Final

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

14 May 2014, 0930 Hours

Mr. Mark Smith, of the Air Force Civil Engineer Center (AFCEC) Restoration Support Team, conducted the Restoration Program Manager's (RPM) meeting in Building 248, on 14 May 2014 at 0930 hours, at Travis AFB, California. Attendees included:

• Mark Smith	AFCEC/CZOW
• Glenn Anderson	AFCEC/CZOW
• Lonnie Duke	AFCEC/CZOW
• Erin Hernandez	Travis AFB 60 AMW/JA
• William Hall (via telephone)	AFCEC/CZRW
• Nadia Hollan Burke	United States Environmental Protection Agency (USEPA)
• Adriana Constantinescu (via telephone)	California Regional Water Quality Control Board (RWQCB)
• Ben Fries	California Department of Toxic Substances Control (DTSC)
• Mike Wray	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 (April 2014)
• Attachment 4	CGWTP Monthly Data Sheet (April 2014)
• Attachment 5	ST018 Monthly Data Sheet (April 2014)
• Attachment 6	Presentation: Program Update: Activities Completed, In Progress and Upcoming

1. ADMINISTRATIVE

A. Previous Meeting Minutes

The 16 April RPM meeting minutes were approved and finalized as written, with the following exceptions.

Ms. Burke requested the following changes:

Page two, last paragraph, after fourth sentence, insert: “Mr. Smith stated that he will approve the extension request but will need time to draft the approval letter.”

Page five, text inserted under the North Groundwater Treatment Plant: “…in the seasonal vernal pool at Subarea LF007C, per U.S. Fish and Wildlife Service requirements”.

Page seven, paragraph eight, added the following text in quotes: Ms. Burke said she does have concerns/questions “regarding how these demonstration projects fit in with ROD requirements and support the RD/RA process and would like to discuss this topic further”.

Mr. Smith added action item two: Travis AFB will set up a meeting with EPA to discuss the role of upcoming groundwater technology demonstration projects in the RD/RA process.

B. Action Item Review.

Action items from April were reviewed.

Action item 1 will remain open: AFCEC’s Travis Restoration Team and Travis AFB will continue to pursue opportunities for the beneficial reuse of treated water. AFCEC is in agreement with using Defense Environmental Restoration Account (DERA) funds under the authority of a “net-zero energy policy” for the Air Force for the beneficial reuse of treated groundwater. Current possibilities include: Rerouting treated water from the central plant to the duck pond or as irrigation as an energy reduction project with the intent of reducing on-base water usage. Due date will remain TBD to ensure this action item remains visible. 16 April 2014: No update.

Action item 2 is closed. Travis AFB will set up a meeting with EPA to discuss the role of upcoming groundwater technology demonstration projects in the RD/RA process.

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 18 June 2014. Ms. Burke indicated she might be attending a conference and would be available to call in for the 18 June 2014 RPM meeting.

Travis AFB Master Document Schedule

— Groundwater Record of Decision (ROD): No change to the schedule. The Draft Final is scheduled to be delivered to the regulatory agencies on 16 May 2014. EPA will receive the original signature page with the Travis AFB Wing Commander's signature on it, along with the revised draft-final ROD. The signature order will be: EPA - RWQCB - DTSC. All signatures must be on the same signature sheet. Once EPA signs they are to deliver the signature pate to the RWQCB. Once the RWQCB signs they are to deliver the signature page to the DTSC. The cover letter accompanying the revised draft-final ROD states that the regulators have 30 days from 16 May 2014 date to obtain the required signatures.

— Travis Air Force Base Uniform Federal Policy-Quality Assurance Project Plan (UFP-QAPP): No change to the schedule.

— Site SD037 GW Remedial Design/Remedial Action Work Plan: New document, all dates are to be determined (TBD). The new WPs will go out draft to the agencies in a staggered schedule as to not inundate the regulatory agencies or Travis AFB resources.

— Site SD036 Remedial Design/Remedial Action Work Plan: New document, all dates are TBD.

— Site SS015 GW Remedial Design/Remedial Action Work Plan: New document, all dates are TBD.

— Site SS016 GW Remedial Design/Remedial Action Work Plan: New document, all dates are TBD.

— Potrero Hills Annex: (FS, PP, and ROD): No change to the schedule. The RWQCB had requested a work plan from Camp Dresser McKee and Smith (CDM Smith) for the continued investigation of perchlorate for the 2014 summer construction season. Travis AFB has not yet received a pre-draft work plan to review. Ms. Constantinescu commented that she has requested Kent Aue (RWQCB project manager for Potrero Hills Annex) to keep her in the loop for all new project documents.

— Site CG508 POCO Work Plan: Response to Comments Meeting date was changed to 14 May 2014. Travis AFB is working on the responses to RWQCB comments.

— Site FT004 Treatment Demonstration Work Plan: No change to the schedule.

— Site DP039 Lead Excavation Technical Memorandum: Dates were changed to allow Travis AFB additional time to pull the document together. This technical memorandum addresses the soil Land Use Controls (LUC) at the site. The groundwater LUCs will remain in place and are being addressed separately.

— Site SD031 Treatment Demonstration Work Plan: New document. All dates TBD.

— Site SS014 Technology Demonstration Work Plan: New document. All dates are TBD.

— Site TA500 Investigation Work Plan: New document. All dates are TBD.

— Explanation of Significant Differences (ESD) to the NEWIOU Soil, Sediment, and Surface Water Record of Decision (ROD): No change to the schedule.

