

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

**16 September 2015, 1300 Hours**

Mr. Mark Smith, of the Air Force Civil Engineer Center (AFCEC) Restoration Installation Support Team (IST), conducted the Restoration Program Manager's (RPM) teleconference on 16 September 2015 at 1300 hours in Building 248 at Travis AFB, California. Attendees included:

- Mark Smith AFCEC/CZOW
- Glenn Anderson AFCEC/CZOW
- Lonnie Duke AFCEC/CZOW
- Captain Alexi Fong Travis AFB 60 AMW/JA
- Merrie Schilter-Lowe Travis AFB 60 AMW/PA
- William Hall AFCEC/CZRW  
(via telephone)
- Adriana Constantinescu California Regional Water Quality Control Board  
(via telephone) (RWQCB)
- Ben Fries California Department of Toxic Substances Control  
(via telephone) (DTSC)
- Nadia Hollan Burke United States Environmental Protection Agency  
(via telephone) (USEPA)
- Indira Balkissoon Techlaw, Inc  
(via telephone)
- Mike Wray CH2M  
(via telephone)

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 (August 2015)
- Attachment 4 CGWTP Monthly Data Sheet (August 2015)
- Attachment 5 Subarea LF007C Monthly Data Sheet (August 2015)
- Attachment 6 ST018 Monthly Data Sheet (August 2015)
- Attachment 7 Presentation: Program Update: Activities Completed, In Progress and Upcoming

- Attachment 8 Presentation: SD034 Technology Demonstration

## 1. ADMINISTRATIVE

### A. Previous Meeting Minutes

The 16 September 2015 RPM meeting minutes were approved and finalized as written.

### B. Action Item Review.

Action items from August 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. 16 September 2015: Mr. Duke reported that the Civil Engineering Squadron (CES) has a new energy program manager and that there is renewed interest in beneficial reuse of treated water. At the beginning of the new fiscal year 2016 (FY16), a meeting will be held to consider using some of the treated water for irrigation.

Action item 2 is ongoing: Mr. Smith to provide updates on PFOS and PFOA as he becomes aware of them. 16 September 2015: No update.

Action item 3 is open: Ms. Constantinescu will schedule a site visit of the twelve (12) oil water separator sites (OWS) when she is available. Update: 16 September 2015: Site visit will be held in the spring of 2016.

### C. 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 face to face meeting, held on Thursday, 05 November 2015 at 1400, RAB meeting to follow at 1900. The regulators agreed to cancel the 18 November 2015 RPM meeting. RPM meeting tentative dates for January and February 2016 are: 20 January 2016 (face to face), and 17 February 2016 (face to face). The 2016 RPM meeting calendar will be available for the November 2015 RPM meeting.

