



Final

FORMER MARINE CORPS AIR STATION (MCAS) TUSTIN

88th Restoration Advisory Board (RAB) Meeting Minutes

Meeting Location: Tustin Senior Center, Tustin, California

Meeting Date/Time: 17 February 2010/7:06 pm - 8:32 pm

Minutes Prepared by: Tony Guiang, CDM

Attachments:

1. MCAS Tustin Environmental Program Status
2. Presentation Slides: "Operable Unit 3 Landfill Gas Probe Field Measurement Update"
3. Presentation Slides: "Update on the UST Site 29A"

WELCOME/INTRODUCTIONS/AGENDA REVIEW:

Mr. Jim Callian, Base Realignment and Closure (BRAC) Environmental Coordinator (BEC) and Navy RAB Co-Chair, welcomed everyone to the 88th RAB meeting.

Mr. Callian asked for self-introductions for those in attendance. A total of 18 people were in attendance. Prior to the meeting, Mr. Robert Kopecky (RAB member) notified Mr. Callian he would be unable to attend the RAB meeting. Additionally, Ms. Cristina Fu (Department of Toxic Substances Control [DTSC]) sent an email which stated that she would not be able to attend this evening's meeting. Mr. Callian noted Mr. John Broderick's (Regional Water Quality Control Board, Santa Ana Region [RWQCB]) absence from the RAB meeting was due to the Governor's ban on overtime for state employees.

ANNOUNCEMENTS/REVIEW OF ACTION ITEMS

Mr. Callian provided summary of the RAB agenda and presented a series of slides which included a brief summary of the agenda, points of contact information for key BRAC Cleanup Team (BCT) members including the regulatory agencies (United States Environmental Protection Agency [U.S. EPA], DTSC, and RWQCB). In addition, he presented the locations, hours of operation, and points of contact for the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Administrative Record (AR) File and CERCLA Information Repository (IR). Mr. Callian presented several slides on environmental websites and a slide on the proposed RAB meeting dates for 2010.

At Mr. Matt Suarez's (RAB Member) request, Mr. Callian presented an overhead slide showing the location of the latest Finding of Suitability to Transfer (FOST) #9 at MCAS Tustin. He reiterated the map was a preliminary draft, showing properties the Navy is considering for transfer as part of FOST #9. Mr. Callian noted the areas considered for transfer were shaded in blue and did not include the buffer zone around Miscellaneous Major Spill (MMS)-04. Further, he explained the transfer of parcels would be coordinated through Ms. Debra Theroux (Deputy Base Closure Manager) and all questions relating to property transfers should be directed to her attention. Mr. Callian asked if there were any questions. While referring to the FOST map, Mr.

Suarez asked whether the Navy anticipated a long term ownership and jurisdiction over the area surrounding MMS-04. Mr. Callian replied that because the groundwater monitoring well installed at this site has reported trichloroethylene (TCE) concentrations below the 5 micrograms per liter ($\mu\text{g}/\text{L}$) cleanup goal (CG), the Navy felt it would be recommended for closure. He noted as dictated in the Record of Decision (ROD) for this site, if concentrations continue to be reported below the CG, after one year of monitoring, the site would be recommended for closure. Mr. Zweifel (RAB Co-Chair) asked whether the Navy felt one year of monitoring was enough. Mr. Callian replied one year of monitoring is sufficient because the concentrations being reported in the well have been an order of magnitude less than the CG. He explained concentrations have been about $0.5 \mu\text{g}/\text{L}$ compared to the CG of $5 \mu\text{g}/\text{L}$ and the path forward set forth in the ROD obtained concurrence from the regulatory agencies. Mr. Zweifel asked whether the recent rain events may have influenced the low concentrations being detected. Mr. Callian replied that one year of monitoring was implemented at this site to encompass the dry and wet seasons. Mr. Suarez asked whether the Navy felt confident the plume at MMS-04 was not migrating. Mr. Callian replied that eventually the groundwater at MMS-04 would be captured by the hydraulic containment system at Installation Restoration Program (IRP)-13 S. To augment, Mr. Cardinale (Remedial Project Manager [RPM]) explained the well Mr. Callian was referring to was placed after a series of hydropunch samples were collected and therefore its current location represents the area where the maximum concentrations were expected. Mr. Nicholas Steenhaut asked when the one year of monitoring started. Ms. Arnold (Lead RPM) replied the first sample was collected when the well was installed and explained that once one year of monitoring data is collected, this data would be presented to the Agencies for their concurrence to ensure TCE concentrations remained below the CGs and remedial action objectives (RAOs) were being met. For point of clarification, Mr. Suarez confirmed there would be no additional monitoring conducted to evaluate rebound after a year of monitoring was finished.

APPROVAL OF 04 NOVEMBER 2009 RAB MEETING MINUTES

Mr. Callian and Mr. Zweifel asked the RAB members if they had any comments or questions on the November 04, 2009 Meeting Minutes. The RAB had no comments or questions on the Meeting Minutes and the Minutes were approved as final.

MCAS TUSTIN ENVIRONMENTAL STATUS UPDATE

Before beginning the environmental status update, Mr. Peddada (DTSC) asked whether there was any guidance available which dictates how long the RAB is expected to continue meeting. Ms. Arnold replied that there is Department of Defense (DoD) RAB guidance which discusses the lifespan of RABs and she noted it is based upon ongoing environmental activities at installations.

Mr. Callian presented the RAB with an update on the MCAS Tustin Environmental Program Status (Attachment 1) since the last RAB meeting held in November 2009. Mr. Callian noted he had copies of the Environmental Status Update available for viewing.

Mr. Callian explained the activities and document milestones for Operable Unit (OU)-1A and OU-1B were the same and therefore would be discussed simultaneously. Mr. Callian provided a summary of the documents submitted since the November 2009 RAB meeting including the

3rd Quarter Groundwater Monitoring Data Summary issued in December 2009; a Final 2008 Annual OU-1A and -1B Performance Evaluation Report; and a Final Operating Properly and Successfully (OPS) Report issued this month.