— Explanation of Significant Differences to the Soil Record of Decision for the WABOU: No change to the schedule.

— Quarterly Newsletter (July 2014): New document. The dates reflect the third quarter edition of the newsletter.

— 2013 Annual Groundwater Remediation Implementation Status Report (GRISR): No change to the schedule.

— Kinder Morgan LF044 Land Use Control Report: No change to the schedule.

— CAMU Inspection Annual Report: Moved to Historical file.

2. CURRENT PROJECTS

Treatment Plant Operation and Maintenance Update

South Base Boundary Groundwater Treatment Plant (see Attachment 3)

The South Base Boundary Groundwater Treatment Plant (SBBGWTP) performed at 100% uptime, and 2.9 million gallons of groundwater were extracted and treated during the month of April 2014. All of the treated water was discharged to Union Creek. The average flow rate for the SBBGWTP was 68.0 gallons per minute (gpm). Electrical power usage was 8,460 kWh and approximately 11,591 pounds of CO_2 were created (based on DOE calculation). Approximately 0.56 pounds of volatile organic compounds (VOCs) were removed in April. The total mass of VOCs removed since startup of the system is 447 pounds.

Optimization Activities: No optimization activities are reported for the month of April.

Central Groundwater Treatment Plant (see Attachment 4)

The Central Groundwater Treatment Plant (CGWTP) performed at 100% uptime with approximately 1.42 million gallons of groundwater extracted and treated during the month of April 2014. All treated water was discharged to the storm drain. The average flow rate for the CGWTP was 33.1 gpm. Electrical power usage was 2,476 kWh for all equipment connected to the Central Plant, and approximately 3,392

pounds of CO_2 were generated. Approximately 4.69 pounds of VOCs were removed from groundwater by the treatment plant in April. The total mass of VOCs removed since the startup of the system is 11,368 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 are reported for the month of April.

North Groundwater Treatment Plant There will not be a monthly report for the NGWTP this month. The treatment plant was turned off on 8 February 2014 due to standing water in the seasonal vernal pool at Subarea LF007C, per U.S. Fish and Wildlife Service requirements.

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

The Site ST018 (MTBE) Treatment Plant (ST018 GWTP) performed at 62% uptime with approximately 136,900 gallons of groundwater extracted and treated during the month of April 2014. All treated water was diverted to the storm drain. The average flow rate for the ST018 GWTP was 4.97 gpm. Electrical power usage for the month was 103 kWh for all equipment connected to the ST018 GWTP plant, which equates to the creation of approximately 141 pounds of CO_2. Approximately 1.21 pounds of BTEX, MTBE and TPH were removed from groundwater in April from the treatment plant. The total BTEX, MTBE and TPH mass removed since the startup of the system is 27.3 pounds.

UC Davis has been at this site for the last couple of weeks conducting a pilot study on microbial breakdown of MTBE using a new pilot test tool they have designed. Mr. Duke said that they are at ST018 today and invited the regulatory agencies to visit the site later this afternoon the RPM meeting.

Note: Electrical power use at the ST018 GWTP is only for the alarm system and a pump that pushes water through the GAC vessels. The other pumps in the system are all solar powered.

Optimization Activities for ST018: No optimization activities to report for the month of April.

Discussion:

Revised Draft Final Groundwater ROD Signature Page Routing:

The agencies agreed to the following goal signature page routing. EPA receives "wet" signature page on 16 May 2014; RWQCB receives signature page on 30 May 2014; DTSC receives signature page on 6 June 2014.

Groundwater ROD Extension End Date:

The revised draft final Groundwater ROD end date is 16 June 2014. With each of the required signatures in place, the ROD will become final.

Work Plan Development/Review Schedule:

Work Plans (WPs) will be submitted to the regulatory agencies on a staggered schedule so as to not "bottleneck" the review process. Mr. Smith suggested further discussion with the regulatory agencies, once the ROD is signed, to reach agreement on replacing TBD with actual dates on the MMDS.

Post ROD Program Transition:

1) Focus on RA-O and Optimization

   Having the Groundwater ROD signed will allow Travis AFB to move away from the Interim Groundwater RODs and to install and optimize the technologies that are selected in the ROD. Travis AFB will focus on improving green and sustainable remediation (GSR), decommissioning treatment plants, reducing environmental liabilities, reducing operating costs, and reducing the level of public involvement.

2) Teleconferencing (RPM Meetings and Technical Working Group Meetings).

   Mr. Smith proposed alternating "face to face" and teleconferencing every other month for RPM meetings. Further, the face to face meetings would be primarily for technical working group meetings to discuss WPs, and utilization of the "triad" approach for field investigations.

   Mr. Wray asked if the regulators have the ability for live conferencing. Ms. Burke said that EPA uses Adobe Connect. Mr. Smith said the Air Force also uses Adobe Connect. Mr. Wray said that CH2M HILL uses Live Meeting and would look into Adobe Connect. Mr. Smith said there could be some legal issues with setting up teleconferences outside of Travis AFB intranet. Ms. Hernandez said that it is possible to use Defense Connect Online for the teleconferences. Mr. Smith will explore further and get back to the regulatory agencies. The regulatory agencies will check to see what type of live conferencing they have within their agencies.

