

**FORMER MARINE CORPS AIR STATION TUSTIN
RESTORATION ADVISORY BOARD MEETING
February 20, 2008
MEETING MINUTES**

The 80th meeting of the Restoration Advisory Board (RAB) for former Marine Corps Air Station (MCAS) Tustin was held on Wednesday, February 20, 2008, at the Clifton Miller Community Center in Tustin. The meeting started at 7:12 p.m. and was adjourned at 8:40 p.m. These minutes summarize the discussions and presentations from the RAB meeting.

WELCOME/INTRODUCTIONS/AGENDA REVIEW

Mr. Rick Weissenborn, Base Realignment and Closure (BRAC) Environmental Coordinator (BEC) and Navy RAB Co-Chair, welcomed everyone and thanked them for coming. He said Mr. Don Zweifel, RAB Community Co-Chair, was unable to attend tonight's meeting. There were no other excused absences from RAB members. He then asked for self-introductions of all attendees.

Mr. Weissenborn informed the RAB that he will be leaving the Navy by the end of February 2008 and this will be his last RAB meeting. He has taken a job with the Bureau of Reclamation and will be managing a project that is focusing on raising the height of the Shasta Dam by 200 feet. For the immediate future, the Navy contact person for the RAB is Ms. Content Arnold, Lead Remedial Project Manager (RPM). (Email: content.arnold@navy.mil; phone: 619-532-0790.) RAB members may also contact any of the regulatory agency representatives. Contact information was provided on the information table.

Mr. Weissenborn said the Administrative Record file for former MCAS Tustin, where all project-related documents are housed, is located at the BRAC Office in Building 307 at former MCAS El Toro. He said it is best to call ahead and speak with Ms. Marge Flesch at the BRAC Office. If there is a specific document anyone is interested in, she can have it available for review in advance. The Information Repository, a subset of the Administrative Record file, is located at the Main Library at University of California, Irvine. A handout on the information table provides specific location and contact information for the Administrative Record file and the Information Repository.

Key environmental websites include the BRAC Project Management Office website, which is updated bimonthly. RAB meeting minutes are posted on this website. The Department of Defense environmental website also has a lot of information. The U.S. Environmental Protection Agency (U.S. EPA) Superfund website has a wealth of information. For example, there is information that explains soil vapor extraction (SVE), definitions and examples of institutional controls are presented, and information on the Five-Year Review Process is available. The U.S. EPA Federal Register website contains new and closed site listings. The State of California also has several websites, including the Environmental Protection Agency (Cal-EPA) homepage, the Department of Toxic Substances Control (DTSC) website, and the Regional Water Quality Control Board (Water Board) website. These provide policy and guidance information, and are useful for searches and finding contacts.

Mr. Weissenborn presented the proposed RAB meeting dates for the rest of 2008. Meeting dates are on the second Wednesday of the month: May 14, August 13, and

November 12, 2008. He mentioned that quarterly RAB meetings have also been set up for former MCAS El Toro using a similar schedule, and by having Tustin meetings on the second Wednesday, there should be no conflicts. If there is no objection to these dates, the Navy will plan on meeting on these dates. However, if something comes up regarding these dates, he encouraged the RAB to bring it up.

Mr. Weissenborn reviewed the RAB meeting agenda. The key topics for this RAB meeting include: the Environmental Status Update and a presentation on the status of the Operable Unit (OU) 1A and OU-1B Remedial Action.

OLD BUSINESS

Approval of 11/14/07 RAB Meeting Minutes – Mr. Weissenborn, RAB Navy Co-Chair

Mr. Weissenborn said the City of Tustin requested to modify the meeting minutes in regard to the presentation made by Mr. Matt West, City of Tustin RAB member. The presentation covered the redevelopment underway at former MCAS Tustin, and minor changes will be made to incorporate information from the presentation handout into the meeting minutes. No other suggestions regarding the meeting minutes were provided. RAB approval of the November 14, 2007 meeting minutes was tabled until the May 14, 2008 RAB meeting.

NEW BUSINESS

Installation Restoration Program (IRP) Environmental Status Update

Mr. Weissenborn provided the former MCAS Tustin Environmental Status Update. He focused on activities that have taken place since November 2007 and provided details on what the Navy plans to accomplish from now until the May 2008 RAB meeting.

