

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

23 October 2014, 1400 Hours

Mr. Mark Smith, of the Air Force Civil Engineer Center (AFCEC) Restoration Support Team, conducted the Restoration Program Manager's (RPM) meeting, on 23 October 2014 at 1400 hours, in Building 248 at Travis AFB, California. Attendees included:

- Mark Smith AFCEC/CZOW
- Glenn Anderson AFCEC/CZOW
- Lonnie Duke AFCEC/CZOW
- William Hall (via phone) AFCEC/CZRW
- 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
(via telephone)
- Mike Wray CH2M HILL
- Jeff Gamlin CH2M HILL
- Tony Chakurian 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 (September 2014)
- Attachment 4 CGWTP Monthly Data Sheet (September 2014)
- Attachment 5 NGWTP Monthly Data Sheet (September 2014)
- Attachment 6 ST018 Monthly Data Sheet (September 2014)
- Attachment 7 Impact of FY14 Accelerated Funding
- Attachment 8 Site CG508 POCO Investigation Summary

- Attachment 9 Presentation: Program Update: Activities Completed, In Progress and Upcoming

1. ADMINISTRATIVE

A. Previous Meeting Minutes

The 17 September 2014 RPM teleconference meeting minutes were approved and finalized as written. Mr. Smith welcomed Mr. Jeff Gamlin, a scientist with CH2M HILL. Mr. Gamlin works closely with Mr. Doug Downey, and is the Senior Technical Consultant to the PBC-13 project at Travis AFB.

B. Action Item Review.

Action items from September 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. 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. Update: 20 September 2014, Mr. Smith contacted the Base Civil Engineer (BCE) as a reminder that the treated water is still available for beneficial reuse. The BCE later confirmed with Mr. Duke that the treated water is suitable for irrigation use.

Action item 2 is closed.

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 Wednesday, 19 November 2014 at 10:00. Travis AFB proposed a new 2015 RPM schedule and asked the regulators to notify Travis AFB of any scheduling conflicts to let Travis AFB know as soon as possible.

Travis AFB Master Document Schedule

- Travis Air Force Base Uniform Federal Policy-Quality Assurance Project Plan (UFP-QAPP): The response to comments meeting was updated to 23 October 2014, the rest of

the dates were changed accordingly. This document is schedule to be discussed this afternoon.

- Site SD037 GW Remedial Design/Remedial Action Work Plan: Response to comments (RTC) due date was changed to 13 November 2014, rest of the dates were changed accordingly. Travis AFB sent responses to EPA's comments on 22 October 2014.
- Site SD036 Remedial Design/Remedial Action Work Plan: The draft to agencies date was changed to 20 November 2014, the rest of the dates were changed accordingly. The dates were pushed back to incorporate any changes that were made to the SD037 RD/RA work plan since the SD036 RD/RA work plan is very similar. Travis AFB thought this would help with the documentation review.
- Site SS016 GW Remedial Design/Remedial Action Work Plan: No changes to the schedule.
- Site SS015 GW Remedial Design/Remedial Action Work Plan: Draft to agencies date was changed to 05 January 2015 and the rest of the dates have changed accordingly. The dates have been moved up to align with the EVO injection schedule.
- Community Involvement Plan: No change to the schedule.
- Proposed Plan for the Amendment to the NEWIOU Soil, Sediment, and Surface Water Record of Decision (ROD): No change to the schedule. The ROD amendment document schedule is designed so that the public meeting coincides with the April 2015 RAB meeting.
- 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: No changes to the schedule.
- 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. Ms. Constantinescu said, as the new project manager on this project, she wanted to schedule a meeting with the entire team. The attendees: an Autoliv Environmental Engineer by telephone, an Autoliv consultant, Travis AFB, and RWQCB engineers. The RWQCB knows that there has not been enough delineation for the perchlorate contamination and migration, and that there needs to be a more aggressive site characterization and cleanup schedule. This project was transferred from the Toxics Division to the Groundwater Division. The new project manager is a perchlorate specialist and will be an asset to this project. Ms. Constantinescu said that Potrero Hills Annex will be transferred to the new project manager sometime in November 2014 due to her workload. The RWQCB decided after the meeting that they will work directly with the attorneys and the consultant from Autoliv.
- Site FT004 Technology Demonstration Work Plan: The Response to Comments Due was updated to 29 September 2014, and the Final due date was changed to 29 September 2014 to reflect the actual dates.

