Final

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

16 February 2011, 0930 Hours

Mr. Mark Smith, Travis Air Force Base (AFB), conducted the Remedial Program Manager's (RPM) meeting on 16 February at 0930 in the Main Conference Room, Building 570, Travis AFB, California. Attendees included:

• Mark Smith	Travis AFB
• Glenn Anderson	Travis AFB
• Lonnie Duke	Travis AFB
• Merrie Schilter-Lowe	Travis AFB
• Dezso Linbrunner	United States Army Corp of Engineers (USACE), Omaha District
• Alan Friedman	California Regional Water Quality Control Board (RWQCB)
• Jose Salcedo (via telephone)	California Department of Toxic Substances Control (DTSC)
• Nadia Hollan Burke	United States Environmental Protection Agency (USEPA)
• Mary Snow	Techlaw, Inc
• Rachel Hess	ITSI
• Mike Wray	CH2M HILL
• Loren Krook	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 (January 2011)
• Attachment 4	CGWTP Monthly Data Sheet (January 2011)
• Attachment 5	Presentation: Program Update: Activities Completed, In Progress and Upcoming
• Attachment 6	Presentation: Field Schedule Update

1. ADMINISTRATIVE

A. Previous Meeting Minutes

The 16 January 2011 RPM meeting minutes were approved and finalized as written.

B. Action Item Review.

Action items from January were reviewed.

Action item one still open. No change.

Action item two still open. No change.

Action item three still open. No change. Mr. Anderson recommended that EPA schedule a visit to Travis AFB to further discuss the requirement for Site Closure Reports, review examples, and if necessary, agree on a format.

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 held on 16 March 2011.

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. Added 'teleconference' next to Response to Comments Meeting (RTC) date. EPA's reviewer is in Arkansas and will need to call in. May have to postpone the RTC teleconference if Travis Restoration does not get a draft RTC table to EPA by this week.

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

— ISCO/ERD Technical Memorandum: The Response to Comments meeting was changed to coincide with the March 2011 RPM meeting. Travis AFB is working on response to comments. The 'Response to Comments Due' and 'Final Due' dates have been changed accordingly.

— Site SS015 Field Implementation Plan: The draft responses will go out to agencies next week. The RTC date will be pushed back one week. The

'Response to Comments Due' and 'Final Due' dates will be changed accordingly.

- Sites SS014 and ST032 Tier 1 POCO Evaluation Report: No change.
- Site ST018 POCO Field Implementation Report: No change. The NPDES permit has been received. The startup sampling is scheduled for 24 February 2011.
- Site SD036 RPO Field Implementation Plan: No change.
- 2010 GWTP RPO Annual Report: No change.
- Baseline Implementation Report: New document added. This document was added to illustrate the site characterization activities and optimizations of the interim remedies that have occurred over the past two years; it answers the what-, when-, and why-type questions associated with the optimizations. This report is in additional to the Annual RPO report.
- Quarterly Newsletter (April 2011): Dates were changed to reflect the April issue. The next RAB meeting will be advertised in this newsletter.
- 2009/2010 GSAP: The RTC date will tentatively be changed to coincide with March RPM meeting. Travis is reviewing the agencies comments. The remainder of the dates have changed accordingly.
- 2010 CAMU Annual Report: Draft to agencies date to be changed, it is scheduled to go out in the next week or two. The rest of the dates will change accordingly.

2. CURRENT PROJECTS

Treatment Plant Operation and Maintenance Update

Mr. Duke reported on the treatment plant status. The reports are evolving. Additional information that Travis is providing in the monthly datasheets includes charts of VOC influent concentrations and CO_2 emissions. When data becomes available, possibly next month, the reports will also include performance data for the EVO injection sites, the Biobarrier site, and the Bioreactor sites.

South Base Boundary Groundwater Treatment Plant (see Attachment 3)

The South Base Boundary Groundwater Treatment Plant (SBBGWTP) performed at 100% uptime, and 4.3 million gallons of groundwater were extracted and treated during the month of January 2011. All of the treated water was discharged to Union Creek. The average flow rate for the SBBGWTP was 95.9 gallons per minute (gpm), and electrical power usage was 8,520 kWh. Approximately 11,672 pounds of CO_2 were created (based on DOE calculation); approximately 2.43 pounds of volatile

organic compounds (VOCs) were removed in January. The total mass of VOCs removed since the startup of the system is 394 pounds.

Optimization Activities: None to report for the month of January.

Central Groundwater Treatment Plant (see Attachment 4)

The Central Groundwater Treatment Plant (CGWTP) performed at 100% uptime with approximately 1.3 million gallons of groundwater extracted and treated during the month of January 2011. All treated water was diverted to the storm drain. The average flow rate for the CGWTP was 27.9 gpm, and electrical power usage was 76 kWh for all equipment connected to the Central plant; approximately 75 pounds of CO_2 were created. Approximately 4.8 pounds of VOCs were removed from groundwater in January. The total mass of VOCs removed since the startup of the system is 11,211 pounds.

Optimization Activities: The WTTP remained off line since being shut down in April 2010 for the ongoing rebound studies (WIOU and Site LF008). No additional optimization activities were reported.

North Groundwater Treatment Plant

The North Groundwater Treatment Plant (NGWTP) remains shut down for the wet season. Operation of the North Plant was suspended due to the presence of vernal pools in the area of Site LF007C.

3. Presentations

Program Update: Activities Completed, In Progress and Upcoming (see Attachment 5)

Mr. Wray reported on the status of field work and documents which are completed, in progress, and upcoming. See Attachment 5 for details.

Field Schedule (see Attachment 6)

Mr. Wray reported on the 2011 Field Schedule. See attachment 6 for details.

4. New Action Item Review

Schedule a site visit during the GSAP annual sampling event starting toward the end of April with Ms. Burke to observe the groundwater sampling technique using passive diffusion bags (PDBs).

5. PROGRAM/ISSUES/UPDATE

A. RPM Meeting Schedule

Mr. Anderson explained the original need for the 'RPM Teleconference'. Initially there was a lot of coordination required, multiple contractors, basically, double the amount of personnel. Teleconferences were scheduled in between RPM meetings because of the amount of field work being performed. The PBC contract narrowed the contractors to two, one for soil and one for groundwater. The RPM Teleconference has been kept on the schedule to give regulatory representatives an open forum to discuss any issues candidly with Travis AFB project managers where meeting minutes are not recorded. Travis will keep the 'RPM Teleconference' column on the schedule and will use it on an "as needed" basis.

Mr. Salcedo said he has a scheduling conflict with the 23 June 2011 RPM meeting held on a Thursday. Mr. Smith said typically the RPM meetings are held on a Wednesday of each month unless it coincides with the RAB meeting. Travis would like to see consistency with the monthly RPM meetings, to be held on the same day of the week, whenever possible. The RPM June meeting will be changed to 15 June 2011.

