

**FORMER MARINE CORPS AIR STATION
TUSTIN RESTORATION ADVISORY BOARD MEETING
November 15, 2006
MEETING MINUTES**

The 74th Restoration Advisory Board (RAB) for the Marine Corps Air Station (MCAS) Tustin held its regular meeting on Wednesday, November 15, 2006, at the Clifton Miller Community Center in Tustin from 7:05 to 9:00 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 Restoration Program Summary; Highlights from the September 20, 2006 RAB Site Tour; and the Update on the Operable Unit (OU) 1A/OU-1B Remedial Design/Remedial Action (RD/RA) Groundwater Cleanup.

Mr. Newton then asked for self-introductions of attendees. He acknowledged that regulatory agency representative Mr. James Ricks of the U.S. Environmental Protection Agency (U.S. EPA) could not attend tonight.

Mr. Newton referred to the MCAS Tustin RAB Mission Statement emphasizing the purpose of the RAB. He highlighted 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 also emphasized that the Navy is not in charge of redeveloping property. For information regarding property reuse issues, contact Mr. Dana Ogdon, City of Tustin.

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 is located at Former MCAS El Toro at the BRAC Office in Building 307. 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: <http://www.bracpmo.navy.mil/bracbases/california/tustin>

OLD BUSINESS

Approval of 8/16/06 RAB Meeting Minutes – Don Zweifel, MCAS Tustin RAB Community Co-Chair

Mr. Zweifel, RAB Community Co-Chair, asked meeting participants to review the August 16, 2006 RAB Meeting Minutes to see if any changes need apply. Two corrections were found and noted. The first was a misspelling of Mr. Dana Ogdon's name, and the second was an error in the title of Ms. Content Arnold, Navy Lead Remedial Project Manager (LRPM). Mr. Ogdon made the motion to approve the RAB Meeting Minutes with the amended corrections, Mr. Zweifel seconded the motion, the motion was passed and the minutes were approved by the RAB.

NEW BUSINESS

Mr. Newton then moved onto the RAB membership application of Mr. Matt West, City of Tustin, to become a Tustin RAB member. Mr. Newton asked all RAB members present to raise their hands if they were in favor of Mr. West's application. There were no objections. Mr. West was introduced and welcomed as an active RAB member.

The next item of new business was the RAB Community Co-Chair elections. Mr. Newton said that last year, Mr. Zweifel was voted in as the RAB Community Co-Chair, and his current term has ended. Mr. Newton asked the RAB members to provide nominations for the 2006-2007 term. Ms. Susan Reynolds, RAB member, nominated Mr. Zweifel for a third term. Mr. Robert Kopecky, RAB member, seconded the nomination and the RAB re-elected Mr. Zweifel as RAB Community Co-Chair.

The next new business item on the agenda was the RAB meeting schedule. Mr. Newton proposed to reduce the Tustin RAB meeting frequency from four to three times a year. This prompted discussion from RAB members regarding tri-annual RAB meetings. Mr. Zweifel said he is opposed to the change because the RAB functions as an essential watchdog group that represents the community. Mr. Ogdon seconded Mr. Zweifel's motion to continue meeting quarterly. The RAB voted to continue with quarterly meetings.

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 Draft 2005 Time Critical Removal Action (TCRA) was submitted in October for OU-1A. The next step for OU-1A is the Remedial Design. A Record of Decision (ROD) has been signed for OU-1A and OU-1B, and the Navy worked closely with the Regional Water Quality Control Board's (RWQCB) regarding recent changes in the National Pollutant Discharge Elimination System (NPDES) permit of discharged groundwater. The Navy and the Orange County Sanitation District

(OCSD) found a workable solution that resulted in an agreement the OCSD would accept the treated groundwater following the cleanup.

The Navy is working towards finalizing the remedial design that incorporates the newly added OCSD component. The Navy plans to begin construction in early 2007 so the groundwater treatment and discharge system is operational in July 2007. Subsequently, the Operating Properly and Successfully (OPS) report is scheduled for completion in 2009.

