FORMER NAS MOFFETT FIELD
RESTORATION ADVISORY BOARD
MOUNTAIN VIEW CITY HALL, FOURTH FLOOR GALLERY
MOUNTAIN VIEW, CALIFORNIA 94041

NOTE: A glossary is provided on the last page of these minutes.

Subject: RAB MEETING MINUTES

The Restoration Advisory Board (RAB) meeting for the former Naval Air Station (NAS) Moffett Field was held on Thursday, 09 March 2006 at the Mountain View City Hall, Fourth Floor Gallery, in Mountain View, California. Mr. Bob Moss, RAB Community Co-Chair, opened the meeting at 7:15 p.m.

WELCOME

Mr. Moss introduced himself, welcomed everyone in attendance, and asked for self-introductions of those present. The Moffett Field RAB meeting was attended by:

RAB Members	Regulators	Navy	Consultants & Navy Support	NASA	Public & Other
14	5	3	6	2	10

AGENDA REVIEW

Mr. Moss reviewed the meeting agenda and it was accepted with the following modifications:

- The scheduled RAB new member election will not be held since the candidates are not present. If the candidates are not able to attend the May RAB meeting, their application for RAB membership will be denied.
- Mr. Moss requested an update on the Navy and Army negotiations regarding Orion Park Housing Area.

APPROVAL OF MINUTES

Mr. Rick Weissenborn, BRAC Environmental Coordinator for Moffett Field and RAB Co-Chair, requested the minutes related to the Orion Park presentation be revised and provided corrections. Ms. Alana Lee, Remedial Project Manager for the U.S. Environmental Protection Agency (EPA), requested the minutes related to EPA's response to a question be revised and provided correction. The 12 January 2006 meeting minutes were approved as corrected. Revised meeting minutes are posted on the project website at www.navybracpmo.org/bracbases/california/moffett/.

DOCUMENTS FOR REVIEW

Documents are distributed on Compact Disc and are no longer widely distributed in hard copy.

Sign-up sheets for the following documents were circulated during the meeting:

#	DOCUMENT	APPROXIMATE SUBMITTAL DATE
1	Site 29 (Hangar 1) EE/CA Report	March 2006
2	Final Site 22 Landfill Post-Construction Operations, Maintenance, and Monitoring Plan Addendum	March 2006
3	Building 88 Investigation Report	April 2006

RAB MEMBER TERMINATIONS

According to the RAB charter, members who miss three or more consecutive meetings are subject to dismissal as RAB members. On 15 February 2006, the Navy sent the following members a letter notifying them of their attendance record and asked if they were interested in continuing to participate on the RAB: Mr. Craig Hroza, Mr. Ty Johnson, Mr. Marc Kowalski, Mr. Paul Lesti, Mr. Kenneth Naylor, Mr. Jeff Nelson, Mr. William James, and Mr. Robert Mansfield. Mr. Weissenborn received resignations from Mr. James and Mr. Mansfield. The RAB approved the termination of membership of the other six individuals.

COMMUNITY CO-CHAIR NOMINATION AND ELECTION

RAB member Mr. Lenny Siegel was nominated as RAB community co-chair by RAB member Ms. Jane Turnbull. Mr. Siegel suggested Mr. Moss remain in the position; all RAB members were in favor of this suggestion. Mr. Moss will continue to serve as RAB community co-chair.

SITE 29 (HANGAR 1) EE/CA UPDATE

Mr. Weissenborn provided a status update on the Hangar 1 engineering evaluation/cost analysis (EE/CA) and discussed a general timeline of activities. Currently, the completed EE/CA is being reviewed at the highest level in the Navy because of the sensitive nature of the document. This review process has caused delays in the EE/CA's release to the public. Concurrently, the Navy is briefing Congresswoman Anna Eshoo, U.S. Senator Barbara Boxer, U.S. Senator Dianne Feinstein, and their staffs in Washington, D.C. on the document.

After the Secretary of the Navy's review is completed, regulatory agencies will review the EE/CA and provide comments. Next, the document will be made available to the general public for a 30-day public comment period. Approximately two weeks after the EE/CA is released for public review and comment (or midway through the public comment period), the Navy will hold a public meeting to accept comments on the EE/CA.