Mr. Steenhaut asked whether DTSC and City of Tustin's concerns with the Draft Final OPS Report regarding new data presented would have an effect on the issuance of final OPS determination. Mr. Peddada responded that DTSC has had long discussions with the Navy regarding comments on the OPS determination and explained they have reached an agreement that further monitoring of existing wells would take place. Furthermore, he added if the results from the monitoring show contaminant concentrations are increasing, the Agencies would discuss future operation and maintenance recommendations with the Navy. As of now, the DTSC is confident and concurs with the OPS determination. Ms. Sue Reynolds (RAB member) asked Mr. West (City of Tustin) whether the city concurred with this path forward. Mr. West replied the city only provided their comments to the DTSC and were not in the position to make any decisions regarding issuance of a final OPS determination. Mr. Peddada reiterated although the DTSC has jurisdiction over these sites, the U.S. EPA has precedence over DTSC in OPS determination. Mr. Callian noted the OPS determination is one that anticipates that systems and procedures are in place to optimize the remedy based on current and future monitoring data assuring the continued performance of the remedy is protective of human health and the environment. He added OPS doesn't rely on just one or two monitoring points but overlapping activities and the Report reflects that the system is in place and is operating properly. Ms. Reynolds asked if the Report needed to be updated on a continuous basis. Mr. Callian replied the report is only written once and any needed system modifications would be dealt with as part of future operation and maintenance activities. Additionally he noted the Navy conducts annual performance monitoring evaluations and five-year reviews that are all part of the final remedy. Ms. Mary Lynn Norby (RAB member) asked the Navy whether it was the state or federal EPA who had precedence over OPS determination. Mr. Callian replied it was the U.S. EPA who issued OPS determinations. She asked Mr. Peddada whether there was something that the DTSC could do to achieve concurrence. Mr. Peddada replied DTSC and the RWQCB conducted long discussion with the U.S. EPA and all parties have agreed with the OPS and to continue monitoring. Additionally, if results from the monitoring show concentrations are increasing, further evaluation and coordination of efforts through the five-year review and annual performance monitoring would be implemented. He reiterated the U.S. EPA is the lead agency for the OPS document. To augment the discussion, Ms. Arnold explained it is a statutory requirement for the U.S. EPA to concur with this Report in order to make the property available for transfer. However, she noted the Navy has a cleanup agreement with the state, a Federal Facility Site Remediation Agreement, and through the review process has received and responded to comments from the state (DTSC) and the U.S. EPA. She explained both state and federal agencies have concurred on the final document.

Mr. Callian proceeded with the Environmental Program Status Update by providing the next steps and milestone documents associated with OU-1A and -1B.

Mr. Callian provided an update on OU-3 (Site 1 - Moffett Trenches Landfill) by noting the issuance of the Final 2008 Annual Groundwater Monitoring Report in January 2010, providing a summary of the next steps activities and milestone document (Draft 2009 Annual Groundwater Monitoring Report) to be issued in June 2010. He presented a brief slide presentation titled

“Operable Unit 3 Landfill Gas Probe Field Measurement Update” (Attachment 2). The slide presentation included an overview of the OU-3 remedy, the major components of the remedy, a figure showing the location of Landfill Gas (LFG) wells at OU-3, and a photograph of a typical LFG well. The slide presentation also included a discussion of LFG well destruction at OU-3 proposed in the Final 2008 Annual Groundwater Monitoring Report issued in January 2010. Mr. Callian noted the section in the report which recommended LFG destruction was removed from the final version of the report at the California DTSC’s request. He added, the DTSC requested the Navy contact the California Integrated Waste Management Board (CIWMB) before moving forward with the proposed destruction of LFG wells. The CIWMB asked the Navy to coordinate with the Local Enforcement Agency, Orange County Health Care Agency (OCHCA). OCHCA requested further LFG monitoring because of their concern with potential LFG migration to the northwest, in an area zoned for residential development. Mr. Callian provided a summary of the results from the recent LFG monitoring conducted in February 2010 which resulted in no volatile organic compounds (VOCs) being reported nor specifically any methane gas.

Ms. Norby asked whether there was a standard length of time for landfill monitoring noting that in many landfills, gases may remain dormant or undetected until such a time when they occur. Mr. Callian replied there is no standard length of time for monitoring LFG and he explained monitoring time frame is based on evaluation of multiple lines of evidence. He noted this landfill was used as a crash crew burn pit for training purposes; therefore, VOCs such as methane gas are not expected to be present. Mr. Callian noted LFG monitoring has taken place at the site for a period of 10 years and nothing has been detected. Additionally, he noted if methane was being generated as a result of the degradation of brush or timber, it would have occurred earlier.

Mr. Zweifel noted the RAB’s objection to the paving of Jamboree Road over a portion of the landfill (Moffett Trenches). To address this concern, Mr. Callian reiterated the Navy would continue to conduct groundwater and surface water monitoring as a component of the remedy at OU-3.

Mr. Callian provided a summary of OU-4B which comprises three moderate concentration sites (IRP-5s[a], IRP-6, Mingled Plumes Area [MPA]) and three low concentration sites (MMS-04, IRP-13W and IRP-11). He noted the latest document issued since the last RAB meeting was the Third Quarter Groundwater Progress Monitoring Data Summary Report issued in January 2010 and noted a major milestone with the issuance of the final ROD for OU-4B; the last ROD for MCAS Tustin!

Mr. Callian concluded the Environmental Program Status Update by providing a summary of the latest document issued for UST Site 222 (Third Quarter 2009 Groundwater Monitoring Data Summary), the next steps, activities, and milestone document (Draft PCAP Annual Report) for the site. Mr. Callian asked if there were any more questions in regard to the Environmental Program Status.

Mr. Zweifel asked the Navy for a brief summation of the UST Site 222, noting there were members in attendance not present at the last RAB meeting to hear the UST Site 222 presentation. Mr. Callian pointed to the location of the former gas station at UST Site 222 (Source Area) on the map. He provided some highlights including the total volume of

groundwater treated at the site (~212,000,000 gallons), the approximate mass of MTBE recovered (4,270 pounds), and some system operational data including air sparge system shutoff for rebound monitoring which occurred in December 2009. To augment Mr. Cardinale provided further details on the monitoring which he noted would take place for one year. Mr. Zweifel voiced his concern with regard to the length of time proposed for monitoring the system, stating one year of monitoring may not be sufficient. In response, Mr. Callian explained the data will be collected and evaluated by the BCT and he reiterated Agency oversight on the monitoring activities at the site. Additionally, Mr. Cardinale noted the monitoring was being conducted in accordance with the Final PCAP and Ms. Arnold explained a comprehensive overview of the closure strategy for the site was presented during the last RAB presentation. As a sidebar discussion, Mr. Zweifel explained many of the RAB members have to be brought up to speed with all the environmental issues and topics at every RAB meeting noting many do not have time to review the documents prior to coming to the meetings. Ms. Norby commended the level of detail and information provided by the Meeting Minutes, noting the inclusion of the slide presentations was very beneficial.

REGULATORY AGENCY UPDATE

Mr. Ram Peddada, DTSC

Mr. Peddada provided the RAB with an OU-4B ROD update. His discussion included a chronology of milestone events including the issuance of the Proposed Plan (PP) in February 2009 which explained the proposed alternatives chosen to remediate the low and moderate concentration sites and the submittal of Agency comments on the PP. He noted the Navy responded to the comments in accordance with the National Contingency Plan (NCP) regulations.

