5090
Ser 6225EG/L8224-2
12 Aug 1998

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 May 1998
(2) Restoration Advisory Board (RAB) Final Meeting Minutes – 16 June 1998

1. Enclosures (1) and (2) are the approved and final Restoration Advisory Board (RAB) meeting minutes and are provided 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. David Leland)
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: Mr. Richard Knapp)
Community RAB Members:

Mr. Joseph Alcedo
Mr. James Aldrich
Mr. John Allman (Alt Co-Chair)
ARC Ecology (Mr. Saul Bloom)
Mr. Nathan Brennan
Ms. Peggy Chiang
Ms. Carolyn Froeberg
Mr. Michael Gross
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Mr. Jack Savage
Ms. Dale Smith
Mr. Thomas Thompson
Ms. Usha Vedagiri
Mr. Harlan Van Wye
Mr. Brad Wong

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NAVAL STATION TREASURE ISLAND
RESTORATION ADVISORY BOARD MEETING MINUTES

Tuesday, 19 May 1998
Meeting No. 45

The Naval Station Treasure Island (NAVSTA TI) Restoration Advisory Board (RAB) met on 19 May 1998 at 7:00 p.m. at the Nimitz Conference Center, NAVSTA TI. The goals of the meeting were to: 1) have discussion/approval of the 21 April 1998 minutes, 2) discuss the draft Offshore Remedial Investigation Report Methodology, 3) review IR Site 12 and the update of the Zone 4 FOSL, 4) receive a briefing on a wetlands proposal, 5) receive general updates, 6) review action items, 7) discuss organizational business, 8) review the upcoming environmental report schedule, and 9) provide agenda items and 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 Sullivan, Base Environmental Coordinator and Navy Co-Chair, opened the meeting at 7:15 p.m. and welcomed guests. He noted the last minute change of venue from the Casa de la Vista to the Nimitz Conference Center and advised RAB members that the meeting place may be changed from time to time, due to other functions since both buildings are leased out. He stated, however, that he would attempt to get the word to RAB members sooner the next time the meeting place is changed.

The agenda for tonight's meeting was approved as written with no comment.

II. Public Comment

There were no comments from the general public. Mr. Sullivan noted that there were no members of the general public present at the meeting, other than a guest speaker.

III. Discussion/Approval of 21 April 1998 Minutes

Mr. Sullivan stated that as an action item he would ensure that the minutes are mailed out one day earlier next month and apologized for the delay this month. He stated that although the minutes were mailed out three days prior to the meeting, he had also e-mailed the minutes to those who had e-mail addresses. He noted that RAB members should check the sign-in sheet and make certain that their e-mail addresses and phone numbers are correct. He noted that the sign-in sheet should be updated from time to time, and that it contained an incorrect area code number listed for himself.
Christine Shirley made note that she had not provided a point of contact in the minutes for EPA's Draft Institutional Controls Guidance and that she would like that number included in the final minutes. She stated that she would contact Jim Sullivan with the number.

Mr. Sullivan asked RAB members and guest presenters to bring enough copies of meeting handouts to distribute so that GPI, our RAB support contractor, will have a copy to attach to the meeting minutes.

Paul Hehn motioned to accept the minutes with noted changes. Nathan Brennan seconded the motion. The draft minutes of the April meeting were unanimously approved with modifications as indicated above.

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IV. City of San Francisco

Martha Walters, of the City of San Francisco, stated that Annemarie Conroy, Executive Director of the Treasure Island Development Authority, sends her regrets at not being able to attend tonight's meeting and plans to attend the 16 June RAB meeting. Ms. Walters noted that the TI Development Authority (TIDA) is still in negotiations with the John Stewart Compnay for housing property management and that the contract will probably be going before the TIDA Board for approval in June. A recent piece of the Measure "K" political campaign literature was passed around to RAB members.

Ms. Walters announced that the next TI Development Authority meeting would be held at 1:00 p.m. Wednesday, May 20 at the Ferry Building.

BRAC CLEANUP PROCESS:

V. Draft Offshore Remedial Investigation Report Methodology

Mr. Sullivan announced that the Draft Offshore Remedial Investigation (RI) Report would be available for review by the end of May. Lucinda A. Rose, of TetraTech EM Inc. (TTEMI), briefed RAB members on the background methodology of the investigation. The June RAB meeting will provide a briefing on the data and recommendations.

Clipper Cove Skeet Range

Ms. Rose explained that the skeet range contamination consists mainly of clay targets and lead pellets. The shot fall zone was determined to be 300 feet measuring from the firing point on the shoreline. She added that to be conservative, samples were collected out to 900 feet, which was 600 feet beyond the end of the shot fall zone.

Ms. Rose explained that polyaromatic hydrocarbons (PAHs) pose the greatest concern at the Clipper Cove Skeet Range. Samples were taken from 12 locations, and three-foot core samples were analyzed for lead from each at one foot intervals. 7 of these locations were analyzed for PAHs. At 5 of the 12 locations, she added, the core samples were extended to a total of five feet in depth, allowing two more one foot sample intervals. Additionally, surface water was sampled at the water sediment interface at a water depth of approximately 22 feet at four locations. Surface sediment grab samples were collected for chemical and physical analysis and for bioassays, including toxicity tests, for the purple sea urchin and amphipod.

Phase I and Phase II Offshore Investigations

Ms. Rose explained that offshore chemicals of potential concern were identified using data from the storm water and offshore sediment samples that were collected during the 1993 Phase I Remedial Investigation. Biological surveys were also reviewed, including fish trawl data from the California Department of Fish and Game (CDFG). And then preliminary fate and transport analysis was conducted, looking at the transport mechanisms of chemicals from onshore sources to offshore sources.

Based on the Phase I investigation, a Phase II risk characterization was conducted at Clipper Cove (Areas C and D) and at four other investigative areas, Areas A, B, E and G. The goal of the Phase II is to develop a detailed aquatic risk characterization upon which remediation decisions can be made. The sampling design was based on the data gaps that were identified in both the Phase I and the Clipper Cover investigations.

Samples were collected on a grid in the six investigative areas. In section F, she noted, they tried to collect samples but hit bedrock. Sediment collected at all areas was tested for porewater chemistry. Sediment collected at 50 percent of the locations was used for bioassay toxicity tests of the purple sea urchin, amphipod and polychaete worm. She added that during Phase II, tissue from invertebrates will later be collected at areas C, D, and E to evaluate risk to shorebirds, and will be incorporated into the draft final report.

Ms. Rose provided an outline of the Phase II investigative report. Section 1 is the introduction. Sections 2 and 3 are site and ecological characterizations. Section 4 discusses the field sampling strategy, locations and methods, and analytical methods. Section 5 is an overview of how the data was screened to select the chemicals of potential ecological concern. Sections 6 and 7 present the analytical results in which the chemicals of potential ecological concern are determined for each of the media; sediment, porewater and storm water. Section 8 presents the results of the bioassay toxicity tests. Section 9 provides a spatial distribution of contaminants. Section 10 uses a hazard quotient approach to identify locations that may pose the highest risk to ecological receptors. Section 11 is a conceptual site model. Section 12 is an evaluation of bioavailability to determine whether contaminants are bioavailable for the receptors to uptake. Section 13 is an assessment of the ecological effects of the site contaminants on receptors. Section 14 pulls everything together to characterize the risk to the receptors. Ms. Rose stated that she would present the Phase II data at the June RAB meeting.

