**Final**

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

## 26 May 2011, 0930 Hours

Mr. Mark Smith, Travis Air Force Base (AFB), conducted the Remedial Program Manager's (RPM) meeting on 26 May 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 |
| • Merrie Schilter-Lowe | Travis AFB |
| • Dezso Linbrunner | United States Army Corp of Engineers (USACE), Omaha District |
| • Alan Friedman | California Regional Water Quality Control Board (RWQCB) |
| • Jose Salcedo | California Department of Toxic Substances Control (DTSC) |
| • Nadia Hollan Burke | United States Environmental Protection Agency (USEPA) |
| • Mary Snow | Techlaw, Inc |
| • Rachel Hess | ITSI |
| • Craig Carlson | Trihydro |
| • Mike Wray | CH2M HILL |
| • Loren Krook | CH2M HILL |
| • Peggy Taylor | CH2M HILL |
| • Leslie Royer | CH2M HILL (part time) |

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 (April 2011) |
| • Attachment 4 | CGWTP Monthly Data Sheet (April 2011) |
| • Attachment 5 | Site ST018 Monthly Data Sheet (April 2011) |
| • Attachment 6 | Presentation: Management Overview Briefing: Activities Completed, In Progress and Upcoming |

- Attachment 7 Presentation: 2011 Field Schedule Update
- Attachment 8 Presentation: Sharepoint Demonstration

## 1. ADMINISTRATIVE

### A. Previous Meeting Minutes

The 21 April 2011 RPM meeting minutes were approved and finalized as written.

### B. Action Item Review.

Action items from April 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 15 June 2011.

#### Travis AFB Master Document Schedule

— Focused Feasibility Study (FFS): The response to comments (RTC) meeting date has been changed: to 26 May 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, and Draft to RAB dates have been changed to: TBD. Development of the PP follows the FFS. Finalization of the draft FFS is required before the PP can be written.

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

— Comprehensive Site Evaluation Phase II: A teleconference will be scheduled to discuss the response to comments. Mr. Smith said Adam Little from the USACE can be made available to participate in the RTC meeting in person or via telephone.

— Potrero Hills Annex: (FS, PP, and ROD): No change. Travis received an email from Kent Aue of the San Francisco RWQCB. The RWQCB requested the responsible parties for the contamination to conduct soil and groundwater

analysis samples for perchlorate, and would like a Work Plan (WP) by August 2011.

— ISCO/ERD Technical Memorandum: RTC and Final Due dates have been changed. The RTCs will be discussed in the FFS meeting scheduled this afternoon.

— Sites SS014 and ST032 Tier 1 POCO Evaluation Report: Move to history.

— Site FT005 Data Gaps Investigation Report: No change. Draft to Agencies will go out next week. The dates will be changed accordingly.

— Site ST018 POCO Baseline Implementation Report: Draft to agencies date has changed to reflect actual date submitted. The rest of the dates were changed accordingly.

— Site SD036 RPO Field Implementation Plan: RTC and Final Due dates have been changed. Travis added appendix C to the document for EPA to review.

— 2010 GWTP RPO Annual Report: Draft to Agencies date has been changed to reflect actual date submitted. Agency Comments due date has been changed accordingly. Draft report was handed out during the meeting on CD ROM.

— 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): No change.

— Quarterly Newsletter (July 2011): Dates have been updated to reflect new quarter.

— 2010 CAMU Annual Report: Agency Comments Due date has been changed to reflect the date comments were received.

## 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 3.5 million gallons of groundwater were extracted and treated during the month of April 2011. All of the treated water was discharged to Union Creek. The average flow rate for the SBBGWTP was 77.0 gallons per minute (gpm), and electrical power usage was 12,120 kWh. Approximately 16,604 pounds of $CO_2$ were created (based on DOE calculation); approximately 2.37 pounds of volatile

organic compounds (VOCs) were removed in April. The total mass of VOCs removed since the startup of the system is 399 pounds.

The preliminary analytical results from the 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 the preliminary data confirmation samples were collected and analyzed requesting a 24 hour turnaround time. The results from those samples indicated that no TPH-d was present at detectable concentration in either the influent or effluent streams. Travis will be watching this. It was most likely an anomaly.

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

**Central Groundwater Treatment Plant (see Attachment 4)**

The Central Groundwater Treatment Plant (CGWTP) performed at 96.1% uptime with approximately 1.1 million gallons of groundwater extracted and treated during the month of April 2011. All treated water was diverted to the storm drain. The average flow rate for the CGWTP was 27.2 gpm, and electrical power usage was 44 kWh for all equipment connected to the Central plant; approximately 60.3 pounds of $CO_2$ were created. Approximately 2.83 pounds of VOCs were removed from groundwater in April. The total mass of VOCs removed since the startup of the system is 11,222 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 April.

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

Mr. Salcedo asked where the midpoint is located. Mr. Wray said the midpoint is between the two carbon vessels. Mr. Duke added that it was non-detect when a confirmation sample was collected.

**North Groundwater Treatment Plant**

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

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

The Site ST018 (MTBE) Treatment Plant (S18GWTP) performed at 100% uptime with approximately 162 thousand gallons of groundwater extracted and treated during

the month of April 2011. All treated water was diverted to the storm drain. The average flow rate for the S18GWTP was 3.7 gpm, and electrical power usage was 106 kWh for all equipment connected to the S18GWTP plant; approximately 145 pounds of $CO_2$ were created. Approximately 0.38 pounds of BTEX, MTBE, TPH mass were removed from groundwater in April. The total BTEX, MTBE, TPH mass removed since the startup of the system is 2.6 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 April.

Mr. Friedman asked what the Y flag means. Mr. Wray said it represents that the lab analyzed for diesel and found something that does not resemble diesel.

## 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.

Mr. Wray pointed out one of the newly added documents: Natural Attenuation Bacteria Study. Mr. Smith asked if this document is in support of the Natural Attenuation work, and specifically if it will address regulatory concern of attenuation stalling at a contaminant's daughter products. Mr. Wray said it is looking at biological as well as non-biological activity, we know that attenuation is working. It is to look at analyzing the mechanical verses biological. Ms. Royer said the focus is on anaerobic bacteria; the main bacteria, that is relied upon to remediate solvent plumes. Aerobic cometabolism is an emerging cleanup technology that utilizes microorganisms to degrade TCE and other chloroethenes. The term cometabolism indicates that transformation of the contaminants is a secondary reaction. Travis will collect samples from various sites of the base to look for the genes and enzymes for the biological and physical breakdown of solvents. Mr. Wray said the draft Work Plan (WP) is scheduled to be completed in July 2011.

### Field Schedule (see Attachment 7)

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

### SharePoint Demonstration (see Attachment 8)

Ms. Taylor gave the presentation on the SharePoint Demonstration. See Attachment 8 for details. Highlights in this presentation included:

- SharePoint is a web-based platform that does not require third party software, and will be used to transfer large files. It replaces the CH2M HILL FTP site, eliminating the inherent security risk posed by FTP sites.

- CH2M HILL's Extranet System will be generating an email inviting users to the SharePoint site, which is also referred to as "Project Insight". The email will include the link to Project Insight, along with a unique user name and password assigned for site access.

