

**Travis Air Force Base
Environmental Restoration Program
Restoration Program Manager's
Meeting Minutes**

18 February 2015, 0930 Hours

Mr. Mark Smith, of the Air Force Civil Engineer Center (AFCEC) Restoration Installation Support Team (IST), conducted the Restoration Program Manager's (RPM) meeting, on 18 February 2015 at 0930 hours, in Building 248 at Travis AFB, California. Attendees included:

- Mark Smith AFCEC/CZOW
- Lonnie Duke AFCEC/CZOW
- Erin Hernandez Travis AFB 60 AMW/JA
- Dezso Linbrunner USACE-Omaha
- Adriana Constantinescu California Regional Water Quality Control Board (RWQCB)
- Ben Fries California Department of Toxic Substances Control (DTSC)
- Nadia Hollan Burke United States Environmental Protection Agency (USEPA)
- Indira Balkissoon Techlaw, Inc
- Mike Wray CH2M HILL
- Ashley Shaddy CH2M HILL

Handouts distributed at the meeting, discussions and presentations included:

- Attachment 1 Meeting Agenda
- Attachment 2 Master Meeting and Document Schedule
- Attachment 3 SBBGWTP Monthly Data Sheet (January 2015)
- Attachment 4 CGWTP Monthly Data Sheet (January 2015)
- Attachment 5 ST018 Monthly Data Sheet (January 2015)
- Attachment 6 Presentation: OWS Work Plan
- Attachment 7 Presentation: DP039 RD/RA Work Plan
- Attachment 8 Presentation: Program Update: Activities Completed, In Progress and Upcoming

1. ADMINISTRATIVE

A. Previous Meeting Minutes

The 21 January 2015 RPM teleconference meeting minutes were approved as modified with the following suggestions. Ms. Burke suggested that the new action items 3 and 4 should be added to the discussions where applicable in the minutes. Ms. Constantinescu requested that a new action regarding the Notice of Violation (NOV) for Potrero Hills Annex be added to the action items list. No other comments were provided.

B. Action Item Review.

Action items from January were reviewed.

Action item 1 will remain open: AFCEC's Travis Restoration Support Team and Travis AFB will continue to pursue opportunities for the beneficial reuse of treated water. Due date will remain TBD to ensure this action item remains visible. 18 February 2015: No updates.

Action item 2 is now closed: Mr. Smith provided a status update on programming efforts for soil characterization at Site SD031. Mr. Smith said this project was added to the FY2016 RI/FS work and that a ROD amendment to the existing 2006 Soil Sediment and Surface Water ROD needs to be presented. Mr. Smith added that accelerated funding in 2015 would expedite the effort and that it would be accomplished via a contract mod to the current PBC.

Action item 3 is open: Mr. Hall to determine the time requirements and signature process for getting the AFCEC signature on the upcoming ROD Amendments. The due date of 18 February 2015 was changed to TBD due to Mr. Hall's absence from the meeting.

Action item 4 is open: Mr. Hall to review the ASTM E2893 Standard Guide for Greener Cleanups and what historically has been done along the lines of GSR. The due date of 18 February 2015 was changed to TBD due to Mr. Hall's absence from the meeting.

Action item 5 is open: Mr. Hall to ask if we can use DERA funds for the beneficial reuse of treated groundwater under AFCEC's "net-zero energy policy". The due date of 18 February 2015 was changed to TBD due to Mr. Hall's absence from the meeting.

Action item 6 is closed: Ms. Constantinescu to provide the RQWCB site closure summary form to Mr. Smith for distribution. Ms. Constantinescu provided the site closure summary as well as an example to Travis AFB.

Action item 7 is open: Mr. Smith to provide updates on PFOS and PFOA as he becomes aware of them. The Air Force is implementing an enterprise wide preliminary assessment on AFFF use at its Bases. Non-fire training areas as well as fire training areas are being considered. Any area where AFFF was discharged into the environment. Mr. Smith questioned how a preliminary assessment can be

conducted when AFFF with PFCs is still being used. He has communicated that to AFCEC Leadership. The Air Force has begun these PAs in response to EPA concerns.

