Final

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

15 June 2011, 0930 Hours

Mr. Mark Smith, Travis Air Force Base (AFB), conducted the Remedial Program Manager's (RPM) meeting on 15 June 2011 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
• Gregory Parrott	Travis AFB
• Alan Friedman	California Regional Water Quality Control Board (RWQCB)
• Jose Salcedo	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 (May 2011)
• Attachment 4	CGWTP Monthly Data Sheet (May 2011)
• Attachment 5	NGWTP Monthly Data Sheet (May 2011)
• Attachment 6	Site ST018 Monthly Data Sheet (May 2011)
• Attachment 7	Presentation: Management Overview Briefing: Activities Completed, In Progress and Upcoming
• Attachment 8	Presentation: 2011 Field Schedule Update

1. ADMINISTRATIVE

A. Previous Meeting Minutes

The 26 May 2011 RPM meeting minutes were approved and finalized as written.

B. Action Item Review.

Action items from May were reviewed.

Action item one still open. No change.

Action item two still open. No change.

Action item three still open. No change.

Action item four is closed.

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 20 July 2011.

Travis AFB Master Document Schedule

— Focused Feasibility Study (FFS): The response to comments (RTC) meeting date has been changed to 15 June 2011, the date will be a moving target due to the size of the document and ongoing discussions with the regulatory agencies. The rest of the dates will be changed accordingly.

— Proposed Plan (PP): The predraft submittal, AF/Service Center Comments Due, Draft to Agencies, Draft to RAB, Agency Comments Due, and Response to Comments Meeting will continue as "TBD" until the FFS is completed: No change.

— Groundwater Record of Decision (ROD): No change. Travis will consider scheduling a follow-on scoping meeting once the FFS is final.

— Comprehensive Site Evaluation Phase II: The Response to Comments (RTC) Meeting date was changed to reflect the date of the RTC teleconference.

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

— ISCO/ERD Technical Memorandum: Final Due date has been changed to TBD. This document is on hold. Issues raised by the agencies regarding this document may be answered in the FFS and/or the Baseline Implementation Report (BIR).

- Site FT005 Data Gaps Investigation Report: The draft to agencies date was changed to reflect the actual date the document was submitted. The rest of the dates were changed accordingly. A request by Travis was made for the agencies to meet due dates for reviews of this document.

- Site ST018 POCO Baseline Implementation Report: No change.

- Site SD036 RPO Field Implementation Plan: Final Due date was changed to reflect the actual date the document went final.

- 2010 GWTP RPO Annual Report: Draft to Agencies date has been changed to reflect actual date submitted.

- Baseline Implementation Report: This is a new report, so all due dates were added to the schedule. This report will document the site investigations, remedy optimization actions, and baseline sampling results for the emulsified vegetable oil (EVO) injection sites and bioreactor sites.

- Technical and Economic Feasibility Analysis (TEFA): All dates have been changed to TBD. Travis is to schedule a scoping meeting teleconference with the RWQCB and DTSC, and their attorneys. EPA was invited to participate. Tentatively schedule a teleconference the week of 11 July 2011.

- Quarterly Newsletter (July 2011): No change.

- 2010 CAMU Annual Report: No change.

2. CURRENT PROJECTS

Treatment Plant Operation and Maintenance Update

Mr. Duke reported on the treatment plant status.

South Base Boundary Groundwater Treatment Plant (see Attachment 3)

The South Base Boundary Groundwater Treatment Plant (SBBGWTP) performed at 100% uptime, and 4.2 million gallons of groundwater were extracted and treated during the month of May 2011. All of the treated water was discharged to Union Creek. The average flow rate for the SBBGWTP was 92.1 gallons per minute (gpm), and electrical power usage was 84,000 kWh. Approximately 11,508 pounds of CO_2 were created (based on DOE calculation); approximately 3.08 pounds of volatile organic compounds (VOCs) were removed in May. The total mass of VOCs removed since the startup of the system is 402 pounds.

Optimization Activities: No optimization activities to report for the month of May.

Mr. Salcedo said he does not recall Chloroform, on a J flag, ever being detected. Mr. Wray said that Chloroform has been detected in the past, but in small amounts, and not very often.

Central Groundwater Treatment Plant (see Attachment 4)

The Central Groundwater Treatment Plant (CGWTP) performed at 95.4% uptime with approximately 1.2 million gallons of groundwater extracted and treated during the month of May 2011. All treated water was diverted to the storm drain. The average flow rate for the CGWTP was 26.7 gpm, and electrical power usage was 1,377 kWh for all equipment connected to the Central plant; approximately 1,886 pounds of CO_2 were created. Approximately 2.28 pounds of VOCs were removed from groundwater in May. The total mass of VOCs removed since the startup of the system is 11,224 pounds.

Optimization Activities for WTTP: The WTTP remains off line since it was shut down in April 2010 for the ongoing rebound study. No additional optimization activities to report for the month of May.

Optimization Activities for CGWTP: No optimization activities to report for the month of May.

North Groundwater Treatment Plant (see Attachment 5)

The North Groundwater Treatment Plant (NGWTP) was brought on-line on 19 May 2011 for approximately four hours before system samples were collected. All groundwater was routed through the NGWTP carbon vessels and was discharged to the effluent holding tank. The transfer pump was taken off line awaiting analytical results before being discharged to the Duck Pond.

The North Groundwater Treatment Plant (NGWTP) performed at 0% uptime with approximately 130 gallons of groundwater extracted and treated during the month of May 2011. The average flow rate of the NGWTP, while operating, was 0 gpm and electrical power use was 2,154 kWh for all the equipment connected to the North plant; approximately 2,951 pounds of CO_2 was created. Approximately 0 VOCs were removed from the groundwater in May. The total mass of VOCs removed since the startup of the system is 174.3.

Note: the average flow rates were not calculated since the system only ran for startup sample collection and no water was discharged to the duck pond.

Optimization Activities: No optimization activities to report for the month of May.

Site ST018 Groundwater (MTBE) Treatment Plant (see attachment 5)

The Site ST018 (MTBE) Treatment Plant (S18GWTP) performed at 100% uptime with approximately 120 thousand gallons of groundwater extracted and treated during the month of May 2011. All treated water was diverted to the storm drain. The average flow rate for the S18GWTP was 2.4 gpm, and electrical power usage was 78

kWh for all equipment connected to the S18GWTP plant; approximately 107 pounds of CO_2 were created. Approximately 1.27 pounds of BTEX, MTBE and TPH mass were removed from groundwater in May. The total BTEX, MTBE and TPH mass removed since the startup of the system is 3.9 pounds.

Note: electrical power use is for the alarm system and a pump that pushes water through the GAC.

Optimization Activities: No optimization activities to report for the month of May.

3. Presentations

Program Update: Activities Completed, In Progress and Upcoming (see Attachment 6)

Mr. Wray reported on the status of field work and documents which are completed, in progress, and upcoming. See Attachment 6 for details.

Field Schedule (see Attachment 7)

Mr. Wray reported on the 2011 field schedule. See Attachment 7 for details.

4. New Action Item Review

None.

5. PROGRAM/ISSUES/UPDATE

None.

General Discussion

None.

7. Action Items

Item #	Responsible	Action Item Description	Due Date	Status

1.	Travis AFB	Petition to have the Lysimeter removed.	TBD	Open
2.	Travis AFB	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

TRAVIS AIR FORCE BASE
ENVIRONMENTAL RESTORATION PROGRAM
REMEDIAL PROGRAM MANAGER'S MEETING
BLDG 570, Main Conference Room
15 June 2011, 9:30 A.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. 2011 Field Schedule

4. New Action Item Review

5. PROGRAM/ISSUES/UPDATE

NOTE: We have set aside the 1 o'clock to 4 o'clock timeframe after the RPM meeting to discuss remaining EPA comments on the draft Focused Feasibility Study. Instead of a traditional response-to-comments meeting where the Air Force has already drafted preliminary responses, the purpose of this meeting is to propose ways to address remaining comments. State representatives are welcome to attend.

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	—	—
06-15-11	—	—
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	**TBD**	12-08-11
AF/Service Center Comments Due	01-13-11	**TBD**	01-11-12
Draft to Agencies	01-27-11	**TBD**	01-25-12
Draft to RAB	01-27-11	**TBD**	01-25-12
Agency Comments Due	03-31-11	**TBD**	03-28-12
Response to Comments Meeting	**06-15-11**	**TBD**	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	06-29-11	09-01-11	05-29-12
Draft Final Due	07-13-11	09-13-11	05-29-12
Final Due	08-12-11	10-13-11	06-27-12

*Public meeting to coincide with RAB meeting.