Ms. Taylor is requesting that you forward a copy of that email with the user name and password to (peggy.taylor@ch2m.com) so that she may keep it on record in the event the user name and password assigned is lost.

## 4. New Action Item Review

Ms. Burke to propose dates and times in order to schedule a 'risk assessor' teleconference for the MMRP - Comprehensive Site Evaluation Phase 2 report.

## 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 |

| | | | | |
|---|---|---|---|---|
| 4. | EPA | Ms. Burke to propose dates and times in order to schedule a 'risk assessor' teleconference for the MMRP - Comprehensive Site Evaluation Phase 2 report. | TBD | Open |

TRAVIS AIR FORCE BASE
ENVIRONMENTAL RESTORATION PROGRAM
REMEDIAL PROGRAM MANAGER'S MEETING
BLDG 570, Main Conference Room
26 May 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
   C. SHAREPOINT DEMONSTRATION

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 ADDITIONAL 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 CLARIFY THE INTENT OF GENERAL COMMENTS AND PROPOSE WAYS TO ADDRESS SPECIFIC 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<br>Travis, Glenn Anderson<br>CH2M Hill, Loren Krook** | **Proposed Plan<br>Travis, Glenn Anderson<br>CH2M HILL, Loren Krook** | **Record of Decision<br>Travis, Glenn Anderson<br>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 | 08-09-11 | 03-28-12 |
| **Response to Comments Meeting** | **05-26-11** | **08-17-11** | 04-18-12 |
| Agency Concurrence with Remedy | NA | NA | 05-09-12 |
| Public Comment Period | NA | 10-13-11 to 11-14-11 | NA |
| **Public Meeting** | **NA** | ***10-20-11** | **NA** |
| Response to Comments Due | 06-01-11 | 09-01-11 | 05-29-12 |
| Draft Final Due | 06-01-11 | 09-13-11 | 05-29-12 |
| Final Due | 07-01-11 | 10-13-11 | 06-27-12 |

*Public meeting to coincide with RAB meeting.

# Travis AFB Master Meeting and Document Schedule

| PRIMARY DOCUMENTS | |
|---|---|
| | **Comprehensive Site Evaluation Phase II**<br>**Travis AFB, Glenn Anderson**<br>**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** | **TBD (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<br>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<br>Travis AFB, Glenn Anderson<br>CH2M HILL, Loren Krook** | **Remedial Action Report, POCO Sites SS014 and ST032 (Tier 1 POCO Evaluation)<br>Travis AFB, Lonnie Duke<br>CH2M HILL, Gavan Heinrich** | **Site FT005<br>Data Gaps Investigation Report<br>Travis AFB, Lonnie Duke<br>ITSI, Rachel Hess** | **Baseline Implementation Report POCO Site ST018<br>Travis AFB, Lonnie Duke<br>CH2M HILL, Gavan Heinrich** |
| **Scoping Meeting** | **NA** | **NA** | **NA** | **NA** |
| Predraft to AF/Service Center | 08-25-10 | 01-14-11 | 04-15-11 | 04-18-11 |
| AF/Service Center Comments Due | 09-08-10 (09-10-10) | 01-24-11 | 04-29-11 | 05-02-11 |
| Draft to Agencies | 10-06-10 | 02-14-11 | 05-13-11 | 05-20-11 |
| Draft to RAB | 10-06-10 | 02-14-11 | 05-13-11 | 05-20-11 |
| Agency Comments Due | 11-05-10 | 03-16-11 (04-28-11) | 06-13-11 | 06-19-11 |
| **Response to Comments Meeting** | **05-26-11** | **04-21-11** | **06-15-11** | **07-20-11** |
| Response to Comments Due | 05-31-11 | 05-11-11 | 07-07-11 | 08-02-11 |
| Draft Final Due | NA | NA | NA | NA |
| Final Due | 05-31-11 | 05-11-11 | 07-07-11 | 08-02-11 |
| Public Comment Period | NA | NA | NA | NA |
| **Public Meeting** | **NA** | **NA** | **NA** | **NA** |

# Travis AFB Master Meeting and Document Schedule

| SECONDARY DOCUMENTS | | | | |
|---|---|---|---|---|
| **Life Cycle** | **Site SD036 RPO Field Implementation Plan**<br>**Travis AFB, Lonnie Duke**<br>**CH2M HILL, Doug Berwick** | **2010 Groundwater RPO Annual Report**<br>**Travis AFB, Lonnie Duke**<br>**CH2M HILL, Doug Berwick** | **Baseline Implementation Report**<br>**Travis AFB, Lonnie Duke**<br>**CH2M HILL, Loren Krook** | **Technical and Economic Feasibility Analysis**<br>**Travis AFB, Glenn Anderson**<br>**CH2M HILL, Loren Krook** |
| **Scoping Meeting** | **NA** | **NA** | **NA** | **NA** |
| Predraft to AF/Service Center | 11-30-10 | 04-05-11 | 06-03-11 | 06-15-11 |
| AF/Service Center Comments Due | 12-10-10 | 04-19-11 | 06-17-11 | 06-25-11 |
| Draft to Agencies | 02-03-11 | 05-19-11 | 07-01-11 | 07-08-11 |
| Draft to RAB | 02-03-11 | 05-19-11 | 07-01-11 | 07-08-11 |
| Agency Comments Due | 03-05-11 | 06-18-11 | 07-31-11 | 09-06-11 |
| **Response to Comments Meeting** | 03-16-11 | **07-20-11** | **08-17-11** | **09-21-11** |
| Response to Comments Due | 5-24-11 | 08-23-11 | 08-30-11 | 10-11-11 |
| Draft Final Due | NA | NA | NA | 10-11-11 |
| Final Due | 5-24-11 | 08-23-11 | 08-30-11 | 11-22-11 |
| 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)<br>Travis, Glenn Anderson** | **2010 CAMU Annual Report<br>Travis AFB, Lonnie Duke<br>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** |

# Travis AFB Master Meeting and Document Schedule

| Historical | | |
|---|---|---|
| **Life Cycle** | **Site SS015 Field Implementation Plan<br>Travis AFB, Lonnie Duke<br>CH2M HILL, Loren Krook** | **2009/2010 Annual GSAP<br>Travis AFB, Lonnie Duke<br>CH2M HILL, Leslie Royer** |
| **Scoping Meeting** | **NA** | **NA** |
| Predraft to AF/Service Center | 10-13-10 | 10-29-10 |
| AF/Service Center Comments Due | 10-27-10 | 11-12-10 |
| Draft to Agencies | 11-15-10 | 12-07-10 |
| Draft to RAB | 11-15-10 | 12-07-10 |
| Agency Comments Due | 12-15-10 | 02-01-11 |
| **Response to Comments Meeting** | **03-16-11** | **03-16-11** |
| Response to Comments Due | 03-16-11 | 04-04-11 |
| Draft Final Due | NA | NA |
| Final Due | 03-16-11 | 04-04-11 |
| Public Comment Period | NA | **NA** |
| **Public Meeting** | **NA** | **NA** |

# South Base Boundary Groundwater Treatment Plant Monthly Data Sheet

**Report Number: 128** **Reporting Period: 31 Mar – 30 April 2011** **Date Submitted: 20 May 2011**

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

## System Metrics

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

**Table 1 – Operations Summary – April 2011**

| Operating Time: | Percent Uptime: | Electrical Power Usage: |
|---|---|---|
| **SBBGWTP:** 764 hours | **SBBGWTP:** 100% | **SBBGWTP:** 12,120 kWh (16,604 lbs $CO_2$ generated[a]) |

Gallons Treated: **3.5 million gallons** Gallons Treated Since July 1998: **734 million gallons**

Volume Discharged to Union Creek: **3.5 million gallons** [b]

VOC Mass Removed: **2.37 lbs** [c] VOC Mass Removed Since July 1998: **399 lbs**

Rolling 12-Month Cost per Pound of Mass Removed: $3,735 [d]

Monthly Cost per Pound of Mass Removed: $2,483

Lbs = pounds

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

[b] Discharge flow meter inoperable at month end. Volume interpolated based on measurements collected 28 March and 10 May.

