs.

The preliminary sampling results indicated PAH contamination; therefore, the California Regional Water Quality Control Board (RWQCB) was contacted and determined that the soil should be removed, followed by confirmation sampling. After the soil removal, confirmation sampling analytical results showed remaining PAHs in soil. Further excavation was completed down to 11 feet bgs. Confirmation samples after the second excavation contained maximum detected concentrations of PAHs of 0.9 mg/kg at 11 feet bgs. The exposure remedy for this area is the Marsh Crust ordinance. The excavation was backfilled, and the remediation report has been received by DTSC and RWQCB and is currently under review. Mr. Wong stated that he has initially looked at the data and has not found any problems with it.

Mr. Reilly asked if the developer followed the health and safety plan as required by the Marsh Crust ordinance. Mr. Wong replied that the developer had followed the ordinance, and that the site management plan developed under the ordinance was initiated.

Ms. Loizos announced an invitation to the community RAB members to attend a Regional RAB Caucus for all the Bay area community RAB members hosted by ARC Ecology. The caucus allows RAB members to discuss their concerns, share information, and get their information to the right people. The caucus is on Thursday March 18, 2004, at the ARC Ecology office located on the 11th floor of 833 Market Street in downtown San Francisco.

Ms. Sweeney stated that the next meeting would be held on April 13, 2004. The meeting adjourned at 9:15 p.m.

ATTACHMENT A

**NAVAL AIR STATION ALAMEDA
RESTORATION ADVISORY BOARD MEETING AGENDA
March 9, 2004**

(One Page)

RESTORATION ADVISORY BOARD

NAVAL AIR STATION, ALAMEDA

AGENDA

MARCH 9, 2004 6:30 PM

ALAMEDA POINT – BUILDING 1 – SUITE 140

COMMUNITY CONFERENCE ROOM

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

<u>TIME</u>	<u>SUBJECT</u>	<u>PRESENTER</u>
6:30 - 6:40	Approval of Minutes	Jean Sweeney
6:40 - 6:55	Co-Chair Announcements	Co-Chairs
6:55 – 7:00	OU-1 Remedial Investigation Report (Sites 6, 7, 8, and 16)	Anna-Marie Cook
7:00 – 7:30	Navy Responses to comments on Site 25 Soil and Groundwater Feasibility Studies	Darren Newton
7:30 – 8:00	TAPP Contractor Comments on Site 25/IR02 Groundwater Feasibility Study	Kenneth Conner
8:00 – 8:10	BCT Activities	Judy Huang (RWQCB)
8:10 – 8:30	Community & RAB Comment Period	Community & RAB
8:30	RAB Meeting Adjournment	

ATTACHMENT B

NAVAL AIR STATION ALAMEDA RESTORATION ADVISORY BOARD MEETING HANDOUT MATERIALS

- B-1 RAB Membership Application and Personal Resume for Michael Schmitz. (2 pages)
- B-2 RAB Membership Application for Frank Mataresse. (1 page)
- B-3 ATSDR Replacement Pages for Draft Public Health Assessment of NAS Alameda. (5 pages)
- B-4 General Information on OU-1 Sites 6, 7, 8, and 16, Presented by Anna-Marie Cook, EPA, March 9, 2004. (2 pages)
- B-5 Responses to Comments on Draft Soil FS for OU-5, Presented by Kim Taylor, CDM, and Dr. Linda Henry, Brown and Caldwell. Dated March 9, 2004. (15 pages)
- B-6 Draft Groundwater RI/FS Update NAS Alameda Site 25/Annex Site 02, Presented by Anthony Talamantez, ERRG. Dated March 9, 2004. (6 pages)
- B-7a TAPP Grant Review Presentation of the Draft Groundwater RI/FS for Site 25/IR02, Prepared by Kenneth Conner, SCA Environmental, March 9, 2004. (11 pages)
- B-7b Alternative Groundwater Contour Modeling Software Examples, Prepared by Kenneth Conner, SCA Environmental. (8 pages)
- B-7c Official Comments to the Draft Groundwater RI/FS for Site 25/IR02, Prepared by Kenneth Conner, SCA Environmental. Dated February 2, 2004. (7 pages)
- B-8 February BCT Activities Update, Presented by Judy Huang, DTSC. March 9, 2004. (2 pages)
- B-9 Article "EPA Experts to Weigh Danger of Solvent TCE" in *The Wall Street Journal*, Dated February 23, 2004. Presented by George Humphreys. (1 page)

ATTACHMENT B-1
MICHAEL SCHMITZ RAB MEMBERSHIP APPLICATION AND RESUME
(Two Pages)

Attachment RAB Community Membership Application

Name: Michael Schmitz mschmitz@sanzgroup.com

Address: 1629 Moreland Drive, Alameda, CA 94501

Phone: 510-337-9149 510-588-4499 fax

Occupation: Attorney/Consultant

Employer: The Sanz Group - Policy, Strategy, Innovation.
Owner and Principal.

Are you affiliated with any group or agency? No.

How has the base closure/dean-up/conversion affected you and your community or neighborhood? The base clean-up and conversion impact me, my family, and community in important ways.

As a resident of Alameda, a small business owner, and homeowner I hope that the conversion process facilitates the economic revitalization of the base and surrounding community, in a way that all can participate and benefit fully. The opportunity for Alameda is potentially great, but the Navy needs to fulfill its obligation to deliver the land as quickly as possible, and cleaned up to a level that ensures the City and community economic development plans are not limited by the need to do further clean-up in the future.

On a personal level, as a parent I am concerned about the impacts of the various exposures to the array of toxic chemicals present on the former base on the children that live and go to school in the area. Our two-year old daughter is one of those children, happily enrolled in Home Sweet Home, a wonderful day care center, which is part of Home Base, at 2750 Todd on the former NAS base. I want to do whatever I can to ensure the clean-up is done to a level that is fully protective of children's health, so all parents can have confidence that their children are living, playing, and learning in a healthy, safe environment.

Why are you applying? Please explain how you can contribute to the RAB. I am applying because I care about the clean-up and conversion of the former NAS, and I believe I have experience and training that can contribute to the success of the process.

I am an attorney with a planning background, and have experience in toxic pollution regulation, economic development, redevelopment, and land use. I currently advise and act as Executive Director to the California League for Environmental Enforcement Now (CLEEN), a statewide environmental health coalition that seeks to protect the state's environmental toxic pollution laws. As a senior legislative aide to a California Congresswoman in Washington I was involved in many local economic development projects in the state including public/private initiatives. Other relevant experience and training can be found in my CV, which I have attached for your consideration.

MICHAEL SCHMITZ

1629 Moreland Drive, Alameda CA 94501

(510) 337-1404

mschmitz@sanzgroup.org

EDUCATION

UC Hastings College of The Law, San Francisco, CA.

Juris Doctoris, 1994.

Hastings Public Interest Law Foundation Grant. M. Jay Kramer Public Interest Scholarship.

UCLA Graduate School of Urban Planning, Los Angeles, CA.

Master of Arts - Social Policy & Planning 1991.

GSAUP Alumni Association Award for Outstanding Planning Student.

Stanford University, Palo Alto, CA.

Master of Science - Biology, 1986.

Bachelor of Science - Biology, 1985, with Honors.

Firestone Medal for Excellence in Research - School of Humanities & Sciences.

Published results in *Gastroenterology*.

PROFESSIONAL EXPERIENCE

The Sanz Group, Inc.

Principal.

Founder of consulting firm specializing in strategic research, analysis and policy development. Currently acting as Executive Director for primary client – CLEEN - a statewide environmental health coalition. Priority is protecting and implementing California's environmental protections against toxic pollution in legislative and administrative settings at the state and federal level.

2003 - Present

Alameda

Legal Aid Foundation of Los Angeles

Special Counsel & Directing Attorney.

Led firm's strategic planning process including working with key stakeholders in the community. Oversight of firm's legislative and policy initiatives in the area of economic development and workforce development. Responsible for managing and leading the firm's employment practice.

1999 - 2002

Los Angeles

Wilson Sonsini Goodrich & Rosati

Attorney.

Corporate securities practice included work on financings, and document review in preparation for public offerings with high technology companies, venture funds, and investment banks.

1999

Palo Alto

U.S. House of Representatives

Counsel - Senior Legislative Aide

Responsible for economic development and urban policy including federal development programs for senior California Congresswoman. Responsible for overseeing legislative work, including tracking and analyzing all relevant legislation, developing and drafting legislation, and committee staffing.

1997 - 1998

Washington D.C.

Echoing Green Foundation

Attorney - Fellow.

Advised business start-ups on transactional legal matters including: production of feasibility studies and business plans; incorporation; preparation of leases, partnerships, and joint venture agreements. Represented clients in civil litigation and administrative proceedings, conducted legal education.

1994 - 1996

Bay Area

LANGUAGES

Spanish

ATTACHMENT B-2
FRANK MATARESSE RAB MEMBERSHIP APPLICATION
(One Page)

Naval Air Station-Alameda / Alameda Point Restoration Advisory Board Community Membership Application

The Restoration Advisory Board (RAB) is an instrumental part of the environmental investigation and clean-up effort at the former Naval Air Station-Alameda. It is an avenue for community input into the process, as required by federal regulation. RAB membership is an important obligation. Duties and responsibilities include reviewing and commenting on technical documents and activities associated with the investigation and clean-up effort. Members should be willing to communicate with their constituencies, with the general public, and with interested groups who are concerned with base clean-up issues. RAB members are expected to serve a two-year term and attend all RAB meetings. There are also many opportunities to participate in subcommittees, which address topics that need more extensive discussion.

Individuals and organizations serving the community affected by the environmental investigation and clean-up at the former naval air station are encouraged to apply.

Name: Frank Mataresse

Address: _____ Add your e-mail address (if any) _____

Street, Apt. # _____ City _____ State/Zip _____

Phone: (⁵¹⁰) 923-3128 () _____ () _____
Daytime Evening Specify: Fax/Cell/Voicemail etc.

Occupation: City Councilmember

Employer(s): Chiron Corp.

1. Are you affiliated with any group or agency? City Council of Alameda

2. How has the base closure/clean-up/conversion affected you and your community or neighborhood?
City Council guides base reuse for the City of Alameda.

3. Why are you applying? Please explain how you can contribute to the RAB. Coordination of Information between RAB and City Council

Please return completed form to:

Jean Sweeney
RAB Community Co-Chair
212 Santa Clara Ave.
Alameda, CA 94501
Ph# 510/522-1579
Jean_Sweeney@juno.com

OR

Thomas Macchiarella
BRAC Environmental Coordinator
1230 Columbia Street, Suite 1100
San Diego, CA 92101
Ph# 619/532-0907
Thomas.Macchiarella@navy.mil

ATTACHMENT B-3
ATSDR REPLACEMENT PAGES, COVER LETTER,
AND COMPARISON TABLE
(Five Pages)



Agency for Toxic Substances
and Disease Registry
Atlanta GA 30333

March 4, 2004

The Agency for Toxic Substances and Disease Registry (ATSDR) is issuing the attached errata to replace page 50 and 51 of the February 11, 2004 public comment version of the public health assessment for the Former Naval Air Station Alameda, Alameda Point, Alameda County, California, EPA Facility ID No: CA4170090597. Please remove the current page 50/51 of the report and replace it with the attached page.

It was brought to our attention that there was an error in Table 12 of the report. We have corrected the typographical errors and modified Table 12 to make it easier to review. Additionally, we reviewed the material related to this issue and discovered that the error was a data entry error and not a mistake in ATSDR's analysis or evaluation. ATSDR concluded that *ingesting fish caught from Seaplane Lagoon is not likely to cause adverse health effects*.

Your comments are important us. You can send them to:

Attention: Chief, Program Evaluation, Records, and Information Services Branch
Agency for Toxic Substances and Disease Registry
1600 Clifton Road (E-60)
Atlanta, GA 30333.

Comments will be accepted until March 31, 2004. We will then publish an updated document that addresses the comments received.

Table 12 – Seaplane Lagoon Fish Sampling (2001)

Chemical	Detected Maximum Chemical Concentration (ppt or ng/g)	Adjusted Maximum Detected Concentration (mg/kg)	EPA's Acceptable Fish Concentration RBC (mg/kg)	ATSDR's Estimated Dose (mg/kg/d)	EPA's Reference Dose (mg/kg/d)	Hazard Level
2-methylnaphthalene	2.96	0.000002	27.0370	0.000000005	0.0200000	No Hazard
4,4-DDT	108.47	0.000108	0.00930	0.000000187	0.0005000	No Hazard
Dieldrin	108.82	0.000108	0.00020	0.000000187	0.0000500	No Hazard
Cadmium	reported as mg/kg	0.316100	1.35185	0.000545597	0.0010000	No Hazard
Chromium	reported as mg/kg	2.400000	2027.77	0.004142465	1.5000000	No Hazard
Aroclor 1260	555.47	0.000555	0.00160	0.000000958	Not available	No Hazard
PAH Equivalents	120.00	0.000120	0.00043	0.000000207	Not available	No Hazard
4,4-DDD	133.68	0.000133	0.01300	0.000000230	Not available	No Hazard
4,4-DDE	140.68	0.000140	0.00930	0.000000242	Not available	No Hazard

ATSDR's Estimated Dose is based on 0.126 kilogram (4.5 ounces) per day ingestion of fish caught exclusively from Seaplane Lagoon. Comparisons made between ATSDR's Estimated Dose for this site and EPA's Reference Dose. When the EPA's Reference Dose not available, comparisons made between Adjusted Maximum Detected Concentration mg/kg and EPA's Acceptable Fish Concentration or RBC mg/kg. Units - (ppt) parts per trillion or nanograms per gram, (mg/kg) parts per million or milligrams per kilogram, (mg/kg/day) milligrams per kilogram per day - dose unit.