RAB Future:

Mr. Smith opened the discussion regarding the future of the Restoration Advisory Board (RAB), stating that once the Groundwater ROD is signed there may be little need for a RAB. The RAB serves to aid in the development of decision documents (specifically those that support remedy selection), to obtain public input, and to discuss Air Force requirements. Once all the decision documents have been finalized and concern from the local community has diminished, the need for the RAB diminishes. Travis AFB still has technical documents that need to be reviewed. Once the technical documents are completed, Travis AFB will consider putting the RAB on hold. When the responsible parties clean up Potrero Hills to RWQCB-required standards, the Annex would be placed back into the Travis AFB Environmental Restoration Program and would then go through the process of developing a ROD. It is possible the Travis AFB RAB will need to be restarted to support the CERCLA process that will lead to a final ROD.

Mr. Fries said that DTSC is compelled to have public participation, adding he would consult with his team for their opinions. Mr. Anderson asked Mr. Fries if Marcus Simpson had assigned a replacement Public Participation Specialist for DTSC, adding Travis AFB would like to include a photograph and contact number for the replacement assigned to Travis AFB in the next quarterly newsletter. Mr. Fries will find out who has been assigned.

Ms. Burke said EPA currently does not have anyone assigned to Travis AFB, so she is providing the community involvement oversight. EPA requires community involvement/participation, and the Travis AFB RAB meetings have always been the way to involve the community. If the RAB is dissolved, there would be a need to discuss alternatives to present information to the community.

Ms. Constantinescu said RWQCB has a public participation policy that supports strong public involvement, mainly in the decision documents. If Travis AFB is proposing more remedial action plans, the RWQCB requires that the documents are presented to the public. The RAB meeting is also very useful, because the regulatory agencies have direct communication with the RAB members. Ms. Constantinescu added that her contact information can be listed in the Travis AFB quarterly newsletter.

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. Updates from the briefing this month included:

Newly Completed Documents: 2013 CAMU Inspection Annual Report.

Newly Completed Field Work: 2014 Annual GRIP Sampling Event.

In-Progress Documents: Groundwater Record of Decision (ROD), Kinder Morgan LF044 Land Use Control Report, CG508 POCO Work Plan, 2013 Annual GRISR.

In-Progress Field Work: Biological Resource Assessment.

Upcoming Documents: ESD to WABOU Soil ROD, ESD to NEWIOU Soil, Sediment, & Surface Water ROD, Travis AFB UFP-QAPP, FT004 Treatment Demonstration Work Plan, DP039 Lead Excavation Technical Memo, SD031 Treatment Demonstration Work Plan, SS014 Technology Demonstration Work Plan, TA500 Investigation Work Plan, SS015 GW RD/RA Work Plan, SS016 GW RD/RA Work Plan, SD036 RD/RA Work Plan, SD037 GW RD/RA Work Plan.

Upcoming Field Work: Old Skeet Range Characterization Sampling. Site CG508 Site Investigation.

4. New Action Item Review

None.

5. PROGRAM/ISSUES/UPDATE

Mr. Fries/DTSC announced that he will be on vacation from 24 May 2014 through 24 August 2014. Mr. Fries said that all emails sent to him should also be copied to Mr. John Hart.

6. Action Items

Item #	Responsible	Action Item Description	Due Date	Status
1.	Travis AFB	AFCEC's Travis Restoration Team and Travis AFB will continue to pursue opportunities for the beneficial reuse of treated water. AFCEC is in agreement with using Defense Environmental Restoration Account (DERA) funds under the authority of a "net-zero energy policy" for the Air Force for the beneficial reuse of treated groundwater. Current possibilities include: Rerouting treated water from the central plant to the duck pond or as irrigation as an energy	TBD	Open

		reduction project with the intent of reducing on-base water usage. Due date will remain TBD to ensure this action item remains visible.		
2	Travis AFB	Travis AFB will set up a meeting with EPA to discuss the role of upcoming groundwater technology demonstration projects in the RD/RA process.	6 May 2014	Closed

TRAVIS AIR FORCE BASE
ENVIRONMENTAL RESTORATION PROGRAM

RESTORATION PROGRAM MANAGER'S MEETING
BLDG 248 Conference Room
14 May 2014, 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

3. DISCUSSION

   A. REVISED DRAFT FINAL SIGNATURE PAGE ROUTING
   B. ROD Extension End Date
   C. WORK PLAN DEVELOPMENT/REVIEW SCHEDULE
   D. POST ROD PROGRAM TRANSITION
      (1). FOCUS ON RA-O AND OPTIMIZATION
      (2). TELECONFERENCING (RPM MTGS AND TECH WORK GROUP MTGS)
   E. RAB FUTURE

4. PRESENTATION

   A. PROGRAM UPDATE: ACTIVITIES COMPLETED, IN PROGRESS AND UPCOMING

5. NEW ACTION ITEM REVIEW

6. PROGRAM/ISSUES/UPDATE

NOTES: UC DAVIS PERSONNEL WILL BE ON SITE IN THE AFTERNOON TO DEPLOY THEIR IN-SITU PILOT TEST (ISPT) DEVICE AT SITE ST018 TO COLLECT DATA ON THE MICROBIAL POPULATION WITHIN GROUNDWATER CONTAMINATED WITH MTBE. POC IS LONNIE DUKE.

