

**FORMER MARINE CORPS AIR STATION
TUSTIN RESTORATION ADVISORY BOARD MEETING
January 12, 2005
MEETING MINUTES**

The Restoration Advisory Board (RAB) for the Marine Corps Air Station (MCAS) Tustin held its regular meeting on Wednesday, January 12, 2005, at the Tustin Senior Center in Tustin. The meeting started at 7:08 p.m. and was adjourned at 9:18 p.m. This meeting was the 68th meeting of the RAB. These minutes summarize the discussions and presentations from the RAB meeting.

WELCOME/INTRODUCTIONS/AGENDA REVIEW

Mr. Don Zweifel, RAB Co-Chair, opened the meeting by welcoming everyone and asking for self-introductions. He then reviewed the meeting agenda.

OLD BUSINESS

Approval of 10/7/04 RAB Meeting Minutes – Don Zweifel (MCAS Tustin RAB Co-Chair)

Mr. Zweifel asked for any changes or comments prior to approval of the 10/7/04 RAB meeting minutes. Dana Ogdon, City of Tustin, asked about page 8 of the minutes regarding the discussion on presenting documentation for alternative methods for cleanup of the MTBE [methyl tert-butyl ether] plume presented to the RAB. Mr. Ogdon's comments were not completely clear and he wanted to see them rewritten.

Mr. Dunaway said Mr. Ogdon's request for a reporting of alternative methods for cleanup of the MTBE plume in groundwater at Former MCAS Tustin may be able to be covered at the next RAB meeting. Mr. Ogdon requested that a presentation that examined available technologies with a comparison on costs and effectiveness and cleanup times be made by the Navy. Mr. Dunaway said there is no such feasibility study requirement for producing a technical report on the MTBE site cleanup alternatives since it is a Compliance program site and does not fall under the CERCLA program which has such requirements. Mr. Ogdon said his key concern is that he is not sure if the PCAP system now being used for MTBE cleanup would eliminate contamination sufficiently so deed restrictions would not be required for a day care center or college facility. Mr. Dunaway said regarding restrictions, no mechanism is necessary for petroleum sites and this includes the MTBE plume. Such restrictions only apply at CERCLA sites.

Mr. Ogdon suggested that this information regarding MTBE cleanup technologies and their applicability to the MTBE plume at the former station could be presented at an alternative meeting, such as a RAB Subcommittee meeting.

It was suggested that the 10/7/04 minutes will be revised based on the tape recording of the meeting and will be presented for RAB approval at the next RAB meeting. Mr. Ogdon made a motion to approve meeting minutes at the next meeting and the motion was seconded.

NEW BUSINESS

Installation Restoration Program Status Update – Jerry Dunaway

Mr. Dunaway provided the following update of the MCAS Tustin Installation Restoration Program (IRP):

Operable Unit (OU) 1A IRP-13 South - 1,2,3- trichloropropane [TCP] groundwater plume) and OU-1B (IRP-3 and IRP-12 - trichloroethylene [TCE] groundwater plumes) – The Final Records of Decision (RODs) were submitted in October 2004, agency signatures occurred in November and the Navy signed the RODs on December 22, 2004. The soil removal excavations for OU-1A started today and the Navy is developing plans for systems to cleanup groundwater hot-spots and provide hydraulic containment. The Navy expects these systems to be fully functioning by next year. On OU-1B, the hanger has a historical status designation and excavations of soil are prohibited from impacting the building until the State Historic Preservation Office (SHPO) works out a solution. The Navy anticipates work plans to be in place by spring 2005 with soil excavation scheduled for summer 2005.

OU-4A (IRP-5N, -5S(B), -8, -11[Area A], 16 and MMS- 04 [Areas A and C] – The ROD for the no further action (NFA) sites was issued November 2004 and the agencies signed it in December 2004 followed by the Navy signing on January 3, 2005.

OU-4B (IRP-6, -5S(A), -11 [Areas B and C], 13W, MMS-04 [Area B] – The draft Feasibility Study is to be issued in March 2005, the proposed plan is scheduled for submittal in December 2005, with the Final ROD scheduled for submittal in September 2006.