The public meeting will be preceded by an informal open house, where the public can ask questions and speak with the project team one-on-one. During the formal public meeting, the Navy can only accept comments and cannot engage in dialogue with the public or answer questions. A court reporter will be present to record all comments. For individuals who are not comfortable speaking in front of a large group, a second court reporter will be available in a separate room to record oral comments. Written comments may also be submitted at the public meeting, or anytime during the 30-day review period.

Following the close of the public comment period, an action memorandum, which is the decision document for the removal action, will be prepared. Upon its release, it will be available for a 30-day public review and comment period. As an appendix to the action memorandum, there will be a responsiveness summary, which is a response to all comments received during the comment period. Subsequently, a work plan will be issued for public review. After the work plan's review period, the Navy will proceed with the selected removal action.

ORION PARK HOUSING UPDATE

Per Mr. Moss' request, Mr. Weissenborn provided an update on Orion Park Housing Area.

- The discussions between the Navy and Army regarding this site are underway in Washington, D.C. Mr. Weissenborn will advise the RAB when he learns more information.
- The Navy will sample groundwater at the site in March and June 2006 to complete one year of data gathering.
- The site development plans have slowed and site construction is now planned for 2007 instead of 2006. Mr. Weissenborn did not know whether demolition would be on schedule if construction was delayed. The Army is responsible for site demolition, but this is not an indicator of the Army's environmental responsibility. This issue is part of the discussions occurring in Washington, D.C.

REGULATORY UPDATE

Ms. Adriana Constantinescu, project manager for the San Francisco Bay Regional Water Quality Control Board (Water Board), said the Water Board has reviewed the Site 25 Draft Revised Feasibility Study Addendum and sent comment letters to the Navy in mid-February. The Water Board's comments dealt primarily with two issues: (1) site specific near-shore ambient PCB concentration availability, and the ambient data that are presented in the regional monitoring program issued by the Water Board; (2) the risk management decision agreed upon for the "not to exceed values" for clean up and confirmation sampling. The Water Board also made comments based on the management decision made during the meetings of April and September 2005. Ms. Constantinescu referred to an inquiry made by RAB member Mr. Peter Strauss at the January RAB meeting regarding the "not to exceed values" and the risk-based values presented. She noted he was referring to the Draft Feasibility Study Addendum. However, the Navy decided to issue a second document, the Draft Revised Feasibility Study Addendum on 13 December 2005, incorporating comments received from the EPA, Water Board, and the National Aeronautics and Space Administration (NASA).

The Water Board reviewed and commented on the Site 27 Draft Remedial Action Work Plan and met with the Navy to resolve differences. The Navy is proceeding with cleanup of the site as it is important to continue the project during the dry season.

NAVY GROUNDWATER MONITORING PROGRAM OVERVIEW

Mr. Glenn Christensen, Navy Remedial Project Manager, presented an overview of the Navy's groundwater monitoring program to complement NASA's hydrogeology presentation at the January RAB meeting. The Navy's program activities includes groundwater level measurement, sampling of monitoring wells, chemical analysis of groundwater samples, data interpretation, and annual reports submitted to regulatory agencies. The overall purpose of the groundwater monitoring program is to document the extent of groundwater contamination, compliance monitoring of landfills, evaluate groundwater flow, and assess the effectiveness of the West-Side Aquifers Treatment System (WATS).

Groundwater monitoring occurs at Site 1, Site 22, East-Side Aquifer Treatment System (EATS), WATS, and Orion Park Housing. Each of these sites has a long-term groundwater monitoring plan, which has been approved by the regulatory agencies. The plans provide a list of wells for groundwater level measurement, sampling and frequency, and also identify the chemical analysis methodologies, field procedures, data management, and reporting requirements.

Mr. Christensen displayed maps of well locations at the sites. Most wells at Moffett Field are flush mounted so that they are unobstructed in traffic areas. They have a steel lid with bolts and locking cap to prevent unauthorized access and to guard against surface water contamination and other objects from flowing into the wells. Groundwater at Orion Park and Site 22 is sampled quarterly; WATS and EATS are sampled annually in December; and Site 1 is sampled semi-annually in April, when the groundwater level is highest, and in October, when the groundwater level is lowest. The EATS Evaluation pilot test requires quarterly sampling of 13 wells in addition to the annual sampling.

