Final

Travis Air Force Base
Environmental Management
Building 570, Travis AFB, California
Environmental Restoration Program
Remedial Program Managers
Meeting Minutes

27 February 2008, 1130 Hours

Mr. Mark Smith, Travis Air Force Base (AFB), conducted the Remedial Program Managers (RPM) meeting on 27 February 2008 at 1130 in the Environmental Flight Conference Room, Building 570, Travis AFB, California. Attendees included:

• Mark Smith	Travis AFB
• Lonnie Duke	Travis AFB
• Glenn Anderson	Travis AFB
• Greg Parrott	Travis AFB
• James Chang	U.S. Environmental Protection Agency (USEPA)
• Rich Freitas	U.S. Environmental Protection Agency (USEPA)
• Alan Friedman	California Regional Water Quality Control Board (CRWQCB)
• Jose Salcedo	Department of Toxic Substances Control (DTSC)
• Tom Barry	Shaw Engineering and Infrastructure (Shaw E&I)
• Bob Hulet	Shaw Engineering and Infrastructure (Shaw E&I)
• Mary Snow	TechLaw
• Mike Wray	CH2M Hill
• Daphne Williams	Newfields
• Dezso Linbrunner	U.S. Army Corps of Engineers, Omaha District

Handouts distributed throughout the meeting included:

• Attachment 1	Meeting Agenda
• Attachment 2	Master Meeting, Teleconference, and Document Schedules
• Attachment 3	SBBGWTP Monthly Data Sheet (January 2008)
• Attachment 4	CGWTP Monthly Data Sheet (January 2008)
• Attachment 5	NGWTP Monthly Data Sheet (January 2008)

1. ADMINISTRATIVE

A. Previous Meeting Minutes

The January 2008 RPM meeting minutes were approved and finalized.

B. Action Item Review

No new action items.

C. Meeting Dates and Master Document Schedule Review

The Travis AFB Master Meeting, Teleconference, and Document Schedules were discussed during this meeting (see Attachment 2).

Travis AFB Annual Meeting and Teleconference Schedule

— There is no scheduled teleconference in March. The 19 March RPM meeting will be a teleconference at 9 am.

Travis AFB Master Document Schedule

— Soil Remedial Action Report: Some dates in the document schedule will need to be changed. The publishing of the draft report is on hold due to funding issues. The decision has been made to finish the draft internally. Once funding is received, the report will be printed and sent to the regulatory agencies for their review. If the on-base printing office can't be used, then Kinkos will be used. Mr. Anderson stated the base is trying to get the report out as soon as possible as there are other documents coming up for agency review, and he doesn't want to have them all delivered to the agencies at the same time.

— POCO MNA Evaluation Report will be added to the schedule.

— GSAP Annual Report: Response to Comments due date changed to 19 March 2008. This date is the same also for Final Due.

— Groundwater ROD Support VI Screening Level Assessment: Added to schedule. Depending on comments received from agencies, a Response to Comments meeting may not be needed. Comments may be resolved with a teleconference. The 19 March 2008 date for a RTC meeting was left on the schedule.

— Guardian quarterly newsletter: The newsletter will be issued on 17 April to support the next RAB meeting.

— Information Documents: The Groundwater Treatment Plant Annual Report has been set to final as of 27 February 2008.

3. CURRENT PROJECTS

A. Treatment Plant Operation and Maintenance Update

Mr. Duke reported on the water treatment plant sites. There were questions on why certain wells were selected to be shut down. Wells were taken offline for a rebound study. These wells have been non-detect for the analytes of interest. Wells that were taken offline are off base. There was concern that the wells were pulling contaminants over from other areas. Part of the rebound study is to keep wells that have contaminants in operation and to investigate the wells that have nondetects to see if they remain ND.

1. South Base Boundary Groundwater Treatment Plant

The South Base Boundary Groundwater Treatment Plant (SBBGWTP) performed at 88.9% uptime, and 2.82 million gallons of groundwater were extracted and treated during the month of January 2008. All of the treated water was discharged to Union Creek. The average flow rate for the SBBGWTP was 71.0 gallons per minute (gpm). Approximately 2.0 pounds of volatile organic compounds (VOCs) was removed during January 2008. The total mass of VOCs removed since the startup of the system is 326.6 pounds (see Attachment 3).

Severe weather conditions caused a power outage and a shutdown of the plant on January 4th thru the 7th.

No new optimization activities were conducted in January 2008.