Travis AFB Master Meeting and Document Schedule

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	**06-13-11 (teleconference)**
Agency Concurrence with Remedy	NA
Public Comment Period	NA
Public Meeting	**NA**
Response to Comments Due	TBD
Draft Final Due	TBD
Final Due	TBD

Travis AFB Master Meeting and Document Schedule

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

Travis AFB Master Meeting and Document Schedule

SECONDARY DOCUMENTS			
Life Cycle	**ISCO/ERD Technical Memorandum Travis AFB, Glenn Anderson CH2M HILL, Loren Krook**	**Site FT005 Data Gaps Investigation Report Travis AFB, Lonnie Duke ITSI, Rachel Hess**	**Baseline Implementation Report POCO Site ST018 Travis AFB, Lonnie Duke CH2M HILL, Gavan Heinrich**
Scoping Meeting	**NA**	**NA**	**NA**
Predraft to AF/Service Center	08-25-10	04-15-11	04-18-11
AF/Service Center Comments Due	09-08-10 (09-10-10)	04-29-11	05-02-11
Draft to Agencies	10-06-10	05-13-11 (06-03-11)	05-20-11
Draft to RAB	10-06-10	05-13-11 (06-03-11)	05-20-11
Agency Comments Due	11-05-10	06-13-11 (07-05-11)	06-19-11
Response to Comments Meeting	**05-26-11**	**06-15-11 (07-20-11)**	**07-20-11**
Response to Comments Due	04-27-11	07-07-11 (07-22-11)	08-02-11
Draft Final Due	NA	NA	NA
Final Due	TBD	07-07-11(07-25-11)	08-02-11
Public Comment Period	NA	NA	NA
Public Meeting	**NA**	**NA**	**NA**

Travis AFB Master Meeting and Document Schedule

SECONDARY DOCUMENTS				
Life Cycle	**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**	**Technical and Economic Feasibility Analysis** **Travis AFB, Glenn Anderson** **CH2M HILL, Loren Krook**
Scoping Meeting	**NA**	**NA**	**NA**	**TBD**
Predraft to AF/Service Center	11-30-10	04-05-11	07-08-11	TBD
AF/Service Center Comments Due	12-10-10	04-19-11	07-22-11	TBD
Draft to Agencies	02-03-11	05-18-11	08-05-11	TBD
Draft to RAB	02-03-11	05-18-11	08-05-11	TBD
Agency Comments Due	03-05-11	06-18-11	09-04-11	TBD
Response to Comments Meeting	03-16-11	**07-20-11**	**09-21-11**	**TBD**
Response to Comments Due	06-07-11	08-23-11	10-04-11	TBD
Draft Final Due	NA	NA	NA	TBD
Final Due	06-07-11	08-23-11	10-04-11	TBD
Public Comment Period	NA	NA	NA	NA
Public Meeting	**NA**	**NA**	**NA**	**NA**

Travis AFB Master Meeting and Document Schedule

INFORMATIONAL DOCUMENTS		
Life Cycle	**Quarterly Newsletters (July 2011) Travis, Glenn Anderson**	**2010 CAMU Annual Report Travis AFB, Lonnie Duke ITSI, Rachel Hess**
Scoping Meeting	**NA**	**NA**
Predraft to AF/Service Center	NA	01-18-11
AF/Service Center Comments Due	NA	01-31-11
Draft to Agencies	07-05-11	03-01-11
Draft to RAB	NA	03-01-11
Agency Comments Due	07-19-11	04-01-11 (05-03-11)
Response to Comments Meeting	**TBD**	05-26-11
Response to Comments Due	07-21-11	06-02-11
Draft Final Due	NA	**NA**
Final Due	07-27-11	06-09-11
Public Comment Period	NA	**NA**
Public Meeting	**NA**	**NA**

South Base Boundary Groundwater Treatment Plant Monthly Data Sheet

Report Number: 129 **Reporting Period: 30 Apr – 31 May 2011** **Date Submitted: 14 June 2011**

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

System Metrics

Table 1 presents operation data from the May 2011 reporting period.

Table 1 – Operations Summary – May 2011

Operating Time:	Percent Uptime:	Electrical Power Usage:
SBBGWTP: 766 hours	**SBBGWTP:** 100%	**SBBGWTP:** 8,400 kWh (11,508 lbs CO_2 generated[a])

Gallons Treated: **4.2 million gallons** Gallons Treated Since July 1998: **738 million gallons**

Volume Discharged to Union Creek: **4.2 million gallons**

VOC Mass Removed: **3.08 lbs**[b] VOC Mass Removed Since July 1998: **402 lbs**

Rolling 12-Month Cost per Pound of Mass Removed: $3,612[c]

Monthly Cost per Pound of Mass Removed: $1,399

Lbs = pounds

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

[b] Calculated using May 2011 EPA Method SW8260B analytical results.

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

Table 2 presents individual extraction well flow rates along with the average system flow during the monthly reporting period.

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

FT005[b]				SS029		SS030	
EW01x05	Off line	EW736x05	Off line	EW01x29	0.5	EW01x30	12.4
EW02x05	1.8	EW737x05	Off line	EW02x29	0.2	EW02x30	0.8
EW03x05	Off line	EW742x05	Off line	EW03x29	Off line[c]	EW03x30	3.1
EW731x05	Off line	EW743x05	Off line	EW04x29	5.5	EW04x30	25.3
EW732x05	Off line	EW744x05	Off line	EW05x29	10.3	EW05x30	7.7
EW733x05	Off line	EW745x05	Off line	EW06x29	12.3	EW06x30	Dry
EW734x05	8.6	EW746x05	Off line	EW07x29	Off line[d]	EW711x30	10.0[e]
EW735x05	3.2						
FT005 Total:		**13.6**		**SS029 Total:**	**28.8**	**SS030 Total:**	**59.3**
SBBGWTP Average Monthly Flow[f]: 92.1 gpm							

[a] Extraction well flow rates are based on the monthly 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] EW03x29 off line due to low VOC concentrations.
[d] EW07x29 off line due to pump fault on 29 April 2011. Pump troubleshooting to begin in June 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 presents a summary of system shutdowns during the monthly reporting period.

Table 3 – Summary of System Shutdowns

Location	Shutdown		Restart		Cause
	Date	Time	Date	Time	
SBBGWTP	None				

SBBGWTP = South Base Boundary Groundwater Treatment Plant

Summary of O&M Activities

Monthly groundwater samples at the SBBGWTP were collected on 3 May 2011. Sample results are presented in Table 4. The total VOC concentration (87.4 µg/L) in the influent sample has increased slightly since the April 2011 sample (80.6µg/L) was collected.

Preliminary analytical results from O&M samples collected on 6 April 2011 indicated that the effluent process stream contained TPH-d in excess of discharge limits. Within 24 hours of receiving these preliminary data, confirmation samples were collected on 27 April 2011 from the influent and effluent sample ports at the SBBGWTP. Both confirmation samples were analyzed on a 24-hour turnaround time. Results from these confirmation samples indicated that no TPH-d was present at detectable concentrations in either the influent or effluent streams of the SBBGWTP. Monthly O&M samples collected in May 2011 were also analyzed for TPH-d at the influent and effluent sample ports. Results from this sampling event indicated that no TPH-d was detected in either the influent or effluent samples.

A detection of 0.24 J µg/L of TCE was detected in the effluent SBBGWTP sample collected on the 3 May 2011 sampling event. This detection is an estimated value and is below both the laboratory reporting limit and the effluent limitation (5 µg/L) for the SBBGWTP. Sample results will continue to be monitored for evidence of carbon breakthrough. The midpoint sample location between the lead and lag carbon vessels did not contain detectable amounts of TCE.

Optimization Activities

No optimization activities occurred at the SBBGWTP in May 2011.