General Discussion

Mr. Anderson asked Mr. Salcedo if he has had a chance to talk to his attorney regarding the FFS. Mr. Salcedo said that their attorney has been extremely busy and has not had time to discuss, but has received that section of the report. Mr. Anderson asked if one of the states attorneys will take the lead on the legal aspects of the FFS. Mr. Salcedo said once Mr. Friedman lets DTSC know which attorney will be representing the Water Board then Travis will hear "one voice" from the State agencies. Mr. Salcedo added what typically has happened in the past is that all four attorneys: EPA's, DTSC, Water Board, and Travis AFB, get together and discuss/hash out legal documents.

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	Research beneficial reuse of treated water and give update.	TBD	Open
3.	Travis AFB and EPA	Review past site closure completion reports to determine if future site closure reports are necessary.	TBD	Open
4.	Travis AFB	Schedule site visit for Ms. Burke to observe PDB sampling procedure.	TBD/two week notice	Open

TRAVIS AIR FORCE BASE
ENVIRONMENTAL RESTORATION PROGRAM
REMEDIAL PROGRAM MANAGER'S MEETING
BLDG 570, Main Conference Room
16 February 2011, 9:30 P.M.
AGENDA

1. ADMINISTRATIVE

   A. PREVIOUS MEETING MINUTES
   B. ACTION ITEM REVIEW
   C. MASTER MEETING AND DOCUMENT SCHEDULE REVIEW

2. CURRENT PROJECTS

   A. TREATMENT PLANT OPERATION AND MAINTENANCE UPDATE (LONNIE)

3. PRESENTATIONS

   A. PROGRAM UPDATE: ACTIVITIES COMPLETED, IN PROGRESS AND UPCOMING
   B. 2011FIELD SCHEDULE

4. NEW ACTION ITEM REVIEW

5. PROGRAM/ISSUES/UPDATE
   A. RPM MEETING SCHEDULE

Travis AFB Master Meeting and Document Schedule

Annual Meeting and Teleconference Schedule

Monthly RPM Meeting (Begins at 9:30 a.m.)	RPM Teleconference (Begins at 9:30 a.m.)	Restoration Advisory Board Meeting (Begins at 7:00 p.m.) (Poster Session at 6:30 p.m.)
01-26-11	—	—
02-16-11	—	—
03-16-11	—	—
04-21-11 (1:00 PM)	—	04-21-11
05-26-11	—	—
06-23-11	—	—
07-20-11	—	—
08-17-11	—	—
09-21-11	—	—
10-20-11 (1:00 PM)	—	10-20-11
11-30-11	—	—
—	—	—

Travis AFB Master Meeting and Document Schedule

PRIMARY DOCUMENTS			
Life Cycle	**Basewide Groundwater**		
	Focused Feasibility Study Travis, Glenn Anderson CH2M Hill, Loren Krook	**Proposed Plan Travis, Glenn Anderson CH2M HILL, Loren Krook**	**Record of Decision Travis, Glenn Anderson CH2M HILL, Tony Jaegel**
Scoping Meeting	**03-30-10**	**NA**	**01-24-07**
Predraft to AF/Service Center	12-30-10	05-13-11	12-08-11
AF/Service Center Comments Due	01-13-11	05-27-11	01-11-12
Draft to Agencies	01-27-11	06-10-11	01-25-12
Draft to RAB	01-27-11	06-10-11	01-25-12
Agency Comments Due	03-31-11	08-09-11	03-28-12
Response to Comments Meeting	**04-21-11**	**08-17-11**	04-18-12
Agency Concurrence with Remedy	NA	NA	05-09-12
Public Comment Period	NA	10-13-11 to 11-14-11	NA
Public Meeting	**NA**	***10-20-11**	**NA**
Response to Comments Due	06-01-11	09-01-11	05-29-12
Draft Final Due	06-01-11	09-13-11	05-29-12
Final Due	07-01-11	10-13-11	06-27-12

*Public meeting to coincide with RAB meeting.

PRIMARY DOCUMENTS	
	Comprehensive Site Evaluation Phase II **Travis AFB, Glenn Anderson** **Sky Research, Ian Roberts**
Life Cycle	**Report**
Scoping Meeting	**NA**
Predraft to AF/Service Center	04-23-10
AF/Service Center Comments Due	05-04-10
Draft to Agencies	10-14-10
Draft to RAB	10-14-10
Agency Comments Due	11-24-10
Response to Comments Meeting	**02-23-11 (teleconference)**
Agency Concurrence with Remedy	NA
Public Comment Period	NA
Public Meeting	**NA**
Response to Comments Due	03-09-11
Draft Final Due	03-09-11
Final Due	04-06-11

PRIMARY DOCUMENTS			
	Potrero Hills Annex Travis, Glenn Anderson		
Life Cycle	FS	**Proposed Plan**	**ROD**
Scoping Meeting	**180 days after Water Board Order Rescinded**	**+470 days**	**+735 days**
Predraft to AF/Service Center	+ 270 days	+530 days	+ 915 days
AF/Service Center Comments Due	+ 300 days	+560 days	+ 975 days
Draft to Agencies	+330 days	+590 days	+ 1035 days
Draft to RAB	+ 330 days	+590 days	+ 1035 days
Agency Comments Due	+390 days	+650 days	+ 1095 days
Response to Comments Meeting	**+ 405 days**	**+665 days**	**+ 1110 days**
Agency Concurrence with Remedy	NA	NA	+ 1130 days
Public Comment Period	NA	+735 to 765 days	NA
Public Meeting	**NA**	**+745 days**	**NA**
Response to Comments Due	+430 days	+695days	+ 1190 days
Draft Final Due	+430 days	+695 days	+ 1190 days
Final Due	+460 days	+725 days	+ 1250 days

SECONDARY DOCUMENTS			
Life Cycle	**ISCO/ERD Technical Memorandum Travis AFB, Glenn Anderson CH2M HILL, Loren Krook**	**Site SS015 Field Implementation Plan Travis AFB, Lonnie Duke CH2M HILL, Loren Krook**	**Sites SS014 and ST032 Tier 1 POCO Evaluation Report Travis AFB, Lonnie Duke CH2M HILL, Gavan Heinrich**
Scoping Meeting	**NA**	**NA**	**NA**
Predraft to AF/Service Center	08-25-10	10-13-10	01-14-11
AF/Service Center Comments Due	09-08-10 (09-10-10)	10-27-10	01-24-11
Draft to Agencies	10-06-10	11-15-10	02-14-11
Draft to RAB	10-06-10	11-15-10	02-14-11
Agency Comments Due	11-05-10	12-15-10	03-16-11
Response to Comments Meeting	**03-16-11**	**02-16-11**	**04-21-11**
Response to Comments Due	04-08-11	02-22-11	04-29-11
Draft Final Due	NA	NA	NA
Final Due	04-08-11	02-22-11	04-29-11
Public Comment Period	NA	NA	NA
Public Meeting	**NA**	**NA**	**NA**