Public Health Implications

The Navy has determined that the combined estimated exposure doses exceed their theoretical risk for cancer and non cancer endpoints. In accordance with the law, they will be taking action to reduce exposure to contaminated seafood at Seaplane Lagoon.

ATSDR's evaluation differs from the Navy's in that we look beyond theoretical risk calculations that over estimate and therefore are most protective of human health in order to advise people if they are likely to get sick from their exposure. ATSDR used the maximum exposure dose for these contaminants. Even with these protectively conservative assumptions, ATSDR found no evidence of cancer or non-cancer health effects at these over-estimated exposure levels for people who eat contaminated fish and shellfish from Seaplane Lagoon on NAS Alameda.

Conclusions and Recommendations

Adverse health effects are not likely to result from eating fish caught from Seaplane Lagoon. Levels of PAHs, pesticides, metals, PCBs, and butyins present in fish from Seaplane Lagoon are much lower than contaminant levels shown to result in adverse health effects.

The Navy plans to complete their remedial process and take action as appropriate according to the regulations. ATSDR has no public health recommendations.

NAS Alameda and those living in the surrounding communities have lived in these homes for fewer than 30 years. ATSDR also assumed that people ingesting fish at Seaplane Lagoon ingested an average of 0.126 kilograms per day. These assumptions create a very conservative estimate of exposure. Further, ATSDR assumed that people ingesting contaminated fish were exposed to the most contaminated fish; therefore, ATSDR used the highest (or maximum) measured concentrations of contaminants in fish. This is another conservative assumption, since ATSDR would not expect people to be exposed to the highest concentration all the time. Together, these conservative estimates allow ATSDR to safely evaluate the likelihood, if any, that ingestion of contaminated fish could cause harm to people at NAS Alameda.

In order to determine if the exposure is above a theoretical risk hazard, ATSDR compared the estimated exposure doses to health guidance levels, such as the Environmental Protection Agency's (EPA) oral reference doses, and to information in the toxicologic literature on the contaminants detected. If reference doses were unavailable for a contaminant, ATSDR compared the concentration of the contaminant to EPA Region III's risk-based concentration (RBC). The RBC corresponds to a target risk for a particular chemical in a particular media. RBCs are calculated by use of similar assumptions that ATSDR used in calculating exposure doses. The dermal exposure doses were compared to an adjusted EPA oral reference dose. This reference dose is an estimated exposure contaminant concentration that is not likely to cause adverse health effects, given a standard daily ingestion rate and standard body weight. It was multiplied by the percent absorbency rate following oral administration to create an adjusted reference dose. At doses less than the reference dose, no adverse health effects have been observed in that study.

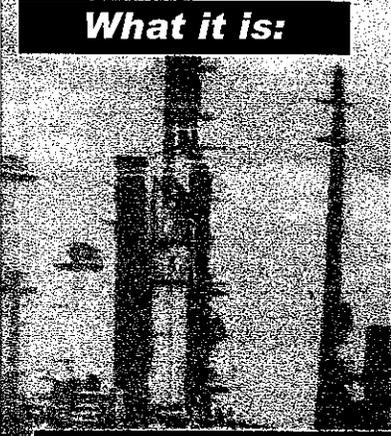
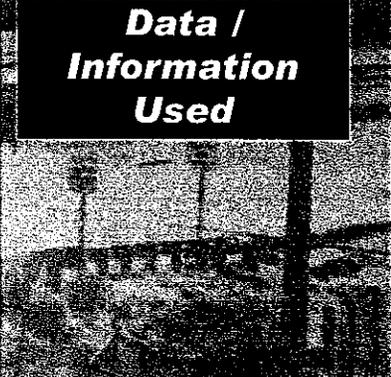
Seaplane Lagoon

In 2001, the exposure doses for adults ingesting contaminated fish at Seaplane Lagoon for 2-methylnaphthalene, 4,4-DDT, and dieldrin were below the EPA reference doses (Table 12). The concentrations of 4,4-DDD, 4,4-DDE, and Aroclor 1260 found in fish in Seaplane Lagoon were below EPA's RBC values. Adverse health effects should not result from exposure to this level of contamination in fish.

ATSDR compared the maximum detected concentration of PAHs to its LOAEL to evaluate the potential for adverse health effects. The LOAEL for PAHs is 1.3 mg/kg/day, over 6 million times higher than the maximum concentration detected. Therefore, the maximum value of PAHs detected in fish in Seaplane Lagoon in 2001 is much lower than the level at which adverse health effects are detected. Adverse health effects are not expected for humans exposed to these levels of contaminants in fish from Seaplane Lagoon.

Levels of cadmium and chromium were also detected in fish at levels much lower than EPA's RBC levels or Reference Dose Levels.

Comparison of Public Health Assessments and Risk Assessments

Issue	Public Health Assessments (PHA)	Risk Assessments (RA)
<p>What it is:</p> 	<ul style="list-style-type: none"> ■ A process to evaluate exposure to chemicals in the environment and the impact of those exposures on public health ■ It defines likely exposure pathways and potentially exposed populations to address community health concerns ■ It recommends actions to protect public health 	<ul style="list-style-type: none"> ■ A process to provide risk managers and the community with an understanding of the potential human health risk posed by a site in the absence of any cleanup ■ A transparent assessment process for making consistent remedial decisions that are protective of human health and ecological receptors ■ It estimates unacceptable risks as defined by regulatory standards and requirements
<p>What it is not:</p>	<ul style="list-style-type: none"> ■ A medical evaluation ■ A health study ■ A regulatory document ■ An evaluation of ecological risks 	<ul style="list-style-type: none"> ■ A prediction of the likely health effects from exposure ■ A document containing public health recommendations
<p>Data / Information Used</p> 	<ul style="list-style-type: none"> ■ Environmental & biologic data ■ Community health concerns ■ Health effects data (i.e., epidemiological, toxicological, and health outcome data) ■ Site-specific exposure considerations ■ Health guidelines to screen for chemicals needing further evaluation 	<ul style="list-style-type: none"> ■ Environmental data ■ Remedial goals ■ Toxicity data ■ Default and site specific exposure assumptions ■ Regulatory guidelines to determine unacceptable risk that need to be addressed through remediation

Issue	Public Health Assessments (PHA)	Risk Assessments (RA)
Health Guidelines Used	<p>For Screening:</p> <ul style="list-style-type: none"> ■ Minimal Risk Levels (MRLs) ■ Reference Doses (RfDs) ■ Reference Concentration (RfCs) ■ 10⁻⁶ cancer risk 	<p>To Determine Unacceptable Risk:</p> <ul style="list-style-type: none"> ■ RfDs ■ RfCs ■ 10⁻⁴ to 10⁻⁶ cancer risk ■ Cancer Slope Factors
Findings	<ul style="list-style-type: none"> ■ Identify actual chemical and radiological exposures to environmental contamination ■ Assess real or perceived site-related health problems ■ Focus on the past, the present and the future ■ Recommend measures to prevent or reduce exposure ■ Develop mechanisms to re-evaluate public health issues as site conditions change ■ Recommend health-based follow-up actions 	<ul style="list-style-type: none"> ■ Calculate reasonable maximum exposures to derive cleanup goals that are protective of sensitive populations and ecological endpoints ■ Establish site-specific cleanup goals ■ Focus on the present and the future
Outcome / Endpoint	<ul style="list-style-type: none"> ■ Reduce exposures ■ Fill data gaps (via sampling or research) ■ Health Studies ■ Health Education ■ Exposure Registries ■ Address community concerns ■ Leverage public and private partnerships to implement public health actions 	<ul style="list-style-type: none"> ■ Support for regulatory decisions (based on human and ecological risks)

**For a more detailed comparison, see
 "A Citizen's Guide to Risk and Health Assessments at Contaminated Sites," November 2003.*

ATTACHMENT B-4
MS. COOK'S PRELIMINARY COMMENTS ON OU-1 RI REPORT
FOR SITES 6, 7, 8, AND 16
(Two Pages)

March 9, 2004 Alameda Point RAB Meeting
General Information on Operable Unit 1 - IR Sites 6, 7, 8 and 16

- There are low levels of CERCLA contamination at all sites due to light industrial activities.
- All sites in OU 1 result in a risk over 1×10^{-6} and will be carried forward into the Feasibility Study for evaluation of remedial action. It does not necessarily mean that remedial action must be taken if the risk is between 1×10^{-6} and 1×10^{-4} (for example, if the risk is solely due to background levels of metals and low levels of PAHs, it may not be reasonable to take any remedial action).
- The RI separates the risk into soil and groundwater risks, but they need to be combined to provide an overall site risk.
- Human health and ecological assessments were conducted for each site.
- Site 6 consisted of an aircraft maintenance facility and has soil and groundwater contamination. Site 7 used to be the Navy exchange service center and former location of an incinerator. The site has both TPH and CERCLA contamination in the soil and groundwater, although not co-located. Site 8 was a pesticide storage area and has soil and groundwater contamination. Site 16 is used as a shipping container storage area and before 1948 was used for aircraft parking and storage of paints, solvents, and transformers and also was the location of a self-serve auto repair facility. An in-situ chemical oxidation pilot study is currently being run at the site to treat VOCs in groundwater. Both the soil and the groundwater are contaminated at this site.

IR Site 6

Contains Building 41, which housed seaplanes and was used to repair aircraft components. There are washdown areas, oil water separators, a hazardous waste storage area, and a solvent dip tank associated with this building. Two oil water separators, which lie outside the IR site boundaries but are associated with the washdown areas have not been sampled. Soil and groundwater samples in their vicinity would complete the soil contamination investigation and also help to bound the groundwater plume contours to the north and west.

Groundwater is approximately 5 feet below ground surface at this site, and groundwater monitoring wells are screened only into the first water bearing zone, i.e. no monitoring wells are located beneath the Bay Sediment Unit which is believed to act as an aquitard between the first and second water bearing zones.

Soil contamination was mostly found around an oil water separator and solvent dip tank associated with the washdown areas and some further contamination was found in the vicinity of both washdown areas. The volatile organic contaminants found in soil are at low levels and are related to solvent use (DCA, DCE, TCE and toluene). Arsenic and PAHs were also found in the soil and identified as the soil risk drivers (i.e. contributed the most significant percentage of risk) for this site.

Groundwater contamination was found in the same approximate locations as the soil contamination. The groundwater contaminants are related to solvent use and the breakdown products of the solvents also appear in the groundwater. The main risk drivers for groundwater are PCE, TCE, DCA, DCE, and vinyl chloride.

The most conservative human health risk calculation for this site includes using a residential scenario, assessing soil from both 0 -2 ft and 0 - 8 ft and including ingestion of groundwater as an exposure pathway. The total risk for the site exceeds 1×10^{-4} : the soil risk exceeds 1×10^{-6} , due to PAHs and arsenic, and the groundwater risk exceeds 1×10^{-4} due to solvents. The site will be carried into the Feasibility Study and evaluated to determine whether and which type of remedial action is necessary for the soil and the groundwater.

IR Site 7

Prior to 1962 an incinerator was located at this site. In 1962 a repair shop and parts store (Building 459) was constructed over and around the location of the former incinerator and a fuel island (Structure 284) was installed in 1966 to the east of Building 459.

Groundwater occurs about 3 feet below ground surface at this site. Monitoring wells have been screened in both the first and second water bearing zones.

The soil data and risk assessments were separated into two distinct areas:

- 1) the area associated with the footprint of the former incinerator and debris area
- 2) the area of site 7 remaining outside the incinerator boundary and debris area

Arsenic, copper and lead were found to be the major contaminants in soil in the former incinerator/debris area. The RI does not include copper as a risk driver in the incinerator debris area and it should. Arsenic, benzene, xylene and PAHs are the main contaminants for soil in the area outside of the incinerator/debris boundary, and are associated with the fuel island. The RI states that lead levels in soil outside the incinerator/debris area at this site are at background levels which EPA disagrees with and therefore thinks that lead should also be considered a risk driver in this area.

PAHs and thallium were found in groundwater beneath the incinerator/debris area. Thallium, BTEX and MTBE contamination was found in the groundwater beneath the fuel islands and associated tanks.

The most conservative human health risk calculation for this site includes using a residential scenario, assessing soils from both 0 -2 ft and 0 - 8 ft and including ingestion of groundwater as an exposure pathway. The risk for the site exceeds 1×10^{-4} : the soil risk for both the incinerator/debris area and the surrounding area exceeds 1×10^{-6} , due to PAHs, benzene and arsenic, and the groundwater risk exceeds 1×10^{-4} due to arsenic, thallium and PAHs. The site will be carried into the Feasibility Study and evaluated to determine whether and which type of remedial action is necessary for the soil and the groundwater.