Action item 8 is closed: Ms. Constantinescu to ask for guidance from her management to see if any action is required from Travis AFB regarding the Potrero Hills cleanup order. Ms. Constantinescu said at this time the RWQCB does not have any expectations from Travis AFB. AutoLiv, the responsible party, has responded to the NOV and is coordinating with RWQCB agency. AutoLiv provided the RWQCB with a new due date for a revised work plan (WP) for the remedial investigation.

Master Meeting and Document Schedule Review (see Attachment 2)

The Travis AFB Master Meeting and Document Schedule (MMDS) was discussed during this meeting (see Attachment 2).

Travis AFB Annual Meeting and Teleconference Schedule

The next RPM meeting will be a teleconference meeting held on 18 March 2015 at 10:00. Ms. Burke mentioned that the RPM Wednesday meetings conflict with a new project she was just assigned. Mr. Smith said he would schedule a teleconference before 13 March 2015 with the regulatory agencies, Mr. Linbrunner and Mr. Wray to discuss the RPM schedule.

Travis AFB Master Document Schedule

- Travis Air Force Base Uniform Federal Policy-Quality Assurance Project Plan (UFP-QAPP): The final due date was updated to 18 February 2015. No other changes were made to the schedule.
- Site SD037 GW Remedial Design/Remedial Action Work Plan: The Work Plan went final on 9 February 2015 and will be moved to history.
- Site SD036 Remedial Design/Remedial Action Work Plan: No changes to the schedule.
- Site SS016 GW Remedial Design/Remedial Action Work Plan: The response to comments due date and draft final due was changed to 2 March 2015, the final due was changed accordingly.
- Site SS015 GW Remedial Design/Remedial Action Work Plan: The agency comments due date was changed to 20 February 2015 and the RTC meeting date was changed to 26 February 2015. No other changes were made to the schedule.
- Community Involvement Plan: The draft to agencies date was changed to 27 February 2015, the rest of the dates were changed accordingly. Mr. Smith said that he would use the current community involvement plan as a base to build on. He asked Ms. Burke if she would be willing to act in an advisory capacity, because she attended a class on how to

make a document community friendly. Ms. Burke agreed. Mr. Smith is tasked to set a date with Ms. Burke to agree on new draft to agencies date.

- Site DP039 Remedial Design/Remedial Action Work Plan: The draft to agencies date was changed to 27 February 2015; the rest of the dates were changed accordingly.
- Proposed Plan for the Amendment to the NEWIOU Soil, Sediment, and Surface Water Record of Decision (ROD): Response to comment due date was changed to 2 March 2015, the rest of the dates were changed accordingly. Mr. Duke reminded the agencies that the Public Meeting for the Proposed Plan (PP) is scheduled to coincide with the April 2015 RAB.
- Amendment to the NEWIOU Soil, Sediment, and Surface Water Record of Decision: No changes to the schedule.
- Proposed Plan for the Amendment to the Soil Record of Decision for the WABOU: Response to comment due date was changed to 2 March 2015, the rest of the dates were changed accordingly.
- Amendment to the Soil Record of Decision for the WABOU: No changes to the schedule.
- Potrero Hills Annex (FS, PP, and ROD): No change to the schedule. Mr. Smith said that he, Mr. Duke and Mr. Anderson met with representatives from AutoLiv ASP, CDM Smith, UTC Aerospace Systems, and Yemia Hashimoto from the RWQCB on 29 January 2015 and took a tour of the Potrero Hills site.
- Site DP039 Lead Excavation Technical Memorandum: No changes to the schedule. Mr. Smith said that the reference to sampling was removed from the document at EPA's request. Mr. Wray asked if the document can go final. Ms. Burke agreed that the document is ready to go final. Final date will be updated in March's RPM meeting
- Site SD034 Data Gap Investigation: No changes made to the schedule.
- Site SS014 POCO Technology Demonstration Work Plan: No changes were made to the schedule.
- POCO Investigation Work Plan for Oil Water Separators: The draft to agencies date was updated to 6 February 2015 to reflect the actual date; the rest of the dates were changed accordingly.
- Old Skeet Range PAH Delineation Report: No change to the schedule.
- Site FT005 Technology Demonstration Work Plan: Predraft to AF/Service Center was updated to reflect the actual date; the rest of the dates were changed accordingly.
- POCO Site ST032 Soil Excavation Work Plan: New document, all new dates. Mr. Duke said that this site is in the middle of the flightline, not easily accessible, and might be a candidate for the low threat closure policy. Samples will be collected to verify if the screening levels fit within the low threat closure policy definition. Ms. Constantinescu asked if there is historical sample data. Mr. Duke said yes and that it will be included in the work plan (WP). Ms. Constantinescu advised that the RWQCB has environmental screening levels (ESL) and that the ESLs are very conservative. RWQCB accepts site