- Operable Unit (OU)-1A (IRP-13 South – 1,2,3-trichloropropane [TCP] Groundwater Plume) and OU-1B (IRP-3 and IRP-12 – trichloroethene [TCE] Groundwater Plume) --- The treatment systems are in place and are operating smoothly. These OUs will be addressed in a separate presentation.
- OU-4B (IRP-5S[a], IRP-6, IRP-11, IRP-13W, MMS-04, and Mingled Plumes Area [MPA]) - Field work for the Supplemental Investigation at IRP-6 and the MPA has been completed. Activities included delineation of the extent of the 1,1-dichloroethene (1,1-DCE) plume in groundwater at IRP-6. A technical memorandum describing the data analysis of the newly obtained data and interpretation of all data collected will be provided to the regulatory agencies in mid-March 2008. Subsequently, the Revised Draft Feasibility Study (FS) Report will include historic data and the new data from the technical memorandum and will be issued to the regulatory agencies in late-March 2008. This report will present and evaluate alternatives for addressing groundwater contamination associated with these small plumes.
- MTBE (methyl tert-butyl ether) Groundwater Plume (Underground Storage Tank [UST] Site 222) - The MTBE plume remediation system is in place and is operating around the clock. Approximately 145,000,000 gallons of groundwater have been treated. The system is running at a steady rate of 110 gallons per minute. The installation of the SVE system is expected to be completed during

the week of February 18, 2008, and will start operations the following week. The SVE system will address residual contaminants in the vadose zone and dissolved-phase contaminants in the groundwater.

- Activities through May 2008 – For OU-1A/OU-1B, the treatment systems will continue to operate. For OU-4B, the Navy is making progress with the FS process. For the MTBE plume, the pump-and-treat and SVE systems will be operating. The Navy estimates the SVE system will operate from 12 to 18 months.

Discussion

Ms. Susan Reynolds, RAB member, asked what contaminants are present at OU-4B. Mr. Weissenborn said the primary groundwater contaminants are TCE and 1,1-DCE. Mr. James Callian, Navy RPM, clarified that 1,1-DCE is only present at IRP-6.

Mr. Weissenborn, using the aerial photomap, pointed out all of the plumes at former MCAS Tustin in OU-1A/OU-1B and OU-4. He also reiterated that the Draft FS Report for OU-4B is scheduled for submittal to the regulatory agencies in late March 2008.

Regulatory Agency Update - Regulatory Agency Representatives

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

Mr. Peddada, DTSC, briefly described what he has been working on since the previous RAB meeting. He said there have been no technical reports to review.

Mr. Peddada informed the RAB that DTSC has an agreement to provide environmental oversight for Tustin Legacy, a developer at former MCAS Tustin. If Tustin Legacy detects any contamination during its construction efforts, it will be cleaned up quickly. DTSC will review all documentation from investigations and cleanup. Mr. Peddada noted that he reviewed a Site Management Plan and his comments would be submitted next week.

Mr. Peddada said that today he observed the removal of soil contaminated with total petroleum hydrocarbons (TPH). The TPH-contaminated soil was detected during digging operations on property now owned by Shea Properties. The City of Tustin had previously transferred this property that includes approximately 300 acres of land. DTSC is conducting the oversight to make sure the cleanup is done properly. He added that monitoring will also be performed for the safety of workers and the public. He noted that petroleum hydrocarbons are not as hazardous as industrial solvents such as TCE. The Water Board gave DTSC permission to take the lead for oversight on this project.

Mr. Peddada said he also observed the set up of the OU-1A/OU-1B treatment systems including the granular activated carbon (GAC) tank units. He noted that the treatment systems are up-to-date with many modern safety features. He expects to review more reports on the systems during their operation.

Ms. Patricia Hannon, Project Manager, Regional Water Quality Control Board, Santa Ana Region

Ms. Hannon said the only document she recently reviewed was the Final Petroleum Corrective Action Plan (referred to as PCAP) for UST 222. She noted she also has observed the same treatment system construction and operations as Mr. Peddada.

Presentation – OU-1A/OU-1B Remedial Action Status Update, Mr. Louie Cardinale, Navy Project Manager and Mr. Doug Bielskis, ERRG (Navy Contractor) Project Manager

Mr. Cardinale said the presentation will cover with an overview and history of OU-1A and OU-1B, the remedial design (RD) and remedial action (RA) of the systems, RA work performed during 2007, and upcoming activities and milestones.