On 23 March 2006, the Navy, in collaboration with NASA and Middlefield-Ellis-Whisman (MEW) will measure depth to water in approximately 410 Navy-owned wells. Depth to water measurements will be collected to help draw a regional groundwater contour map. Mr. Christensen displayed groundwater contour maps and noted the lines reflect equal groundwater elevation and the arrows depict the direction of groundwater flow. Regional groundwater at Moffett Field generally flows from south to north, with the exception of sites 1 and 22. Groundwater at Site 1 flows from north to south and groundwater at Site 22 generally flows from east to west. Groundwater flow direction at sites 1 and 22 are influenced by the pump station at Building 191 which lowers the water table for those areas of Moffett Field that are below sea level to prevent flooding.

Groundwater is sampled at the various sites for volatile organic compounds (VOCs), total petroleum hydrocarbons gasoline range, dissolved metals, polychlorinated biphenyls (PCBs), pesticides, and semi-volatile organic compounds (SVOCs). To sample groundwater, the Navy uses a micropurge technique. Approximately

one to two gallons of stagnant water (which develops over time) is removed from within the well casing, or purged from each well. To get a representative sample of groundwater from the aquifer, groundwater is pumped into a hydrolab and measured for stabilization parameters meeting a certain criteria. Once parameters have stabilized, a representative sample from each well is obtained in laboratory-supplied bottles, which are shipped to an analytical laboratory for chemical analysis. In response to a question about equilibrium measurements and drawing groundwater correctly, Mr. Christensen said the Navy monitors the depth to groundwater during purging to ensure drawdown does not exceed 0.33 feet. When the parameters stabilize, the flow rate is adjusted accordingly to collect the samples for the various analyses. Mr. Christensen affirmed that this method is consistently effective across sites.

Mr. Christensen explained the Upper A aquifer is the shallowest aquifer. The Upper and Lower A aquifers are separated by clay with low-permeability. The B2 and B3 aquifers are deeper than A aquifers, and the C aquifer is beneath the B2 and B3 aquifers. The Upper A and Lower A aquifers contain the majority of the contamination.

EATS is currently shutdown while a pilot study analyzing the southern plume is being conducted. There is also a large plume treated by WATS. Wells located outside, within the interior, and along the boundary of the plume are being monitored. This helps redefine the plume based on concentrations. The plume maps displayed by Mr. Christensen indicated a boundary of 5 micrograms/liter of trichloroethylene (TCE). There are two plumes being monitored on the east side of Moffett Field and one at Orion Park to measure the extent of groundwater contamination.

The following questions followed the presentation:

- Mr. Siegel asked if TCE degradation products were present at any of the locations and if the plume maps underestimate the extent of the plume by not showing TCE degradation products. Mr. Christensen said WATS has some of the oldest contamination and that TCE degradation products are depicted in contour maps in the annual reports. Mr. Siegel asked why maps produced by NASA and regulatory agencies appear different than the Navy's, and why EPA's data maps show potential sources. Mr. Christensen said the maps should be similar since the regulatory agencies use the Navy's data in addition to their own. The plume maps displayed by Mr. Christensen may appear different because they do not show concentration data below 5 micrograms/liter.
- In response to a question about the plume boundary in relation to Wescoat Housing Area, Mr. Christensen said the regional plume within the shallow aquifer is beneath the east side of the housing area. The wells in that area were decommissioned. Mr. Weissenborn added that the housing is partially over the plume. The Army is taking engineering steps to protect residents from the groundwater contamination, such as including positive pressure ventilations into the structures and creating a vapor barrier underneath the slab. This would not cause vapor intrusion into the outside air. Mr. Weissenborn indicated there is enough air turnover to not cause minimal risk.

SITE 25 PRESENTATION - NAVY

To increase understanding of how the cleanup goals for PCBs at Site 25 were determined, Mr. Scott Gromko, Navy Remedial Project Manager, presented the site's background, current and planned land uses for the site, affected species at the site, and agencies involved in determining the PCB cleanup goals.

Site 25 is approximately 260 acres and is used for stormwater control. NASA owns the majority of the property while the Midpeninsula Regional Open Space District (MROSD) owns 55 acres on the west side of the site. The site is hydraulically interconnected through a gravity flow system.