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 submitted a Final Workplan for Additional Sampling at IRP-6 and Mingled Plumes Area on May 10, 2006. For the next step, the Navy will conduct an aquifer test at IRP-5S(a) in the winter or spring 2007. Currently, a revised Draft Feasibility Study (FS) is in preparation and is scheduled to be issued in late 2007 after the incorporation of new data. The Final FS is scheduled for completion in 2008. A Proposed Plan is also scheduled for release in 2008. The Final ROD is scheduled for late 2008 and the Remedial Design is planned for 2009. Mr. Ogdon asked when the OPS Report would be completed for OU-4B. Mr. Newton replied that it is currently scheduled for 2013.

Ms. Arnold clarified that after a ROD has been signed, the Navy goes through a process that will demonstrate that the Navy has done what they set out to accomplish, and the steps taken have been effective. After the completion of this process, the Navy has the ability to transfer property.

MTBE (methyl tert-butyl ether) Groundwater Plume/Underground Storage Tank (UST) Site 222 – An Interim Petroleum Corrective Action Plan (PCAP) Addendum was submitted in May 2006 for regulatory agency review. Currently, the Navy is conducting an infiltration study to test viability of implementing infiltration of treated groundwater. In addition, the Navy is evaluating the downgradient portion of the plume. The Final Work Plan Addendum for delineation of the plume serves as the blueprint for conducting this work. Mr. Marc P. Smits, Navy RPM, said the Navy is waiting for regulatory agency comments prior to mobilizing into the field. The Navy anticipates starting this field work by December 2006. The Navy has scheduled the Final PCAP for UST-222 in January 2007.

Mr. Zweifel asked Mr. Smits why the Navy was considering infiltration as an option. Mr. Smits replied that selenium is an issue, and therefore the RWQCB is proposing ways that the Navy can divert water from the storm drain system. Infiltration would allow the treated water to be put back into the aquifer in a manner that would not impact Peters Canyon Channel. The Navy must first conduct a 3 to 4 week pilot test to determine feasibility of this option. The pilot test would involve the installation of one well 50 to 60 feet below ground surface that is positioned within the 1st and 2nd Water Bearing Zones (WBZs). This well would have two openings: one in the 20 to 30 depth range, and a second opening in the 40 to 50 foot depth range. The Navy is currently conducting tests to determine the holding capacity of the aquifer, and the rate at which it can be filled without causing disruption to the aquifer. Mr. Smits added that the Navy has a 5,000 gallon storage tank on site to assist with the pilot test.

Ms. Patricia Hannon, Project Manager, RWQCB, stated that the objective of this test is to put back water that is extracted. The Navy would treat the extracted water to remove MTBE from the Areas of Concern (AOCs), but they are leaving the naturally occurring selenium, nitrogen, and total dissolved solids (TDS) in the water. If the water containing those chemicals is placed into the channel it could cause problems for the wildlife. Therefore, if the Navy puts the treated clean water back into the aquifer, wildlife cannot be affected because wildlife would not have access to this water.

Finding of Suitability to Transfer (FOST) and Finding of Suitability to Lease (FOSL) – Mr. Newton said the last FOST was signed in February 2006, and the Navy has not transferred any property recently. A FOST is an environmental report that summarizes and documents that the property has no more environmental conditions that require remediation, and that the property is environmentally suitable for transfer. The FOST also describes the basis for the deed restrictions to be included in any recorded deed. A FOSL documents environmental conditions at a property and serves as notification to lease tenants that the property is suitable for leasing. The FOSL describes the environmental conditions at the property and details restrictions for occupying and using the property.

Regulatory Agency Update - Regulatory Agency Representatives

Patricia Hannon, Project Manager, Regional Water Quality Control Board

Ms. Patricia Hannon briefly went over the reports and documents that the agency has recently reviewed. Items reviewed included the: Draft Annual System Performance Report for UST-222, Navy's work plan for the Infiltration Study, the first Five-Year Review of the remedial actions implemented at OU-3, the Draft Final Finding of Suitability for Early Transfer (FOSET) for a portion of Parcel 24, the Navy's Evaluation of Best Management Practices (BMPs) for control and reduction of selenium, nitrogen, and TDS in Peter's Canyon Wash, and a work plan for sampling activities at UST-29A.