OU-1 is divided into OU-1A, OU-1B North, and OU-1B South. Each OU addresses particular chemicals of concern. This division was primarily done to implement a time-critical removal action (TCRA) at OU-1A, IRP Site 13S, to prevent 1,2,3-TCP and TCE migration in the groundwater.

OU-1B was divided into North and South sections for the RD because the TCE plumes associated with these sites are geographically separated. OU-1B North consists of IRP-12 and OU-1B South consists of IRP-3.

A map was presented that showed the OUs and the respective IRP sites, the plumes, and the treatment systems. The map also showed the carve-out properties where the Navy is implementing the remedial actions.

Mr. Cardinale presented a timeline of key activities conducted:

- 1995: Quarterly groundwater monitoring at OU-1A and OU-1B was conducted in support of the Remedial Investigation.
- 2002: The TCRA system was implemented at OU-1A.
- 2002-2003: Final FS Reports were issued for OU-1A and OU-1B.
- 2004: The Records of Decision (RODs) were signed for OU-1A and OU-1B.
- 2005: Draft RD for OU-1A and OU-1B was completed and issued.
- 2006: Additional evaluations and updates to the Draft RD were issued for discharge alternatives and groundwater modeling.
- 2007: The RD was completed and the Navy began implementing the RA.

Remedial action objectives are developed to support the FS process. Two key remedial action objectives for OU-1A and OU-1B have guided the FS:

- (1) Reduce concentrations of volatile organic compounds (VOCs) in groundwater to levels consistent with remediation goals, or until the plumes have stabilized, and prevent or limit VOC migration beyond current plume boundaries.
- (2) Implement institutional controls to protect human health. This is done by preventing the extraction of VOC-impacted shallow groundwater for domestic use until remediation goals are achieved.

The remedial action remedy for OU-1A and OU-1B plumes includes hydraulic containment of groundwater with hot-spot removal in the source area. The plumes are being contained hydraulically by locating extraction wells within the plume at the source area and at the toe of the plume. Groundwater in the hot-spot areas with the highest concentrations of contamination is being extracted. Contaminated soil in source areas was removed to optimize the groundwater remedy.

Components of the remedy that addresses the groundwater include extraction wells, piping, and facilities for treatment and disposal of groundwater. Treatment is performed using a GAC system to remove chemicals of concern from the extracted groundwater. Treated water is discharged to the Orange County Sanitation District (OCSD) sanitary sewer.

Groundwater monitoring wells monitor the progress and effectiveness of the remedy to make sure the plume is being contained and that concentrations of VOCs are decreasing. Soil removal at the source area eliminated the potential for soil to contaminate groundwater. Institutional controls prevent extraction and use of contaminated shallow groundwater.

Significant progress was achieved in 2007. Work completed included the Draft Final RD that was issued to the regulatory agencies on March 19, 2007. The Final RD was submitted to the regulatory agencies on June 27, 2007. RA and construction of the treatment systems began following the submittal of the Final RD document. The common treatment system for OU-1A and OU-1B North was started up on November 16, 2007, and around-the-clock operations began on December 3, 2007. The OU-1B South treatment system was started up on December 26, 2007, and around-the-clock operations began on January 3, 2008. The OU-1B South system started up later due to the deeper and more complex connection to the sanitary sewer.

Maps of the three plumes at OU-1A, OU-1B North, and OU-1B South were shown. The maps also show the areas where soil was removed.

- At OU-1A, a total of nine extraction wells are operating and four of these are new wells. Eighteen new monitoring wells were installed and developed and 2,900 feet of conveyance piping was installed. The treatment system was also installed.
- At OU-1B North, four extraction wells are operating, two of which are new extraction wells. Six new monitoring wells were installed and developed, and 3,800 feet of conveyance piping was installed and includes piping to the treatment plant located at OU-1A.
- At OU-1B South, there are eight extraction wells and seven of these are new wells. Thirteen monitoring wells were installed and developed; 1,750 feet of conveyance piping was installed; and a treatment system was constructed.

