

**FORMER MARINE CORPS AIR STATION  
TUSTIN RESTORATION ADVISORY BOARD MEETING  
February 14, 2007  
FINAL MEETING MINUTES**

The 76<sup>th</sup> Restoration Advisory Board (RAB) for the Marine Corps Air Station (MCAS) Tustin held its regular meeting on Wednesday, February 14, 2007, at the Clifton Miller Community Center in Tustin from 7:08 to 8:35 p.m. These minutes summarize the discussions and presentations from the RAB meeting.

**WELCOME/INTRODUCTIONS/AGENDA REVIEW**

Mr. Darren Newton, Base Realignment and Closure (BRAC) Environmental Coordinator (BEC) and Navy RAB Co-Chair, welcomed everyone to the meeting and said a variety of handout materials pertaining to Former MCAS Tustin are available on the information table. He reviewed the RAB meeting agenda and the key topics for this RAB meeting are the Environmental Program Summary and the Program Update for the Petroleum Corrective Action Program (PCAP) for Underground Storage Unit (UST) 222.

Mr. Newton asked for self-introductions of attendees. He acknowledged the excused absences of Mr. James Ricks, U.S. Environmental Protection Agency (U.S. EPA); Mr. Ram Peddada, Department of Toxic Substances Control (DTSC); Ms. Mary Lynn Norby, RAB member; and Mr. Robert Kopecky, RAB member.

Mr. Newton referred to the MCAS Tustin RAB Mission Statement emphasizing the purpose of the RAB stating that the RAB is here, *"to promote effective and efficient cleanup that results in the protection of human health and the environment, and to increase community awareness of the dissemination of information by serving as the conduit between the community and the regulatory agencies."* Mr. Newton clarified that the Navy is not in charge of redeveloping property. For information regarding property reuse issues, contact Mr. Dana Ogdon or Mr. Matt West of the City of Tustin, as well as Lennar.

Mr. Newton said any correspondence sent to the Navy needs to be addressed to the BEC and mailed to the BRAC Office at Former MCAS El Toro. The complete address is:

Base Realignment and Closure  
Former MCAS El Toro  
Attn: Mr. Darren Newton, BRAC Environmental Coordinator  
RE: Former MCAS Tustin  
7040 Trabuco Road  
Irvine, CA 92618.

He also reminded meeting attendees that the Administrative Record for Former MCAS Tustin is located at the BRAC Office in Building 307 at Former MCAS El Toro. The Information Repository is located at the Main Library at University of California, Irvine. A handout on the information table provides specific location information. For additional information, visit the Navy BRAC Project Management Office website at:

[www.bracpmo.navy.mil](http://www.bracpmo.navy.mil)

## OLD BUSINESS

### **Approval of 2/14/07 RAB Meeting Minutes – Don Zweifel, MCAS Tustin RAB Community Co-Chair**

Mr. Newton made the motion to approve the RAB meeting minutes. Mr. Don Zweifel, RAB Community Co-Chair, seconded the motion, the motion was passed and the minutes were approved without amendment by the RAB.

## NEW BUSINESS

Mr. Newton announced that the U.S. EPA has updated the Toxic Release Inventory (TRI) Program, the program the U.S. EPA uses to track toxic chemicals. U.S. EPA intends to modify the reporting frequency for the TRI Program to an every other year basis. Mr. Don Zweifel, RAB Community Co-Chair, asked the Navy to evaluate this change in the TRI program. Mr. Newton said that currently, Former MCAS Tustin does not report releases to the TRI Program. For Former MCAS Tustin, the Navy has a Federal Facilities Site Remediation Agreement with the state and federal regulatory agencies whereby it is not part of the TRI database program. The TRI Program generally pertains to local facilities that generate waste. One example of a waste generator that the TRI program would apply to would be a privately owned auto body shop. Therefore, this issue regarding the reporting releases to the TRI Program is not germane to Former MCAS Tustin.

Mr. Zweifel mentioned that the Irvine Ranch Water District (IRWD) is holding an Irvine Desalter Project (IDP) dedication ceremony on February 20, 2007, beginning at 10 a.m. He recommended that all interested RAB members RSVP to ensure their attendance.

### **Environmental Program Status and the Installation Restoration Program (IRP) Status Update – Darren Newton**

Mr. Newton explained that items that are bolded on the Environmental Program Status handout are new, and items that are not bolded have been listed in the past.