For the Draft Annual System Performance Report for UST-222 and groundwater treatment, Ms. Hannon said her comments pertained to additional investigation and testing to determine the extent of the plume, especially in the 2nd WBZ. Using the site map, Ms. Hannon demonstrated the exact location of her concern, and pointed out that the plume appears to be migrating to the west. She added that the Navy has submitted a proposal for several hydropunch/direct collection samples to be obtained from the 1st and 2nd WBZs. Mr. Zweifel asked if the investigation was being conducted on the local community college property. Ms. Hannon replied that the Navy is only investigating Navy property. Mr. Ogdon added that most of the plume is within the South Orange County Community College District property and that it has been migrating over time.

Mr. Jim Strozer, representing the Orange County Health Care Agency, asked if there was any tertiary butyl alcohol (TBA) present in the plume. Ms. Hannon confirmed that chemical is not present in the plume. Mr. Strozer asked what the maximum amount of TBA was detected at the base. Mr. Smits replied that TBA currently on base is present 20 to 30 feet below the ground surface in the 600 parts per billion (ppb) range. During the last groundwater monitoring round, the highest concentration was 1,700 ppb in the

UST-222 source area. Those concentrations were significantly lower than the 120,000 ppb that was detected before cleanup was started.

Ms. Hannon also reviewed the Navy's work plan for the infiltration study that is scheduled to begin soon to determine how much water capacity can be added to the aquifer. She also reviewed the first Five-Year Review of the remedial actions implemented at OU-3.

At the end of August 2006, RWQCB also reviewed the Draft Final FOSET for a portion of Parcel 24. Mr. Newton added that on January 6, 2006, Lennar had requested an early transfer of 4.8 acres. The Navy has acknowledged this request and is coordinating efforts with the Cal/EPA Department of Toxic Substance Control (DTSC), the U.S. EPA, the RWQCB, and other parties for a FOSET. Early transfers occur when property is transferred prior to remedial actions being completed. Mr. Newton stated that the property under the FOST was clean and transferred to Lennar. Ms. Arnold clarified that there are 4.8 acres remaining that have not yet been transferred to Lennar and the process for the FOSET involves deed restrictions. The property is going to be used for medium density housing purposes, particularly condominiums.

Ms. Hannon also reviewed and commented on the Navy's Evaluation of BMPs for control and reduction of selenium, nitrogen, and TDS in Peter's Canyon Wash. In the BMP evaluation, the Navy suggested nine options for reducing selenium and nitrogen discharged to Peter's Canyon Wash. The nine options were then narrowed down to three options: system optimization, infiltration, and sewer discharge.

Lastly, Ms. Hannon reviewed and approved a work plan for sampling activities at UST-29A. Ms. Hannon said that the Navy had previously excavated a lot of soil on that site, and that further soil sampling will be conducted along with groundwater sampling.

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

Mr. Peddada stated a request from the Navy was received regarding a FOSET for a portion of Parcel 24. DTSC had not submitted the FOSET to the Governor of California. He stated that details of the FOSET were being resolved, and once resolved DTSC will seek the Governor's approval. In addition, Shea Properties and Centex Homes requested a voluntary cleanup from DTSC. The City of Tustin is currently in the process of transferring property, and it is easier for developers to contact DTSC regarding small instances that require cleanup of property rather than directly contacting the Navy. This process is ongoing and helps all parties in avoiding financial loss.

Highlights of September 20, 2006 RAB Sites Tour – Darren Newton

Mr. Newton presented a slideshow of the September 20, 2006 RAB Sites Tour. RAB members visited the PCAP system, the TCRA Groundwater Treatment system, and the massive hangars. Mr. Newton stated that the tour was very successful and well attended.

Update on the OU-1A/OU-1B Remedial Design/Remedial Action Groundwater Cleanup, Glenn Christensen, Navy RPM

Mr. Glenn Christensen, Navy RPM, and Mr. Doug Bielskis, Civil Engineer with ERRG, a Navy contractor, provided the presentation on OU-1A and OU-1B. Mr. Christensen said that the Draft Groundwater Remedial Design (60 percent) was completed in September 2005, and the Navy is moving to complete the Draft Final Remedial Design (90 percent) document. The Final Remedial Design (100 percent) is scheduled for completion in June 2007.