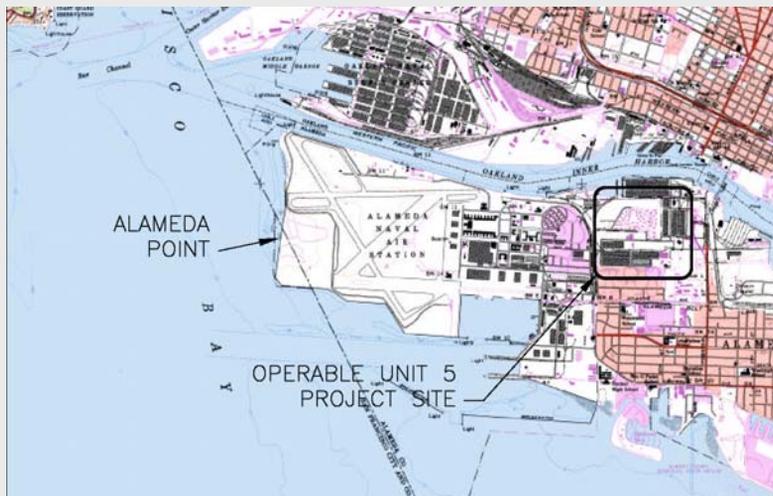
ATTACHMENT B-5
RESPONSES TO COMMENTS ON DRAFT OU-5 SOIL FS REPORT
(15 Pages)

Alameda Point OU-5 Feasibility Study (FS)

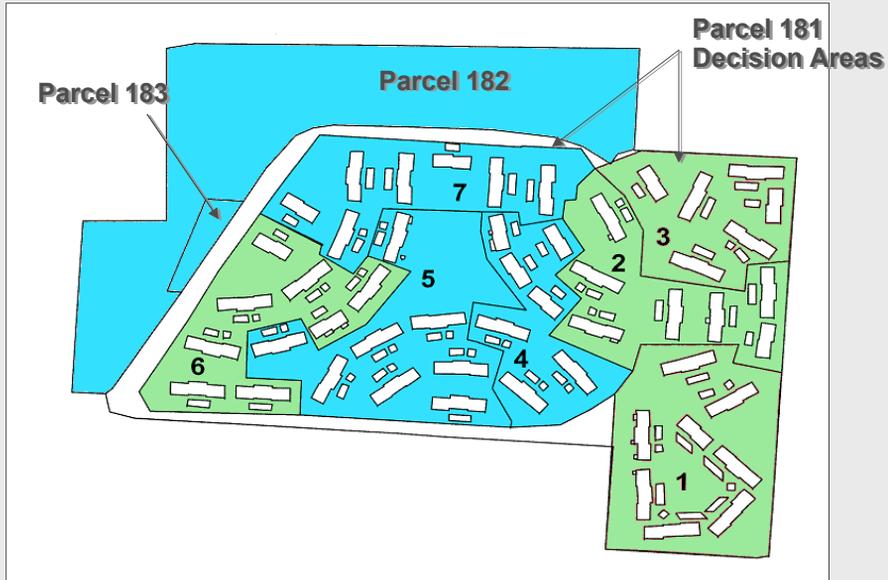
Responses to Comments on Draft Soil FS for OU-5

09 March 2004

OU-5 Site Location Map



OU-5 Parcels and Decision Areas



Remedial Investigation (RI)

- Performed in 2002
- Included Risk Assessment for OU-5
 - Parcels 181, 182, and 183 using RI soil data only
 - from 0 to 8 feet below ground surface (ft bgs) in intervals
 - for PAHs (using benzo(a)pyrene-equivalent concentrations) and Title 22 metals

RI Risk Assessment

■ COPCs

- All chemicals detected in soil, soil gas, and groundwater were initially identified as COPCs**
- Included about 80 volatiles, PAHs, and metals**

RI Risk Assessment (Cont'd)

■ Receptors

- Current residents based on 6 year occupancy**
- Future residents based on 30 years occupancy**
- Construction workers**

RI Risk Assessment (Cont'd)

- **Exposure Pathways**
 - Ingestion of soil, dermal contact, inhalation of vapors from soil,
 - Volatilization of VOCs from soil gas and shallow groundwater to indoor and outdoor air was also quantified

RI Risk Assessment (Cont'd)

- **Calculations of soil risk and exposure point concentrations:**
 1. RI used weighted averages (based on average concentration from each depth)
 - for current residents, exposure to 0-0.5, 0-2, and 0-4 ft bgs were evaluated
 - for future residents, exposure to 0-0.5, 0-2, 0-4, and 0-8 ft bgs were evaluated

RI Risk Assessment (Cont'd)

2. Based on Responses to USEPA Comments on the Draft RI, Risks were recalculated at different intervals
 - 0-0.5, 0.5-2, 2-4, and 4-8 ft bgs
 - Concentrations weren't weighted

RI Risk Assessment Results

- Future residential cancer risks
 - PAHs in soil from 0 to 4 ft = 1×10^{-5} to 2×10^{-4}
 - Metals in soil = 1×10^{-5} (arsenic was the risk driver)
 - VOCs in soil gas = 4×10^{-8}

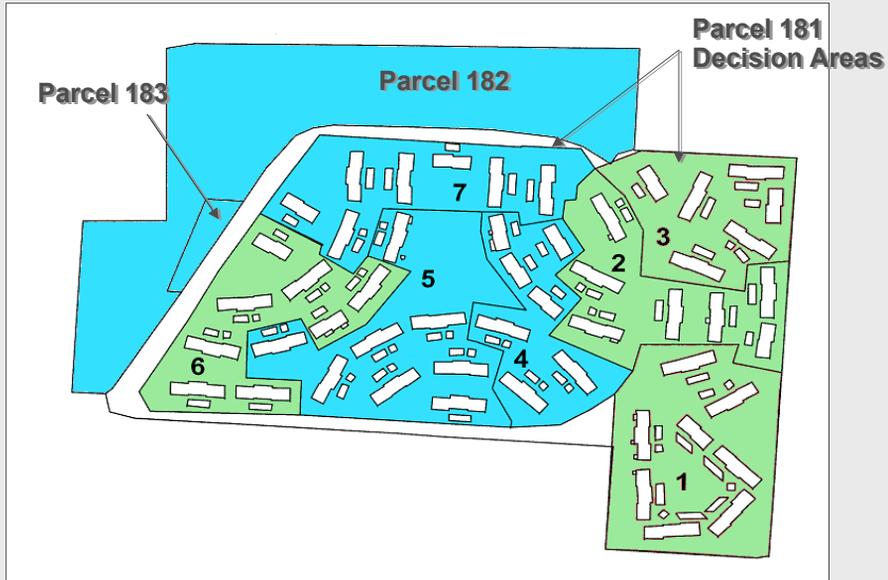
RI Risk Assessment Results (Cont'd)

- **Noncancer hazard index = equal to or less than 1 for both current and future residential scenarios**
- **Metals were not divided into Parcels or DAs (all data lumped)**
 - **Arsenic concentrations were consistent with background**

RI Recommendations

- **No Further Action proposed for Decision Areas (DAs) 1 and 3**
- **Time Critical Removal Actions were performed in 2001/2002**
 - **Removed Upper 2 feet of soil**
 - **in entirety of Parcels 182/183**
 - **in DAs 4, 5, and 7 of Parcel 181**

OU-5 Parcels and Decision Areas



Remedial Alternatives to be Considered in the Revised Draft Feasibility Study

- **Alternative 1**
 - No Action
- **Alternative 2**
 - Institutional Controls (ICs) only
 - 0 to 8 feet in DAs 1, 2, 3, and 6
 - 2 to 8 ft in Parcels 182/183, and DAs 4, 5, and 7

Remedial Alternatives to be Considered in the Revised Draft Feasibility Study (Cont'd)

- **Alternative 3**
 - Excavate upper 2 feet of soil in unimproved areas of
 - Parcel 181 DAs 2 and 6
 - DAs 1 and 3 (only if necessary after recalculation of risk)
 - Off-Site Disposal and Backfill
 - ICs below 2 ft
 - Calculate exposure risk assuming 0-2 ft of clean fill
 - Calculate risk for homegrown produce/plant uptake

Remedial Alternatives to be Considered in the Revised Draft Feasibility Study (Cont'd)

- **Alternative 4 –**
 - Excavate upper 4 feet of soil in unimproved areas of OU-5
 - Excavate DAs 1 and 3 (only if necessary after recalculation of risk)
 - Off-Site Disposal and Backfill
 - ICs below 4 ft
 - Calculate exposure risk assuming 0-4 ft of clean fill
 - Calculate risk for homegrown produce/plant uptake

Remedial Alternatives to be Considered in the Revised Draft Feasibility Study (Cont'd)

- **Alternative 5 –**
 - Excavate upper 8 feet of soil in unimproved areas of OU-5
 - Excavate DAs 1 and 3 (only if necessary after recalculation of risk)
 - Off-Site Disposal and Backfill
 - ICs below 8 ft
 - Calculate exposure risk assuming 0-8 ft of clean fill
 - Calculate risk for homegrown produce/plant uptake

Remedial Alternatives to Be Considered in the Revised Draft Feasibility Study (Cont'd)

- **A comparison of the cost of Alternatives 3, 4, and 5 versus reduction in risk will be presented**

OU-5 Revised Draft Soil FS Risk Assessment

- **The Risk Assessment for PAHs will be conducted for:**
 - **Parcel 181, all 7 DAs and Parcels 182/183**
 - **Post-TCRA conditions for 0–2, 0–4 and 0–8 ft depths**

OU-5 Revised Draft Soil FS Risk Assessment (Cont'd)

- **For each Remedial Alternative**
 - **Alternative 3: assume 0-2 ft is clean fill**
 - **Calculate risks for 0-2, 0-4, and 0-8 ft bgs**
 - **Alternative 4: assume 0-4 ft is clean fill**
 - **Calculate risks for 0-4 and 0-8 ft bgs**
 - **Alternative 5: assume 0-8 ft is clean fill**
 - **Calculate risks for 0-8 ft bgs**

OU-5 Revised Draft Soil FS Risk Assessment (Cont'd)

- **Metals will not be recalculated, but RI risk and clean fill risk for arsenic will be added to PAH risk for a total risk**
 - RI risk for arsenic is 1×10^{-5} and EPC ranges from 4.1 to 4.6 mg/kg
 - Clean fill risk for arsenic is 2×10^{-5} and EPC = 5.8 mg/kg
- **RI Dermal absorption factors will be updated to respond to DTSC comment on Draft FS**

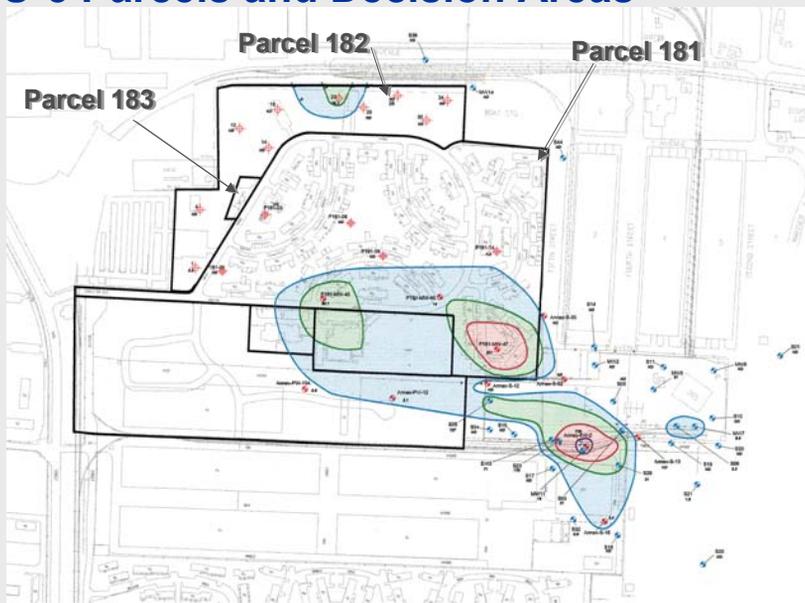
OU-5 Revised Draft Soil FS Risk Assessment (Cont'd)

- **Risks will be recalculated using USEPA's new statistical approach that calculates the EPC with either the:**
 - Land equation, student-t equation, or Chebyshev method
 - Calculation method depends on the distribution of the data

Regulatory Comments – Common Themes

- Relationship between the OU-5 Soil FS and the Groundwater RI/FS
 - Groundwater RI/FS addresses the benzene plume in groundwater beneath OU-5 and adjacent areas (IR Site 25 and Alameda Annex)
 - The relationship between the OU-5 Soil and Groundwater RI/FS will be discussed in the Revised Draft Soil FS

OU-5 Parcels and Decision Areas



Regulatory Comments – Common Themes (Cont'd)

- **A discussion of cleanup goals will be included in the Revised Draft Soil FS to include:**
 - Derivation of Current cleanup goals
 - Proposed Cleanup Goals for OU-5 vs. USEPA Residential Preliminary Remediation Goals (PRGs)
 - Proposed Cleanup Goals vs. TCRA cleanup goals

Regulatory Comments – Common Themes (Cont'd)

- **Available Air Sampling Results will be summarized in the Revised Draft Soil FS**
 - Alameda North Housing
 - Parcel 179

