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October 4, 1995

Dear RAB Member:

On behalf of Moffett Federal Airfield (MFA) Base Closure Team and the Community Co-Chair, you are invited to our tenth Restoration Advisory Board (RAB) meeting.

Our last RAB meeting was held on September 14, 1995 at the Mountain View Police/Fire Auditorium in Mountain View, CA. The meeting summary is provided as enclosure (1). Our next RAB meeting will again be held on the second Thursday of the month, October 12, 1995, at the Mountain View Police/Fire Auditorium. The meeting will begin at 7:00 p.m. The agenda for the meeting is as follows:

7:00-7:02 PM Meeting Overview
7:02-7:04 PM Minutes Approval
7:04-7:15 PM Remedial Project Managers Meeting Report
7:15-7:25 PM Subcommittee Reports
7:25-7:45 PM NASA OverView
7:45-8:00 PM NASA Questions/Answers
8:00-8:45 PM OUS Update
8:45-8:58 PM RAB By-Laws Discussion/Voting
Public Comment Periods Discussion
8:58-9:00 PM Agenda/Schedule for October RAB Meeting

If you have any questions or comments, please contact me at (415) 244-2563, Mr. Hubert Chan of this office at (415) 244-2562, or Mr. Paul Lesti, Moffett's Community Co-Chair, at (415) 969-7682.

Sincerely,

STEPHEN CHAO
BRAC Environmental Coordinator,
Moffett Federal Airfield

Distribution:

Moffett Federal Airfield RAB Members
Maurice Bundy, Potential RAB Member

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PRC Environmental Management Inc. (Attn: Michael Young)

Montgomery Watson (Attn: Chris Peterson)

NFESC (Attn: Maureen Little)

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MEETING MINUTES

MOFFETT FEDERAL AIRFIELD RESTORATION ADVISORY BOARD MEETING SEPTEMBER 14, 1995 7:00 p.m. MOUNTAIN VIEW POLICE AND FIRE AUDITORIUM

Mr. Paul Lesti, Restoration Advisory Board (RAB) community co-chair, opened the meeting of the Moffett Federal Airfield (Moffett Field) RAB by reviewing the agenda. The agenda for this meeting included the following:

- Minutes approval
- Remedial project managers' (RPM) meeting report
- U.S. Environmental Protection Agency (EPA)/Middlefield-Ellis-Whisman (MEW) Superfund Site Meeting Report
- Subcommittee reports
- Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) process
- Operable unit (OU) 1 update and schedule
- OU5 update and schedule
- Agenda and schedule for the October RAB meeting

Minutes Approval

Mr. Lesti solicited comments on the minutes of the previous meeting. There were no comments and the minutes were accepted by voice vote.

RPM Meeting Report

Mr. Michael Gill, EPA, summarized the Moffett Field RPM meeting held on September 14, 1995.

Mr. Gill indicated that the following items were discussed at the meeting:

Update on Field Work and Recent Documents

The Site 5 bioventing pilot test was recently restarted after some repairs were made to the system. The system was previously run for approximately 3 weeks before being shut down. There are still some minor problems with a leaky seal on the pipe supplying air. The test will continue for approximately 6 months.

The Site 14 recirculating in situ treatment (RIST) system has been running for approximately 3 weeks. Groundwater samples were collected at Site 14 during the quarterly sampling event and should be available in a couple months. The RIST system was installed to remediate soil and groundwater contaminated with petroleum products.

Quarterly sampling of groundwater at Moffett Field was conducted during the last week of August 1995 and the first two weeks of September 1995. Sixty-three wells were sampled, focusing on the leading edges of the groundwater contamination plumes. (Other quarterly sampling events will focus on different aspects of the groundwater).