Ms. Walters asked when the tissue collection in areas C, D and E would be completed and when the data would be incorporated in the RI. Ms. Rose indicated that they hoped to have the draft RI completed by June and that information, found in Sections 12 and 14, would create a basis for the testing. Ms. Walters asked if there was a reason the tissue was not collected until now. Ms. Rose stated that they wanted to evaluate the data before collecting tissue. Mr. Hehn inquired about the publication of collection results, since collections will not be completed until June. Ms. Rose advised that the results will be included in the September draft final Offshore RI report.

Christine Shirley asked if there were any other unresolved issues in the document. She mentioned that she understood that there was some discussion at the BCT meeting concerning additional bioassays. Ms. Rose replied that there was an ammonia toxicity problem with the purple sea urchin, which is a common problem, however they do not plan to redo any of the bioassays.

Mr. Hehn asked if there was a reason that no samples were collected on the southeast or southwest portions of TI. Ms. Rose replied that the sample sites were identified based on potential sources for offshore migration from the Phase I report.

Harlan Van Wye, of the TI Yacht Club, suggested that nothing will ever be built offshore on the southwest side of the island, noting that the water is deep and part of the major shipping channel. He said that birds and seals use a few small beaches on that side, but the west side of TI is very deep, and navigable to within about 5 feet of the shore. He explained that on the east side of the island the water is shallow.

Mr. Hehn asked if there are any storm water outfalls located within the offshore areas that were not sampled. Mr. Sullivan answered that there are outfalls, approximately 40, around the perimeter of both islands.

Ms. Walters inquired about the tissue sampling process. Ms. Rose explained that six samples will be collected, three from the beach area of Clipper Cove and three from the IR 11 landfill beach area on YBI. She added that there is no habitat for shorebirds forage in the Clipper Cove skeet range area. She explained that they are looking for tissue that has been exposed to the sediment. Diving birds are in the

area but do not feed on fish that are exposed to the sediment.

Mr. Hehn asked if there are any potential impacts to nearby beaches, particularly IR Sites 28 and 29, from the lead problems associated with the Bay Bridge. Ms. Rose stated that the data would be presented at the June RAB meeting. Mr. Hehn asked why samples had not been taken in areas below Site 28. Ms. Rose responded that they attempted to collect samples but there was no sediment there.

Ms. Walters pointed out that there is a sea lion rookery right on the other side of IR 28. Dale Smith stated that she believes the sampling is inadequate, considering the presence of an endangered species that is being threatened in the Bay Area due to CALTRANS needing to do retrofitting on all the bridges. Ms. Rose indicated that samples would be taken at the beach area which is included in IR Site 8.

Ms. Rose agreed to provide additional tissue sampling location information at the June 3 Interim RAB meeting. Mr. Sullivan asked if it be possible to obtain a map before the actual sampling takes place. Ms. Rose indicated that she would supply maps to the RAB members at the interim meeting in June.

Mr. Van Wye inquired about the south side of YBI and the Coast Guard property. He asked if these areas would be affected by Navy cleanup or considered a part of the study area. Mr. Sullivan stated that the Navy will investigate areas at the Coast Guard base that are impacted by the Navy's contaminants. He added that CALTRANS may be brought in as a potentially responsible party (PRP) for the property near the bridge. He stated that although CALTRANS owns the bridge, the Navy owns the property under the bridge.

Mr. Van Wye noted that prevailing winds come from the northwest and blow very strongly towards Oakland. He also noted that he believed IR Site 8 to be at the proposed foot of the new bridge. Mr. Sullivan added that the Navy is involved with CALTRANS in the bridge planning process. Mr. Van Wye asked if the RAB could expect a report by the end of the month. Mr. Sullivan replied that the RI report would be released around May 29.

Mr. Van Wye inquired about some old piers that were removed 4 or 5 years ago ago in Area A on the northeast side of TI. He asked if they would present a problem with the sampling, and noted that they had been listed as a hazard to navigation. Ms. Rose indicated that they were not a problem. Mr. Sullivan explained that the pier referred to was Fuel Pier 21, and that when it was removed, the Navy removed any loose piles, and the remaining piles were all broken off at the mud line.

Ms. Shirley asked if the erosional offshore sediment areas had been mapped out. Ms. Rose replied that the map was in Section 2 of the RI report (Figure 2-1). She added that most areas at the islands are depositional.

Mr. Sullivan noted that six copies of the RI document would be sent to those who regularly review documents, but the Navy would send others to those who request copies of the report.

VI. IR Site 12

Review

Mr. Sullivan noted that at the last RAB meeting he had announced that Site 12 will be broken out into its own separate Operable Unit (OU). He added that the next CERCLA report for Site 12 will be the draft final Remedial Investigation Report. However, he noted that the Navy needs to take some actions in the near term in order to provide Site 12 for leased housing. The Navy met with the City of San Francisco and regulators last Wednesday, and outlined a schedule of actions and interim investigations needed in order

to lease the housing property. He added that the schedule would be mailed out to RAB members within the next week.

TPH in Groundwater and Soil

Mr. Sullivan noted the Site 12 issues discussed at previous meetings. The first issue on Site 12, he said, is TPH in the soil and groundwater. The primary issue involves areas where TPH is elevated in the groundwater, and has potentially created a pathway to the Bay.

Mr. Sullivan stated that the Navy and Regional Water Quality Control Board (RWQCB) are discussing screening levels for groundwater. He added that they've not reached a resolution on the screening levels, however, for Site 12 they have agreed upon the RWQCB recommendation of 1.4 mg/L as a screening level. He explained that this allows the Navy to proceed, even though the levels are lower than the Navy had originally proposed. He added that the Navy looked at the Site 12 map and found that in nine areas; consisting of six hydro punches and three wells, TPH was found to be above the Board's recommended 1.4mg/L level.

Mr. Sullivan explained that the Navy is proposing to resample hydro punches to compare readings. Unlike a well, he noted, the hydro punch provides a one-time sample of soil and groundwater, some of which are several years old. The Navy will resample and see if the readings are similar, he continued. The Navy will also sample in all directions (down gradient, up gradient and cross gradient) to see what the values of hydrocarbons in the soil and groundwater are at a distance from the nine points.

Ms. Smith asked if hydro punch would be used for all of the sampling. Based on the hydro punch data, Mr. Sullivan explained, the Navy will likely followup with some additional sampling wells. The hydro punch data, he explained will provide the Navy with the optimum placement for the wells. Ms. Smith inquired whether the Navy adjusts for misreadings with the hydro punch. Mr. Sullivan stated that the goal is to make a final characterization; in the case of anomalous readings, the Navy would need to resample. Based on that data, he added, they might also have to step out further with additional samples. One of the considerations in the work plan is how far out to sample, whether 10 feet, 20 feet or 50 feet or more.

Mr. Sullivan explained that the Navy samples at near surface and subsurface elevations, and has discussed sampling below the vadose zone (groundwater). In previous sampling, he added, samples were taken at near surface and or subsurface. This time the Navy would like to sample at three depths. Mr. Sullivan noted that since the source of the contamination is primarily debris disposal, it is likely that the contamination lies above the water line where a trench or pit could be dug. He added that the Navy doesn't know that with certainty, but is investigating the possibility that the elevated TPH levels could be from a source below the groundwater line. The data will also be used to determine additional well locations, he continued.