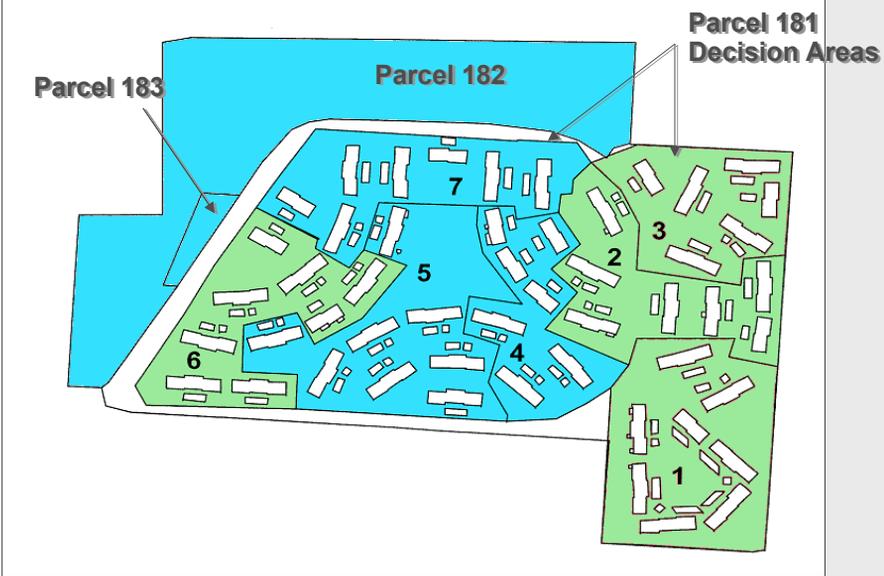
Regulatory Comments – Common Themes (Cont'd)

- **Homegrown produce pathways and plant uptake scenarios will be evaluated in the Revised Draft Soil FS**
 - Risk will be calculated for each of alternatives 3, 4, and 5
 - Results will be discussed in the FS

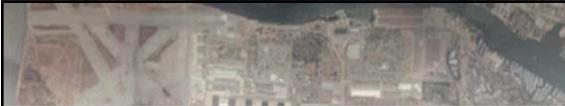
Regulatory Comments – Common Themes (Cont'd)

- **Contaminants Beneath Existing Site Improvements (i.e., buildings, structures, roads, sidewalks, etc.)**
 - The site will be transferred “as is”
 - No excavation will be proposed for areas beneath existing improvements
 - ICs will control exposure to contaminants beneath existing improvements

OU-5 Parcels and Decision Areas



ATTACHMENT B-6
DRAFT SITE 25/IR-02GROUNDWATER RI/FS REPORT UPDATE
(Six Pages)



NAS Alameda RAB Presentation March 9, 2004

**Draft Groundwater RI/FS –Update
NAS Alameda Site 25 / Annex Site 02**

Engineering/Remediation Resources Group, Inc.



Presentation Outline

- **Current status of project**
- **Comments received on Draft Remedial Investigation (RI) / Feasibility Study (FS) Report**
- **General categories of concerns**
- **Specific concerns and Navy's proposed actions to address concerns**
- **Next steps**



Current Status of Project

- Draft RI/FS issued in October 2003
- Comments received through February 2004
- Navy preparing responses to comments and Draft Final RI/FS



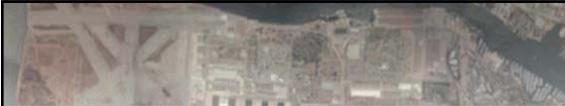
Comments Received on Draft RI/FS

Comments received from:

- U.S. Environmental Protection Agency
- Department of Toxic Substances Control
- Regional Water Quality Control Board
- Alameda Reuse and Redevelopment Authority
- Interested community members (TAPP, OU-5 working group)

Majority of comments pertained to RI

- Many were related to presentation of characterization data
- RI/FS revisions will likely *not* require additional site characterization to select remediation technology



Rationale for RI/FS Organization

- RI portion is streamlined – intent was to summarize and build upon previous RI data
- Previous reports present significant soil and groundwater characterization data
 - OU-5 RI (2002) – covered Site 25 and Annex Site 02
 - Alameda Annex RI (1996)
 - NAS Alameda and Annex Benzene Soil Gas Investigation (1999)
- Data judged sufficient to support selection of a remediation technology



RI-Related Concerns

Presentation of Characterization Data

- RI data insufficient
- Plume maps – extent and method of estimating
- Use latest chemical data from groundwater monitoring
- Chemicals of potential concern
- Potential contamination sources

Groundwater Technical Issues

- Conceptual model
- Groundwater flow direction
- Tidal influence
- Preferential pathways (storm drain bedding material)
- Contaminant trend analysis (Mann-Kendall)
- Monitored natural attenuation



Proposed Action: RI-Related Concerns

Proposed action to address characterization data concerns:

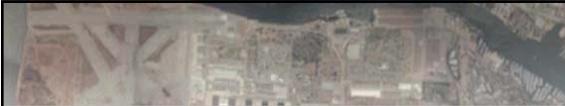
- Text will be added to refer reader to previous reports and recent groundwater monitoring reports for a smoother transition to the RI/FS
- Specific references (figures, tables, etc) to previous and recent reports will be added to assist review
- Plume maps will be modified by a Hydrogeologist to compensate for unbounded areas and inconsistencies
- Recent data from ongoing monitoring will be incorporated
- Discussion of source characterization will be expanded



Proposed Action: RI-Related Concerns

Concerns regarding Groundwater Technical Issues:

- Groundwater conceptual model and flow direction maps will be refined
- Tidal influence and preferential pathways will be further examined
- Additional trend analyses will be performed (for all plume wells)
- Additional MNA data will be included in the analysis



FS-Related Concerns

Human Health Risk Assessment

- Indoor air inhalation pathway should be evaluated and addressed as a remediation objective
- Analysis of existing soil-gas data, previous indoor air data (report to be provided by the Coast Guard), and data collected in an additional indoor air sampling field event
- Previous assessment of potential inhalation risk is not presented

Remediation Technologies

- Request for further information regarding selected technology (biosparging with monitored natural attenuation)
- Request for analyses of other technologies



Proposed Action: FS-Related Concerns

Navy's proposed action to address risk assessment concerns:

- Inhalation risk will be included as a remedial action objective
- Previous inhalation risk assessment will be summarized
- Soil-gas data (to be provided by the Coast Guard) will be evaluated and summarized
- No additional indoor air sampling is planned – vapor control and monitoring will be included as part of the remedial alternative



Proposed Action: FS-Related Concerns

Concerns regarding Remediation Technologies:

- Additional information regarding biosparging can be provided (i.e. contingency vapor control), but the appropriate place is in the Remedial Design (after the ROD)
- Further discussion will be added on why other technologies were not retained for detailed analysis



Next Steps

- Meet with agencies to discuss responses to comments
 - Agree on approach to present or reference previous characterization data
- Submit draft responses to comments
- Discuss and resolve any remaining issues
- Submit Draft Final RI/FS

ATTACHMENT B-7A
TAPP GRANT REVIEW OF SITE 25/IR-02 GROUNDWATER RI/FS REPORT
(11 Pages)

**TAPP Grant Review of
Draft Groundwater Remedial
Investigation/Feasibility Study
(RI/FS) for
Alameda Point Site 25**

March 9, 2004

Restoration Advisory Board (RAB) Meeting

Contract N68711-03-M-5014

SCA Environmental, Inc.
Kenn Conner, PE, CHMM

Presentation Outline

- Introduction
- Summary of Draft Groundwater RI/FS Report
- TAPP Grant Review Comments
- Recommendations

Introduction

- NAVFAC Southwest Division contracted with ERRG to prepare a Groundwater Remedial Investigation/ Feasibility Study (RI/FS) Report for Alameda Point Site 25
- SCA Environmental also was contracted by NAVFAC Southwest Division to review the Draft RI/FS Report on behalf of the RAB as a peer review
- Draft version of the report was released for public review on October 2003
- SCA received draft report on October 2003
- ERRG presented report during RAB Meeting on January 6, 2004

Introduction (cont'd)

- Comment period was originally scheduled to end January 2004; extension was granted to February 2004
- SCA submitted review comments for the Draft RI/FS Report to NAVFAC Southwest and the RAB on February 2, 2004
- This presentation represents a summary of the review comments

Summary of Draft RI/FS for Alameda Point Site 25

The following summary is based on SCA's review of the Draft FS Report and Presentation:

- During Environmental Investigations at the Alameda Annex area and Site 25, Volatile Organic Compounds (VOCs) in the gasoline range of petroleum hydrocarbons were identified in the groundwater in the area
- Soil and Soil Gas studies were also performed in the area with findings of low-level metals contamination in the soil, widespread PAH contamination in the mid-level concentration in the soil, and some Benzene contamination in the soil gas
- As ancillary activities to the Environmental Investigations, discussions between the U.S. Navy, the regulatory agencies and local stakeholders take place regarding beneficial use issues for the groundwater

Summary of Draft RI/FS for Alameda Point Site 25 (cont'd)

- The Navy then proposes and sets Remedial Action Objectives for the project:
 - To prevent exposure to contaminants in Groundwater: Benzene and Naphthalene
 - Main exposure route would be pumping of shallow groundwater and use by resident, construction worker, landscape worker or school worker, and
 - Comply with ARARs such as State/Federal MCL (1 mg/L) for Benzene and USEPA Health Advisory for Naphthalene (100 mg/L)

Summary of Draft RI/FS for Alameda Point Site 25
(cont'd)

- Next, Remedial Technologies were Identified and Screened:
 - No Action
 - Institutional Controls
 - Site Monitoring
 - Monitored Natural Attenuation
 - Biosparging
 - Any combination of above

Summary of Draft RI/FS for Alameda Point Site 25
(cont'd)

- Next, Remedial Alternatives were Developed and Screened:
 - Alternative 1 - No Action
 - Alternative 2 - Institutional Controls to assure that groundwater will not be used as a potable water supply
 - Alternative 3 – Biosparging with Monitored Natural Attenuation and Institutional Controls
- All of the Alternatives were retained for detailed analysis

Summary of Draft RI/FS for Alameda Point Site 25
(cont'd)

- Next, a detailed analysis was conducted for each Alternative based on:
 - Overall protection of the Human Health and the Environment
 - Compliance with ARARs
 - Long Term Effectiveness and Permanence
 - Reduction of Toxicity, Mobility, or Volume through Treatment
 - Short-term effectiveness
 - Implementability
 - Cost
 - State Acceptance
 - Community Acceptance

Summary of Draft RI/FS for Alameda Point Site 25
(cont'd)

- Last, based on the detailed analysis, a comparison of the alternatives was performed and a preferred alternative was selected:
 - Alternative 3, which involves Biosparging of selected areas followed by Monitored Natural Attenuation and Institutional Controls for all of Site 25, was selected for the project

TAPP Grant Review Comments

- SCA Environmental, Inc. has reviewed the Draft Soil FS Report and offers the following comments
- The report is consistent in format and content with other Groundwater RI/FS Reports produced and meets the general standards of the environmental industry
- Overall, the quality of the Draft Groundwater RI/FS Report was found to be good and a random audit of calculations in the report found these to be correct; only minor edits for consistency were noted during the review
- No logic gaps or other problems were found during the review

TAPP Grant Review Comments (cont'd)

- A Soil FS is being performed at OU-5 which encompasses Site 25. The findings and conclusions of that FS should be summarized in the Groundwater RI/FS for reconciliation and compatibility between the two proposed remediation technologies. Also, discussion regarding the two plumes (groundwater and soil) needs to be included so reviewers are aware of the scope and extent of the contamination in both the soil and the groundwater.

TAPP Grant Review Comments (cont'd)

- There are three “missing pieces” with respect to the characterization and delineation of the plume:
 - The horizontal and vertical delineation of the plume(s) needs to be defined; at present, it appears based on the RI/FS that delineation has not been achieved.
 - The source or potential sources of the plume needs to be identified
 - The presence of MtBE in the plume needs to be explained
- These “missing pieces” can effect groundwater treatment selection, equipment sizing, treatment effectiveness, equipment placement, efficiency, and cleanup time
- The site is subject to CERCLA and the cleanup levels are generally guided by the CERCLA process, but other DTSC and RWQCB Screening Levels (SLs) may be applicable and should be reviewed with respect to concentrations of Benzene for indoor air concentrations

TAPP Grant Review Comments (cont'd)

- Some discussion regarding the problems with using hydropunch data and well data together should be addressed. Because of sample and screen size and dilution effects, the use of this type of data as interchangeable is not always advised.
- Diagrams showing past soil gas points overlain with groundwater concentration contours/data would be helpful.

TAPP Grant Review Comments (cont'd)

- Based on the information in the RI/FS, it is thought by the U.S. Navy that the plume has been in the groundwater an extended period of time. There are several issues that need to be addressed to support this claim:
 - The presence of MtBE in the plume
 - The presence of Benzene in the plume
 - The extremely slow rate of Natural Attenuation for a plume of this age
- The presence of MtBE and Benzene in the plume would indicate a much younger plume than speculated. The MtBE, because of the timeframe that it has been placed in gasoline and the Benzene, because it readily attenuates even under poor conditions
- The presence of MtBE should be explained in the Conceptual Site Model as well

TAPP Grant Review Comments (cont'd)

- The use of software programs like Surfer™ (a copyrighted software program) has made groundwater contouring for elevation and concentration much easier. However, Surfer™ does have limitations and numerous settings which must be taken into account when performing the contouring functions.
 - The handout has some examples of how contours can change at a site just from the different settings on Surfer™.