- Site DP039 Lead Excavation Technical Memorandum: The RTC meeting was updated to 23 September 2014. The rest of the dates were changed accordingly. Travis AFB sent responses to EPA comments on 22 October 2014.
- Site TA500 Investigation Work Plan: The Final due date was changed to 3 November 2014. Travis AFB received EPA's comments and is working on responses. The RTC meeting will be revised.
- Site SD031 Technology Demonstration Work Plan: The RTC meeting was updated to 23 October 2014. This document is scheduled to be discussed this afternoon.
- Site ST018 POCO Work Plan Addendum: The RTC meeting was changed to 19 November 2014.
- Site SD034 Data Gap Investigation: The Predraft to AF/Service center and AF/Service Center comments due were updated to reflect the actual dates. This work identifies the plan for delineating the extent of Stoddard Solvent that remains in the soil and groundwater at Site SD034. The Stoddard Solvent will also be characterized during the data gap investigation to confirm its constituents and whether or not there is a potential ongoing source.
- Site SS014 Technology Demonstration Work Plan: The Predraft to AF/Service Center date was changed to 25 November 2014. The rest of the dates were changed accordingly.
- Quarterly Newsletter (October 2014): The RTC and final due dates have been changed to 10 October 2014 to reflect the actual dates.
- Kinder Morgan LF044 Land Use Control Report: Final Due date was changed to 25 September 2014 to reflect the actual date.

2. CURRENT PROJECTS

Treatment Plant Operation and Maintenance Update

South Base Boundary Groundwater Treatment Plant (see Attachment 3)

The South Base Boundary Groundwater Treatment Plant (SBBGWTP) performed at 100% uptime, and 2.4 million gallons of groundwater were extracted and treated during the month of September 2014. All of the treated water was discharged to Union Creek. The average flow rate for the SBBGWTP was 63.95 gallons per minute (gpm). Electrical power usage was 7,320 kWh, and approximately 10,028 pounds of CO₂ were created (based on DOE calculation). Approximately 2.4 pounds of volatile organic compounds (VOCs) were removed in September. The total mass of VOCs removed since startup of the system is 452 pounds.

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

Note: the output from the electrical meter is still questionable, and we are working with the Base to troubleshoot the electric meter at the plant. The Base Civil Engineer, the electrical department, and the contractors are scheduled to come out next week to troubleshoot why the electrical meter results are fluctuating.

Central Groundwater Treatment Plant (see Attachment 4)

The Central Groundwater Treatment Plant (CGWTP) performed at 100% uptime with approximately 1.16 million gallons of groundwater extracted and treated during the month of September 2014. All treated water was discharged to the storm drain. The average flow rate for the CGWTP was 26.8 gpm. Electrical power usage was 2,493 kWh for all equipment connected to the Central Plant, and approximately 3,415 pounds of CO₂ were generated. Approximately 2.46 pounds of VOCs were removed from groundwater by the treatment plant in September. The total mass of VOCs removed since the startup of the system is 11,381 pounds.

Optimization Activities for WTTP: The WTTP remains off line since it was shut down in April 2010 for the ongoing rebound study. The rebound study was concluded with the signing of the Groundwater ROD in August. No additional optimization activities to report for the month of September.

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

North/LF007 Groundwater Treatment Plant (see Attachment 5)

The North Groundwater Treatment Plant (NGWTP) performed at 100% uptime with approximately 218,400 gallons of groundwater extracted and treated during the month of September 2014. The average flow rate at the NGWTP was 4.8 gpm, and electrical power use was 0 kWh for all the equipment connected to the North plant; and 0 pounds of CO₂ was generated; this system is 100 percent off of the power grid. Approximately 6.68×10^{-3} pounds of VOCs were removed from the groundwater in September. The total mass of VOCs removed since the startup of the system is 174.31 pounds.

Optimization Activities for NGWTP: No optimization activities to report for the month of September.