Mr. Cardinale introduced Mr. Bielskis from ERRG, the contractor that built the treatment systems and installed the new wells and conveyance piping. Mr. Bielskis presented numerous photos to show RAB members the construction of the remedy. The first photos showed the concrete pour for the pad for the OU-1A/OU-1B North treatment system. He noted that walls were installed along the perimeter of each foundation to serve as a containment system. Photos were shown of the placement of trench boxes in October 2007 for a fairly deep sanitary sewer connection from OU-1B South. The trench boxes are approximately 150 feet south of the treatment system and about 15 feet below ground surface (bgs).

Photos were shown of well installation at OU-1B North using a hollow-stem auger and well development. High-density polyethylene (HDPE) conveyance piping was used and fusion welding using electrical current was applied to weld together and connect lengths of pipe. HDPE piping was used for all three sites. All piping was tested under a specified pressure to make sure it met design specifications. Mr. Bielskis explained that the trenches for most of the piping were dug down to a depth of approximately 5 feet bgs. A 6-inch layer of sand was placed in the trench followed by a 6-inch bedding layer. Then the piping containing electrical and communication wiring was installed. Then another layer of sand and bedding was applied and the water pipes were installed. Additional material was placed on top of the water pipes to fill the trench.

Extraction well vaults were installed at all three sites. Photos showed the well boxes with lids open. Piping, valves, flow meters, and the control panels were visible. Extraction wells were placed to a depth of approximately 25 feet bgs into the shallow aquifer in the 1st water-bearing zone (WBZ) and also into the deeper 2nd WBZ. Inside the control panel is a programmable logic card, which is similar to a computer, and it communicates with a level sensor and the well pump. This enables the pump to change pumping rates as needed to contain the plumes. All of this is measured in real time and is communicated back to the treatment facilities.

Photos of both treatment facilities were also shown. Photos from inside the treatment buildings showed electrical and control system panels, three 2,000 pound GAC filter unit/tanks, and associated manifolds. The manifolds and valves change the sequence of water flow to keep the systems running when the carbon needs to be changed out of a GAC unit.

Each treatment system building also serves as a central point for monitoring all extraction wells and treatment of extracted groundwater. A photo showing a system schematic of the main control screen of the OU-1A/OU-1B North Treatment Plant was presented. This touch screen enables system operators to control flow from the wells into the transfer tanks. The levels in the tanks are monitored to make sure flow is consistent. This is all conducted in real time. Water flows from the transfer tanks to the GAC where contaminants are removed, and the treated water is then discharged to the OCSD sanitary sewer line.

Another computer screen was shown that provided the status of numerous wells. System operators can easily determine the flow in gallons per minute, the depth to groundwater in feet, and the pump speed. The programmable logic card optimizes the flow of water from the extraction wells. Another computer screen provides system operators with data on run time of the wells and the total gallons pumped.

Mr. Cardinale reviewed the upcoming activities for the OU-1A and OU-1B treatment systems. On-going operation and maintenance will continue and Navy contractors will conduct biweekly, monthly, and quarterly inspections of the systems to make sure they are operating effectively. Quarterly sampling will be conducted to make sure the discharged water is in compliance with the OCSD discharge permit. Samples will be collected and analyzed in a laboratory.

Quarterly groundwater monitoring is also conducted to track system performance and to optimize pumping rates. The Navy wants to pump at the lowest rate of extraction possible to achieve containment of the plumes. Currently, wells in the hot-spot area are

pumping at the maximum rate to achieve mass removal of contamination from the groundwater. After the mass removal is achieved these wells can be shut down.

After one year of successful, continuous system operation a determination that the systems are operating properly and successfully (OPS) is anticipated by the Navy. The OPS Report is expected to be issued in July 2009.

Discussion

A meeting attendee asked about the height of the fence that surrounds the treatment system buildings and security measures that are in place. Mr. Bielskis said that an 8-foot-high fence surrounds the treatment system buildings and each building has a security system that triggers an alarm that system operators can respond to. He added that the containment pad the buildings are built upon would contain any spills from the treatment system. All well vaults are locked and all piping and infrastructure are underground.

Ms. Mary Lynn Norby, RAB member, asked about the depth of the sewer line. Mr. Bielskis explained that the depth of the sewer line is based on which manhole the discharge piping is connected to. The average depth is approximately 15 feet bgs.

