

5090
Ser 6225EG/9342-2
8 Dec 1999

From: Commanding Officer, Engineering Field Activity, West, Naval Facilities Engineering Command

Subj: REMEDIAL INVESTIGATION/FEASIBILITY STUDY (RI/FS) FOR
NAVAL STATION TREASURE ISLAND (NAVSTA TI)

Encl: (1) Restoration Advisory Board (RAB) Final Meeting Minutes – 19 October 1999

1. Enclosure (1) is the approved and final Restoration Advisory Board (RAB) meeting minutes for your file and information.
2. Thank you for your guidance and involvement in this project. For further information, please call me at (650) 244-2560.


ERNESTO M. GALANG
REMEDIAL PROJECT MANAGER
By direction

Distribution:

California Department of Toxic Substances Control (Attn: Mr. David Rist)
California Regional Water Quality Control Board (Attn: Mr. Chris Maxwell)
U.S. Environmental Protection Agency, Region IX (Attn: Mr. James Ricks, Jr.)
San Francisco Redevelopment Agency (Attn: Ms. Martha Walters)
Tetra Tech EM Inc. (Attn: Ms. Anju Wicke)

Community RAB Members:

Mr. James Aldrich	Mr. Clinton Loftman
ARC Ecology (Mr. Saul Bloom)/ (Ms. Chris Shirley)	Ms. Karen Mendelow
Mr. Nathan Brennan (Alt Co-Chair)	Ms. Patricia Nelson
Mr. Richard Hansen	Mr. Jack Savage
Mr. Paul Hehn (Co-Chair)	Ms. Dale Smith
Ms. Alice LaPierre	Mr. Harlan Van Wye
	Mr. Peter Kiel

Blind copies to:

622A, 6225EG, Michael Bloom(SWDIV)
Information Repository (3 copies) (SWDIV)
Chron, RF
Writer: E. Galang, 6225EG, X-2560
File: NS Treasure Island

**NAVAL STATION TREASURE ISLAND
RESTORATION ADVISORY BOARD MEETING MINUTES**

**October 19, 1999
Meeting No. 60**

The Naval Station Treasure Island (NAVSTA TI) Restoration Advisory Board (RAB) met on 19 October 1999 at 7:14 p.m. at Casa de la Vista, NAVSTA TI. The goals of the meeting were: 1) to provide open questions and discussion, 2) provide for public comment, 3) provide time for the City of San Francisco, 4) provide an update on Site 12, 5) discuss the FY00 budget and planned projects, 6) discuss the pilot demonstration for Installation Restoration (IR) Site 21 or 24, 7) have discussion/approval of the 21 September 1999 meeting minutes, 8) provide general updates, 9) discuss organizational business, 10) discuss the status of environmental documents, 11) provide for open questions/discussion, and 12) review the proposed agenda items for upcoming RAB meetings and new action items.

These minutes summarize topics discussed during the RAB meeting. A copy of the meeting agenda is provided as Attachment A, the attendance list is provided as Attachment B and the meeting handouts are provided as Attachment C.

I. Welcome Remarks and Agenda

James B. Sullivan, BRAC Environmental Coordinator (BEC) and Navy Co-chair called the meeting to order at 7:14 p.m. He welcomed attendees. He explained to new attendees that the RAB meets the third Tuesday of every month, noting that there was no meeting last December due to the holiday season. It is to be determined if there will be a December meeting.

Discussion/Approval of Agenda

Mr. Sullivan called for comments on the agenda; none were voiced.

II. Public Comment

Mr. Sullivan called for public comments; none were voiced. He encouraged attendees to feel free to make comments as the meeting progresses.

III. City of San Francisco

Paul Hehn, Community Co-chair, asked for an update regarding the planning for the South

Enclosure (1)

waterfront. Robert Mahoney, TI Facilities Manager, stated that they are still in negotiations; there is no current plan for construction. He said that he thought there would be a presentation on an interim, preliminary plan at the following day's Treasure Island Development Authority (TIDA) board meeting.