SECONDARY DOCUMENTS				
Life Cycle	Site ST018 POCO Field Implementation Report Travis AFB, Lonnie Duke CH2M HILL, Gavan Heinrich	Site SD036 RPO Field Implementation Plan Travis AFB, Lonnie Duke CH2M HILL, Doug Berwick	2010 Groundwater RPO Annual Report Travis AFB, Lonnie Duke CH2M HILL, Doug Berwick	Baseline Implementation Report Travis AFB, Lonnie Duke CH2M HILL, Loren Krook
Scoping Meeting	**NA**	**NA**	**NA**	**NA**
Predraft to AF/Service Center	03-18-11	11-30-10	02-25-11	03-24-11
AF/Service Center Comments Due	04-01-11	12-10-10	03-07-11	04-07-11
Draft to Agencies	04-15-11	02-03-11	04-04-11	04-21-11
Draft to RAB	04-15-11	02-03-11	04-04-11	04-21-11
Agency Comments Due	05-15-11	03-05-11	05-04-11	05-19-11
Response to Comments Meeting	**05-26-11**	03-16-11	**05-26-11**	**05-26-11**
Response to Comments Due	06-09-11	03-29-11	06-22-11	06-29-11
Draft Final Due	NA	NA	NA	NA
Final Due	06-09-11	03-29-11	06-22-11	06-29-11
Public Comment Period	NA	NA	NA	NA
Public Meeting	**NA**	**NA**	**NA**	**NA**

INFORMATIONAL DOCUMENTS			
Life Cycle	**Quarterly Newsletters (April 2011) Travis, Glenn Anderson**	**2009/2010 Annual GSAP Travis AFB, Lonnie Duke CH2M HILL, Leslie Royer**	**2010 CAMU Annual Report Travis AFB, Lonnie Duke ITSI, Rachel Hess**
Scoping Meeting	**NA**	**NA**	**NA**
Predraft to AF/Service Center	NA	10-29-10	01-18-11
AF/Service Center Comments Due	NA	11-12-10	01-31-11
Draft to Agencies	03-29-11	12-07-10	02-04-11
Draft to RAB	NA	12-07-10	02-04-11
Agency Comments Due	04-07-11	02-01-11	03-07-11
Response to Comments Meeting	**TBD**	**02-16-11**	TBD
Response to Comments Due	04-12-11	03-01-11	03-21-11
Draft Final Due	NA	NA	
Final Due	04-12-11	03-01-11	03-21-11
Public Comment Period	NA	**NA**	**NA**
Public Meeting	**NA**	**NA**	**NA**

South Base Boundary Groundwater Treatment Plant Monthly Data Sheet

Report Number: 126 **Reporting Period: 3 Jan – 31 Jan 2011** **Date Submitted: 15 February 2011**

This monthly data sheet presents information regarding the South Base Boundary Groundwater Treatment Plant (SBBGWTP) and associated remedial process optimizations (RPOs).

System Metrics

Table 1 – Operations Summary – January 2011

Operating Time:	Percent Uptime:	Electrical Power Usage:
SBBGWTP: 744 hours	**SBBGWTP:** 100%	**SBBGWTP:** 8,520 kWh (11,672 lbs CO_2 generated[a])

Gallons Treated: **4.3 million gallons**

Gallons Treated Since July 1998: **723 million gallons**

Volume Discharged to Union Creek: **4.3 million gallons**

VOC Mass Removed: **2.43 lbs**

VOC Mass Removed Since July 1998: **394 lbs**

Rolling 12-Month Cost per Pound of Mass Removed: $4,110[b]

Monthly Cost per Pound of Mass Removed: $3,207[b]

Lbs = pounds

[a] Calculated using January 2011 EPA Method SW8260B analytical results.

[b] Costs include operations and maintenance, reporting, analytical laboratory, project management, and utility costs related to operation of the system.

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Table 2 – SBBGWTP Average Flow Rate (gpm)[a]

FT005[b]				SS029		SS030	
EW01x05	Off line	EW736x05	Off line	EW01x29	0.60	EW01x30	10.1
EW02x05	1.0	EW737x05	Off line	EW02x29	5.4	EW02x30	2.9[d]
EW03x05	Off line	EW742x05	Off line	EW03x29	Off line[c]	EW03x30	3.40
EW731x05	Off line	EW743x05	Off line	EW04x29	5.8	EW04x30	24.5
EW732x05	Off line	EW744x05	Off line	EW05x29	14.4	EW05x30	8.4
EW733x05	Off line	EW745x05	Off line	EW06x29	7.2	EW06x30	Dry
EW734x05	8.60	EW746x05	Off line	EW07x29	15.9	EW711x30	10.0[e]
EW735x05	3.2						
FT005 Total:		**12.8**		**SS029 Total:**	**49.3**	**SS030 Total:**	**59.3**
SBBGWTP Average Monthly Flow[f]: 95.9 gpm							

[a].
[a] Extraction well flow rates are based on the average of the weekly readings.
[b] Extraction wells at FT005 were taken off line in accordance with the *2008 Annual Remedial Process Optimization Report for the Central Groundwater Treatment Plant, North Groundwater Treatment Plant, and South Base Boundary Groundwater Treatment Plant.*
[c] Extraction well is off line due to low VOC concentrations.
[d] Extraction well restarted on 25 January 2011
[e] Extraction well online, but has a faulty flow meter. Flow rate is measured at the well head.
[f] The average groundwater flow rate was calculated using the Union Creek Discharge Totalizer and dividing it by the operating time of the plant

gpm—gallons per minute
SBBGWTP – South Base Boundary Groundwater Treatment Plant

Table 3 – Summary of System Shutdowns

Location	Shutdown		Restart		Cause
	Date	Time	Date	Time	
SBBGWTP	No shutdowns				

SBBGWTP = South Base Boundary Groundwater Treatment Plant

Summary of O&M Activities

Monthly groundwater samples at the SBBGWTP were collected on 20 January 2011. Sample results are presented in Table 4. The total VOC concentration (68.1 µg/L) in the influent sample has increased since the December 2010 sample (42.4 µg/L) was collected.

TCE was detected in the effluent system sample at a concentration of 0.26 J µg/L, but was not detected at the sample point located between the two carbon vessels. The instantaneous maximum limit for TCE is 5.0 µg/L, so a resample or system shutdown was not necessary. In the following months, Travis AFB will continue to monitor the carbon midpoint and effluent samples to ensure treated water remains in compliance with discharge requirements.