Mr. Cardinale explained that all discharge flow goes to the OCSD sanitary sewer line, and the discharged water is monitored. A monthly report is submitted to OCSD providing the number of gallons being discharged. During rainfall events, if the OCSD system is at capacity, the Navy will shut down its system until OCSD can receive additional discharge. The possibility and parameters of such a shutdown is spelled out in the agreement between the Navy and OCSD.

Ms. Norby asked about the OPS monitoring standards for the treatment systems and if they comply with Water Board standards or are internal standards. Mr. Cardinale explained that the RD document lays out the standards for optimizing performance and monitoring of the system. The standards were concurred with by DTSC, U.S. EPA, and the Water Board. This was done by developing a 50-percent design (draft), a 90-percent design (draft final), and the 100-percent design (final) of the treatment systems. The draft and draft-final designs underwent regulatory agency review. Comments during each design phase were addressed and the final design is a culmination of this process.

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

Future presentations topics at upcoming RAB meetings include:

OU-4B Revised Draft Feasibility Study Report

- The RAB suggested that a subcommittee meeting be held in April 2008 to address this topic. A sign-up sheet requesting email addresses was passed around for those interested.
- Mr. Zweifel will receive a copy of the Revised Draft FS Report. Others RAB members will also be provided an Executive Summary, if requested. If the entire document is requested it will be provided, most likely on a CD.

Annual Groundwater Monitoring Report

The next RAB meeting is scheduled for May 14, 2008.

Additional Discussion

Mr. Harry Takach, RAB member, thanked Mr. Weissenborn for a job well done.

The February 20, 2008 meeting was adjourned at 8:40 p.m.

List of Handouts Provided at the Meeting

RAB Meeting Agenda/Public Notice – February 20, 2008 (80th) RAB Meeting.
Meeting minutes from the November 14, 2007 (79th) RAB Meeting.
Presentation: “Status Update OU-1A/OU-1B Remedial Action, Former MCAS Tustin”, presented by Louie Cardinale, Navy BRAC Project Manager and Doug Bielskis, ERRG Project Manager, February 20, 2008.
Former MCAS Tustin Environmental Program Status.
Map – MCAS Tustin Operable Units, Major AOCs, and MTBE Plume - Third Quarter 2006 (updated January 2008).
Restoration Advisory Board Fact Sheet/Membership Application.
Former MCAS Tustin RAB Meeting Schedule: February 20 – November 12, 2008.
Former MCAS Tustin - Where to Get More Information.
Former MCAS Tustin Marine Corps/Navy Team Contact Information.
Rick Weissenborn, Navy BEC for Former MCAS Tustin and Former MCAS EI Toro, Contact Information.
DTSC Public Participation Specialist Tim Chauvel, Contact Information.
For More Information: Administrative Record and Information Repository Locations.
Internet Access – Environmental Web Sites.
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 Defense, “A Guide to Establishing Institutional Controls at Closing Military Installations,” February 1998.
Department of Defense, “Institutional Controls: What they are and how they are used,” Spring 1997.
U.S. EPA, “Five-Year Review Process in the Superfund Program,” April 2003.
Memorandum from the Under Secretary of Defense, Subject: Responsibility for Additional Environmental Cleanup After Transfer of Real Property, July 25, 1997.

Copies of the meeting minutes and handouts provided at the February 20, 2008 RAB meeting are available at the Information Repository for former MCAS Tustin 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

Internet Sites

Navy and Marine Corps Internet Access

BRAC PMO Web Site (includes RAB meeting minutes):

Navy web site: <http://www.bracpmo.navy.mil/>

For Tustin RAB information:

http://www.bracpmo.navy.mil/bracbases/california/tustin/rab_information.aspx

Department of Defense – Environmental Cleanup Home Page Web Site:

<http://www.dtic.mil/envirodod/>

U.S. EPA:

www.epa.gov (homepage)

www.epa.gov/superfund (Superfund information)

www.epa.gov/ncea (National Center for Environmental Assessment)

www.epa.gov/federalregister (Federal Register Environmental Documents)

Cal/EPA:

www.calepa.ca.gov (homepage)

www.dtsc.ca.gov (Department of Toxic Substances Control)

www.waterboards.ca.gov/santaana (Santa Ana Regional Water Quality Control Board)