2. Central Groundwater Treatment Plant

The Central Groundwater Treatment Plant (CGWTP) performed at 81.1% uptime with approximately 1.5 million gallons of groundwater extracted and treated during the month of January 2008. All treated water was diverted to the storm drain. The average flow rate for the CGWTP was 40.1 gpm. Approximately 7.8 pounds of VOCs were removed from groundwater, and 3.8 pounds from vapor, during January 2008. The total mass of VOCs removed since the startup of the system is 10,710 pounds. (see Attachment 4).

Severe weather conditions caused a power outage and a shutdown of the CGWTP on January 4th thru the 7th.

The ThOx system was shutdown on several occasions due to stormy weather, including having the exhaust stack blow off from the high winds. It was recovered and reattached.

The team is working on how to optimize the CGWTP. The carbon change-out for the GAC vessel is on-hold while optimization options for the entire treatment system are being evaluated. The system performance will continue to be monitored in the upcoming months.

3. North Groundwater Treatment Plant

The North Groundwater Treatment Plant (NGWTP) performed at 88.8% uptime with approximately 260,000 gallons of groundwater extracted and treated during the month of January 2008. All treated water was discharged to the duck pond. The average flow for the NGWTP was 6.5 gpm. Less than a pound of VOCs was removed during January 2008. The total mass of VOCs removed since the startup of the system is 5,414 pounds (see Attachment 5).

Severe weather conditions caused a power outage and a shutdown of the plant on January 4th thru the 7th.

No new optimization activities were conducted in January 2008. The plant is not very cost efficient (approximately $700 per ounce).

B. Petroleum Only Contamination (POCO) Status

Mr. Duke gave an update on the Petroleum Only Contamination (POCO) status. The primary document will be added to the schedule.

Data for the fourth and final sampling event is coming in. By the next meeting information will be added as to when the report will be out.

C. EPA 5 Year Review

Mr. Anderson will follow up on the community relations requirements mentioned by Mr. Cooper at the last meeting. Specific requirements will need to be addressed prior to issuing the draft. We need to determine whether a newspaper notice or some other type of special notice needs to be issued.

4.0 General Discussion

Mr. Chang stated that he would like to provide comments on the Annual Land Use Control report. He will send an email to Mr. Anderson. Soil sites are mentioned in the report, and there is concern about the ICs and vapor intrusion controls for groundwater sites as well.

The intent is not to have to update the annual report to address all the groundwater sites. The base could mention in the 5 Year Review the actual requirements that will be addressed in the upcoming Feasibility Study for the groundwater sites.

The Annual Land Use Control report initially addressed soil sites with remedies that are selected in a Record of Decision. Groundwater information can be added, if needed.

Pertaining to the Second Five-Year Review report, Mr. Chang suggested that any concerns from the first Five-Year Review report be addressed first, to start the

new report with a clean slate. The concerns and how they were addressed can be placed in an appendix. Also, the base should clarify in the title of the report that this is the 2nd Five Year Review report for Travis AFB.

TRAVIS AIR FORCE BASE
ENVIRONMENTAL RESTORATION PROGRAM
REMEDIAL PROGRAM MANAGER'S MEETING
27 February 2008, 9:30 A.M.
AGENDA

1. PROGRAM/ISSUES/UPDATE (0930 – 1100)

   A. PBC OBJECTIVES (NEWFIELDS AND ERP STAFF) **GOV ONLY MTG**

2. ADMINISTRATIVE (1100 – 1115) **REGULAR RPM MEETING**

   A. PREVIOUS MEETING MINUTES (ALL)
   B. ACTION ITEM REVIEW (ALL)
   C. MEETING DATES AND MASTER DOCUMENT SCHEDULE REVIEW (ALL)

3. CURRENT PROJECTS (1115 – NOON)

   A. TREATMENT PLANT OPERATION AND MAINTENANCE UPDATE (LONNIE)
   B. PETROLEUM ONLY CONTAMINATION (POCO) STATUS (LONNIE)
   C. EPA 5 YEAR REVIEW (GLENN)