Site ST018 Groundwater (MTBE) Treatment Plant (see Attachment 6)

The Site ST018 (MTBE) Treatment Plant (ST018 GWTP) performed at 100% uptime with approximately 168,000 gallons of groundwater extracted and treated during the month of September 2014. All treated water was diverted to the storm drain. The average flow rate for the ST018 GWTP was 3.77 gpm. Electrical power usage for the month was 103 kWh for all equipment connected to the ST018 GWTP, which equates

to the creation of approximately 141 pounds of CO₂. Approximately 0.20 pounds of BTEX, MTBE and TPH were removed from groundwater in September from the treatment plant. Approximately 0.11 pounds of MTBE were removed from groundwater. The total BTEX, MTBE and TPH mass removed since the startup of the system is 30.8 pounds. And the total MTBE mass removed since startup of the system is 6.6 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 September.

Travis AFB received authorization from Fairfield-Suisun Sewer District (FSSD) to discharge the treated groundwater to FSSD under the Travis AFB Waste Water Discharge permit. This change was made with the concurrence of the RWQCB and a Notice of Termination of the NPDES permit was submitted and approved.

Discussions:

Impact of FY14 Accelerated Funding PBC-13 (see Attachment 7)

Mr. Wray reported on the impact of FY14 accelerated funding on the PCB-13 project. (see attachment 7 for details)

Mr. Wray provided the results of the accelerated funding awards, and thanked Mr. Hall and Mr. Linbrunner for their efforts in being instrumental in obtaining the additional funding.

Original funding schedule: Awards were structured to be awarded each fiscal year. The funding was to be completed in FY18. The biggest funding year was scheduled in FY16. Mr. Wray said the funding allowed the work plans (WPs) to be written, but the way the funding was initially structured it would not allow CH2M HILL to conduct any substantial fieldwork until about 2016.

Accelerated Awards were allocated on: 02 June, 15 August, 29 August, and 30 September in 2014. At this point approximately 60% of the contract has been awarded.

The accelerated funding allows Travis AFB to move up the project schedule, and permit CH2M HILL to start conducting work on most of the sites. (see attachment for site details).

Presentations:

CG508 – POCO Investigation Summary (see Attachment 8 for detail and map of site location)

Mr. Gamlin reported on CG508, POCO Investigation Summary. Highlights included:

CG508 is a petroleum, oil and lubricants (POL) site with a groundwater plume composed primarily of TPH-MRO. This plume has an unknown size and unknown source.

The site was discovered in 2002 during removal of underground storage tank (UST) 1947. The UST was an ERP site known as Site RW012 and was associated with building 903, which was used for nuclear component maintenance from 1953 to 1962. Previous investigations indicate UST 1947 was never used for storage of fuels or other TPH products. Mr. Anderson said that the piping from the UST lead to the floor drains so when the walls, floors and ceiling were washed down, any low level radioactive residue would drain into the UST.

A no further action (NFA) consensus statement for site RW012 was issued by Travis AFB and signed by the U.S. Air Force, EPA, Water Board, and DTSC on 24 April 1996, for the closure of site RW012 with regard to radioactive materials.

Soil sample results during the excavation confirmed that the source of the TPH impacted groundwater was not from the UST 1947.

Solano County Department of Resource Management, Environmental Health Division (SCDRMEHD), regulatory agent for the Water Board, issued an NFA for UST 1947 on 27 March 2013 – the UST was closed for TPH and other compounds.

The source of the TPH impacted groundwater associated with Site CG508 was not investigated following closure of UST 1947. TPH-MRO in the groundwater near UST was as high as 1,000 µg/L.

Travis AFB conducted a three phase investigation, using the triad-like approach:

Phase 1: Sampled groundwater from five existing wells/piezometers for TPH-GRO, TPH-DRO, TPH-MRO, VOCs and alkalinity. Alkalinity was analyzed because it is an overall indicator of biodegradation to see if there were any trespass plumes. The findings indicated low level TPH-MRO in all of the wells.

Phase 2: Soil borings and groundwater sampling. Drilled and collected grab groundwater samples from 14 borings. Also collected samples from three existing wells and one newly installed well for; TPH-GRO, TPH-DRO, TPH-MRO, VOCs, and alkalinity. TPH-DRO and TPH-MRO analyzed using the shaker table silica gel cleanup (SGC) method. According to literature, the shaker table is about 50% efficient in pulling out polar compounds.