Extraction well EW02x30 was replaced and returned to service on 25 January 2011. The pump had malfunctioned originally in September 2010, but weather complications had prevented access to the pump until January 2011. After being brought back on line, EW02x30 maintained a flow rate of approximately 2.9 gpm.

Optimization Activities

No optimization activities occurred at the SBBGWTP in January 2011.

Table 4
Summary of Groundwater Analytical Data for January 2011 – South Base Boundary Groundwater Treatment Plant

Constituent	Instantaneous Maximum[a] (µg/L)	Detection Limit (µg/L)	N/C	14 December 2010 (µg/L)		
				Influent	Midpoint	Effluent
Halogenated Volatile Organics						
Bromodichloromethane	5.0	0.15	0	ND	ND	ND
Carbon Tetrachloride	0.5	0.14	0	ND	ND	ND
Chloroform	5.0	0.16	0	ND	ND	ND
Dibromochloromethane	5.0	0.13	0	ND	ND	ND
1,1-Dichloroethane	5.0	0.19	0	ND	ND	ND
1,2-Dichloroethane	0.5	0.15	0	ND	ND	ND
1,1-Dichloroethene	5.0	0.19	0	ND	ND	ND
cis-1,2-Dichloroethene	5.0	0.19	0	3.6	ND	ND
trans-1,2-Dichloroethene	5.0	0.33	0	ND	ND	ND
Methylene Chloride	5.0	0.66	0	ND	ND	ND
Tetrachloroethene	5.0	0.21	0	ND	ND	ND
1,1,1-Trichloroethane	5.0	0.14	0	ND	ND	ND
1,1,2-Trichloroethane	5.0	0.20	0	ND	ND	ND
Trichloroethene	5.0	0.19	0	64.1	ND	0.26 J
Vinyl Chloride	0.5	0.18	0	ND	ND	ND
Non-Halogenated Volatile Organics						
Benzene	1.0	0.17	0	ND	ND	ND
Ethylbenzene	5.0	0.22	0	ND	ND	ND
Toluene	5.0	0.14	0	ND	ND	ND
Xylenes	5.0	0.23 – 0.5	0	ND	ND	ND
Other						
Total Petroleum Hydrocarbons – Gasoline	50	8.5	0	NM	NM	ND
Total Petroleum Hydrocarbons – Diesel	50	50	0	NM	NM	ND
Total Suspended Solids (mg/L)	NE	1.0	0	ND	NM	NM

[a] In accordance with Appendix B of the *Travis AFB South Base Boundary Groundwater Treatment Plant Operations and Maintenance Manual* (CH2M HILL, 2004).

J = analyte concentration is considered an estimated value
mg/L = milligrams per liter
N/C = number of samples out of compliance with discharge limits
ND = not detected
NE = not established
NM = not measured
µg/L = micrograms per liter

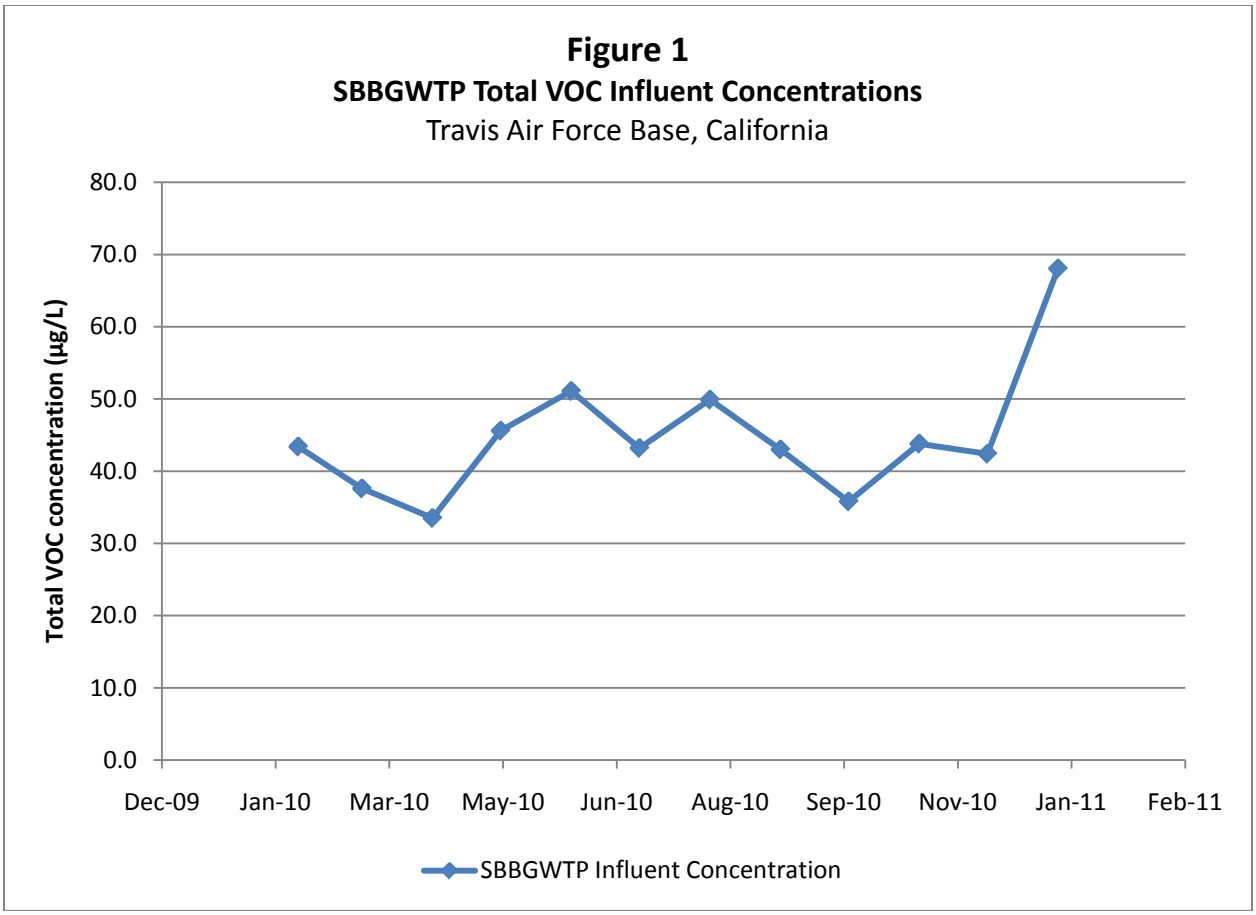


Figure 1
SBBGWTP Total VOC Influent Concentrations
Travis Air Force Base, California
Total VOC concentration (µg/L)
80.0
70.0
60.0
50.0
40.0
30.0
20.0
10.0
0.0
Dec-09
Jan-10
Mar-10
May-10
Jun-10
Aug-10
Sep-10
Nov-10
Jan-11
Feb-11
SBBGWTP Influent Concentration