Mr. Christensen explained IRP sites included in OU-1A and OU-1B are: IRP-13S (temporary storage facility ST-72, and miscellaneous was area MWA-18) associated with the groundwater plume at OU-1A; IRP-12 associated with the groundwater plume at OU-1B North; and IRP-3 associated with the groundwater plume at OU-1B South. The constituents of concern at OU-1A (IRP-13S) are 1, 2, 3-TCP and TCE. At OU-1B North (IRP-12) and OU-1B South (IRP-3), the constituents of concern are TCE.

A map was shown of the Volatile Organic Compounds (VOC) Plumes at OU-1A and OU-1B. Mr. Zweifel asked if the OU-1B North plume was migrating. Mr. Christensen replied that the plume has been relatively stable over time.

Mr. Christensen provided background information focusing on the history of the OUs:

- In 1995, quarterly groundwater monitoring was initiated at OU-1A and OU-1B as part of a comprehensive remedial investigation.
- In 1997, quarterly monitoring was initiated under the Basewide Groundwater Monitoring Plan.
- In 2002, interim treatment of the OU-1A plume was conducted via the TCRA system.
- In 2004, a ROD was signed for OU-1A and OU-1B.
- In 2005, the RD/RA was implemented for soil "hot spot" removal at OU-1A and OU-1B. The Draft Remedial Design for groundwater cleanup was submitted in June 2005.
- In 2006, updates were made to the Draft Remedial Design evaluation of discharge alternatives and hydraulic modeling.

He also reviewed the Remedial Action Objectives that state:

- "Reduce the concentrations of VOCs in groundwater to levels consistent with remediation goals, or until the plumes have stabilized, and prevent or limit VOC migration beyond the current OU-1A and OU-1B plume boundaries."
- "Protect human health by preventing extraction of VOD-impacted shallow groundwater for domestic use until remediation goals are achieved."

Mr. Christensen stated that the Final ROD for OU-1A and OU-1B was signed in December 2004; and the remedy specified hydraulic containment with hot spot removal. Components of the remedy include:

- Construction, operation, and maintenance of a groundwater extraction and treatment system to reduce elevated levels of VOCs in groundwater and prevent or limit VOC migration beyond the current OU-1A and OU-1B plume boundaries.
- Soil removal was conducted to enhance groundwater cleanup even though the soil did not pose an unacceptable risk to human health and the environment.

Mr. Christensen explained that the Draft Groundwater Remedial Design presented primary design elements of extraction, conveyance, and treatment, and outlined the monitoring and optimization strategy. He added that the Discharge Alternative Evaluation and Hydraulic Modeling were being conducted at the time the draft design was published. Mr. Christensen clarified that the ROD had previously specified the storm drain as a discharge alternative, but due to the new NPDES requirements for naturally occurring TDS, nitrogen, and selenium, the Navy investigated other options for the final disposition for the treated groundwater. Mr. Newton stated that it is the Navy's plan that 100 percent of the effluent will be discharged to the OCSD system. However, as discussed previously by Ms. Hannon, the Navy is required to provide alternative evaluations for discharge in the case that discharging to OCSD becomes a non-viable option. The Navy has received a verbal commitment from OCSD to proceed with the application process for discharge. Once the Navy receives an official letter of intent from OCSD, the process will move forward.

Mr. Bielskis presented several maps that depicted the plumes in the 1st and 2nd WBZs at OU-1A, OU-1B North, and OU-1B South. At OU-1A, soil excavation efforts removed over 4,400 tons of soil down to a depth of 17 feet below ground surface that extended below the surface of the water table. Approximately 230,000 gallons of water was extracted to accommodate the soil excavation. While reviewing the map of OU-1B North 1st WBZ, Mr. Bielskis highlighted that 1,500 tons of soil had been removed from IRP-12 from July to August 2005, at a depth of 14 feet below the ground surface. Approximately 41,000 gallons of groundwater had been removed to lower the water table to conduct the soil excavation.