**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 Navy is managing the groundwater cleanup for both OU-1A and OU-1B together; therefore, the schedule is one in the same. The Navy currently anticipates completing the Time Critical Removal Action (TCRA) Draft Final 90 Percent Remedial Design for IRP-13S by February 28, 2007 for public review. The groundwater extraction and treatment system is scheduled to be operational in November 2007. The Operating Properly and Successfully (OPS) Report is planned for distribution in 2009. The Final Soil Removal Report for OU-1B was finalized in November 2006.

**OU-4 (IRP-6, IRP-5S(a), IRP-11 (Areas B and C), IRP-13W, MMS-04, and Mingled Plumes Area (Area B)** – The Navy is conducting an aquifer test at IRP-5S(a), and additional sampling at IRP-6 and the Mingled Plumes Area in March 2007. The additional data collected will be included in the Revised Draft Feasibility Study (FS) that is scheduled for completion in spring 2007. The Final

FS Report is planned for distribution in February 2008, the Proposed Plan in April 2008 for 30-day public review and comment, followed by the Final Record of Decision in November 2008.

MTBE (methyl tert-butyl ether) Groundwater Plume/Underground Storage Tank (UST) Site 222 – The Navy evaluated the downgradient portion of the plume in December 2006 to determine whether the plume was on the Navy's property or had crossed over the Navy's property line. In January 2006, the Navy completed an update that indicated the plume was still located on the Navy's property. The Navy is in the process of preparing the Final Petroleum Corrective Action Plan (PCAP) and expects to complete the document in February 2007.

Finding of Suitability to Transfer (FOST) and Finding of Suitability to Lease (FOSL) – The Navy has not issued any FOSTs since February 2006. Mr. Newton showed on a map which properties had already been transferred.

### **Regulatory Agency Update - Regulatory Agency Representatives**

#### **Patricia Hannon, Project Manager, Regional Water Quality Control Board**

Ms. Patricia Hannon, Regional Water Quality Control Board (RWQCB), briefly went over the reports and documents that the agency recently reviewed. RWQCB concurred with the work plan for delineation of the downgradient MTBE plume at UST 222. Ms. Hannon observed the hydropunching activities. Samples were collected from the 1<sup>st</sup>, 2<sup>nd</sup>, and 3<sup>rd</sup> water bearing zones (WBZs). She stated that the cone penetrometer test (CPT) results and groundwater reports are scheduled for distribution shortly.

The quarterly discharge reports for the PCAP and TCRA system, covering October through December 2006, have been reviewed and the Navy has met all reporting requirements. The Groundwater Sampling Report for OU-1A and UST 222, and the Infiltration and Closure Report for UST 29A are currently being reviewed.

Mr. Zweifel asked about the selenium present in Peter's Canyon Wash. Ms. Hannon stated that the technology to inexpensively and feasibly remove selenium has not yet been developed. The Navy is currently working in coordination with the Orange County Sanitation District (OCSD) to dispose of the treated groundwater. Part of this permit requires that the Navy report the number of pounds of selenium discharged per month.

#### **Presentation — Program Update of the Petroleum Corrective Action Program (PCAP) Final Cleanup, UST Site 222**

Mr. Marc P. Smits, Navy Remedial Project Manager (RPM), introduced Navy contractors Mr. Dhananjay Rawal, ECS, and Dr. Nick Amini, Battelle. Mr. Smits stated that the program update being presented would include the operation of the existing groundwater PCAP treatment system, the background and the results from the additional plume delineation, and the preparation and implementation of the Final PCAP.

#### **PCAP System Status**

The operation and maintenance of the PCAP treatment system is ongoing. The technology for groundwater treatment was switched from HiPOx to Granular Activated

Carbon (GAC) in spring 2006. Since June of 2006, the Navy has operated with the GAC treatment system that has proven to be a cheaper and more efficient solution for removal of MTBE from the groundwater. Mr. Smits explained that the Navy had switched from the HiPOx system to the GAC system when the MTBE concentrations were around 600 parts per billion (ppb). The HiPOx system was not efficient for treating groundwater with MTBE concentrations of 600 ppb or less. Currently, the MTBE present in extracted groundwater ranges from 200 to 600 ppb.

Mr. Smits reviewed the PCAP system operation status and stated that the Navy has surpassed the 120 million gallon mark for treated water. He added that groundwater present during the UST-222 excavation was also pumped out and treated by the PCAP system. Approximately 170,000 gallons of treated water has been infiltrated into the ground to enhance the extraction process. From the system startup in August 2001 to January 2007, approximately 4,225 pounds of MTBE has been removed from the extracted groundwater. The Navy estimates that approximately 75 percent of the MTBE that was released to the environment has been removed.

