Final

Travis Air Force Base
Environmental Management
Building 570, Travis AFB, California
Environmental Restoration Program
Remedial Program Manager's Partnering
Meeting Minutes

11 July 2007, 0930 Hours

Mr. Mark Smith, Travis Air Force Base (AFB), conducted the Remedial Program Manager's (RPM) Partnering meeting held on 13 June 2007 at 0930 in the Environmental Conference Room, Building 570, Travis AFB, California. Attendees included:

• Mark Smith	Travis AFB
• Wilford Day	Travis AFB
• Glenn Anderson	Travis AFB
• Greg Parrott	Travis AFB
• Lonnie Duke	Travis AFB
• Glenn Kistner	U.S. Environmental Protection Agency (U.S.EPA)
• Mike Wray	CH2M Hill
• Tom Barry	Shaw Engineering and Infrastructure (Shaw E&I)
• Bob Hulet	Shaw E&I
• Allen Mason	EQM
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Handouts for the meeting included:

• Attachment 1	Meeting Agenda
• Attachment 2	Master Meeting, Teleconference, and Document Schedules
• Attachment 3	SBBGWTP Monthly Data Sheet (June 2007)
• Attachment 4	CGWTP Monthly Data Sheet (June 2007)
• Attachment 5	NGWTP Monthly Data Sheet (June 2007)

1. ADMINISTRATIVE

A. Previous Meeting Minutes

The June 2007 RPM meeting minutes were corrected, approved, and finalized.

B. Master Meeting and Document Schedule

The Travis AFB Master Meeting, Teleconference, and Document Schedules were not changed during this meeting (see Attachment 2).

Travis AFB Annual Meeting and Teleconference Schedule

— The following changes were agreed upon for the months of July and August 2007:

Monthly RPM Teleconference	25 July - Cancelled.
Next Monthly Suppliers Mtg	14 Aug
Next Monthly RPM Meeting	15 Aug
Next Monthly RPM Telcon	29 Aug 2007

Travis AFB Master Document Schedule

— Page 2, Remedial Designs will go to history at next RPM meeting.

— EPA asked about the status of Potrero Hills. Travis agreed to provide contact information for the Water Board to EPA.

— Newsletter will not be available for agency review until 16 July, comments due on 30 July and the intent is to issue on 30 July.

2. OPERABLE UNIT UPDATE

A. North, East, West Industrial Operable Unit (NEWIOU) Soil Cleanup Status Report

1. Travis AFB Soil Cleanup Status Report

Mr. Anderson stated that field work has started and SD045 is in the process of being remediated. Prep work for remediation at FT004 is almost complete. Travis is 90% complete on opening up the CAMU and will be ready to receive contaminated soil very soon. Details will be explained further during the field trip immediately following the meeting. Mr. Anderson brought in a few samples of lead removed from site SD045. EPA will review the RAWP for SD001 and SD033 after the RPM meeting.

3. CURRENT PROJECTS

A. Treatment Plant Operation and Maintenance

1. South Base Boundary Groundwater Treatment Plant

The SBBGWTP performed at 97.1% uptime with 4 million gallons of groundwater extracted and treated during the month of June 2007. The average flow was 92.96 gpm and approximately 3 lbs of VOCs were removed. Total mass of VOCs removed since start-up of the system is 313 lbs.

There was one shutdown in June to trouble shoot and repair the motor at EW01x30.

No construction water was processed at this plant in June, however, 4000 gals of treated water was used for dust suppression during excavation at SD045. This number will be increasing during the summer construction activities.

No optimization activities were planned or performed at this plant during June.

2. Central Groundwater Treatment Plant

The CGWTP performed at 97.1% uptime with approximately 2.7 million gallons of Groundwater extracted and treated during the month. The average flow was 64.9 gpm and approximately 12 lbs of VOCs were removed during the month. The total mass of VOCs removed since start-up of the system is 10,516 lbs.

The central plant experienced several shut downs during June due to electrical power outages. EW 605X16 and EW 610X16 are off line due to a transformer change out project that is expected to last several more weeks.

The Th/Ox system is turned off for the 3 month rebound study.

The WTTP was down due to a combination of an electrical power outage and malfunctioning of the influent high level alarm.

All treated water from the CGWTP was diverted to the storm drain and provisions were made to fill water trucks for dust suppression from the plant.