Mr. Sullivan noted that one of the goals is also to target adequate placement of groundwater monitoring wells to provide continuous perimeter information. Along the north side, he explained, there are a fair number of wells, but on the west side, a greater interval exists between wells. On the southwest corner of Site 12, he added, there are no groundwater wells.

Mr. Sullivan stated that the Navy will also perform quarterly sampling of all 16 wells at Site 12. The Navy would sample each well every quarter to provide a large quantity of data pertaining to Site 12. Two wells are damaged, he noted, and will have to be replaced. It is possible, he said, that the wells will be replaced at more optimal locations. He added that the Navy will also take the opportunity to sample for MTBE at that time and build up a bigger MTBE data set.

He stated that while generally the focus has been on the nine areas where elevated levels of TPH were

found, there are a few areas where there was elevated TPH in the soil, but not enough groundwater data, so these areas will be sampled also. He added that the Navy also still needs to follow the RWQCB guidance and go through the risk methodology in areas where TPH in soil only has been observed.

Mr. Sullivan stated that additional samples for dioxin would also be collected. The highest dioxin readings to date on the site were still within the risk range, but additional samples will ensure that the highest values the Navy finds are the highest values likely to be seen on the site.

Mr. Hansen inquired about the schedule, and Mr. Sullivan noted that the work schedule would be faxed out by the next day to RAB members, regulators, and City personnel for comment. Mr. Hehn asked whether the soil and groundwater analysis would be conducted at off-site labs. Mr. Sullivan responded that the samples would definitely be sent to off-site labs but that he didn't have the information on the specific analysis methods.

Mr. Hehn asked if the Navy is looking for indication of a source in the rubbish area. Mr. Sullivan explained that there is not always a correlation between TPH in the soil and TPH in the groundwater. The Navy is speculating, he explained, that the TPH could come from below, thus, the reasoning behind sampling below the vadose zone. Mr. Hehn stated that the sampling results may be misleading if sampled below the vadose zone, because samples wouldn't indicate if the contamination source is in the soil or in the groundwater, or if the contamination is due to the groundwater affecting the soil.

Mr. Sullivan noted that the fate and transport study and leachate tests are parallel projects intended to better understand the relationship between the soil and groundwater at the site. He added that there are concentrations of TPH in the soil across various areas of the installation, but that TPH in groundwater is limited to the nine points located in about three or four distinct areas. He reiterated that even though the soil might be impacting the groundwater, the groundwater provides the pathway to the Bay.

Ms. Shirley asked if the purpose of the sampling and analysis is to put the information in the Site 12 OU RI. Mr. Sullivan replied that the point is to address both the petroleum issues and the CERCLA issues. He explained that rather than treating the site as a CERCLA site with petroleum, another consideration is to instead break it out into two sites, overlaying one on top of the other: a petroleum site, which might proceed through the UST process leading to a CAP, and then the CERCLA site, addressing only the CERCLA constituents. This approach might expedite the process.

Richard Hansen, Community Co-chair, asked if the goal was to complete the investigation before September. Mr. Sullivan replied that a map had been put together showing the investigation areas, which would not be immediately leased. The goal would be to complete the investigation, and any potential remedial action, to lease these remaining areas by roughly 1 August 1999.

Mr. Hehn asked if samples from the west side of the rubbish area (landfill) would be tested for contaminants other than dioxin. Mr. Sullivan stated that dioxin areas will also undergo TPH testing, but perhaps not in the same samples.

Update of Zone 4 Finding of Suitability to Lease(FOSL)

Mr. Sullivan stated that the Navy would provide regulators and the City with a schedule of the Zone 4 FOSL on May 21. The intent is to support the decision for leasing those areas that aren't undergoing this additional investigatory work and to incorporate the Fall 1997 grid sampling data that wasn't available at the time the original Zone 4 FOSL was completed. He added that, in effect, the Navy would be taking a fresh look at the Zone 4 FOSL based on all the data we have available to date.

He added that Pat Nelson had made some comments about ways the data could be displayed to make it more understandable and that those comments, and other comments would be taken into account when producing the updated FOSL.

VII. Briefing on Wetlands Proposal

Ms. Shirley informed the RAB that ARC Ecology and some others had commissioned a feasibility study for wetlands placement at TI about a year ago. She explained that it was their intent to have wetlands evaluated as an alternative in the EIS/EIR.

She introduced Ruth Gravanis to briefly explain what the wetlands proposal is, and some ways that the RAB might be able to help provide information and just be involved in the wetlands project.

Ms. Gravanis explained that last November, the TI Wetlands Project submitted a proposal to the TI Development Authority for incorporating wetlands into the TI Development Plan. In her briefing, Ms. Gravanis explained that creating a marsh habitat and treatment wetlands on TI would draw visitors, increase revenue, save money on infrastructure costs, improve water quality, conserve water, provide jobs, increase ecological diversity and add to the Bay Area quality of life.

Ms. Gravanis stated that the Army Corps of Engineers defines wetlands as a saturation of soil, basically where land and water overlap. She noted several types of wetlands including swamps, mountain, seasonal, riparian and tidal salt marshes. She explained that salt water marshes have special plants such as the pickle weed and cord grass, which are typically found in the San Francisco Bay area.

Ms. Gravanis explained that wetlands oxygenate the air and soil, provide a major source of food for smaller animals, and support the recreational and commercial fishing industries. Mudflats also provide a source of food for shorebirds, she noted, pointing out the educational value of wetlands, and benefits of recreational and leisure time activities. At one time, Ms. Gravanis explained, much of San Francisco was characterized by tidal marshes, however, riparian wetlands were covered up by development and more than 90 percent of the wetlands have been destroyed over the last 100 years.

Ms. Gravanis explained that San Francisco is a major feeding place for migratory birds, a stopping point along the Pacific Coast Flyway. Ms. Gravanis pointed out the importance of incorporating wetlands into the TI Redevelopment Plan, and reminded RAB members of the wetlands project that ended up as a parking lot in Candlestick Park. She pointed out the TI wetlands could include freshwater and salt water wetlands. She explained that the freshwater wetlands would use the storm water runoff and treat it for marine animals. She explained that wetlands would not only create a habitat for wildlife but serve as a pleasant diversion for people. Ms. Gravanis noted that a similar wetlands development site is located north of Pier 94 in San Francisco.

After reviewing the idea of creating wetlands on TI, she stated, ARC Ecology commissioned a study that found that wetlands were not only feasible but also desirable. She noted the importance of other wetlands, such as those at the Mountain View Marsh, which treat the wastewater. The town of Arcadia also has freshwater and tidal marshes to treat wastewater. TI wetlands, Ms. Gravanis added, would only treat stormwater, much like the wetlands demonstration project at Coyote Hill.

She stated that the Reuse Plan for TI calls for new permanent housing but hasn't taken the Tideland Trust into consideration. She urged RAB members to attend the City Planning workshop on July 11. Ms. Gravanis stated that the RAB should not allow an insufficient cleanup plan that would force them to lose the wetlands proposal before they have had a chance to study it. She stated that they were looking for

support from the RAB that the cleanup is conducted to levels that will allow for wildlife.

Ms. Gravanis asked for the RAB endorsement on the proposal, noting that the marsh would be cleaner than industrial cleanup standards. She said that she hoped the RAB would not accept reuse and cleanup plans that didn't allow for the development of wildlife areas.