Mr. Smits presented a slide to explain the PCAP system influent and effluent concentrations. Initially, in August of 2001, extracted groundwater contained MTBE concentrations averaging approximately 20,000 ppb. He reiterated that from June 2006 to the present, MTBE concentrations present in extracted groundwater range from 200 to 600 ppb.

A slide was shown to present information on the MTBE concentrations versus time at each of the extraction wells. All of the extraction wells show a general downward trend. The Navy has been pumping from wells with higher concentrations to reduce concentration levels and expedite cleanup.

#### Plume Delineation Activities

Delineation activities were conducted by the Navy in December 2006 to evaluate the horizontal and vertical extent of the downgradient portion of the plume. Results indicate the plume has been successfully delineated. Information collected during delineation activities included identification of soil types and groundwater concentrations that were used in developing the draft version of the Final PCAP document issued February 14, 2007.

Additional delineation activities included identifying the horizontal and vertical distribution of MTBE in the downgradient portion of the MTBE plume. Direct-push technology was used to identify soil types and conduct groundwater sampling at 30 sampling locations. Sampling locations were determined using grid spacing of approximately 150 feet between the wells. Sampling in this manner provided information on MTBE concentrations and soil conditions. The Navy has collected 13 groundwater samples from the 1<sup>st</sup> WBZ, 30 groundwater samples from the 2<sup>nd</sup> WBZ, and 5 groundwater samples from the 3<sup>rd</sup> WBZ.

Mr. Smits presented a grid figure to show the CPT cross-section transect locations. The figure illustrated where the Navy took samples along the Carve-Out 5 boundary, which were all non-detect for MTBE. A photograph of a direct-push rig for additional delineation activities was shown to demonstrate how samples are collected.

Results from additional delineation activities revealed that the majority of the soil subsurface is composed of clays with semi-continuous zones of sands and gravel. The

groundwater plume direction is moving southeasterly, away from the Carve-Out 5 boundary. Additional delineation activities resulted in defining the horizontal and vertical extent of the MTBE plume in the downgradient area.

Mr. Smits provided a map to show the current plume configuration in the 1<sup>st</sup> and 2<sup>nd</sup> WBZs. Dr. Amini stated that the detections of MTBE in groundwater in the 1<sup>st</sup> WBZ are less than the cleanup goal of 300 micrograms per liter (µg/L), whereas MTBE concentrations in the 2<sup>nd</sup> WBZ are greater than the cleanup goal of 44 µg/L. Subsequently, the Navy plans on closely monitoring the 2<sup>nd</sup> WBZ. The 3<sup>rd</sup> WBZ has yielded groundwater detections of MTBE that are less than the cleanup goal of 13 µg/L. Information from all additional delineation activities were used to develop the approach for the Final PCAP system, including placement of the wells.

Dr. Amini presented information to explain the soil characterization cross section of A-A at UST Site 222. The 1<sup>st</sup> WBZ is 20 feet below ground surface, and the 2<sup>nd</sup> WBZ is 50 to 60 feet below ground surface. He explained that the mean sea level is zero, and the elevation at Former MCAS Tustin is 65 feet above sea level. A secondary slide was used to illustrate the values of the data points of MTBE concentrations present within the 1<sup>st</sup>, 2<sup>nd</sup>, and 3<sup>rd</sup> WBZs. Dr. Amini further emphasized that the soil boring samples were all non-detect for MTBE, and the Navy plans to further focus on the 2<sup>nd</sup> WBZ.

#### Final PCAP – Preparation and Implementation

The draft version of the Final PCAP document, issued February 14, 2007, includes the summary of previous investigations and cleanup activities at the site. The Navy conducted several soil excavations at the former gas station; approximately 100,000 tons of soil were removed and successfully cleaned up. The regulatory agencies concurred on No Further Action (NFA) for the soil. Therefore, the Final PCAP focuses on presenting an evaluation of groundwater treatment technologies.

Two target treatment areas have been identified: 1) is the source area near the former gas station, and 2) is the downgradient area where the Navy recently completed additional delineation activities. The two treatment areas were identified based on MTBE concentrations in the WBZs and locations of MTBE in the plume. The proposed final action is to meet the cleanup goals for the 1<sup>st</sup> and 2<sup>nd</sup> WBZs and to achieve site closure. The final version of the Final PCAP document would provide information for system implementation, testing, operation, and optimization.