TAPP Grant Review Comments (cont'd)

- The speculation of a very slow rate of Natural Attenuation is a slightly circular in logic; the assumption of a slow rate is based on the plume being there for an extended period of time without a continuing source. However, if there is a continuing source, then the rate may not be slow.
- Even under poor conditions, Benzene plumes tend to attenuate at a fairly moderate rate unless two things are present:
 - Free floating product in the groundwater table and/or
 - Continuing source of contamination such as an UST or a pipeline or sewer line

TAPP Grant Review Comments (cont'd)

- Monitoring for Natural Attenuation can entail a wide spectrum of analyses and numbers of wells; it would be helpful for the U.S. Navy to identify in greater detail the parameters and the wells that it would propose for Natural Attenuation monitoring at this stage of the RI/FS
- The area is likely to be tidally influenced and this can effect the groundwater concentrations. In tidally influenced areas, it is helpful to have concentration data plotted vs. time and groundwater elevation vs. time to determine if any connection between groundwater elevation and concentration can be shown. This may also be a better review of the data than the Mann-Kendall statistic given the relatively small number of data points for each well.

TAPP Grant Review Comments (cont'd)

- It is understood that the proposed treatment by the U.S. Navy is better than the current situation where no treatment is afforded; however, given the nature of biosparging and its potential to liberate Benzene or other volatiles from the subsurface to indoor and outdoor air, other treatment technologies should be reviewed as well.
- Another treatment technology which should be evaluated for this plume is groundwater extraction and treatment. Although it is not as popular as it once was, it still affords efficient treatment for plumes such as the one at Site 25

TAPP Grant Review Recommendations

- Based on the review of the Draft FS Report, SCA Environmental recommends the following
- The RAB should ask the BCT to clarify the regulators' stance(s) on the following:
 - Horizontal and Vertical Delineation of the current plume,
 - Presence of MtBE in the plume and its relevance to the age of the plume
 - Inclusion of another treatment alternative in the RI/FS for consideration
- The RAB should ask the Navy to comment on any connection between the Draft Soil FS Report for OU-5 and the Draft Groundwater RI/FS Report for Alameda Point Site 25; if the sites (or the respective plumes) overlap, then some discussion in the Draft Soil FS Report for OU-5 may be warranted

TAPP Grant Review Recommendations

(cont'd)

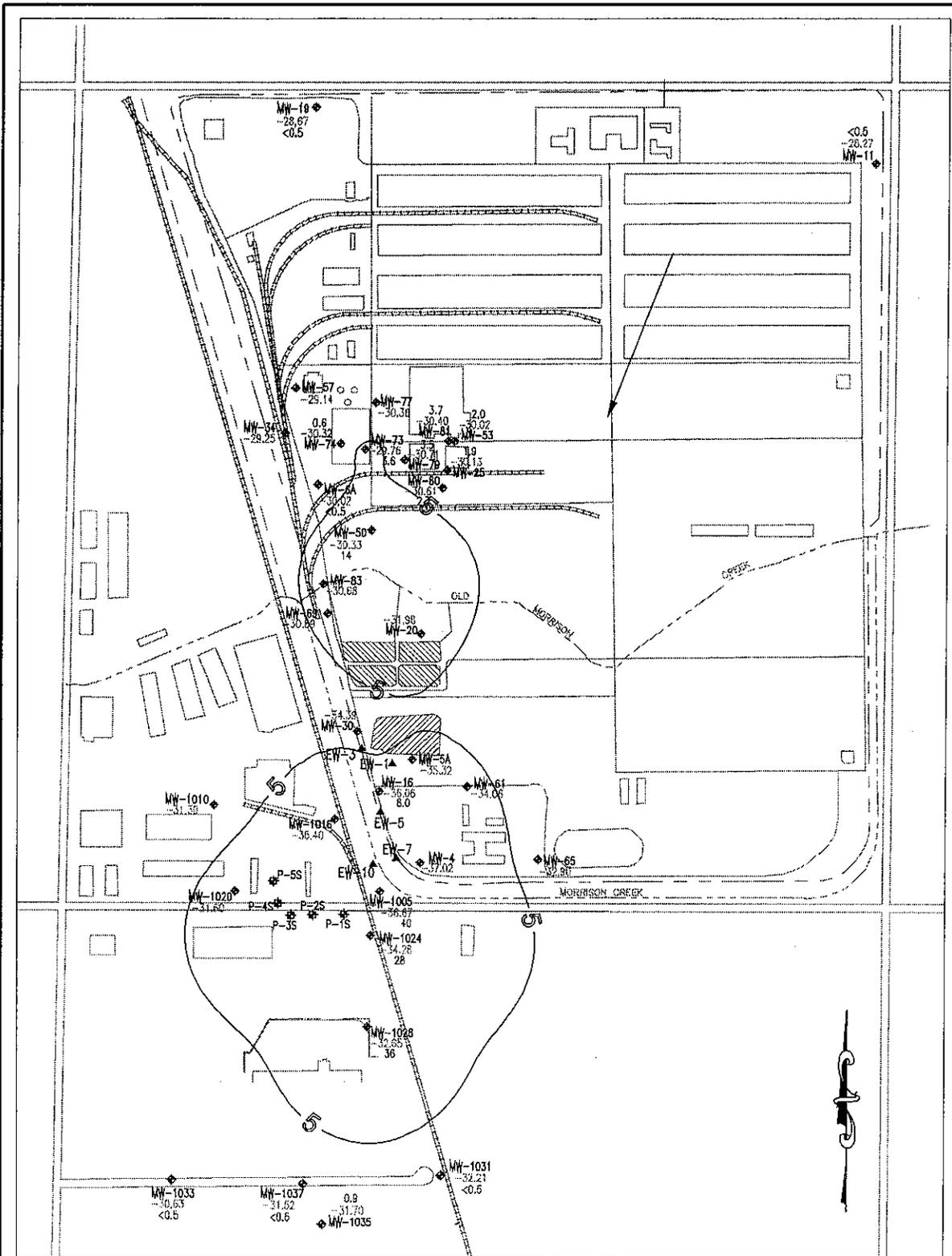
- The RAB should request of the U.S. Navy that indoor air monitoring for existing crawl spaces and residences be part of the verification for the indoor air models with respect to the Benzene issues
- The RAB should ask the U.S. Navy about revisiting the Conceptual Site Model to include discussion of the source of contamination and the presence of MtBE
- The RAB should ask the BCT if the potential use of Biosparging or Air Sparging could increase the potential of Benzene in indoor air spaces and if this should be factored in the selection of a treatment alternative
- The RAB should ask the BCT regarding the use of Institutional Controls at a residential site and if the current monitoring programs for such controls are sufficient

TAPP Grant Review Recommendations

(cont'd)

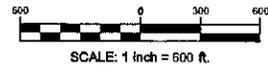
- The RAB should ask the U.S. Navy to consider other treatment alternatives for the remediation of the groundwater
- The RAB should ask the U.S. Navy to re-evaluate the use of Biosparging or Air Sparging in a tidally influenced area
- The RAB should ask the U.S. Navy to provide more details on the Natural Attenuation monitoring program that is being proposed as part of the remedy
- The RAB should ask the Navy to consider these comments and recommendations for incorporation into the Draft Final/Final RI/FS Report

ATTACHMENT B-7B
ALTERNATIVE GROUNDWATER CONTOUR EXAMPLES
(Eight Pages)



LEGEND

- ◆ MW-1035 GROUNDWATER MONITORING WELL LOCATION AND DEPTH TO GROUNDWATER AND TCE CONCENTRATION IN PARTS PER BILLION (PPB)
- ◆ P-1S PIEZOMETER LOCATION
- ▲ EW-10 EXTRACTION WELL LOCATION
- 30.00 GROUNDWATER ELEVATION CONTOUR
- TCE 5 5 PPB TRICHLOROETHENE ISOCONCENTRATION CONTOUR (PPB)
- APPROXIMATE GROUNDWATER FLOW DIRECTION



Drawn By: J. Parr
 Project No.: B-6211
 Date: 8-26-03
 Filename: SM03AZ.dwg

KRIGING
 A-ZONE
 FORMER SACRAMENTO ARMY DEPOT

PLATE
B-1



LEGEND

- ◆ MW-1035 GROUNDWATER MONITORING WELL LOCATION AND DEPTH TO GROUNDWATER AND TCE CONCENTRATION IN PARTS PER BILLION (PPB)
- ◆ P-15 PIEZOMETER LOCATION
- ▲ EW-10 EXTRACTION WELL LOCATION
- 30.00 GROUNDWATER ELEVATION CONTOUR
- - - 5 PPB TRICHLOROETHENE ISOCONCENTRATION CONTOUR (PPB)
- APPROXIMATE GROUNDWATER FLOW DIRECTION