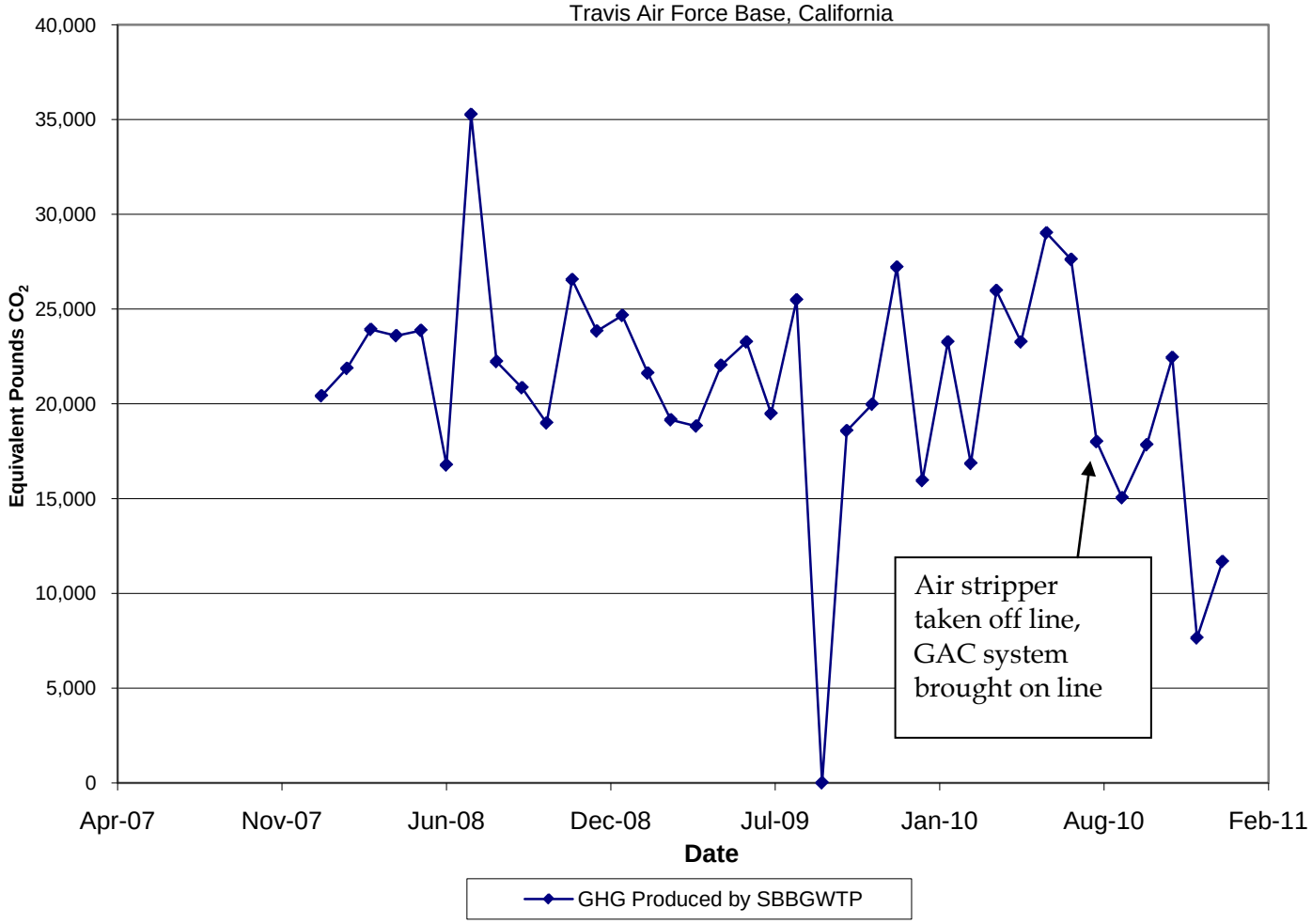
Sustainability

Travis AFB is committed to decreasing the amount of GHG produced directly (waste streams discharging GHG) or indirectly (GHG produced as related to electrical energy consumption) from all systems across Travis AFB. Travis AFB continues to optimize each treatment plant to reduce the amount of electrical energy consumed, and to implement sustainable treatment plant optimization programs, such as bioreactors and EVO injection well networks.

Figure 2 presents the historical GHG production from the SBBGWTP. The SBBGWTP produced approximately 11,672 pounds of GHG during January 2011. This is an increase from December 2010, but still an overall decrease since the air stripper was bypassed, and the granular activate carbon (GAC) system was brought on line.

Figure 2

Equivalent CO_2 Emissions Produced by the South Base Boundary Groundwater Treatment Plant through December 2011
Travis Air Force Base, California



Central Groundwater Treatment Plant Monthly Data Sheet

Report Number: 138 **Reporting Period: 3 Jan – 31Jan 2011** **Date Submitted: 15 February 2011**

This monthly data sheet presents information regarding all systems and associated remedial process optimization activities (RPOAs) to the Central Groundwater Treatment Plant (CGWTP).

System Metrics

Table 1 – Operations Summary – January 2011

Operating Time:		Percent Uptime:		Electrical Power Usage:	
CGWTP:	749 hours	**CGWTP:**	100%	**CGWTP:**	76 kWh (104 lbs CO_2 generated[a])
WTTP:	Water: 0 hours	**WTTP:**	Water: 0%	**WTTP:**	0 kWh
	Vapor: 0 hours		Vapor: 0%		

Gallons Treated: **1.3 million gallons**

Gallons Treated Since January 1996: **439 million gallons**

VOC Mass Removed:

4.80 lbs [b] **(groundwater only)**

0 lbs (vapor only)

VOC Mass Removed Since January 1996:

2,525 lbs from groundwater

8,686 lbs from vapor

Rolling 12-Month Cost per Pound of Mass Removed: $1,564 [c]

Monthly Cost per Pound of Mass Removed: $1,564

[a] Based on Department of Energy estimate that 1 kilowatt hour generated produces 1.37 pounds of GHG.

[b] Calculated using December 2010 EPA Method SW8260B analytical results.

[c] Costs include operations and maintenance, reporting, analytical laboratory, project management, and utility costs related to operation of the CGWTP and WTTP.

Table 2 – CGWTP Average Flow Rates

Location	Average Flow Rate	
	Groundwater (gpm)	Soil Vapor (scfm) [a]
EW01x16	20.7	Off line
EW02x16	7.2	Off line
EW03x16	3.22[b]	Off line
EW605x16	Off line [c]	Off line
EW610x16	Off line [c]	Off line
CGWTP	27.9[d]	--
WTTP	Off line	Off line

[a] No vapor was treated in December 2010

[b] Water discharged to Site SS016 bioreactor – flow rate taken when pump is operating (is not an average). Measurement not recorded in January 2011, so December 2010 value used as an approximation.