specific calculations based on site conditions. She gave an example of Mare Island, an industrial site, where the site cleanup levels are higher than the RWQCB ESLs. ESL cleanup level for TPHg is 200 ppb. The Mare Island site-specific ESLs cleanup level for TPHg in groundwater is 5000 ppb, and TPHd in soil is 5000 ppm. Ms. Constantinescu added that given the location and the challenges for remediation, Travis AFB should look at the historical sample data and calculate site-specific risk levels for Site ST032. The RWQCB will evaluate to determine if no further action will be required based on the existing data. Mr. Wray said that the groundwater has been characterized; however, the WP is tailored around the soil and vapor for the low threat closure policy. Ms. Constantinescu recommended a review of the existing data to calculate site-specific risk levels; there may not be a need for any further investigation. Mr. Duke said Travis AFB has soil data that is twenty years old, and suggested collecting additional soil samples. Ms. Constantinescu agreed with this approach. Mr. Smith asked if low threat closure based on site-specific ESLs at an industrial level would still require this site to be assigned land use controls (LUCs). Mr. Wray said that CH2M HILL is contractually obligated to clean up to residential levels, not industrial levels, and suggested the ESLs could be calculated based on residential levels. Ms. Constantinescu agreed with Mr. Wray's suggestion.

- Site CG508 Site Investigation/Site Closure Request Report: New document with all new dates.
- Site ST028 POCO Work Plan: New document with all new dates.
- SD031 Technology Demonstration Construction Completion Report: New document all new dates.
- Quarterly Newsletter (April 2015): New dates reflecting the second quarter.
- 2014 Annual CAMU Monitoring Report: No change to the schedule.
- 2014 Annual GRISR: No change to the schedule.
- Site ST018 POCO Work Plan Addendum: Moved to History.

2. CURRENT PROJECTS

Treatment Plant Operation and Maintenance Update

South Base Boundary Groundwater Treatment Plant, January 2015 (see Attachment 3)

The South Base Boundary Groundwater Treatment Plant (SBBGWTP) performed at 100% uptime, and 2.7 million gallons of groundwater were extracted and treated during the month of January 2015. All of the treated water was discharged to Union Creek. The average flow rate for the SBBGWTP was 77.91 gallons per minute (gpm). Electrical power usage was 8,400 kWh, and approximately 11,508 pounds of CO₂ were created (based on DOE calculation). Approximately 1.11 pounds of volatile

organic compounds (VOCs) were removed in January. The total mass of VOCs removed since startup of the system is 456 pounds.

Optimization Activities: No optimization activities are reported for the month of January.

Central Groundwater Treatment Plant, January 2015 (see Attachment 4)

The Central Groundwater Treatment Plant (CGWTP) performed at 100% uptime with approximately 1.07 million gallons of groundwater extracted and treated during the month of January 2015. All treated water was discharged to the storm drain. The average flow rate for the CGWTP was 30.8 gpm. Electrical power usage was 2,124 kWh for all equipment connected to the Central Plant, and approximately 2,910 pounds of CO₂ were generated. Approximately 2.66 pounds of VOCs were removed from groundwater by the treatment plant in January. The total mass of VOCs removed since the startup of the system is 11,393 pounds.

Optimization Activities for CGWTP: No optimization activities are reported for the month of January.

