

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

23 June 2010, 0930 Hours

Mr. Mark Smith, Travis Air Force Base (AFB), conducted the Remedial Program Manager's (RPM) meeting on 23 June 2010 at 0930 in the Main Conference Room, Building 571, Travis AFB, California. Attendees included:

- Glenn Anderson Travis AFB
- Lonnie Duke Travis AFB
- Mark Smith Travis AFB
- Merrie Schilter-Lowe Travis AFB
- Dezso Linbrunner United States Army Corp of Engineers (USACE), Omaha District
- Jennifer Musilek United States Army Corp of Engineers (USACE), Omaha District
- Kali Frey United States Army Corp of Engineers (USACE), Omaha District
- James Chang United States Environmental Protection Agency (USEPA)
- Alan Friedman California Regional Water Quality Control Board (RWQCB)
- Jose Salcedo California Department of Toxic Substances Control (DTSC)
- Mary Snow Tech Law, Inc.
- Rachel Hess ITSI
- Loren Krook CH2M HILL
- Leslie Royer CH2M HILL
- Doug Berwick CH2M HILL

Handouts distributed at the meeting and presentations included:

- Attachment 1 Meeting Agenda
- Attachment 2 Master Meeting and Document Schedule
- Attachment 3 SBBGWTP Monthly Data Sheet (May 2010)
- Attachment 4 CGWTP Monthly Data Sheet (May 2010)
- Attachment 5 NAAR Update (taken off agenda – no attachment)
- Attachment 6 Presentation: 2010 Field Installations Update
- Attachment 7 Presentation: Activities During FFS Delay
- Attachment 8 Presentation: EVO Injection Process

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

1. ADMINISTRATIVE

A. Previous Meeting Minutes

The 19 May 2010 RPM meeting minutes were approved and finalized as written.

B. Action Item Review

Action items from May were reviewed.

Action item one still open. Travis to petition to have lysimeter removed.

Action item two still open. CH2M HILL in middle of bid process for the second bioreactor construction project. We are looking tentatively at end of July to start construction.

Master Meeting and Document Schedule Review (attachment 2)

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

Travis AFB Annual Meeting and Teleconference Schedule

— The next RPM meeting will be held on 21 July 2010.

Travis AFB Master Document Schedule

— Focused Feasibility Study (FFS): No change.

— Proposed Plan (PP): No change.

— Groundwater Record of Decision (ROD): No change.

— Comprehensive Site Evaluation Phase II: No change.

— Potrero Hills Annex: (FFS, PP, and ROD): No change.

— Union Creek Sites SD001 and SD033 Remedial Action Report: No Change.

— Natural Attenuation Assessment Report (NAAR): Dates have been updated based on response to comments. Mr. Chang said that EPA has no further comments. Mr. Chang did add that EPA would like to see the final document to make sure the changes have been incorporated before it goes final. Ms. Royer said she would provide a draft-final of the NAAR and put it on the FTP site for EPA to review before going final. Mr. Chang asked when the draft-final document will be ready. Ms. Royer said the end of next week. Note: as a result of this agreement the NAAR presentation was taken off the agenda.

— DP039 RPO Work Plan: Move to historical.

- SD036/SD037 RPO Work Plan: No changes. Regulators have no additional comments.
- ST027B Site Characterization Report: No changes. Regulators have no additional comments.
- Phytostabilization Study Report: Dates were changed because the draft document was mailed priority mail and delivered late. The revised dates are to reflect the full thirty-day review process.
- Quarterly Newsletter (July 2010): No change.
- 2009 GWTP RPO Annual Report: No change. Mr. Friedman and Mr. Salcedo said if they had any comments they would submit them before the end of this week.
- 2008-2009 CAMU Monitoring Annual Report: No change. Mr. Salcedo is working on comments.

2. CURRENT PROJECTS

Treatment Plant Operation and Maintenance Update

Mr. Duke reported on the water treatment plant status.

South Base Boundary Groundwater Treatment Plant (see Attachment 3)

The South Base Boundary Groundwater Treatment Plant (SBBGWTP) performed at 99.5% uptime, and 4.0 million gallons of groundwater were extracted and treated during the month of May 2010. All of the treated water was discharged to Union Creek. The average flow rate for the SBBGWTP was 100 gallons per minute (gpm) and electrical power usage was 16,980 kWh; 23,263 pounds of CO₂ was created (based on DOE calculation). Approximately 1.5 pounds of volatile organic compounds (VOCs) were removed in May. The total mass of VOCs removed since the startup of the system is 381 pounds (see Attachment 3).

The carbon vessels are being inspected for usability to determine if the base can take the energy intensive Air Stripper off line. The Air Stripper will stay in place if needed in the future.

Central Groundwater Treatment Plant (see Attachment 4)

The Central Groundwater Treatment Plant (CGWTP) was off line in May 2010 for the fire station construction. The expected timeline for system restart of the CGWTP is early June when pipes near the new Fire Station are relocated.