The Final PCAP plan for the source area (1<sup>st</sup> WBZ-Target Treatment Area 1) cleanup approach includes the installation and operation of an *in-situ* air sparging treatment system with a vapor extraction system, and the continual operation of the two existing extraction wells within the source area. The downgradient (2<sup>nd</sup> WBZ-Target Treatment Area 2) cleanup approach includes optimizing three existing extraction wells to assist in reducing MTBE concentrations, installing four additional extraction wells in the downgradient area to reduce concentrations and contain the plume, and installing additional monitoring wells to evaluate cleanup progress.

A map of the cross-section of the WBZs illustrated where the target treatment areas are located. Air sparging wells and soil vapor extraction (SVE) wells would be installed into the Target Treatment Area 2 to expedite the cleanup. A total of seven extraction wells, measuring 8 inches in diameter, would be in Target Treatment Area 2. Mr. Newton stated that the Navy would construct a large single pad in a central location, near the PCAP system and OU-1A and OU-1B to house the treatment systems.

Mr. Newton said the Navy anticipates the concentrations of MTBE to significantly decrease within 1 year. A total of 29 air sparging wells and 6 SVE wells would be used within the source area. The sparging wells pump air into the groundwater to help release MTBE molecules and then capture the contamination when the air is drawn out much like a vacuum followed by treatment of the extracted air. The SVE system also collects and treats MTBE vapors that the air sparging process releases from the groundwater that may migrate to the soil above. The Navy plans on implementing the extraction and monitoring of the downgradient area for 1 year before determining if other approaches need to be evaluated. Mr. Smits estimated that the Navy would spend approximately \$500,000 for this effort.

#### Project Schedule

The Navy plans to issue the Delineation Technical Memorandum on March 16, 2007. The final version of Final PCAP document is scheduled for completion on May 2, 2007. Implementation of the Final PCAP is scheduled for summer 2007. Additionally, the Draft Annual Performance Report is planned for release on July 3, 2007 and the Final Annual Performance Report is scheduled for issuance on October 31, 2007.

#### **Future Topics/Schedule Next RAB and Subcommittee Meetings/Meeting Evaluation and Closing**

The RAB requested that the following topics be covered at upcoming RAB meetings:

- OU-4B Feasibility Study
- Results from the plume delineation
- PCAP Update
- OU-1A and OU-1B Update

*The RAB meeting was adjourned at 8:35 p.m.*

#### **List of Handouts Provided at the Meeting**

- RAB Meeting Agenda/Public Notice – February 14, 2007 (75<sup>th</sup>) RAB Meeting.
- Meeting minutes from the November 15, 2006 (74<sup>th</sup>) RAB Meeting.
- Presentation:* Program Update on the Petroleum Corrective Action Program Final Cleanup for UST Site 222, Former MCAS Tustin, California.
- Former MCAS Tustin Environmental Program Status.
- Map – MCAS Tustin Operable Units, Major AOCs, and MTBE Plume - Third Quarter 2006.
- Restoration Advisory Board Fact Sheet/Membership Application.
- Former MCAS Tustin - Where to Get More Information.
- Former MCAS Tustin Marine Corps/Navy Team Contact Information.
- Darren Newton, Navy BEC for Former MCAS Tustin and Former MCAS El Toro, Contact Information.
- DTSC Public Participation Specialist Tim Chauvel, Contact Information.
- For More Information: Administrative Record and Information Repository Locations.
- Former MCAS Tustin Installation Restoration Program - Mailing List Coupon.

Former MCAS Tustin Installation Restoration Program Advisory Board Mission Statement.

Department of the Navy, "Policy for Conducting Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Statutory Five-Year Reviews," November 2001.

Department of the Navy, "Policy for Conducting Five-Year Reviews Under the Installation Restoration Program," May 2004.

The Under Secretary of Defense, "DoD Policy On Responsibility for Additional Environmental Cleanup after Transfer of Real Property."

Department of Defense, "A Guide to Establishing Institutional Controls at Closing Military Installations," February 1998.

Department of Defense, "Institutional Controls: What Are They and How are They Used," Spring 1997.

U.S. EPA, "Checking Up On Superfund Sites: The Five-Year Review," June 2001.

U.S. EPA, "Five-Year Review Process in the Superfund Program," April 2003.

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Copies of the meeting minutes and handouts provided at the February 14, 2007 RAB meeting are available at the MCAS Tustin Information Repository located at the University of California, Irvine, Main Library, and 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 may be modified during final 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 on the Navy BRAC website: [www.bracpmo.navy.mil](http://www.bracpmo.navy.mil)