Underground Storage Tank (UST) Site 222 (methyl tert-butyl ether (MTBE) groundwater plume) – The Navy proposed a cleanup goal for MTBE in January 2005 which was provided to the regulatory agencies. The Regional Water Quality Control Board (RWQCB) is the agency that oversees groundwater issues. The Navy also proposed additional soil excavation in January 2005 of hot spot areas which would enhance the cleanup project.

FOST #7 – The Navy issued the Finding of Suitability to Transfer (FOST) this week for a 30-day public review and comment period that covers the NFA sites and UST site that achieved regulatory closure in 2004. The Department of Navy intends to sign this FOST on March 20, 2005. The Navy then expects to transfer these parcels later this year.

Mr. Dunaway said the environmental program is winding down. Mr. Ogdon asked when the closed sites and operable units will drop off the map. Mr. Dunaway said these would be removed after tonight's meeting. Ms. Hannon and Mr. Peddada recommended keeping it on as a reference, but note it as a change.

Regulatory Agency Comment Update - Regulatory Agency Representatives:

Ram Peddada, Project Manager, Cal/EPA Dept. of Toxic Substances Control (DTSC)

Mr. Peddada said DTSC has signed the RODs for OU-1A, OU-1B, and OU-4A. The Navy will be submitting the Arsenic Area of Concern (AOC) report for DTSC to review.

Patricia Hannon, Project Manager, Regional Water Quality Control Board (RWQCB)

Ms. Hannon said in addition to what Mr. Peddada had shared, she has closed UST Sites 90, 268, and 16, and has concurred with the NFA recommendation for the MMS-07 site. Currently, she is working on reviewing several groundwater monitoring reports.

Mr. Zweifel asked if Ms. Hannon could elaborate on selenium and how this chemical affects birds such as mallards in this area. Ms. Hannon said it is not her area of expertise but the standard for selenium in drinking water is currently 50 parts per billion (ppb) or micrograms per liter ($\mu\text{g/L}$). She said the Navy will meet a standard of 4 ppb or $\mu\text{g/L}$, this RWQCB standard applies to species that are affected by selenium and is considered to be protective of birds. She said the reason the number is so much lower, is that humans do not drink water from Peters Canyon Wash which eventually feeds into Upper Newport Bay. Selenium does, however, affect birds since it is a teratogen chemical that affects some birds more than others. A teratogen is generally a chemical agent that interferes with normal embryonic development. If too much is ingested the offspring tends to be deformed or do not produce eggs at all. She said this affects various birds differently, and in order to look at birds in Peters Canyon Wash or a similar area, scientists would have to collect eggs as samples, and some birds are endangered species, so it is a difficult task. Ms. Hannon said RWQCB is using the 4 ppb or $\mu\text{g/L}$ standard and is coordinating with the California Department of Fish and Game to determine if this standard is protective enough. She added that the California Department of Fish and Game is pushing for standard of 2 ppb or $\mu\text{g/L}$. Mr. Ogdon said the City of Tustin and the Irvine Company, as well, would like to see the selenium levels reach these standards.

Mr. Dunaway said that Mr. Johnson's work on the UST-222 Petroleum Corrective Action Plan (PCAP) was grandfathered in. Other sites that are drafting designs for their systems do have to comply with the 4 ppb standard, the limit established for discharges of treated water. However, since the current working standards for UST-222 were grandfathered in, former MCAS Tustin now has 5 years to comply with the 4 ppb standard.

Presentations:

UST-222 Petroleum Corrective Action Program (PCAP) System Update (Methyl Tert-Butyl Ether [MTBE] Plume), Chris Johnson (Shaw Environmental)

Mr. Johnson said the last 2 months have been very efficient and productive and system efficiency is at 98.3 percent. The system is pulling contaminants out at a very high level. Well samples were taken in late December 2004; all levels have decreased in the extraction wells. The 1st WBZ wells were previously low producing, but with the rains we were able to double the flow rates in two of the most contaminated areas. The total amount of groundwater that has been treated and discharged to date is approximately 74 million gallons.

