



Final FORMER MARINE CORPS AIR STATION (MCAS) TUSTIN 94th Restoration Advisory Board (RAB) Meeting Minutes



Meeting Location: Tustin Senior Center, 200 South C Street, Tustin, California

Meeting Date/Time: 23 May 2012/ 7:00 PM to 9:05 PM

Minutes Prepared by: Erika Marx, Accord MACTEC 8A Joint Venture (AM8AJV)

Attachments:

Presentation Slides:

- Environmental Program Status, Former Marine Corps Air Station Tustin
- Operable Unit (OU)-4B Status Update, Former Marine Corps Air Station (MCAS) Tustin
- Former MCAS Tustin Five-Year Review Update

Attendees: Eighteen people attended the RAB meeting:

Navy: Jim Callian, Base Realignment and Closure (BRAC) Environmental Coordinator (BEC) and RAB Co-Chair; Content Arnold, Lead Navy Remedial Project Manager (RPM); Louie Cardinale, Navy RPM; and Sean McGoey, Navy Technical Advisor.

Regulatory Agencies: Ram Peddada, California Department of Toxic Substances Control (DTSC), and John Broderick, California Regional Water Quality Control Board (RWQCB) Santa Ana Region.

RAB Members: Don Zweifel, Community Co-Chair; Matt West, City of Tustin; and Chris Crompton, Orange County Public Works.

Other Attendees: Donna Zweifel, community member; Jake Dunk, AMEC; Kaleena Johnson, Environ; Erika Marx, Accord Engineering, Inc.; Todd Schmieder, Tait & Associates; Randy Peebles, SOCCCD Colleges; Mike Wolff, Enviro Compliance Solutions (ECS), Inc.; Harry Takach, Pacific States; and Rebecca Leshner, AIS-TN&A Joint Venture.

WELCOME/INTRODUCTIONS/AGENDA REVIEW:

Mr. Jim Callian, BEC and Navy RAB Co-Chair, welcomed everyone to the Former MCAS Tustin 94th RAB meeting.

ANNOUNCEMENTS/ REVIEW OF ACTION ITEMS:

Mr. Callian began the meeting with the following announcements and discussion:

- Mr. Callian initiated self-introductions.
- Mr. Callian reviewed the meeting agenda for old business and new business.
- Mr. Callian announced that tonight's two presentations would cover the status of Operable Unit (OU)-4B by Rebecca Leshner of AIS-TN&A Joint Venture; and the Former MCAS Tustin Five-Year Review Update by Mr. Mike Wolff of ECS, Inc.

- Mr. Callian presented the contact information for himself and the other representatives from the Navy, as well as the three Remedial Project Managers from the U.S. Environmental Protection Agency (U.S. EPA), DTSC, and the RWQCB.
- Mr. Callian presented slides of RAB points of contact and the Administrative Record File in San Diego. Due to the lack of use of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Administrative Record File located at Former MCAS El Toro Building 307, the File will be relocated to the main Administrative Record File in San Diego. He also stated that the UC Irvine campus library contains the Navy's Information Repository that has documents available for review. Mr. Callian also listed environmental and reuse/redevelopment websites.
- Mr. Callian stated that RAB meetings are open to the public and are held from 7:00 pm to 8:30 pm. The next semiannual meeting is planned for September 26, 2012 at the Tustin Senior Center. The 2013 meetings are scheduled for Wednesday, May 22, 2013 and Wednesday, September 25, 2013. E-mail updates will be sent out quarterly to remind people of the upcoming meeting dates. Mr. Callian explained that there is not enough information to present to the public quarterly, so meeting dates are selected to optimize the presentation of materials and documents.

APPROVAL OF 21 SEPTEMBER 2011 RAB MEETING MINUTES:

Mr. Callian asked for approval of the September 21, 2011 RAB meeting minutes. Mr. Don Zweifel (RAB Community Co-Chair) asked Mr. Matt West (RAB Member) if he had reviewed the meeting minutes. Mr. West stated that although he was not in attendance at the last meeting, he had a comment on page 8 because his name was mentioned. In addition, Mr. Kenneth Nishikawa's name was misspelled. Mr. Zweifel asked if there were any more comments to be made about the prior meeting minutes. Mr. Chris Crompton (RAB Member) added that his name was also misspelled on page 8. Mr. Zweifel asked if everyone was okay with approving the minutes. Mr. West stated that he accepted approval of the meeting minutes after the changes that have been mentioned are made. Mr. Todd Schmieder stated that he had made the comment incorrectly attributed to Mr. West on page 8. A vote was taken and the RAB members approved the meeting minutes with the noted corrections to be made. Mr. Callian said that from this point forward, anyone who speaks should first state his/her name for the record.

NEW BUSINESS:

Mr. Callian presented a slide that summarized the new process for reviewing RAB meeting minutes; which will expedite the process. The new process involves sending the draft RAB meeting minutes out to the RAB members for their review and approval within 45 days after a RAB meeting is held. RAB members have 14 days to provide comments to Mr. Zweifel, who will then submit the comments to the Navy. Within 21 days after this step, the meeting minutes will be finalized and posted on the BRAC website. Mr. Zweifel agreed that the process of approving the meeting minutes needed to be hastened.

ENVIRONMENTAL STATUS UPDATE:

Mr. Callian presented a slideshow of the Environmental Program Status at Former MCAS Tustin.

Slide 1 – OU-1A (Installation Restoration Program [IRP] 13 South), the main chemical of concern (COC) in the groundwater is 1,2,3-trichloropropane (TCP). The slide outlines a brief project history for OU-1A. Mr. Callian noted the following achievements for this Site: in November 2011, the 2010 Annual Performance Evaluation Report (PER) was finalized; in December 2011, the 3rd Quarter 2011 Semiannual Groundwater Monitoring Data Summary (MDS) was issued; and in April 2012, the 1st Quarter 2012 Groundwater MDS was issued. The next steps for the on-going operation and maintenance (O&M) activities include biweekly, monthly, and quarterly inspections and effluent sampling; quarterly groundwater monitoring and semiannual reporting; and annual system optimization evaluation. Lastly, Mr. Callian summarized the following upcoming documents: In June 2012, the Draft 2011 Annual Performance Evaluation Report (PER) is scheduled for review; in September 2012, the Final 2012 Semiannual Groundwater MDS will be issued; and in October 2012, the 2011 Annual PER is proposed to be finalized.

Slide 2 – OU-1B (IRP Sites 3 and 12), the main COC in groundwater is trichloroethene (TCE). The slide outlines a brief project history for OU-1B. Mr. Callian noted that OU-1A and OU-1B are managed together and are on the same schedule, and so the next steps for OU-1B are identical to those in Slide 1.

Slide 3 – OU-3 (IRP Site 1 – Moffett Trenches Landfill), the slide outlines a brief project history. Mr. Callian noted that since the last RAB meeting, the Draft 2011 Annual Long-Term Monitoring (LTM) Report was issued. The next steps include continuing LTM and O&M activities, as well as finalizing the 2011 Annual LTM Report by September 2012.

Slide 4 – OU-4B (IRP-5S[a], IRP-6, and the Mingled Plumes Area [MPA]) and Low Concentration Sites (IRP-11, IRP-13W, and Miscellaneous Major Spill [MMS-04]), Mr. Callian stated that a presentation would be given on OU-4B during tonight's meeting, and therefore he would not go into too much detail about OU-4B. The next steps for the Moderate Concentration Sites are finalizing the Remedial Design (RD)/Remedial Action (RA) Work Plan, followed by issuing a public fact sheet and implementing the RA. For the Low Concentration Sites, plans include finalizing the Land Use Control (LUC) RD and LTM/O&M Plan; issuing a public fact sheet, and implementing the RA. Mr. Callian noted that Moderate Concentration Sites include IRP-5S[a] and IRP-6; and the Low Concentration Sites include IRP-11 and IRP-13W.