Phase 3: Soil boring and groundwater sampling. Drilled and installed five new soil borings and collected soil samples every 5 feet for TPH-GRO, TPH-DRO. TPH-MRO was analyzed using the SGC cleanup method. The soil borings were converted to monitoring wells. Sampled the five newly installed wells, and 2 existing wells, and analyzed for the same constituents as in phase 1 and phase 2. TPH-DRO and TPH-MRO were analyzed for using the column silica gel method which, according to the literature, is about 90% efficient at pulling out polar compounds.

No staining or odors were observed in the soil borings.

For a petroleum release there would be positive detections of BTEX and PAHs. BTEX was not detected and historically PAHs were not detected at the UST site, only naphthalene at 6.8 µg/L which is very low. Results to date are not indicative of a typical diesel or motor oil release. No soil source for the TPH was found. There was also a lack of characteristic VOC/PAH compounds, wide spread low level TPH-MRO detections in groundwater, fluctuations in detections, and indications of biogenic TPH in chromatograms.

The map presented on Slide 8 illustrates the CG508 groundwater summary, identifying TPH concentrations and the old sewer line which was installed circa 1940.

Evaluation of biogenic sources of TPH: SGC methods are not always reliable at removing polar compounds (non-petroleum) prior to TPH analysis. Researchers in Canada have been studying biogenic hydrocarbon sources that cause 'false positives' for TPH-DRO and TPH-MRO. "Soil and sediment with high organic content, such as peat may exceed the capacity of the silica gel to remove non petroleum hydrocarbons."

Slides 10 through 14 demonstrate the chromatograms and the similarity of peat and engine oil. Sewage, manure (see slide 8 and location of the sewer line), even a decomposed worm mixed with soil, can give hits of TPH up to 1,000 µg/L.

2014 POCO investigation conclusions: No source of soil contamination was identified and no staining was observed. It appears that TPH detections in groundwater above environmental screening levels (ESL) are biased by biogenic sources, across the board.

The remaining data gap is whether PAHs are present in the groundwater. If PAH results are non-detect or very low, then it provides further evidence that TPH results are not caused by a petroleum release. If PAHs are substantially absent, this will demonstrate a lack of risk and it will be recommended that this be considered a non-site. If PAH results indicate motor oil is present then we expect to recommend this site to be considered for a low threat closure.

Ms. Constantinescu said that the RWQCB does not make decisions regarding site closure based on data using TPH with SGC and asked if the site was analyzed for TPH without SGC. Mr. Gamlin said that the first round of samples was analyzed for TPH without SGC. Ms. Burke asked if TPH hits have any relation to the EVO injections. Mr. Gamlin said that the injections were too far upgradient, at least 100 ft. away, that the EVO radius of influence is only 15 to 20 ft., and that EVO does not move that fast.

Program Update: Activities Completed, In Progress and Upcoming (see Attachment 9)

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: FT004 Technology Demonstration Work Plan. Kinder Morgan LF044 Land Use Control Report.

Newly Completed Field Work: None.

In-Progress Documents: ST018 POCO Work Plan Addendum, SD031 Technology Demonstration Work Plan, TA500 Investigation Work Plan, SD037 RD/RA Work Plan, Travis AFB UFP-QAPP, DP039 Lead Excavation Technical Memorandum.

In-Progress Field Work: 4Q14 Semiannual GRIP Sampling Event.

Upcoming Documents (CERCLA): SD036 RD/RA Work Plan, SD034 Data Gap Investigation Work Plan, Proposed Plan for the Amendment to WABOU Soil ROD, Proposed Plan for the Amendment to NEWIOU Soil, Sediment, & Surface Water ROD, SS016 GW RD/RA Work Plan, Community Involvement Plan, SS015 GW RD/RA Work Plan, Amendment to WABOU Soil ROD, Amendment to NEWIOU Soil, Sediment, and Surface Water ROD.

Upcoming Documents (POCO): SS014 POCO Technology Demonstration Work Plan.

Upcoming Field Work: SD031 Technology Demonstration.

4. New Action Item Review

None.

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	TBD	Open

		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.		
2.	Travis AFB and CH2M HILL	Provide Ms. Constantinescu/RWQCB with an electronic copy of the original 2010 Site ST018 Work Plan with the submittal of the draft Site ST018 POCO Work Plan Addendum.	16 Oct. 2014	Closed.