James Aldrich asked where the wetlands would be located. Ms. Gravanis pointed out that the wetlands proposal defines two areas on the eastern side of the island, based on a study of existing infrastructures and storm water collection systems. However, she added that the City Planning Department, in a sort of rough outline of what wetlands might look like and where it might go, have placed it in an area of existing housing on the west side of the island. Ms. Gravanis asked for RAB support at the TI Development Authority meeting to be held May 20. She added that a 10-acre area would be able to treat a significant amount of storm water, and ideally, a 40-acre wetlands area would include a tidal marsh and treatment marsh.

PROGRAM UPDATES:

VIII. General Updates

Announcements
Mr. Sullivan asked the RAB for announcements and updates. He reminded RAB members of the TI Redevelopment Authority meeting on May 20 at 1:00 p.m. at the Ferry Building. There were no other announcements.

FY98 Project Execution Plan
Mr. Sullivan stated that the Navy was not restricted because of funding so far this year. He stated that he would present a more visual update of the project plan at the next RAB meeting. Some of the work related to petroleum, however, may have to be deferred to next year because of the TPH screening level issue. He stated that the Navy will work to provide a list of the projects for the next meeting.

4 May 98 RPM/BCT Meeting
Mr. Sullivan noted that the BRAC Cleanup Team (BCT) meeting was held on May 4. He said some of the issues discussed included Site 12 , and regional metal concentrations. He added that the BCT meeting minutes should be out in a couple of weeks. Ernie Galang, Navy Remedial Project Manager, noted that the final copies of the minutes would be distributed at the end of next week.

Quarterly Groundwater Monitoring
Mr. Sullivan stated that the Navy has completed the quarterly groundwater monitoring for the non-IR sites and have already done preparatory work for the IR site groundwater monitoring. Mr. Galang noted that the field work has already begun.

Mr. Sullivan noted that the last quarterly groundwater report was just released. He explained that it takes about a quarter to finalize the report from the previous sampling. The quarter sampling that the Navy is now conducting will be in report format in about three months.

Completion of the Zone 5 and Zone 6 FOSLs
Mr. Sullivan said he was still finalizing the response to comments from RAB members on the Zone 5 FOSL. He indicated that he had already mailed out the response to comments from regulators. He said the Navy would be revising the Zone 5 FOSL within the next month, and the Zone 6 FOSL, he added, is

proceeding on a similar schedule. Both FOSLs are expected to be finalized within the June time frame. He noted that Zones 5 and 6 were the last of the regional FOSLs.

IX. Review of Action Items

Mr. Sullivan stated that he is reinstituting inclusion of an action item list in the meeting minutes, noting that the BCT/RPM meeting minutes included a long action item list. An outstanding item from April is a question about whether meeting minutes are included in the Administrative Record. Mr. Sullivan explained that the CERCLA process requires only the actual report documents be initially included in the Administrative Record. He noted, however, that all other information is included the Information Repository. He explained that once TI moves forward into the Record of Decision, all documents, including minutes, will be evaluated for placement into the Administrative Record. Because the RAB meetings relate to CERCLA, it would be expected that the meeting transcripts and minutes would be added to the Administrative Record.

The other item, Mr. Sullivan noted, was to determine whether the RAB is on the EIS mailing list. He stated that the RAB is on the EIS mailing list, and although the draft document is not released yet, the notice of the public hearing will follow the release of the draft EIS. There is no firm release date yet for the EIS.

Mr. Sullivan asked if there were any more action items. He added that since there were no more items from the previous meeting, he would like to solicit additional action items at the interim RAB meeting.

OTHER BUSINESS:
X. Organizational Business

Proposal to involve the RAB in the development of the TI Onshore Feasibility Study

Mr. Sullivan stated that at the RPM/BCT meeting on May 4th, Christine Shirley had a proposal to get the RAB more involved in the cleanup process. Following discussion, it was agreed that Ms. Shirley would present it at the next RAB Interim Meeting on May 6th.

Ms. Shirley stated that basically the proposal she presented was for more active involvement of the RAB in the RI/FS process prior to its being released in draft form. It was talked about at length during the Interim Meeting, and there were just a few concerns from the Technical Subcommittee that mostly related to expectations.

She added that they wanted to make sure that the Technical Subcommittee expectations and Navy expectations are in line, before the production of any product. So the draft letter to the Navy is an outline of what some of the RAB expectations are.

The letter states that the RAB would like to collect background information and evaluate proposed cleanup technologies to see what has worked and what has not worked in the past.

Mr. Hansen explained that the proposal is for the RAB to be proactively involved with the Navy and the contractors so that they would know beforehand what to expect in the reports. For example, he stated that, from his experience at the Presidio, he is against institutional controls and doesn't believe they are effective. He observed that other people may have other desired outcomes.

Ms. Shirley explained that one valuable project for the RAB would be to research technologies that they

would like to see incorporated into the feasibility study. Then, she added, they would collect case studies on institutional controls to form discussion on how institutional controls are evaluated in the feasibility study. And then there are some issues related to the crafting of the cleanup levels or cleanup.

Mr. Hehn added that he thinks the discussion on alternative remedial options are really critical to make sure all the alternatives that are feasible for a particular site are considered.

Ms. Shirley noted that she would be job sharing with Kavitha Rao over the next few months. Together, she stated, they will collect information from other RAB members and determine what they want to evaluate. Currently, she noted, they are collecting information on cleanup technologies.

Mr. Hehn asked if there would be a list of technologies being evaluated at the site. Ms. Shirley replied that they would give the RAB Technical Subcommittee a list for discussion.

Mr. Hehn suggested that RAB members discuss the letter before proceeding to the BCT. Ms. Shirley distributed copies of the draft letter. Mr. Hansen asked that the letter be mailed to those RAB members not present. He suggested that the letter be submitted to the Navy as a draft, allowing time for comment from RAB members and then be finalized for the June Interim RAB meeting.

Technical Assistance for Public Participation (TAPP) Proposal Status

Mr. Sullivan announced that the TAPP proposal had been forwarded to headquarters and the Navy was awaiting comments. He noted that the TAPP request was for assistance in looking at the seismic geotechnical effects on fate and transport of contaminants, and added that comments from headquarters are anticipated. He added that he would talk with John Allman to discuss the Navy's response to the application. Mr. Sullivan noted that their had been a RAB member suggestion to have the TAPP seismic presentation on Saturday, July 11 because it would coincide with a half day City reuse planning workshop already scheduled at TI on that day. Mr. Hehn requested that the July 11th date be added to the calendar section of the agenda.

Meeting Attendance

Mr. Sullivan expressed concern about low RAB member meeting attendance and noted that the RAB had discussed what actions could be taken at the last Interim Meeting. He noted that they were trying to decide whether to make cuts in the membership list. He added that no members have been cut to date unless they resigned, or in the case of the newest members, have never attended a meeting. Mr. Sullivan also announced that Wendy Easley had resigned from the RAB because she was unable to attend meetings on a regular basis due to her job with PG&E taking her out of the area.

Mr. Hansen noted that there is a difference of opinion among RAB members concerning attendance. He said that some members believe that unless a RAB member attends meetings and does a significant amount of work, that member should be dropped from the board. Others feel there should be a diverse representation on the RAB despite the lack of commitment from some members. Mr. Hansen suggested that those who cannot commit to the RAB full-time be accepted as associate members. He noted that the RAB has lost some people who were committed to the work, but did not have the time to devote to the RAB each month. Mr. Hansen recommended that the RAB membership issue be continued to the next meeting.