Mr. Zweifel asked when the RD/RA Work Plan would be out, and Mr. Callian answered that it would be in the summer or early fall of 2012.

Mr. Zweifel asked when the fact sheet would be available to the public, and Mr. Callian answered that it would be available to the public after the RD/RA Work Plan is finalized in late summer or early fall of 2012.

Mr. Callian noted that although OU-4B has six sites, only five of the sites will be discussed during the meeting. This is because MMS-04, one of the six sites, is now closed. One year of

groundwater monitoring was performed with COC concentrations well below the cleanup goal (CG), so per the Final Record of Decision (ROD) the site was closed. However, the Site will still be included in the five-year review process because it is a requirement to have at least one five-year review for all sites with remedial actions that have been implemented.

Slide 5 – For the Methyl Tert-Butyl Ether (MTBE) Plume (UST Site 222), Mr. Callian stated that this Site was closed in March 2012.

Mr. Zweifel stated that he wanted to discuss discrepancies at this Site and that he had e-mailed Mr. Callian and said that he would like to have this issue addressed at the meeting. Mr. Callian answered that all documents for this Site have gone through public review and regulatory agency review processes, and that no discrepancies exist. Mr. Zweifel asked Mr. John Broderick to address the issue during his regulatory review.

Slide 6 – Presents the chronology of completed Finding of Suitability to Transfer (FOST) and Finding of Suitability to Lease (FOSL) documents with the parcels identified for each; and the list of acronyms and abbreviations.

REGULATORY AGENCY UPDATE:

Mr. John Broderick (RWQCB)

Mr. Broderick addressed Mr. Zweifel's concern about UST Site 222. He stated that MTBE-impacted groundwater from UST Site 222 commingles in the Downgradient Area with the adjacent OU-1A plume, and some of the monitoring and extraction wells contain contaminants from both sites. When the RWQCB reviewed the UST Site 222 documents and made the recommendation to close this Site, separate CGs were set for each of the water bearing zones (WBZs), for which treatment had been on-going since around 1998. Mr. Broderick said that all of this had been documented in the RWQCB closure letter for UST Site 222. As noted in the Navy's Final PCAP Closure Report, monitoring verified that MTBE concentrations remained below the CGs in the first and third WBZs. All of the second WBZ wells, except for one, were below the CGs. Additionally, the remaining mass of MTBE in the first and second WBZs is insufficient to impact the third WBZ at concentrations exceeding the CG for the third WBZ, or to migrate off-site at concentrations exceeding the CGs. These are the reasons for closing the site.

Mr. Louie Cardinale mentioned that the Navy used a tiered approach for in establishing the CGs – 300 micrograms per liter ($\mu\text{g}/\text{L}$) for the first WBZ, 44 $\mu\text{g}/\text{L}$ in the second WBZ, and 13 $\mu\text{g}/\text{L}$ for the third WBZ (which is the California Public Health Goal), to protect the Regional Aquifer.

Mr. Broderick stated that computer modeling was used to establish the CGs (to protect the Regional Aquifer). Mr. Callian added that modeling takes into consideration both the concentration and mass of the contaminant. Removing a significant amount of the contaminant means that there is nothing driving the contamination vertically downward.

Mr. Zweifel asked whether the computer modeling was from Mr. Broderick's own computer. Mr. Broderick responded that a consultant presented the modeling to the RWQCB, but that he

reviewed it and it seemed to be an effective prediction. Mr. Broderick also mentioned that DTSC's involvement stemmed from a co-mingled aspect of another contaminant, 1,2,3-TCP; which is more toxic than MTBE. DTSC was interested in having the extraction system run longer for the 1,2,3-TCP plume, but not for the MTBE plume at UST Site 222.

Mr. Ram Peddada added that since DTSC is not the lead regulatory agency for the Site, DTSC's comments on the closure report are advisory. Ms. Content Arnold stated that DTSC reviewed the Closure Report and provided a no comment letter. Mr. Peddada explained that he had no comments because the RWQCB is in charge of the Site.

Mr. Broderick stated that it is common for RWQCB to evaluate CGs based on the assumption that if all points in a plume except for one meet CGs, then a closure decision can be made at the RWQCB's discretion as to whether that remaining point is or is not significant in maintaining a remedy at a site. Mr. Zweifel asked whether this was Mr. Broderick's opinion that the Site should be closed. Mr. Broderick responded that it was his decision and this information was presented to two senior engineers and an executive officer, all of whom reviewed and signed-off on the closure.

Mr. Callian asked whether there were any other comments about UST Site 222; there were none.

Mr. Crompton asked whether the 1st Quarter April 2012 Groundwater Monitoring Report is on the BRAC website. Mr. Callian answered that it is not, and that Mr. Crompton should go to the Information Repository or Administrative Records File to see the report. He also added that Mr. Zweifel would be able to send Mr. Crompton a copy of the report.

Mr. Peddada said he will post the report on the DTSC EnviroStor public website. Mr. Broderick also added that he has posted most of the report onto the GeoTracker website already.

Mr. Ram Peddada (DTSC)

Mr. Peddada began by stating the Navy has submitted OU-4B documents, which includes Low Concentration Sites and Moderate Concentration Sites. Low Concentration Sites are IRP- 11 and IRP 13-W, and the Moderate Concentration Sites are IRP-5S[a], IRP- 6, and the MPA. DTSC provided comments on the RD/RA Work Plan for the Moderate Concentration Sites, and the Navy has responded to their comments. The Navy is proposing monitored natural attenuation (MNA) and institutional controls (ICs) for the Low Concentration Sites. Ms. Arnold added that the remedy for the Low Concentration Sites is ICs, not MNA and ICs. Monitoring will be performed to determine when the ICs could be removed.

Mr. Peddada continued by saying that for the Moderate Concentration Sites, the Navy has proposed a LUC RD document, but DTSC does not agree with the LUC portion of the document, so that portion will be taken out of the document and will be addressed in a separate document after the legal issues have been addressed.

Mr. Zweifel added that he has a letter from DTSC regarding the legal comments.

Mr. Peddada stated that DTSC is working on the legal comments from the RD/RA document, and they are working to finalize the comments by June 2012.

Mr. Callian stated that after the regulatory agency update was finished, the meeting would be relocated to another room so that the background noise (music from another area of the building) does not affect the meeting. Mr. Zweifel stated that he was concerned about the tape recording not picking up what everyone was saying during the meeting because of the loud background noise. Mr. Callian said that once the meeting minutes have been prepared, they will be reviewed by the regulatory agencies and the RAB, who will then address any corrections or missing information.

Mr. Broderick asked whether there were any other issues that anyone would like to address for the regulatory agency update; there were none.

The meeting adjourned for approximately 6 minutes until everyone relocated to another room.

PRESENTATIONS:

Mr. Callian asked everyone to please hold their questions until the end of the presentations due to time constraints.

Operable Unit (OU)-4B Status Update, Former Marine Corps Air Station (MCAS) Tustin

Mr. Callian introduced Ms. Rebecca Leshar who is giving the presentation. Ms. Leshar began with an overview of the presentation (Slide 2).

Slide 1 – Title slide.

Slide 2 – Shows an overview of the presentation. This includes a discussion of background, the status of Low and Moderate Concentration Sites, and upcoming activities.