[c] Off line due to motor fault.

[d] Measured by the effluent discharge to the storm drain divided by the operating time during the month

gpm = gallons per minute
NA = not applicable/not available
scfm = standard cubic feet per minute

Table 3 – Average Flow Rate from the WIOU Extraction Wells[a] (gpm)							
SD037/ SD043				**SD033/SD034**		**SD036**	
EW599x37	Off line	EW705x37	Off line	EW501x33	Off line	EW593x36	Off line
EW700x37	Off line	EW706x37	Off line	EW503x33	Off line	EW594x36	Off line
EW701x37	Off line	EW707x37	Off line	EW01x34	Off line	EW595x36	Off line
EW702x37	Off line	EW510x37	Off line	EW03x34	Off line		
EW703x37	Off line	EW511x37	Off line				
EW704x37	Off line	EW555x43	Off line				

[a] Extraction wells are offline due to the ongoing rebound study in the WIOU.

gpm—gallons per minute
NA – not available / not recorded

Table 4 – Summary of System Shutdowns					
	Shutdown		**Restart**		
Location	**Date**	**Time**	**Date**	**Time**	**Cause**
CGWTP (Groundwater)					
CGWTP	No shutdowns				
WTTP					
WTTP (Vapor)	24 August 2009				System shutdown for rebound study
WTTP (Water)	27 April 2010				System shutdown for rebound study

CGWTP = Central Groundwater Treatment Plant

WTTP = West Transfer Treatment Plant

Summary of O&M Activities

Monthly groundwater samples at the CGWTP were collected on 20 January 2011. Sample results are presented in Table 5. The total VOC concentration (459 µg/L) in the influent sample has decreased since the December 2010 sample (510 µg/L) was collected.

Vinyl chloride and chloromethane were both detected in the sample collected after the primary carbon vessel (0.61 µg/L and 0.34 J µg/L, respectively), though neither were detected in the system effluent sample. Carbon disulfide was detected (0.22 J µg/L) in the system effluent sample. The instantaneous maximum limit for carbon disulfide is 5.0 µg/L, thus not requiring a resample or system shutdown. In the following months, Travis AFB will continue to monitor the carbon midpoint and effluent samples to ensure treated water remains in compliance with discharge requirements.

Extraction wells EW605x16 and EW610x16 remained off line during January 2011. Replacement pumps are expected to be ordered in February 2011, with replacement to follow.

Optimization Activities

The WTTP remained off line since being shut down in April 2010 for the ongoing rebound study.

No additional optimization activities occurred at the CGWTP in December 2010.

Table 5

Summary of Groundwater Analytical Data for January 2011 – Central Groundwater Treatment Plant

Constituent	Instantaneous Maximum[a] (µg/L)	Detection Limit (µg/L)	20 January 2011 (µg/L) N/C	Influent	After Carbon 1 Effluent	After Carbon 2 Effluent	System Effluent
Halogenated Volatile Organics							
Bromodichloromethane	5.0	0.15	0	ND	ND	ND	ND
Carbon Disulfide	1.0	0.19	0	ND	ND	ND	0.22 J
Carbon Tetrachloride	0.5	0.14	0	ND	ND	ND	ND
Chloroform	5.0	0.16	0	ND	ND	ND	ND
MTBE	1.0	0.5	0	2.5	ND	ND	ND
1,2-Dichlorobenzene	5.0	0.08	0	0.47 J	ND	ND	ND
1.3-Dichlorobenzene	5.0	0.15	0	0.47 J	ND	ND	ND
1,4-Dichlorobenzene	5.0	0.15	0	ND	ND	ND	ND
1,1-Dichloroethane	5.0	0.15	0	ND	ND	ND	ND
1,2-Dichloroethane	0.5	0.15	0	ND	ND	ND	ND
1,1-Dichloroethene	5.0	0.19	0	0.98	ND	ND	ND
cis-1,2-Dichloroethene	5.0	0.19	0	110	ND	ND	ND
trans-1,2-Dichloroethene	5.0	0.33	0	5.1	ND	ND	ND
Methylene Chloride	5.0	0.66	0	ND	ND	ND	ND
Tetrachloroethene	5.0	0.21	0	0.58	ND	ND	ND
1,1,1-Trichloroethane	5.0	0.14	0	ND	ND	ND	ND
1,1,2-Trichloroethane	5.0	0.2	0	ND	ND	ND	ND
Trichloroethene	5.0	1.9	0	343	ND	ND	ND
Vinyl Chloride	0.5	0.18	0	0.94	0.61	ND	ND
Non-Halogenated Volatile Organics							
Benzene	1.0	0.17	0	ND	ND	ND	ND
Ethylbenzene	5.0	0.22	0	ND	ND	ND	ND
Toluene	5.0	0.14	0	ND	ND	ND	ND
Total Xylenes	5.0	0.5 – 0.23	0	ND	ND	ND	ND

[a] In accordance with Appendix G of the *Travis AFB Central Groundwater Treatment Plant Operations and Maintenance Manual* (URS Group, Inc., 2002).

J = analyte concentration is considered an estimated value
N/C = number of samples out of compliance with discharge limits
ND = not detected
µg/L = micrograms per liter