PRC Environmental Management, Inc. (PRC) (consultant to the Navy) completed a field investigation at the wash rack area near Hangar 1. Cone penetrometer tests (CPTs) were conducted and Hydropunch samples were collected. Mr. Peter Strauss, MHB Technical Associates (consultant to the Silicon Valley Toxics Coalition [SVTC]), asked Mr. Gill to explain CPTs, Hydropunch samples, and bioventing. Mr. Gill explained that CPTs and Hydropunch samples were techniques used to evaluate locations for groundwater monitoring and extraction wells. Mr. Mike Young, PRC, added that CPTs are a technique that hydraulically forces or rams sensors into the ground that can identify different soil types such as clay, sand, or gravel. This information assists with the placement of wells in the best locations. While the CPT sensor is in the ground, it can be used to collect a groundwater sample (termed a Hydropunch sample). The Hydropunch sample provides a general indication of groundwater chemistry that also assists with selecting the best well location. Mr. Gill noted that bioventing was a remediation technique that forces air into contaminated material (usually

petroleum-contaminated material) which helps microorganisms breakdown the contaminants. Mr. Gill continued by noting the purpose of the wash rack investigation was to help further define the MEW regional groundwater plume under Moffett Field and the Navy's contribution to that plume.

The Site 9 source control measure, consisting of pumping groundwater and treating it with an air stripper and granular activated carbon, has been operating. Water is treated from two of three extraction wells and one sump. The flow rate from the two extraction wells is approximately 2 gallons per minute. A transceiver on the third well requires replacement. The purpose of the SCM is to remediate Navy sources in the vicinity of the MEW regional groundwater plume.

OU1 and OU5 Schedules

The OU1 and OU5 schedules were discussed at length during the RPM meeting. The schedules are highlighted below.

Site-Wide Ecological Assessment

Final changes to the Phase I Site-Wide Ecological Assessment (SWEA) report will be submitted during the week of September 18, 1995. (The report will then be considered final). The final Phase II SWEA work plan has been submitted, however, the California Environmental Protection Agency Department of Toxic Substances Control (DTSC) still has a few outstanding issues to resolve. Submittal of the draft Phase II SWEA report is anticipated on October 24, 1995. Mr. Strauss asked for a briefing of the Phase I findings. Dr. Joe LeClaire, Montgomery Watson, Inc. (consultant to the Navy) provided a summary of findings. The purpose of the Phase I investigation was to evaluate existing chemical concentrations and potential habitats. The Phase II investigation models chemical concentrations in the food chain. Phase I identified elevated concentrations of metals, polychlorinated byphenols, and chlorinated pesticides in two areas of the northern portion of Moffett Field; near the Building 191 outfall and near the

stormwater retention pond. The ecological areas at Moffett Field were found to have medium habitat value. The Phase II study conducted toxicity testing of cultured animals using contaminated soil and sediment from Moffett Field. No effects were observed in testing of worms and some effects were noted in tests with anthropoids. Interpretation of the toxicity results, however, is complicated and not complete. Therefore, risks to receptors are still being assessed. A RAB member asked if there were standard approaches for interpreting data from the toxicity testing. Dr. LeClaire noted that state and federal guidance does exist, however, the approach has not been standardized and there are many factors that compound interpretation difficulties. Another question was asked regarding the ranking of the habitat value at Moffett Field. Dr. LeClaire responded that Westco, the contractor that performed the field work for habitat identification, qualitatively ranked the habitats as having either high, medium, or low habitat value. A RAB member requested that SWEA updates be provided in future RAB meetings. Copies of the Phase I report and the Phase II work plan should be available in the information repository in the near future.

Some general questions and comments were noted by RAB members. A question was asked how does the Navy know it is sampling the leading edges of the groundwater contamination plumes. Mr. Gill responded that no contaminants are observed in wells downgradient of the plume areas. A comment was made that the Mountain View Public Library (where the Moffett Field information repository is located) will be undergoing remodeling and construction. A temporary location for Moffett Field documents may have to be established during the construction; however, availability of the information repository during construction should be verified first.

Station-Wide Remedial Investigation

Mr. Gill continued with the RPM summary noting that the draft Station-Wide Remedial Investigation (SWRI) report has been reviewed by EPA and the state and the Navy is currently revising the document. The SWRI combines and summarizes all Moffett Field information

(including all OUs and some new sites) into one document. The draft final document is scheduled for submittal on September 29, 1995.