LF007C Groundwater Treatment Plant, January 2015

The LF007C Groundwater Treatment Plant was offline as of 2 December 2014, in accordance with the Biological Opinion from the US Fish and Wildlife Service, due to the presence of standing water in the vernal pools. As such, a monthly report was not prepared.

Site ST018 Groundwater (MTBE) Treatment Plant, January 2015 (see Attachment 5)

The Site ST018 (MTBE) Treatment Plant (ST018 GWTP) performed at 100% uptime with approximately 189,600 gallons of groundwater extracted and treated during the month of January 2015. All treated water was diverted to the sanitary sewer. The average flow rate for the ST018 GWTP was 4.21 gpm. Electrical power usage for the month was 118 kWh for all equipment connected to the ST018 GWTP, which equates to the creation of approximately 162 pounds of CO₂. Approximately 0.12 pounds of BTEX, MTBE and TPH were removed from groundwater in January from the treatment plant. Approximately 0.12 pounds of MTBE were removed from groundwater. The total BTEX, MTBE and TPH mass removed since the startup of the system is 31.1 pounds. And the total MTBE mass removed since startup of the system is 6.8 pounds.

Note: Electrical power use at the ST018 GWTP is only for the alarm system and a pump that pushes water through the GAC vessels for treatment. The extraction pumps in the system are all solar powered.

Optimization Activities for ST018: No optimization activities to report for the month of January.

Ms. Burke asked if there was any overflow with the recent storm in early February. Mr. Duke said that the motor starter for the pump that pushes water from the influent tank to the carbon vessels burned out, and it shut off the circuit panel. The sump pump in the secondary containment is on a different circuit, and it kept pumping. So the sump pump kept pumping into the influent tank and it just kept recirculating the groundwater with rainwater. A sample was collected from the secondary containment. The treatment plant has been rewired now so that if it were to happen again, the entire plant will shut down. Mr. Duke added that this will be in February's ST018 monthly data sheets.

Presentations:

Presentation: Oil/Water Separators – POCO Investigation Work Plan (see Attachment 6)

Ms. Shaddy reported on the Oil/Water separators – POCO investigation work plan. For details see attachment 6.

Ms. Shaddy began by showing a map of the 12 oil/water separators (OWSs) and their locations on Travis AFB. All 12 OWSs are all inactive. The objective is to remove all of the OWSs that are still in place, determine if any soil cleanup is necessary and perform cleanup of the soil to residential levels.

- All the OWSs are located in the industrial parts of the base.
- There are 4 OWSs with known exceedances. The remaining OWSs have no known exceedances in the historical data. Three of the OWSs have been removed or partially removed.
- Planned analyses: VOCs, SVOCs, TPHg, TPHd, and PAHs. Title 22 metals analyses will only be collected at the OWSs with known exceedances, or with no historical data.
- Slides 8 through 12 indicate the proposed soil boring locations in pink, red is the remedial investigation (RI) data, and blue is DERA investigation data.
- The maximum boring depths will be 15 to 20 ft. bgs.
- Post investigation activities: Prepare corrective action plan (CAP) for each OWS that requires removal and/or where soil contamination is present. If an OWS was previously removed and no contamination is present, prepare site closure request. Remove each OWS and excavate contaminated soil, if present. Prepare POCO evaluation closure request. This remedial action work is schedule to begin in 2016.

Mr. Fries asked what the plan is for the contaminated soil disposal, if present. Mr. Wray said that we are currently looking at “treat on site”. The corrective action plan will address soil disposal.

Presentation: Site DP039 Remedial Design/Remedial Action Work Plan (see Attachment 7)

Mr. Wray reported on the DP039 remedial design/remedial action work plan. Mr. Wray provided multiple site maps that included locations of wells, technology demonstrations, plume contours and wetlands (located just south of the DP039 plume).