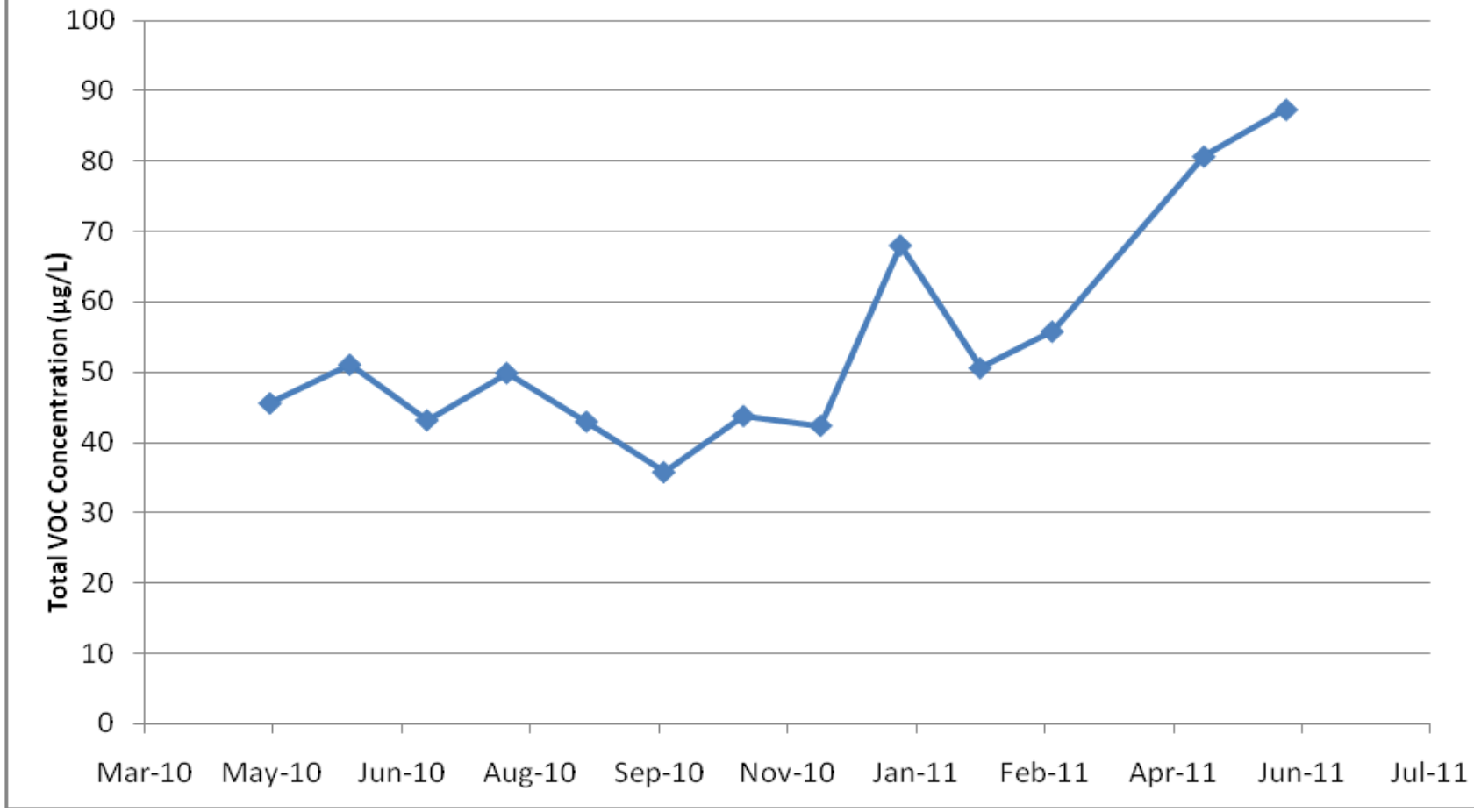
Table 4
Summary of Groundwater Analytical Data for May 2011 – South Base Boundary Groundwater Treatment Plant

Constituent	Instantaneous Maximum[a] (µg/L)	Detection Limit (µg/L)	N/C	3 May 2011 (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	0.17 J	0.18 J	ND
Dibromochloromethane	5.0	0.13	0	ND	ND	ND
1,1-Dichloroethane	5.0	0.15	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	6.0	0.87 J	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	81.2	ND	0.24 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	36 J	NM	ND
Total Petroleum Hydrocarbons – Diesel	50	50	0	ND	NM	ND
Total Suspended Solids (mg/L)	NE	1.0	0	6 J	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



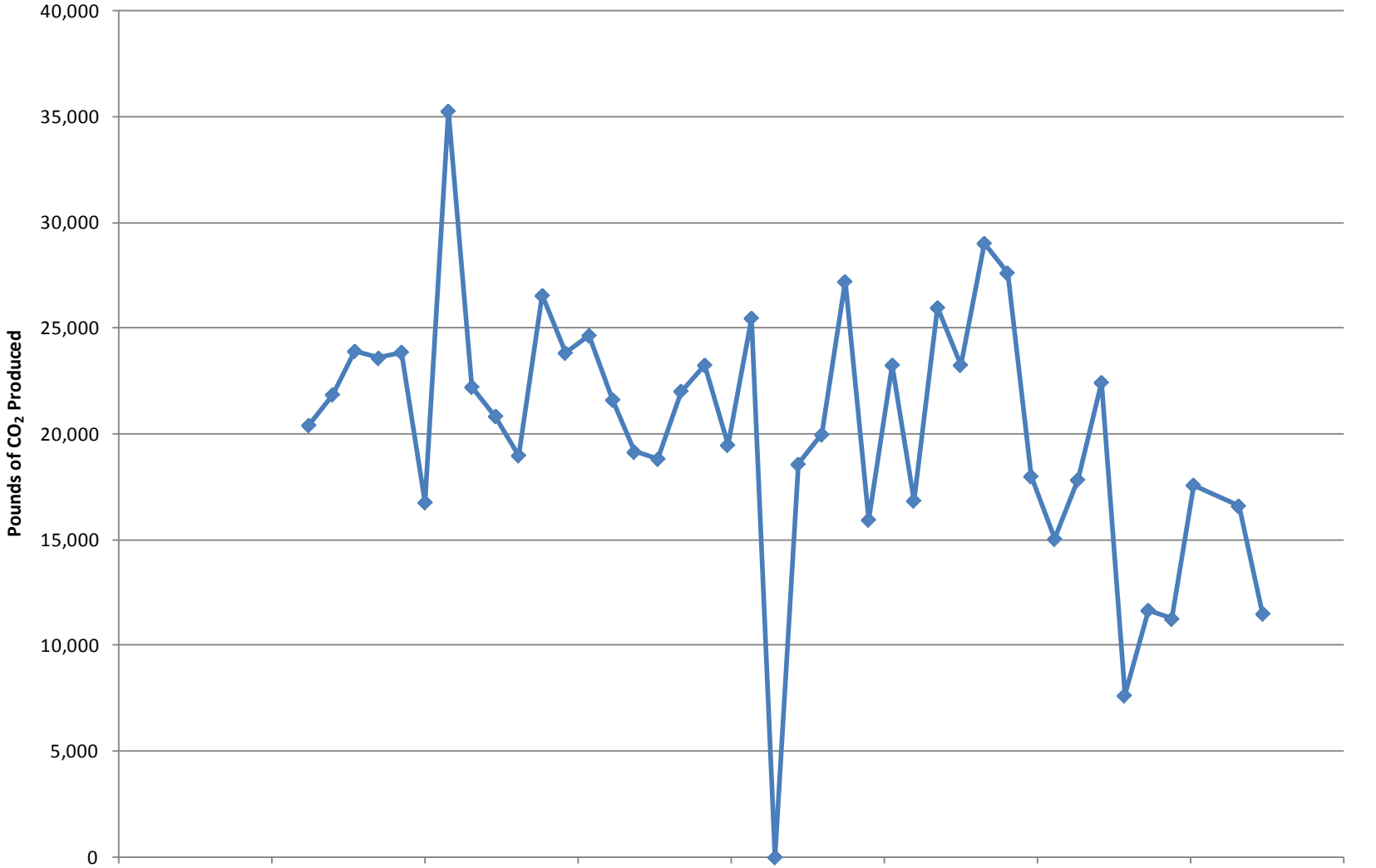
Sustainability

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 11,508 pounds of GHG during May 2011. This is a decrease from April 2011. The overall energy consumption levels remain consistent with the general decrease in energy demand since the air stripper was bypassed, and the granular activated carbon (GAC) system was brought on line.