Harlan Van Wye agreed to give the RAB an update on the TIDA presentation. He added that the marina community is very pleased with the way things have been developing in the first month and a half of ALMAR's running the marina. The transition seems to be going smoothly. They appreciate the interim work done by the City staff who took over in some very difficult conditions and treated them with respect. Mr. Van Wye predicted that in five years, there will be a world-class marina at Treasure Island.

BRAC CLEAN-UP PROCESS

IV. Site 12 Update

Mr. Sullivan gave an update on the following:

Building 1133

The Navy has completed the site restoration on the removal action for debris and soil. Up to four feet of soil was removed predominantly along the West or seawall side of Building 1133; it was replaced with four feet of clean fill. The City's leasing manager, the John Stewart Company, is replacing the fences and patios. Jerry Wickham, Tetra Tech EMI (TtEMI), stated that the Draft Action Memorandum has been issued for review; comments are due by the end of October.

Building 1207/1209

Site restoration has also been completed. Up to four feet of debris was removed and replaced with clean fill. An Action Memorandum will be followed by a Completion Report which will have a 30-day comment period.

Building 1311/1313

The Navy will issue their proposal to monitor natural attenuation to the agencies and the RAB Technical Subcommittee members. Petroleum in soil and groundwater was found to be above the Site 12 screening level. The Navy is proposing to monitor the petroleum in groundwater that has been decreasing.

Mr. Hehn asked how many sampling events formed the basis of this conclusion. Mr. Wickham replied that the wells were installed from 1995 to 1999. The most recent wells were installed to fill a data gap. He explained that the conclusion was based not only on the decreasing trends observed at the wells, but also on the configuration of the plume, comparable attenuation patterns observed at other sites, and modeling.

Mr. Hehn commented that the conclusion should be based on a broad basis of information, not on limited information, such as the last two quarters of sampling data, for example. He noted that the levels change according to the seasons: There are lower groundwater elevations in the Fall

which rise in the Spring, given that there is more water in the aquifer.

Mr. Wickham replied that although concentrations exceeding the screening levels have not been detected, you could make a case that there is going to be significant natural attenuation occurring between the source and the TI shoreline. He added that wells 23 and 24, which probably exceed about 1.4 kilograms per liter (kg/l), are about 60 feet from the shoreline.

Mr. Hehn asked if a compliance point was established for groundwater. Mr. Wickham replied that at the November 1998 issues resolution meeting it was decided to use the wells nearest the shoreline as the point of compliance for Site 12. This is laid out in the natural attenuation monitoring plan.

Mariner Drive

The field work was rescheduled to begin the first week of November, rather than the current week. The comments are due by the end of the current week. They will be incorporated in the Final Field Sampling Plan which also includes the sampling locations.

Future Work Planned

The Navy is considering investigation of other potential debris areas at Site 12. Site-specific field sampling plans will be put together for each area. The plans will be issued around November. They are also developing a generic field sampling plan or guide, which has two components, one of which is a pilot study that is tentatively proposed for the Building 1231/1233 area. The Draft will be issued by the following week. It will look at different configurations of auguring, boring, and sampling in order to develop a guideline for future borings.

Mr. Sullivan referred to a previously distributed, combination generic field sampling plan and pilot study. The comments received suggested that the two documents be separated. The pilot study will be issued, followed by the generic field sampling plan. The field work for the pilot study is expected to begin in November. The data generated will be used to complete the generic field sampling plan which in turn will be used to complete the remaining site-specific field sampling plans. The additional field work at the other sites is tentatively scheduled to begin on the first of the year. The results of the pilot study will be reported through a Technical Memorandum or Letter, as well as at the interim meeting.

Zone 4 Revised Finding of Suitability to Lease (FOSL) Status

A Draft FOSL will be issued for the three buildings located at the Building 1311/1313 area within the next month, if not by early November. The FOSL will be based on the fact that petroleum is the only issue and that it will not impact the use of the buildings. Mr. Sullivan explained that this is independent of the natural attenuation monitoring plan; the Navy believes that building usage will not be affected, irrespective of the decision to monitor or to install a groundwater treatment system.