3. North Groundwater Treatment Plant

The NGWTP performed at 91.1% uptime with 0.64 million gallons of groundwater extracted and treated during the month. The average flow was 15.02 gpm. Less than a pound of VOCs was removed from the groundwater during June. The total mass of VOCs removed since the startup of the system is 5,422 lbs.

The plant experienced two shutdowns due to electrical power outages.

The SVE system is off due to high water levels at the extraction wells which is normal until the beginning of summer.

All treated water was sent to the duck pond for beneficial use and provisions were made to fill water trucks for dust suppression from the plant.

B. Petroleum Only Contamination (POCO) Sites

Mr. Day gave an update on the Petroleum Only Contamination (POCO) Sites (SD018, SD027, and SD028).

Mr. Day stated that the first quarterly sample data validation is currently under review by CH2M Hill. Once we complete our review, we will forward the results on to the Water Board.

4. PROGRAM ISSUES UPDATE

Mr. Smith stated that groundwater ROD planning is underway. Some of the groundwater ROD issues include vapor intrusion into buildings that are over plumes. A project is being developed that will perform an investigation into the lines of evidence if degraded indoor air is found in our buildings. The project will include some indoor air sampling and Mr. Smith stated that he wanted regulatory involvement in developing a plan for sampling. Mr. Kistner stressed the importance of a baseline for indoor air so that you can differentiate whether the vapor intrusion is from the plume or from items or activities in the building. Mr. Kistner agreed to participate where needed and expressed several specific ideas that will be revisited once the project has begun sometime this autumn. Mr. Smith expressed a desire to begin planning in September if contractually possible.

Mr. Smith then stated that he intends to buy into a local mitigation bank using end of year funding from FY07. The reason is that a portion of the wetlands that were created in 2001 on base has failed to develop wetland characteristics, and a small amount of wetland acreage is being destroyed as a result of the soil remedial actions this summer.

ACTION ITEM LIST

ITEM	RESPONSIBLE	ACTION ITEM	DUE DATE	STATUS
1.	Air Force	To schedule a performance base acquisition briefing by the Corps of Engineers.	5-13-07	It has been determined that the ACOE intends to come to Travis AFB for a 15 August 2007 presentation on PBC. **Completed. Item Closed.**
2.	U.S. EPA	To provide the language for a letter stating that substantial continual physical onsite activities have begun.	6-18-2007	**Completed. Item Closed.**
3.	Air Force	Introduce Ms Cassa to Mr. Kistner so that the Water Board can continue to keep EPA up to date on the Potrero Hills Annex status.	8-15-2007	**Completed. Item Closed.**

TRAVIS AIR FORCE BASE
ENVIRONMENTAL RESTORATION PROGRAM
REMEDIAL PROGRAM MANAGER'S
PARTNERING MEETING
11 July 2007, 9:30 A.M.

AGENDA

1. ADMINISTRATIVE

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

2. OPERABLE UNIT UPDATE

   A. TRAVIS AFB SOIL CLEANUP STATUS REPORT (GLENN A)

3. CURRENT PROJECTS

   A. TREATMENT PLANT OPERATION AND MAINTENANCE UPDATE (TOM)
   B. PETROLEUM ONLY CONTAMINATION (POCO) STATUS (WILFORD)

4. PROGRAM/ISSUES/UPDATE

5. NEW ACTION ITEM REVIEW

6. REGULATORY REVIEW PERIOD FOR SD001/SD033 REMEDIAL ACTION WORK PLANS

2007

Travis AFB 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 6:30 p.m.)
1-23-07	1-24-07[1]	1-10-07	—
2-6-07	2-7-07	2-21-07	—
3-13-07	3-14-07	3-28-07	—
~~4-10-07~~ (Cancelled)	4-4-07	4-25-07 (Mark out)	4-19-07
5-8-07	5-9-07	5-23-07	—
6-12-07	6-13-07	6-27-07 (EPA out)	—
7-10-07	7-11-07 (Jose out)	~~7-25-07 (Alan out)~~	Base Tour
8-14-07	8-15-07	8-29-07	—
9-11-07	9-12-07	9-26-07	—
10-16-07	10-17-07	—	10-25-07
—	—	11-7-07	—
12-11-07	12-12-07	—	—

[1] – RPM meeting on the 24th of Jan will be followed by a Groundwater ROD scoping meeting from 1pm to 4pm with the regulatory agencies.