The HiPOx performance for MTBE, shows a total mass removal of 3,924 pounds of MTBE and 3.98 pounds of trichloropropane (1,2,3-TCP). It is believed that there is so much MTBE that the oxidizing process is now enhancing the 1,2,3-TCP removal. Regarding BioGAC performance, a reduction in the reactants in late December 2004, brought up the levels of acetone. He explained that the discharge limit for acetone is based on the aquatic survivability of test guppies, and the discharge limit for acetone is 150 µg/L.

Mr. Zweifel asked at what concentration levels will the test guppies die. Mr. Johnson said they have survived in water with concentrations of acetone up to 150 µg/L. Mr. Dunaway added that the discharge limit is based on the guppy test and what they can withstand without perishing.

Mr. Johnson said the analytical results for benzene had influent into the HiPOx at 2.5 µg/L with the effluent at non-detect. Effluent from the BioGAC also showed non-detect. Mr. Johnson provided a table showing groundwater sampling results with discharge limits of chemicals that have been established. The table also lists chemicals as "Not Established or NE" for those that RWQCB will ultimately establish the discharge limit number.

Mr. Johnson also discussed the groundwater flow/transport modeling for MTBE. The model was previously calibrated by running a simulation from the approximate time when MTBE was introduced into gasoline (early 1980s) to a time immediately prior to the groundwater extraction activities at the site. This calibration simulation was conducted to compare the simulation results to the actual groundwater monitoring well results from that same timeframe to verify the actual lateral and vertical extent of contamination. The model results show a good comparison to the actual data, indicating that the model is accurately predicting the movement of MTBE contamination throughout the various water-bearing zones (WBZs).

Once the model was calibrated, it was used to estimate the movement of MTBE contamination after the interim PCAP system shutdown for a period of 30 years. A fixed MTBE concentration of 1 milligram per liter (mg/L) was set as a source value in the 1st WBZ and the model simulation was run for 30 years. The simulated MTBE concentrations in the 3rd WBZ (after 30 years) were factored to the maximum contaminant level (MCL) of 13 ppb or µg/L, which is the drinking water standard for MTBE. The MCL refers to the maximum level or concentration of a chemical allowed in

drinking water. That factor was applied to the values within the 1st and 2nd WBZs to obtain the maximum allowable concentrations within these WBZs.

He added that the drinking water standard was used since this applies a conservative approach to the 3rd WBZ. He added that the mandate for the regional aquifer is that concentrations of MTBE not exceed 13 ppb or µg/L. This would be protective of the regional aquifer if residual concentrations of MTBE are at 13 ppb or µg/L or lower.

Preliminary MTBE Cleanup goals proposed by the Navy are: 1st WBZ – 300 µg/L; 2nd WBZ – 40 µg/L; and 3rd WBZ - 13 µg/L.

Mr. Marc P. Smits, Navy Remedial Project Manager, said the RWQCB has not yet seen this data or all of the details. He emphasized that these are preliminary goals. The RWQCB will be reviewing the data to see if this aligns with what they want to do. Mr. Johnson added that in most of these areas, we are coming close to these goals already.

Mr. Johnson said the highest concentrations of MTBE are in the 1st WBZ. Dramatic decreases of MTBE concentrations are seen in the 2nd WBZ. It may be proposed that where areas are at cleanup goals, PCAP wells be shutoff but monitoring should continue. Wells would be kept in and if there is a need for treatment, that option will still be there using the existing treatment system or a portable system. He added that changing cleanup systems would slow down the rate of cleanup, but this is still something that could be looked at.