(2014)

Annual Meeting and Teleconference Schedule

Monthly RPM Meeting[1] (Begins at 9:30 a.m.)	RPM Teleconference (Begins at 10:00 a.m.)	Restoration Advisory Board Meeting (Begins at 7:00 p.m.) (Poster Session at 6:30 p.m.)
01-22-14	—	—
02-19-14	—	—
03-19-14	—	—
04-16-14	—	04-17-14[2]
05-14-14	—	—
06-18-14	—	—
07-23-14	—	—
08-20-14	—	—
09-17-14	—	—
10-23-14 (Thur 2:00 PM)	—	10-23-14
11-19-14	—	—
—	—	—

[1] Note: Meetings will be held the third Wednesday of each month unless otherwise noted.

[2]Note: Postponed until ROD signed

Travis AFB Master Meeting and Document Schedule

PRIMARY DOCUMENTS			
Life Cycle	**Groundwater Record of Decision Travis, Glenn Anderson CH2M HILL, Leah Waller**	**Travis Air Force Base Uniform Federal Policy-Quality Assurance Project Plan Travis, Glenn Anderson CH2M HILL, Bernice Kidd**	**Site SD037 GW Remedial Design/Remedial Action Work Plan Travis AFB, Glenn Anderson CH2M HILL, Tony Chakurian**
Scoping Meeting	**01-24-07 (11-30-11)**	**NA**	**NA**
Predraft to AF/Service Center	11-28-12	**05-30-14**	TBD
AF/Service Center Comments Due	12-12-12	06-13-14	TBD
Draft to Agencies	01-02-13[1]	06-27-14	TBD
Draft to RAB	01-02-13[1]	06-27-14	TBD
Agency Comments Due	03-03-13 (04-05-13)	07-28-14	TBD
Response to Comments Meeting	**11-20-13**	**08-11-14**	**TBD**
Public Comment Period	NA	NA	**NA**
Public Meeting	**NA**	**NA**	**NA**
Response to Comments Due	02-19-14	08-25-14	TBD
Draft Final Due	02-19-14	08-25-14	TBD
Final Due	05-21-14	09-25-14	**TBD**

[1]Sent Appendix A to agencies for review on 07-31-13

Travis AFB Master Meeting and Document Schedule

PRIMARY DOCUMENTS			
Life Cycle	**Site SD036 Remedial Design/Remedial Action Work Plan Travis AFB, Glenn Anderson CH2M HILL, Tony Chakurian**	**Site SS015 GW Remedial Design/Remedial Action Work Plan Travis AFB, Glenn Anderson CH2M HILL, Tony Chakurian**	**Site SS016 GW Remedial Design/Remedial Action Work Plan Travis AFB, Glenn Anderson CH2M HILL, Tony Chakurian**
Scoping Meeting	NA	NA	NA
Predraft to AF/Service Center	TBD	TBD	TBD
AF/Service Center Comments Due	TBD	TBD	TBD
Draft to Agencies	TBD	TBD	TBD
Draft to RAB	TBD	TBD	TBD
Agency Comments Due	TBD	TBD	TBD
Response to Comments Meeting	**TBD**	**TBD**	**TBD**
Public Comment Period	NA	NA	NA
Public Meeting	NA	NA	NA
Response to Comments Due	TBD	TBD	TBD
Draft Final Due	TBD	TBD	TBD
Final Due	**TBD**	**TBD**	**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	**Site CG508 POCO Work Plan Travis AFB, Glenn Anderson CH2M HILL, Tony Chakurian**	**Site FT004 Treatment Demonstration Work Plan Travis AFB, Glenn Anderson CH2M HILL, Tony Chakurian**	**Site DP039 Lead Excavation Technical Memorandum Travis AFB, Glenn Anderson CH2M HILL, Loren Krook**
Scoping Meeting	NA	NA	NA
Predraft to AF/Service Center	02-25-14	04-21-14	05-21-14
AF/Service Center Comments Due	03-11-14	05-21-14	06-04-14
Draft to Agencies	03-26-14	06-04-14	06-18-14
Draft to RAB	03-26-14	06-04-14	06-18-14
Agency Comments Due	04-27-14	07-07-14	07-18-14
Response to Comments Meeting	**05-14-14**	**07-23-14**	**07-23-14**
Response to Comments Due	06-04-14	08-06-14	08-11-14
Draft Final Due	NA	NA	NA
Final Due	06-04-14	08-06-14	08-11-14
Public Comment Period	NA	NA	NA
Public Meeting	**NA**	NA	NA

Travis AFB Master Meeting and Document Schedule

SECONDARY DOCUMENTS			
Life Cycle	**Site SD031 Technology Demonstration Work Plan** **Travis AFB, Glenn Anderson** **CH2M HILL, Tony Chakurian**	**Site SS014 Technology Demonstration Work Plan** **Travis AFB, Glenn Anderson** **CH2M HILL, Tony Chakurian**	**Site TA500 Investigation Work Plan** **Travis AFB, Glenn Anderson** **CH2M HILL, Tony Chakurian**
Scoping Meeting	NA	NA	NA
Predraft to AF/Service Center	TBD	TBD	TBD
AF/Service Center Comments Due	TBD	TBD	TBD
Draft to Agencies	TBD	TBD	TBD
Draft to RAB	TBD	TBD	TBD
Agency Comments Due	TBD	TBD	TBD
Response to Comments Meeting	TBD	TBD	TBD
Response to Comments Due	TBD	TBD	TBD
Draft Final Due	NA	NA	NA
Final Due	TBD	TBD	TBD
Public Comment Period	NA	NA	NA
Public Meeting	NA	NA	NA