Mr. Hehn asked if excavation is being considered, and Mr. Sullivan replied in the negative. The Navy originally planned a soil excavation at 1311/1313. However, after more delineation sampling, the petroleum was found to be over a wider area and at a deeper depth than expected. It was then decided that an in-ground treatment system would be more practical than excavation.

The Navy proposal will undergo the appropriate regulatory and RAB review. Nonetheless, the Navy feels that the FOSL can proceed. This is the only scheduled FOSL pending. The FOSLs for nonresidential areas have been completed, except for any future updating. There are still a couple of areas in Site 12 that have yet to undergo a FOSL.

Other Areas

Former Storage Yard Site Inspection

The Geoprobings has been completed on the previous day and the Final Field Sampling Plan was sent to the RAB. Mr. Sullivan explained that photos of the area showed that there had been a storage yard prior to the housing development. The Navy then conducted sampling to determine whether there were any contaminants released from the storage yard. There were no signs of staining or debris; the results are pending. Based on what has been found so far, the Navy does not expect to find any significant detections. The Site Inspection Closeout Report will provide details.

Site 6 Pilot Study

Mr. Wickham stated that the purpose of the pilot test is to primarily determine the usefulness of the biosparging, or the injection of air below the watertable; and also to measure the rate of biodegradation. As a result of the biosparging, there have been significant increases of dissolved oxygen in the groundwater on a larger than expected sphere of influence. This may be due to the presence of a fine-grain layer that causes the oxygen to move up and spread outward. After about two weeks, a respiration test will be conducted to measure the effects of the soil-gas system on the oxygen level. Additional soil, groundwater, and soil-gas samples will be taken. The results will be issued in December.

Debris Investigation

Chris Shirley, Arc Ecology, asked as to the nature of the debris. Mr. Sullivan replied that the Building 1207/1209 Completion Report has not yet been completed. He stated that the debris consisted of wood, metal, glass, asbestos, and burned and unburned materials from buildings or items associated with the general operation of the base. Most of the debris was characterized as rubbish and construction rubble, but they are still required to document it as part of the Completion Report. There is a similar documentation requirement regarding the Building 1133 area.

In response to Mr. Hehn's request, the aerial photos were displayed for RAB member review during the break.

V. Status of Pilot Demonstration on IR Site 21 or 24

Mr. Hehn stated that the pilot demonstration is being done under the auspices of the Environmental Security Technology Certification Program (ESTCP) and the Air Force Center for Environmental Action (AFCEA). These two Department of Defense (DoD) organizations

review new technologies, approve funding, and test protocol.

A proposal was presented to the Environmental Security Technology Certification Program (ESTCP) for in-situ reductive zone (IRZ) technology, a method which reduces concentrations of solvents (in this case, tetrachloroethylene (TCE) and its daughter products) into less harmful byproducts. This patented process is extremely efficient and costs about 75 percent less than aboveground methods which involve hazardous waste and disposal issues.

The purpose is to achieve established cleanup levels or maximum contaminant levels (MCLs) for drinking water. The technology has to be designed on a site-specific basis. This pilot test is currently being done on four different sites nationwide, including two East Coast air force bases and a Wisconsin army base.

IRZ was first used to remove chrome 6, which is very toxic and mobile in groundwater. The technology involves injecting a proprietary mixture of sugars and carbohydrates into the soil. The natural organisms metabolize the mixture and utilize all of the oxygen, which results in an anaerobic (oxygen-deficient) environment. In this environment, chrome 6 naturally degrades into chrome 3, which is less volatile and mobile. The mixture can be injected in a plume to change chrome 6 into chrome 3, resulting in a clean water source within a matter of months.

The same process works for TCE. Perchloroethylene (PCE) degrades naturally to TCE, then to dichloroethylene (DCE), to vinyl chloride. If it is enhanced, it will degrade to ethylene, to ethane, and then to the final byproducts methane, carbon dioxide, and water. In most cases, the natural biodegradation is already occurring; IRZ expedites the natural process, resulting in a clean water source within a matter of months.