Travis AFB Master Document Schedule
(Continued)

	PRIMARY DOCUMENTS					
	Remedial Design Travis, Glenn Anderson; URS, Adam Harvey	**Remedial Design Travis, Glenn Anderson; URS, Adam Harvey**	**Remedial Design Travis, Glenn Anderson; URS, Adam Harvey**	**Remedial Design Travis, Glenn Anderson; URS, Adam Harvey**	**Remedial Design Travis, Glenn Anderson; URS, Adam Harvey**	**Remedial Design Travis, Glenn Anderson; CH2M Hill, Mike Wray**
Life Cycle	**SD001**	**SD033**	**FT003**	**FT004**	**FT005**	**LF007**
Scoping Meeting	**8-23-06**	**8-23-06**	**5-07-04**	**5-10-06**	**6-01-06**	**9-28-06**
Predraft to AF/Service Center	11-15-06	11-15-06	5-28-04	5-31-06	7-03-06	10-30-06
AF/Service Center Comments Due	12-08-06	12-08-06	6-25-04	6-20-06	7-31-06	11-27-06
Draft to Agencies	12-22-06	12-22-06	7-16-04	9-29-06	11-24-06	01-30-07
Draft to RAB	12-22-06	12-22-06	7-16-04	9-29-06	11-24-06	01-30-07
Agency Comments Due	(2-02-07) 3-1-07	(2-02-07) 3-1-07	8-16-04	10-30-06	12-29-06	3-01-07
Response to Comments Meeting	**2-14-07**	**2-14-07**	**8-23-04**	**11-08-06**	**1-10-07**	**3-7-07**
Response to Comments Due	(2-28-07) 3-14-07	(2-28-07) 3-14-07	9-29-04	NA**	NA**	(3-23-07) 4-27-07
Draft Final Due	(2-28-07) 3-14-07	(2-28-07) 3-14-07	9-29-04	NA**	NA**	(3-23-07) 4-27-07
Final Due	(3-30-07) 4-13-07	(3-30-07) 4-13-07	9-21-06*	11-13-06	1-16-07	(4-23-07) 6-01-07
Public Comment Period	NA	NA	NA	NA	NA	NA
Public Meeting	NA	NA	NA	NA	NA	NA

* The FT003 Soil Remedial Design Package was produced in 2004 and finalized after the NEWIOU Soil, Sediment and Surface Water ROD was signed.

** These design packages were not produced as Draft Final, because their regulatory agency reviews did not result in comments and requested revisions to the Draft version.
(Original Date) Actual Date

Travis AFB Master Document Schedule
(Continued)

	PRIMARY DOCUMENTS	
	Basewide Travis, Glenn Anderson	**Potrero Hills Annex Travis, Glenn Anderson**
Life Cycle	**Groundwater ROD**	**Potrero Hills ROD**
Scoping Meeting	**1-24-07**	**180 days after Water Board Order Rescinded**
Predraft to AF/Service Center	2-01-09	+ 360 days
AF/Service Center Comments Due	4-01-09	+ 420 days
Draft to Agencies	6-15-09	+ 480 days
Draft to RAB	6-15-09	+ 480 days
Agency Comments Due	8-15-09	+ 540 days
Response to Comments Meeting	**9-01-09**	**+ 555 days**
Agency Concurrence with Remedy	9-15-09	+ 570 days
Draft Proposed Plan to Agencies	12-01-09	+ 600 days
Issue Proposed Plan	1-15-10	+ 615 days
Public Comment Period	1-15-10 to 2-15-10	+ 615 to 645 days
Public Meeting	**1-28-10**	**+ 625 days**
Response to Comments Due	3-01-10	+ 640 days
Draft Final Due	3-01-10	+ 640 days
Final Due	5-01-10	+ 700 days

Travis AFB Master Document Schedule
(Continued)

SECONDARY DOCUMENTS	
Life Cycle	**2007 GSAP Annual Report Travis, Tom Sreenivasan; CH2M Hill, Mike Wray**
Scoping Meeting	**NA**
Predraft to AF/Service Center	10-19-07
AF/Service Center Comments Due	11-02-07
Draft to Agencies	11-16-07
Draft to RAB	11-16-07
Agency Comments Due	01-18-08
Response to Comments Meeting	**02-20-08**
Response to Comments Due	03-05-08
Draft Final Due	03-05-08
Final Due	03-05-08
Public Comment Period	NA
Public Meeting	NA

Travis AFB Master Document Schedule
(Continued)