4. NEW ACTION ITEM REVIEW

5. GSAP RESPONSE TO COMMENTS MEETING (1330 – 1700) **GOV AND CH2M HILL**

Travis AFB Master Meeting and Document Schedule

Annual Meeting and Teleconference Schedule

Suppliers Teleconference (8:30 a.m. - 10:00 a.m.)	Monthly RPM Meeting (Begins at 9:30 a.m.)	Monthly 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.)
1-22-08	1-23-08	1-7-08*	—
2-26-08	2-27-08	2-4-08	—
3-18-08	3-19-08	—	—
4-22-08	4-23-08	4-7-08	4-24-08
5-20-08	5-21-08	5-5-08	—
6-17-08	6-18-08	6-2-08	—
7-22-08	7-23-08	7-7-08**	—
8-26-08	8-27-08	8-11-08	—
9-23-08	9-24-08	9-8-08	—
10-21-08	10-22-08	10-6-08	10-23-08
—	—	11-10-08	—
12-09-08	12-10-08	—	—

*During the 7 Jan teleconference an additional meeting with EPA was scheduled for 9-10 Jan to discuss past GSAP issues in preparation for moving ahead with the current GSAP and the upcoming Groundwater Performance Based Contract (PBC).

**Holiday Weekend

Travis AFB Master Document Schedule
(continued)

	PRIMARY DOCUMENTS			
	Basewide **Travis, Glenn Anderson**	**Potrero Hills Annex** **Travis, Glenn Anderson**	**Five Year Review** **Travis, Glenn Anderson**	**Soil Remedial Action Report** **Travis, Glenn Anderson**
Life Cycle	**Groundwater ROD**	**Potrero Hills ROD**		**FT003, FT004, LF007E, SD045**
Scoping Meeting	**1-24-07**	**180 days after Water Board Order Rescinded**	**01-23-08**	**NA**
Predraft to AF/Service Center	2-01-09	+ 360 days	03-11-08	01-29-08
AF/Service Center Comments Due	4-01-09	+ 420 days	03-26-08	02-13-08
Draft to Agencies	6-15-09	+ 480 days	04-10-08	02-22-08
Draft to RAB	6-15-09	+ 480 days	04-10-08	02-22-08
Agency Comments Due	8-15-09	+ 540 days	05-15-08	04-22-08
Response to Comments Meeting	**9-01-09**	**+ 555 days**	**05-21-08**	**04-23-08**
Agency Concurrence with Remedy	9-15-09	+ 570 days	**NA**	NA
Draft Proposed Plan to Agencies	12-01-09	+ 600 days	NA	NA
Issue Proposed Plan	1-15-10	+ 615 days	NA	NA
Public Comment Period	1-15-10 to 2-15-10	+ 615 to 645 days	NA	NA
Public Meeting	**1-28-10**	**+ 625 days**	**NA**	NA
Response to Comments Due	3-01-10	+ 640 days	06-18-08	05-13-08
Draft Final Due	3-01-10	+ 640 days	07-28-08	05-13-08
Final Due	5-01-10	+ 700 days	08-27-08	06-13-08

Travis AFB Master Document Schedule
(Continued)

SECONDARY DOCUMENTS		
Life Cycle	**2007 GSAP Annual Report Travis, Lonnie Duke; CH2M Hill, Mike Wray**	**Groundwater ROD Support VI Screening Level Assessment Travis, Glenn Anderson; CH2M Hill, Mike Wray**
Scoping Meeting	**NA**	**NA**
Predraft to AF/Service Center	10-19-07	01-18-08
AF/Service Center Comments Due	11-02-07	02-08-07
Draft to Agencies	11-16-07	02-15-08
Draft to RAB	11-16-07	02-15-08
Agency Comments Due	01-18-08	03-14-08
Response to Comments Meeting	**02-27-08**	**03-19-08**
Response to Comments Due	03-05-08	04-11-08
Draft Final Due	03-05-08	04-11-08
Final Due	03-05-08	04-11-08
Public Comment Period	NA	NA
Public Meeting	NA	NA

Travis AFB Master Document Schedule
(Continued)

INFORMATIONAL DOCUMENTS	
Life Cycle	**Quarterly Newsletters (April 2008) Travis, Mark Smith**
Scoping Meeting	NA
Predraft to AF/Service Center	NA
AF/Service Center Comments Due	NA
Draft to Agencies	3-19-2008
Draft to RAB	NA
Agency Comments Due	4-04-2008
Response to Comments Meeting	**TBD**
Response to Comments Due	4-11-2008
Draft Final Due	TBD
Final Due	4-17-2008
Public Meeting	NA

Travis AFB Master Document Schedule
(Continued)