North Groundwater Treatment Plant

No report for May. On 7 June 2010 two solar wells were turned back on. The vernal pool at LF007 was dry enough that the U.S. Fish and Wildlife Service (USFWS) gave us their approval to turn the extraction wells back on.

3. Presentations

2010 Field Installations Update (see Attachment 6)

Mr. Krook reported on the 2010 Field Installations Update.

The key points made in the presentation include:

Site DP039

- Installed all thirteen of the injection wells, and three monitoring wells to complement the existing well pairs.
- Baseline sampling of the wells has been completed.
- 25,000 lbs of EVO injection started 15 June 2010 to form the biobarrier.
- Evaluate ongoing progress in GSAP reports.

Mr. Krook explained the monitoring well pairs, (A&B) have a shallow and deep component to collect data above and below the aquifer. Mr. Salcedo asked if the monitoring wells are nested. Mr. Berwick said they are side by side about 2 ft. apart. Mr. Friedman asked how long it will take to inject the EVO in the injection wells. Mr. Berwick said a couple of weeks to complete the injections.

Site SS016

- Discontinue the 2-phase extraction due to limited effectiveness and to promote anaerobic conditions to enhance the dechlorination process.
- Removed ThermOx unit, completed in April. Installed monitoring wells (A&B) close to the former site of the ThermOx unit.
- A bioreactor will be installed in the Wash Rack area to remove a large mass of VOCs down to below the bedrock surface – the excavation will be 20ft by 20ft by 25ft.
- The existing horizontal extraction well (EW03x16) will be tied into the bioreactor for recirculation. The existing horizontal extraction well pumps about 1 ½ gallons per minute, which is ideal for these conditions.
- Install five new monitoring wells to complement the existing monitoring of the effectiveness of the bioreactor.
- Canopy removal and bioreactor installation is scheduled for June/July.

Mr. Salcedo asked if there are any constraints from excavating a bigger area if needed. Mr. Krook said yes to a practical extent, the excavation site is near the red line (restricted area boundary) of the flight line.

Site SS030

- Maximize groundwater extraction. Restart EW03x30 (in progress).
- Monitor groundwater levels and TCE concentrations across the site during annual GSAP event in June 2010. Currently waiting on data from the annual GSAP event, in progress.
- Determine if additional monitoring and/or extraction wells are needed to capture TCE plume. The annual GSAP event is currently in progress. Once the data has been received, a decision on optimization of the SS030 GET system will be made.

Site SD036

- The hot spot has been defined; need to optimize the EVO injection design.
- Conduct remedy optimization, followed by implementation of performance monitoring.
- Optimization is on hold pending EVO injection at sites DP039 and SD037.

Site SD037

- Conducted baseline sampling in May. The TCE concentration in some wells was higher than expected. Installing additional monitoring wells based on the higher TCE concentrations. Attached map shows monitoring, extraction, and injection wells and the TCE concentration levels associated with each well.
- Inject 36,000 lbs of EVO into the seven injection wells. Start of EVO injection is planned for 28 June 2010.

Site SS015

- Contaminant plume of TCE originated from three former facilities in the vicinity of building 554.
- Conducting Data Gaps investigation (in progress).
- Round one: installed alluvium-screened shallow well (MW2103x15 adjacent to the existing MW624x15). Installed a monitoring well west of the source area (MW2104x15).
- Round two: installed monitoring wells based on the results of first round.
- Round three: plan to install monitoring wells based on the results of the second round. Installation is scheduled for mid-July. Mr. Krook presented a map (attached) that shows monitoring wells and TCE concentrations levels associated with each well.
- Prepare work plan for remedy optimization.

Activities During FFS Delay (see attachment 7)

Mr. Krook reported on the planned activities to take place during the FFS delay.

Mr. Anderson gave a brief explanation why this presentation was included in the agenda. Mr. Anderson said the dates on MMDS schedule for the FFS has not yet changed. If the FFS is pushed back six months, the Base could be doing a lot of work that would be incorporated into the FFS, including collecting more data from the EVO injection sites. Mr. Duke added he has been to other EVO project presentations, and six months seems to be the time frame where you will see changes or trends. Mr. Chang questioned whether the baseline and two quarters of sampling data would incorporate any seasonal changes. Mr. Anderson said the weather does not change appreciably where it would be a significant factor. Mr. Chang said he would consider the change but would not make any decisions right now.

Mr. Krook gave the following presentation.

Data Gaps Investigations: Complete the data gaps investigations at Sites LF007C (in progress), SS015 (currently installing new well), SD036 (complete), and now need to design the plan forward for optimization, SD037 (in progress), and DP039 (site characterization complete). Refine the conceptual site models using the newly available data.

Inject EVO at Sites: SS015 (pending), SD036 (pending), SD037 (pending), and DP039 (in progress). Will begin collection of performance monitoring data after injections are completed.