After the pilot-scale evaluation, a Work Plan will be developed for the pilot demonstration project on either Site 21 or 24. Site 21 has lower concentrations of TCE and byproducts, whereas Site 24 has much higher concentrations on multiple levels and a much larger plume.

Mr. Hehn presented an example wherein the IRZ technology was used on a plating facility in Emeryville that had solvents, chrome 6, and TCE and daughter products. A 1-inch diameter pipe was driven into the ground at about 175 closely-spaced injection points throughout the area that covers two groundwater plumes. It is a simple process that requires minimal setup. The geoprobe-type rig consists of a series of valves and connectors and a simple double diaphragm pump to drive the solution down into the soil. The equipment can be mounted on a small pickup truck.

At the outset of the Emeryville project, there were concentrations of solvents up in the 60,000 to 70,000 micrograms per liter range, which is very high and toxic in groundwater. It was a serious problem as far as the regional board was concerned. After the initial pilot test, there was a slight drop in the concentration level. Based on that, the contractor *Envirosolve* went ahead with the initial injection event and saw a very significant decline, from the 60,000 down to around 25,000 micrograms per liter. After a second ejection event, the concentration level was driven down to close to zero. Mr. Hehn said that the time frame to decrease from a very toxic situation to a very low range of technical chrome 6 is about a year and half.

The process resulted in a precipitous decline of concentration from 4,500 micrograms per liter at one particular well. The average TCE concentration is 3,000 micrograms per liter. There was some rebound during a wetter period, which was remediated with another injection that brought the level down to zero. Levels measured were either zero or very close to zero. There have been no increases over the last six months.

Ms. Shirley asked if the injections were placed around the source, or if they covered the whole plume. Mr. Hehn replied that the injections covered the source area and also covered an extensive amount of the downgradient plume area, in consideration of the high concentrations.

Ms. Shirley asked for an order-of-magnitude cost. Mr. Hehn replied that the cost for the above site on which the technology was utilized was greater than what Site 21 would cost. The cost of remediating that site was much less than any pump-and-treat method and aboveground treatment by several orders of magnitude. IRZ is very cost-effective and fast.

In response to Mr. Van Wye's inquiry, Mr. Hehn explained that because of the higher concentration, the multiple levels impacted, and the length of the plume, Site 24 would probably cost about four to six times more to remediate than Site 21. The greater the distance and higher the concentrations, the more man-time required to do the injections and monitoring. The actual time to remediate Site 24 does not increase as compared to Site 21; they would just need to "hit harder."

ESTCP and AFCEA have decided that, based on the initial pilot test results, they will select two of the four bases to go through a full demonstration project. In response to Mr. Van Wye's inquiry, Mr. Hehn explained that those organizations, as well as the Navy and the City, will give input as to which site at TI will be selected for the initial pilot-scale evaluation.

Mr. Van Wye suggested that Site 21 is more suitable, as it is a lesser problem and more manageable as a pilot test. In addition, the area around Site 21 is the first area slated for substantial development as part of the Marina operations. He emphasized the need to clean up this area as soon as possible. Mr. Hehn replied that conducting the pilot test on that site would result in cleaning it up. Site 24 would necessitate the selection of a location down gradient of the highest concentrations. This would clean up part of the plume, but the pilot test itself would not significantly remediate the problem.

Mr. Van Wye stated that Site 21 area is unique given its proximity to the water, whereas the Site 24 situation may be more replicable at the other sites. Mr. Hehn replied that the efficacy of the technology in brackish water conditions has been considered and would need to be tested. ESTCP and AFCEA want technology that has broad applicability. He emphasized that selection depends on the City and the Navy, which is providing access to a site for the pilot demonstration.

Ms. Walters asked as to the time frame for the project. Mr. Hehn replied that within the next two months, they must select the site and submit a Work Plan to the ESTCP and AFCEA, the Navy, the regulators, and the City for review. The field work will probably begin in January.

Ms. Walters proposed that the Navy make the pilot demonstration an item for November BCT meeting, and she added that after a technical evaluation and consultation with the City the Navy should decide on a preferred site. Mr. Sullivan asked Mr. Hehn to provide input so that it can be included in the agenda. Ms. Walters stated that she will defer her technical questions until the next meeting. Mr. Hehn stated that it would depend upon the redevelopment process for the South waterfront. There will be very little impact on the surface; they only need access to the area about two or three times during the tidal plume.