Mr. Van Wye suggested that Navy staff telephone all RAB members prior to the next meeting. Mr. Sullivan agreed that it was a good idea and that the Navy would try to do the telephoning.

Mr. Van Wye suggested that a presentation be made at the July 11 meeting to solicit new members or interest in the RAB. Mr. Sullivan noted that since it is a City workshop on planning, he was not sure if it would appropriate for them to be added to the agenda. Mr. Van Wye stated that it would appear to be appropriate to let the general public know that the RAB exists and how they could be involved in the cleanup process. He added that a five minute presentation could include recruitment suggestions. He suggested that since the City Planning Department is taking the lead at the July 11 meeting, that Ms. Walters could approach them for time at the meeting. Ms. Walters noted that the RAB have a lot of cleanup knowledge relating to TI that many of those involved in reuse planning may not have, and that the RAB could be an asset to the meeting. She added that the general public needs to know that the RAB has expert knowledge that is available to them.

Mr. Hansen suggested that the item be brought up at the June RAB meeting and discussed with Ms. Conroy. Mr. Hehn suggested that a poster station, RAB table and Q&A handout be created for the meeting.

XI. Upcoming Environmental Report Review Schedule

Mr. Sullivan reviewed the following schedule of environmental reports:

IR Site Groundwater Monitoring Report (Available)
Draft Reuse Plan EIS/EIR, (Availability date to be determined)
Draft Offshore Remedial Investigation Report (Available 29 May 1998)
Final CAP, Final Onshore RI and FS (Dependent on resolution of TPH Cleanup Levels)

XII. Open Questions/Discussion

Mr. Sullivan asked for any open questions or discussion. Ms. Shirley asked that RAB members submit comments back to her concerning the Feasibility Study proposal letter before the next RAB meeting.

XIII. Proposed Agenda Items

Mr. Sullivan noted the following agenda items for the 16 June RAB meeting:

June
Offshore Remedial Investigation Report (Data Results)
Site 12- Update on Zone 4 FOSL
Feasibility Study Introductory Workshop
RAB Attendance and Recruitment
RAB Presentation at July 11 City Planning Workshop

Mr. Galang recommended that the workshop on the Feasibility Study process be limited to the process itself and not on a specific site.

Mr. Sullivan stated that the FOST item may have to be deferred to the July meeting, since the Navy has not yet had the first FOST scoping meeting with the Regulators yet.

XIV. Closing Remarks

Mr. Sullivan announced that the 16 June RAB meeting would be held at the Casa de la Vista Building or Nimitz Conference Center, but that he would advise RAB members of the meeting place. He added that the June 3 Interim RAB meeting will be held at the Pacific Gas & Electric (PG&E) building, the BCT/RPM meeting will be held 1 June at the RWQCB offices in Oakland, and the BCT/RPM meetings are held on the first Monday of each month and the Interim RAB meetings on the first Wednesday of each month.

Mr. Galang noted that funding has been made available for TAPP projects in FY98 up to the maximum of $25,000, and suggested that the RAB consider other projects to incorporate those funds.

Mr. Sullivan adjourned the meeting at 9:40 p.m.

The next RAB meeting will be held on Tuesday, June 16, 1998, at 7:00 p.m., at the Casa de la Vista or the Nimitz Conference Center, NAVSTA TI.

ACTION ITEMS
5/19/98

1. Mail out meeting minutes one day earlier next month.
2. TAPP proposal update.
3. RAB telephoning prior to meeting.

NAVAL STATION TREASURE ISLAND
RESTORATION ADVISORY BOARD MEETING MINUTES

Tuesday, 16 June 1998
Meeting No. 46

The Naval Station Treasure Island (NAVSTA TI) Restoration Advisory Board (RAB) met on 16 June 1998 at 7:00 p.m. at Casa de la Vista, NAVSTA TI. The goals of the meeting were to: 1) have discussion/approval of the 19 May 1998 minutes, 2) receive a report from the City of San Francisco, 3) review the Draft Zone 4 (IR Site 12) FOSL Addendum, 4) review the Draft Offshore Remedial Investigation Report Data Summary, 5) hold a Feasibility Study (FS) Workshop, 6) discuss general updates, 7) review action items, 8) attend to organizational business, 9) review the upcoming environmental report review schedule, 10) provide open questions and discussion, and 11) 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 7:03 p.m., and welcomed all meeting attendees. He noted that the RAB will continue to meet at Casa De La Vista but cautioned that the location may change occasionally based on the availability of the building.

II. Public Comment

Mr. Sullivan noted that there were no members of the general public present at the meeting.

III. Discussion/Approval of the 19 May 1998 Minutes

Mr. Sullivan noted the late distribution of the May meeting minutes and proposed to defer discussion to the next meeting to allow RAB members time to review the minutes.

BRAC CLEANUP PROCESS:

encl (2)

IV. Draft Zone 4 (IR Site 12) Finding of Suitability to Lease FOSL Addendum

Mr. Sullivan reviewed that a draft final remedial investigation RI report was written and, in addition, a Zone 4 FOSL was developed back in the fall timeframe. RAB member and regulatory agency comments were received on both documents. The FOSL was completed in November 1997, but it was agreed to make occupancy of the housing units contingent upon incorporation of additional grid sampling data being conducted in the fall of 1997. He explained that the original Zone 4 FOSL was completed with the provision that the additional data would be reviewed and assessed in an updated risk assessment before occupancy would occur. The technical subcommittee received a copy of the validated data from the additional sampling several months ago.

Mr. Sullivan explained that the next step is to incorporate the additional data into a draft final RI report for Site 12, which will likely become operable unit (OU) 12. The RI report will not be available until August 1998. The Navy is in the process of updating the FOSL with the new risk assessment information. The draft Zone 4 FOSL addendum will be released tonight for a two week comment period. The Navy plans to complete the FOSL in early July.

Mr. Sullivan called on Gwen Caviness, Tetra Tech EM Inc., to review the updated human health risk assessment for Site 12. Ms. Caviness explained that the objective of the human health risk assessment was to evaluate if the current site conditions at Site 12 are protective of human health for purposes of long-term residential land use. She noted that the methodology applied to the risk assessment was consistent with that for the draft and draft final RI reports. She offered to provide follow up information on the methodology if requested by the RAB.

Ms. Caviness stated that there are four steps in a risk assessment: data collection and evaluation, toxicity assessment, exposure assessment, and risk characterization. She explained that during the data collection and evaluation phase, data from the original RI was combined with the additional data collected from the Site 12 characterization. These data sets were then used to define the chemicals of potential concern (COPCs).

The objective of the original Site 12 RI was to investigate potential contamination in suspected source areas. These areas included the former debris disposal area, ammunition bunker areas, waste incineration, and underground storage tanks (USTs). A total of 63 soil samples were collected for a full suite analysis to include VOCs, SVOCs, TPH, explosives, dioxins, and pesticides.

The objective of the additional Site 12 characterization was to obtain information about areas outside of suspected source areas not investigated during the original RI. This investigation included a larger sampling effort of 112 soil samples collected on a 200 by 200 foot grid. Analysis was performed for metals, VOCs, SVOCs, and TPH.