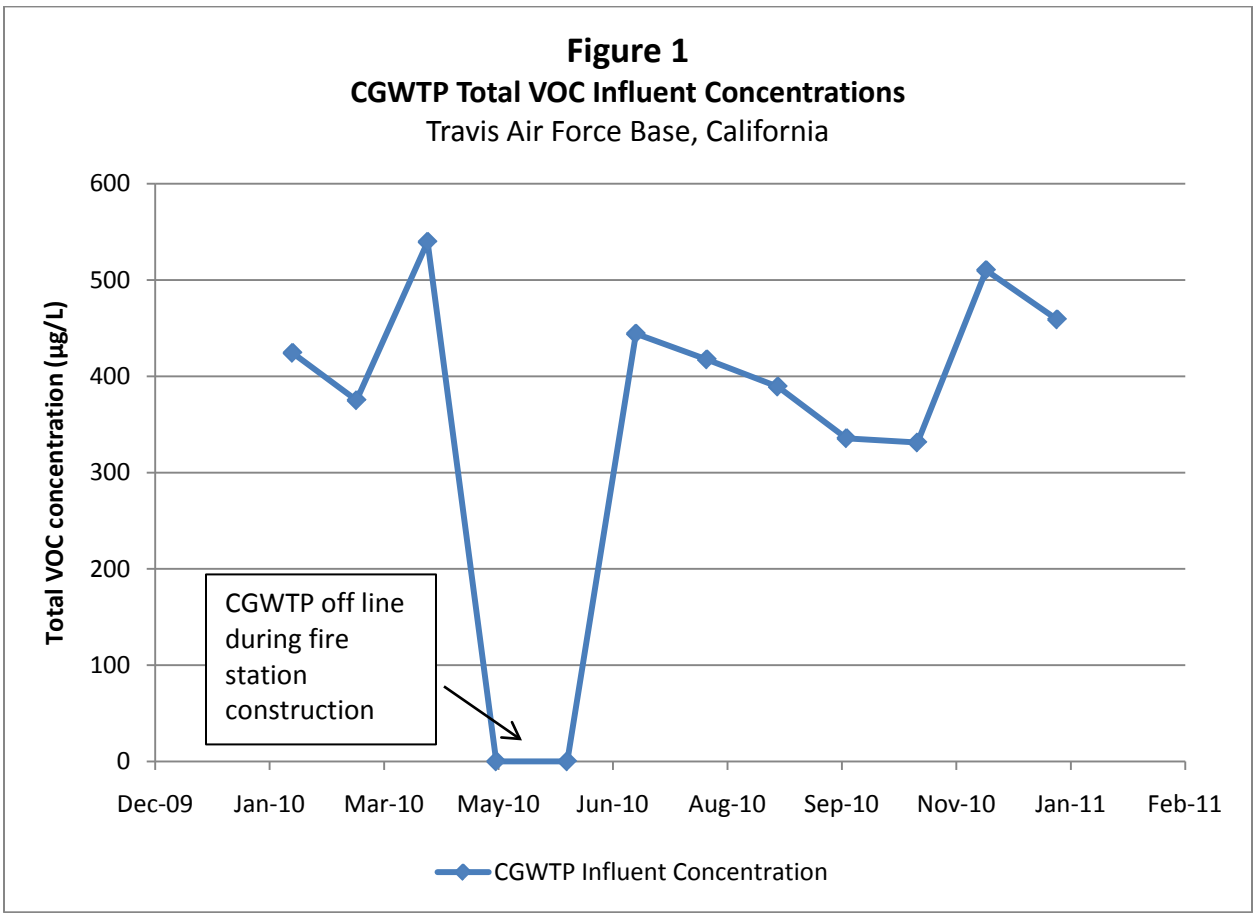


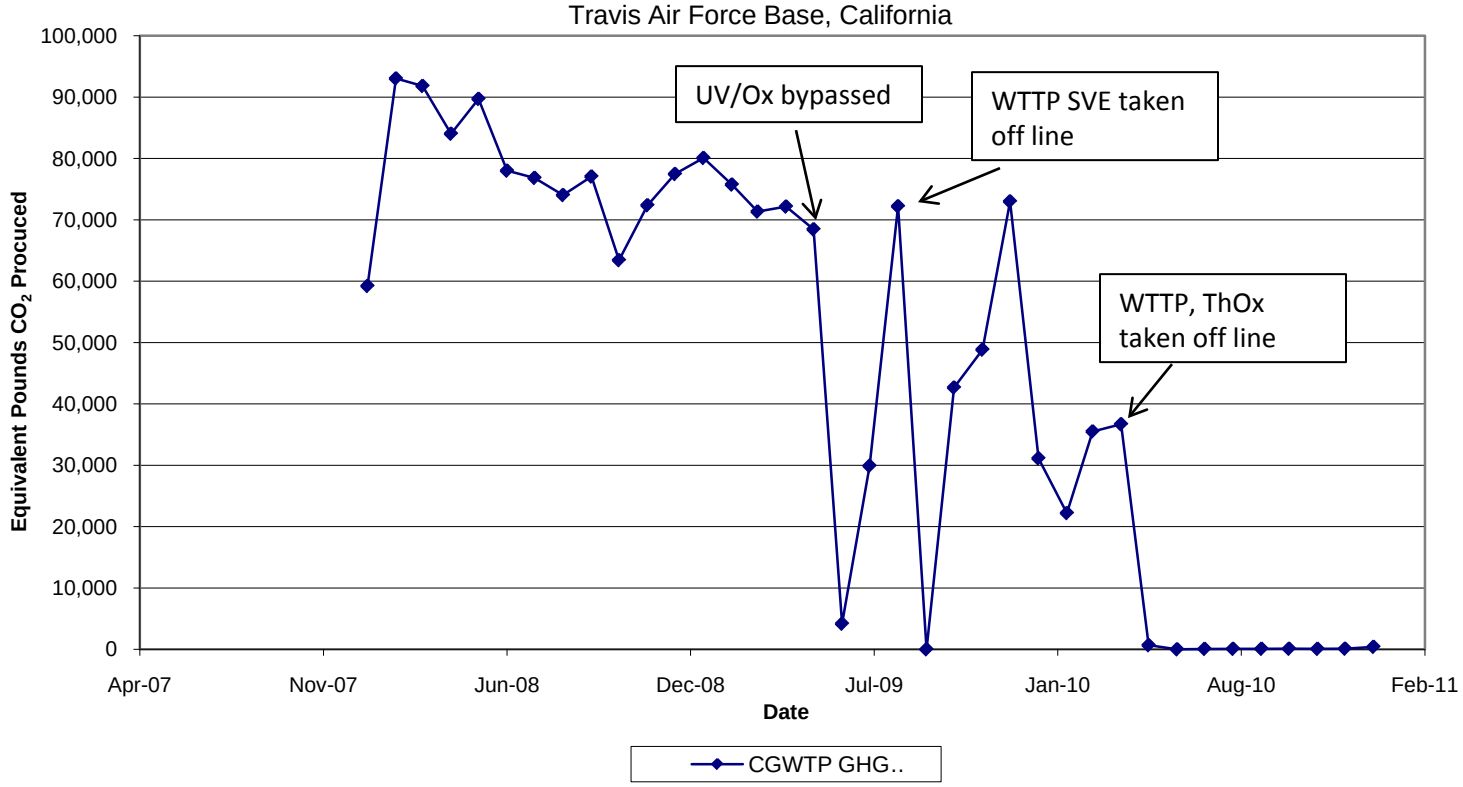
Figure 1
CGWTP Total VOC Influent Concentrations
Travis Air Force Base, California
Total VOC concentration (µg/L)
600
500
400
300
200
100
0
CGWTP off line during fire station construction
Dec-09
Jan-10
Mar-10
May-10
Jun-10
Aug-10
Sep-10
Nov-10
Jan-11
Feb-11
CGWTP Influent Concentration

Sustainability

Travis AFB is committed to decreasing the amount of GHG produced directly (waste streams discharging GHG) or indirectly (GHG produced as related to electrical energy consumption) from all systems across Travis AFB. Travis AFB continues to optimize each treatment plant to reduce the amount of electrical energy consumed, and to implement sustainable treatment plant optimization programs, such as bioreactors and EVO injection well networks.