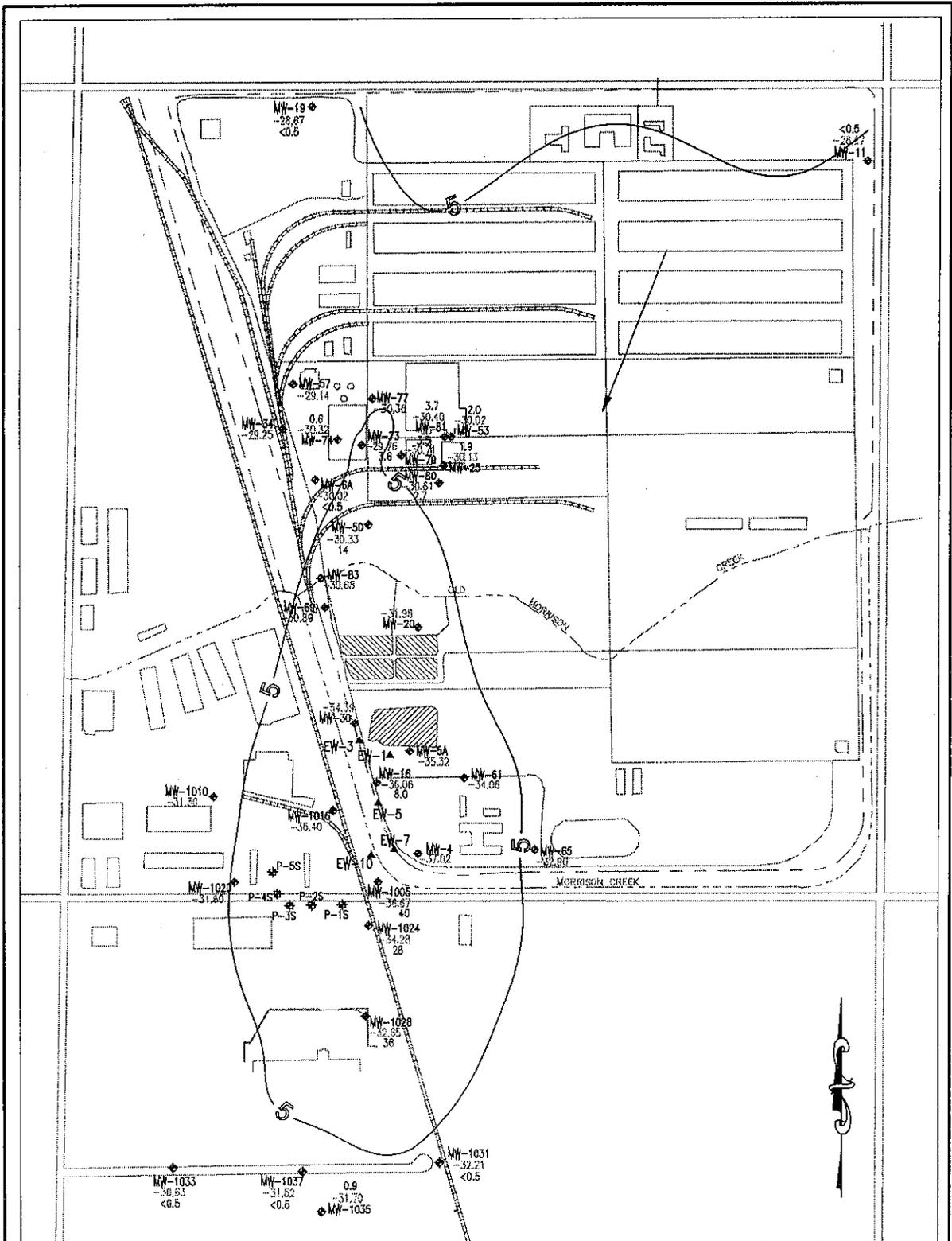
SCA

Drawn By: J. Parr
 Project No.: B-6211
 Date: 8-26-03
 Filename: SM03AZ.dwg

MINIMUM CURVATURE
 A-ZONE
 FORMER SACRAMENTO ARMY DEPOT

PLATE

B-1

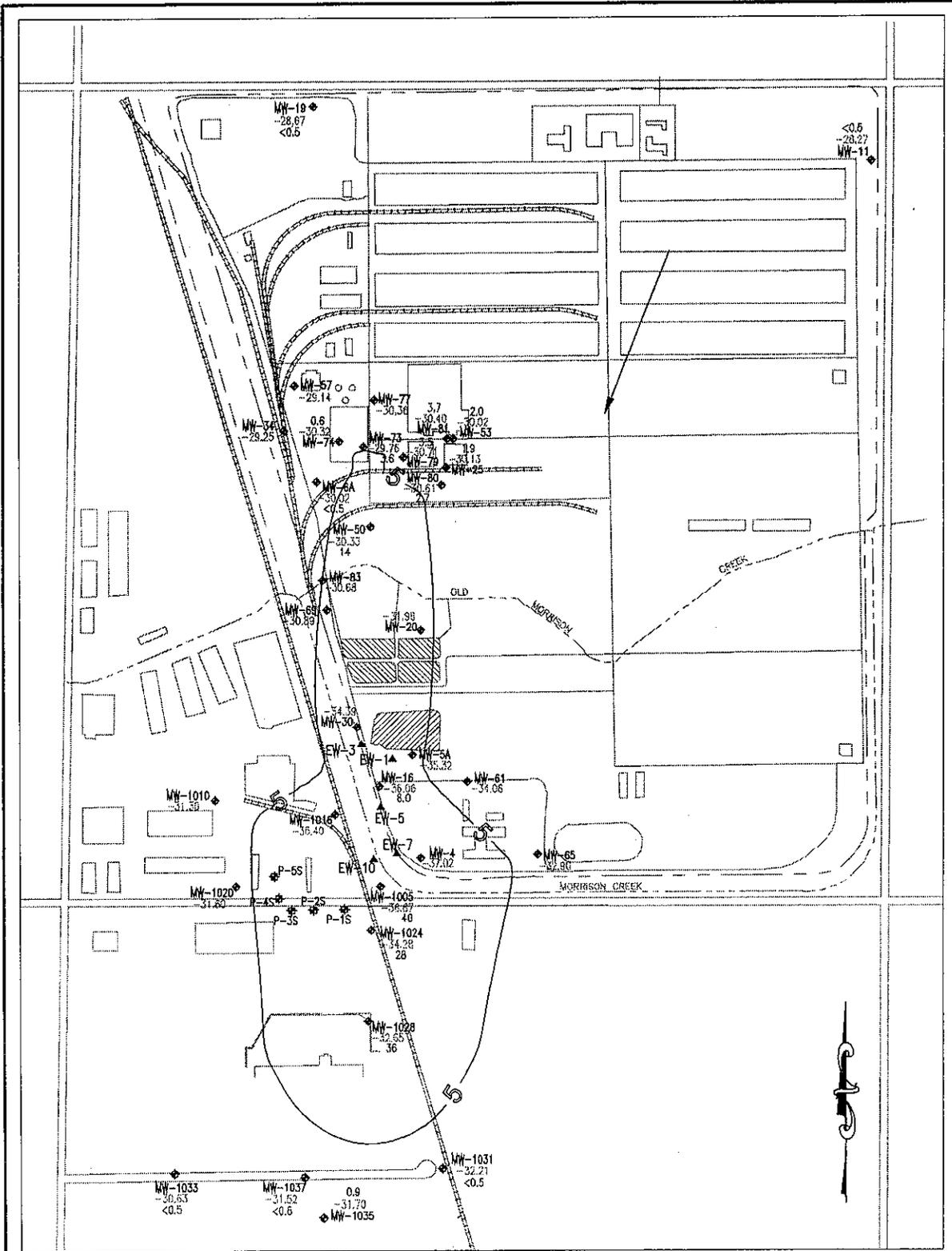


LEGEND

- ◆ MW-1035 GROUNDWATER MONITORING WELL LOCATION AND DEPTH TO GROUNDWATER AND TCE CONCENTRATION IN PARTS PER BILLION (PPB)
- ◆ P-1S PIEZOMETER LOCATION
- ▲ EW-10 EXTRACTION WELL LOCATION
- 30.00 GROUNDWATER ELEVATION CONTOUR
- 28.00 5 PPB TRICHLOROETHENE ISOCONCENTRATION CONTOUR (PPB)
- APPROXIMATE GROUNDWATER FLOW DIRECTION



SCA	Drawn By: J. Parr	MODIFIED SHEPARD'S METHOD	PLATE
	Project No.: B-6211		B-1
	Date: 8-26-03	A-ZONE	
	Filename: SMO3AZ.dwg	FORMER SACRAMENTO ARMY DEPOT	

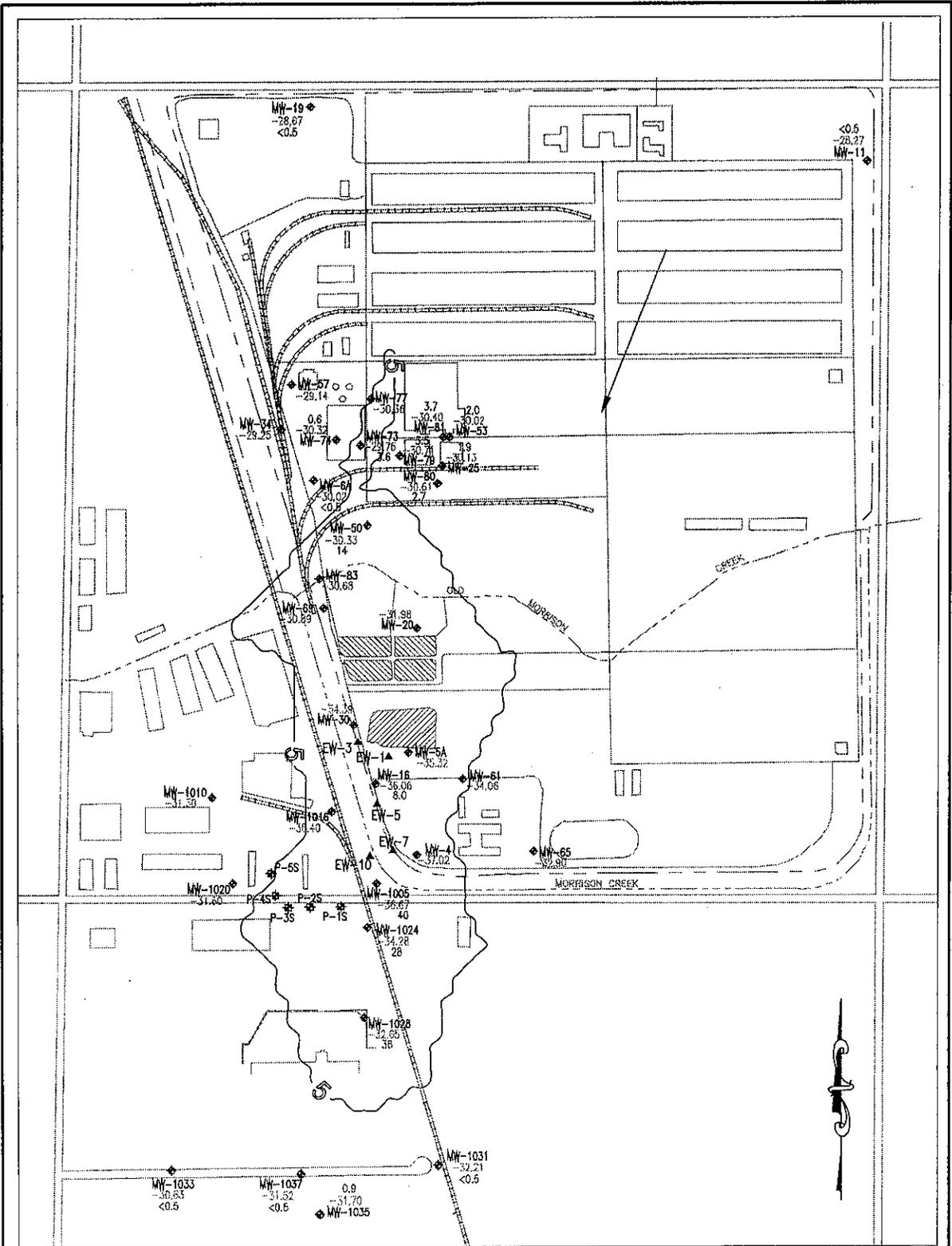


LEGEND

- ◆ MW-1035
-31.70
0.9
GROUNDWATER MONITORING WELL LOCATION AND DEPTH TO GROUNDWATER AND TCE CONCENTRATION IN PARTS PER BILLION (PPB)
- ⊕ P-1S
PIEZOMETER LOCATION
- ▲ EW-10
EXTRACTION WELL LOCATION
- 30.00
GROUNDWATER ELEVATION CONTOUR
- TCE 5
6 PPB TRICHLOROETHENE ISOCONCENTRATION CONTOUR (PPB)
- APPROXIMATE GROUNDWATER FLOW DIRECTION

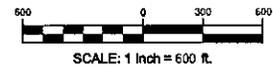


SCA	Drawn By: J. Parr	NATURAL NEIGHBOR	PLATE
	Project No.: B-6211		B-1
	Date: 8-26-03	A-ZONE	
	Filename: SMO3AZ.dwg	FORMER SACRAMENTO ARMY DEPOT	

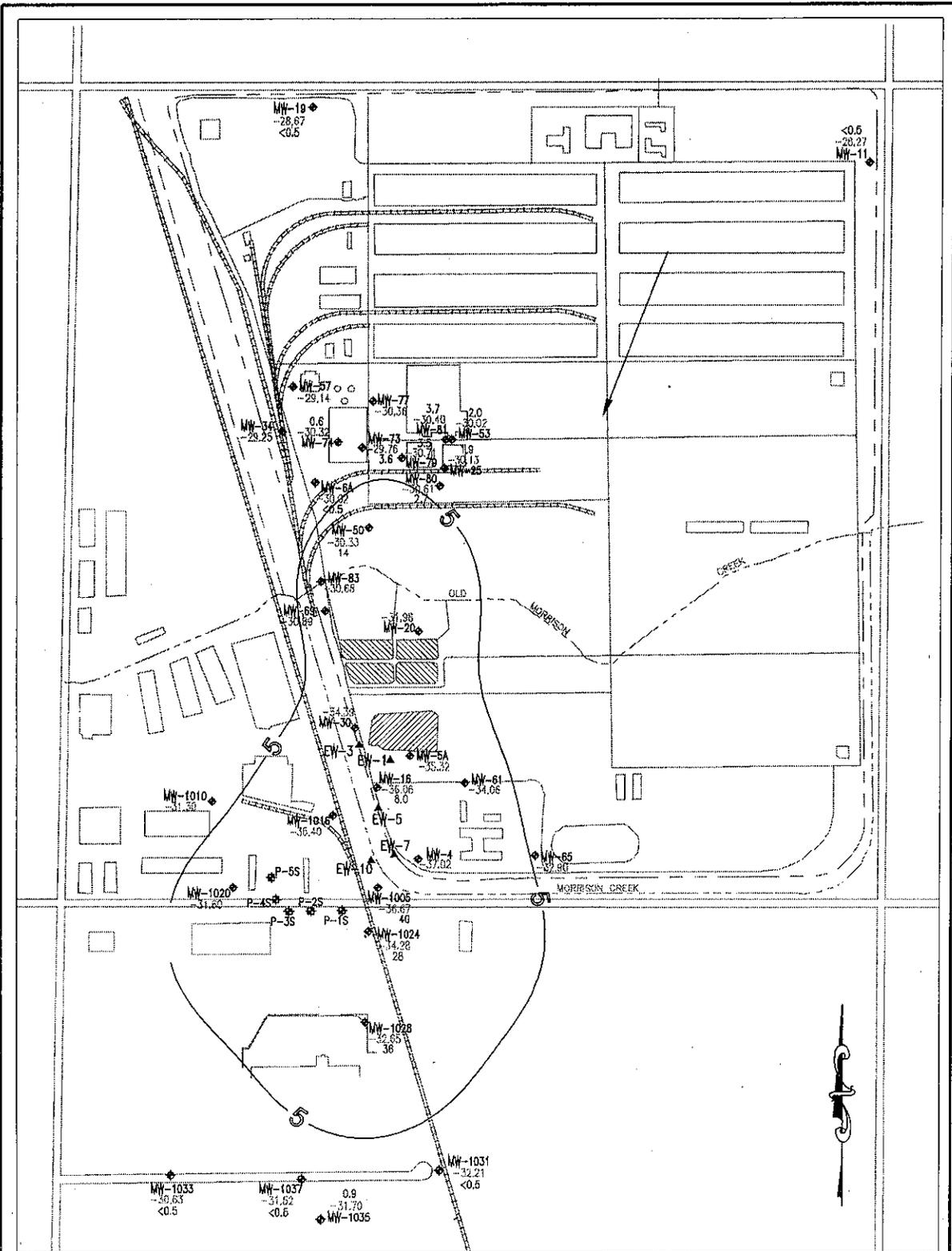


LEGEND

- ◆ MW-1035 GROUNDWATER MONITORING WELL LOCATION AND DEPTH TO GROUNDWATER AND TCE CONCENTRATION IN PARTS PER BILLION (PPB)
- ◆ P-15 PIEZOMETER LOCATION
- ▲ EW-10 EXTRACTION WELL LOCATION
- 30.00 GROUNDWATER ELEVATION CONTOUR
- 6 PPB TRICHLOROETHENE ISOCONCENTRATION CONTOUR (PPB)
- APPROXIMATE GROUNDWATER FLOW DIRECTION