INFORMATIONAL DOCUMENTS		
	Groundwater Treatment Plant O&M Reports **Travis, Lonnie Duke;** **CH2M Hill, Mike Wray**	**CAMU Monitoring & Maintenance Report** **Travis, Lonnie Duke**
Life Cycle	**Groundwater Treatment Plants** **Annual Reports** **Fiscal Year 2008**	
Scoping Meeting	**NA**	NA
Predraft to AF/Service Center	2-04-08	08-15-08
AF/Service Center Comments Due	2-08-08	08-30-08
Draft to Agencies	NA	NA
Draft to RAB	NA	NA
Agency Comments Due	NA	NA
Response to Comments Meeting	**NA**	NA
Response to Comments Due	NA	NA
Draft Final Due	NA	NA
Final Due	2-14-08	09-12-08
Public Comment Period	NA	NA
Public Meeting	**NA**	NA

South Base Boundary Groundwater Treatment Plant
Monthly Data Sheet

Report Number: 90 **Reporting Period: 1 – 31 January 2008** **Date Submitted: 18 February 2008**

This data sheet includes the following: results for the operation of the South Base Boundary Groundwater Treatment Plant (SBBGWTP); a summary of flow rates for the individual extraction wells; a brief description of any shutdowns or significant events related to the system: and a summary of analytical results for selected samples collected.

Operations Summary – January 2008

Operating Time: **661.5 hours** Percent Uptime: 88.9**%**

Electrical Power Usage: 14,904 kWh

Gallons Treated: **2.82 million gallons** Gallons Treated Since July 1998: **592 million gallons**

Volume Discharged to Union Creek: **2.82 million gallons**

Volume Used for Dust Suppression: **0 gallons**

VOC Mass Removed: **2.0 pounds**[a] VOC Mass Removed Since July 1998: **326.6 pounds**

Rolling 12-Month Cost per Pound of Mass Removed: $3,640[b]

Monthly Cost per Pound of Mass Removed: $4,329[b]

[a] Calculated using January 2008 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. High costs are due to low influent concentrations

Flow Rates

Average Groundwater Total Flow Rate: **71.0**[a]

Average Flow Rate (gpm)[b]							
FT005				**SS029**		**SS030**	
EW01x05	2.5[d]	EW736x05	3.3	EW01x29	5.6[d]	EW01x30	4.8
EW02x05	1.2	EW737x05	Off line[c]	EW02x29	10.1	EW02x30	1.2
EW03x05	3.9	EW742x05	Off line[c]	EW03x29	Off line[e]	EW03x30	Off line[e]
EW731x05	Off line[c]	EW743x05	Off line[c]	EW04x29	12.6	EW04x30	20.3
EW732x05	Off line[c]	EW744x05	Off line[c]	EW05x29	4.1	EW05x30	12.1
EW733x05	Off line[c]	EW745x05	Off line[c]	EW06x29	2.7[d]	EW06x30	3.2[d]
EW734x05	0.0[d]	EW746x05	Off line[c]	EW07x29	Off line[e]	EW711x30	3.5
EW735x05	4.4						
FT005 Total:	**15.3**			**SS029 Total:**	**35.1**	**SS030 Total:**	**45.1**

[a] The average groundwater flow rate was calculated using the Union Creek Discharge Totalizer and dividing it by the operating time of the plant.
[b] Average extraction well flow rates measured by each extraction well totalizer divided by the well's operating time.
[c] Extraction well was shutdown for a one-year rebound study in December 2007 based on the *Work Plan for RPO Actions at Sites SD031, FT004, and FT005* (CH2M HILL, 2007).
[d] Extraction well was pumping for less than 50% of the operating time.
[e] Extraction well was off line due to low VOC concentrations.

gpm—gallons per minute

Shutdown/Restart Summary

Location	Shutdown		Restart		Cause
	Date	Time	Date	Time	
SBBGWTP (water)	4 January 2008	05:00	7 January 2008	15:30	Power outage due to severe weather conditions.

SBBGWTP = South Base Boundary Groundwater Treatment Plant

Summary of O&M Activities

Monthly groundwater sampling at the SBBGWTP was performed on 2 January 2008. Sample results are presented in Table 1. The total VOC concentration (86.4 µg/L) in the influent sample has increased slightly since the December 2007 sample (77.8 µg/L). All VOCs were non-detect in the effluent sample.

On 4 January 2008, a severe storm moved through Travis AFB, and all the treatment systems were shutdown due to an electrical power outage.