Mr. Peddada explained the alternative proposed by the Navy in the PP for the MPA site was Alternative 6 (hydraulic containment and institutional controls [ICs]). However, the Agencies and the city disagreed with the selected alternative and opted for Alternative 4 (In situ bioremediation, monitored natural attenuation [MNA], and ICs) in an effort to cleanup the sites at a faster pace. Therefore, the Navy incorporated the comments and changed the proposed alternative from Alternative 6 proposed in the PP to Alternative 4 in the ROD. Mr. Peddada explained the DTSC has a California Environmental Quality Act (CEQA) requirement to submit a document to the state when an action is taken. Owing to the change in Alternatives at the ROD stage, an additional document is being requested by the state to answer questions such as what are the differences between the alternatives; what are the ramifications associated with the change in alternatives; are the cleanup times different; and is the protection the same between the alternatives. Mr. Peddada noted the Navy, DTSC, and the State Clearing House have been in dialog and the State is scheduled to have comments on the required CEQA document by Monday (22 February 2010) of next week. He noted once the State feels their comments have been addressed, the DTSC can sign the CEQA document and the ROD. Mr. Peddada noted the process would be completed by the end of the month, and once the ROD is signed the Navy will begin working on the Remedial Design/Remedial Action (RD/RA). Ms. Norby asked whether there was a recirculation of CEQA requirements in view of the change in the remedy chosen. Mr. Peddada responded he did not feel this would amount to a big issue with the State cleaning house because Alternative 4 has already been evaluated for other sites in the OU.

Therefore, there is really nothing new being presented or evaluated. Mr. Zweifel asked about the costs difference for the alternatives. Mr. Callian responded information regarding the cost was presented in the Feasibility Study (FS) and PP. Ms. Arnold noted she had a copy of the PP and a summary of the Alternatives and associated costs.

Mr. Zweifel thanked Mr. Peddada and those present presented him with a round of applause for his efforts.

UST SITE 29A STATUS UPDATE

Before giving the floor to Mr. Cardinale, Mr. Callian asked the RAB to hold their comments and questions on the UST 29A Update until the end of the presentation. He noted Navy RPMs would be available after the meeting to address any comments and answer all questions.

Mr. Cardinale presented an overview of the topics to be covered in the evening's RAB presentation. The general topics included site background and previous activities conducted at UST Site 29A. Specifically, excavation activities which took place in July 2004 and November 2009 and November 2006 Site Assessment (SA) activities. Mr. Cardinale's presentation also included upcoming milestones. The bullets below provide a summary of the RAB presentation (Attachment 3).

- An aerial photograph showing former UST Site 29A in relation to Building 29A and Hangar 29, was shown (Slide 3) and the historical background was presented (Slide 4). Additionally, a photograph of former UST Site 29A, Building 29A, and Hangar 29 taken at the completion of all excavation activities was shown (Slide 5).
- A detailed summary of results from the July 2004 excavation (Slide 6) and map showing excavation sampling locations (Slide 7) was presented. Mr. Cardinale provided approximate mass of soil impacted by Total Petroleum Hydrocarbon as diesel (TPHd) excavated from around former UST 29A and the approximate volume of groundwater removed and treated at the UST 222 PCAP Treatment System.
- The map showing the July 2004 excavation sampling locations (Slide 7) also shows the estimated extent of soil left in place with concentrations exceeding the cleanup goal of 1,000 milligrams per kilogram (mg/kg). Mr. Cardinale explained that because of the impacted soil's proximity to Building 29A it was left in place as a precautionary measure to avoid undermining the Building, which was designated as an historical structure.
- Mr. Cardinale provided a summary of additional assessment activities conducted in November 2006 (Slide 8). Activities included additional soil sampling from angled borings, to determine if TPHd extended beneath the structure and groundwater samples collected from two direct-push (DP) borings. A map showing the angled boring and DP boring locations relative to Building 29A (Slide 9) and a photograph of the angled boring drill rig was shown (Slide 10). Mr. Cardinale noted soil and groundwater analytical results collected were below CGs and a Draft Closure Report was issued in February 2007.
- Mr. Cardinale explained that in Fall 2009, the City of Tustin completed all mitigation measures to remove the historical status of Building 29A, thereby allowing the removal of

impacted soil left in place from the 2004 excavation activities. Mr. Cardinale provided a summary and results from the November 2009 excavation (Slide 11). Photographs of the November 2009 excavation activities were shown (Slides 12, 13, 14, 15, and 16) and the results of the confirmation sampling were presented (Slides 17 and 18). Mr. Cardinale noted the maximum depth of the excavation was 10 feet and he showed a map depicting the extent of soil removed from the November 2009 excavation and locations of confirmation samples (see Slide 18).

Mr. Cardinale asked if there were any questions or comments. The following questions were asked.

Mr. Peddada asked whether soil was imported and used for backfilling the excavation. Mr. Cardinale and Mr. Dhananjay Rawal (ECS) replied clean soil from was brought in from an outside source.

Mr. Suarez asked how the historical designation for Building 29A affected or hindered the excavation around the perimeter of the structure. Mr. Cardinale replied that when the Building had an historical designation, they had to be careful not to undermine the foundation. Therefore once the historical status of the Building was removed, excavating around the Building was allowed to proceed.

Mr. Zweifel asked the Navy and Mr. West why the Building was not demolished and whether there are plans to demolish the Building in the future. Mr. Cardinale replied that the Navy has no jurisdiction over demolishing the Building and Mr. West replied the city has no use for the Building and has no intention of demolishing it. Further, Ms. Arnold replied that although the structures are still within the Navy carve out area and on Navy property, a Memorandum of Agreement (MOA) was in place with the city who has the responsibility for demonstrating the historical significance of the Building. As noted in the presentation, Mr. West added all mitigation measures which removed the historical status of Building 29A were completed with the final step of preparing a video documentation on the Hangar. He noted the demolition of any structure on site would fall under the jurisdiction and responsibility of the new owners (developers) once the property is transferred. Mr. Callian reminded the RAB that the video was available for viewing at the City of Tustin website (www.tustinca.org) and Mr. West mentioned a copy of the video documentation was available from the City of Tustin Clerk office.

Referring to Slide 8 and the RWQCB comment that impacted soils were to be removed once the Building no longer had an historical designation, Ms. Norby asked which soils exceeded CGs. Mr. Cardinale responded the soils that exceeded CGs were left in-place from the 2004 excavation. He added soil samples collected from angle boreholes (below the building) were below the CGs.

Referring to Slide 17, Ms. Norby noted soil samples were analyzed for TPHd and VOCs yet only TPHd results were noted as below CGs. She asked about the results for VOCs. Mr. Cardinale replied results for VOCs were also below CGs.

In closing, Mr. Zweifel offered a round of applause for Mr. Cardinale and his RAB presentation.

FUTURE TOPICS/SCHEDULE NEXT RAB / MEETING EVALUATION AND CLOSING

Mr. Callian asked the RAB if there were any new topics they would like discussed at the next meeting to be held on 19 May 2010. The following topics were offered.

- Ms. Reynolds asked if the RAB guidance mentioned earlier by Ms. Arnold could be discussed.
- Mr. Steenhaut asked if the Navy could provide an update on FOST #9.
- Mr. Zweifel asked if the DTSC could provide an update with regard to the CEQA document required to move the OU-4B ROD forward.

In closing, Mr. Zweifel asked for a meeting evaluation. Ms. Norby stated she enjoyed the excellent presentation given this evening. Mr. Callian thanked the RAB and the meeting was adjourned.