Figure 2

Equivalent Pounds of CO2 Produced by the South Base Boundary Groundwater Treatment Plant



Central Groundwater Treatment Plant Monthly Data Sheet

Report Number: 142 **Reporting Period: 30 Apr – 31 May 2011** **Date Submitted: 14 June 2011**

This monthly data sheet presents information regarding all systems and associated remedial process optimization (RPO) activities to the Central Groundwater Treatment Plant (CGWTP). The systems associated with the CGWTP include the CGWTP and the West Treatment and Transfer Plant (WTTP). The RPOs related to the CGWTP network of treatment systems include various emulsified vegetable oil (EVO) injection sites, two (2) bioreactors, and various rebound studies.

System Metrics

Table 1 presents operational data from the May 2011 reporting period.

Table 1 – Operations Summary – May 2011

Operating Time:		Percent Uptime:		Electrical Power Usage:	
CGWTP:	735 hours	**CGWTP:**	95.4%	**CGWTP:**	1,377 kWh (1,886 lbs CO_2 generated[a])
WTTP:	Water: 0 hours Vapor: 0 hours	**WTTP:**	Water: 0% Vapor: 0%	**WTTP:**	0 kWh

Gallons Treated: **1.2 million gallons**

Gallons Treated Since January 1996: **443 million gallons**

VOC Mass Removed:

2.28 lbs[b] (groundwater only)

0 lbs (vapor only)

VOC Mass Removed Since January 1996:

2,538 lbs from groundwater

8,686 lbs from vapor

Rolling 12-Month Cost per Pound of Mass Removed: $1,822[c]

Monthly Cost per Pound of Mass Removed: $2,001

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

[b] Calculated using May 2011 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.

Table 2 presents individual extraction well flow rates during the monthly reporting period.

Table 2 – CGWTP Average Flow Rates[a]

Location	Average Flow Rate	
	Groundwater (gpm)	Soil Vapor (scfm) [b]
EW01x16	20.0	Off line
EW02x16	7.2	Off line
EW03x16	0.5[c] (24,440 gallons in May 2011)	Off line
EW605x16	Off line [d]	Off line
EW610x16	Off line [d]	Off line
CGWTP	26.7	--
WTTP	Off line	Off line

[a] Measured by the effluent discharge to the storm drain divided by the operating time during the month
[b] No vapor was treated in May 2011.
[c] Water discharged to Site SS016 bioreactor – flow rate taken from wellhead Flow Totalizer divided by operating time during the month.
[d] Off line due to motor fault.

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

Table 3 presents average flow rate values from the West Industrial Operable Unit (WIOU) extraction wells.

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 presents average a summary of shutdowns during the monthly reporting period.

Table 4 – Summary of System Shutdowns

Location	Shutdown		Restart		Cause
	Date	Time	Date	Time	
CGWTP (Groundwater)					
CGWTP	2 May 2011	02:15	3 May 2011	10:00	Various power outages at the CGWTP resulted in approximately 35 hours of downtime in May 2011
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 3 May 2011. Sample results are presented in Table 5. The total VOC concentration (233 µg/L) in the influent sample has decreased slightly since the April 2011 sample (310 µg/L) was collected.

Extraction wells EW605x16 and EW610x16 were brought on line on 26 May 2011 following completion of electrical repair work. Power lines between the EW610x16 wellhead vault and a pull box located near the OSA control panel were replaced. Additionally, the power transformer that provides power to extraction wells EW605x16 and EW610x16 at the OSA control panel was also replaced. The extraction pump within EW610x16 had previously been replaced (prior to this electrical repair work), while the pump within EW605x16 still required replacement.

EW605x16 (old pump) and EW610x16 (recently replaced pump) were both restarted upon completion of the electrical repair work and verified to be in working order. When checking the system for proper operation (at the wellheads, in pullboxes, etc.), EW605x16 was confirmed to be faulty, and a 24-volt DC power supply module was identified as having malfunctioned. The DC power supply provides power to the flow totalizers for each extraction well (EW605x16 and EW610x16) which in turn transmit flow totals to the CGWTP SCADA.

Extraction well EW605x16 will be replaced and brought back on line in June 2011. Additionally, a new 24-volt DC power supply module was ordered, and will be replaced in June 2011.

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 May 2011.

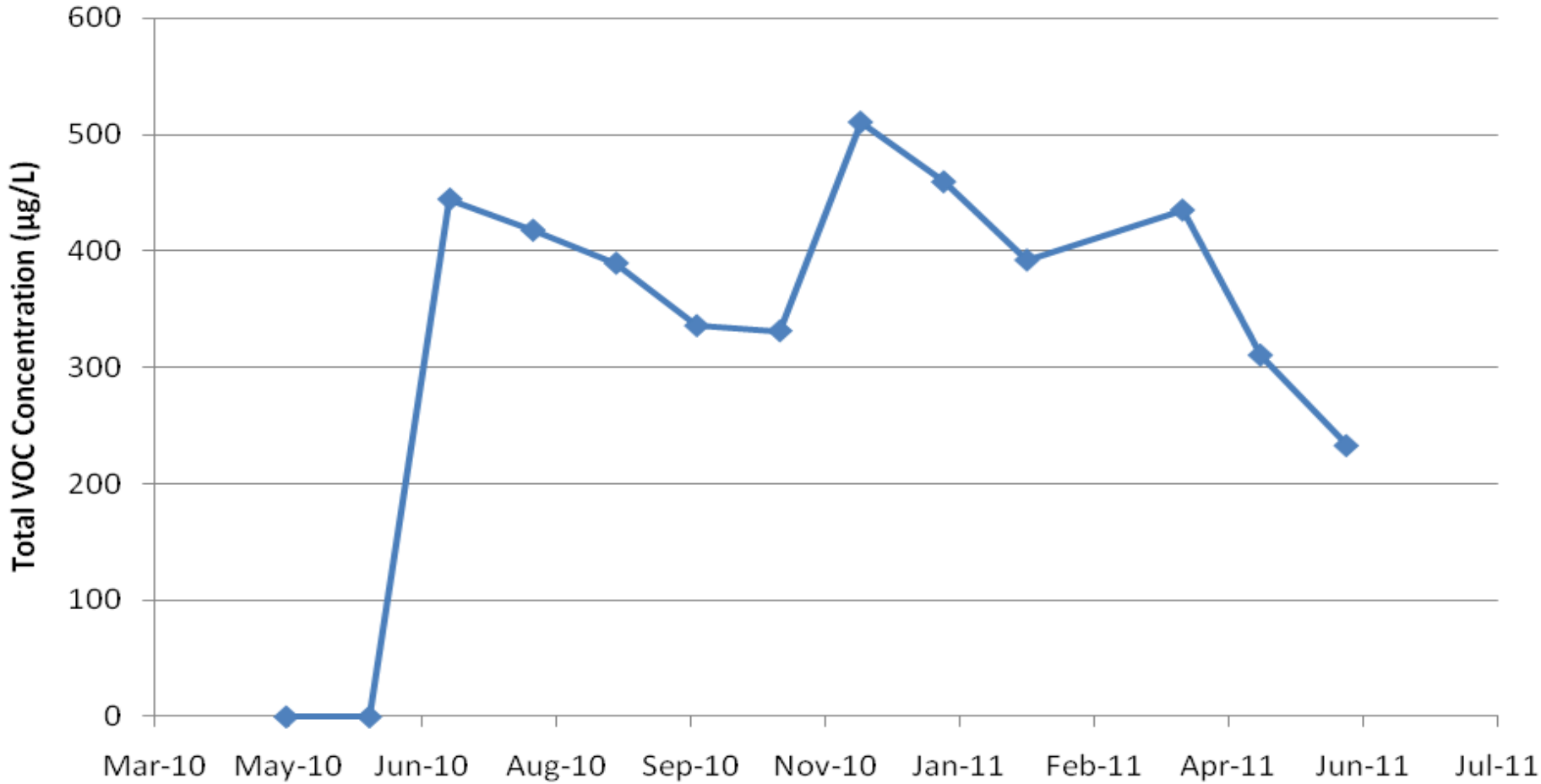
Table 5
Summary of Groundwater Analytical Data for May 2011 – Central Groundwater Treatment Plant

Constituent	Instantaneous Maximum[a] (µg/L)	Detection Limit (µg/L)	3 May 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	ND
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	ND	ND	ND	ND
1,2-Dichlorobenzene	5.0	0.25	0	ND	ND	ND	ND
1.3-Dichlorobenzene	5.0	0.15	0	ND	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	0.66	ND	ND	ND
cis-1,2-Dichloroethene	5.0	0.19	0	67.5	ND	ND	ND
trans-1,2-Dichloroethene	5.0	0.33	0	4.9	ND	ND	ND
Methylene Chloride	5.0	0.66	0	ND	ND	ND	ND
Tetrachloroethene	5.0	0.21	0	0.31 J	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	0.19	0	159	ND	ND	ND
Vinyl Chloride	0.5	0.18	0	0.3 J	ND	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