Optimization Activities

On 4 December 2007, nine extraction wells (EW731x05, EW732x05, EW733x05, EW737x05, and EW742x05 through EW746x05) were shut down for rebound testing in accordance with the *Work Plan for Remedial Process Optimization (RPO) Actions at Sites SD031, FT004, and FT005* (CH2M HILL, 2007). These extraction wells will remain off-line for one year. At the end of the rebound period, the groundwater extraction wells will be sampled to assess plume stability. During January 2008, no new optimization activities were conducted.

Table 1
Summary of Groundwater Analytical Data for January 2008 – South Base Boundary Groundwater Treatment Plant

Constituent	Instantaneous Maximum[a] (µg/L)	Detection Limit (µg/L)	N/C	2 January 2008 (µg/L)	
				Influent	Effluent
Halogenated Volatile Organics					
Bromodichloromethane	0.5	0.17	0	ND	ND
Carbon Tetrachloride	0.5	0.19	0	ND	ND
Chloroform	5	0.16	0	ND	ND
Dibromochloromethane	0.5	0.17	0	ND	ND
1,1-Dichloroethane	5	0.16	0	ND	ND
1,2-Dichloroethane	0.5	0.13	0	ND	ND
1,1-Dichloroethene	5	0.14	0	ND	ND
cis-1,2-Dichloroethene	5	0.15	0	5.4	ND
trans-1,2-Dichloroethene	5	0.15	0	ND	ND
Methylene Chloride	5	0.32	0	ND	ND
Tetrachloroethene	5	0.20	0	ND	ND
1,1,1-Trichloroethane	5	0.16	0	ND	ND
1,1,2-Trichloroethane	5	0.32	0	ND	ND
Trichloroethene	5	0.16	0	81	ND
Vinyl Chloride	0.5	0.17	0	ND	ND
Non-Halogenated Volatile Organics					
Benzene	1.0	0.16	0	ND	ND
Ethylbenzene	5.0	0.16	0	ND	ND
Toluene	5.0	0.17	0	ND	ND
Xylenes	5.0	0.34	0	ND	ND
Other					
Total Petroleum Hydrocarbons – Gasoline	50	4.9	0	NM	ND
Total Petroleum Hydrocarbons – Diesel	50	33	0	NM	ND
Total Suspended Solids (mg/L)	NE	1.1	0	2.8	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

Central Groundwater Treatment Plant Monthly Data Sheet

Report Number: 103 Reporting Period: 1 – 31 January 2008 Date Submitted: 18 February 2008

This data sheet includes the following: results for the operation of the Central Groundwater Treatment Plant (CGWTP), West Treatment and Transfer Plant (WTTP), and thermal oxidation (ThOx) system (previously referred to as the two-phase extraction [TPE] system); a summary of flow rates for the CGWTP, WTTP, ThOx, and extraction wells EW01x16, EW02x16, EW03x16, EW605x16, and EW610x16; a brief description of any shutdowns or significant events related to the systems: and a summary of analytical results for selected samples collected.

Operations Summary – January 2008

Operating Time:		Percent Uptime:		Electrical Power Usage:	
CGWTP:	603.5 hours	**CGWTP:**	81.1%	**CGWTP:**	6,040 kWh
WTTP:	Water: 245.5 hours	**WTTP:**	Water: 33.0%	**WTTP:**	7,547 kWh
	Vapor: 178 hours		Vapor: 23.9%		
ThOx:	346 hours	**ThOx:**	46.5%	**ThOx:**	8,471 kWh

Gallons Treated: **1.5 million gallons**

Gallons Treated Since January 1996: **370 million gallons**

VOC Mass Removed:

7.8 lbs (groundwater only)[a]

3.8 lbs (vapor only)[b]

VOC Mass Removed Since January 1996:

2,258 lbs from groundwater

8,452 lbs from vapor

UV/Ox DRE: 100%

ThOx DRE: 99.9%

Rolling 12-Month Cost per Pound of Mass Removed: $850[c]

Monthly Cost per Pound of Mass Removed: $1,424[c]

[a] Calculated using January 2008 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.

DRE = destruction removal efficiency UV/Ox = ultraviolet oxidation

Flow Rates

Average Groundwater Flow Rate: **40.1 gpm**[a]

Location	Average Flow Rate	
	Groundwater (gpm)[b]	Soil Vapor (scfm)
EW01x16	20.5	NA
EW02x16	5.2[c]	NA
EW03x16	Off line[d]	NA
EW605x16	7.7	NA
EW610x16	3.2	NA
WTTP	18.0[e]	131
ThOx	< 0.2	54.5

[a] as measured by the effluent discharge to the storm drain divided by the operating time.
[b] as measured by extraction well totalizer divided by the operating time.
[c] EW02x16 (water) was turned on 21 June 2007.
[d] EW03x16 (water) was taken off line in September 2002 due to a significant decrease in flow rates. This well is currently being evaluated for returning to operation.
[e] as measured by the effluent groundwater pumped to the CGWTP divided by the operating time.