Travis AFB Master Meeting and Document Schedule

SECONDARY DOCUMENTS		
Life Cycle	**Explanation of Significant Differences to the NEWIOU Soil, Sediment, and Surface Water Record of Decision** **Travis AFB, Glenn Anderson** **CH2M HILL, Loren Krook**	**Explanation of Significant Differences to the Soil Record of Decision for the WABOU** **Travis AFB, Glenn Anderson** **CH2M HILL, Loren Krook**
Scoping Meeting	NA	NA
Predraft to AF/Service Center	04-23-14	04-23-14
AF/Service Center Comments Due	05-07-14	05-07-14
Draft to Agencies	05-21-14	05-21-14
Draft to RAB	05-21-14	05-21-14
Agency Comments Due	06-20-14	06-20-14
Response to Comments Meeting	**07-23-14**	**07-23-14**
Response to Comments Due	08-07-14	08-07-14
Draft Final Due	TBD	TBD
Final Due	08-07-14	08-07-14
Public Comment Period	NA	NA
Public Meeting	**NA**	**NA**

Travis AFB Master Meeting and Document Schedule

INFORMATIONAL DOCUMENTS			
Life Cycle	**Quarterly Newsletters (July 2014)** **Travis, Glenn Anderson**	**2013 Annual Groundwater Remediation Implementation Status Report** **Travis AFB, Lonnie Duke** **CH2M HILL, Royer/Berwick**	**Kinder Morgan Site LF044 Land Use Control Report** **Travis AFB, Glenn Anderson** **AMEC, Nick Ricono**
Scoping Meeting	**NA**	**NA**	**NA**
Predraft to AF/Service Center	NA	03-24-14	NA
AF/Service Center Comments Due	NA	04-10-14	NA
Draft to Agencies	06-25-14	04-25-14	09-18-13
Draft to RAB	NA	04-25-14	09-18-13
Agency Comments Due	07-09-14	05-26-14	10-18-13
Response to Comments Meeting	**TBD**	**TBD**	**TBD**
Response to Comments Due	07-11-14	06-11-14	**TBD**
Draft Final Due	NA	NA	NA
Final Due	07-11-14	06-11-14	**TBD**
Public Comment Period	NA	NA	NA
Public Meeting	**NA**	**NA**	**NA**

Travis AFB Master Meeting and Document Schedule

HISTORICAL	
Life Cycle	**CAMU Inspection Annual Report Travis AFB, Lonnie Duke Gilbane, Rachel Hess**
Scoping Meeting	**NA**
Predraft to AF/Service Center	01-31-14
AF/Service Center Comments Due	02-10-14
Draft to Agencies	02-19-14
Draft to RAB	02-19-14
Agency Comments Due	03-19-14
Response to Comments Meeting	**03-19-14**
Response to Comments Due	**03-25-14**
Draft Final Due	NA
Final Due	**04-09-14**
Public Comment Period	NA
Public Meeting	**NA**

South Base Boundary Groundwater Treatment Plant Monthly Data Sheet

Report Number: 164 **Reporting Period: 31 March 2014 – 30 April 2014** **Date Submitted: 8 May 2014**

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 operational data from the April 2014 reporting period.

Table 1 – Operations Summary – April 2014

Initial Data Collection: 3/31/2014 14:00	**Final Data Collection:** 4/30/2014 11:00
Operating Time: **SBBGWTP:** 717 hours	Percent Uptime: **SBBGWTP:** 100%
Electrical Power Usage: **SBBGWTP:** 8,460 kWh (11,591 lbs CO_2 generated[a])	
Gallons Treated: **2.9 million gallons**	Gallons Treated Since July 1998: **854 million gallons**
Volume Discharged to Union Creek: **2.9 million gallons**	
VOC Mass Removed: **0.56 lbs**[b]	VOC Mass Removed Since July 1998: **447 lbs**
Rolling 12-Month Cost per Pound of Mass Removed: $13,124[c]	
Monthly Cost per Pound of Mass Removed: $20,699	

lbs = pounds

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

[b] Calculated using April 2014 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,b]

FT005[c]				SS029		SS030	
EW01x05	8.2	EW736x05	Offline	EW01x29	0.5	EW01x30	--[d]
EW02x05	1.6	EW737x05	Offline	EW02x29	--[d]	EW02x30	--[d]
EW03x05	Offline	EW742x05	Offline	EW03x29	1.9	EW03x30	8.5
EW731x05	Offline	EW743x05	Offline	EW04x29	8.6	EW04x30	35.7
EW732x05	Offline	EW744x05	Offline	EW05x29	--[d]	EW05x30	3.2
EW733x05	Offline	EW745x05	Offline	EW06x29	4.6	EW06x30	--[d]
EW734x05	1.9	EW746x05	Offline	EW07x29	0.9	EW711x30	1.3
EW735x05	--[d]						
FT005 Total:	**11.7**			**SS029 Total:**	**16.5**	**SS030 Total:**	**48.7**
SBBGWTP Average Monthly Flow[c]: 68.0 gpm							

[a] Extraction well flow rates are based on instantaneous weekly readings collected at the end of the month.
[b] The average SBBGWTP groundwater flow rate was calculated using the Union Creek Discharge Totalizer and dividing it by the total time in the reporting period.
[c] Most extraction wells at FT005 were taken offline 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.*
[d] Troubleshooting continued in April 2014 for wells that experienced downtime.

gpm – gallons per minute
Recharge –not pumping while the well recharges.
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	NA			

SBBGWTP = South Base Boundary Groundwater Treatment Plant

Summary of O&M Activities

Monthly groundwater samples were collected at the SBBGWTP on 25 March 2014 following completion of carbon change out activities. Sample results are presented in Table 4. The total VOC concentration (22.97 µg/L) in the influent sample has decreased since the 4 March 2014 sample (23.03 µg /L) was collected. Chloroform (0.25 J µg/L), cis-1,2-DCE (1.1 µg/L), and TCE (21 µg/L) were detected at the influent sampling location. Cis-1,2-DCE (0.22 J µg/L) and TCE (0.26 J µg/L) were also detected at the effluent sampling location on 25 March 2014. A second effluent sample was collected on 1 April 2014. No contaminant concentrations were detected at the effluent sampling location in the 1 April 2014 effluent sample.