LIST OF HANDOUTS PROVIDED AT THE MEETING

- 17 February 2010 Former MCAS Tustin RAB Meeting Agenda
- RAB Meeting Schedule
- Former MCAS Tustin - Where to Get More Information
- Environmental Websites
- MCAS Tustin Environmental Program Status
- Presentation Slides: "UST Site 29A Update "
- Former MCAS Tustin RAB Mission Statement
- Former MCAS Tustin RAB Fact Sheet/Membership Application
- Former MCAS Tustin Mailing List Coupon

Copies of the meeting minutes and handouts provided at the 17 February 2010 RAB meeting are available at the CERCLA IR for former MCAS Tustin located at the University of California, Irvine, Main Library, Government Publications Section. Library hours are 8am to 7pm Monday through Thursday; 8am to 5pm Friday and Saturday; and 1pm to 5pm on Sunday. It is recommended 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. In addition, copies of the meeting minutes and handouts are also available at the CERCLA AR File maintained at Building 307 at former MCAS El Toro by Ms. Rawal. Documents can be viewed by appointment (call Ms. Rawal at [949] 726-5398) between 9am and 1pm Monday through Thursday.

Final minutes from previous RAB meetings can be found on the internet at the Navy BRAC website: www.bracpmo.navy.mil

INTERNET SITES

Navy and Marine Corps Internet Access

BRAC PMO Web Site (includes RAB meeting minutes): <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:

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

Link to Envirostor via U.S. EPA: www.epa.gov/region09/EnviroStor.html

Cal/EPA:

Homepage: www.calepa.ca.gov

Department of Toxic Substances Control: www.dtsc.ca.gov

Department of Toxic Substances Control: www.envirostor.dtsc.ca.gov/public

Department of Health Services, reorganized into the Department of Health Care Services and the Department of Public Health: www.dhs.ca.gov

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

Environmental data for regulated facilities in California: www.geotracker.waterboards.ca.gov

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FORMER MARINE CORPS AIR STATION TUSTIN ENVIRONMENTAL PROGRAM STATUS

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

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 of contaminated groundwater;
 - Construction, operation, and maintenance of hydraulic containment system;
 - Hot-spot soil removal to enhance groundwater remedy and;
 - Implementation of institutional controls.
- 2007: Final Remedial Design and Remedial Action Implementation
- December 2007: Treatment system operational
- July 2008: Issued 1st Quarter Groundwater 2008 Groundwater Progress Monitoring Report
- October 2008: Issued 2nd Quarter 2008 Groundwater Progress Monitoring Report
- December 2008: Issued Final Interim-Remedial Action Completion Report (I-RACR); the main purpose of the I-RACR is to document that the remedy has been constructed per the Final Remedial Design
- December 2008: Issued 3rd Quarter 2008 Groundwater Progress Monitoring Report
- May 2009: Issued Draft 2008 Annual OU-1A and OU-1B Performance Evaluation Report
- May 2009: Issued Draft Operating Properly and Successfully (OPS) Report
- July 2009: Issued 1st Quarter 2009 Groundwater Monitoring Data Summary
- September 2009: Issued Final Long-Term Operation and Maintenance Plan (OMP)
- October 2009: Issued 2nd Quarter 2009 Groundwater Monitoring Data Summary
- December 2009: Issued 3rd Quarter 2009 Groundwater Monitoring Data Summary
- February 2010: Issued Final 2008 Annual OU-1A and -1B Performance Evaluation Report
- February 2010: Issued Final OPS Report

Next steps:

- On-going operation and maintenance activities.
 - Biweekly, monthly and quarterly inspections;
 - Quarterly effluent sampling for compliance with Orange County Sanitation District discharge requirements; and
 - Quarterly groundwater monitoring and reporting
 - Data used to track system performance,
 - Annual evaluation for system optimization implementation
- **June 23, 2010: Issue Draft 2009 Annual OU-1A and -1B Performance Evaluation Report**

February 2010

FORMER MARINE CORPS AIR STATION TUSTIN ENVIRONMENTAL PROGRAM STATUS

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

Carve-Outs: CO-5 and CO-6

Brief Project History:

- 2004: Final ROD: Selected remedy includes:
 - Hydraulic containment of VOC-impacted groundwater;
 - Construction, operation, and maintenance of a hydraulic containment system;
 - Hot-spot soil removal to enhance groundwater remedy and;
 - Implementation of institutional controls.
- 2007: Final Remedial Design and Remedial Action Implementation
- January 2008: Treatment system operational
- July 2008: Issued 1st Quarter 2008 Groundwater Progress Monitoring Report
- October 2008: Issued 2nd Quarter 2008 Groundwater Progress Monitoring Report
- December 2008: Issued Final I-RACR. The main purpose of the I-RACR is to document that the remedy has been constructed per the Final Remedial Design
- December 2008: Issued 3rd Quarter 2008 Groundwater Progress Monitoring Report
- May 2009: Issued Draft 2008 Annual OU-1A and OU-1B Performance Evaluation Report
- May 2009: Issued Draft OPS Report
- July 2009: Issued 1st Quarter 2009 Groundwater Progress Monitoring Report
- September 2009: Issued Final Long Term OMP
- October 2009: Issued 2nd Quarter 2009 Groundwater Progress Monitoring Report
- December 2009: Issued 3rd Quarter 2009 Groundwater Progress Monitoring Report
- February 2010: Issued Final 2008 Annual OU-1A and -1B Performance Evaluation Report
- February 2010: Issued Final OPS Report

Next steps:

- On-going operation and maintenance activities.
 - Biweekly, monthly, and quarterly inspections;
 - Quarterly effluent sampling for compliance with Orange County Sanitation District discharge requirements; and
 - Quarterly groundwater monitoring and reporting
 - Data used to track system performance and optimize system
 - Annual evaluation for system optimization implementation
- **June 23, 2010: Issued Draft 2009 Annual OU-1A and -1B Performance Evaluation Report**

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FORMER MARINE CORPS AIR STATION TUSTIN ENVIRONMENTAL PROGRAM STATUS

Operable Unit 3 (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
 - U.S. EPA approval obtained in March 2004
- October 2006: Final First Five-Year Review
- On-going operation and maintenance activities
- June 2009: Issued Draft 2008 Annual Groundwater Monitoring Report
- October 2009: Issued Draft Final 2008 Annual Groundwater Monitoring Report
- January 2010: Issued Final 2008 Annual Groundwater Monitoring Report

Next steps:

- Continue operation and maintenance activities
- **June 2010: Issue Draft 2009 Annual Groundwater Monitoring Report**

Operable Unit 4B (IRP-5S[a], IRP-6, IRP-11, IRP-13W, MMS-04, and Mingled Plumes Area [MPA])

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

Brief Project History:

- 2000: Draft OU-4 Focused Feasibility Study (FS) Report
- 2003: OU-4 Shallow Groundwater Investigation
- 2004: OU-4 Technical Memorandum presents results of shallow groundwater investigation
- 2005-2006: Groundwater Monitoring
- 2007: IRP-6 and MPA Supplemental Investigation
- September 2008: Final Technical Memorandum Supplemental Investigation at IRP-6 and MPA
- October 2008: Final FS Report
- February 2009: Proposed Plan. Public comment period: February 04-March 06, 2009
- May 2009: Issued Final Work Plan for Groundwater Monitoring at OU-4B Sites (IRP-5S[a], IRP-6, IRP-11, IRP-13W, MMS-04, and MPA)
- June 2009: Issued Final Work Plan for Installation of Groundwater Monitoring Wells at MPA, MMS-04, IRP-11, and IRP-13W
- June 2009: Issued Draft ROD/Remedial Action Plan (RAP) for OU-4B
- January 2010: Issued 3rd Quarter Groundwater Progress Monitoring Data Summary Report

Next steps:

- **January 2010: Issued Final ROD; routing signature sheet**

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FORMER MARINE CORPS AIR STATION TUSTIN ENVIRONMENTAL PROGRAM STATUS

MTBE Plume (UST Site 222)

Carve-Outs: 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 shut down for rebound monitoring per the Final PCAP requirements
- December 2008: Issued 1st and 2nd Quarter 2008 Groundwater Progress Monitoring Report
- April 2009: Issued 3rd Quarter 2008 Groundwater Progress Monitoring Report
- May 2009: Issued Draft Final Annual 2007 PCAP Progress Report
- July 2009: Issued Draft Annual 2008 PCAP Annual Report
- August 2009: Issued 1st Quarter 2009 Groundwater Monitoring Data Summary Report
- September 2009: Issued 2nd Quarter 2009 Groundwater Monitoring Data Summary
- September 2009: Issued Final Annual 2007 PCAP Annual Report
- October 2009: Issued Final/Replacement Pages for the Annual 2008 PCAP Annual Report
- January 2010: Issued 3rd Quarter 2009 Groundwater Monitoring Data Summary

Next steps:

- On-going operation and maintenance activities:
 - Quarterly Groundwater Monitoring and Reporting
 - Data used to track system performance, optimize system, and support Final PCAP Closure Report
- Quarterly effluent sampling for compliance with Orange County Sanitation District discharge permit requirements
- **May 26, 2010– Issue Draft 2009 PCAP Annual Report**

February 2010

FORMER MARINE CORPS AIR STATION TUSTIN ENVIRONMENTAL PROGRAM STATUS

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 |

FOSL Summary

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

Acronyms

| | | | | | |
|--------|---|------|-------------------------------------|------|--|
| AST | Aboveground Storage Tank | MNA | Monitored Natural Attenuation | PS | Public Sale Parcel |
| AOC | Area of Concern | MPA | Mingled Plumes Area | RAP | Remedial Action Plan |
| BCT | BRAC Cleanup Team (Navy, EPA, Cal EPA) | MMS | Miscellaneous Major Spill | RCRA | Resource Conservation and Recovery Act |
| CO | Carve-Out area | NFA | No Further Action | ROD | Record of Decision |
| EE/CA | Engineering Evaluation/ Cost Analysis | OMP | Operations and Maintenance Plan | TCE | Trichloroethene |
| FOSL | Finding of Suitability to Lease | OPS | Operating Properly and Successfully | TCP | 1,2,3-Trichloropropane |
| FOST | Finding of Suitability to Transfer | OU | Operable Unit | ug/L | Micrograms per liter |
| FS | Feasibility Study | PCAP | Petroleum Corrective Action Program | UST | Underground Storage Tank |
| I-RACR | Interim-Remedial Action Completion Report | MTBE | Methyl tert butyl ether | WBZ | Water-Bearing Zone |



MCAS TUSTIN RESTORATION ADVISORY BOARD



Operable Unit 3 Landfill Gas Probe Field Measurement Update

Former MCAS Tustin, California
RAB Meeting

February 17, 2010

James Callian, PG, CEG, CHG
Navy BRAC Environmental Coordinator



Remedy Overview



- Final Record of Decision (ROD) for Operable Unit 3 (OU-3) was signed in December 2001.
- The selected remedy is Containment; major components include:
 - Containment of groundwater
 - Groundwater and Surface Water monitoring
 - Landfill Gas (LFG) monitoring (discontinued in 2003 after 3 years with no detections)
 - Inspection/maintenance of containment wall and cover
 - Institutional controls to limit exposures and protect the remedy