OU6 Remedial Investigation

The OU6 remedial investigation (RI) report is being finalized by the Navy. The report addresses human health affects at the wetland areas. There were some difficulties with language in the final report and the Navy is removing statements regarding risk management decisions. The results from the OU6 RI will be incorporated into the station-wide feasibility study (FS).

NASA Update

NASA provided an update of ongoing field activities at Moffett Field. The next RPM meeting is scheduled for October 11, 1995.

MEW/All Parties Meeting

Mr. Gill summarized discussions held during the quarterly MEW meeting (all parties meeting) which was attended by the regulatory agencies, NASA, MEW companies, and the Navy. Several of the MEW companies are in various states of cleanup. Ms. Elizabeth Adams, EPA project manager for the MEW site, is currently providing comments on the regional groundwater contamination plume cleanup design. The design includes cleaning up groundwater north of Highway 101 (under Moffett Field).

Mr. Gill concluded by noting the potential changes EPA is facing with budget cuts that may occur from the congressional budget debates.

General Announcements

The RAB bylaws and charter was sent to RAB members and will be addressed and voted on during the next RAB meeting. Another site visit to Moffett Field is scheduled for Tuesday, September 19, 1995. Interested members should meet at the Moffett Field front gate at 7:00 am and the tour will last approximately one hour. A show of hands indicated at least five members were interested in the tour. Comments from SVTC and the League of Women Voters on the OU1 FS were made available for interested RAB members. Additional copies of the OU5 FS and SWRI report were made available. The City of Sunnyvale also submitted comments on the OU5 FS report which will be made available at the next RAB meeting.

Subcommittee Reports

Mr. David Glick, Geoplexus and community vice co-chair, reported that the organizational subcommittee cut the old version of the bylaws and charter in half and sent them to RAB members. A motion will be made at the next meeting to approve them.

Ms. Leslie Byster, SVTC, reported that the communications subcommittee has model RAB documents available. The subcommittee is also putting together a fact sheet for distribution to the public regarding the OU1 FS. Previously, newsletters were to be prepared, however, it was noted that the large time commitments required to prepare the newsletters made the task difficult. A comment was made that the fact sheets should be written so the general public can understand them. Ms. Cynthia Sievers and Ms. Dena Bonnell offered to review the fact sheets.

The cost subcommittee did not meet last month. The next meeting is scheduled for Wednesday, September 27, 1995 at 7:00 pm at the Mountain View Senior Center. A guest speaker, Mr. Mark Meadows (Navy contracting officer), will give a talk on Navy contracting procedures.

The technical, historical, and educational (THE) subcommittee met last month. The next meeting is scheduled for Wednesday, September 20, 1995 at 7:00 pm at the Mountain View Senior Center. The

meeting will focus on allocating resources for reviewing the OU5 FS and SWRI report, as well as any other issues. A question was asked if the overall RAB could have input on how THE resources are divided. Weight will be given to RAB concerns.

CERCLA Process

Mr. Gill gave an overview of the CERCLA process. CERCLA (also known as Superfund) is the key environmental legislation requiring the Navy to cleanup Moffett Field. It was passed in 1980 and reauthorized in 1986. Key elements of CERCLA include protection of human health and the environment, following laws and regulations, selecting appropriate cleanup solutions, and removing as much contamination possible in a cost effective manner. Many CERCLA sites (including Moffett Field) have been included on the National Priorities List (NPL). Sites on the NPL must meet objective ranking criteria; there are approximately 1,286 sites listed so far, of which, 240 have been cleaned up and delisted. Once listed, a site can go directly to removal actions for time critical actions to resolve imminent dangers.

The CERCLA process begins with preliminary site investigations which are used to identify general problem areas. The RI follows these investigations and is intended to provide a more detailed investigation of problem areas. Components of the RI include a summary of site history, a description of fate and transport mechanisms (how chemicals move through the environment), the extent of contamination, and a risk assessment (for human health and ecological receptors). The RI process can take up to two years to complete.