Bioreactor Installation: Install Site SS016 bioreactor in the Oil Spill Area (OSA) source area. Collect performance monitoring data following bioreactor installation. Continue performance monitoring of the existing Site DP039 Bioreactor.

Rebound Studies: Continue rebound study data collection at Sites FT004, FT005, LF008, and SD031. Conduct WIOU sites rebound study which is fortuitous right now because the CGWTP is temporarily shut down, while the new fire station is being built. We will continue to collect data in the portion of the WIOU plume where groundwater extraction and treatment took place. Mr. Anderson asked how long the CGWTP has been off line. Mr. Duke said about six weeks. Mr. Anderson added that it's already been off for six weeks so it makes sense to leave it off for a couple more months to collect rebound data.

Groundwater Extraction Treatment (GET) Systems: Continue evaluation of more aggressive pumping at Site SS030. Optimize Site LF007C extraction system by adding more solar-powered extraction wells as needed. Continue current Site SS016 GET systems (OSA vertical extraction wells and TARA horizontal extraction wells).

Mr. Chang said his concern is still the cleanup time, because that has to be addressed in the FFS. It appears the Base's primary concern is containment and control of the plume, and has decided that EVO injection is pretty much the best way to go for most of the sites based on the FFS straw man discussion. Mr. Chang said he has technology experts in their research laboratory that seriously promotes the in-situ chemical oxidation (ISCO) remedy. The base needs to conduct a small pilot study to prove that ISCO will not work or consult an expert in ISCO such as Vironex to address this debate. That would give EPA the confidence to agree to the FFS. Mr. Duke said it has

been addressed through a chemical oxygen demand soil sample laboratory study, and the data proved that ISCO will not work due to the high oxygen demand in the soil. Mr. Anderson said we need to provide EPA with the analytical results of soil evaluation along with a description of the study, perhaps in a tech memo. Mr. Chang said that would be something he can give to his technology experts.

Emulsified Vegetable Oil (EVO) Current Status and Overview (see attachment 8)

Mr. Berwick gave a presentation on Emulsified Vegetable Oil injection. The key points made in the presentation included:

- Thirteen injection wells were installed in barrier formation at DP039.
- Seven injection wells installed in area pattern at Site SD037.
- Spill prevention, control and countermeasures plan was written and finalized prior to receiving EVO shipments.
- Prepared staging areas designated and prepared to receive EVO shipment in secondary containment.
- Began injection work at Site SD039 recently. Typically, the EVO is injected into three wells at a time using an injection manifold. The design mixture is 10% EVO to 90% water. After the EVO/water injection phase, just chase water is injected to flush out the well screens and to further distribute EVO in the subsurface.

Mr. Berwick showed pictures, see attachment, of the EVO process. Mr. Berwick extended an invitation after the RPM meeting to visit the EVO injection site.

Progress with Plume Remediation

Mr. Krook gave a presentation on the progress of plume remediation across the Base. Mr. Krook showed map posters of “before and after” plumes. Mr. Anderson said that the next RAB meeting is scheduled in October and it would be good idea to bring the “before and after” posters to show the RAB members that the plumes are shrinking.

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

Five-Year Review Schedule (no attachment)

Mr. Smith wanted to confirm the specific requirements and date for the next 5-year review. Mr. Chang said the next review should be one all inclusive report submitted to EPA as directed by EPA’s recent IG. All regulatory representatives agreed that the next 5-year review for Travis AFB will take place in 2013.

4. New Action Item Review

- 1) Bring “before and after” posters of the plume reduction to next RAB meeting.
- 2) Provide a technical memorandum that compares ERD and ISCO for Travis AFB, and which includes the chemical oxidant demand results for soil.

5. PROGRAM/ISSUES/UPDATE

Mr. Smith said that the State requires information from the Base as to how much unrestricted land is available. Mr. Smith asked Mr. Chang if, other than the harmonious goals of RIP by 2012, are there any other tasks that EPA requires. Mr. Salcedo clarified that the information the State requires is in regards to closed bases (BRAC bases); how many acres of available land is available for public use. Mr. Chang said he doesn't have anything to add, other than that the EPA will try to support the 2012 RIP goal, and the 5-year review mandate in 2013.

6. Potential Response to Comments Meetings

None.

General Discussion

None.

7. Action Items

Item #	Responsible	Action Item Description	Due Date	Status
1.	Travis AFB	Petition to have the Lysimeter removed.	TBD	Open
2.	Travis AFB	Schedule a RAB tour at site SS016 for when the bioreactor is being installed.	TBD	Provide 30 days notice to RAB members for tour.
3.	Travis AFB	Bring ‘before and after’ poster of plume reduction to next RAB meeting.	21 October 2010	Open
4.	Travis AFB	Document chemical oxidant demand soil testing results to agencies.	TBD	Open