DP039 Background:

- Site DP039 had a Battery and Electric shop located at building 755. Before 1978, battery acid solutions and chlorinated solvents were poured into a sink in building 755 and conveyed by pipeline less than 100 feet to a rock filled acid neutralization sump (the bioreactor was installed where the sump was located). This practice was discontinued in 1978, and the pipeline was dismantled and reconnected to the sanitary sewer line. In July 1993, the sump was excavated and disposed of off-base. Building 755 was demolished in 2009.
- The interim Groundwater ROD selected groundwater extraction and treatment (GET) and monitored natural attenuation (MNA) as the interim remedy. A GET system consisting of two (2) dual phase extraction wells in the source area operated from 2000 to 2008. MNA assessment was conducted for the distal portions of the plume where TCE concentrations were less than 100 µg/l. Two MNA assessments were conducted at DP039 which provided 10 years of data.
- The NAAR concluded that natural attenuation (NA) was occurring in the distal portion of the plume, however increasing concentrations in some of the monitoring wells indicated that NA alone would likely be inadequate to prevent future plume migration. In 2012 an aerobic chlorinated cometabolism enzyme study was conducted and concluded that cometabolic activity may be contributing to natural attenuation of the contaminants.
- In addition to the GET system installation and the MNA assessment, numerous technology demonstrations have been conducted at DP039: Phytoremediation study, reactive wall study (still in place, not involved with or affecting remediation), in situ bioreactor, and a technology demonstration of ERD treatment using an EVO permeable reactive barrier (PRB). In November 2008, the GET system was shut down for the installation of the in situ bioreactor.
- TCE, cis-1,2-DCE, and vinyl chloride are effectively being degraded within the biobarrier, and in situ ERD processes are achieving a high rate of VOC treatment efficiency.
- Travis AFB Groundwater ROD selected bioreactor, phytoremediation, EVO PRB, and enhanced attenuation (EA) as the final remedy for Site DP039.

Mr. Wray provided a map that showed the location of each of these remedies, a map of the plume concentrations, and the wetlands just beyond the footprint of the plume.

Conceptual Design:

- The conceptual design for the groundwater treatment is to optimize the existing bioreactor and phytoremediation components and supplement the existing EVO PRB in order to promote ERD throughout the portion of the groundwater plume where TCE concentrations exceed 500 µg/l. The existing bioreactor will be optimized by installing one (1) injection well and injecting EVO to promote greater distribution of total organic carbon (TOC) between the bioreactor and extraction well MW750x39.
- The phytoremediation system will be optimized by installing a gravel infiltration trench along the upgradient side of the phytoremediation system. Two extraction wells will be installed in portions of the plume where TCE concentrations exceed 500 µg/L. The groundwater will be conveyed to the infiltration trench. A second EVO PRB will be installed between the phytoremediation area and the existing EVO PRB. The new PRB will consist of 21 injection wells and will extend further to the northeast and to the southwest than the existing PRB, preventing TCE concentrations exceeding 500 µg/L from migrating beyond the ERD treatment area.
- Install 22 injection wells, 21 in the new PRB and 1 near the bioreactor (source area). The spacing of the injection wells within the new EVO PRB will be 30 feet based on an estimated EVO injection ROI of 15 feet. Each injection well will be drilled to consolidated bedrock. Two extraction wells, drilled to consolidated bedrock, will be installed to optimize the phytoremediation system. Six monitoring wells will be installed in the distal plume to expand the EA monitoring network. A gravel infiltration trench, approximately 75 feet long and 4 feet deep, will be installed along the upgradient edge of the phytoremediation system.
- Baseline groundwater sampling will be conducted prior to the EVO injections.

Ms. Burke questioned if this remedial design work plan deviates from the final remedy selected in the ROD. Ms. Constantinescu suggested installing two injection wells at the lower part of the plume and that would keep in spirit with what was selected in the ROD. Mr. Wray said that is a possibility, but placement is critical due to the vicinity of the wetlands.

Ms. Constantinescu gave an example of Professor John Cherry who conducted a study at a Canadian Military AFB by injecting TCE in clean soil. The study was conducted to see if a new cleanup method could be developed by knowing the subsurface geological components and the quantity of the TCE injected.