VI. FY00 Budget and Planned Projects

Mr. Sullivan stated that they are still working on this year's project list, which will be discussed in more detail at the BCT meeting on the first of November. Overall, the FY00 budget is about \$2.6 million. Although this is less than the amount received in FY99, the Navy has awarded most of the investigation work; therefore, there is still a lot of work to be done. The focus for FY00 is to get through the investigation and to prepare to do the majority of the cleanups by FY01 (1 October 2000). There are major investigation documents that have not been completed, such as the Remedial Investigation (RI) and the Corrective Action Plans (CAPs) for the major petroleum sites as well as for the smaller underground storage tanks (USTs). The investigation phase will begin for the fuel lines. The Navy is working to complete other programs, such as the asbestos abatement at TI and lead paint abatement on some of the older Yerba Buena Island (YBI) housing. There is additional funding to complete the Remedial Action Plan (RAP) /Record of Decision (ROD) for the offshore sites as well as for the CAP sites.

In response to Mr. Hehn's inquiry, Ernie Galang, RPM, stated that the FY99 budget was around \$9 million. Mr. Sullivan explained that during the year, additional funding sometimes becomes available and causes the budget to rise. The current year's budget may change over the course of the fiscal year. He acknowledged that the current budget is significantly different than the previous year's, however the bulk of the investigation work has already been awarded and there is plenty of work to do. The bulk of the remedial funding will be on FY01.

In response to Mr. Hehn's inquiry, Mr. Sullivan explained that the budget changes from year to year because it is based on annual Congressional appropriations. The FY01 budget is based on projections and the number may change by the beginning of that fiscal year.

Ms. Shirley stated that if Pat Nelson is unable to host the 3 November interim meeting at the PG & E office, the Arc Ecology office is available. It is located above the Powell Street BART station. A notice will be sent concerning the meeting location.

PROGRAM UPDATES

VII. Discussion/Approval of the 21 September 1999 Meeting Minutes

Mr. Van Wye moved to approve the meeting minutes as written; all were in favor.

VIII. General Updates

Announcements

Mr. Sullivan introduced Chris Maxwell, the new Regional Water Quality Control Board (RWQCB) representative. Mr. Maxwell worked at the RWQCB office in Victorville since 1990. He is project manager at TI, Hunters Point Shipyard (HPS), and Hamilton Air Force Base. His experience involves USTs, landfills, and watershed management. He can be contacted by telephone at (510) 622-2377 and by e-mail at cm@rb2.swrcb.ca.gov.

4 October 99 RPM/BCT Project Team Meeting

Mr. Sullivan cited some of the topics discussed: Site 12 work, TI basewide groundwater, Offshore RI and No Further Action (NFA) document, the Navy's response to comments on the previous offshore document, general document schedule, Site 6 pilot test, and the NFA for Sites 1 and 3.

Mr. Wickham added that the Building 1311/1313 groundwater monitoring was discussed, as well as the conclusion that pumping would cause a degradation of water quality. Mr. Sullivan added that the freshwater source at TI originates from precipitation and irrigation. Mr. Van Wye asked if there has been any pumping of water for any type of usage on TI, and Mr. Sullivan replied in the negative, adding that there were some older wells on YBI that no longer exist. Mr. Van Wye opined that the use of fresh water on TI is a non-issue. Mr. Sullivan replied that the Navy intends to make this case to the regulatory agency during a meeting later this month.

TAPP Contract Status

Mr. Galang stated that FY99 funds can be utilized for expenses under \$10,000. Mr. Sullivan stated that this is just an estimated number. He added that for TAPP grant purposes, Mr. Galang has already budgeted \$25,000 into the FY00 budget. Over the next two months, they could award funds for one document or a block of documents for review.

In response to Mr. Hehn's inquiry, Mr. Sullivan explained that the next step is to identify the document and to begin the TAPP grant process.