Slide 3 – Provides a remedy overview. The ROD/Remedial Action Plan (RAP) was finalized in January 2010. Remedial action objections (RAOs) include protecting human health and reducing concentrations of COCs in shallow groundwater. The remediation goal (RG) for TCE is 5 µg/L and the RG for 1,1-dichloroethene (DCE) is 6 µg/L (IRP-6 only).

Slide 4 – Provides the Final ROD selected remedies, which include ICs and five-year reviews at Low Concentration Sites (IRP-11, IRP-13W, and MMS-04); and in situ bioremediation (ISB), MNA, ICs, and five-year reviews at Moderate Concentration Sites (IRP-5S[a], IRP-6, and MPA).

Slide 5 – Illustrates the site locations for the sites discussed in the presentation.

Slide 6 – Shows the status of Low Concentration Sites. For MMS-04, the Remedial Action Completion Report (RACR) was finalized in June 2011; this documented that no further action (NFA) was required. For IRP-11 and IRP-13W, a LUC RD and a LTM/O&M Plan are underway.

Slide 7 – Shows the status of Moderate Concentration Sites. Plans for these sites include an RD/RA Work Plan with the LUC RD finalized as a separate deliverable. The design strategy is to target key areas with ISB treatment and transition to MNA to document decreasing/shrinking plumes and use ICs to prevent exposure to groundwater.

Slide 8 – Provides a summary of the remedial design for IRP-5S (a). The design includes ISB (420 feet of a permeable reactive biobarrier [PRBB], 1,092 gallons of emulsified vegetable oil

[EVO], and 8.4 liters (L) of dehalococoides [DHC] bacteria), MNA (nine monitoring wells and semi-annual monitoring), and ICs (that will be defined in the LUC RD).

Slide 9 – Provides a summary of the remedial design for IRP-6. The design includes ISB (100 feet of PRBB and 4 grid-area borings; 670 gallons of EVO; and 2.8 L of DHC), MNA (six monitoring wells and semi-annual monitoring), and ICs (that will be defined in the LUC RD).

Slide 10 – Provides a summary of the remedial design for the MPA in the first water bearing zone. The design includes ISB (940 feet of PRBB, 2,162 gallons of EVO, and 18.8 L of DHC), MNA (eight monitoring wells and semi-annual monitoring) and ICs (that will be defined in the LUC RD).

Slide 11 – Provides a summary of the remedial design plan for the MPA in the second water bearing zone. The design includes ISB (80 feet of PRBB, 184 gallons of EVO, and 1.6 L of DHC), MNA (4 monitoring wells and semi-annual monitoring) and ICs (that will be defined in the LUC RD).

Slide 12 – Presents the upcoming activities for the sites. For the Moderate Concentration Sites, this includes finalizing the RD/RA Work Plan, issuing a public fact sheet, and implementing the RA. For the Low Concentration Sites, this includes finalizing the LUC RD and LTM/O&M Plan, issuing a public fact sheet, and implementing the RA.

Slide 13 – Presents photos of mixing the injection substrate.

Slide 14 – Presents a photo of the injection rig at IRP-6.

Mr. Callian asked whether this photo was taken nearby Costco, and Ms. Leshner stated that photo was taken in the Lowe's parking lot near Costco during the pilot test.

Slide 15 – List of acronyms.

Mr. Takach asked what the basis was for selecting the IRP-5S(a) key target area on Slide 8. Ms. Leshner stated that she studied the concentration throughout the plume for this area and all data that had ever been collected for the area. All of the areas within the site that were not currently decreasing in concentration were noted and that area was delineated as the key target area. The ISB treatment area includes this key target area to rapidly reduce COC concentrations in areas where TCE is not currently stable/decreasing.

Mr. Takach also asked whether there are areas with concentrations in the 100s of µg/L that are left untreated. Ms. Leshner responded that there are no areas with concentrations in the 100s of µg/L that are not being treated.

Mr. Schmieder asked what would happen if the area outside of the targeted area was not decreasing in TCE concentration; would the whole process start over again. Ms. Leshner stated that the RD/RA Work Plan contains a decision tree that allows the Navy the flexibility of performing another round of ISB.

Mr. Crompton asked what is the PRBB. Ms. Leshner responded that it is a series of injections spaced 7 to 12 feet apart. This spacing distance was determined during the pilot test. The idea is to inject within the radius of influence and have adjacent points overlap to create a barrier.

Mr. Crompton asked how deep the injections were made. Ms. Leshner responded that the injections started at the bottom of first WBZ at approximately 30 ft and continued up to the top of the WBZ (near surface).

Mr. Crompton asked whether the plan was to do these injections once or multiple times. Ms. Leshner responded that the plan is to do it once, and the volume calculated should be a sufficient biobarrier to last 3-5 years to get concentrations low enough to implement MNA.

Mr. Crompton asked whether the barrier lasted so long because of the EVO, and Ms. Leshner stated that was correct.

Mr. Randy Peebles asked whether there was a separate listing to see the details of the ICs. Ms. Leshner responded that the LUC RD, which will be issued as a separate document in the summer of 2012, will have the details of the ICs.

Mr. Peebles asked whether ICs are established and put into reports, are they usually stable or because of the continual process of review could they change. Mr. Callian responded that normally the LUC objectives for the ICs are established in the ROD and the final ICs are stipulated/finalized in the LUC RD.

Mr. Zweifel commented that he would like the slideshows to be presented more slowly so that people have time to ask questions and be brought up to speed with what is going on regarding the sites. Mr. Callian responded that he, the rest of the Navy Team, and the regulatory agency representatives would be available after the meeting to discuss questions, and they are also available by e-mail or telephone. Mr. Callian also asked whether anyone thought the presentation was too fast, and no one else stated it was too fast.

Ms. Arnold commented that she appreciates Mr. Zweifel taking the time to be part of the RAB meeting. She stated that the RAB mailer that is sent out before meetings can help bring people up to speed with the sites, and that Mr. Callian's presentation on the Environmental Status Update for the sites is also meant to help refresh peoples' memories. Ms. Arnold also reiterated that Mr. Zweifel could call or e-mail if he has questions at any time. Mr. Broderick also added that he is available by phone anytime Mr. Zweifel has a question.

Mr. Zweifel stated that he was concerned about the RD for the MPA in the second WBZ and the fact that there is only one monitoring well in the first WBZ. Ms. Leshner stated that it is not possible to put a well in everywhere, and these wells are representative of what the conditions are downgradient of a PRBB. Ms. Arnold added that one of the objectives of the pilot study was to ensure an adequate monitoring well network was in place.

Mr. Broderick stated that after seeing the presentation, he is planning to re-issue comments due to insufficient monitoring wells. Each biobarrier should have three monitoring wells - one to measure in-flow before the barrier, one within the barrier, and one post-barrier to measure the concentrations of residual components.

Former MCAS Tustin Five-Year Review Update

Mr. Callian introduced Mr. Mike Wolff. Mr. Wolff began with presentation overview (Slide 2).

Slide 1 - Title slide.

Slide 2 - Shows an overview of the presentation.

Slide 3 - Presents the background for the Second Five-Year Review. The sites include: OU-1A (IRP-13S), OU-1B North (IRP-12), OU-1B South (IRP-3), and OU-3 (IRP-1). The Draft Second Five-Year Review Report was submitted in July 2011; however, the U.S. EPA Integrated Risk Information System (IRIS) database was updated with new TCE toxicity criteria in September

2011. In October 2011, due to time constraints, the Five-Year Review Report was finalized without a re-evaluation of the new TCE criteria. The Five-Year Review Report Addendum will include an evaluation of this new TCE toxicity criteria for OU-1A (IRP-13S) and OU-1B South (IRP-3).