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

Shutdown/Restart Summary

Location	Shutdown		Restart		Cause
	Date	Time	Date	Time	
CGWTP (Groundwater):					
CGWTP	4 January 2008	05:00	7 January 2008	16:30	Power outage due to severe weather conditions.
CGWTP	17 January 2008	15:30	19 January 2008	15:30	Power outage.
CGWTP	25 January 2008	06:00	25 January 2008	15:00	Power outage.
WTTP (Groundwater):					
WTTP	1 January 2008	00:00	21 January 2008	09:00	Mechanical seal leak on eductor supply pump.
WTTP	25 January 2008	06:00	25 January 2008	15:30	Power outage.
WTTP (Vapor):					
WTTP	1 January 2008	00:00	21 January 2008	09:00	SVE down due to mechanical seal leak on eductor supply pump (see above).
WTTP	25 January 2008	06:00	28 January 2008	11:00	Power outage.
ThOx (vapor):					
ThOx	1 January 2008	00:00	2 January 2008	08:00	Burner flame went out.
ThOx	4 January 2008	05:00	15 January 2008	11:00	Power outage due to severe weather conditions.

CGWTP = Central Groundwater Treatment Plant
ThOx = Thermal Oxidation System
WTTP = West Treatment and Transfer Plant

Summary of O&M Activities

Monthly groundwater sampling at the CGWTP was performed on 2 January 2008. Groundwater sample results are summarized in Table 1. The total VOC concentration (612.6 µg/L) in the January 2008 CGWTP influent groundwater sample has increased since the December 2007 sampling (339.6 µg/L). Chloroform, cis-1,2-dichloroethene (DCE), and trichloroethene (TCE) were present in the groundwater samples from the granular activated carbon (GAC) sample points. Only cis-1,2-DCE and TCE were detected in the system effluent, but at low concentrations and less than their respective effluent limits. The detections in these samples may be attributed to desorption from the GAC. The lead carbon was taken off-line and bypassed in July 2007 due to erratic performance.

On 4 January 2008, a severe storm moved through Travis AFB, and all the treatment systems were shutdown due to an electrical power outage. The exhaust stack from the ThOx blew off from the high winds. The systems were left off line from 4 through 7 January 2008. Prior to start up of the CGWTP, the UV/Ox bulb on lamp #3 was replaced. The ThOx remained off line until 15 January 2008 when the exhaust stack was reinstalled. On 19 January 2008, the UV/Ox bulb on lamp #1 was replaced.

The WTTP had been off line since 7 December 2007 due to a mechanical seal leak on the eductor supply pump. On 19 January 2008, the seal was replaced. The WTTP and the SVE system were restarted on 21 January 2008.

On 21 January 2008, the pump replacement at EW03x16 began. The pump, water level transmitter, piping, and other components were removed. The pump and water level transmitter were installed in EW03x16 and set at 150 feet in the horizontal well. The wires for the motor were connected, and new controls were installed for EW03x16. The transmitter was cleaned and tested prior to reinstallation; however, it might need to be replaced. By the end of January 2008, the evaluation of pump components was continuing, with a goal of getting EW03x16 on-line during the first quarter 2008.

Optimization Activities

An evaluation of the GAC system at the CGWTP to determine the optimum configuration of the treatment system (GAC and UV/Ox) is in progress. The system is currently running without the lead carbon. The carbon change-out for the GAC vessel is on-hold while optimization options for the entire treatment system are being evaluated. The system performance will continue to be monitored in the upcoming months.

Table 1
Summary of Groundwater Analytical Data for January 2008 – Central Groundwater Treatment Plant