Mr. Zweifel noted that there were no extraction wells depicted on the maps. He formally requested that the monitoring wells and extraction wells be shown on all future maps for the benefit of the RAB members. Mr. Newton responded that the Navy had not included the extraction wells because the maps shown are a graphical depiction and not the final design. Mr. Zweifel requested that the Navy make the legend on future maps more legible.

Mr. Christensen presented cross-sections of a typical extraction well and well vaults and piping. The Navy reuses existing extraction and monitoring wells wherever applicable. A typical extraction well is contained within a 3- by 3-foot well vault box below the ground surface. Wells have three sensor levels (high, low, and low-low) to monitor the extraction and pumping cycles. A subsurface electrical box is constructed next to the well to provide power. Below-grade vaults were used to facilitate redevelopment at the former station. Best available technology components with a high level of reliability and availability were used in the well construction.

The Navy is currently making updates to the Draft Final Groundwater Remedial Design. This involves addressing agency comments on the Draft Remedial Design and incorporating suggested changes into the document. Data from the Supplemental Plume Delineation for OU-1B that was conducted in August and October 2005 and the hydraulic modeling performed earlier in 2006 are being incorporated into the design. Hydraulic modeling helped to optimize extraction well placement and pumping rates, and to predict hydraulic capture of the plumes.

The ROD for OU-1A and OU-1B selected discharge to the storm water system as the optimal disposal option for treated groundwater, in addition to specifying evaluation of

other alternatives. The new NPDES discharge limits for naturally occurring selenium, nitrogen, and TDS were established and implemented in April 2006. These new limits preclude the Navy from long-term discharge to the storm water system, as specified in the RODs. In December 2005, the Navy prepared a technical memorandum to evaluate other discharge alternatives in lieu of storm water system discharge. Initial screening identified four alternatives for further consideration:

- 1) Discharge to Storm Water Conveyance
- 2) Reuse for Irrigation (with additional treatment)
- 3) Discharge to OCSD Sewer
- 4) Infiltration/ReInjection

After considerable evaluation, the Navy determined that discharge to the OCSD sewer would be the optimal option. The discharge process will utilize new Irvine Ranch Water District (IRWD) sewer lines within Former MCAS Tustin. The Navy and the City of Tustin have coordinated efforts with ODSD and IRWD to reach a verbal commitment that OCSD will accept the Navy's treated groundwater. The Navy is expecting to receive a formal notice of intent from OCSD to accept the Navy's treated groundwater. In addition, the Navy is currently verifying the alignment of the treatment system and discharge piping with the City of Tustin. Finally, the discharge alternative selection process will be included in the Draft Final Remedial Design.

Mr. Christensen said the Draft Final Remedial Design and the Remedial Action Work Plan are scheduled for submittal to the regulatory agencies in February 2007. A fact sheet detailing the remedial design is projected for release in May 2007 and the Final Remedial Design will be issued in June 2007. System construction is projected to occur from June to November 2007.

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

Ms. Reynolds suggested that Mr. Smits give a presentation on the Navy's infiltration study. The next meeting will be held on February 14, 2007 at the Clifton Miller Community Center.

The RAB meeting was adjourned at 9:00 p.m.

List of Handouts Provided at the Meeting

RAB Meeting Agenda/Public Notice – November 15, 2006 (75th) RAB Meeting.

Meeting minutes from the August 16, 2006 (74th) RAB Meeting.

Presentation: Update on the OU-1A/1B Remedial Design/Remedial Action Groundwater Cleanup, November 15, 2006.

MCAS Tustin Environmental Program Status.

Map – MCAS Tustin Operable Units, Major AOCs, and MTBE Plume - First Quarter 2006.

Restoration Advisory Board Fact Sheet/Membership Application.

MCAS Tustin - Where to Get More Information.

MCAS Tustin Marine Corps/Navy Team Contact Information.

Darren Newton, Navy BEC for MCAS Tustin and MCAS El Toro, Contact Information.

DTSC Public Participation Specialist Tim Chauvel, Contact Information.
For More Information: Administrative Record and Information Repository
Locations.

MCAS Tustin Installation Restoration Program - Mailing List Coupon.
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.

Copies of the meeting minutes and handouts provided at the August 16, 2006 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