Hehn suggested that the previous TAPP be closed. Mr. Sullivan stated that the RAB is required to submit a Closeout Report and that he would provide guidance.

IX. Organizational Business

Publicizing the RAB

Mr. Sullivan stated that the Navy will advertise the RAB and send notices to the leasing office and TI residents. He stated that the pending advertisement will be based on the previous ad and will be out before the next meeting.

New RAB Member Selection Process

Mr. Van Wye commented that given the advanced stage of the process, using resources to solicit new members may not be a good idea. Mr. Sullivan replied that there is a lot to accomplish over the next twelve months as the investigations will be finished. Given the decrease in membership over the past year, this critical phase is where additional members will be needed to review documents and to make decisions.

Mr. Van Wye stated that the solicitation of potential RAB members should take into consideration the length of time that the RAB will continue to be in effect. Mr. Sullivan stated that the plan is to award cleanup funds in FY01; over the next 12 months, investigations need to be completed and decisions made pertaining to cleanup.

Mr. Van Wye asked if the RAB will continue once contracts are awarded. Ms. Shirley replied that this depends solely upon the members, according to the guidance in the Navy manual. Mr. Van Wye commented that once the contracts are awarded, the major stakeholders become the City of San Francisco, the State, and the regulatory agencies. He is uncertain as to the utility of the RAB once the contracts are awarded.

Mr. Hehn commented that once the ROD is signed and successfully executed, the number of meetings could be reduced. The RAB can still play an important part in ensuring that things get done in the manner prescribed. The RAB can also provide information to residents. Given the RAB's limited jurisdiction and authority, Mr. Van Wye wondered if the RAB would be the ideal organization to continue such tasks, as compared to the Treasure Island Development Authority (TIDA) which has a Citizen's Advisory Committee (CAC). TIDA would have a broader jurisdiction over ongoing monitoring for the overall development of TI. He added that the closure of a federally funded entity such as the RAB, once its duties are completed, is a positive outcome.

Mr. Van Wye stated that when recruiting new members, the RAB needs to give them an honest assessment of why they are being recruited. Mr. Sullivan commented on the need to acknowledge significant milestones such as the completion of the RIs, the signing of the ROD, and the awarding of the remedial action contracts, to emphasize the progress achieved in getting closer to the endpoint.

Mr. Hehn stated that new members can provide assistance in reviewing pending documents. Mr. Van Wye stated that the RAB suggest that TIDA add one or two environmental seats at the CAC. In this manner, members of the RAB can provide assistance and serve as the institutional memory in monitoring cleanup, since the CAC will continue whereas the RAB will end at some point. Mr. Hehn stated that the only RAB member to have received a response regarding CAC membership was Nathan Brennan, who is a San Francisco resident. Mr. Hehn stated that residency in San Francisco is a requirement for CAC membership.

X. Environmental Document Status

Mr. Sullivan stated that the schedule is arranged both by category and by chronological order.

OTHER BUSINESS:

XI. Open Questions/Discussion

Mr. Sullivan stated that the storage yard Geoprobng was completed the day before.

XII. Proposed Agenda Items for Next Meetings and Review of New Action Items

Mr. Sullivan stated that the agenda for the November meeting will be discussed at the interim RAB meeting on 3 November.

November:

1311/1313 Monitored Natural Attenuation

UST Update

Site 12 Update

XIII. Closing Remarks/End of Meeting

Mr. Sullivan reviewed the following meeting schedule:

Next Regular Meeting:

7:00 p.m. Tuesday, 16 November 1999
Casa de la Vista, Treasure Island

7:00 p.m. Tuesday, 21 December 1999 (tentative)
Casa de la Vista, Treasure Island

Interim Meeting:

6:30 p.m. Wednesday, 3 November 1999
PG & E or Arc Ecology office (location to be announced)

BCT/RPM Meeting:

9:30 a.m. Monday, 1 November 1999
Tetra Tech EMI

Mr. Sullivan adjourned the meeting at 9:23 p.m.

ACTION ITEMS

1. It will be determined whether there should be a December RAB meeting.