Constituent	Instantaneous Maximum[a] (µg/L)	Detection Limit (µg/L)	N/C	2 January 2008 (µg/L) Influent	After UV/OX	After Carbon 1 Effluent[b]	After Carbon 2 Effluent	After Carbon 3 Effluent	System Effluent
Halogenated Volatile Organics									
Bromodichloromethane	5.0	0.17 – 0.34	0	ND	ND	NS	ND	ND	ND
Carbon Tetrachloride	0.5	0.19 – 0.38	0	ND	ND	NS	ND	ND	ND
Chloroform	5.0	0.16 – 0.32	0	ND	ND	NS	0.17 J	0.20 J	ND
Dibromochloromethane	5.0	0.17 – 0.34	0	ND	ND	NS	ND	ND	ND
1,2-Dichlorobenzene	5.0	0.13 – 0.26	0	0.51 J	ND	NS	ND	ND	ND
1.3-Dichlorobenzene	5.0	0.16 – 0.32	0	0.44 J	ND	NS	ND	ND	ND
1,4-Dichlorobenzene	5.0	0.16 – 0.32	0	ND	ND	NS	ND	ND	ND
1,1-Dichloroethane	5.0	0.16 – 0.32	0	ND	ND	NS	ND	ND	ND
1,2-Dichloroethane	0.5	0.13 – 0.26	0	ND	ND	NS	ND	ND	ND
1,1-Dichloroethene	5.0	0.14 – 0.28	0	0.62 J	ND	NS	ND	ND	ND
cis-1,2-Dichloroethene	5.0	0.15 – 0.30	0	86	ND	NS	0.50	0.67	0.41 J
trans-1,2-Dichloroethene	5.0	0.15 – 0.30	0	2.7	ND	NS	ND	ND	ND
Methylene Chloride	5.0	0.32 – 0.64	0	ND	ND	NS	ND	ND	ND
Tetrachloroethene	5.0	0.20 – 0.40	0	0.95 J	ND	NS	ND	ND	ND
1,1,1-Trichloroethane	5.0	0.16 – 0.32	0	ND	ND	NS	ND	ND	ND
1,1,2-Trichloroethane	5.0	0.32 – 0.64	0	ND	ND	NS	ND	ND	ND
Trichloroethene	5.0	0.16 – 3.2	0	520	ND	NS	2.0	0.89	0.65
Vinyl Chloride	0.5	0.17 – 0.34	0	1.4	ND	NS	ND	ND	ND
Non-Halogenated Volatile Organics									
Benzene	1.0	0.16 – 0.32	0	ND	ND	NS	ND	ND	ND
Ethylbenzene	5.0	0.16 – 0.32	0	ND	ND	NS	ND	ND	ND
Toluene	5.0	0.17 – 0.34	0	ND	ND	NS	ND	ND	ND
Total Xylenes	5.0	0.19 – 0.68	0	ND	ND	NS	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).
[b] The lead carbon unit was taken off-line and bypassed. The system is currently running w/o the lead carbon unit.
J = analyte concentration is considered an estimated value
N/C = number of samples out of compliance with discharge limits
ND = not detected
NS = not sampled
µg/L = micrograms per liter

North Groundwater Treatment Plant Monthly Data Sheet

Report Number: 92 **Reporting Period: 1 – 31 January 2008** **Date Submitted: 18 February 2008**

This data sheet includes the following: results for the operation of the groundwater extraction systems; a summary of flow rates for the individual extraction wells; a brief description of any shutdowns or significant events related to the systems: and a summary of analytical results for selected samples collected.

Operations Summary – January 2008

Operating Time: **Water:** 661 hours

Percent Uptime: **Water:** 88.8%

Electrical Power Usage: **10,751 kWh**

Gallons Treated: **0.26 million gallons**

Gallons Treated Since March 2000: **78.3 million gallons**

Volume Discharged to Duck Pond: **0.26 million gallons**

Volume Discharged to Storm Drain: **0 gallons**

Percentage of Treated Water to Beneficial Use: 100%

VOC Mass Removed:

0.04 lbs (groundwater only)[b]

0 lbs (vapor only)[a]

VOC Mass Removed Since March 2000:

173.7 lbs from groundwater

5,240 lbs from vapor[c]

Rolling 12-Month Cost per Pound of Mass Removed: $44,242[de]

Monthly Cost per Pound of Mass Removed: $203,178[d]

[a] The SVE system was shut down in December 2007 in accordance with the *Work Plan for Remedial Process Optimization (RPO) Actions at Sites SD031, FT004, and FT005* (CH2M HILL, 2007).
[b] Calculated using January 2008 EPA Method SW8260B analytical results.
[c] Cumulative total VOC vapor mass removed includes 4,860 pounds of petroleum hydrocarbon VOC mass removed and treated by a portable catalytic oxidizer system between 15 July and 17 September 2003.
[d] Costs include operations and maintenance, reporting, analytical laboratory, project management, and utility costs related to operation of the system. High costs are due to low influent groundwater concentrations and low flow rates.
[e] The rolling 12-month cost per pound of mass removed is calculated by the sum of the monthly cost over the past 12 months divided by the sum of pounds removed during the same period.