[c] Calculated using April 2011 EPA Method SW8260B analytical results.

[d] 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 | 0.6 | EW01x30 | 10.1 |
| EW02x05 | 0.5 | EW737x05 | Off line | EW02x29 | 0.4 | EW02x30 | 2.9 |
| EW03x05 | Off line | EW742x05 | Off line | EW03x29 | Off line[c] | EW03x30 | 3.4 |
| EW731x05 | Off line | EW743x05 | Off line | EW04x29 | 4.4 | EW04x30 | 21.7 |
| EW732x05 | Off line | EW744x05 | Off line | EW05x29 | 11.4 | EW05x30 | 7.8 |
| EW733x05 | Off line | EW745x05 | Off line | EW06x29 | 12.8 | EW06x30 | Dry |
| EW734x05 | 8.6 | EW746x05 | Off line | EW07x29 | Off line[d] | EW711x30 | 10.0[e] |
| EW735x05 | 3.2 | | | | | | |
| **FT005 Total:** | | **12.3** | | **SS029 Total:** | **29.6** | **SS030 Total:** | **55.9** |
| **SBBGWTP Average Monthly Flow[f]: 77.0 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 May 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 interpolated 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 6 April 2011. Sample results are presented in Table 4. The total VOC concentration (80.6 µg/L) in the influent sample has increased slightly since the March 2011 sample (55.8 µg/L) was collected.

The digital display of the SBBGWTP effluent flow meter and totalizer was off line on 29 April 2011. Because of this, no month-end reading for total gallons processed was recorded at the end of April 2011. The display portion of the flow meter was replaced in May 2011, and the reading from 10 May was used to estimate the total gallons processed for April 2011.

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 will also be analyzed for TPH-d at the influent and effluent sample ports. Analytical results from initial and confirmation samples collected in April 2011 are presented in Table 5.

## Optimization Activities

No optimization activities occurred at the SBBGWTP in April 2011.

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

| Constituent | Instantaneous Maximum[a] (µg/L) | Detection Limit (µg/L) | N/C | 6 April 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 | ND | ND | 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 | 0.38 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 | 74.7 | 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[b] |
| Total Suspended Solids (mg/L) | NE | 1.0 | 0 | 10 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).

[b] Concentration reported was collected on 27 April 2011 as part of confirmatory sampling. The analytical report for the effluent groundwater sample collected on 6 April 2011 reported a TPH-D concentration anomaly (71 J µg/L) so confirmatory sampling was conducted.

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

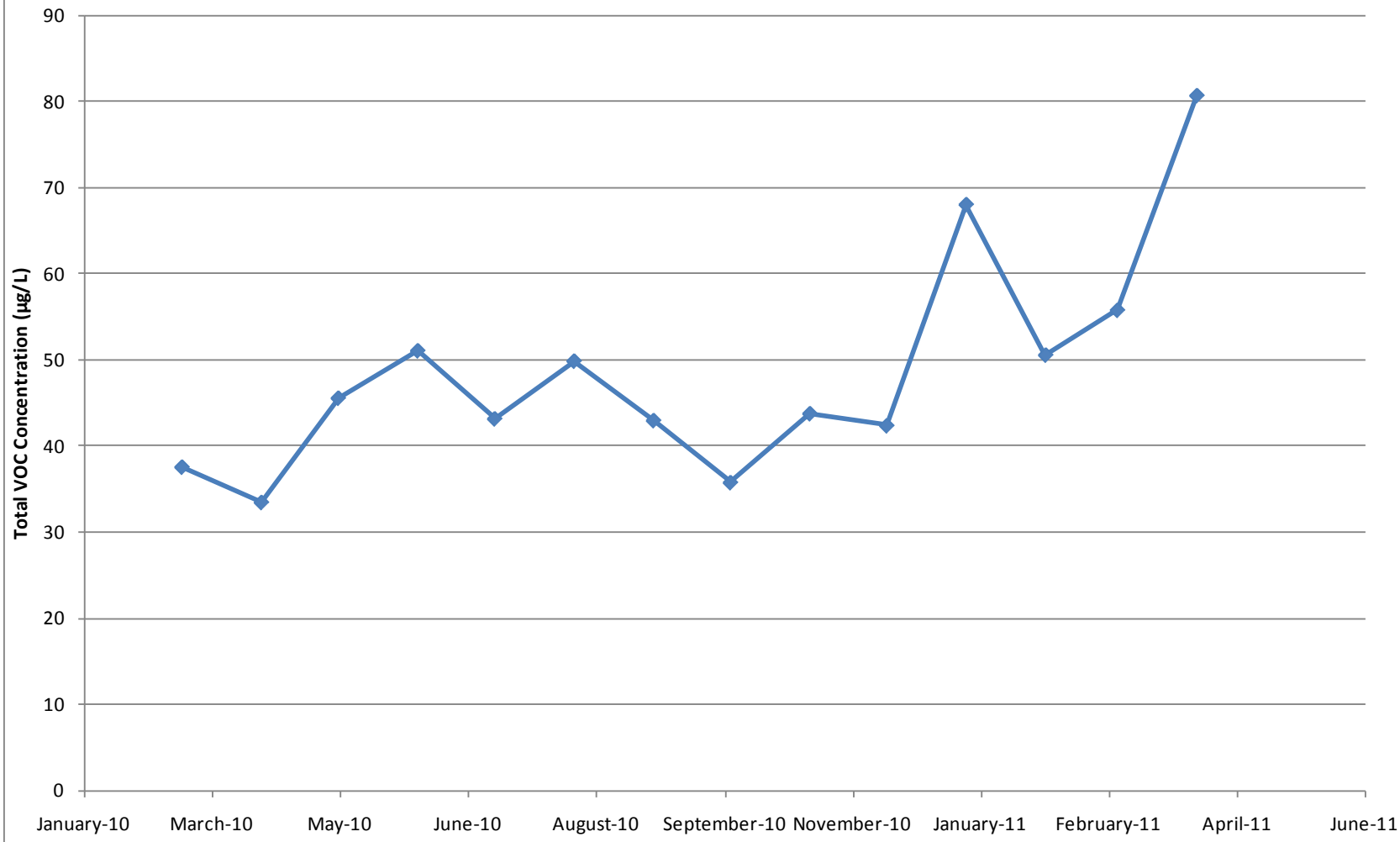
Table 5
Influent and Effluent TPH-D Groundwater Analytical Data for April 2011 – South Base Boundary Groundwater Treatment Plant

| Constituent | Instantaneous Maximum[a] (µg/L) | Detection Limit (µg/L) | N/C | 6 April 2011 (µg/L) | | 27 April 2011 (µg/L) | |
|---|---|---|---|---|---|---|---|
| | | | | Influent | Effluent | Influent | Effluent |
| Total Petroleum Hydrocarbons – Diesel | 50 | 50 | 1 | NM | 71 J | ND | ND |