Figure 1 presents the historical GHG production from the systems associated with the CGWTP. These include the WTTP and ThOx systems. The CGWTP produced approximately 403 pounds of GHG during January 2011. This is an increase from December 2010, but still an overall decrease since the UV/Ox, ThOx, and WTTP were all taken off line.

Figure 1
Equivalent CO_2 Emissions Produced by the Central Groundwater Treatment Plant through January 2011
Travis Air Force Base, California



Travis AFB
Restoration Program

Management Overview Briefing

RPM Meeting

February 16, 2011

Completed Documents

- Basewide Health & Safety Plan (HSP)
- Action Plan
- 2007/2008 GSAP Annual Report
- LF007C RPO Work Plan
- LF008 Rebound Study Work Plan
- SS014 Tier 1 POCO Evaluation WP
- ST027B Site Characterization WP
- SS030 RPO Work Plan
- ST032 POCO Technical Memo
- DP039 Bioreactor Work Plan
- 2008 Annual GWTP RPO Report
- Passive Diffusion Bag (PDB) Technical Memo
- RD/RA QAPP Update
- ST032 Tier 1 POCO Evaluation WP
- Phytostabilization Demonstration Tech Memo
- Model QAPP
- LF008 Rebound Test Tech Memo
- Comprehensive Site Evaluation Phase II Work Plan
- Field Sampling Plan (FSP)
- SS016 RPO Work Plan
- ST018 POCO RA Work Plan
- Vapor Intrusion Assessment Report
- GSAP 2008/2009 Annual Report
- FT005 Data Gap Work Plan
- First and Second Site DP039 Sustainable Bioreactor Demonstration Progress Reports
- DP039 RPO Work Plan
- SD036/SD037 RPO Work Plan
- ST027B Site Characterization Report
- 2009 GWTP RPO Annual Report
- Natural Attenuation Assessment Report (NAAR)
- Union Creek Sites SD001 & SD033 Remedial Action Report
- CAMU 2008-2009 Monitoring Annual Report
- Phytostabilization Study Report

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Completed Field Work

- ST027B Gore Sorber Survey – Ph 1
- ST027B Field Sampling – Phase 2
- GSAP 2008 Semi-annual Event
- ST027B Installation of Wells – Phase 3
- SS014 Site Characterization
- LF008 Rebound Study
- GSAP Annual Sampling Event - 2009
- SS030 Site Characterization – Ph 1
- ST027 Site Characterization -Ph 3
- ST014 Monitor Well Install - Subsite 3
- SD001/SD033 Sediment RA
- SS016 Site Characterization (OSA source area)
- ST018 Site Characterization
- SS030 Site Characterization (Off-base VOC Plume)
- DP039 Site Characterization (for Biobarrier Placement)
- SS014 & ST032 Q1 2010 MNA Sampling (2nd of 4 quarterly events)
- SD036 Additional Site Characterization (north & east)
- Therm/Ox System Removal
- SS016 Monitoring Well Installation
- SD037 EVO Injection Well Installation
- DP039 Monitoring Well & Injection Well Installation
- DP039 EVO Injection
- SD037 Monitoring Well Installation
- GSAP 2010 Annual Sampling Event
- SD037 EVO Injection
- SS015 Site Characterization
- South Plant GAC Change-out
- FT005 Data Gap Investigation
- SS016 Position Survey of EW03
- SS016 Bioreactor Installation
- SS016 Bioreactor Baseline Sampling
- DP039 Biobarrier Quarterly Performance Sampling
- DP039 Bioreactor Quarterly Performance Sampling
- SD037 EVO Quarterly Performance Sampling
- SS015 EVO Baseline Sampling
- SD036 EVO Baseline Sampling
- SS016 Bioreactor Startup
- SD036 Injection Well Installation (8)
- SS015 Injection Well Installation (5)
- ST018 GETS Installation
- SD036 EVO Injection
- Semiannual GSAP
- SS015 EVO Injection
- ***Quarterly RPO Performance Monitoring (Feb 2011)***

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In-Progress Documents & Field Work

Documents

- Comprehensive Site Evaluation Phase II Report
- ISCO/ERD Tech Memo
- 2009/2010 Annual GSAP Report
- SS015 Remedy Optimization Field Implementation Plan
- Focused Feasibility Study (FFS)
- SD036 Remedy Optimization Field Implementation Plan
- 2010 Annual CAMU Inspection Report
- ***Sites SS014 and ST032 Tier 1 POCO Evaluation Report***

Field Work

- ***None***

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Upcoming Documents

- Site ST018 POCO Field Implementation Report — Apr
- 2010 Groundwater RPO Annual Report** — Apr
- Baseline Implementation Report (Sites SS015, SS016, SD036, SD037, and DP039) — Apr
- FT005 Data Gap Investigation Report — TBD

**

- ***The RPO Annual Report will be changed from strictly focusing on treatment plants, to include other RPO actions:***
  - *Bioreactor performance monitoring*
  - *EVO performance monitoring*
  - *Rebound studies monitoring*
- ***The Monthly Data Sheets will present the performance monitoring and rebound data as we get it. Then, annually, the data will be rolled up into the Groundwater RPO Annual report.***

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Upcoming Field Work

- ST018 GETS Startup — Feb
- 2011 Annual GSAP Sampling — Apr
- Quarterly RPO Performance Monitoring — May
  - SS016 Bioreactor Initial Quarterly Performance Sampling
  - SD036 EVO Second Quarterly Performance Sampling
  - SD037 EVO Third Quarterly Performance Sampling
  - DP039 Biobarrier Third Quarterly Performance Sampling
  - DP039 Bioreactor Ongoing Semiannual Performance Sampling
- LF007C Site Characterization (Wetlands)* — Jun

* Estimated time – dependent on USFWS approval to sample in the vernal pool footprint

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Travis AFB
Field Schedule - 2011

RPM Meeting

February 16, 2011

2011 Field Schedule

- ST018 GETS Startup — Feb
- 2011 Annual GSAP Sampling — Apr - Jun
- Quarterly RPO Performance Monitoring — May
  (sites SS015 EVO injection, SS016 bioreactor, SD036 EVO injection, SD037 EVO injection, DP039 bioreactor, & DP039 EVO biobarrier)
- LF007C Remedy Optimization Investigation — Jun
- Quarterly RPO Performance Monitoring — Aug
  (sites SS016 bioreactor, SD036 EVO injection, SD037 EVO injection, & DP039 EVO biobarrier)
- FT005 Soil Remedial Action — June
- Quarterly RPO Performance Monitoring — Nov
  (sites SS015 EVO injection, SS016 bioreactor, SD036 EVO injection, SD037 EVO injection, DP039 bioreactor, & DP039 EVO biobarrier)
- 2011 Semiannual GSAP Sampling — Nov - Dec