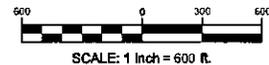


SCA	Drawn By: J. Parr	NEAREST NEIGHBOR	PLATE
	Project No.: B-6211		B-1
	Date: 8-26-03	A-ZONE	
	Filename: SW03AZ.dwg	FORMER SACRAMENTO ARMY DEPOT	



LEGEND

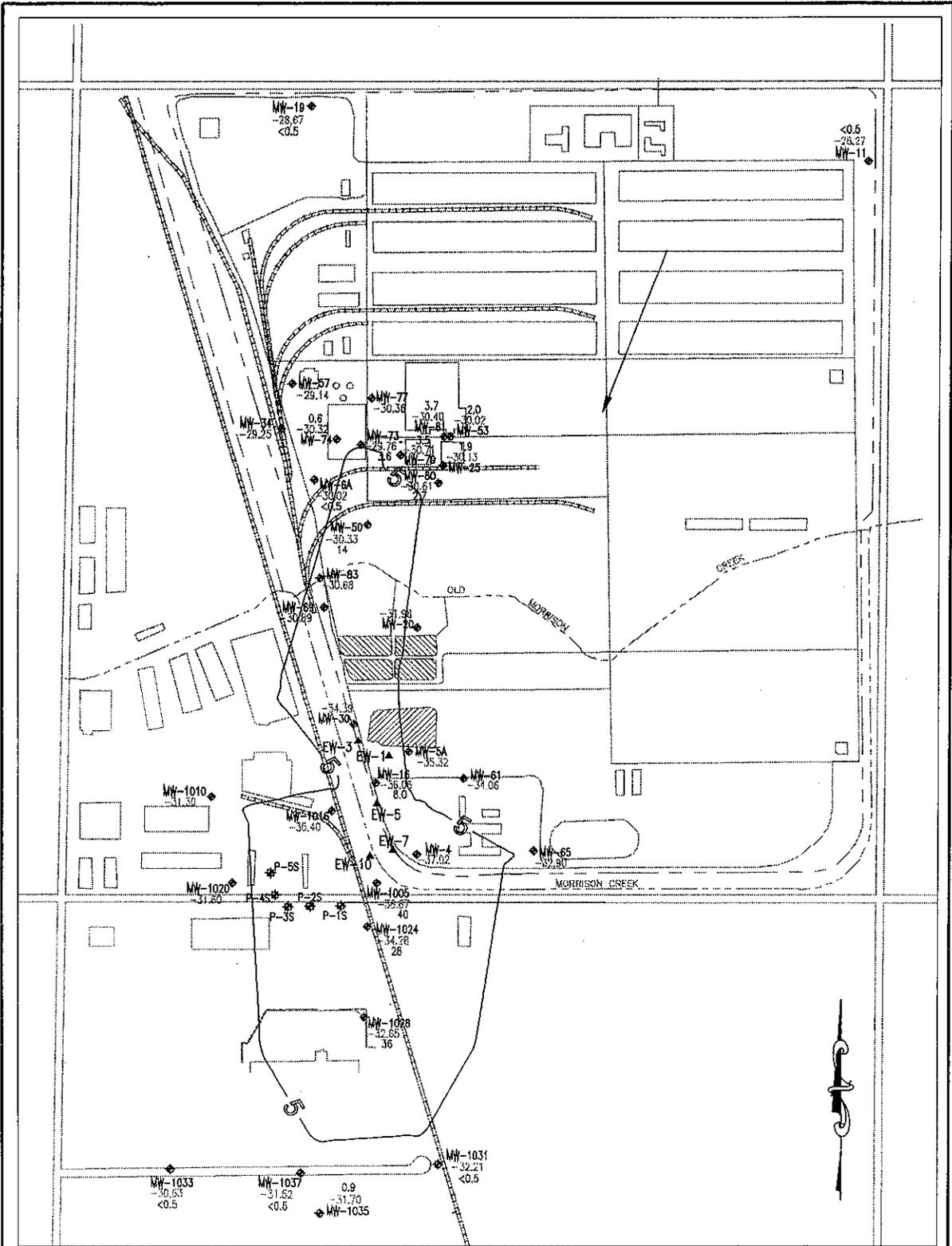
- ◆ MW-1035 GROUNDWATER MONITORING WELL LOCATION AND DEPTH TO GROUNDWATER AND TCE CONCENTRATION IN PARTS PER BILLION (PPB)
- ◆ P-1S PIEZOMETER LOCATION
- ▲ EW-10 EXTRACTION WELL LOCATION
- 30.00 GROUNDWATER ELEVATION CONTOUR
- TCE 5 5 PPB TRICHLOROETHENE ISOCONCENTRATION CONTOUR (PPB)
- APPROXIMATE GROUNDWATER FLOW DIRECTION



Drawn By: J. Parr
 Project No.: B-6211
 Date: 8-26-03
 Filename: S:\03AZ.dwg

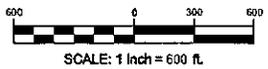
RADIAL BASIS FUNCTION
 A-ZONE
 FORMER SACRAMENTO ARMY DEPOT

PLATE
B-1

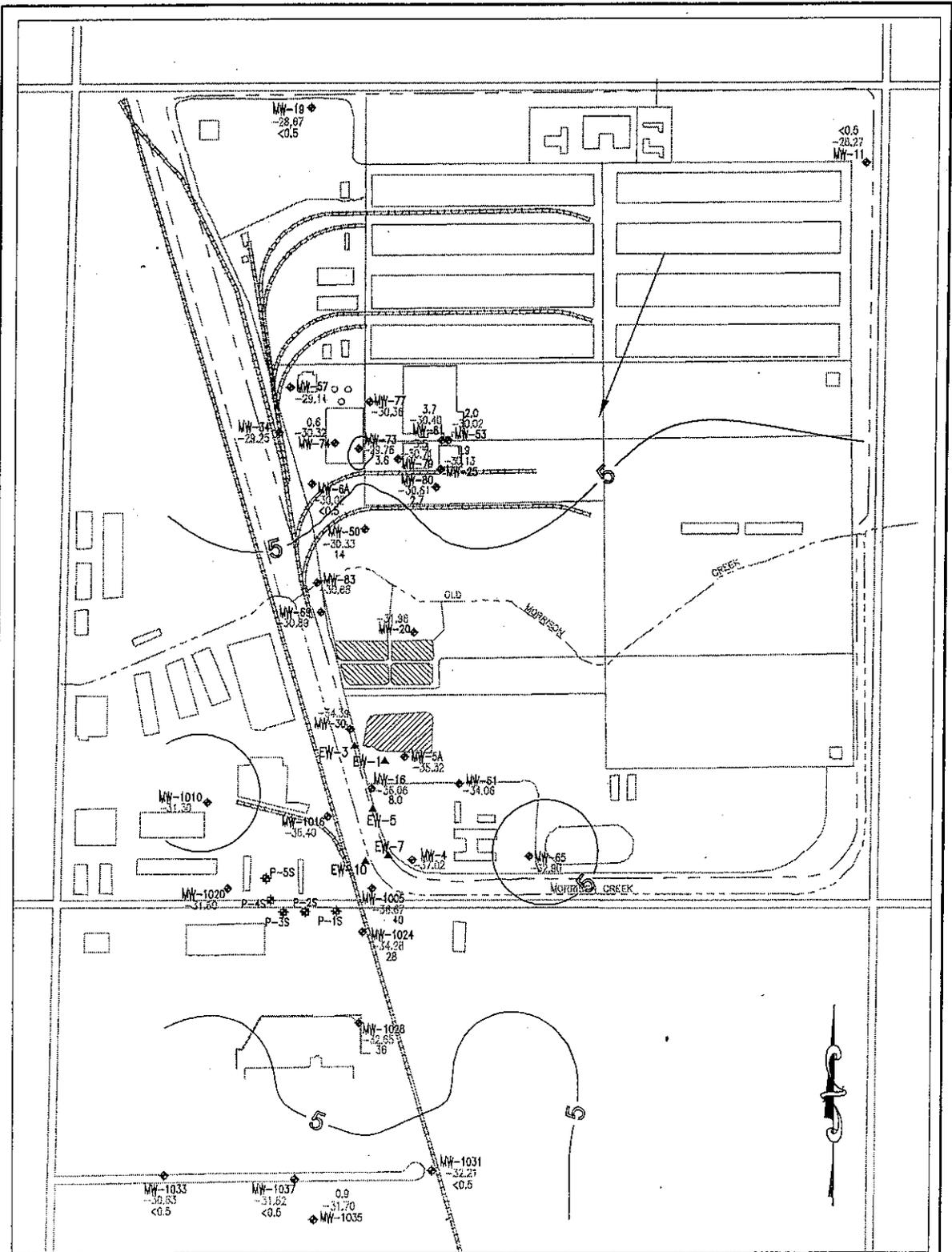


LEGEND

- ◆ MW-1035
-31.70
0.9
GROUNDWATER MONITORING WELL LOCATION AND DEPTH TO GROUNDWATER AND TCE CONCENTRATION IN PARTS PER BILLION (PPB)
- ◆ P-1S
PIEZOMETER LOCATION
- ▲ EW-10
EXTRACTION WELL LOCATION
- 30.00
GROUNDWATER ELEVATION CONTOUR
- 30.60
6 PPB TRICHLOROETHENE ISOCONCENTRATION CONTOUR (PPB)
- APPROXIMATE GROUNDWATER FLOW DIRECTION

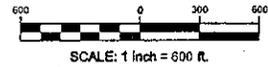


SCA	Drawn By: J. Parr	TRIANGULATION W/ LINEAR INTERPOLATION	PLATE
	Project No.: B-6211		B-1
	Date: 8-26-03	A-ZONE	
	Filename: S\03AZ.dwg	FORMER SACRAMENTO ARMY DEPOT	



LEGEND

- ◆ MW-1035 GROUNDWATER MONITORING WELL LOCATION AND DEPTH TO GROUNDWATER AND TCE CONCENTRATION IN PARTS PER BILLION (PPB)
- ◆ P-1S PIEZOMETER LOCATION
- ▲ EW-10 EXTRACTION WELL LOCATION
- - - -30.00 GROUNDWATER ELEVATION CONTOUR
- - - -0.5 TCE-5 5 PPB TRICHLOROETHENE ISOCYANIDE CONCENTRATION (PPB)
- APPROXIMATE GROUNDWATER FLOW DIRECTION



SCA	Drawn By: J. Parr	INVERSE DISTANCE TO A POWER	PLATE B-1
	Project No.: B-6211	A-ZONE	
	Date: 8-26-03	FORMER SACRAMENTO ARMY DEPOT	
	Filename: SMO3AZ.dwg		

ATTACHMENT B-7C
TAPP GRANT COMMENTS ON DRAFT GROUNDWATER RI/FS REPORT

(Seven Pages)

TO: Thomas Macchiarella – SWDIV – U.S. Navy
 Mike McClelland, PE – SWDIV – U.S. Navy
 Lea Loizos – ArcEcology

FROM: Kenneth Conner, PE, CHMM
 SCA Environmental, Inc.

SUBJECT: Comments to *Draft Groundwater Remedial Investigation/Feasibility Study for Alameda Point Site 25, Alameda Point, Alameda, California*, dated October 9, 2003, prepared by ERRG (received by SCA on October 11, 2003).

DATE: February 2, 2004

For the record, the reviewer states that the following ancillary/related documents were obtained from the U.S. Navy and were also reviewed as part of this endeavor:

- Comments from various reviewers and U.S. Navy responses for the *Draft Final Remedial Investigation Report, Operable Unit 5, Alameda Point, Alameda, California* dated approximately September 2002 (the actual Draft Final document was not reviewed);
- *Final Remedial Investigation Report, Operable Unit 5, Alameda Point, Alameda, California* dated December 2, 2002, prepared by IT Corporation (received by SCA at the beginning of August 2003); and,
- *Draft Soil Feasibility Study OU5* dated August, 2003, prepared by CDM Federal Programs

In addition, the reviewer met with a focus group of interested parties from the RAB and listened to concerns and questions regarding the scope of remediation activities and, the results of contaminant investigations and risk assessments for Site 25.

The reviewer's comments are presented in two categories: General and Specific, based on the nature and scope of the comment.

No.	Section	Page	Comment	Navy Response
Reviewer: Kenneth Conner, PE, CHMM				
	<i>General Comments</i>			
1.	<i>General</i>		The report is presented in a manner that is generally consistent with other reports prepared for such projects for review by DTSC and USEPA. It appears to meet the general standards for the industry.	