[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
N/C = number of samples out of compliance with discharge limits
ND = not detected
NM = not measured
µg/L = micrograms per liter

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



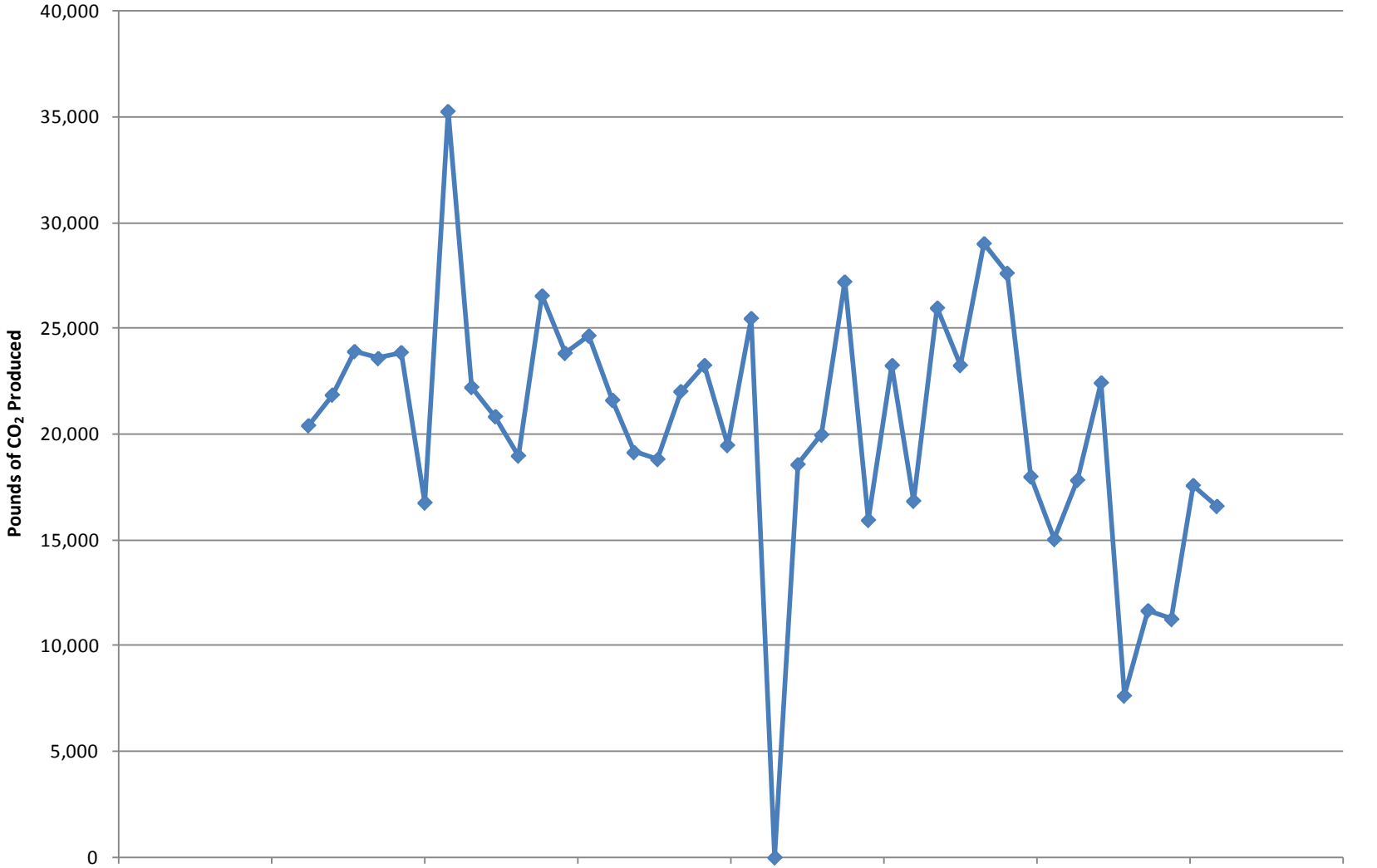
# Sustainability

Travis AFB is committed to decreasing the amount of greenhouse gas emissions (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 16,604 pounds of GHG during April 2011. This is a decrease from March 2011. The overall energy consumption levels remain consistent with the general decease in energy demand since the air stripper was bypassed, and the granular activated carbon (GAC) system was brought on line in August 2010.

# Figure 2

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



# Central Groundwater Treatment Plant Monthly Data Sheet

**Report Number: 141** **Reporting Period: 31 Mar – 30 April 2011** **Date Submitted: 20 May 2011**

This monthly data sheet presents information regarding all systems and associated remedial process optimizations (RPOs) to the Central Groundwater Treatment Plant (CGWTP). The systems associated with the CGWTP include the CGWTP itself 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 April 2011 reporting period.

**Table 1 – Operations Summary – April 2011**

| Operating Time: | | Percent Uptime: | | Electrical Power Usage: | |
|---|---|---|---|---|---|
| **CGWTP:** | 669 hours | **CGWTP:** | 96.1% | **CGWTP:** | 44 kWh (60.3 lbs $CO_2$ generated[a]) |
| **WTTP:** | Water: 0 hours | **WTTP:** | Water: 0% | **WTTP:** | 0 kWh |
| | Vapor: 0 hours | | Vapor: 0% | | |

Gallons Treated: **1.1 million gallons**

Gallons Treated Since January 1996: **442 million gallons**

VOC Mass Removed:

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

**0 lbs (vapor only)**

VOC Mass Removed Since January 1996:

**2,536 lbs from groundwater**

**8,686 lbs from vapor**

Rolling 12-Month Cost per Pound of Mass Removed: $1,947 [c]

Monthly Cost per Pound of Mass Removed: $2,260

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

[b] Calculated using April 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 | 7.3 | Off line |
| EW03x16 | 4.5[c] | Off line |
| EW605x16 | Off line [d] | Off line |
| EW610x16 | Off line [d] | Off line |
| CGWTP | 27.2 | -- |
| 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 April 2011
[c] Water discharged to Site SS016 bioreactor – flow rate taken when pump is operating (is not an average).
[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 | None | | | | |
| **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 6 April 2011. Sample results are presented in Table 5. The total VOC concentration (310 µg/L) in the influent sample has decreased slightly since the March 2011 sample (435 µg/L) was collected.

Extraction wells EW605x16 and EW610x16 remained off line during April 2011. Both replacement pumps are on site, and extraction pump EW610x16 was replaced in March 2011. Upon restarting the pump, inconsistent flow and pump operation were observed. Further troubleshooting indicated that electrical power lines between the various pull boxes (between the main control panel and well vaults) and well vaults will likely need to be replaced. Troubleshooting was completed in May 2011. Both pumps are expected to be brought back on line in May 2011 after repair work is completed.