## Travis AFB Master Document Schedule

- Community Involvement Plan: No change to the schedule.
- Work Plan to Support Risk Assessment, Sites SD043, SD033, and SS016: New document - all dates are to be determined (TBD). This document will temporarily replace the NEWIOU and WABOU soil ROD amendments. The decision to temporarily remove the soil ROD amendments from the MMDS with this work plan (WP) is based on a recent Air Force Instruction (AFI) that Travis AFB is required to comply with (AFI 32-7020). There is not enough information at these three sites to make a decision, whether it be: active cleanup (AC), land use controls (LUC) or, no action (NA). Travis AFB has to demonstrate if the cumulative cancer risk is  $1 \times 10^{-4}$  or greater and/or the non-cancer risk is greater than 1, in order to take action in the form of active cleanup to protect human health. The Air Force position is that if the cumulative cancer risk is lower than  $1 \times 10^{-4}$  and the non-cancer risk is less than 1, then Travis AFB is not required to take action. These three sites have enough uncertainty that we need to conduct further field investigation work to assess the risk using the new EPA and/or DTSC standards, whichever one is more stringent. Ms. Balkissoon asked if there was any connection with soil and groundwater (GW) contaminants. Mr. Anderson answered no, that the chemicals of concerns (COCs) for soil and GW are not the same. Ms. Burke asked for a letter explaining the changes Travis AFB is proposing. Mr. Anderson asked if the rationale for conducting the additional sample collection/analyses and follow-on risk assessment could be placed in the cover letter of the risk assessment WP. Ms. Burke said she thinks that approach would work, unless her managers state otherwise.
- Potrero Hills Annex (FS, PP, and ROD): No change to the schedule. Ms. Constantinescu provided an update on the field work being conducted. Two phases of the investigation have been conducted; twenty-three (23) soil borings have been drilled, and soil and groundwater samples have been collected. Groundwater monitoring wells were installed this week and groundwater samples are being collected. The preliminary analyses detected perchlorate and VOCs which suggest contaminant migration has taken place. The remedial investigation work is still being conducted.
- Corrective Action Plan for Oil Water Separators 40, and 50 through 57: The document schedule has been populated with actual dates.
- Quarterly Newsletter (October 2015): No change to the schedule.
- 2014 Annual GRISR: Agency Comments Due was changed to 8 September 2015, the rest of the dates were changed accordingly. RWQCB and DTSC said they concur with EPA's comments and have no further comments. EPA will submit general comments in one final letter. EPA had no further comments regarding the 4Q15 GRIP sampling event.
- Site SD031 Technology Demonstration Construction Completion Report: Document went final, and will be moved to the history page.
- Sites SD036 and SD037 Remedial Action Construction Completion Report: No change made to the schedule. Agency comments have not been received. Ms. Balkissoon said comments will be provided to EPA by Friday, 18 September 2015, for Ms. Burke's review. DTSC and RWQCB have no comments.

- Site ST018 POCO Construction Completion Report: No change to the schedule. RWQCB approved draft, document to go final.
- Site SS016 Groundwater Remedial Action Construction Completion Report: No change made to the schedule.
- Site SS015 Remedial Action Construction Completion Report: No change made to the schedule.
- Site SS030 Remedial Action Construction Completion Report: Predraft to AF/Service Center was changed to 24 September 2015, the rest of the dates changed accordingly. Ms. Burke requested that the RACCR reports include the dates that field work started and ended.
- Site FT004 Technology Demonstration Construction Completion Report: New document, populated with all new dates.
- Site FT005 Technology Demonstration Construction Completion Report: New document, populated with all new dates.
- Site DP039 Remedial Design/Remedial Action Work Plan: Moved to history.

## 2. CURRENT PROJECTS

### Treatment Plant Operation and Maintenance Update

#### **South Base Boundary Groundwater Treatment Plant, August 2015 (see Attachment 3)**

The South Base Boundary Groundwater Treatment Plant (SBBGWTP) performed at 100% uptime, and 3.57 million gallons of groundwater were extracted and treated during the month of August 2015. All of the treated water was discharged to Union Creek. The average flow rate for the SBBGWTP was 80.06 gallons per minute (gpm). Electrical power usage was 17,160 kWh, and approximately 23,509 pounds of CO<sub>2</sub> were created (based on DOE calculation). Approximately 1.28 pounds of volatile organic compounds (VOCs) were removed in August. The total mass of VOCs removed since startup of the system is 464.9 pounds.

Optimization Activities for SBBGWTP: No optimization activities are reported for the month of August 2015.

#### **Central Groundwater Treatment Plant, August 2015 (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 August 2015. All treated water was discharged to the storm drain. The average flow rate for the CGWTP was 26.1 gpm. Electrical power usage was 2,107

kWh for all equipment connected to the Central Plant, and approximately 2,887 pounds of CO<sub>2</sub> were generated. Approximately 1.40 pounds of VOCs were removed from groundwater by the treatment plant in August. The total mass of VOCs removed since the startup of the system is 11,413 pounds.

Optimization Activities for CGWTP: No optimization activities are reported for the month of August 2015.