Species that could be affected by a completed exposure pathway to contamination at the site are called ecological receptors. The ecological receptors for each land use of the site are determined by their use of the site, which is based on frequency, home range, and eating habits. The Navy has met with experts to determine what types of species would be found at the site when the land use is a seasonal wetland (current land use), tidal marsh (planned use by MROSD) and managed pond (planned use by NASA). The Navy has also conducted an

evaluation of the most sensitive species, or the species that show the least tolerance to the contaminants at the site, for each land use. Each land use may have a different sensitive species, and by protecting the most sensitive species, all of the other species are protected. Ecological receptors with a smaller home range may be more susceptible, so the Navy's models assume the most sensitive species are at the site 100 percent of the time.

The Navy worked very closely with the regulatory agencies, and has been collaborating with the Biological Technical Advisory Group (BTAG), NASA, and MROSD in the preparation and review of documents and activities. BTAG, established by the EPA, included EPA, Water Board, California Department of Fish and Game, and U.S. Fish and Wildlife Service (USFWS) risk assessment experts. As land owners, NASA and MROSD also participated. The Navy, BTAG and landowners reached a milestone when they agreed on PCB cleanup numbers for Tidal Marsh and Managed Pond land uses at the site. This milestone signified the Navy could move forward with cleanup actions.

Mr. Gromko described the parameters used to derive PCB cleanup goals, displayed the cleanup numbers, and explained toxicity reference value (TRV). The Navy bases the cleanup numbers on High TRV, which is the lowest concentration of a contaminant where an adverse effect is observed.

The following questions followed the presentation:

- Ms. Turnbull asked how the cleanup numbers for Site 25 compare with EPA's standard cleanup numbers. Mr. Gromko replied that EPA's standard cleanup numbers are for humans. Since Site 25 is an ecological site, there are no predetermined cleanup numbers. Mr. Weissenborn added that, at Site 25, ecological cleanup numbers are about 20 percent of the human cleanup numbers.
- RAB member Mr. Arthur Schwartz asked if cumulative effects are considered when determining High TRV. Ms. Brenda McConathy, Navy consultant, affirmed and said reproduction cycles are considered, and TRV is the maximum dose a receptor can receive in one day.
- Mr. Siegel asked if NASA has determined the percentages of the site area that will be used for managed pond and for new development. Mr. Gromko said the Revised Draft Feasibility Study recommends moving forward with the tidal marsh cleanup and NASA presented a schematic of what they see for the future, but it is not final. NASA is working closely with USFWS regarding the salt pond restoration project, to ensure plans for Site 25 complement the salt pond restoration project and do not negatively affect NASA's stormwater control.
- Mr. Siegel reminded the RAB that Mr. Strauss indicated at the last meeting that the substance of the comments from the Technical Assistance Grant (TAG) indicate the TAG does not believe a PCB cleanup goal of 210 parts per billion is protective enough.
- In response to Ms. Turnbull's question about the site cleanup mechanism, Mr. Gromko said it will most likely be a dig and haul clean up, where the material is moved offsite and filler sediment is brought in. Since Site 25 is well below sea level, it will be important to monitor the depth to groundwater during the excavation. If the groundwater is encountered, it could discharge to the site and reduce the capacity of the stormwater retention ponds for stormwater. Also, if the site is opened to hydraulic communication with San Francisco Bay, large amounts of fill will have to be brought in to create a tidal marsh; otherwise the site will fill up with seawater and not follow tidal patterns. Mr. Siegel added that the site has different elevations.

SITE 25 PRESENTATION - NASA

Mr. Don Chuck of NASA continued the Site 25 presentation and referred to the site as Area of Investigation (AOI) 14. AOI 14 includes the Former Soil Fill Area, known as the "peninsula," the Building N217 Fill Area, and the Building N217A Fill Area. Mr. Chuck displayed maps showing where NASA is conducting soil sampling and described each of the three fill areas. Mr. Chuck listed the chemicals of concern (COCs) (PCBs, DDT, Lead, and Zinc) and listed the remediation level for each COC. He presented previous soil investigations conducted at each of the fill areas and displayed maps showing sample results from these investigations.

Mr. Chuck described proposed sampling plans for the Former Soil Fill Area, Building N217 Fill Area, and Building N217A Fill Area. The sampling and analysis plan will be distributed the week of 20 March 2006 and will have a 30-day review period. After comments are addressed, the final plan will be drafted. Field work is tentatively scheduled for July 2006 and a report of findings will be distributed two months after completion of the field work. Based on sampling results, a remedial action work plan, which is similar to a feasibility study, will be developed to evaluate alternatives and select a preferred remedial measure.