On 5 April 2011, contractors working on the newly constructed fire station adjacent to the CGWTP struck and damaged communication wiring between the CGWTP and the WTTP. Upon further inspection, the fiber optic wiring was discovered to be undamaged. By 19 April 2011, the fire station contractor had repaired the damaged lines and left the area of repair exposed to allow for inspection of the repair work. Communication testing on 26 April 2011 verified proper operation and control of the WTTP when operated from the CGWTP.

## 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 April 2011.

## Table 5

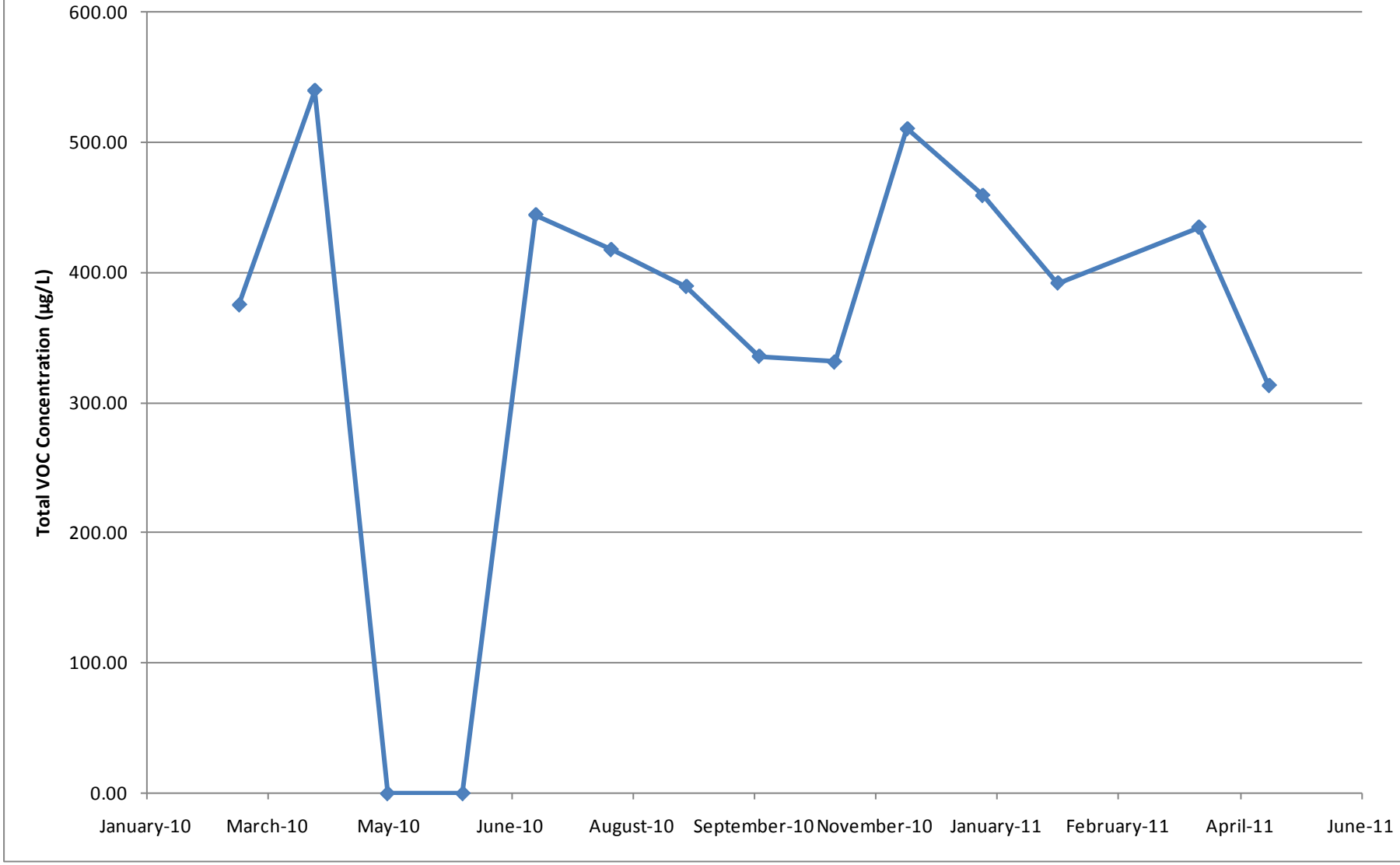
Summary of Groundwater Analytical Data for March 2011 – Central Groundwater Treatment Plant

| Constituent | Instantaneous Maximum[a] (µg/L) | Detection Limit (µg/L) | 6 April 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 | 0.4 J | ND | ND | ND |
| 1.3-Dichlorobenzene | 5.0 | 0.15 | 0 | 0.39 J | ND | ND | ND |
| 1,4-Dichlorobenzene | 5.0 | 0.15 | 0 | 0.19 J | 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 | 0.59 | ND | ND | ND |
| cis-1,2-Dichloroethene | 5.0 | 0.19 | 0 | 86.8 | ND | ND | ND |
| trans-1,2-Dichloroethene | 5.0 | 0.33 | 0 | 3.9 | ND | ND | ND |
| Methylene Chloride | 5.0 | 0.66 | 0 | ND | ND | ND | ND |
| Tetrachloroethene | 5.0 | 0.21 | 0 | 0.43 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 | 217 | ND | ND | ND |
| Vinyl Chloride | 0.5 | 0.18 | 0 | 0.63 | 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