The analytical data from the RI and the additional Site 12 characterization were combined and compared to ambient levels (naturally occurring or not related to site activities). This process lead to selection of the COPCs, namely metals VOCs, SVOCs, pesticides, and dioxins.

The second phase of the human health risk assessment identified the most likely exposed receptor. Complete exposure pathways for soil include: ingestion, dermal contact, inhalation of particulates, inhalation of VOCs, and ingestion of homegrown produce. Inhalation of VOCs released from the groundwater to the air provides a complete exposure pathway for groundwater.

Exposure point concentrations were developed based on the exposure pathways. The exposure point concentration is the contaminant concentration at the point of contact with the receptor. Data was used from the entire site, and in addition, hot spot analysis was conducted.

In a risk characterization, a cancer risk is defined as the probability or likelihood of an individual getting cancer under the defined exposure conditions. The hazard quotient, a way of evaluating non-carcinogenic effects, is defined as a ratio of the site concentration to the estimated safe dose for a human over a 70 year life-span.

Ms. Caviness noted that the results of the risk assessment indicated that cancer risks are within EPA's target risk range of 1×10^{-4} to 1×10^{-6} and that the hazard indices are less than the threshold value of one. For the residential scenario at zero to two feet below ground surface, Ms. Caviness noted that the risk did not change much between the original RI data and the updated RI data. She added that the Hazard Index remained below one. At zero feet to the maximum depth sampled, the risk was also determined to be within EPA's target risk range, and the Hazard Index was also below one.

Henry Ongerth asked why the Hazard Index dropped so much between the original RI and the updated RI. Ms. Caviness responded that antimony was the driver in the original risk assessment; as more samples were collected for the additional data, the concentration went down.

Ms. Caviness explained that recreational and commercial/industrial scenarios were also evaluated in the event of land use change from the residential scenario. In both scenarios the zero to two feet below ground surface and zero to the maximum depth sampled calculations, all fell within EPA's target risk range and in each case the hazard indices were below one.

A hot spot analysis was conducted to ensure that nothing was missed through averaging the concentrations over the entire site or that concentrations were not artificially reduced. The analysis determined one location, 12-HP173 at a depth of one foot below ground surface, with relatively high concentrations of Polynuclear Aromatic Hydrocarbons (PAHs). A screening level analysis was performed for this location; it was determined to fall within the target risk range.

A lead evaluation was conducted at Site 12 similar to that of a site specific environmental baseline survey (SSEBS). Two models were used, one assuming ingestion of produce by a child, and one excluding produce ingestion. The lead concentration was found to be well below target exposures. At the request of DTSC, additional samples were collected near outliers. Confirmation sampling indicated that the outlier samples don't represent the actual conditions of these sites. Ms. Caviness stated that the conclusion of the additional data collection and analysis

has determined that current conditions at Site 12 are protective of human health for long-term residential land use.

Mr. Hehn asked what would happen if the ambient levels of the COPCs were determined to be more indicative of a study in an impacted area. He questioned whether this would change the overall selection of the COPCs and the risk assessment if the ambient levels are found to be uncharacteristically high. Ms. Caviness responded that there are typically site specific ambient levels that have been derived when ambient is evaluated. The site concentrations are compared to those numbers which are derived using statistical analysis. She added that there would be a particular range that would be considered background, and an outlier, significantly higher or lower would probably be associated with some sort of contamination. As a more conservative approach, instead of assuming the maximum of that range, it was moved back to the 95th percentile. The project team looked at the data and determined the outliers and whether other site information indicated contamination in these areas. A ten percent screen was then applied because there are very few metals considered to be related to site activities at TI.

Ms. Caviness explained that a five to ten percent screen is based on the distribution of the ambient. The ten percent was determined by the project team to be appropriate based on the range of concentrations at the site and the actual distribution of those contaminants or metals. The concentration fell along a gradient that would allow a ten percent screen, without screening out the outliers or representing co-contamination or some other source.

Mr. Hehn asked if there is any way to determine whether or not the ten percent that gets screened out are localized hot spots because they don't fall within the normal distribution. Ms. Caviness stated that the screening process includes making sure that the contamination doesn't fall outside of the normal regional numbers. Literature searches were conducted as part of the process. If a concentration was found to well exceed the expected distribution, then it was considered to be a COPC.

Mr. Hehn asked David Rist, DTSC, if his agency feels comfortable with the results from the Site 12 risk assessment. Mr. Rist indicated that issues regarding ambient concentrations during the Phase II work have mostly been resolved. DTSC is waiting to review the Navy's response to agency comments in addressing a few outstanding areas, however, it's been agreed to that the approach is acceptable.

Mr. Hehn asked whether there were only two lead hot spots that were evaluated, and whether there were evaluations that exceeded PRGs in the overall lead evaluation of Site 12. Ms Caviness responded that the lead evaluation for the purpose of the human health risk assessment were conducted using only RI data and the additional Site 12 characterization data. The few sporadic high concentrations were offset by the overall average.

Mr. Sullivan stated that a copy of the updated FOSL for Site 12 would be forwarded to the RAB technical subcommittee members, the regulators and the city. He noted that a graphic in the updated FOSL shows an area excluded from the initial lease. Additional TPH data sampling is

being conducted for this area. Also, additional dioxin samples are being taken in a rubbish area on the west side to increase the data set. Confirmatory samples are also being taken in a few areas where photo analysis has indicated the existence of past debris piles. Following the additional analysis, an evaluation will be made regarding ecological risk and whether further action needs to be taken in these areas.

Mr. Sullivan noted that there would be a two week public and agency comment period followed by a two week response to comment period by the Navy. The intent is to finalize the updated FOSL in early July. Additional discussion on the document can be held at the July 1 interim meeting.

Mr. Hehn asked if the results of the additional sampling at the excluded sites will be available for review at the interim meeting. Mr. Sullivan noted that the draft work plan for this additional sampling would begin in about three weeks, with the actual field work taking place later in the summer. It is intended to have the validated data set back by the end of the summer, so that a decision can be made on those areas currently excluded from the lease.

Mr. Hehn asked when the report on the sampling conducted last fall will be available. Mr. Sullivan stated that it would be incorporated into the draft final RI for Site 12, which won't be available until about August. He added, however, that the data set was incorporated into the updated health risk assessment, thereby extracting the updated health risk assessment from the draft final RI for Site 12. Mr. Sullivan noted that the Navy is in he process of plotting on a map the results of the additional sampling as part of the draft RI; overlay maps may be provided during the course of preparing the updated FOSL.

Mr. Hansen asked how many areas are of concern there are in Site 12 and how many housing units this would affect. Mr. Sullivan noted two areas of concern in Site 12 which are adjacent to each other. The remainder of Site 12 would be available for lease based on the results of the updated health risk assessment. Twenty-nine buildings, totaling 180 units, would be excluded from immediate lease; 700 units would be available for immediate lease.

V. City of San Francisco

Mr. Sullivan introduced Annemarie Conroy, Executive Director of the TI Development Authority. Ms. Conroy stated that she had attended the City's Finance Committee budget meeting earlier in the day and reported that the TI Development Authority had received the budget they were seeking. She noted that the Development Authority's offices are available to the RAB and commended both Martha Walters and Jim Sullivan on their assistance.