INFORMATIONAL DOCUMENTS	
Life Cycle	**Quarterly Newsletters (July 2007)** **Travis, Mark Smith**
Scoping Meeting	NA
Predraft to AF/Service Center	NA
AF/Service Center Comments Due	NA
Draft to Agencies	6-29-07
Draft to RAB	NA
Agency Comments Due	7-13-07
Response to Comments Meeting	**TBD**
Response to Comments Due	7-30-07
Draft Final Due	TBD
Final Due	7-30-07
Public Meeting	NA

Travis AFB Master Document Schedule
(Continued)

INFORMATIONAL DOCUMENTS				
	Groundwater Treatment Plant O&M Reports **Travis, Tom Sreenivasan;** **CH2M Hill, Mike Wray**			
Life Cycle	**Groundwater Treatment Plants Annual Reports Fiscal Year 2007**	**Groundwater Treatment Plants First Quarter Report Fiscal Year 2007**	**Groundwater Treatment Plants Second Quarter Report Fiscal Year 2007**	**Groundwater Treatment Plants Third Quarter Report Fiscal Year 2007**
Scoping Meeting	**NA**	~~**NA**~~	~~**NA**~~	~~**NA**~~
Predraft to AF/Service Center	1-21-08	~~4-13-07~~	~~7-13-07~~	~~10-12-07~~
AF/Service Center Comments Due	1-25-08	~~4-20-07~~	~~7-20-07~~	~~10-19-07~~
Draft to Agencies	NA	~~NA~~	~~NA~~	~~NA~~
Draft to RAB	NA	~~NA~~	~~NA~~	~~NA~~
Agency Comments Due	NA	~~NA~~	~~NA~~	~~NA~~
Response to Comments Meeting	**NA**	~~**NA**~~	~~**NA**~~	~~**NA**~~
Response to Comments Due	NA	~~NA~~	~~NA~~	~~NA~~
Draft Final Due	NA	~~NA~~	~~NA~~	~~NA~~
Final Due	1-31-08	~~4-27-07~~	~~7-27-07~~	~~10-26-07~~
Public Comment Period	NA	~~NA~~	~~NA~~	~~NA~~
Public Meeting	**NA**	~~**NA**~~	~~**NA**~~	~~**NA**~~

South Base Boundary Groundwater Treatment Plant
Monthly Data Sheet

Report Number: 83 **Reporting Period: 1 – 30 June 2007** **Date Submitted: 6 July 2007**

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 – June 2007

Operating Time: **699.3 hours** Percent Uptime: 97.1**%**

Gallons Treated: **4.0 million gallons** Gallons Treated Since July 1998: **568.3 million gallons**

Volume Discharged to Union Creek: **4.0 million gallons**

Percentage of Treated Water to Beneficial Use: **0%**

VOC Mass Removed: **2.8 pounds**[a] VOC Mass Removed Since July 1998: **313 pounds**

Rolling 12-Month Cost per Pound of Mass Removed: $4,705[b]

Monthly Cost per Pound of Mass Removed: $2,499[b]

[a] Calculated using June 2007 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: **92.96**[a]

Average Flow Rate from SCADA (gpm)[b]							
FT005				**SS029**		**SS030**	
EW01x05	2.6	EW736x05	3.3	EW01x29	9.0	EW01x30	5.5
EW02x05	2.2	EW737x05	4.5	EW02x29	4.8	EW02x30	1.7
EW03x05	2.8	EW742x05	4.7	EW03x29	Off line[d]	EW03x30	Off line[d]
EW731x05	0.5	EW743x05	Off line[c]	EW04x29	9.5	EW04x30	16.1
EW732x05	3.9	EW744x05	4.9	EW05x29	8.7	EW05x30	Off line[c]
EW733x05	0.4	EW745x05	5.8	EW06x29	11.1	EW06x30	0.0
EW734x05	3.4	EW746x05	4.9	EW07x29	Off line[d]	EW711x30	4.3
EW735x05	3.0						
FT005 Total:		**46.9**		**SS029 Total:**	**43.1**	**SS030 Total:**	**27.6**

[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 operating time.
[c] Extraction well was off line during June 2007 due to pump malfunction.
[d] 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	26 June 2007	13:00	27 June 2007	09:30	Shutdown plant to perform maintenance of irrigation piping and trouble shoot/repair EW01x30 motor starter. A new starter and auxiliary contacts were installed in EW01x30.