Slide 4 – Presents a continuation of the Second Five-Year Review background. In January 2012, DTSC provided the following concurrences/comments on the draft report: DTSC concurs with protectiveness statements for OU-3 (IRP-1) and OU-1B North (IRP-12); OU-1B South (IRP-3) and OU-1A (IRP-13S) under current conditions; and suggested providing protectiveness determination for OU-4B Low Concentration Sites IRP-11, IRP-13W, and MMS-04. RWQCB had no comments on the draft Report. U.S. EPA concurred with Navy's protectiveness determinations in the Report.

Slide 5 – Presents an overview of the Second Five-Year Review Report Addendum. For OU-1A (IRP-13S) and OU-1B South (IRP-3), a re-evaluation of the estimated vapor intrusion (VI) risk using the updated TCE toxicity criteria will be conducted. Additionally, a protectiveness determination will be provided for the OU-4B Low Concentration Sites.

Slide 6 – Presents the vapor intrusion re-evaluation, which uses the DTSC version of the Johnson & Ettinger VI model. Cancer and non-cancer risks at OU-1A and -1B are being re-evaluated. Groundwater concentration data from Third Quarter 2011, Fourth Quarter 2011, and First Quarter 2012 will be used in this evaluation.

Slide 7 – Presents background information for the OU-4B Low Concentration Sites, which have TCE concentrations of less than 20 µg/L.

Slide 8 – Presents the reason that the OU-4B Low Concentration Sites are being included in this Addendum which includes synchronization of all five-year reviews for sites at a single installation.

Slide 9 – Presents the components of the five-year review, which include: assessing protectiveness, community involvement and notification, interviews, document review, site inspection, and data review and analysis.

Slide 10 – Presents the purpose of a five-year review, which is to ensure that the remedies at each site are protective of human health and the environment.

Slide 11 – Presents upcoming activities, which include document and data review (ongoing), inspections (May 2012), interviews (ongoing), technical assessment (ongoing), issuing a draft report (Summer 2012), and issuing a final report (October 2012).

Slide 12 – List of acronyms.

Mr. Callian explained how toxicity criteria are created. They are based on laboratory experiments on living organisms, but there are many parameters such as exposure concentrations, exposure lengths, etc. Risk assessments are very conservative. Mr. Wolff added that the risk assessment is based on a 70-year term of exposure, and assumes that the person is going to stay in the same area, that the contaminants in groundwater never decrease in concentration, and that all of the vapor generated from the groundwater goes straight into the person's dwelling without any escaping into the atmosphere.

Mr. West asked that now that there is a schedule for the Addendum, is there an update on the FOST 9 schedule. Mr. Callian responded that the schedule will be out once issues are resolved

with the Addendum. Mr. West asked whether that could occur prior to the Final Second Five-Year Review Report Addendum, and Mr. Callian replied that it could.

OPEN QUESTIONS AND COMMENTS:

Mr. Callian opened the meeting for general questions and comments.

Mr. Zweifel asked why there were mounds of fill dirt present near the hangars. Mr. West answered that the mounds were crushed concrete that will be used as road base. Tustin Ranch Road is under construction and the stockpiles will be used during the Phase II redevelopment process.

Mr. West stated that the City of Tustin sent the Navy and the BCT a letter in January 2012 requesting a response to the issue of potentially contaminated soil in groundwater for some of the sites. Mr. West stated that on March 15, 2012, the Navy responded with a letter that stated the issue was still under evaluation. Mr. West asked whether he could request a response from the Navy regarding this issue. Mr. Callian responded that the request is still being evaluated and that the Navy will issue a letter soon. Mr. Zweifel asked when the letter would be issued, and Mr. Callian responded that it would probably be within the next week or so.

MEETING EVALUATION AND CLOSING:

Mr. Callian asked for suggestions for the next RAB meeting scheduled for September 26, 2012.

Mr. Schmieder requested updates on plans that are approved this summer for OU-4B.

Mr. Zweifel added that addressing Mr. West's letter should be a priority.

Mr. Zweifel concluded that he enjoyed the meeting, but that meetings should be more frequent.

The RAB meeting adjourned at 9:05 PM.

LIST OF HANDOUTS PROVIDED AT THE MEETING:

- 23 May 2012 Former MCAS Tustin RAB Meeting Agenda
- Public Notice for the 23 May 2012 RAB Meeting
- Draft RAB Meeting Minutes from the 21 September 2011 meeting for RAB review
- Sign-In Sheet from the 21 September 2011 Former MCAS Tustin RAB Meeting
- Final RAB Meeting Minutes from the 18 May 2011 RAB Meeting
- Presentation Slides: "Environmental Program Status, Former Marine Corps Air Station Tustin," "Operable Unit (OU)-4B Status Update, Former Marine Corps Air Station (MCAS) Tustin," and "Former MCAS Tustin Five-Year Review Update"
- Environmental Websites
- Points-of-Contact
- Former MCAS Tustin IRP Site Location Map
- Former MCAS Tustin RAB Mission Statement and Operating Procedures
- Former MCAS Tustin RAB Fact Sheet/Membership Application
- Former MCAS Tustin Mailing List Coupon

Copies of the meeting minutes and handouts are available at the IR for former MCAS Tustin located in the Government Publication Section of the University of California, Irvine Main Library in Irvine, California. Library hours are 10:00 AM to 8:00 PM Monday through Thursday; 10:00 AM to 5:00 PM Friday; and 1:00 PM to 5:00 PM on Saturday and Sunday. The library phone number is (949) 824-7362 or (949) 824-6836. Copies of the meeting minutes and handouts are also available at the CERCLA AR File.

Final minutes from previous RAB meetings can be found on the internet at the Navy BRAC Program Management Office (PMO) website: www.bracpmo.navy.mil.

INTERNET SITES:

Navy and Marine Corps Internet Access:

BRAC PMO Web Site (includes RAB meeting minutes): www.bracpmo.navy.mil

Department of Defense - Environmental Cleanup Home Page Web Site:

Homepage: www.dtic.mil/dtic

U.S. EPA:

Homepage: www.epa.gov

Superfund information: www.epa.gov/superfund

National Center for Environmental Assessment: www.epa.gov/ncea

Federal Register Environmental Documents: www.epa.gov/federalregister

California Agencies:

California Environmental Protection Agency Homepage: www.calepa.ca.gov

DTSC: www.dtsc.ca.gov

Department of Public Health: www.cdph.ca.gov

Santa Ana RWQCB: www.waterboards.ca.gov/santaana

Additional Websites: Reuse and Redevelopment

Orange County Great Park: www.ocgp.org

Great Park Conservancy: www.orangecountygreatpark.org

ENVIRONMENTAL PROGRAM STATUS FORMER MARINE CORPS AIR STATION TUSTIN

Operable Unit 1A (Installation Restoration Program [IRP] Site 13 South – 1,2,3-Trichloropropane [TCP] in groundwater)

Carve-Out: CO-5

Brief Project History:

- 2002: Time Critical Removal Action (hydraulic containment)
- 2004: Final Record of Decision (ROD): Selected remedy includes:
 - Hydraulic containment for 1,2,3-TCP-impacted groundwater;
 - Construction, operation, and maintenance of groundwater extraction and treatment system; and Institutional controls (ICs).
 - Hot-spot soil excavation was also conducted to enhance groundwater remedy.
- 2007: Began Final Remedial Design (RD) and Remedial Action (RA)
- December 2007: Treatment system operational
- July 2008: 1st Quarter 2008 Groundwater Monitoring Data Summary (MDS)
- October 2008: 2nd Quarter 2008 Groundwater MDS
- December 2008: Final Interim-Remedial Action Completion Report (I-RACR); the main purpose of the I-RACR is to document that the remedy is constructed per the Final RD
- December 2008: 3rd Quarter 2008 Groundwater MDS
- July 2009: 1st Quarter 2009 Groundwater MDS
- September 2009: Final Long-Term Operation and Maintenance Plan (OMP)
- October 2009: 2nd Quarter 2009 Groundwater Monitoring Data Summary
- December 2009: 3rd Quarter 2009 Groundwater Monitoring Data Summary
- February 2010: Final 2008 Annual OU-1A/-1B Performance Evaluation Report (PER)
- February 2010: Final Operating Properly and Successfully (OPS) Report
 - Obtained U.S. EPA OPS determination in December 2009
- July 2010: 1st Quarter 2010 Groundwater MDS
- September 2010: 2nd Quarter 2010 Groundwater MDS
- November 2010: Final 2009 Annual OU-1A and -1B PER
- December 2010: 3rd Quarter 2010 Groundwater MDS
- June 2011: Issue Draft 2010 Annual PER
 - September 2011: 2011 Semiannual Groundwater MDS
- November 2011: Final 2010 Annual PER
- December 2011: 3rd Quarter 2011 Groundwater MDS
- April 2012: 1st Quarter 2012 Groundwater MDS

Next steps:

- On-going operation and maintenance (O&M) activities:
 - Biweekly, monthly, and quarterly inspections and effluent sampling
 - Quarterly groundwater monitoring and semiannual reporting; data used to track system performance and (annually) evaluate and optimize the system
 - Annual system optimization evaluation included in the 2011 Annual PER
- June 2012: Draft 2011 Annual PER
- September 2012: 2012 Semiannual Groundwater MDS
- October 2012: Final 2011 Annual PER

ENVIRONMENTAL PROGRAM STATUS FORMER MARINE CORPS AIR STATION TUSTIN

Operable Unit 1B (IRP Sites 3 and 12 – Trichloroethene [TCE] in groundwater)

Carve-Outs: CO-5 and CO-6

Brief Project History:

- 2004: Final ROD: Selected remedy includes:
 - Hydraulic containment of TCE-impacted groundwater;
 - Construction, operation, and maintenance of groundwater extraction and treatment systems; and ICs
 - Hot-spot soil excavation also conducted to enhance groundwater remedy
- 2007: Began implementing Final RD/RA
- January 2008: Treatment system became operational
- July 2008: 1st Quarter 2008 Groundwater MDS
- October 2008: 2nd Quarter 2008 Groundwater MDS
- December 2008: Final I-RACR
- December 2008: 3rd Quarter 2008 Groundwater MDS
- July 2009: 1st Quarter 2009 Groundwater MDS
- September 2009: Final Long-Term OMP
- October 2009: 2nd Quarter 2009 Groundwater MDS
- December 2009: 3rd Quarter 2009 Groundwater MDS
- February 2010: Final 2008 Annual OU-1A/-1B PER
- February 2010: Final OPS Report
 - Obtained U.S. EPA OPS designation in December 2009
- July 2010: 1st Quarter 2010 Groundwater MDS
- September 2010: 2nd Quarter 2010 Groundwater MDS
- November 2010: Final 2009 Annual OU-1A/-1B PER
- December 2010: 3rd Quarter 2010 Groundwater MDS
- June 2011: Issue Draft 2010 Annual PER
- September 2011: 2011 Semiannual Groundwater MDS
- November 2011: Final 2010 Annual PER
- December 2011: 3rd Quarter 2011 Groundwater MDS
- April 2012: 1st Quarter 2012 Groundwater MDS

Next steps:

- Same as for OU-1A above

ENVIRONMENTAL PROGRAM STATUS FORMER MARINE CORPS AIR STATION TUSTIN

Operable Unit 3 (IRP Site 1– Moffett Trenches Landfill)

Carve-Out: CO-10 – PARCEL TRANSFERRED IN 2006

Brief Project History:

- December 2001: Final ROD
- May 2003: Final OMP
- November 2003: Final OPS Report
- Obtained U.S. EPA OPS designation in March 2004
- October 2006: Final First Five-Year Review
- On-going O&M activities
- January 2010: Final 2008 Annual Groundwater Monitoring Report
- February 2011: Final 2009 Annual Long-Term Monitoring Report
- July 2011: Final 2010 Annual Long-Term Monitoring Report
- March 2012: Draft 2011 Annual Long-Term Monitoring Report

Next steps:

- **Continue Long-Term Monitoring and O&M activities**
- **September 2012: Final 2011 Annual LTM Report**

ENVIRONMENTAL PROGRAM STATUS FORMER MARINE CORPS AIR STATION TUSTIN

Operable Unit 4B

Moderate Concentration Sites (IRP-5S[a], IRP-6, and the Mingled Plumes Area [MPA]) and Low Concentration Sites (IRP-11, IRP-13W, and Miscellaneous Major Spill [MMS-04])

Carve-Outs: CO-2, CO-5, and CO-9

Brief Project History:

- 2004: Final OU-4 Tech Memo for 2003 shallow groundwater investigation
- 2005-2006: Groundwater Monitoring
- 2007: IRP-6 and MPA Supplemental Investigation field activities
- September 2008: Final Tech Memo Supplemental Investigation at IRP-6 and MPA
- October 2008: Final Feasibility Study Report
- February 2009: Proposed Plan. Public comment period: February 04-March 06, 2009
- May 2009: Final Work Plan for Groundwater Monitoring at OU-4B Sites
 - August 2009: Installed additional wells at the MPA, MMS-04, IRP-11, and IRP-13W in accordance with the June 2009 Final Work Plan
- January 2010: 3rd Quarter 2009 Data Summary Report
- January 2010: Final ROD
- April 2010: Replacement Pages for the Final ROD, including signature sheet
- July 2010: Final Pre-Design Pilot Study Work Plan
- July to October 2010: Implemented Pre-RD Pilot Study
- October 2010: Final 2009 Annual Groundwater Monitoring Report
- October 2010: Final 1st Quarter 2010 Data Summary Report
- November 2010: Final 2nd Quarter 2010 Data Summary Report
- May 2011: Final Pre-RD Pilot Study Report
- May 2011: Final 2010 Annual Groundwater Monitoring Report
- June 2011: Issue Final RACR for MMS-04
- August 2011: Draft LUC RD & Long-Term OMP Low Concentration Sites: IRP-11 & -13W)
- September 2011: Final 1st and 2nd Quarter Data Summary Report
- October 2011: Draft RD/RA Work Plan for Moderate (Mod.) Conc. Sites
- October 2011: Draft Fact Sheet, OU-4B
- March 2012: Final 3rd and 4th Quarter 2011 Data Summary Report

Next steps:

● Moderate Concentration Sites:

- Finalize RD/RA Work Plan
- Issue Public Fact Sheet
- Implement Remedial Action

● Low Concentration Sites:

- Finalize LUC RD and LTM/OMP
- Issue Public Fact Sheet
- Implement Remedial Action

ENVIRONMENTAL PROGRAM STATUS FORMER MARINE CORPS AIR STATION TUSTIN

MTBE Plume (UST Site 222)

Carve-Out: CO-5

Brief Project History:

- 2001: Interim Petroleum Corrective Action Program (PCAP) plan implemented
- 2006: Final Soil Closure Report
- 2006: Interim PCAP Addendum No. 2 – Revised Cleanup Goals: 1st WBZ: 300 micrograms per liter (ug/L), 2nd WBZ: 44 ug/L, and 3rd WBZ: 13 ug/L.
- 2007: Final PCAP
- 2007/2008: Implement Final PCAP; Additional monitoring and extraction wells installed. Air Sparging/Soil Vapor Extraction (AS/SVE) initiated in March 2008
- September 2008: AS/SVE system shutdown for rebound monitoring per Final PCAP requirements
- December 2008: 1st and 2nd Quarter 2008 Groundwater MDS
- April 2009: 3rd Quarter 2008 Groundwater MDS
- May 2009: Draft Final Annual 2007 PCAP Progress Report
- July 2009: Draft Annual 2008 PCAP Annual Report
- August 2009: 1st Quarter 2009 Groundwater MDS
- September 2009: 2nd Quarter 2009 Groundwater MDS
- September 2009: Final Annual 2007 PCAP Annual Report
- October 2009: Final/Replacement Pages for the Annual 2008 PCAP Annual Report
- January 2010: 3rd Quarter 2009 Groundwater MDS
- June 2010: Draft 2009 PCAP Annual Report
- August 2010: 1st Quarter 2010 Groundwater MDS
- October 2010: 2nd Quarter 2010 Groundwater MDS
- November 2010: Final 2009 PCAP Annual Report
- December 2010: 3rd Quarter 2010 Groundwater MDS
- June 2011: Draft 2010 PCAP Annual Report
- September 2011: 2011 1st and 2nd Quarter Groundwater Monitoring Data Package
- November 2011: Final 2010 PCAP Annual Report
- November 2011: Shutdown PCAP Extraction Wells and Treatment Facility in preparation for Site Closure
- December 2011: Draft PCAP Closure Report
- March 2012: Final PCAP Closure Report

Next steps:

None!

ENVIRONMENTAL PROGRAM STATUS FORMER MARINE CORPS AIR STATION TUSTIN

Final FOST Summary

FOST #1 signed August 29, 2001	Parcels 3, 21, 38, 39 and portions of 40
FOST #2 signed September 28, 2001	Parcels 4-8, 10-12, 14, 25, 26, 30-33, 37, 42 and portions of 40 and 41
FOST #3 signed April 22, 2002	Parcels 23, 29, 34, 35 and 36, and portions of 1, 16, 17, 24, 27, 28, 40 and 41
FOST #4 signed September 26, 2002	Portions of 24 (PS clean area in CO-5)
FOST #5 signed December 17, 2002	COs 8 and 11
FOST #6 signed September 29, 2004	CO-10 and portion of CO-5
FOST #7 signed May 20, 2005	COs 3 and 7 and portion of CO-5
FOST #8 signed February 2006	COs 1 and 4

Final FOSL Summary

FOSL #2 signed February 28, 2002	COs 1 thru 4
FOSL #3 signed April 26, 2002	COs 5 thru 11

Acronyms/Abbreviations

<p>AS/SVE – Air Sparge/Soil Vapor Extraction AST – Aboveground Storage Tank AOC – Area of Concern BCT – BRAC Cleanup Team (Navy, U.S. EPA, DTSC, and RWQCB) Cal/EPA – California Environmental Protection Agency CO – Carve-Out area Conc. - Concentration DCE - Dichloroethene FOSL – Finding of Suitability to Lease FOST – Finding of Suitability to Transfer ICs – Institutional Controls I-RACR – Interim Remedial Action Complete Report IRP – Installation Restoration Program LTM – Long-Term Monitoring LUC – Land Use Control MDS – Monitoring Data Summary MMS – Miscellaneous Major Spill MNA – Monitored Natural Attenuation MPA – Mingled Plumes Area MTBE – Methyl tert-butyl ether O&M – Operation and Maintenance</p>	<p>OCSD – Orange County Sanitation District OMP – Operation and Maintenance Plan OPS – Operating Properly and Successfully OU – Operable Unit PCAP – Petroleum Corrective Action Plan PER – Performance Evaluation Report PS – Public Sale Parcel RA – Remedial Action RAP – Remedial Action Plan RD – Remedial Design ROD – Record of Decision RWQCB – California Regional Water Quality Control Board, Santa Ana Region TCE – Trichloroethene TCP – Trichloropropane Ug/L – micrograms per liter U.S. EPA – United States Environmental Protection Agency UST – Underground Storage Tank VOC – Volatile Organic Compound WBZ – Water Bearing Zone</p>
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Operable Unit (OU)-4B Status Update Former Marine Corps Air Station (MCAS) Tustin

**Restoration Advisory Board Meeting
23 May 2012**

Presented By
Rebecca Leshner P.G.
AIS-TN&A Joint Venture

1




Presentation Overview

- **Background**
 - **Remedy Overview**
 - **Site Locations**
- **Status of Low Concentration Sites**
 - **Installation Restoration Program (IRP)-11**
 - **IRP-13W**
 - **Miscellaneous Major Spill (MMS)-04**
- **Status of Moderate Concentration Sites**
 - **IRP-5S(a)**
 - **IRP-6**
 - **Mingled Plumes Area (MPA)**
- **Upcoming Activities**

2




Remedy Overview

- **Record of Decision (ROD) / Remedial Action Plan (RAP) finalized January 2010**

Remedial Action Objectives (RAOs):

- **Protect human health by limiting the use of shallow groundwater containing chemicals of concern (COCs) at concentrations exceeding health-protective levels, and**
- **Reduce concentrations of COCs in shallow groundwater at areas of attainment for OU-4B sites to health-protective levels**

Remediation Goals (RGs):

- **Trichloroethene (TCE) – 5 micrograms per liter (µg/L)**
- **1,1-Dichloroethene (DCE) – 6 µg/L (only for IRP-6)**

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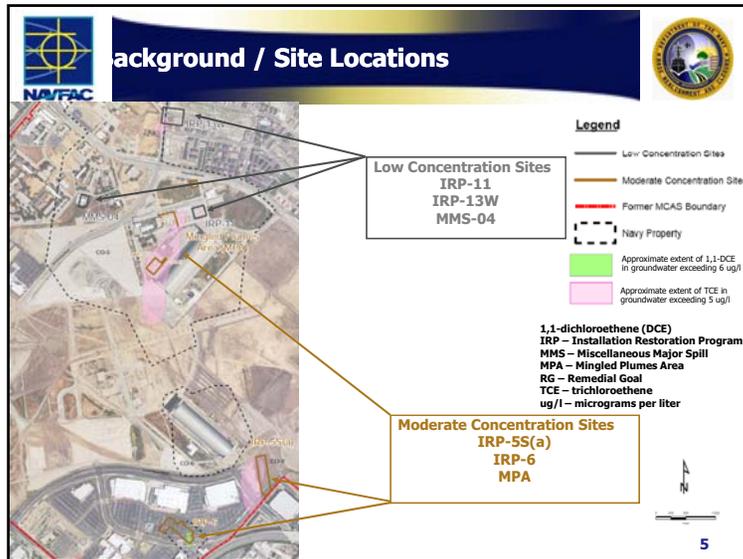