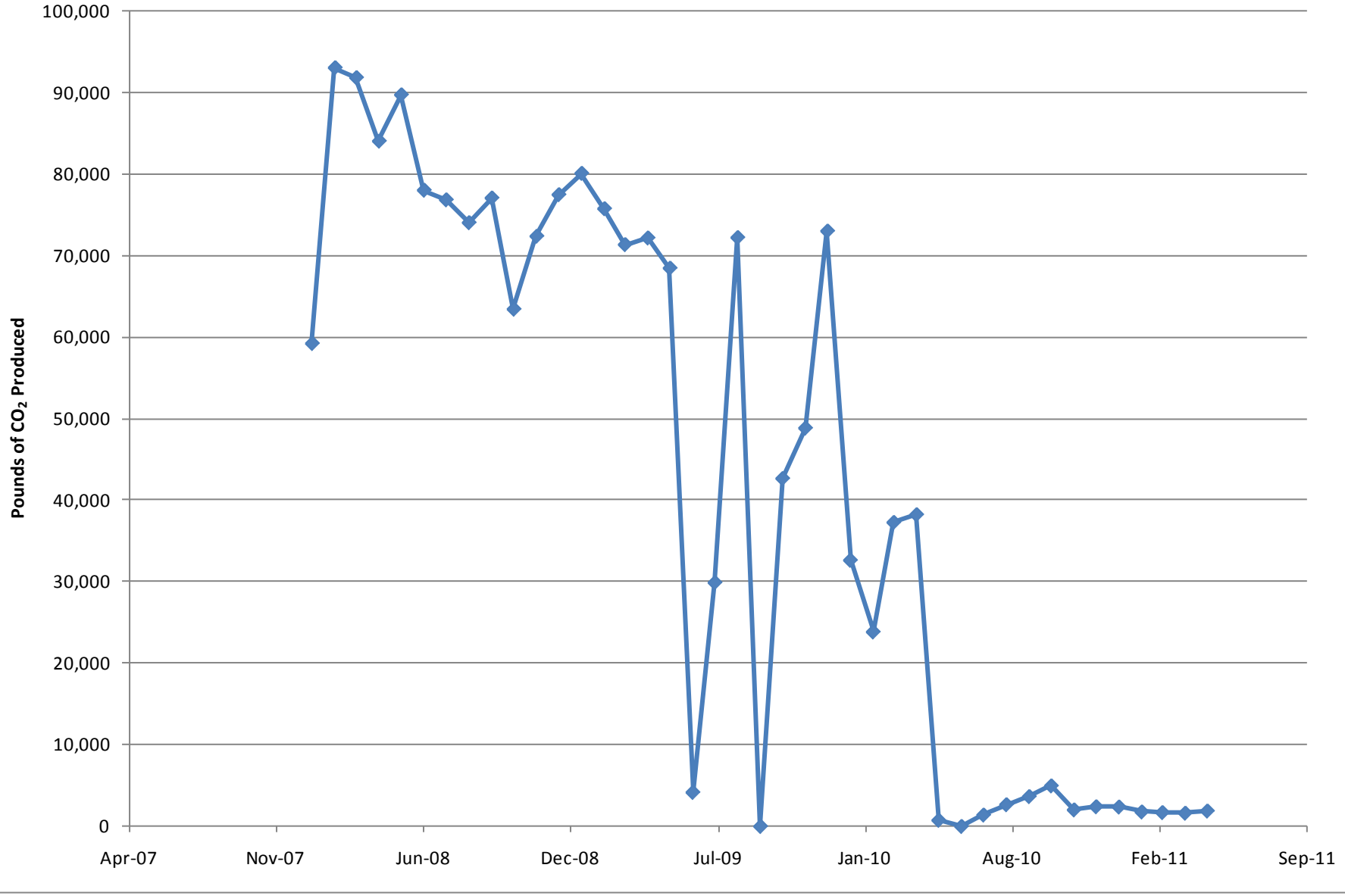
Sustainability

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 systems associated with the CGWTP. These include the WTTP and ThOx systems. The CGWTP produced approximately 1,886 pounds of GHG during May 2011. This is a slight increase from April 2011. Calculations of GHG produced since January 2010 inadvertently did not factor in the electric meter kWh multiplier (x20). The multiplier has been applied, and historic and current values are reported correctly on Figure 2.

Figure 2

Equivalent Pounds of CO2 Produced by the Central Groundwater Treatment Plant



North Groundwater Treatment Plant Monthly Data Sheet

Report Number: 114 **Reporting Period: 19 May – 31 May 2011** **Date Submitted: 14 June 2011**

This monthly data sheet presents information regarding the North Groundwater Treatment Plant (NGWTP) and associated remedial process optimization (RPO) activities. NGWTP resumed operation in May after the wet season which required system shutdown from December 2010 to May 2011. Limited operation occurred in May as startup samples were collected and no treated groundwater was discharged to the duck pond or storm drain.

System Metrics

Table 1 presents operational data from the May 2011 reporting period:

Table 1 – Operations Summary – May 2011

Operating Time:	Percent Uptime:	Electrical Power Usage:
NGWTP: 8 hours	**NGWTP:** 0%	**NGWTP:** 2,154 kWh (2,951 lbs CO_2 generated[a])

Gallons Treated: **130 gallons**

Gallons Treated Since March 2000: **82.5 million gallons**

Volume Discharged to Duck Pond: **0 gallons**

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

VOC Mass Removed: **0 pounds**

VOC Mass Removed Since March 2000: **174.3 pounds (Groundwater)**

Rolling 12-Month Cost per Pound of Mass Removed: **Not Measured** [b]

Monthly Cost per Pound of Mass Removed: **Not Measured** [c]

[a] Based on Department of Energy estimate that 1 kilowatt hour generated produces 1.37 pounds of GHG. Value represents usage and emissions from shutdown in December 2010 to May 2011.
[b] Value not calculated since measurement does not accurately represent the cost effectiveness of the system. The system was not removing mass from December 2010 to May 2011, but operating costs were incurred.
[c] Value not calculated since measurement does not accurately represent the potential effectiveness of the system.

Table 2 presents individual extraction well flow rates during the monthly reporting period.

Table 2 – NGWTP Average Flow Rates[a]

Location	Average Flow Rate (gpm)
EW614x07	NA
EW615x07	NA[b]
NGWTP	NA

[a] Average flow rates not calculated since the system only ran for startup sample collection and no water was discharged to the duck pond.
[b] Extraction well not operational. Troubleshooting to continue into June 2011.

gpm = gallons per minute

Table 3 presents average a summary of shutdowns during the monthly reporting period.

Table 3 – Summary of System Shutdowns

Location	Shutdown		Restart		Cause
	Date	Time	Date	Time	
NGWTP	10 December 2010		19 May 2011		Taken off line for the wet season. Site LF007C extraction wells restarted in 2011 now that vernal pools have dissipated.

NGWTP = North Groundwater Treatment Plant

Summary of O&M Activities

The NGWTP was brought on line on 19 May 2011 due to the dissipation of vernal pools. Since the other Sites associated with the NGWTP (Sites FT004 and SD031) are currently undergoing rebound studies, Site LF007C is the only site contributing extracted groundwater to the NGWTP. The system was brought on line for approximately four (4) hours on 19 May 2011 before system samples were collected. During the short operation period, all groundwater routed through the NGWTP carbon vessels was discharged to the effluent holding tank. The transfer pump that would normally discharge this treated water to the Duck Pond was taken off line while waiting for analytical results of system startup sampling.

Following sample collection, the NGWTP was taken off line while awaiting analytical results. The samples were sent for analysis under a quick (24-hour) turnaround time.

Analytical data from the startup sampling event are presented in Table 4. Contaminant concentrations were not detected in the effluent process stream, but some TPH-d was detected in the laboratory blank sample conducted during sample analysis. As a result, additional (confirmation) samples are scheduled to be collected in June 2011. The NGWTP (Site LF007C) is expected to begin discharging process water to the Duck Pond in June 2011.