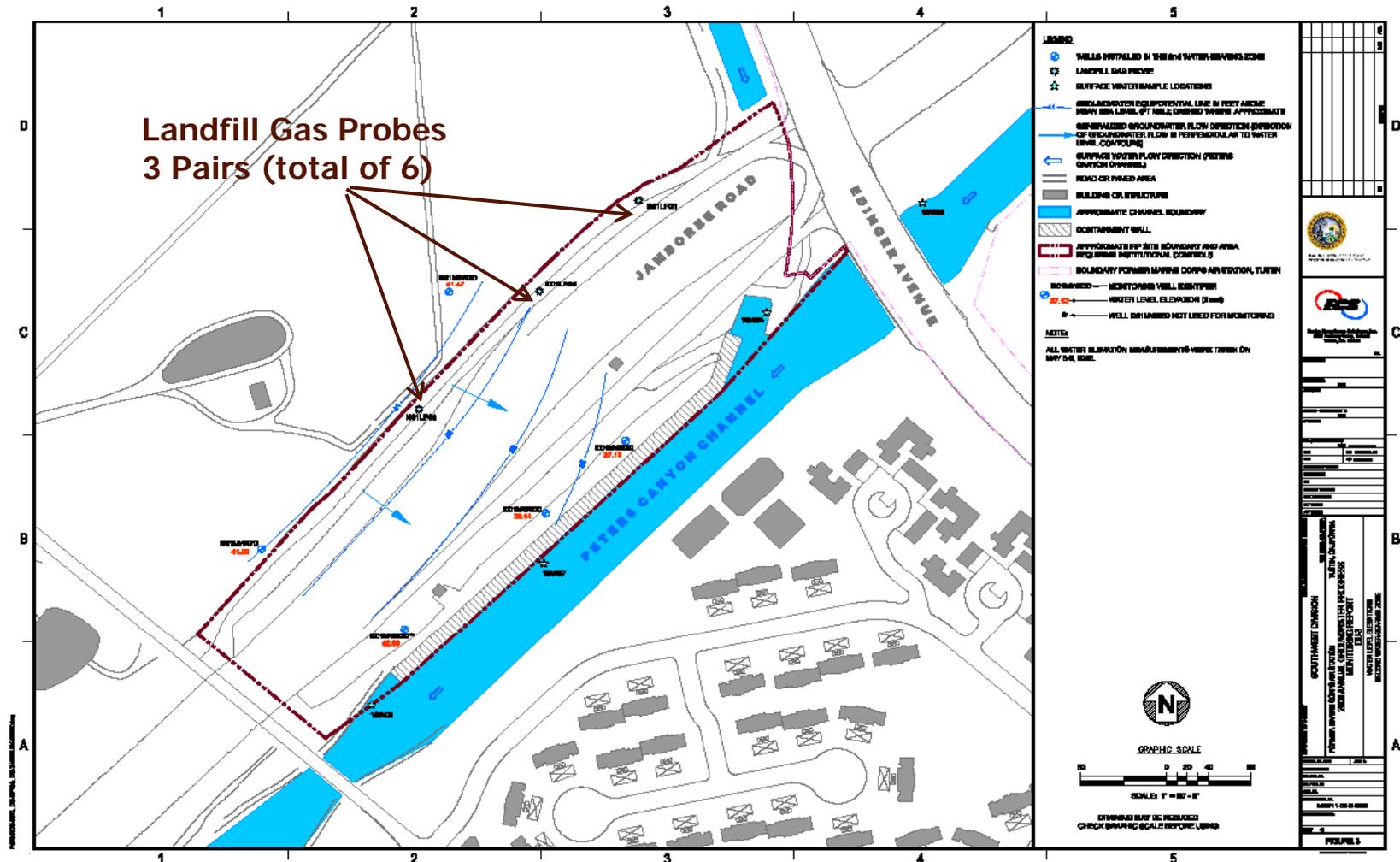
2008 Annual Monitoring Report



- **Final Report issued in January 2010.**
- **Section 7.3 of the Draft Final version of the Report, which recommended the proper destruction of three LFG probes at this site was removed from the Final Report.**
- **Based on a request from the California Department of Toxic Substances Control, the Navy is working with the local enforcement agency to evaluate the Navy's request for destruction of these LFG probes.**



OU-3 Site Location Map





Recent LFG Gas Probe Field Measurements



- On February 3, 2010 field measurements of all three LFG Gas Probe pairs (total of 6) were conducted using a GEM 2000 meter by Orange County Health Care Agency (OCHCA).
- The Navy also used a flame ionization detector, per the (2003) Operation and Maintenance Plan for OU-3.
- Volatile organic compounds, including methane, were not detected in any of the probes.



Inside of Landfill Gas Probe





Acronyms



BRAC – Base Realignment and Closure
CIWMB – California Integrated Waste Management Board
OCHCA – Orange County Health Care Agency
IRP – Installation Restoration Program
LFG – Landfill Gas
MCAS – Marine Corps Air Station
OMP – Operation and Maintenance Plan
OU – Operable Unit
ROD – Record of Decision
VOCs – Volatile Organic Compounds



Welcome



Former Underground Storage Tank (UST) Site 29A Update

**Former MCAS Tustin, California
Restoration Advisory Board (RAB) Meeting**

February 17, 2010

Louie Cardinale, P.E.

Navy BRAC Remedial Project Manager



Overview



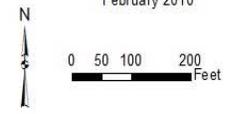
- **Background**
- **July 2004 - Excavation Activities**
- **November 2006 - Site Assessment Activities**
- **November 2009 - Excavation Activities**
- **Upcoming Milestones**



Legend

- Groundwater Extraction Well (First & Second WBZ)
- Groundwater Extraction Well (Second WBZ)
- Groundwater Extraction Well (First WBZ)
- Groundwater Monitoring Well (Third WBZ)
- Groundwater Monitoring Well (Second WBZ)
- Groundwater Monitoring Well (First WBZ)
- ▭ Carve-out Areas
- Conveyance Piping
 - ~ OU-1A
 - ~ OU-1B North
 - ~ OU-1B South
 - ~ PCAP
- Former UST/AST Sites (Further Action in Progress)
- ▭ IRP Sites (Further Action in Progress)
- ▭ Parcels
- ~ Government Property Line

FOST #9 - Draft
February 2010



Source:
CDM - Federal Programs Corporation (2002),
Finding of Suitability to Lease for Carve-out
Areas 5, 6, 7, 8, 9, 10, and 11
Former Marine Corps Air Station Tustin, Tustin, CA

Figure 2
Carve-Out #6 Area
Finding of Suitability to Transfer (FOST #9)
Former Marine Corp Air Station,
Tustin, CA

EGS Enviro Compliance Solutions, Inc.
1571 Parkway Loop, Suite B
Tustin, CA 92780



Background



- **Underground Storage Tank (UST) 29A was a 7,000 gallon steel tank for diesel fuel.**
- **UST 29A was installed in 1942, approximately 15 feet west of Building 29A.**
- **UST 29A was decommissioned and removed in August 1993.**
- **Building 29A previously housed a helium purification system for airships docked in Hangar 29. Both Hangar 29 and Building 29A were historically protected structures until Fall 2009.**
- **UST Site 29A is located within Installation Restoration Program (IRP) Site 3. The groundwater beneath former UST Site 29A is part of a Comprehensive Environmental Response Compensation, and Liability Act (CERCLA) remedial action at IRP Site 3 also known as Operable Unit (OU) 1B South.**



Background (cont.)