SBBGWTP = South Base Boundary Groundwater Treatment Plant

Summary of O&M Activities

Monthly groundwater sampling at the SBBGWTP was performed on 1 June 2007. Sample results are presented in Table 1. The total VOC concentration (59.6 µg/L) in the influent sample has increased slightly since the May 2007 sample (54.1 µg/L). There were no VOCs detected in the effluent sample in June 2007. TPH-gas was detected at a concentration of 5.2 J µg/L in the effluent sample; however, this concentration is well below the instantaneous discharge maximum of 50 µg/L.

Optimization Activities

There were no optimization activities conducted at the SBBGWTP during June 2007. System optimization recommendations were included in the 2006 Annual O&M Report.

Table 1
Summary of Groundwater Analytical Data for June 2007 – South Base Boundary Groundwater Treatment Plant

Constituent	Instantaneous Maximum[a] (µg/L)	Detection Limit (µg/L)	N/C	1 June 2007 (µg/L) Influent	1 June 2007 (µg/L) 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	0.49 J	ND
1,1-Dichloroethene	5	0.14	0	ND	ND
cis-1,2-Dichloroethene	5	0.15	0	4.1	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	1	55	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	36 B	5.2 J
Total Petroleum Hydrocarbons – Diesel	50	32	0	ND	ND
Total Suspended Solids (mg/L)	NE	1.1	0	16	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: 96 **Reporting Period: 1 – 30 June 2007** **Date Submitted: 6 July 2007**

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 – June 2007

Operating Time:

CGWTP:	699.4 hours	
WTTP:	Water: 674.4 hours	Vapor: 647.1hours
ThOx:	120 hours	

Percent Uptime:

CGWTP:	97.1%	
WTTP:	Water: 93.7%	Vapor: 89.9%
ThOx:	100% prior to shutdown on 5 June 2007	

Gallons Treated: 2.7 million gallons

Gallons Treated Since January 1996: 350 million gallons

VOC Mass Removed:

8.9 lbs (groundwater only)[a]

3.2 lbs (vapor only)[b]

VOC Mass Removed Since January 1996:

2,197 lbs from groundwater

8,319 lbs from vapor

UV/Ox DRE: 100%

ThOx DRE: NA[c]

Rolling 12-Month Cost per Pound of Mass Removed: $1,318[d]

Monthly Cost per Pound of Mass Removed: $940[d]

[a] Calculated using June 2007 EPA Method SW8260B analytical results.
[b] Total VOC vapor mass removed was calculated using June 2007 EPA Method TO-14 analytical results for the DP039 extraction wells and the ThOx.
[c] Due to the very low influent VOC concentrations, the destruction removal efficiency was not calculated.
[d] Costs include operations and maintenance, reporting, analytical laboratory, project management, and utility costs related to operation of the system. High monthly costs are due to low vapor influent concentrations.

DRE = destruction removal efficiency UV/Ox = ultraviolet oxidation

Flow Rates

Average Groundwater Flow Rate: **64.9 gpm**[a]

Location	Average Flow Rate	
	Groundwater (gpm)	Soil Vapor (scfm)
EW01x16	23.4[b]	NA
EW02x16	4.37[c]	NA
EW03x16	Off line[d]	NA
EW605x16	5.96[b]	NA
EW610x16	11.8[be]	NA
WTTP	24.3[f]	114[g]
ThOx	NA	30[g]

[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.
[e] extraction well pump was replaced on 15 March 2007
[f] as measured by the effluent groundwater pumped to the CGWTP divided by the operating time.
[g] flow rate measured using pitot tube

gpm = gallons per minute
NA = not applicable

scfm = standard cubic feet per minute

Shutdown/Restart Summary

Location	Shutdown		Restart		Cause
	Date	Time	Date	Time	
ThOx (vapor)	5 June 2007	12:10			System turned off for 3-month rebound study.
WTTP (vapor)	12 June 2007	12:30	13 June 2007	16:00	High vapor temperature alarm.
CGWTP	14 June 2007	15:30	15 June 2007	15:30	Influent tank high level alarm.
WTTP	14 June 2007	15:30	15 June 2007	15:30	Influent tank high level alarm at CGWTP shut entire system down.
WTTP (vapor)	14 June 2007	15:30	15 June 2007	15:30	Influent tank high level alarm at CGWTP shut entire system down.
CGWTP	19 June 2007	18:30	20 June 2007	10:00	Plant electrical power outage.
WTTP	19 June 2007	18:30	20 June 2007	11:00	Plant electrical power outage at CGWTP shut entire system down.
WTTP (vapor)	19 June 2007	18:30	20 June 2007	11:00	Plant electrical power outage at CGWTP shut entire system down.
CGWTP	25 June 2007	15:00	25 June 2007	20:30	Plant electrical power outage.
WTTP	25 June 2007	15:00	25 June 2007	20:30	Plant electrical power outage at CGWTP shut entire system down.
WTTP (vapor)	25 June 2007	15:00	25 June 2007	20:30	Plant electrical power outage at CGWTP shut entire system down.