#### **LF007C Groundwater Treatment Plant, August 2015 (see Attachment 5)**

Subarea LF007C Treatment Plant (LF007CGWTP) performed at 81% uptime with approximately 148,818 gallons of groundwater extracted and treated during the month of August 2015. The average flow rate at the LF007CGWTP was 4.58 gpm, and electrical power use was 0 kWh for all the equipment connected to the plant; and 0 pounds of CO<sub>2</sub> was generated; this electrical system is 100 percent off of the power grid. Approximately  $3.66 \times 10^{-3}$  pounds of VOCs were removed from the groundwater in July. The total mass of VOCs removed by the North Groundwater Treatment Plant and LF007CGWTP combined is 174.34 pounds.

Optimization Activities for LF007CGWTP: No optimization activities to report for the month of August 2015.

#### **ST018 Groundwater (MTBE) Treatment Plant, August 2015 (see Attachment 6)**

The Site ST018 (MTBE) Treatment Plant (ST018 GWTP) performed at 70% uptime with approximately 173,081 gallons of groundwater extracted and treated during the month of August 2015. All treated water was diverted to the sanitary sewer. The average flow rate for the ST018 GWTP was 5.77 gpm. Electrical power usage for the month was 101 kWh for all equipment connected to the ST018 GWTP, which equates to approximately 138 pounds of CO<sub>2</sub>. Approximately 0.41 pound of BTEX, MTBE and TPH was removed from groundwater in August by the treatment plant. Approximately 0.26 pound of MTBE was removed from groundwater. The total BTEX, MTBE and TPH mass removed since the startup of the system is 32.6 pounds, and the total MTBE mass removed since startup of the system is 7.8 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 ST018GWTP: No optimization activities to report for the month of August 2015.

## **Program Update: Activities Completed, In Progress and Upcoming (see Attachment 7)**

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: None.

Newly Completed Field Work: OWS 47, 48, and 49 Site Investigations, SS030 Trench/Conveyance/Power Installation, FT005 Trench Installation, FT005 Well Development, and FT004 Well Installation, Well Development and Baseline Sampling.

In-Progress Documents (CERCLA): 2014 Annual GRISR, Sites SD036 and SD037 Remedial Action Construction Completion Report, and Site SS016 Groundwater Remedial Action Construction Completion Report.

In-Progress Documents (POCO): ST018 POCO Construction Completion Report.

In-Progress Field Work: FT005 Baseline Sampling, DP039 Well Installation, Well Development and Baseline Sampling, and FT004 EVO Injection.

Upcoming Documents (CERCLA): Community Involvement Plan (October), SS015 Groundwater Remedial Action Construction Completion Report (October), Site SS030 Remedial Action Construction Completion Report (October), Site FT004 Technology Demonstration Construction Completion Report (December), Site FT005 Technology Demonstration Construction Completion Report (December), Work Plan to Support Risk Assessments for Sites SD043, SD033, and SS016 (TBD), and Site DP039 Remedial Action Construction Completion Report (TBD).

Upcoming Documents (POCO): Corrective Action Plan for OWSs 40, and 50-57 (January 2016), Site SS014 POCO Construction Completion Report (TBD).

Field Work Planned (CERCLA): FT004 Trench/Conveyance/Power Installation (September), FT005 EVO Injection (September), DP039 Infiltration Trench Installation (October), and DP039 EVO Injection (October).

Field Work Planned (POCO): SS014 Bioreactor Installation (October). Ms. Constantinescu requested a schedule and a one week notification via email before the construction work begins. Mr. Wray said he will provide a schedule to RWQCB once a date is confirmed.

## **Presentations:**

### **Presentation: SD034 Data Gaps Investigation Update (see Attachment 8)**

Mr. Wray presented on the SD034 Data Gaps Investigation Update. For details see attachment 8.

Mr. Wray started by stating the selected remedy for SD034 as described in the base groundwater record of decision (ROD) is passive skimming and enhanced attenuation. The proposed

technology demonstration will explore the viability of using an alternating extraction and oxidation technology to carry out shallow groundwater and vadose zone remediation.