Flow Rates

Average Groundwater Total Flow Rate: **6.5 gpm**[a]

Location	Groundwater Flow Rate on 31 January 2008 (gpm)
EW565x31	Off line[b]
EW566x31	Off line[b]
EW567x31	Off line[b]
EW576x04	0.8
EW577x04	0.6
EW578x04	Off line[b]
EW579x04	Off line[b]
EW580x04	Off line[b]
EW621x04	1.0
EW622x04	0.9
EW623x04	0.8
EW614x07	Off line[c]
EW615x07	Off line[c]

[a] The flow rate was calculated using the effluent discharge totalizer divided by the operating time of the plant.
[b] Extraction well was shutdown for a one-year rebound study in December 2007 based on the *Work Plan for RPO Actions at Sites SD031, FT004, and FT005* (CH2M HILL, 2007).
[c] LF007 wells were turned off for the wet winter season on 10 January 2008.

gpm = gallons per minute

Shutdown/Restart Summary

Location	Shutdown		Restart		Cause
	Date	Time	Date	Time	
NGWTP (water)	4 January 2008	05:00	7 January 2008	16:00	Power outage due to severe weather conditions.

NGWTP = North Groundwater Treatment Plant

Summary of O&M Activities

Monthly groundwater sampling at the NGWTP was performed on 2 January 2008. Sample results are presented in Table 1. The total VOC concentration (17.3 µg/L) in the influent sample has decreased since the December 2007 sample (64.5 µg/L). Since the SD031 extraction wells were shut down, the indicator chemical for the site, 1,1-DCE, was not detected. All VOCs were non-detect in the effluent sample; however, TPH-G was detected at a concentration of 16 J µg/L.

On 4 January 2008, a severe storm moved through Travis AFB, and all the treatment systems were shutdown due to an electrical power outage. On 10 January 2008, the solar wells at Site LF007C (EW614x07 and EW615x07) were shut down for the wet winter season.

Optimization Activities

On 4 December 2007, the six extraction wells (EW565x31, EW566x31, EW567x31, EW578x04, EW579x04, and EW580x04) were shut down for rebound testing. These extraction wells will remain off-line for one year. At the end of the rebound period, the groundwater extraction wells will be sampled to assess plume stability. No other optimization activities were conducted in January 2008.

Table 1
Summary of Groundwater Analytical Data for January 2008 – North Groundwater Treatment Plant

Constituent	Instantaneous Maximum[a] (µg/L)	Detection Limit (µg/L)	N/C	2 January 2008 (µg/L)	
				Influent	Effluent
Halogenated Volatile Organics					
Bromodichloromethane	0.5	0.17	0	ND	ND
Bromoform	NE	0.19	0	ND	ND
Carbon Tetrachloride	0.5	0.19	0	ND	ND
Chloroform	5.0	0.16	0	ND	ND
Dibromochloromethane	0.5	0.17	0	ND	ND
1,1-Dichloroethane	5.0	0.16	0	ND	ND
1,2-Dichloroethane	0.5	0.13	0	ND	ND
1,1-Dichloroethene	5.0	0.14	0	ND	ND
cis-1,2-Dichloroethene	5.0	0.15	0	0.28 J	ND
trans-1,2-Dichloroethene	5.0	0.15	0	ND	ND
Methylene Chloride	5.0	0.32	0	ND	ND
Tetrachloroethene	5.0	0.20	0	ND	ND
1,1,1-Trichloroethane	5.0	0.16	0	ND	ND
1,1,2-Trichloroethane	5.0	0.32	0	ND	ND
Trichloroethene	5.0	0.16	0	17	ND
Vinyl Chloride	0.5	0.38	0	ND	ND
Non-Halogenated Volatile Organics					
Benzene	1.0	0.16	0	ND	ND
Ethylbenzene	5.0	0.16	0	ND	ND
Toluene	5.0	0.17	0	ND	ND
Xylenes	5.0	0.34	0	ND	ND
Other					
Total Petroleum Hydrocarbons – Gasoline	50	4.9	0	NM	16 J
Total Petroleum Hydrocarbons – Diesel	50	32	0	NM	ND

[a] In accordance with Appendix G of the *Travis AFB North Groundwater Treatment Plant Operations and Maintenance Manual*, Sites FT004, SD031, and LF007 Area C (URS Group, Inc., 2005).

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