Figure 1 presents a plot of influent concentrations and average flow at the SBBGWTP over the past twelve (12) months. The average flow rate at the SBBGWTP increased in April 2014 to 68.0 gpm. On 24 April 2014, the pump from extraction well EW744x05 was relocated to EW734x05 and a new pump was installed in EW711x30. Both wells are now online.

Additional work on the SBBGWTP SCADA system was performed on 4 April 2014 to establish communication between the FT005 remote PLC and the SBBGWTP main PLC. A section of bad wiring was replaced and the station settings were updated. The system is now fully functional with exception of the historical data points, which are still being addressed.

The flow meter at the EW05x30 wellhead was bypassed due to pipe corrosion in April 2014. On 29 April, new fittings were installed at the wellhead and the flow meter was reinstalled. The flow meter is back on line and the well continues to operate.

Optimization Activities

No optimization activities were performed in April 2014.

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 8,460 pounds of GHG during April 2014. This is an increase from usage during March 2014 when downtime occurred to facilitate carbon changeout. GHG production at the SBBGWTP during April 2014 is consistent with expected monthly usage at the SBBGWTP.

TABLE 4
Summary of Groundwater Analytical Data for April 2014 – South Base Boundary Groundwater Treatment Plant

Constituent	Instantaneous Maximum[a] (µg/L)	Detection Limit (µg/L)	N/C	25 March 2014 (µg/L)		
				Influent	Midpoint	Effluent[b]
Halogenated Volatile Organics						
Carbon Tetrachloride	0.5	0.14	0	ND	ND	ND
Chloroform	5.0	0.16	0	0.25 J	ND	ND
1,1-Dichloroethane	5.0	0.50	0	ND	ND	ND
1,2-Dichloroethane	0.5	0.15	0	0.52	ND	ND
1,1-Dichloroethene	5.0	0.19	0	ND	ND	ND
cis-1,2-Dichloroethene	5.0	0.19	0	1.1	ND	ND
trans-1,2-Dichloroethene	5.0	0.33	0	ND	ND	ND
Methylene Chloride	5.0	0.66	0	ND	ND	ND
Tetrachloroethene	5.0	0.21	0	ND	ND	ND
1,1,1-Trichloroethane	5.0	0.14	0	ND	ND	ND
1,1,2-Trichloroethane	5.0	0.20	0	ND	ND	ND
Trichloroethene	5.0	0.19	0	21	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
Total Suspended Solids (mg/L)	NE	1.0	0	13 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] Results of effluent resampling on 1 April 2014.

Notes:

J = analyte concentration is considered an estimated value due to a detected concentration value between the reporting limit and method detection limit for the contaminant
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 and Average Flowrate
Twelve Month History
Travis Air Force Base, California