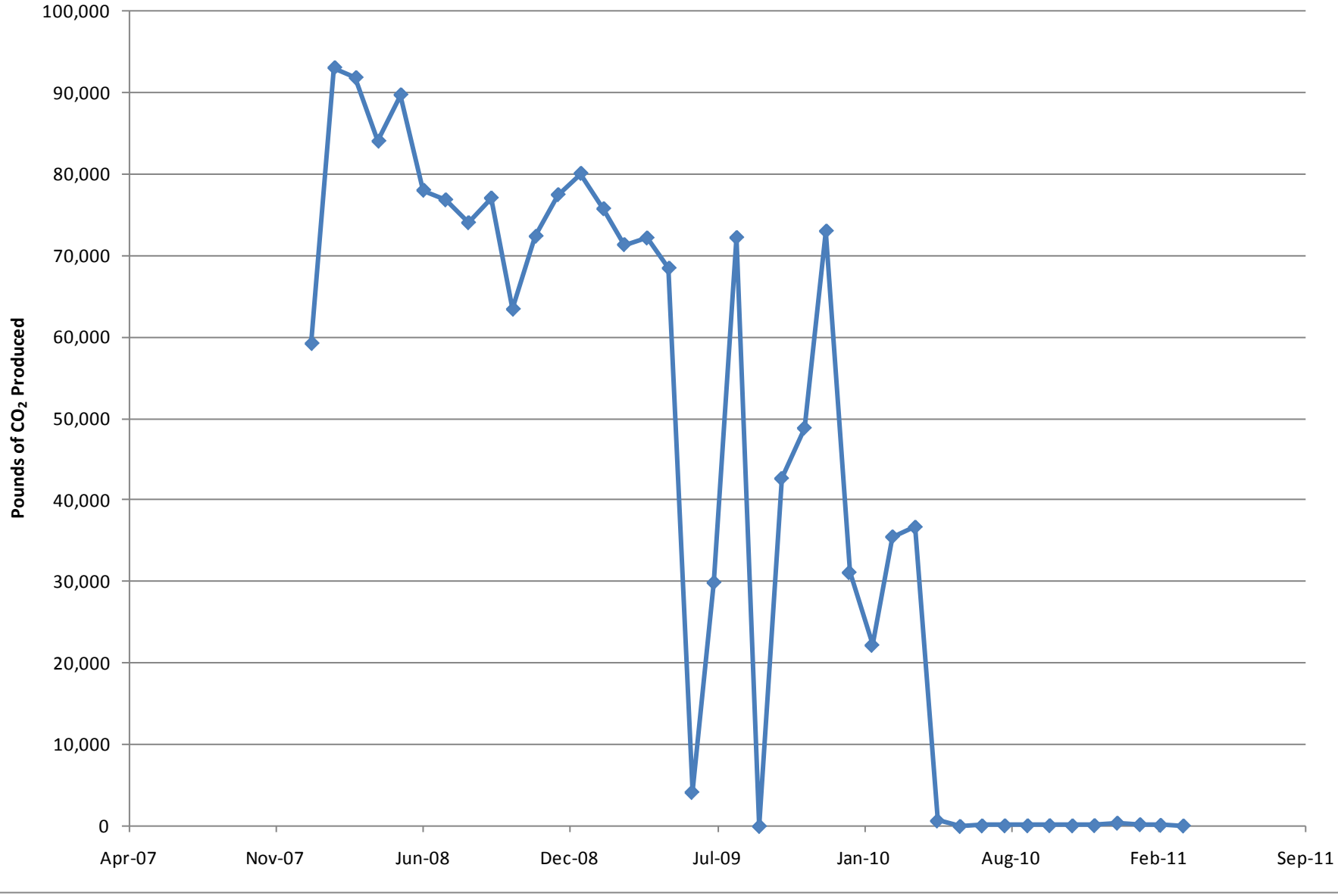
# Sustainability

Travis AFB is committed to decreasing the amount of greenhouse gas (GHG) emissions 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 system. The CGWTP produced approximately 60 pounds of GHG during April 2011. This is a decrease from March 2011, and is consistent with the overall decrease since the UV/Ox, ThOx, and WTTP were all taken off line.

# Figure 2

## Equivalent Pounds of CO2 Produced by the Central Groundwater Treatment Plant



# Site ST018 Groundwater Treatment Plant Monthly Data Sheet

**Report Number: 002** **Reporting Period: 31 Mar – 30 April 2011** **Date Submitted: 20 May 2011**

This monthly data sheet presents information regarding the Site ST018 Groundwater Treatment Plant (S18GWTP).

## System Metrics

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

**Table 1 – Operations Summary – April 2011**

| Operating Time: | Percent Uptime: | Electrical Power Usage: |
|---|---|---|
| **S18GWTP:** 723 hours | **S18GWTP:** 100% | **S18GWTP:** 106 kWh (145 lbs $CO_2$ generated[a]) |

Gallons Treated: **162 thousand gallons**

Gallons Treated Since March 2011: **243 thousand gallons**

Volume Discharged to Union Creek: **162 thousand gallons**

BTEX, MTBE, TPH Mass Removed: **0.38 lbs** [b]

BTEX, MTBE, TPH Mass Removed Since March 2011: **2.6 lbs**

Rolling 12-Month Cost per Pound of Mass Removed: $2,460 [c]

Monthly Cost per Pound of Mass Removed: $16,837[d]

Lbs = pounds

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

[b] Calculated using April 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; however the system is only in its second month of operation.

[d] High cost due to low amount of VOCs removed during April 2011 (0.38 pounds).

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 | 0.5 |
| EW2016x18 | 1.6 |
| EW2019x18 | 2.0 |
| Site ST018 GWTP | 3.7 |

[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

The S18GWTP was brought on line in March 2011. Monthly groundwater samples at the S18GWTP were collected on 27 April 2011. Sample results are presented in Table 4. The total VOC concentration (331.6 µg/L) in the influent sample has decreased since the March 2011 sample (3,299 µg/L) was collected. The significant decrease in VOC concentration is likely due to the inconsistent operation of EW2014x18 during the month of April. The extraction well is currently off line while troubleshooting activities are completed. Well EW2014x18 is expected to be brought back on line in May 2011.

Although all effluent contaminant concentrations were within permit limits, estimated amounts of TPH were identified in the effluent stream of the S18GWTP for the second consecutive monthly sampling event. The source of these detections is currently being investigated in an attempt to remove all detectable contaminant concentrations from the process stream prior to discharge. All contaminant concentrations detected in the effluent process stream are within the limits established in the NPDES permit for the Site ST018 GWTP.

## Optimization Activities

No optimization activities occurred at the S18GWTP in April 2011.

## Table 4

Summary of Groundwater Analytical Data for April 2011 – Site ST018 Groundwater Treatment Plant

| Constituent | Instantaneous Maximum[a] (µg/L) | Detection Limit (µg/L) | N/C | 27 April, 2011 (µg/L) | | |
|---|---|---|---|---|---|---|
| | | | | Influent | After Carbon 2 | System Effluent |
| **Fuel Related Constituents** | | | | | | |
| MTBE | 5 | 0.1 | 0 | 71 | ND | ND |
| Benzene | 5 | 0.1 | 0 | ND | ND | ND |
| Ethylbenzene | 5 | 0.1 | 0 | 0.3 J | ND | ND |
| Toluene | 5 | 0.1 | 0 | ND | ND | ND |
| Total Xylenes | 5 | 0.1 | 0 | 0.3 J | ND | ND |
| Total Petroleum Hydrocarbons – Gasoline | 50 | 14 | 0 | 140 Y | 16 J | 34 J |
| Total Petroleum Hydrocarbons – Diesel | 50 | 16 | 0 | 120 Y | 28 J | 16 J |
| Total Petroleum Hydrocarbons – Motor Oil | -- | 74 | 0 | ND | ND | ND |

[a] In accordance with the National Pollutant Discharge Elimination System (NPDES) Effluent Limitations