Mr. Zweifel said he is concerned that models could be tweaked to provide desired results. Mr. Dunaway added that the agencies are overseeing this to make sure it is not being tweaked. Mr. Johnson said the model was used to: 1) predict what already has happened, how did contaminants get to where they are; and 2) show how contamination would continue to spread. Mr. Odgon said that the community is concerned with the cleanup goal and the exit strategy. He added that the community wants to know that day care facilities and parks occupying the land area above where the treatment is being done will be safe for children. Mr. Dunaway said there are no documented health risks and there is no concern for surface use of the land. He added that restrictions would only apply to prevent from having wells that connect the contaminated zone with the regional aquifer.

Mr. Zweifel asked about the impacts of MTBE on human health. Mr. Johnson clarified that it is not a human-health risk issue, but a groundwater issue because of the speed it moves in groundwater. Mr. Johnson said the risk assessments have been conducted in the other studies and include assessments for MTBE. In these studies, the endpoint of MTBE was two magnitudes higher. Mr. Smits said the Navy could provide the risk assessments to the RAB that show risks are in the allowable range. Mr. Johnson said the level they used in those previous studies is significantly higher than the highest level now at the site. Mr. Dunaway said this is more of a “taste issue” since MTBE could affect the taste of the water.

Mr. Odgon asked about the other chemicals on the list and if those numbers hit the 300 µg/L levels will those impact land use. Mr. Johnson said the only concern for soil is in the source area, otherwise it's a groundwater issue. Mr. Smits said sampling results show that MTBE in the 3rd WBZ is below 10 ppb and other areas are non-detect. The

PCAP system keeps it out of the 3rd WBZ so it cannot impact the groundwater negatively.

Arsenic Area of Concern Cleanup Update, Marcus Millett (Earth Tech, Inc.)

Mr. Marcus Millett said Earth Tech started field activities for the removal action for arsenic-contaminated soil in September 2004. The soil that is being removed was used as fill material to raise up the ground level prior to construction of buildings. It was imported from an off-station source and it contained higher concentrations of arsenic than background levels of arsenic in soil at the station. To date, 14,185 tons of arsenic-contaminated soil and about 9,000 tons of pavement and foundations have been removed. Earth Tech has performed 37 confirmation samples thus far, 11 were taken from the bottom of the excavation and 26 from the sidewalls. Removal actions at Buildings 190 and 251 are complete based on the results from the confirmation samples. Per DTSC guidance, Earth Tech has completed the backfilling at Building 190 and 251 covering the area with a 6-inch layer of Class II base. A total of approximately 24,000 tons of backfill has been imported to the site. Also, 35 backfill samples were analyzed to ensure the backfill material was clean. Earth Tech has constructed a 2 percent grade to promote drainage and prevent ponding.

At Building 568, there are a few areas of fill that need to be compacted, and that work will complete this effort. With the best management practices or BMPs Earth Tech has installed, these techniques should prevent sediment runoff at the excavation sites.

Additional excavations will be done to the east of Building 190. This will involve removal of arsenic-contaminated soil associated with the construction of road work. The road is approximately 500 feet in length. Results of "potholing" showed that arsenic-fill soil was used for the original road base that was constructed in 1969. Analysis of soil samples collected from the potholes was used to delineate the extent of arsenic-contaminated soil.

Approximately, 2,500 bank cubic yards of soil (undisturbed, in place soil) will be excavated and disposed of. More confirmation samples will be collected and analyzed from the same depth interval as were collected from the arsenic-contaminated soil at Building 190, and along the sidewalls of the excavation to check if there is additional contaminated soil present.

The construction schedule for removal of arsenic-contaminated soil:

Confirmation sampling - 1/25/05

Completion of transportation and disposal - 2/11/05

Complete backfill placement and compaction - 2/18/05

Site restoration complete - 2/18/05

Upon project completion, all contaminants will have been removed and 18,000 tons of arsenic-contaminated soil will have been disposed of off-station at the Kettleman Hills Facility in Central California. The backfill will come from a company in Anaheim Hills, California. Another backfill source from a quarry in Norco, California has been identified and it will be tested for metals (arsenic and Title 22 metals). Mr. Fred Meier, RAB member, asked why the Navy intends on using fill from the Norco quarry. Mr. Dunaway said the Navy does not want to use recycled materials, so using material from a quarry

source avoids potential problems. Mr. Ogdon added that the City of Tustin takes the same precautions.