ThOx = Thermal Oxidation System
WTTP = West Treatment and Transfer Plant

Summary of O&M Activities

Monthly groundwater sampling at the CGWTP was performed on 1 June 2007. Groundwater sample results are summarized in Table 1. The total VOC concentration (388 µg/L) in the June 2007 influent groundwater sample has decreased since the May 2007 sample (406µg/L). Chloroform, cis-1,2-dichloroethene (DCE), and trichloroethene (TCE) were present in groundwater samples collected within the carbon treatment system. However, TCE was completely treated by the carbon system and was not detected in the system effluent. Chloroform and cis-1,2-DCE were detected in the system effluent, but at concentrations lower than the effluent limit. The detections in these samples may be attributed to desorption from the granular activated carbon (GAC). The system performance will continue to be monitored in the upcoming months.

In June 2007, several maintenance activities were performed at the CGWTP, WTTP, and extraction wells. These activities included cleaning the inline filter and filling the lubricator with oil, draining the air compressor of moisture, fixing a loose wiring connection (wire #10 which powers high level switch), replacing a pump at EW02x16, replacing the air eliminator at EW700x37, and replacing the EW720x08 flow meter. The treatment plants were shut down on two occasions (June 19 and 25) due to Base power outages. In each occasion, the systems were restarted and operating normally within a day.

The ThOx system treated soil vapor from the 2-Phase® well (TPE-W) as part of SS016 focused vapor extraction activities until it was shutdown on 5 June 2007 for a 3-month rebound study. Quarterly vapor samples collected on 1 June 2007 indicated an unexplained spike in total VOC concentrations from 102.6 ppbv in January 2007 to 28,658 ppbv in June 2007. During the rebound period, the cause of the VOC spike will be investigated. Influent

concentrations will also be monitored after the system is re-started in September 2007. Vapor results are shown in Table 2.[

The WTTP SVE system continued to treat soil vapor from DP039 wells EW563x39 and EW782x39. In addition, several WIOU wellhead vapor control valves were opened temporarily to check the vapor conveyance lines for condensate. Quarterly vapor samples collected in June 2007 indicated a decrease in total VOC concentrations from 3,835 ppbv in January 2007 to 760.2 ppbv in June 2007. Vapor results are shown in Table 3.

Optimization Activities

The ThOx system was shut down for a rebound study on 5 June, 2007 due to the very low influent vapor concentrations in vapor. This well will be re-started in September 2007. No other optimization activities occurred during June 2007. System optimization recommendations were included in the 2006 Annual O&M Report, and are currently being considered by the Restoration Staff.

Table 1
Summary of Groundwater Analytical Data for June 2007 – Central Groundwater Treatment Plant

Constituent	Instantaneous Maximum[a] (µg/L)	Detection Limit (µg/L)	N/C	1 June 2007 (µg/L) WTTP Effluent	TPE Effluent	Influent	After UV/OX	After Carbon 1 Effluent	After Carbon 2 Effluent	After Carbon 3 Effluent	System Effluent
Halogenated Volatile Organics											
Bromodichloromethane	5.0	0.17	0	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	0.5	0.19	0	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform	5.0	0.20 – 0.46	0	0.46 J	ND	0.26 J	0.21 J	0.20 J	0.26 J	0.29 J	0.21 J
Dibromochloromethane	5.0	0.17	0	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	5.0	0.13 – 0.26	0	ND	2.7	0.26 J	ND	ND	ND	ND	ND
1.3-Dichlorobenzene	5.0	0.16 – 0.22	0	ND	0.73	0.22 J	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	5.0	0.16	0	ND	1.2	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	5.0	0.16	0	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	0.5	0.13	0	ND	0.31 J	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene	5.0	0.14 – 4.7	0	4.7	ND	3.0	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	5.0	0.15 – 1.5	0	11	82	60	ND	1.5	1.9	1.2	0.84
trans-1,2-Dichloroethene	5.0	0.15	0	1.1	0.49 J	2.6	ND	ND	ND	ND	ND
Methylene Chloride	5.0	0.32	0	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	5.0	0.20	0	0.77	0.44 J	0.99	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	5.0	0.16	0	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	5.0	0.32	0	ND	0.63 J	ND	ND	ND	ND	ND	ND
Trichloroethene	5.0	0.16 – 1.6	0	170	330	320 J	ND	7.7	2.2	0.24 J	ND
Vinyl Chloride	0.5	0.17	0	ND	0.39 J	0.61	ND	ND	ND	ND	ND
Non-Halogenated Volatile Organics											
Benzene	1.0	0.16	0	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	5.0	0.16	0	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	5.0	0.17	0	ND	ND	ND	ND	ND	ND	ND	ND
Total Xylenes	5.0	0.19 – 0.34	0	ND	ND	ND	ND	ND	ND	ND	ND
Other											
Total Dissolved Solids (mg/L)	NE	4.7	0	NM	NM	NM	NM	NM	NM	770	NM