Ms. Conroy stated that the City would like to move quickly on putting the TI housing into productive use to minimize rehabilitation costs resulting from lack of use. Paul Hehn asked what the time frame is for long term redevelopment of TI, apart from the housing issues. Ms. Conroy

responded that a request for quotation (RFQ) will be drafted to solicit a master developer; this will help determine the market for a developer. She added that she cannot yet provide a definite answer because they are currently looking at all the issues that come into play for TI and YBI, and are assessing all of the information. She noted that a lot of the buildings will be used for public purposes and therefore won't be generating a lot of income. The City wants to focus on obtaining a master developer in order to get productive interim uses and a revenue stream underway as soon as possible.

Jack Savage asked about the future of wetlands on TI and YBI. Ms. Conroy replied that wetlands are under consideration in the reuse plan, and that she was also aware that there may be money available from the San Francisco International Airport as part of their wetland mitigation project.

Mr. Ongerth commented that articles in the San Francisco Press lead readers to believe that the ultimate uses of TI and YBI are highly politicized. Ms. Conroy noted that the city worked hard to defeat Proposition K because of concern that it would undermine the viability of the TI Development Authority and also make it difficult to attract a master developer. She stated that the state law which created the TI Development Authority can not be appealed at the local policy level. Plans remain to move forward and to proceed with the conveyance process with the Navy in order to turn the property over to the city.

Harlan Van Wye asked about the status of the request for proposal that went out last fall for the marina development. Ms. Conroy responded that a selection committee is currently reviewing the proposals and that each of the three bidders who responded will give presentations at their July Development Authority Meeting.

Richard Hansen, Community Co-chair, asked if the University Consortium will be able to use the housing by the fall considering the City's concern over deterioration of the housing units. Ms. Conroy stated that the City is in negotiation with the University Consortium to house students on TI. The request is attractive because student populations are transient and would be easier to uproot should a master developer deem it necessary. The TI Development Authority will be in closed session tomorrow to determine issues such as how to set the rents, how many students to allow, will there be city housing, and how TIDHI will fit in. The outcome will provide her with the direction to proceed in working with the John Stewart Management Company in leasing out the housing.

Dale Smith asked if the proposals for the marina development are available for public review. Ms Conroy noted that the proposals are made public following selection of the developer. Mr. Hehn asked if the leasing of the Site 12 housing will be used for students only. Ms. Conroy stated that the population will be a mix of professors, students and staff, to be determined by the University. Mr. Hehn noted that a challenge of the RAB has been to make sure that their reviews, ideas, and concerns regarding the redevelopment of TI are fully understood in the redevelopment efforts. He asked the best way to provide this information to herself and the Development Authority. Ms.

Conroy offered that both Ms. Walters and Mr. Sullivan are good conduits. She also noted that perhaps she could visit with the RAB on a more regular basis, and that the RAB could send a representative to the Redevelopment Authority meetings. She reiterated that there are many opportunities to make concerns known, and noted that their offices are open if the RAB feels they are not being heard.

Mr. Van Wye asked if the July meeting of the TI Development Authority is an open session. Ms. Conroy indicated that it would be open to the public. Mr. Sullivan thanked Ms. Conroy for coming by to speak to the RAB.

VI. Draft Offshore Remedial Investigation Report Data Summary

Mr. Sullivan stated that the draft offshore RI Report was released around June 1, 1998; members of the technical subcommittee received copies of the document. Additional copies can be made available to other interested RAB members. The comment period ends on August 7, 1998. Mr. Sullivan turned the presentation over to Joanna Canepa and Cindi Rose, of TtEMI.

Ms. Canepa stated that offshore investigations at TI have included three sampling events: the Phase I RI in 1992, the Clipper Cove Skeet Range investigations in 1996, and the Phase II RI sampling of Areas A, B, C, D, E, and G in 1997. She noted that attempts to collect sediment at Area F were unsuccessful because of the lack of sediment there.

The assessment endpoints for the risk assessment included near-shore benthic invertebrates, benthic-feeding birds, piscivorous birds and carnivorous birds. The technique for measuring impacts to the assessment endpoints included chemical characterization and toxicity tests.

Site chemical concentrations were screened to determine chemicals of potential ecological concern (COPECs). Factors in determining COPEC selection included comparisons of ambient chemical concentrations to site concentrations, chemicals that potentially cause toxicity, and bio-accumulation potential. Ms Canepa noted as an example that the detected concentrations of total PAH in the Skeet Range sediments, however, was screened as a COPEC because concentrations fell somewhat above the ambient level.

Chemicals of ecological concern (COECs) were also identified through consideration of the following factors: frequency and magnitude of detection in each area; a demonstrated bioaccumulator in the San Francisco Bay; and through review of toxicological literature identified as a potential to bio accumulate and bioconcentrate in ecological receptors. Ms. Canepa pointed out that total PAH is not considered a COEC for Area B but is considered a COPEC for this area. Total PAH for Area E is considered a COEC.

Hazard quotients (HQs) and hazard indices (HIs) are a way of assessing potential risk to benthic invertebrate receptors. Ms. Canepa pointed out that the HIs are generally very low at TI,

especially for organics and are well below the toxicity range.

Ms. Rose lead a discussion on the risk characterization. She explained that the weight of evidence approach was used because there is no risk range number as in human health risk assessment. This approach includes evaluation of the chemistry, toxicity results, bioavailability and confounding factors.

Ms. Rose reviewed the bioassay results for three organisms, the amphipod, the polychaet worm and the purple sea urchin. She noted that most tests for the purple sea urchin were rejected due to ammonia toxicity as a result of a natural microbial breakdown process. The reference site used for the amphipod tests was selected because it is supposed to be representative of the general bay area. Mr. Ongerth noted that the survival rate for amphipods was better for those in the TI bioassay than for those in the reference site. Ms. Rose stated that grain size of the sediment may have been an additional factor that affected the survivability of the amphipods. Other factors considered include simultaneously extractable metal/acid volatile sulfide, which is a tool for evaluating if divalent metals are available for up take by receptors; and the ammonia toxicity which affected the sea urchin survival and lead to the rejection of most of the bioassay data.

Ms. Rose reviewed the conclusions for each of the areas. In summary, Areas A, B, and G are recommended for no further investigation because the chemical concentrations indicate negligible risk and there are no nearby shallow water habitats. In Areas C, D, E and the skeet range, chemical concentrations indicate negligible risk, however fish and invertebrate tissue data will be collected because shallow water habitats exist nearby.

Ms. Walters asked if there is a known source of DDT in Area A. Ms. Rose responded that the DDT was detected in the porewater rather than the sediment, noting it is normally tightly bound to sediment particles. The source is unknown for certain, although a nearby groundskeeping shop may be the contributor. Mr. Ongerth asked if any sample points were located inland. Mr. Sullivan stated that Phase I sampling of storm drains included some inland points.

Mr Van Wye noted upcoming plans for marina development in the Clipper Cove area and asked if development will create a problem from an ecological standpoint. Ms. Rose responded that the chemistry doesn't indicate a problem. Mr. Sullivan added that the Navy had received a dredge permit from the regulatory agencies in 1993 for that area but didn't execute the dredging due to base closure. He noted that there have been several dredging projects, the most recent in the mid-1980's, however the are was not regularly dredged.

Nathan Brennan asked at what level would the hazard indices indicate a real risk. Ms. Rose responded that HQs greater than 30 are indicative of risk. Mr Brennan asked if this were true of mercury. Ms. Rose noted that the HQ's for mercury are still quite low, but that tissue samples will help evaluate whether it is accumulating in tissue.