While starting up the NGWTP, blown fuses were discovered at well EW614x07, resulting in this extraction well being off line during system startup. These fuses are scheduled to be replaced, and well EW614x07 brought back on line in June 2011.

Optimization Activities

No optimization activities occurred at the NGWTP in May 2011.

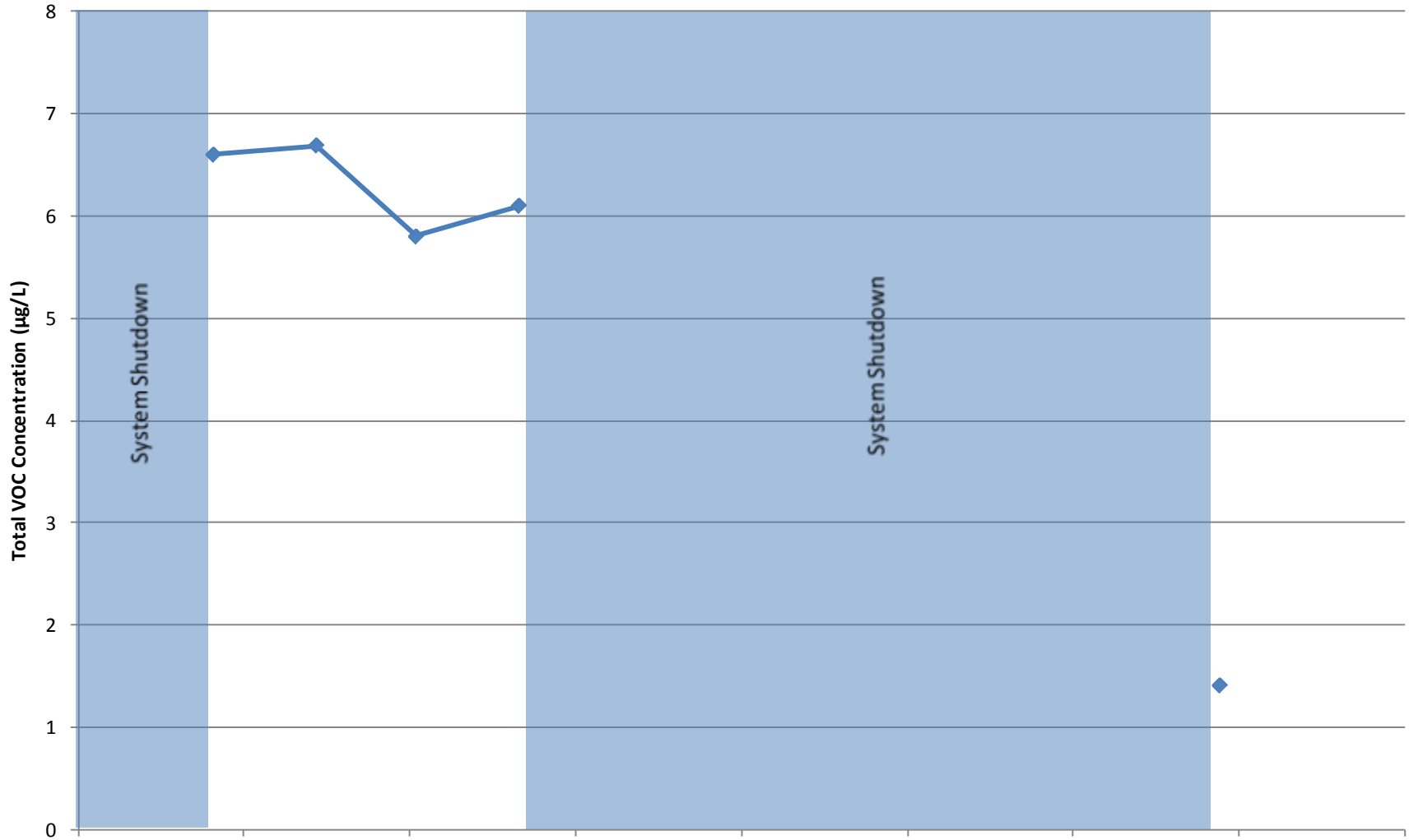
Table 4
Summary of Groundwater Analytical Data for May 2011 – North Groundwater Treatment Plant

Constituent	Instantaneous Maximum[a] (µg/L)	Detection Limit (µg/L)	N/C	19 May 2011 (µg/L) Influent	After Carbon 1	Effluent
Halogenated Volatile Organics						
Bromodichloromethane	5.0	0.15	0	ND	ND	ND
Bromoform	5.0	0.19	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
1,3-Dichlorobenzene	5.0	0.15	0	ND	ND	ND
1,4-Dichlorobenzene	5.0	0.15	0	ND	ND	ND
1,1-Dichloroethane	5.0	0.15	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	ND	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	0.2	0	ND	ND	ND
Trichloroethene	5.0	0.19	0	0.95	ND	ND
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

[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
B = analyte reported in trip blank
N/C = number of samples out of compliance with discharge limits
ND = not detected
NM = not measured
µg/L = micrograms per liter

Figure 1
NGWTP Total VOC Influent Concentrations
Travis Air Force Base, California



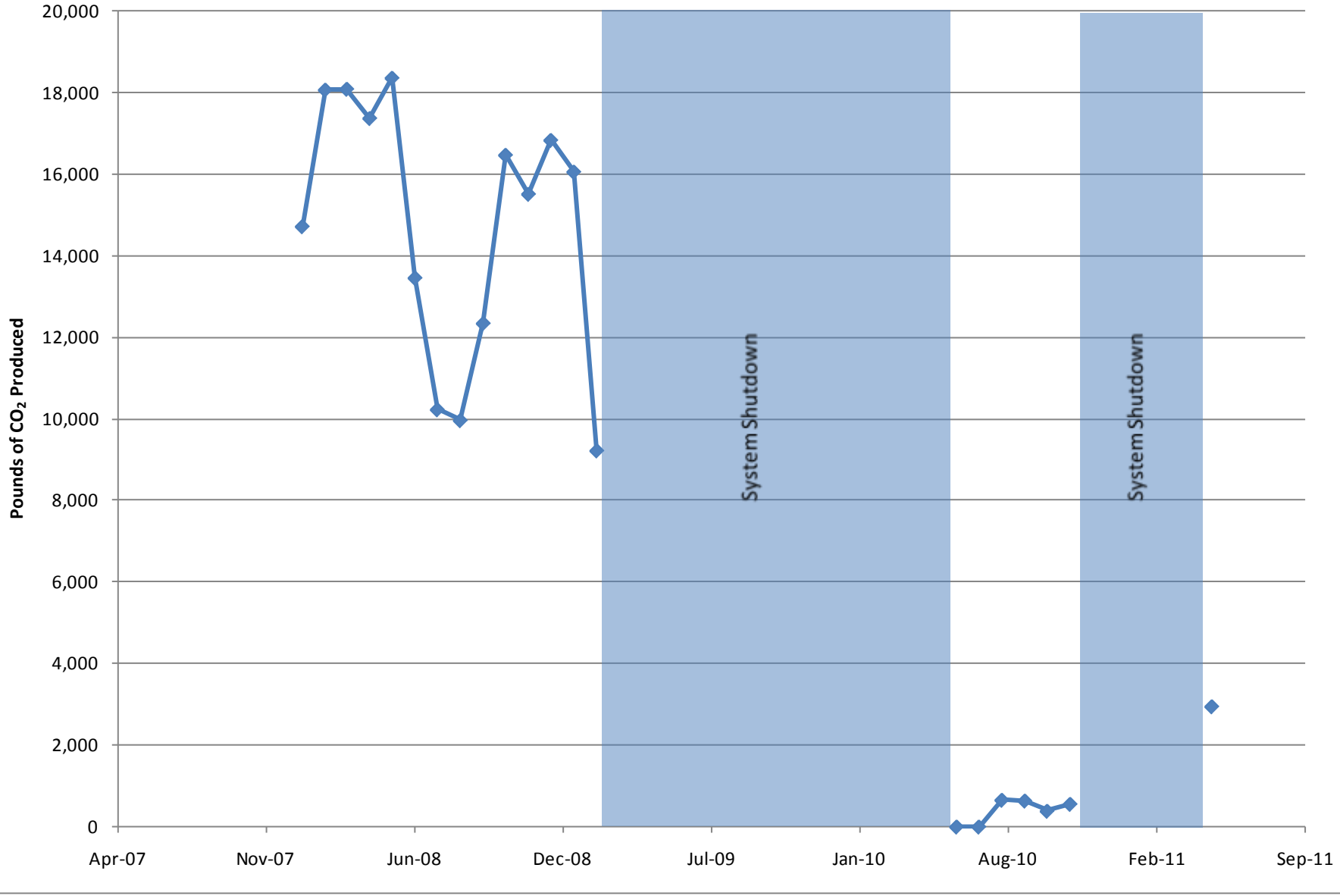
Sustainability

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 the solar arrays employed to power the system.