Final Record of Decision

Selected Remedies

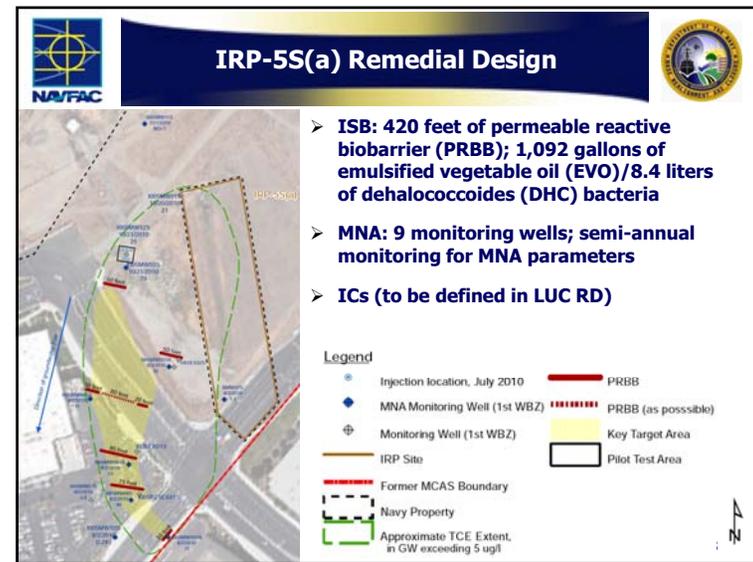
- **Low Concentration Sites (IRP-11, IRP-13W, and MMS-04)**
 - **Institutional Controls (ICs)**
 - **Monitoring and Five-Year Reviews, as appropriate**
- **Moderate Concentration Sites (IRP-5S[a], IRP-6, and the MPA)**
 - **In-situ Bioremediation (ISB)**
 - **Monitored Natural Attenuation (MNA)**
 - **ICs**
 - **Five-Year Reviews, as appropriate**

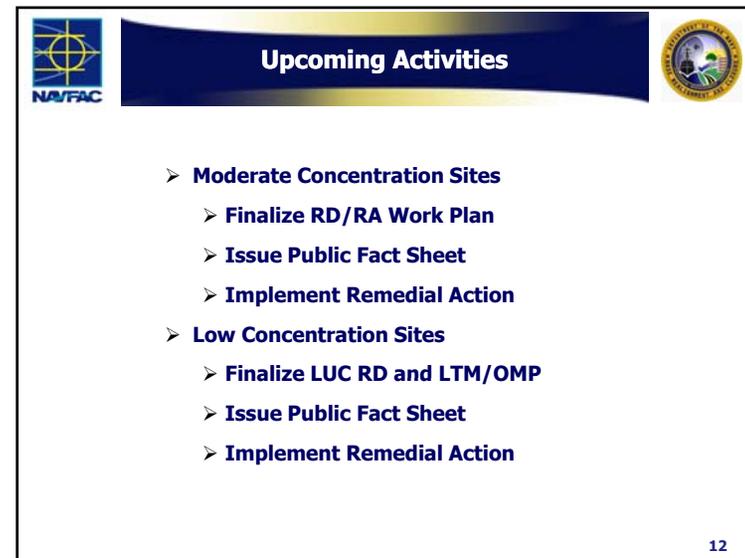
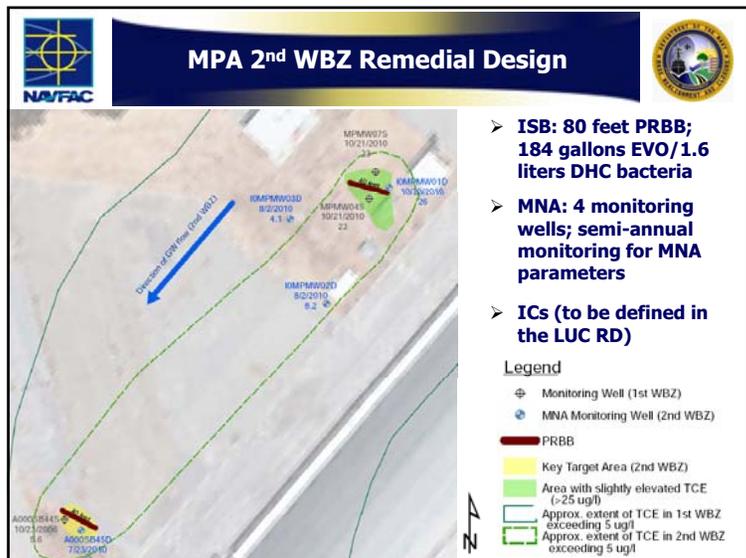
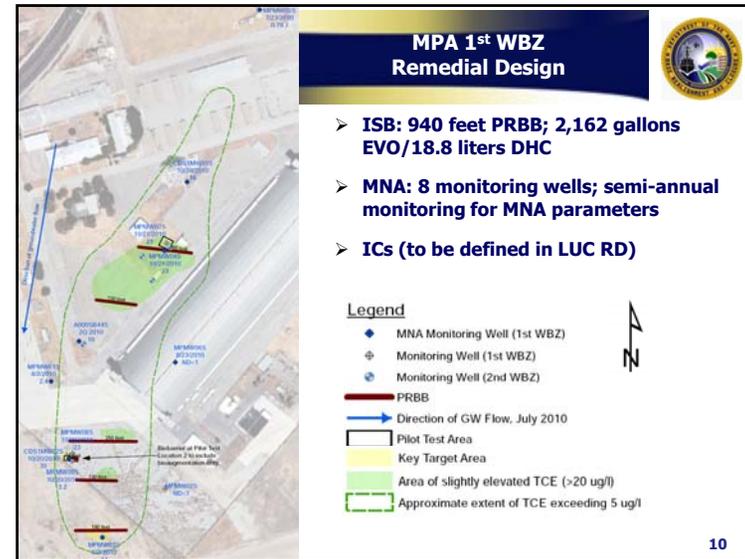
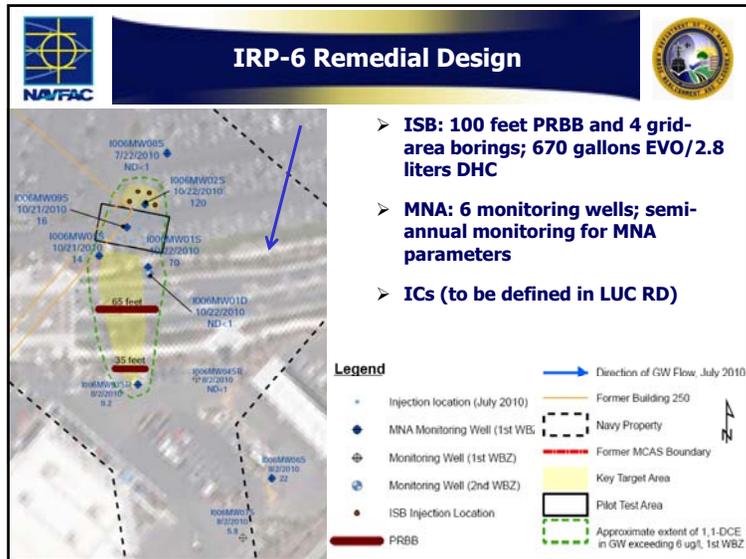
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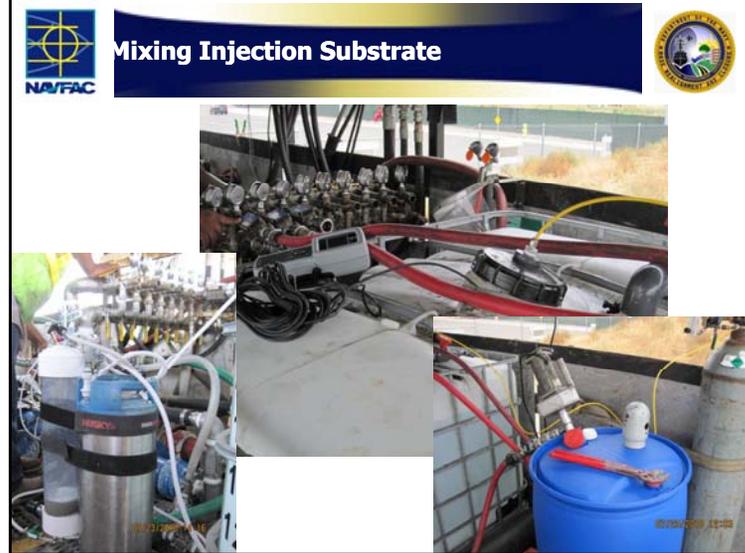