Once the RI is complete, an FS is prepared. The FS is primarily used to screen cleanup technologies for their applicability to the site problems and to meet the appropriate laws and regulations. The screening process uses nine criteria to evaluate technologies. These criteria are grouped among threshold, balancing, and modifying criteria.

Threshold criteria includes protection of human health and the environment and compliance with laws and regulations (referred to as applicable or relevant and appropriate regulations [ARARs]). ARARs

are divided into chemical-specific (such as drinking water standards), action-specific (such as meeting discharge requirements), and location-specific (such as working near wetlands).

Balancing criteria includes long-term effectiveness (will it work in the long-term); reduction of volume, mobility, and toxicity through treatment; short-term effectiveness (protecting workers and the community during the cleanup); implementability (is the technology easy to use); and cost.

Modifying criteria includes state and community acceptance. The FS must first consider the above steps before the state and community can decide if they accept the results.

A question was raised regarding how threshold, balancing, and modifying criteria relate to each other. Mr. Gill stated that if the threshold criteria were already met, then no further action is necessary. Mr. Stephen Chao, Navy co-chair, stated that threshold criteria must be met by all technologies considered; balancing criteria are used to compare different technologies against each other; and modifying criteria are used to solicit state and community comments. A RAB member commented that modifying criteria should be considered first since state and community input could have significant impact on the technology chosen to cleanup a site. Ms. Deirdre O'Dywer, PRC, stated that the National Contingency Plan (NCP) provides the body of regulations that state how to comply with Superfund regulations. The NCP states that threshold criteria must first be met, then the state and community must be provided with enough information to make decisions. Balancing criteria provide the information that the state and community should evaluate for acceptance.

Mr. Gill continued with the presentation noting that after the RI and FS, the proposed plan is prepared summarizing the proposed cleanup technology and cleanup levels. A record of decision (ROD) follows the public meeting and comment period. The ROD summarizes ARARs, cleanup technology, and cleanup levels. Once the ROD has been signed by the regulatory agencies, the remedial design and action (construction) begins. Remedial action can take several years to complete.

Superfund law is currently in the process of being reauthorized, but it is having difficulties in congress. Congressional disagreements include retroactive liability (who pays for the cleanup), role of risk

assessments, future NPL listings (states want input), consistency in remedy selection, and cleanup levels. Potential changes include increased community input, increased importance for economic development of former Superfund sites, and larger role for state agencies.

Mr. Young added that the remedial design phase offers opportunities to expedite the remedial action phase. Preconstruction field work, for example, can be performed during the design phase. Additionally, long-term monitoring plans and operation and maintenance plans can be prepared simultaneously during the design phase.

A concern was raised by Mr. Strauss that after the ROD is signed the community has little input on the cleanup activities. Mr. Chao clarified the comment stating that the ROD is only a general document and more specific cleanup plans are developed during the design phase. The Navy solicits comments throughout the whole cleanup process, not just up to the ROD. Remedial designs will be distributed for comments when they are completed. Another concern was noted about the short time allowed for reviewing cleanup documents. Mr. Chao noted that the Navy is committed to a Federal Facilities Agreement that stipulates schedules that the Navy must comply with. Additionally, there is pressure from regulatory agencies and Congress to expedite cleanup actions. Mr. Chein Kao, DTSC supervisor, added that citizen suits are available if cleanup agreements are not followed.

Mr. Strauss asked what will happen if Superfund is not reauthorized and if EPA enforcement authority over cleanup at the MEW Superfund site is stopped after the remedial design phase. Dr. McClure responded that there are two legal documents driving cleanup at the MEW site: a consent decree (CD) and a 106 Order. There are approximately 20 companies involved in the MEW site; the CD covers two companies and the 106 Order covers the rest. All of these companies have different interests and wills to cleanup and it is not clear if they would use any loopholes to stop cleanup. However, based on past work, many of the MEW companies have pursued cleanup on their own and several would likely continue to do so in the future.