SD034 Site Background: In 1994 a hole was discovered in the oil water separator (OWS). The OWS was removed and replaced. The primary chemical of concern (COC) is related to Stoddard Solvent. The new aboveground storage tank (AST) was installed in the same location as the old Stoddard Solvent AST. One of the methods of transferring Stoddard Solvent was for the personnel to use 5-gallon buckets, and there is speculation that there was some spillage.

The NEWIOU Soil ROD concluded that no action was needed to address TPH below 2,300 mg/kg in the soil, because it would naturally attenuate. The Groundwater IROD selected groundwater extraction and treatment (GET) and passive skimming for this site. The Groundwater ROD selected passive skimming and enhanced attenuation.

#### Data Gaps Investigation Activities:

- Installed ten (10) soil borings to evaluate the extent of the residual smear zone contamination and to confirm soil concentrations have attenuated. (Soil boring sample results are provided in attachment 8.)
- Completed three (3) additional step-out borings to confirm smear zone impacts.

#### SD034 Conclusions:

- Based on the smear zone results, this site is a candidate for a new kind of bioreactor we have designed: Aerobic “Washboard” Bioreactor”. It will distribute dissolved oxygen for aerobic bacteria.
- Technology demonstration work plan (WP) will include: Implement the technology demonstration. Evaluate data over a two year period. If successful, the base will develop a ROD amendment to change the remedy. (See attachment 8, slides 11, 12 and 14 for bioreactor design.)
- Oxygen gas infusion technology will be considered for oxygenating groundwater, because it is more efficient than air sparging. Each gas infuser contains over 700 hydrophobic microporous hollow fibers that supersaturate groundwater with dissolved oxygen (DO). Sustainable, does not require electricity and has no moving parts. An oxygen gas infusion technology device will be placed in wells on either side of the plume.
- This aerobic bioreactor offers onsite soil/groundwater remediation of multiple contaminant classes for unrestricted reuse: Full range of TPH, waste oils, crude oils, refined oils, VOCs, SVOCs (BTEX, MTBE, TCE, PCE, VC, PAHs), pesticides, and PCBs (removal is at 99.8%). Munitions constituents, TNT, RDX, HDX, etc.

#### 4. New Action Item Review

Travis AFB will provide Ms. Constantinescu/RWQCB one week notification via email before construction begins at Site SS014 Bioreactor Installation.

Mr. Smith will extend an invite to the regulators for the Travis AFB site tour.

#### 5. PROGRAM/ISSUES/UPDATE

Mr. Smith provided an update on the recruitment meeting for the new RAB members. Eight (8) out of the nine (9) attended the RAB training, as well as some existing RAB members. Mr. Smith said he explained the RAB roles and responsibilities, including the documentation review process. The new members asked for a tour of Travis AFB which is tentatively schedule for 23 October 2015.

Mr. Fries commented on the Old Skeet Range and that DTSC had a recent inquiry on small arms sites and when collecting samples for dissolved metals to also include particulate lead in the analysis. Mr. Smith said that he is aware and that the Air Force and The State are negotiating the cleanup requirements, and requested Mr. Fries to advise Travis AFB of any updates.

#### 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. 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: Mr. Duke informed the group that Travis AFB is considering the use of treated water during EVO injection at Site FT005 as opposed to potable	TBD	Open



		water. New Action Item 5 added as a follow-up.		
2.	Mark Smith	Mr. Smith to provide updates on PFOS and PFOA as he becomes aware of them. Update: Mr. Smith stated that he has received the final preliminary assessment report from AFCEC. Direction from AFCEC for follow on steps has not yet been provided.	Ongoing	Open
3.	Adriana Constantinescu	Ms. Constantinescu will schedule a site visit of all the oil water separator sites (OWS), when she is available.	TBD	Open
4.	Travis AFB	Provide Ms. Constantinescu/RWQCB one week notification via email before construction begins at Site SS014 Bioreactor Installation	TBD	Open
5.	Mr. Smith	Extend an invite to the RAB members for the Travis AFB site tour.	23 Oct 2015	Open