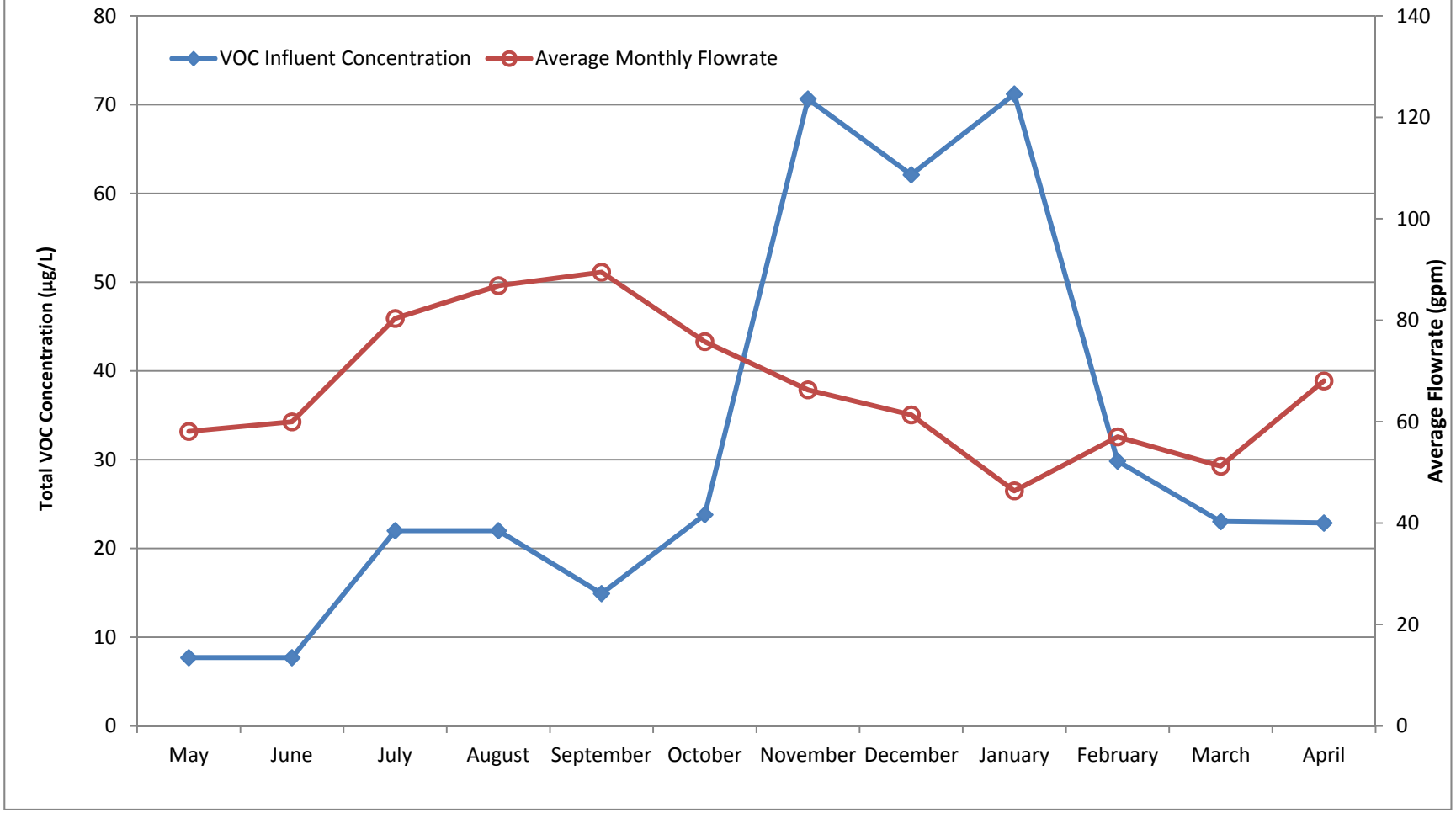
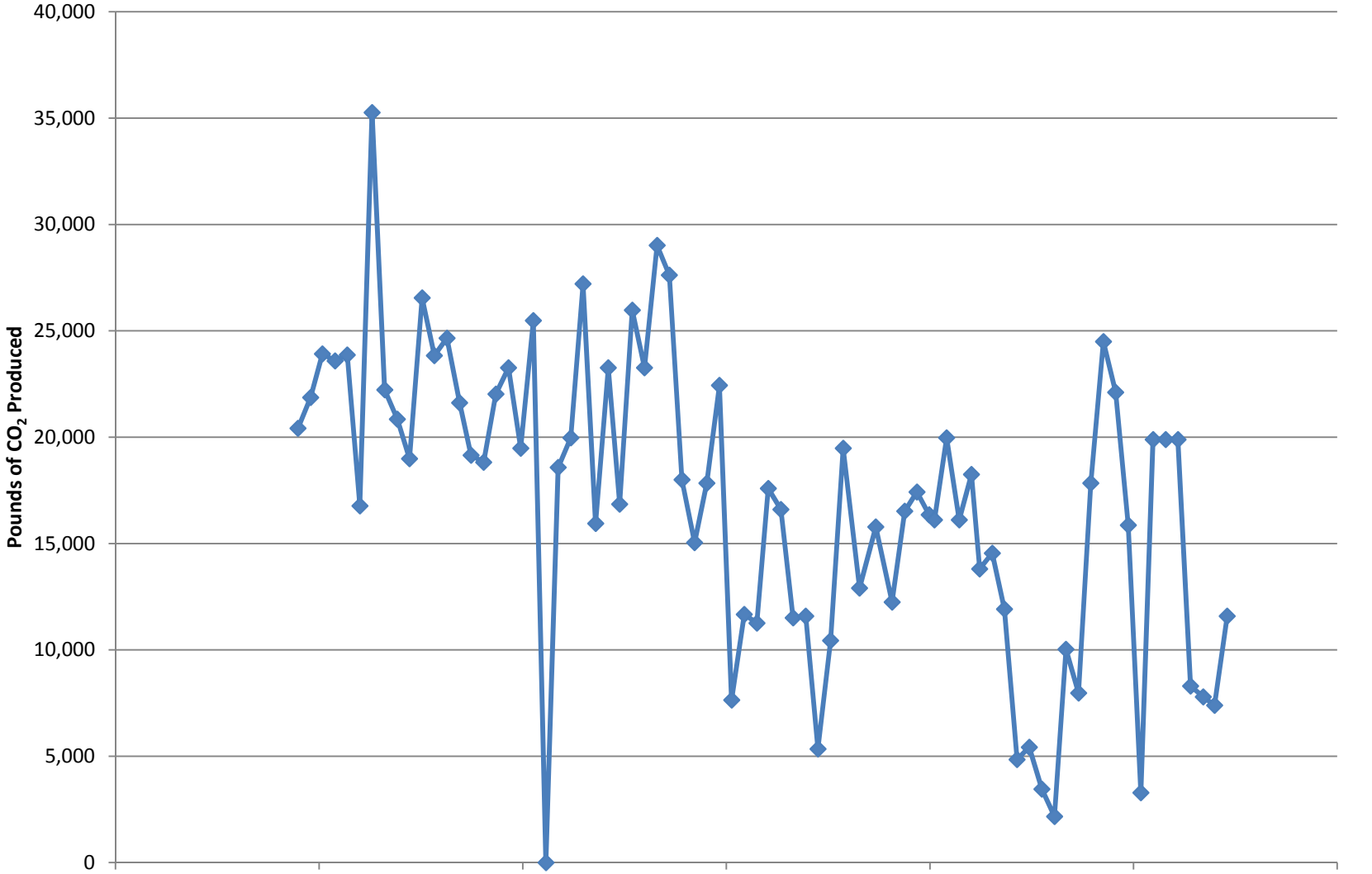