OU1 Update and Schedule

Mr. Chao outlined the OU1 schedule which includes the following:

Draft Field Work Plan	November 10, 1995
Revised Proposed Plan	December 8, 1995
Beginning of Public Comment Period	December 8, 1995
Public Meeting	January 11, 1996
End of Public Comment Period	January 22, 1996
Draft ROD and RD/RA Work Plan	March 7, 1996
Draft Final ROD and RD/RA Work Plan	June 3, 1996
Final ROD and RD/RA Work Plan	June 29, 1996

The field work plan was included to address concerns raised by the community during the first public comment period. Included are CPTs, trenching, and groundwater monitoring wells. The revised proposed plan will reflect changes to the final decision, including use of the California Integrated Waste Management Board's prescriptive remedy for landfills. Previously, the Navy opted for a remedy that was equivalent to the prescriptive remedy. Dr. McClure inquired about contingency measures to address the possibility of leachate migrating from the landfills. Mr. Kao noted that if significant discoveries are made after the ROD was signed, the ROD can be reopened to address the new concerns. Mr. Young also noted that ARARs contain specific language on how to manage releases if they occur. Reopening a ROD should be addressed by the RPM team. Furthermore, the Navy can not commit to providing future funding because of the Antideficiency law, which prohibits the federal government from putting money aside for future use.

OU5 Update and Schedule

Mr. Chao outlined the OU5 schedule which includes the following:

Final OU5 FS	September 1, 1995
Final Proposed Plan	October 27, 1995
Beginning of Public Comment Period	October 27, 1995
Public Meeting	November 9, 1995 (changed to Nov. 16, 1995)
End of Public Comment Period	November 30, 1995
Draft ROD and RD/RA Work Plan	February 2, 1995
Draft Final ROD and RD/RA Work Plan	May 3, 1995
Final ROD and RD/RA Work Plan	June 3, 1995

Ms. O'Dywer gave a presentation of the OU5 FS, summarizing the characteristics of OU5, the technology evaluation, and the proposed plan. The location of the OU5 groundwater contamination plumes were shown. Primary chemicals of concern include trichloroethene (TCE) and dichloroethene (DCE; a breakdown product of TCE). There are also two areas of localized petroleum contamination in the OU5 area. (These areas have shown decreases in TCE because petroleum acts as a food source for microorganisms that breakdown the TCE). The aquifer in the southern portion of the OU5 plume qualifies as a potential drinking water source, having total dissolved solids (TDS) concentrations of less than 2,500 milligrams per liter (mg/L), a state definition. The northern portion of the plume has TDS concentrations in excess of 2,500 mg/L and is not considered a potential drinking water source. A question was asked about the depth of the contamination and Ms. O'Dywer responded that it was limited to the upper aquifer (termed A1 aquifer) which extends to approximately 35 feet below ground surface. The maximum concentration of TCE observed at OU5 is approximately 200 micrograms per kilogram ($\mu\text{g/L}$). ($\mu\text{g/L}$ is equivalent to parts per billion). The average concentration of TCE at OU5 is approximately 50 $\mu\text{g/L}$. Cleanup levels for OU5 have been established based on drinking water standards, termed maximum contaminant levels (MCLs). The MCL for TCE is 5 $\mu\text{g/L}$.

The objectives of the OU5 cleanup are maintaining responsibility, providing benefit to the local community, providing onsite protection, and spending money wisely. Remediation categories for cleanup are grouped into onsite (direct) and offsite (indirect) restoration. The alternatives developed in the OU5 FS were outlined and include groundwater monitoring, institutional controls, institutional controls and future treatment, permeable reaction cell, air sparging and soil vapor extraction, collection and air stripping, and collection and ultraviolet oxidation. The evaluation factors considered for these alternatives include affects on ecological receptors, cleanup time, beneficial uses, presence of naturally occurring inorganics, migration potential, and ARARs. A table depicting the screening of alternatives and evaluation factors was provided.

Agenda for Next Meeting

Mr. Lesti concluded the RAB meeting by soliciting comments on the agenda for the next meeting. There were no agenda items for the next meeting. (Time had exceeded two hours and many RAB members had already left). Mr. Lesti reminded the group that the next RAB meeting would be October 12, 1995 at 7:00 pm at the same location (City of Mountain View police and fire administration auditorium). Mr. Lesti then adjourned the meeting.