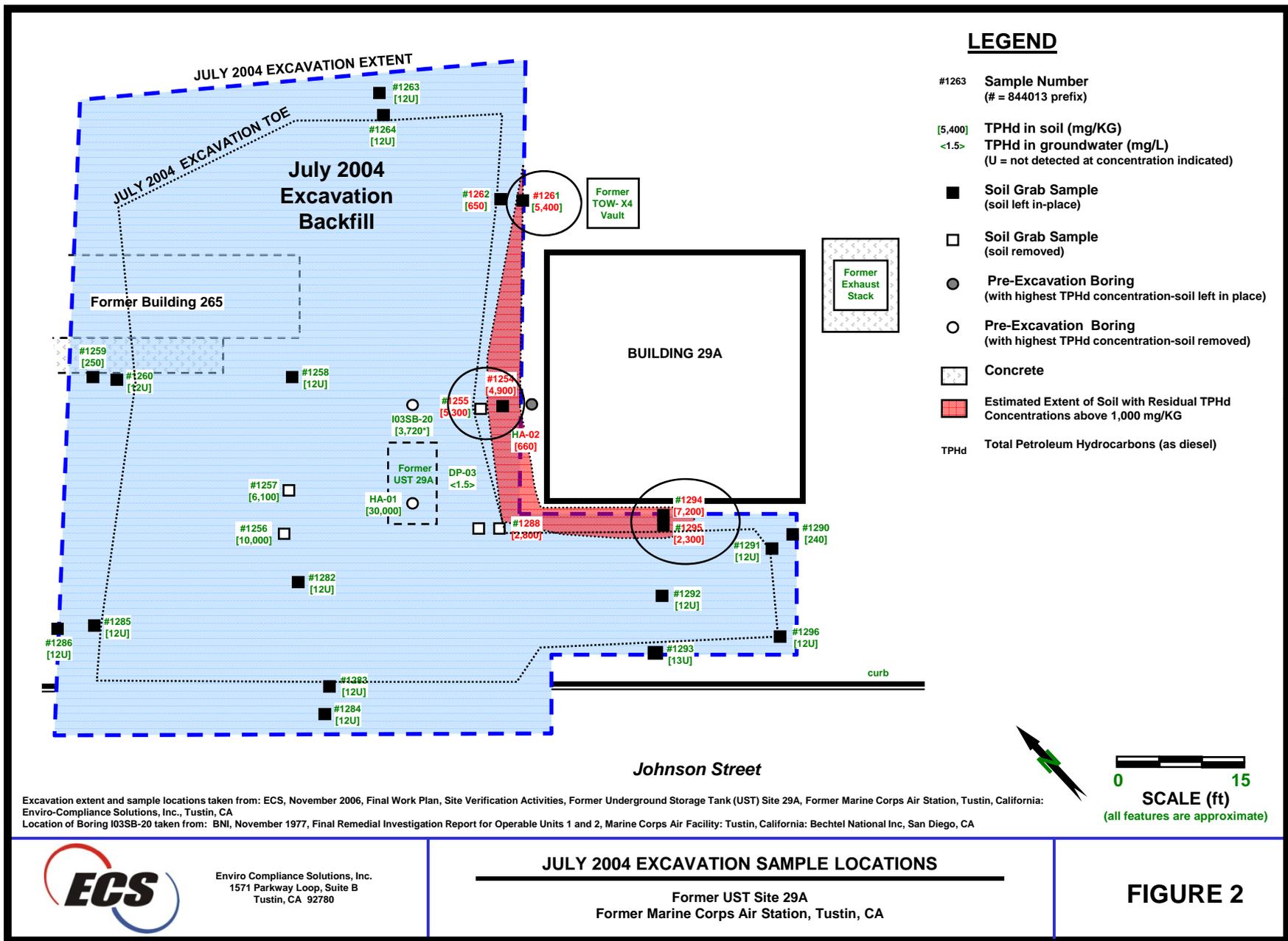




July 2004 Excavation Activities



- Approximately 1,033 tons of soil impacted with Total Petroleum Hydrocarbon as diesel (TPHd) were excavated from around former UST 29A and were disposed off-site.
- Approximately 18,000 gallons of groundwater were removed and treated at the UST Site 222 Petroleum Corrective Action Program (PCAP) groundwater treatment system.
- In 2004, Building 29A was a historical protected structure.
- Six confirmation soil samples had reported concentrations above the Regional Water Quality Control Board (RWQCB) established clean up goal (CG) of 1,000 milligram per kilogram (mg/kg).

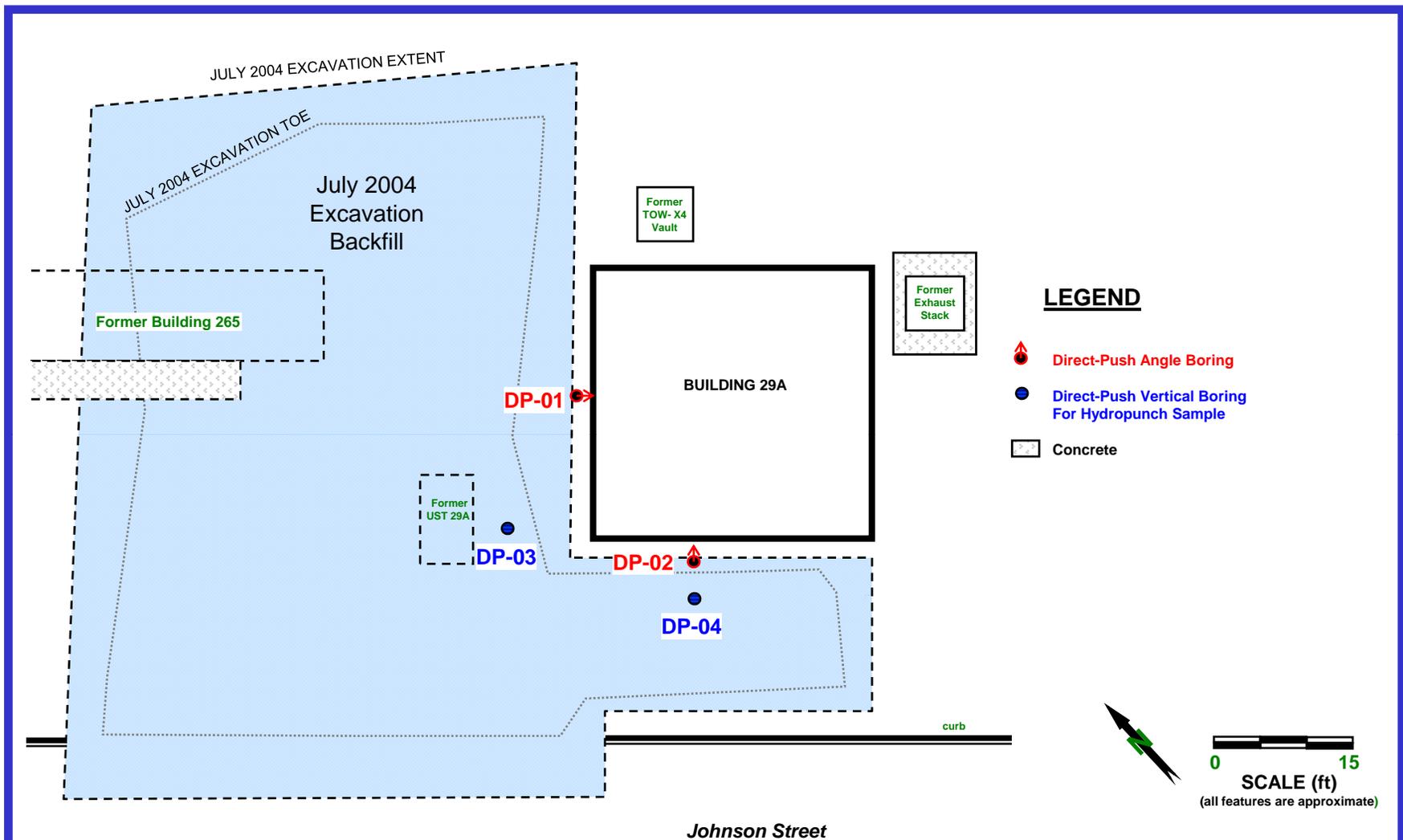




November 2006 Assessment Activities



- Six soil samples from two angled direct-push borings (DP-01 and DP-02), which extended beneath the west and south portions of Building 29A, were collected to determine if TPHd-impacted soils extended beneath Building 29A.
- Soil samples results were below CGs.
- TPHd was not reported at concentrations exceeding CGs in two groundwater samples collected from vertical direct-push borings (DP-03 and -04).
- A Draft Closure Report was submitted to the Base Realignment and Closure (BRAC) Cleanup Team (BCT) in February 2007.
 - RWQCB indicated that when Building 29A is no longer an historical building, TPHd-impacted soils at concentrations exceeding CGs should be removed.