[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
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

TABLE 2
Soil Vapor Analytical Data for June 2007 – Central Groundwater Treatment Plant

Constituent	1 June 2007 (ppbv)	
	ThOx Influent	ThOx Effluent
Volatile Organics		
Benzene	55	0.12 J
Carbon Tetrachloride	ND (22)	ND (0.036)
Chloromethane	120 J	ND (0.17)
cis-1,2-Dichloroethene	3,800	ND (0.11)
1,2-Dichlorobenzene	72	ND (0.063)
1,3-Dichlorobenzene	49 J	ND (0.063)
1,4-Dichlorobenzene	67 J	ND (0.054)
1,2-Dichloroethane	ND (35)	ND (0.057)
Ethylbenzene	ND (36)	ND (0.059)
Freon 11	ND (15)	ND (0.024)
Freon 12	ND (22)	0.042 J
Freon 22	ND (33)	ND (0.053)
Freon 113	ND (15)	ND (0.024)
Methylene Chloride	92 JB	0.21 JB
Methyl Ethyl Ketone (2-Butanone)	190 J	1.3
Tetrachloroethene	65 J	ND (0.032)
Toluene	51 J	0.21
trans-1,2-Dichloroethene	ND (86)	ND (0.14)
1,2,4-Trimethylbenzene	ND (26)	ND (0.042)
1,3,5-Trimethylbenzene	ND (35)	ND (0.057)
Trichloroethene	24,000	ND (0.033)
Vinyl Chloride	140	ND (0.051)
Xylenes, m,p-	49 J	0.097 J
Xylene, o-	ND (30)	0.049 J

J = analyte concentration is considered an estimated value
ND = not detected
ppbv = parts per billion by volume
ThOx = thermal oxidation system
( ) = detection limit

Table 3
Soil Vapor Analytical Data for June 2007 – West Transfer and Treatment Plant

Constituent	1 June 2007 (ppbv)		
	SVE Influent	SVE Mid-Treatment	SVE Effluent
Volatile Organics			
Benzene	ND (1.2)	0.27	0.066 J
Bromodichloromethane	ND (0.85)	ND (0.036)	ND (0.036)
Chloroform	ND (1.2)	ND (0.049)	ND (0.049)
Chloromethane	ND (4)	0.37 J	0.61
cis-1,2-Dichloroethene	43	ND (0.11)	0.14 J
1,1-Dichloroethane	2.5 J	0.066 J	ND (0.056)
1,1-Dichloroethene	95	30	0.37
Ethylbenzene	ND (1.4)	ND (0.059)	ND (0.059)
Freon 11	ND (0.73)	0.4	0.29
Freon 12	ND (0.85)	0.38	0.56
Freon 22	ND (1.3)	0.16 J	0.18
Methylene Chloride	1.7 JB	0.22 JB	0.29 JB
Methyl Ethyl Ketone (2-Butanone)	ND (4.3)	1.2	3
Tetrachloroethene	ND (0.76)	ND (0.032)	ND (0.032)
Toluene	ND (1.2)	0.086 J	0.086 J
1,1,1-Trichloroethane	9.7	ND (0.038)	ND (0.038)
1,1,2-Trichloroethane	ND (1.2)	ND (0.049)	ND (0.049)
Trichloroethene	610	0.1 J	1.2
Vinyl Chloride	ND (1.2)	ND (0.051)	ND (0.051)
Xylenes, m,p-	ND (1.3)	0.14 J	0.11 J
Xylene, o-	ND (1.1)	0.075 J	0.054 J