- ## Status of Low Concentration Sites
- **MMS-04:**
 - **June 2011: Agency concurred Final Remedial Action Completion Report (RACR); No further action (NFA) Required.**
 - **IRP-11 and IRP-13W:**
 - **Land Use Control (LUC) Remedial Design (RD) and Long-Term Monitoring (LTM) / Operations and Maintenance Plan (OMP) underway.**
 - **LUC RD includes the implementation, monitoring, maintenance, and enforcement procedures for the ICs**
 - **LTM/OMP includes the groundwater monitoring and reporting plan**
- 6

- ## Status of Moderate Concentration Sites
- **RD / Remedial Action (RA) Work Plan underway**
 - **LUC RD will be finalized as a separate deliverable**
 - **Design Strategy is to achieve project objectives, including the RAOs and RGs in the shortest possible timeframe that is technically, logistically, and economically feasible**
 - **Target key areas with ISB treatment where COC concentrations are not currently decreasing**
 - **Transition to MNA to document decreasing/shrinking plumes**
 - **ICs to prevent/limit use of and exposure to groundwater and activities that would impact the remedies**
- 7







Acronyms

<ul style="list-style-type: none"> • BCT BRAC cleanup team • BRAC base realignment and closure • COC chemical of concern • DCE Dichloroethene • DHC <i>Dehalococcoides</i> • EVO emulsified vegetable oil • GW groundwater • ICs institutional controls • IRP Installation Restoration Program • ISB in-situ bioremediation • LTM long term monitoring • LUC land use control • MCAS Marine Corps Air Station • MMS miscellaneous major spill • MNA monitored natural attenuation 	<ul style="list-style-type: none"> • MPA Mingled Plumes Area • NFA no further action • OU operable unit • OMP operation and maintenance plan • P.G. professional geologist • PRBB permeable reactive biobarrier • RA remedial action • RACR remedial action completion report • RAO remedial action objective • RAP remedial action plan • RD remedial design • RG remedial goal • ROD record of decision • TCE Trichloroethylene • µg/L micrograms per liter • WBZ water-bearing zone
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Former MCAS Tustin Five-Year Review Update

Restoration Advisory Board Meeting
May 23, 2012

Presented by
Mike Wolff, P.G., C.E.G. – ECS, Inc.

1



Presentation Overview

- Second Five-Year Review Background
- Second Five-Year Review Addendum
- Vapor Intrusion Re-Evaluation for OU-1A/-1B South
- OU-4B Low Concentration Sites
 - Background
 - Five-Year Review Process
- Upcoming Activities
- Acronyms

2



Second Five -Year Review Background

- Sites include:
 - Operable Unit (OU)-1A (IRP-13S)
 - OU-1B North (IRP-12)
 - OU-1B South (IRP-3)
 - OU-3 (IRP-1)
- July 2011: Draft Second Five-Year Review
- September 2011: Updated TCE toxicity criteria posted in U.S. EPA Integrated Risk Information System (IRIS) database
- October 2011: Received all Agency Comments/Concurrence
- October 2011: Final Second Five-Year Review

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Second Five -Year Review Background

- January 2012: DTSC Comments/Concurrence Letter:
 - DTSC concurs with protectiveness statements for OU-3 (IRP-1) and OU-1B North (IRP-12)
 - DTSC concurs with protectiveness statements for OU-1B South (IRP-3) and OU-1A (IRP-13S) under current conditions
 - DTSC concurs with need for re-evaluation of new TCE toxicity criteria for OU-1B South (IRP-3) and OU-1A (IRP-13S)
 - Provide protectiveness determination for IRP-11, -13W, and Miscellaneous, Major Spill [MMS]-04
- RWQCB – No comments on Draft Report – Letter dated August 17, 2011
- U.S. EPA – Concurred with Navy's protectiveness determination on the subject five year review report – email dated October 28, 2011

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Second Five-Year Review Addendum



- Evaluation of estimated Vapor Intrusion (VI) risk at OU-1A (IRP-13S) and OU-1B South (IRP-3)
 - Updated TCE toxicity criteria
- OU-4B Low Concentration Sites:
 - IRP-11
 - IRP-13W
 - MMS-04

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Vapor Intrusion Re-Evaluation



- Cancer and non-cancer risks at OU-1A and -1B South are being re-evaluated.
- DTSC version of the Johnson & Ettinger (J&E) VI model
- Groundwater concentration data from Third Quarter 2011, Fourth Quarter 2011, and First Quarter 2012

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OU-4B Low Concentration Sites



- Background:
- Low concentration sites have TCE in groundwater at concentrations generally less than 20 micrograms per liter ($\mu\text{g/L}$)
- Final ROD (January 2010): Institutional Controls (ICs), Monitoring, and Five-Year Reviews, as appropriate
- MMS-04: June 2011: Agency concurred Final Remedial Action Completion Report (RACR); NFA Required
- IRP-11 and IRP-13W: Land Use Control (LUC) Remedial Design (RD) and Long-Term Monitoring (LTM) / Operations and Maintenance Plan (OMP) underway.

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OU-4B Low Concentration Sites



- Why Include OU-4B Low Concentration sites in this Five-Year Review Addendum?
- Trigger Date
 - ROD signature date for sites with ICs as the sole remedy component
- Synchronizing all five-year reviews for an installation

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OU-4B Low Concentration Sites



Components of the Five-Year Review



Figure 1: Components of the Five-Year Review Process

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OU-4B Low Concentration Sites



- The fundamental purpose of a five-year review is to determine whether the remedy at a site is, or upon completion will be, protective of human health and the environment.
- A technical assessment is performed with the objective of answering the following three questions:

Question A: Is the remedy functioning as intended by the decision documents?

Question B: Are the exposure assumptions, toxicity data and Remedial Action Objectives used at the time of remedy selection still valid?

Question C: Has any other information come to light that could call into question the protectiveness of the remedy?

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Upcoming Activities



- Document and Data Review (ongoing)
- Inspections (May 2012)
- Interviews (ongoing)
- Technical Assessment (ongoing)
- Issue Draft (Summer 2012)
- Issue Final (October 2012)

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Acronyms



AOC	area of concern
BRAC	Base Realignment and Closure
BCT	BRAC Cleanup Team
CEG	Certified Engineering Geologist
DTSC	California Department of Toxic Substances Control
ECS	Enviro Compliance Solutions, Inc.
IC	institutional control
IRIS	Integrated Risk Information System
IRP	Installation Restoration Program
JE	Johnson & Ettinger (vapor intrusion model)
MAE	miscellaneous air emissions
MCAS	Marine Corps Air Station
MMS	miscellaneous major spill
µg/L	micrograms per liter
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
OU	operable unit
PG	Professional Geologist
RAB	restoration advisory board
RG	remediation goal
ROD	record of decision
ST	temporary storage
TCE	trichloroethene
U.S. EPA	United States Environmental Protection Agency
VI	vapor intrusion

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