Excavation extent and sample locations taken from: ECS, November 2006, Final Work Plan, Site Verification Activities, Former Underground Storage Tank (UST) Site 29A, Former Marine Corps Air Station, Tustin, California: Enviro-Compliance Solutions, Inc., Tustin, CA
 Location of Boring I03SB-20 taken from: BNI, November 1977, Final Remedial Investigation Report for Operable Units 1 and 2, Marine Corps Air Facility: Tustin, California: Bechtel National Inc, San Diego, CA



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DIRECT PUSH BORING LOCATIONS
Former UST Site 29A
Former Marine Corps Air Station, Tustin, CA

FIGURE 3



November 2006 Assessment Activities



ANGLE BORING NEAR FOUNDATION



November 2009 Excavation Activities



- In Fall 2009, the City of Tustin completed all mitigation measures which removed the historical status of Building 29A, allowing the removal of remaining impacted soils associated with UST Site 29A.
- 94 tons of TPHd-impacted soil were removed from the west and south portions of Building 29A and disposed off-site to the TPST Soil Recyclers facility in Adelanto, California.



November 2009 Excavation - Former UST Site 29A South Side of Bldg. 29A





November 2009 Excavation - Former UST Site 29A West Side of Bldg. 29A





November 2009 Excavation - Former UST Site 29A West Side of Bldg. 29A





November 2009 Excavation - Former UST Site 29A West Side of Bldg. 29A





Off-Site Transportation of TPHd Contaminated Soils

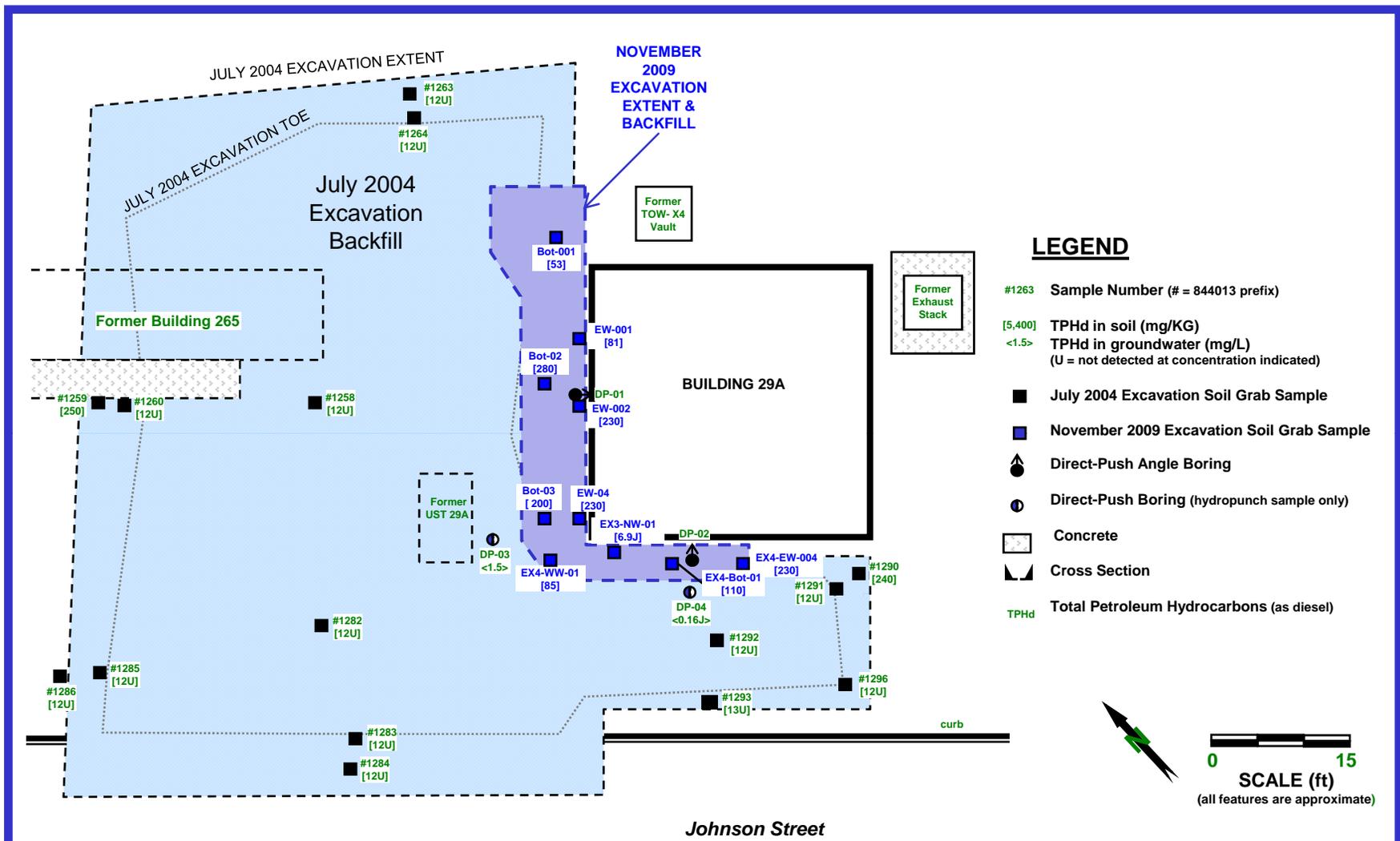




November 2009 Excavation Activities (cont.)



- **Nine (9) confirmation soil samples were collected from the bottom and side walls of the excavation and analyzed for TPHd and Volatile Organic Compounds (VOCs).**
- **None of the confirmation samples exceeded the CG for TPHd. Limits of the excavation boundary were surveyed by a California registered land surveyor.**
- **The excavated area was backfilled with clean fill soil.**



Excavation extent and sample locations taken from: ECS, November 2006, Final Work Plan, Site Verification Activities, Former Underground Storage Tank (UST) Site 29A, Former Marine Corps Air Station, Tustin, California: Enviro-Compliance Solutions, Inc., Tustin, CA
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NOVEMBER 2009 SOIL EXCAVATION SAMPLE LOCATIONS

Former UST Site 29A
 Former Marine Corps Air Station, Tustin, CA

FIGURE 4



Final Site Restoration of Former UST Site 29A





Upcoming Milestone Schedule



- **Final Closure Report is planned for submittal to the BCT on March 4, 2010.**



Acronyms



BRAC – Base Realignment and Closure
BCT – Base Realignment and Closure Cleanup Team
CERCLA – Comprehensive Environmental Response, Compensation, and Liability Act
CG – Cleanup Goal
COCs – Chemicals of Concern
CO – Carve Out
IRP – Installation Restoration Program
MCAS – Marine Corps Air Station
mg/kg – milligrams per Kilogram
OU – Operable Unit
PCAP – Petroleum Corrective Action Program
RWQCB – Regional Water Quality Control Board
TPHd – Total Petroleum Hydrocarbons as diesel
UST – Underground Storage Tank
VOCs – Volatile Organic Compounds