Program Update: Activities Completed, In Progress and Upcoming (see Attachment 8)

Mr. Wray reported on the status of field work and documents which are completed, in progress, and upcoming. Updates from the briefing this month included:

Newly Completed Documents: SD037 GW RD/RA Work Plan.

Newly Completed Field Work: SD031 Technology Demonstration Well Installation.

In-Progress Documents (CERCLA): TS060 Old Skeet Range PAH Delineation Report, Travis AFB UFP-QAPP, DP039 Lead Excavation Technical Memorandum, SD034 Data Gap Investigation Work Plan, SD036 RD/RA Work Plan, SS016 GW RD/RA Work Plan, SS015 GW RD/RA Work Plan, Proposed Plan for the Amendment to WABOU Soil ROD, Proposed Plan for the Amendment to NEWIOU Soil, Sediment, & Surface Water ROD.

In-Progress Documents (POCO): SS014 POCO Technology Demonstration Work Plan.

In-Progress Field Work: SD031 Trench Installation, SD031 EVO Injection.

Upcoming Documents (CERCLA): DP039 RD/RA Work Plan, Community Involvement Plan, FT005 Technology Demonstration Work Plan, 2014 Annual CAMU Monitoring Report, 2014 GRISR, SD031 Technology Demonstration Construction Completion Report.

Upcoming Documents (POCO): Oil-Water Separators POCO Evaluation Work Plan, ST032 POCO Soil Excavation Work Plan, GC508 Site Investigation/Site Closure Request Report, and ST028 POCO Work Plan.

Field Work Planned (CERCLA): SD031 EVO Injection (February), SD036 Well Installation (March), SD037 Well Installation (March), SD036 EVO Injection (April), SD037 EVO Injection (April), SS016 Well Installation (April, and GRIP Sampling (April).

Field Work Planned (POCO): ST018 Well/Trench Installation, and SS014 Site Investigation.

4. New Action Item Review

Mr. Smith to schedule a teleconference with the regulators, Mr. Linbrunner, and Mr. Wray regarding the RPM meeting schedule.

Mr. Smith to work with Ms. Burke/EPA regarding the design and contents of the community involvement plan and to agree on revised draft to agency date.

5. PROGRAM/ISSUES/UPDATE

None.

6. Action Items

Item #	Responsible	Action Item Description	Due Date	Status
1.	Travis AFB	AFCEC's Travis Restoration Team and Travis AFB will continue to pursue opportunities for the beneficial reuse of treated water. AFCEC is in agreement with using Defense Environmental Restoration Account (DERA) funds under the authority of a "net-zero energy policy" for the Air Force for the beneficial reuse of treated groundwater. Current possibilities include: Rerouting treated water from the central plant to the duck pond or as irrigation as an energy reduction project with the intent of reducing on-base water usage. Due date will remain TBD to ensure this action item remains visible.	TBD	Open
2.	William Hall	Mr. Hall to determine the time requirements and signature process for getting the AFCEC signature on the upcoming ROD Amendments.	TBD	Open
3.	William Hall	Mr. Hall to review the ASTM E2893 Standard Guide for Greener Cleanups and what historically has been done along the lines of GSR.	TBD	Open
4.	William Hall	Mr. Hall to ask if we can use DERA funds for the beneficial reuse of treated groundwater under AFCEC's "net-zero energy policy".	TBD	Open
5.	Adrianna Constantinescu	Ms. Constantinescu to provide the RWQCB site closure summary form to Mr. Smith for distribution.	18 Feb 2015	Closed

6.	Mark Smith	Mr. Smith to provide updates on PFOS and PFOA as he becomes aware of them.	18 Mar 2015	Open
7.	Adrianna Constantinescu	Ms. Constantinescu to ask for guidance from her management to see if any action is required from Travis AFB regarding the cleanup order.	18 Feb 2015	Closed
8.	Mark Smith	Mr. Smith to schedule a teleconference with the regulators, Mr. Linbrunner, and Mr. Wray to review the RPM meeting schedule.	13 March 2015	New
9.	Mark Smith	Mr. Smith to work with Ms. Burke/EPA regarding the design and contents of the community involvement plan and to agree on revised draft to agency date.	18 March 2015	New