No.	Section	Page	Comment	Navy Response
2.	<i>General</i>		The remedies reviewed in detail for the report do not include groundwater extraction and treatment or "pump and treat". Pump and treat was looked at on a cursory basis, but was not retained for more detailed analysis. As any sparging or introduction of oxygen to the subsurface could cause benzene and other volatiles to be liberated, it would seem that other technologies (not as likely to cause volatiles to be released) also would be reviewed in detail.	
3.	<i>General</i>		The reviewer recognizes that the preferred treatment alternative is better than the present situation (no treatment), but the potential effects of air or biosparging in such a shallow vadose area need to be considered as well.	
4.	<i>General</i>		This document should reference the Soil Feasibility Study for OU5 and should reconcile any conclusions/observations between the two. At present, this is not the case.	
5.	<i>General</i>		The document does not show horizontal or vertical delineation of the plume. It also does not identify the source of the plume nor does it explain the presence of MtBE in the groundwater. These "missing pieces" are important to selecting, estimating, and sizing a treatment process. The reviewer believes strongly that further work on these missing pieces be performed before a treatment process is selected.	
6.	<i>General</i>		Given that the plume is thought to have been in the groundwater for an extended period of time and also has MtBE associated with it, the natural attenuation (NA) discussion and the basis for believing that NA will work at the site needs to be made much stronger. If the plume is not from a continuing source (this reviewer believes that it is from a continuing source), it would be logical to believe that the gasoline/diesel components of the plume would have attenuated thus far. The fact that they do not seem to have attenuated would leave one to believe that the	

No.	Section	Page	Comment	Navy Response
			subsurface conditions are not conducive to NA or that the plume is continually being fed from the source (as yet unidentified). Some guidelines for determining whether NA is appropriate or effective need to be set in this document as part of the NA proposal. Also, more specifics such as the wells that would be used for the NA study, the major and minor axes of the plume for the NA study and the parameters which would be monitored for the NA study need to be addressed in this document.	
7.	<i>General</i>		As this area is likely a tidally influenced area and the groundwater elevation may change even on a daily basis, the reviewer would suggest that a groundwater monitoring plan be set in place and followed to gather more useful data. This may rectify the problems with the missing pieces mentioned above and may give more insight on the movement of the plume, the source of the MtBE, the age of the plume and the proper treatment technology. Also, the chosen treatment technology may not be as effective in a tidally influenced area.	
	<i>Specific Comments</i>			
1.	<i>Previous Investigations</i>	3-4 to 3-5	Some discussion should be in order at this point in the document for the use of data from monitoring wells vs. "hydropunch". Beyond the difference of sampling and resampling (monitoring wells can be resampled, but hydropunch is more difficult), the key difference is that the volume of water sampled during monitoring well sampling vs. hydropunch sampling is different and can bias results. Dilution can occur in monitoring well samples because of screen length and the total volume water from which the sample is taken. Likewise, hydropunch sampling can bias results because the screen interval may be too small and the	

No.	Section	Page	Comment	Navy Response
			"lens" of water from which the sample is taken may not have the same concentration as the lenses of water above or below the screened interval.	
2.	<i>Previous Investigations</i>	3-12	Diagrams showing the locations of the past soil gas points would be helpful as would actual samples from enclosed areas in the subject site. All of the model calculations are useful, but direct sampling would be better.	
3.	<i>Nature and Extent of Contamination</i>	4-1 and 4-2	Based on the data shown, it appears that point source for the contamination is not known, but some speculation has been presented regarding the fill material placed at the site in the early- to mid-20 th Century. Given that MtBE use was relatively recent (late 1970s to the present) and certainly did not occur at the same time as the Town Gas plants or the other industrial processes of the late 19 th and early 20 th Centuries, how does one reconcile the MtBE concentrations in the groundwater? This evidence would seem to point to a possible continuing and more recently released source and also may include leachate from the soil.	

No.	Section	Page	Comment	Navy Response
4.	<i>Nature and Extent of Contamination</i>	4-3 and 4-4	<p>As a minor point, SURFER© is a trademarked name and should noted as such in the text.</p> <p>The use of this program is great in the environmental industry and this reviewer highly recommends it, but it does have limitations and human intervention (and some subjectivity) is often necessary. Judging from the contours drawn for the project, it seems that the program force-fitted some of the data points without regard to normal plume behavior. As a reference to other reviewers, it may be helpful to name the kriging technique that was chosen in the program to generate the contours (natural neighbor, kriging, log, etc.) and any anisotropy employed in the contouring. This reviewer believes that a more natural or accurate set of contours could be generated from the data by using the proper settings on the program and some intuitive (and subjective) judgment on the registered geologist's or engineer's part. This may also be helpful in identifying the source areas.</p>	
5.	<i>Nature and Extent of Contamination</i>	4-4	<p>The Mann-Kendall statistic is also very useful, but can be misleading depending on the data set, time frame of the data and the number of data points. This reviewer prefers to use the Mann-Kendall statistic in conjunction with other techniques to determine if the Mann-Kendall statistic is applicable to the data set. One can also calculate the confidence level of the statistic given the number of data points being reviewed. In this case, the Mann-Kendall statistic may be somewhat skewed because of the relatively small number of data points used for the valuation. A more useful technique may be to graph the constituent concentrations and the groundwater levels vs. time to determine overall trends and to compare to variations in seasonal groundwater fluctuations. Some of the wells are obviously stable or decreasing, but others are clearly</p>	

No.	Section	Page	Comment	Navy Response
			increasing and should be noted as such for a more complete report.	
6.	<i>Nature and Extent of Contamination</i>	4-20	The reviewer concurs that some of the NA data can be useful when plotted versus depth; however, in this case plots of acceptors and donors concentrations along the length and width of the plume (across the major and minor axes) may be helpful in determining whether other treatment technologies (or the locations for preferred treatment technologies may be improved) may be better suited for the cleanup.	
7.	<i>Nature and Extent of Contamination</i>	4-23	As MtBE is a constituent in the plume and a curious contaminant for an older plume, it would be helpful to explain its presence in the Conceptual Site Model. With no discussion in the CSM for it, it is a question that may continue to surface.	
8.	<i>Nature and Extent of Contamination</i>	4-23 through 4-26	The reviewer is cognizant of the fact that the current and past soil-gas data do not lend themselves to explaining the current groundwater contamination. However, with no source of contamination identified and the presence of MtBE within the groundwater plume, it seems that this portion of the report is not complete and to recommend a treatment option without knowing whether more contaminant mass may be added to the plume seems premature.	
9.	<i>Contaminant Fate and Transport</i>		The reviewer still questions the use of hydropunch data and monitoring well data together as equals for determining trends for the site.	
10.	<i>Identification and Screening of Technologies</i>	8-7	Although the reviewer is not a general supporter of groundwater pump and treat systems for all groundwater contamination, in this case, the detailed analysis of pump and treat would make sense and may actually be a better technology given the nearby residential and educational	

No.	Section	Page	Comment	Navy Response
			<p>uses of the site than the preferred treatment technology. The reviewer recommends that pump and treat be analyzed at the same level of completeness as air sparging (or biosparging).</p>	

ATTACHMENT B-8
BCT ACTIVITIES UPDATE
(Two Pages)

February 2004 BCT Activities

I. Risk Calculation Approach Meeting, February 10, 2004

BCT members discussed risk calculation approach for transfer parcels EDC – 5, PBC-1A, EDC-3, FED-1A, EDC-21, EDC-17, EDC-12, and PBC-3. The BCT agreed that using all reasonable available data including the original EBS data and maximum concentrations of all constituents for risk calculation:

- Navy will evaluate both human health and ecological risks.
- Navy will calculate and present both incremental risks and total risk for the parcels.

II. Monthly BCT Meeting, February 17, 2004

A. Site 25 Draft Soil Feasibility Study (FS) Report – Status of Response to Comments:

The purpose of this presentation is to provide a preview of “hot topic” comment responses. The highlights of the presentation/discussion are:

- Institutional Controls (ICs) would address the soils under the buildings, which would remain in place.
- Revised draft soil FS risk assessment (revised risk assessment) for PAHs will be conducted for all seven decision areas of Parcel 181, Parcels 182 and 183, and post Time Critical Removal Action (TCRA) conditions for 0 to 2, 0 to 4, and 0 to 8 ft depths. Each Alternative will assume that the excavation depth would be replaced with clean fill; risk would then be calculated from initial depth to the remaining intervals.
- The revised draft soil FS will address the relationship between the OU-5 soil FS and the OU-5 groundwater RI/FS including the benzene/naphthalene groundwater plume beneath OU-5 and adjacent areas
- The revised draft soil FS will compare the proposed cleanup goals for OU-5 to EPA’s residential preliminary remediation goals (PRG), and to the TCRA cleanup goals. No single point can exceed 0.62 milligrams per kilograms (mg/kg) of PAHs in soil.
- Available air sampling results will be summarized in the revised draft soil FS, including air-sampling results from Coast Guard Housing and Parcel 179.
- Homegrown produce pathways and plant uptake scenarios will be evaluated in the revised draft soil FS for Alternatives 3, 4, and 5.
- The remedial alternatives being considered in the revised draft Feasibility Study are:
 - Alternative 1 is no action.
 - Alternative 2 consists of ICs only.
 - Alternative 3 consists of excavation of the upper 2 ft of soil in unimproved areas of Parcel 181, Decision Areas 2 and 6, and if necessary after risk recalculation in Decision Areas 1 and 3; off-site disposal of soil and clean backfill; ICs below 2 ft; calculation of exposure risk assuming 0 to 2 ft of clean fill; and calculation of risk for homegrown produce plant uptake.
 - Alternative 4 is the same as Alternative 3, except excavation would be conducted on the upper 4 ft of soil in unimproved areas, ICs would be below 4 ft, and the exposure risk would be calculated assuming 0 to 4 ft of clean fill.

- Alternative 5 is the same as Alternatives 3 and 4, except excavation would be conducted on the upper 8 ft of soil in unimproved areas, ICs would be below 8 ft, and the exposure risk would be calculated assuming 0 to 8 ft of clean fill.

B. OU-1 (Sites 6,7,8 & 16) Draft Remedial Investigation (RI) Report Summary:

The overview was presented to the BCT as an introduction to the report. Navy contractor presented the objectives of the RI, and provided a historical overview, site location, site features, constituents of concern, and a summary of risk assessment results for each site.

III. Seaplane Lagoon Feasibility Study (FS) Strategy Meeting, February 24, 2004

There will be significant revisions to the Draft Final RI. The highlights are:

- New sediment data collected in collaboration with UC Berkeley will be included in the Draft Final RI.
- PRGs will not be calculated for human health. Instead, the Draft Final RI will confirm that the ecological PRGs would be protective of human health.
- The Draft Final RI will estimate total risk by summing risks from all chemical and radiological constituents.

For the FS the preliminary Remedial Action Objectives are for the protection of piscivorous birds including least terns and protection of forage fish.

The remedial alternatives being considered are:

- No Further action
- Removal to 2 feet and 4 feet
- Capping
- Monitored Natural Recovery
- Combination of the above alternatives.

The BCT also discussed the disposal options for the sediments removed from Seaplane Lagoon. Sediment disposal at IR Site 1 as part of the landfill cover was discussed. It was concluded that disposal at Site 1 is allowed if the sediments and any drainages from the sediments can be controlled so they will not come in contact with groundwater, surface water, or stormwater runoff.

ATTACHMENT B-9
***THE WALL STREET JOURNAL* NEWSPAPER ARTICLE**
(One Page)

EPA Asks Experts To Weigh Danger Of Solvent TCE

By JOHN J. FIALKA

WASHINGTON—Regulators are convening a panel of scientists here this week to examine new evidence that a widely used industrial solvent might be as much as 60 times more toxic than thought, a possibility that could add billions of dollars to cleanup efforts.

The meeting, convened by the U.S. Environmental Protection Agency, is the first step in settling a question that has troubled scientists for more than a decade because the solvent, trichloroethylene, widely known as TCE, is suspected of causing cancer in humans. The long-lived chemical is capable of polluting groundwater and then seeping as a vapor

into homes and buildings.

TCE, which has been proved to cause liver cancer in mice and kidney tumors in rats, cleans metal and machine parts. Most of the sites contaminated by its use date from the 1940s through the 1960s, when there were few standards for governing its disposal. It also was used heavily by the semiconductor industry to etch computer chips during the 1970s.

Companies and government agencies have spent billions cleaning sites contaminated by past use of TCE. Industry groups and Defense officials worry that if the EPA finds the material to be more toxic than previously believed, further cleanup efforts will be required.

Paul Dugard, a toxicologist for the Halogenated Solvents Industry, which represents makers of TCE, said the EPA is contemplating standards for cleanups that are based on the assumption that the chemical is "40 to 60 times more toxic than we thought." But, he said, "I think most people who have reviewed this think EPA is being way too conservative" and overprotective. He said most of the TCE

used in the U.S. today is made by Dow Chemical Co. and PPG Industries Inc.

The prospect of more TCE cleanup costs is troubling to the Defense Department, which has more than 1,400 sites where the solvent has leaked into the soil and groundwater. The U.S. Marine Corps has shut wells at its largest base in the U.S., Camp Lejeune, N.C., and launched an investigation of possible TCE contamination there. Overall, about half of the contaminated military facilities are former U.S. Air Force sites. According to one Air Force study, tougher regulations could raise projected cleanup costs to \$6.25 billion from \$5 billion.

One of the U.S.'s most TCE-contaminated areas is Mountain View, Calif., where the EPA is working with a former U.S. Navy base and 10 electronics companies to clean up TCE spills, according to Kathleen Salyer, a TCE expert for the EPA's San Francisco office.

"TCE is emerging as one of the most troublesome contaminants because, like mercury, it's just about everywhere," said Mike Magner of the Public Education Center, a Washington environmental group that tracks the TCE issue.