J = analyte concentration is considered an estimated value
ND = not detected
ppbv = parts per billion by volume
SVE = soil vapor extraction
( ) = detection limit

North Groundwater Treatment Plant Monthly Data Sheet

Report Number: 85 **Reporting Period: 1 – 30 June 2007** **Date Submitted: 6 July 2007**

This data sheet includes the following: results for the operation of the groundwater extraction and soil vapor extraction (SVE) 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 – June 2007

Operating Time: **Water:** 655.6 hours
Vapor: 0[a]

Percent Uptime: **Water:** 91.1%
Vapor: 0%[a]

Gallons Treated: 0.64 million gallons

Gallons Treated Since March 2000: 75.3 million gallons

Volume Discharged to Storm Drain: 0 gallons

Volume Discharged to Duck Pond: 0.64 million gallons

Percentage of Treated Water to Beneficial Use: 100%

VOC Mass Removed:
0.10 lbs (groundwater only)[b]
0 lbs (vapor only)[a]

VOC Mass Removed Since March 2000:
173.0 lbs from groundwater
5,240 lbs from vapor[c]

VGAC Removal Efficiency: **NA**

Rolling 12-Month Cost per Pound of Mass Removed: $26,869[de]

Monthly Cost per Pound of Mass Removed: $35,168[d]

[a] The SVE system was shut down on 12 October 2006 due to low vapor VOC concentrations.
[b] Calculated using June 2007 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: **15.02 gpm**[a]

Location	Flow Rate on 29 June 2007	
	Groundwater (gpm)	Soil Vapor (scfm)[b]
EW565x31	1.6	Off line
EW566x31	0.4	Off line
EW567x31	2.0	NA
EW576x04	1.5	Off line
EW577x04	1.9	Off line
EW578x04	0.9	Off line
EW579x04	0.7	NA
EW580x04	1.6	NA
EW621x04	1.6	NA
EW622x04	1.5	NA
EW623x04	1.5	NA
EW614x07	1.3[c]	NA
EW615x07	1.2[c]	NA
SVE System	NA	Off line

[a] The flow rate was calculated using the effluent discharge totalizer divided by the operating time of the plant.
[b] The SVE system was shut down on 12 October 2006 due to low vapor VOC concentrations.
[c] LF007 wells were turned on for the dry season on 5 April 2007. During the dry season, these submersible pumps are solar powered, and only operate during day light hours.

gpm = gallons per minute
scfm = standard cubic feet per minute

Shutdown/Restart Summary

Location	Shutdown		Restart		Cause
	Date	Time	Date	Time	
NGWTP (water)	6 June 2007	20:45	7 June 2007	11:00	Electrical power outage.
NGWTP (water)	23 June 2007	7:00	25 June 2007	09:30	Electrical power outage
NGWTP = North Groundwater Treatment Plant					

Summary of O&M Activities

Monthly groundwater sampling at the NGWTP was performed on 1 June 2007. Sample results are presented in Table 1. The total VOC concentration (8.91 µg/L) in the influent sample has decreased since the May 2007 sample (18.15 µg/L). Note that the total influent concentration for 1,1-dichlororethene (1,1-DCE) was only 0.49 J µg/L. 1,1-DCE is the indicator chemical for Site SD031. There were no VOCs detected in the effluent sample.

The treatment plant was shut down on two occasions due to Base power outages. In both cases, the plant was restarted and operating normally within a day or two.

Optimization Activities

There were no optimization activities conducted at the NGWTP during June 2007. System optimization recommendations were included in the 2006 Annual O&M Report, and are currently being considered by the Restoration Staff.

Table 1
Summary of Groundwater Analytical Data for June 2007 – North Groundwater Treatment Plant

Constituent	Instantaneous Maximum[a] (µg/L)	Detection Limit (µg/L)	N/C	1 June 2007 (µg/L) Influent	1 June 2007 (µg/L) Effluent
Halogenated Volatile Organics					
Bromodichloromethane	0.5	0.17	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	0.49 J	ND
cis-1,2-Dichloroethene	5.0	0.15	0	0.32 J	ND
trans-1,2-Dichloroethene	5.0	0.15	0	ND	ND
Methylene Chloride	5.0	0.32	0	ND	ND
Methyl Ethyl Ketone (2-Butanone)	5.0	1.8	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	8.1	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	ND
Total Petroleum Hydrocarbons – Diesel	50	32	0	NM	ND
Total Dissolved Solids (mg/L)	NE	4.7	0	NM	1,800

[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
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