Mr. Hehn asked for clarification on whether the tables listed only the sites where actual

concentrations were detected. Ms. Rose explained that chemicals contributing more than 0.5 to the overall hazard index were listed on the table. Locations that didn't meet the criteria are not included in the table because they are not considered to be a problem. Mr. Hehn noted that both the sea urchin and the amphipod showed poor survivability in the tests and asked Ms. Rose to address the validity of the study and whether the areas can be safely eliminated from future risk based on the quality of the data. Ms. Rose responded that a lot of data was collected and there are locations where the bioassay data is valid; they are working with a good data set. She added that, generally, the chemistry is low and indicate there are no areas of concern.

Mr. Hehn asked if invertebrate and tissue samples will be collected offshore from Area F, which is around IR Site 28, and expressed concern that some sort of risk data be collected from the area. Mr. Brennan asked if there was any data available from the harbor seal studies, conducted over the past eight to nine years. Ms. Rose said she would check the literature. She noted, however, that the harbor seal migrates throughout the bay and would not be representative of conditions just at TI; small invertebrates in the sediment provide a clearer picture.

Mr. Brennan asked for clarification on the bioassay process. Ms. Rose stated that the bioassays weren't conducted onsite but that the sediment was sent to a laboratory. Mr. Van Wye referred to Appendix H of the main report, which contains the California Regional Water Quality Site Cleanup Plan for the skeet range, and asked the status of the plan. Mr. Sullivan explained that the skeet range wasn't included in the Phase I investigation because it wasn't considered an issue at that time. Sometime following the Phase I, the regional board conducted a study of offshore skeet ranges throughout the Bay Area, resulting in a directive to TI and eight other sites to perform additional investigation. Through discussion with the regional board and DTSC, it was agreed to incorporate the skeet range investigation into the Phase II RI, rather than produce a separate report. The skeet range sits on top of IR Site 13, which is basically the offshore area. The offshore RI fulfills the requirement for the skeet range set forth in the order.

Mr. Hansen asked Ms. Rose whether she, herself, would eat the fish caught offshore from TI, or allow her children to do such. Mr. Sullivan responded that this was a loaded question, and Ms. Walters noted the unfairness of the question. Mr. Sullivan stated that migratory species cannot be used to draw conclusions about a specific site, such as TI, because they are impacted upon throughout the bay. Therefore there are general advisories, based on the overall chemistry of he bay, regarding fish consumption. The focus must be on those creatures that live in the sediment around TI and YBI, to determine whether they are being negatively impacted. Mr. Sullivan reiterated that the report can't be used as a direct correlation to the quality of fish in the bay.

Mr. Hehn stated he believes that the results of the studies do not provide a clear case. Ms. Rose pointed out that confounding factors were examined in most cases.

Mr. Sullivan noted that the comment period for the RI is in its second week; it will end during the week of the August RAB interim meeting.

VII. Feasibility Study (FS) Workshop

Mr. Sullivan distributed a synopsis of the FS process, noting that discussion of the topic will require more time than allowed on tonight's agenda. He added that the topic will be rescheduled as an agenda item or as a separate workshop. Kavitha Rao also distributed additional information on the FS from the National Contingency Plan.

PROGRAM UPDATES:

VII. General Updates

Announcements
Mr. Sullivan noted that the TI Development Authority meets on the third Wednesday of the month. The RAB should be on their list to receive meeting notices. Tomorrow's meeting will include a briefing by Caltrans. He also noted that the City will host a planning workshop on TI on July 11; those interested in attending must RSVP their intent.

FY98 Project Execution Plan
Mr. Sullivan announced there was no update on this topic.

1 June 98 RPM/BCT Meeting
Mr. Sullivan stated that the meeting was held at the Regional Water Board offices and included discussion on additional sampling for TPH and dioxins on Site 12, and no remedial action plans (RAPs) for Sites 1 and 3. The minutes for this meeting will be available in several weeks.

Quarterly Groundwater Monitoring
Mr. Sullivan stated that the fieldwork has been completed for the quarterly groundwater monitoring; a report will be available in about three months.

Completion of Zone 5 and 6 FOSLs
The Navy is still in the process of completing the Zone 5 and Zone 6 FOSLs. A phone conference with the regulators was held earlier in the week on Zone 6. Regulator comments on Zone 5 have been resolved, however Mr. Sullivan stated he is still in the process of addressing the RAB comments. Both Zone 5 and 6 FOSLs are expected to be completed within the next month.

OTHER BUSINESS:

IX. Organizational Business

Monthly Meeting Attendance/ July 11, 1998 Workshop

Mr. Hansen stated it is his hope that the July 11 workshop will result in new members to the RAB.

TAPP Proposal for TPH Toxicity Screening Levels Elsewhere in California and the United States

Mr. Hansen stated that John Allman's TAPP proposal has been temporarily put on hold, adding that there is no limit on the number of proposals that can be made. Mr. Hehn noted two areas of interest for potential TAPP funding regarding feasibility studies. The first would investigate the range of TPH screening levels within various states and jurisdictions to help reach resolution for TI. The second would explore the availability application, and utility of institutional controls, where they were used, and the result over time. Mr. Van Wye stated he was reviewing a summary on institutional controls and would be willing to discuss the document at the next RAB meeting.

Mr. Van Wye asked what the plans are for the July 11 workshop. Mr. Sullivan stated that it is the City's workshop. Mr. Brennan noted that he had called and left a message with the workshop point of contact. He is trying to find out if there would be an opportunity for the RAB to conduct outreach efforts aimed at workshop attendees. Mr. Van Wye suggested that the RAB try to get onto the City's agenda to solicit new members. Mr. Sullivan noted that the City has an extensive list of organizations and individuals interested in San Francisco planning activities and so expects a good turnout for the workshop. He offered to speak with Ms. Walters about getting on the agenda. The workshop is intended to provide the opportunity for citizen input as part of the planning process. Mr. Hehn suggested that the RAB request that an information table be set up. Mr. Sullivan stated that the Navy could provide visuals for the display table.

X. Upcoming Environmental Report Review Schedule

Mr. Sullivan reviewed the following schedule:

Draft offshore RI Report - released June 1; comments due August 7
Final Cap, Final Onshore RI and FS - on firm schedule yet
Draft Reuse Plan EIS/EIR - may be available by fall

IX. Proposed Agenda Items

July

- Draft Site 12 Investigation Work Plan
- Draft Offshore Remedial Investigation Report Discussion
- Proposed Schedule for Completion of Corrective Action Plans and CERCLA Remedial Investigations
- Intro to Finding of Suitability to Transfer (FOST) for Sites Not Requiring Remedial Action

- **August**
- Draft FOST for Sites Not Requiring Remedial Action

X. Closing Remarks

Mr. Sullivan noted that the next regular RAB meeting will be held five weeks from tonight on, July 21. The interim meeting is currently scheduled for July 1 but may move to July 8. He recommended that the meeting be kept to July 1 to discuss the updated FOSL for TI housing. The next BCT meeting is scheduled for Monday, July 6 at the USEPA offices. The TI Development Authority will hold their next meeting on Wednesday June 17. Mr. Sullivan adjourned the meeting at 9:30 p.m.

The next RAB meeting will be held on Tuesday, July 21, 1998, at 7:00 p.m., at the Casa de la Vista, NAVSTA TI.