The following questions followed the presentation:

- In response to Mr. Siegel's question about site elevations, Mr. Chuck said the highest elevation of 12 feet is around the stormwater pond, and indicated all areas are above water.
- Mr. Siegel asked if fill served any purpose, such as for stormwater control. Mr. Chuck said it is not known why the fill was place at the site and there are different ideas about their purpose.
- Mr. Moss asked why a PCB sample result of 88 milligrams/kilogram, which is high, was received in the summer 2005 investigation of the Former Soil Fill Area. Mr. Chuck believes it may be because soil was deposited at different times and this particular area may have contained a lot of contamination. However, the displayed maps show surface samples; results may be different at deeper levels. The sample result is hard to determine since it is not known where all the filler originated. A broader spectrum analysis will not be conducted to determine where the filler originated.
- Mr. Weissenborn said the Navy may begin remediation of the site in summer 2007. The Navy is working with NASA to determine how this project could be more cost effective for both entities.

RAB BUSINESS

RAB Related Announcements

- Mr. Weissenborn introduced Ms. Yvonne Fong, replacing Ms. Lida Tan who is now the China coordinator for EPA. An article relating to Ms. Tan's new position was published in the San Francisco Chronicle and will be made available by Ms. Lee.
- Mr. Moss suggested it may be necessary for the RAB to meet and formally discuss the Hangar 1 EE/CA once it is released to the public. This would enable the RAB to develop a unified position on the document. Mr. Weissenborn suggested it may be more beneficial for the RAB to meet without the Navy being present; however, the Navy will help coordinate and set up the meeting. Mr. Moss requested that the Navy notify him of the release date in advance and he will coordinate with the RAB members to hold a "special" meeting, if the RAB is interested. Mr. Moss suggested holding the special meeting after the public meeting so that the RAB would have heard the public's comments and would have had time to review the document. An e-mail sign up sheet was circulated so Mr. Moss could send e-mail notification to those interested in attending the special meeting. Mr. Siegel suggested a presentation by Mr. Strauss, representing TAG, could be made at the special meeting.
- RAB member Mr. Kevin Woodhouse said the EE/CA will be presented to the Mountain View City Council and he would like advance notice of when it will be available for meeting planning purposes.
- Mr. Weissenborn assured the RAB that a notice will be published in the newspaper and RAB members will receive notification of the EE/CA release and associated meetings.

RAB Schedule – The next meeting is scheduled for **Thursday, 11 May 2006, from 7 to 9:30 p.m.** at the Mountain View City Hall, Fourth Floor Gallery.

The RAB meeting schedule for 2006 is as follows:

July 13, 2006
September 14, 2006
November 9, 2006

Future RAB Topics – The following topics were identified as potential agenda items:

- Slide show presentation on Site 27 and the field work taking place
- Orion Park update and groundwater sampling results, if available
- Hangar 1 update

Adjourn – The meeting was adjourned at 9:05 p.m. and Mr. Weissenborn thanked everyone for attending.

Mr. Weissenborn can be contacted with any comments or questions:

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GLOSSARY OF TERMS USED IN THESE MINUTES

AOI – Area of Investigation
BRAC – Base Realignment and Closure
BTAG – Biological Technical Advisory Group
COC – chemical of concern
EATS – East-Side Aquifer Treatment System
EE/CA – engineering evaluation/cost analysis
EPA – U.S. Environmental Protection Agency
MEW – Middlefield-Ellis-Whisman
MROSD – Midpeninsula Regional Open Space District
NAS – Naval Air Station
NASA – National Aeronautics and Space Administration
PCBs – polychlorinated biphenyls
RAB – Restoration Advisory Board
SVOCs – semi-volatile organic compounds
TAG – Technical Assistance Grant
TCE – trichloroethylene
TRV – toxicity reference value
USFWS – U.S. Fish and Wildlife Service
VOCs – volatile organic compounds
Water Board – San Francisco Bay Regional Water Quality Control Board
WATS – West-Side Aquifers Treatment System

RAB meeting minutes are located on the Navy's Environmental Web Page at:
www.navybracpmo.org/bracbases/california/moffett/