Figure 2 presents the historical GHG production from the systems associated with the NGWTP. Although the system was not operational from December 2010 to May 2011, the NGWTP used electricity for operational lighting and other miscellaneous electrical parts. The NGWTP produced approximately 2,951 pounds of GHG during the shutdown period which is represented by the May 2011 value.

Figure 2

Equivalent Pounds of CO2 Produced by the North Groundwater Treatment Plant



Site ST018 Groundwater Treatment Plant Monthly Data Sheet

Report Number: 003 **Reporting Period: 30 Apr – 31 May 2011** **Date Submitted: 14 June 2011**

This monthly data sheet presents information regarding the Site ST018 Groundwater Treatment Plant (S18GWTP). S18GWTP operated during the month of May with two of three extraction wells in operation. The non-operational extraction well (EW2014x18) had the pump replaced and was brought back on line 31 May.

System Metrics

Table 1 presents operation data from the May 2011 reporting period.

Table 1 – Operations Summary – May 2011

Operating Time:	Percent Uptime:	Electrical Power Usage:
S18GWTP: 816 hours	**S18GWTP:** 100%	**S18GWTP:** 78 kWh (107 lbs CO_2 generated[a])

Gallons Treated: **120 thousand gallons**

Gallons Treated Since March 2011: **363 thousand gallons**

Volume Discharged to Union Creek: **120 thousand gallons**

BTEX, MTBE, TPH Mass Removed[c]: **1.27 lbs** [b]

BTEX, MTBE, TPH Mass Removed Since March 2011[c]: **3.9 lbs**

Rolling 12-Month Cost per Total Pounds of Mass Removed: $2,808 [d]

Monthly Cost per Pound of Mass Removed: $3,525

Lbs = pounds

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

[b] Calculated using May2011 EPA Method SW8260B analytical results.

c Monthly mass totals reflect values obtained from lab data not yet validated. Corrections to these totals will be reported in the June 2011 Monthly Data Sheet, if needed.

[d] Costs include operations and maintenance, reporting, analytical laboratory, project management, and utility costs related to operation of the system; however the system is only in its second month of operation.

Table 2 presents individual extraction well flow rates along with the average system flow during the monthly reporting period.

Table 2 – S18GWTP Average Flow Rates[a]

Location	Average Flow Rate Groundwater (gpm)
EW2014x18	OFF
EW2016x18	1.3
EW2019x18	1.5
Site ST018 GWTP	2.4

[a] All flow rates calculated by dividing total gallons processed by system operating time for the month.

gpm = gallons per minute
S18GWTP = Site ST018 Groundwater Treatment Plant

Table 3 presents a summary of system shutdowns during the monthly reporting period.

Table 3 – Summary of System Shutdowns

Location	Shutdown		Restart		Cause
	Date	Time	Date	Time	
S18GWTP	None				

S18GWTP = Site ST018 Groundwater Treatment Plant

Summary of O&M Activities

Monthly groundwater samples at the S18GWTP were collected on 19 May 2011. Sample results are presented in Table 4. The total VOC concentration (331.6 µg/L) in the influent sample is the same as the April 2011 result since this sample is collected on a quarterly basis. The next influent sample is schedule for collection in July 2011. The low VOC concentration (April 2011) is likely the result of intermittent operation of extraction well (EW2014x18) during April and May 2011.

A fault condition with well EW2014x18 was discovered during routine O&M activities on 3 May 2011. Troubleshooting efforts determined two causes for the fault condition: a high pressure alarm and a faulty pump. Each Site ST018 extraction well is installed with two control switches that will stop pump operation if fault conditions exist: a float switch to indicate a flooded well vault, and a pressure switch to indicate high pressure within the groundwater conveyance piping. The pressure switch was falsely triggered, thus causing the well to cease operation. The pressure switch was replaced on 24 May 2011.

A ground fault was also discovered in extraction pump EW2014x18 during troubleshooting activities. The pump was replaced and brought back on line on 31 May 2011.

Well vault EW2016x18 continues to experience frequent shut downs due to flooding. The flooding is likely a result of landscape maintenance (watering the lawn) surrounding the well vault. When discovered, the well vault is pumped out and the pump is brought back on line. If frequent flooding continues to occur during summer months, the float switch may be adjusted to a higher elevation within the well vault to promote longer pump operation.

Optimization Activities

No optimization activities occurred at the S18GWTP in May 2011.

Table 4
Summary of Groundwater Analytical Data for May 2011 – Site ST018 Groundwater Treatment Plant

Constituent	Instantaneous Maximum[a] (µg/L)	Detection Limit (µg/L)	N/C	19 May, 2011 (µg/L)		
				Influent[b]	After Carbon 2	System Effluent
Fuel Related Constituents						
MTBE	5	0.1	0	71	ND	ND
Benzene	5	0.1	0	0.3 J	ND	ND
Ethylbenzene	5	0.1	0	ND	ND	ND
Toluene	5	0.1	0	0.3 J	ND	ND
Total Xylenes	5	0.1	0	ND	ND	ND
Total Petroleum Hydrocarbons – Gasoline	50	14	0	140 Y	ND	ND
Total Petroleum Hydrocarbons – Diesel	50	16	0	120 Y	ND	ND
Total Petroleum Hydrocarbons – Motor Oil	--	74	0	ND	ND	ND

[a] In accordance with the National Pollutant Discharge Elimination System (NPDES) Effluent Limitations
[b] Values taken from April 2011 sample data. Influent sampling is conducted on a quarterly basis.

J = analyte concentration is considered an estimated value

N/C = number of samples out of compliance with discharge limits

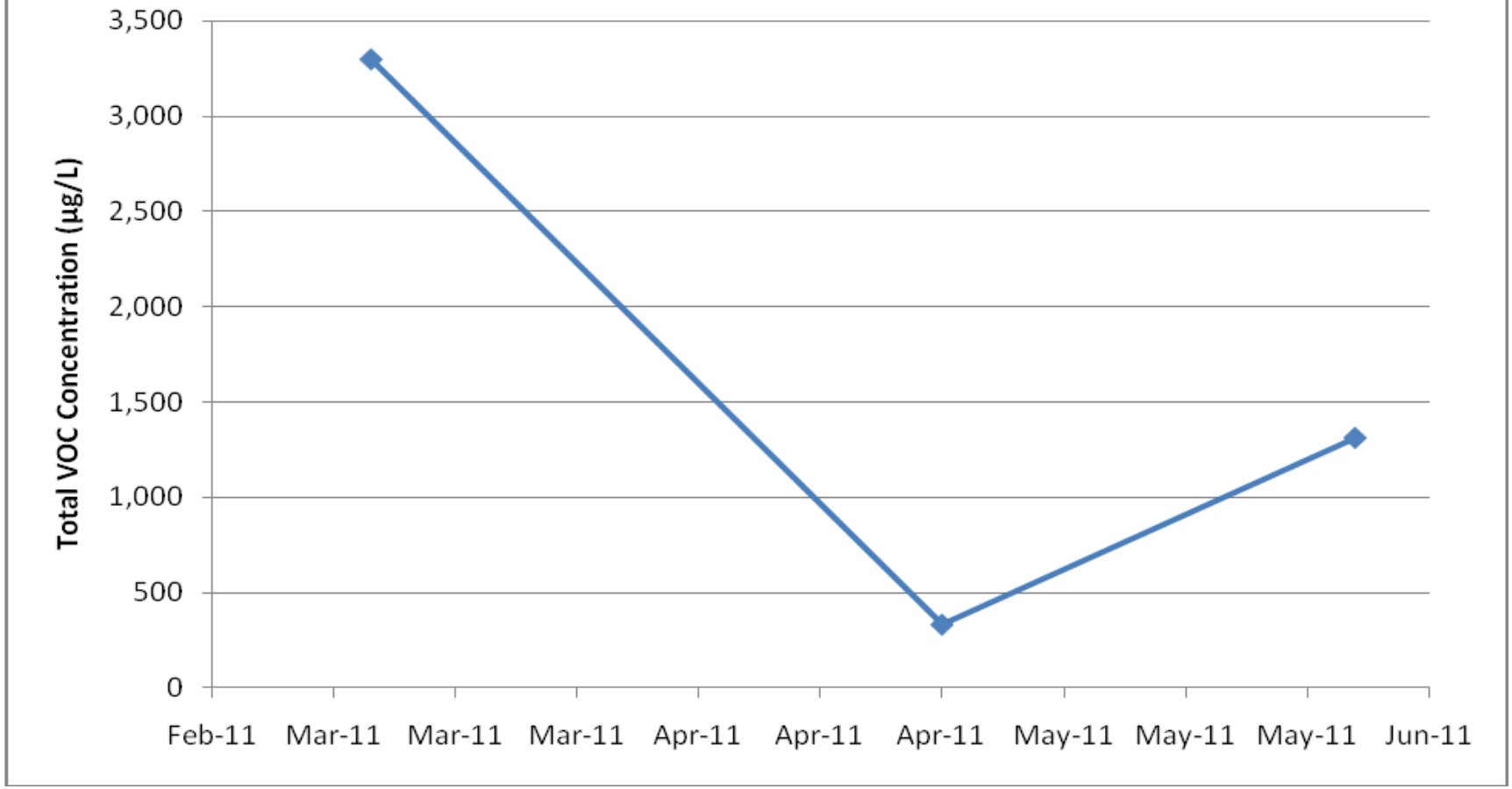
ND = not detected above method detection limit