J = analyte concentration is considered an estimated value

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

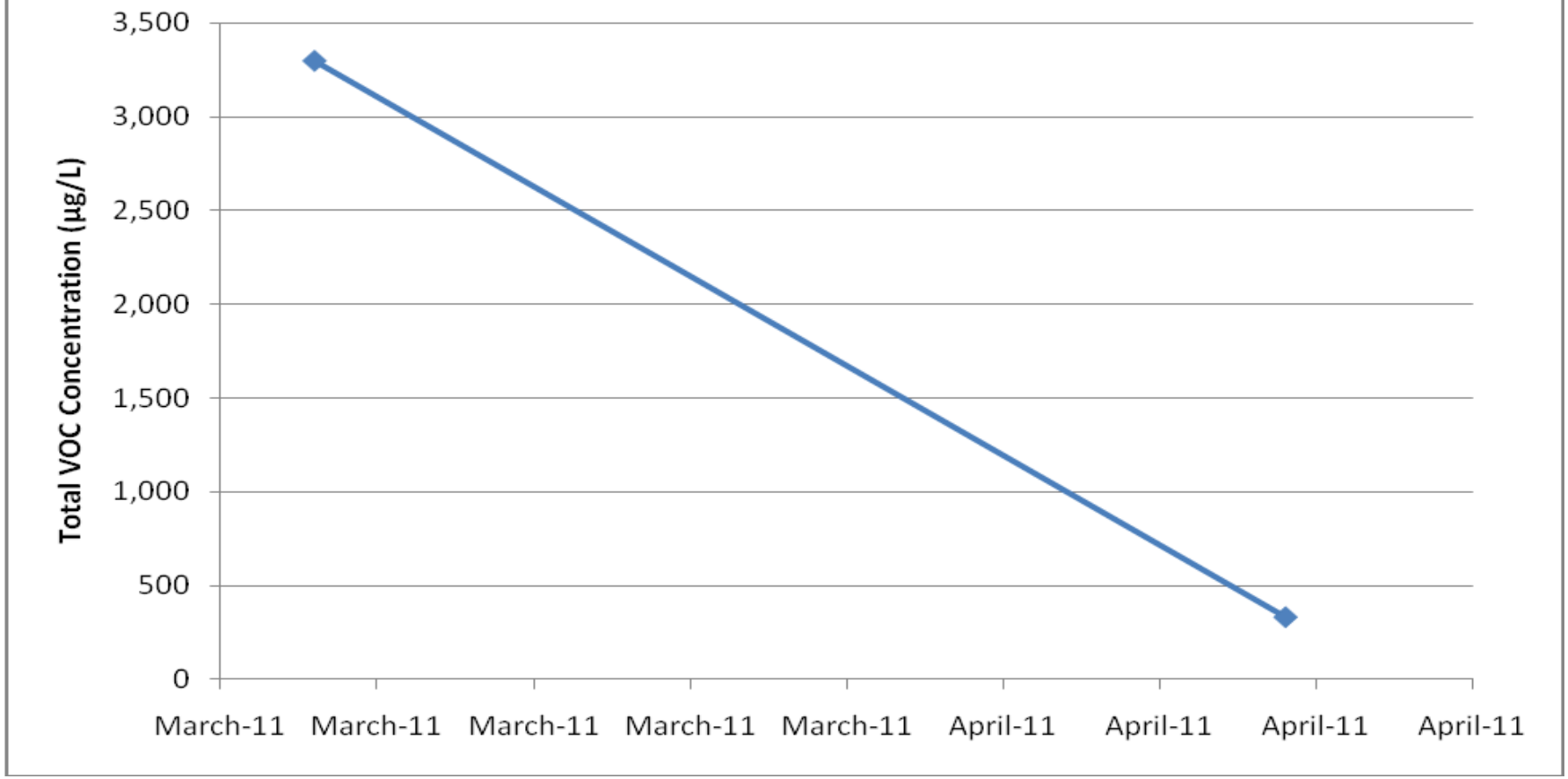
ND = not detected above method detection limit

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



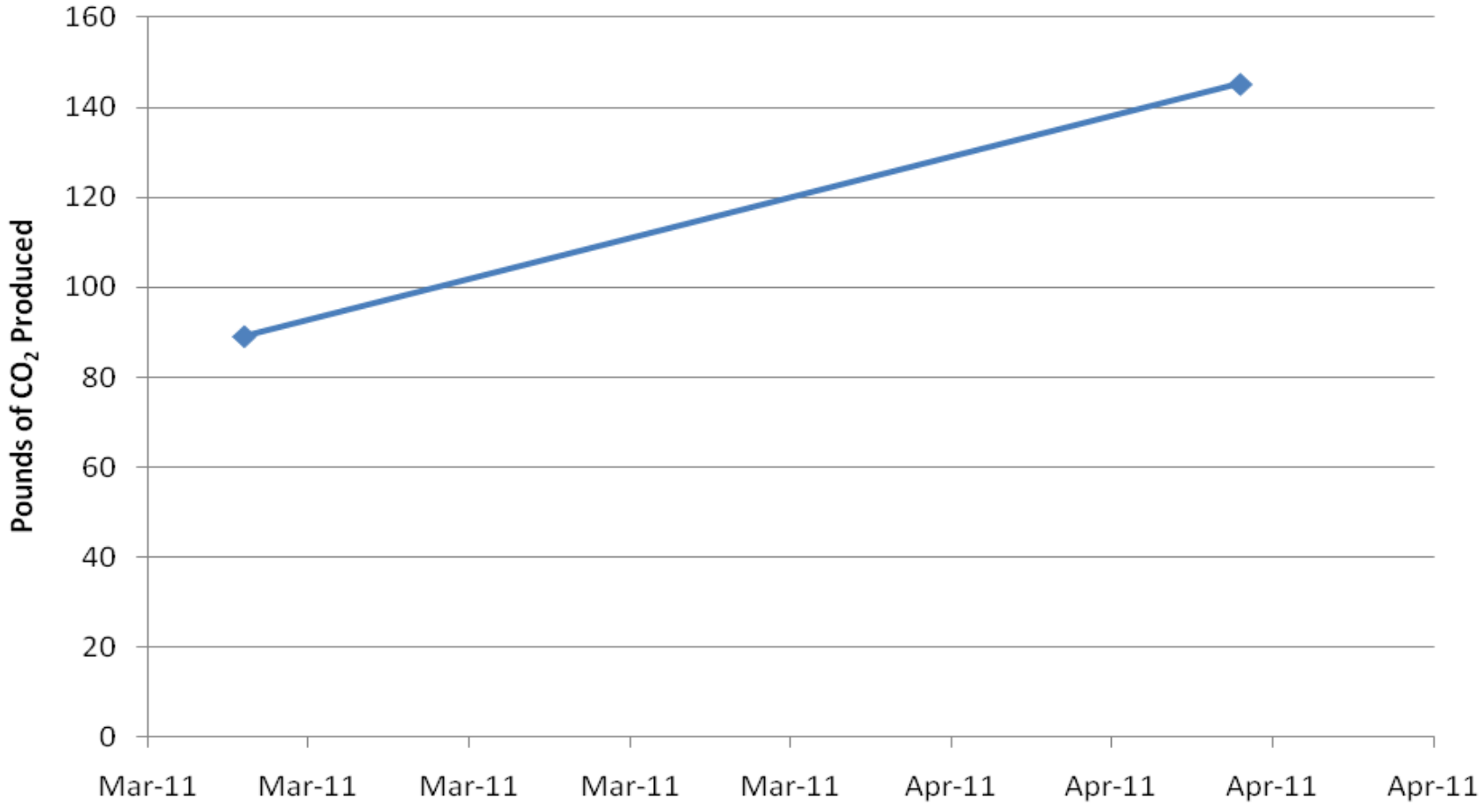
# Sustainability

Travis AFB is committed to decreasing the amount of greenhouse gas (GHG) emissions 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 ST018WTP, the system produced approximately 145 pounds of GHG during April 2011. This is an increase from March 2011, and is likely due to increased operating hours. Despite this increase, 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