Closure report schedule for removal of arsenic-contaminated soil:

Draft Closure Report - April 20, 2005
BCT Review – April 20 - May 19, 2005
Draft Final Closure Report - June 20, 2005
Final Closure Report - July 29, 2005

Future Topics and Meetings- Don Zweifel

UST 222 continuation
TCRA System Update
Presentation of remedial design on new groundwater system
City of Tustin update
Selenium thumbnail of what the risks are
Schedule date for next meeting - TBA

Mr. Ogdon said the presentations pertaining to MTBE cleanup technologies for the RAB could be done at a RAB subcommittee meeting or it could wait until the next quarterly RAB meeting. Mr. Dunaway proposed changing the RAB to every 3 months (quarterly). Mr. Ogdon said since the RAB is not as involved in reviewing documents, and meetings mostly cover cleanup status updates, it would be fitting and okay with the City to have the meetings every 3 months. Other RAB members present concurred with Mr. Ogdon. Mr. Zweifel stated a preference for sticking to the regular schedule. Mr. Dunaway said he will send out an email to all the RAB members to seek their opinion on the future meeting schedule.

Meeting Evaluation- Jerry Dunaway

RAB members mentioned the following positive aspects of the meeting:
Enjoyed the information provided by Chris Johnson and Marcus Millet.

Closing – Don Zweifel

The meeting was adjourned at 9:18 p.m.

List of Handouts Provided at the Meeting

RAB Meeting Agenda/Public Notice- January 12, 2005 RAB meeting.
Meeting minutes from the October 7, 2004 (67th) RAB Meeting (*Minutes to be Approved at next RAB meeting*).
MCAS Tustin Environmental Program Status
Color Map- MCAS Tustin, Operable Units, Major AOCs, and MTBE Plume (with legend), 1/12/05.
Department of the Navy, "Policy for Conduction Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Statutory Five-Year Reviews, November 2001".
The Under Secretary of Defense, "Responsibility for Additional Environmental Cleanup After Transfer of Real Property".
MCAS Tustin Fact Sheet OU-1A and OU-1B, Remedial Design/Remedial Action; December 2004.

MCAS Tustin Environmental Data Quality
MCAS Tustin- Where To Get More Information
MCAS Tustin Marine Corps/Navy Team Contact Information (phone, e-mail)
Internet Access- Environmental Web Sites list
For More Information (Administrative Record and Information Repository Locations)
DTSC Public Participation Specialist Contact Information.
MCAS Tustin Installation Restoration Program- Mailing List Coupon
Restoration Advisory Board Fact Sheet/Membership Application.
MCAS Tustin Fact Sheet PCAP Groundwater Extraction/Treatment System
Preliminary MTBE Groundwater Cleanup Goals.
Presentation- Interim Petroleum Corrective Action Plan (PCAP): Phase 1 - MTBE Hot Spot Extraction; Phase 2 – MTBE/1,2,3-TCP Mixed Area Extraction; presented by Chris Johnson, Shaw Environmental.
Presentation- Non-Time-Critical Removal Action Construction Update – January 2005; Arsenic Area of Concern (AOC); presented by Marcus Millett, Earth Tech, Inc.

Copies of the meeting minutes and handouts provided at the RAB meeting on January 12, 2005 are available at the MCAS Tustin Information Repository located at the University of California, Irvine, Main Library, Government Publications Section. Library hours are 8:00 a.m. to 7:00 p.m. Monday through Thursday; 8:00 a.m. to 5:00 p.m. Friday and Saturday; and 1:00 p.m. to 5:00 p.m. on Sunday. It is recommended, however, that people call the library for confirmation of these hours as they me modified during exam and holiday periods. The Government Publications Section may be reached at (949) 824-7362.

Minutes from previous RAB meetings can be found on the internet at <http://www.efds.w.navy.mil/Environmental/Tustin.htm> (scroll down and click on RAB Minutes).