NS = not sampled

Y = Sample exhibits chromatographic patterns which does not resemble standard

µg/L = micrograms per liter

Figure 1
S18GWTP Total VOC Influent Concentrations
Travis Air Force Base, California



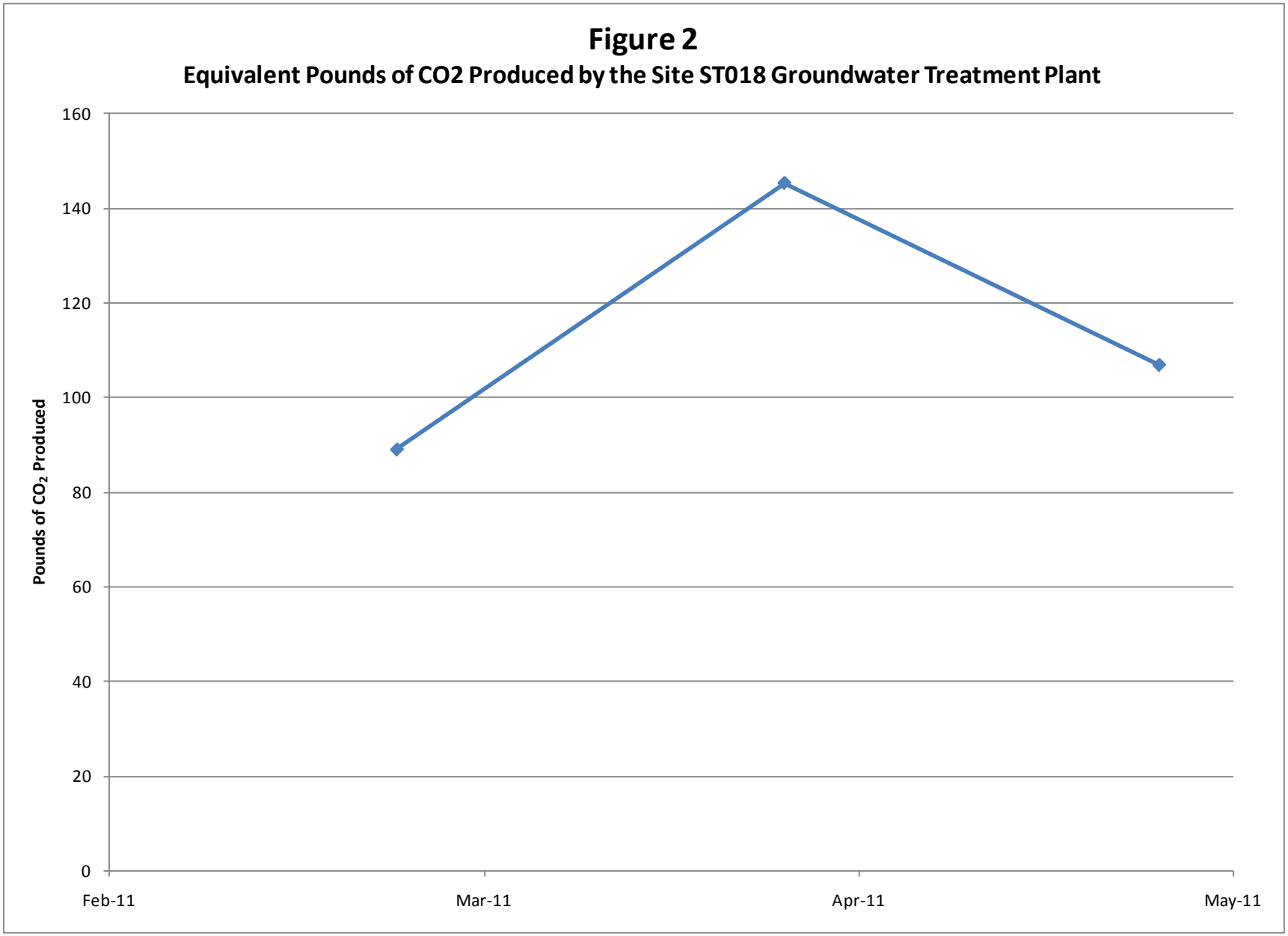
Sustainability

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 the solar arrays employed to power the system.

As a result of the solar arrays at S18GWTP, the system produced approximately 107 pounds of GHG during May 2011. This is a decrease from April 2011, and is likely due to decrease is gallons treated since EW2014x18 was offline the entire month and the EW2016x18 was offline at the end of the month. The overall GHG generation remains considerably lower than traditional GWTPs since the system is predominantly powered by solar arrays.

Figure 2

Equivalent Pounds of CO2 Produced by the Site ST018 Groundwater Treatment Plant



Travis AFB
Restoration Program

Management Overview Briefing

RPM Meeting

June 15, 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, Second , & Third 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
- 2009/2010 Annual GSAP Report
- SS015 Remedy Optimization Field Implementation Plan
- Sites SS014 and ST032 Tier 1 POCO Evaluation Report
- ***SD036 Remedy Optimization Field Implementation Plan***
- ***2010 Annual CAMU Inspection Report***

2

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)
- ST018 GETS Startup
- ***Quarterly RPO Performance Monitoring (May 2011)***

3

In-Progress Documents & Field Work

Documents

- Comprehensive Site Evaluation Phase II Report
- ISCO/ERD Tech Memo
- Focused Feasibility Study (FFS)
- Site ST018 POCO Baseline Implementation Report
- 2010 Groundwater RPO Annual Report
- FT005 Data Gaps Investigation Report

Field Work

- 2011 Annual GSAP Sampling

4

Upcoming Documents

- Baseline Implementation Report (Sites SS015, SS016, SD036, SD037, and DP039) — Jul
- Technical and Economic Feasibility Analysis (TEFA) — Jul
- Proposed Plan (PP) — TBD

5

Upcoming Field Work

- ***Natural Attenuation Bacteria Study*** — ***Jul***
- Quarterly RPO Performance Monitoring — Aug
  - SS016 Bioreactor Initial Quarterly Performance Sampling
  - SD036 EVO Second Quarterly Performance Sampling
  - SD037 EVO Third Quarterly Performance Sampling
  - DP039 Biobarrier Third Quarterly Performance Sampling
- LF007C Site Characterization (Wetlands) — TBD*

* Dependent on USFWS approval to sample in the vernal pool footprint

6

Travis AFB
Field Schedule - 2011

RPM Meeting

June 15, 2011

2011 Field Schedule

- 2011 Annual GSAP Sampling (In Progress) — Apr – Jun
- FT005 Soil Remedial Action — July - Aug
- Natural Attenuation Bacteria Study — July
- Quarterly RPO Performance Monitoring — Aug

  (sites SS016 bioreactor, SD036 EVO injection, SD037 EVO injection, & DP039 EVO biobarrier)
- LF007C Remedy Optimization Investigation — TBD

  Dependent on USFWS approval to sample from vernal pool area (Pending)
- 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