May 26, 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***

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

3

# In-Progress Documents & Field Work

Documents

- Comprehensive Site Evaluation Phase II Report
- ISCO/ERD Tech Memo
- Focused Feasibility Study (FFS)
- SD036 Remedy Optimization Field Implementation Plan
- 2010 Annual CAMU Inspection Report
- ***Site ST018 POCO Baseline Implementation Report***
- ***2010 Groundwater RPO Annual Report***
- ***FT005 Data Gaps Investigation Report***

Field Work

- ***2011 Annual GSAP Sampling***
- ***Quarterly RPO Performance Monitoring***
  - ***SS016 Bioreactor Initial Quarterly Performance Sampling***
  - ***SD036 EVO Second Quarterly Performance Sampling***
  - ***SD037 EVO Third Quarterly Performance Sampling***
  - ***DP039 Biobarrier Third Quarterly Performance Sampling***
  - ***DP039 Bioreactor Ongoing Semiannual Performance Sampling***

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

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# Travis AFB
# Field Schedule - 2011

RPM Meeting

May 26, 2011

# 2011 Field Schedule

- 2011 Annual GSAP Sampling (In Progress) — Apr - Jun
- Quarterly RPO Performance Monitoring (In Progress) — May

  (sites SS015 EVO injection, SS016 bioreactor, SD036 EVO injection, SD037 EVO injection, DP039 bioreactor, & DP039 EVO biobarrier)
- 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

# Document Retrieval

RPM Meeting May 26, 2011

# SharePoint

- FTP Sites are going away (security risk).
- SharePoint, a web-based platform that does not require 3rd-party software, will be used to transfer large files.
- You will receive an email message generated by the ***CH2M HILL Extranet System*** inviting you to the SharePoint site called "Project Insight". It will include the link to Project Insight, your unique assigned user name, and password for access.
- Forward this email to Peggy Taylor/CH2M HILL (peggy.taylor@ch2m.com) who will keep it on record in case your information is lost.

# Sample of SharePoint Email

*This is an automatic message from a CH2M HILL Extranet System. Please do not respond to this email as the mailbox is not monitored.*

You have been assigned a username and password for the CH2M HILL Project Insight. To access this application, use the following URL:

https://deliver.ch2m.com/Projects/381355

Your Name: **Peggy Ann**
Your Username: **ext\pann**
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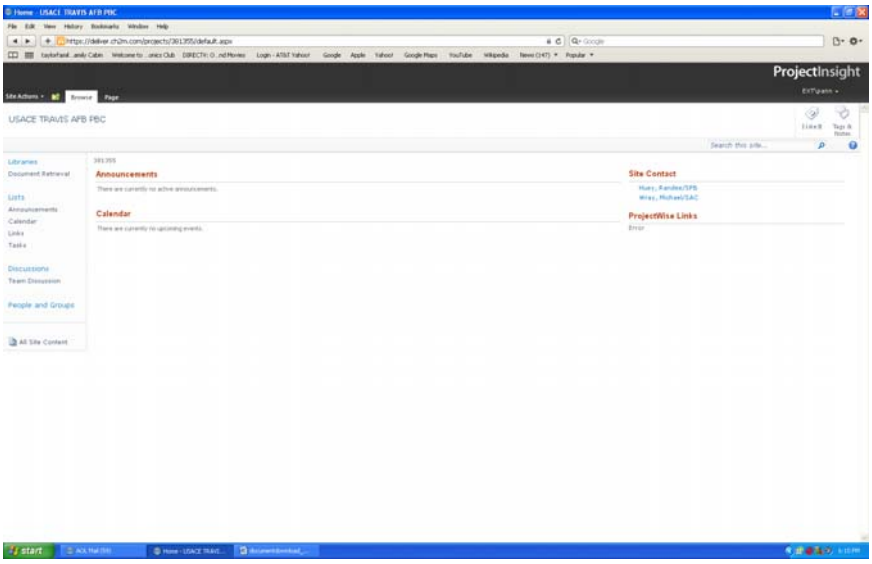

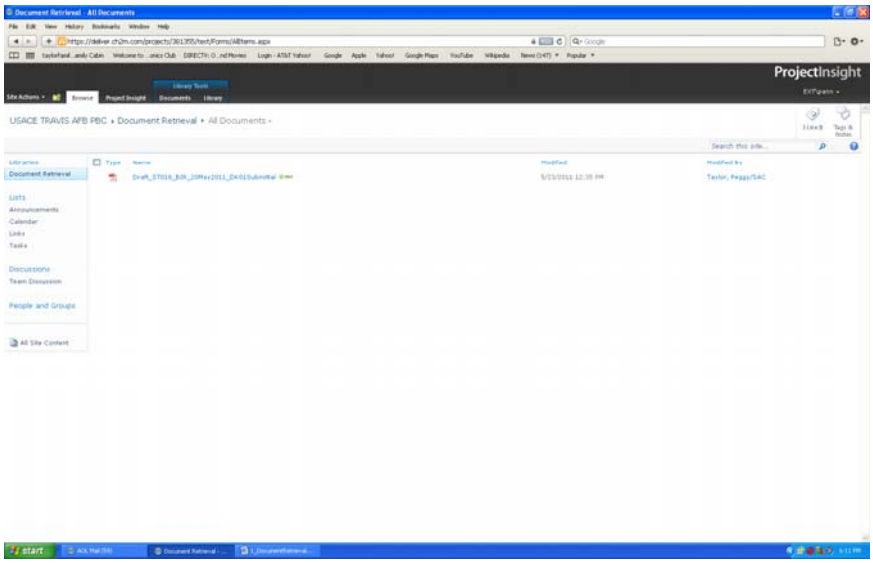
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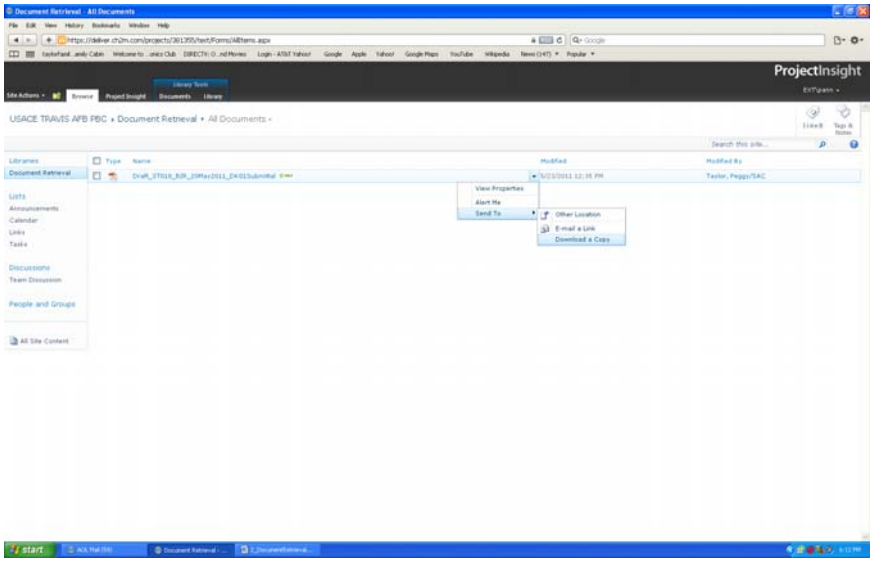
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