Figure 2

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



Central Groundwater Treatment Plant Monthly Data Sheet

Report Number: 177 **Reporting Period: 31 March 2014 – 30 April 2014** **Date Submitted: 8 May 2014**

This monthly data sheet presents information regarding the Central Groundwater Treatment Plant (CGWTP) and its associated technology demonstrations. The ongoing technology demonstrations related to the CGWTP include various emulsified vegetable oil (EVO) injections, two (2) bioreactor treatability studies, and various rebound studies.

System Metrics

Table 1 presents operational data from the April 2014 reporting period.

Table 1 – Operations Summary – April 2014

Initial Data Collection: 3/31/2014 13:00 **Final Data Collection:** 4/30/2014 10:00

Operating Time:		Percent Uptime:		Electrical Power Usage:	
CGWTP:	717 hours	**CGWTP:**	100%	**CGWTP:**	2,476 kWh (3,392 lbs CO_2 generated[a])
WTTP:	Water: 0 hours Vapor: 0 hours	**WTTP:**	Water: 0% Vapor: 0%	**WTTP:**	0 kWh

Gallons Treated: **1.42 million gallons**

Gallons Treated Since January 1996: **495 million gallons**

VOC Mass Removed:

4.69 lbs[b] (groundwater only)

0 lbs (vapor only)

VOC Mass Removed Since January 1996:

2,682 lbs from groundwater

8,686 lbs from vapor

Rolling 12-Month Cost per Pound of Mass Removed: $2,398[c]

Monthly Cost per Pound of Mass Removed: $2,374

[a] Based on Department of Energy estimate that 1 kilowatt hour generated produces 1.37 pounds of GHG.
[b] Calculated using April 2014 EPA Method SW8260B analytical results.
[c] Costs include operations and maintenance, reporting, analytical laboratory, project management, and utility costs related to operation of the CGWTP and are reported based on the calendar month.

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	19.8	Offline
EW02x16	7.0	Offline
EW03x16	0.1[c]	Offline
EW605x16	7.1	Offline
EW610x16	1.5	Offline
CGWTP	33.1	--
WTTP	--[b]	Offline

[a] Flow rates calculated by dividing total gallons processed by system operating time for the month.
[b] No soil vapor was treated in April 2014.
[c] Water discharged to Site SS016 bioreactor – flow rate taken from wellhead Flow Totalizer divided by operating time during the month.
gpm = gallons per minute
-- = not applicable/not available
scfm = standard cubic feet per minute

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

Table 3 – Summary of System Shutdowns

Location	Shutdown		Restart		Cause
	Date	Time	Date	Time	
CGWTP (Groundwater)					
	None	NA			
WTTP					
	None	NA			

CGWTP = Central Groundwater Treatment Plant
WTTP = West Transfer Treatment Plant

Summary of O&M Activities

Monthly groundwater samples were collected at the CGWTP on 1 April 2014. Sample results are presented in Table 4. The total VOC concentration (395.21 µg/L) in the influent sample has decreased since the March 2014 sample (402.24 µg/L) was collected. The treatment plant continues to maintain a high level of contaminant mass removal and influent concentrations have remained elevated for the past three months. This recent trend likely reflects seasonal variation, and the increase in groundwater recharge from rainfall.

Concentrations of 1,1-DCE (0.74 µg/L), cis-1,2-DCE (68.3 µg/L), tetrachloroethene (0.53 µg/L), trans-1,2-Dichloroethene (3.4 µg/L), TCE (322 µg/L), and vinyl chloride (0.24 J µg/L) were detected at the influent sampling location. Vinyl chloride was also detected at the midpoint sampling location after Carbon 1 (0.42 J µg/L).

No contaminants were detected at the effluent sampling location. Travis Air Force Base will continue to monitor contaminant concentrations at the CGWTP for breakthrough in the primary vessel.

Figure 1 presents a plot of influent concentrations (total VOCs) and the influent flow rate at the CGWTP versus time for the past twelve (12) months. The average flow rate through the treatment plant in April 2014 decreased from the flow rate measured in March 2014.

On 4 April 2014 the sump pumps at the CGWTP and WTTP were observed to be inoperable. The sump pump at the CGWTP was returned to operation after cleaning to remove debris and leaves blocking the intake. The sump pump at the WTTP was removed from service and replaced on 11 April 2014.

The Site DP039 bioreactor continues to operate in a "pulsed mode" in order to improve the rate of remediation and to preserve the amount of total organic carbon being produced within the bioreactor. On 28 April 2014, it was observed that the discharge piping at the bioreactor had been damaged and pumping by the recirculation well was shut down until repairs can be completed in May 2014. The damaged discharge piping released water on the surface of the bioreactor and no impact the surrounding area was observed.

Optimization Activities

No optimization activities occurred at CGWTP in April 2014.

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. The CGWTP produced approximately 3,392 pounds of GHG during April 2014. This is a decrease from the amount produced in March 2014 (approximately 3,796 pounds) and is the result of a shorter reporting period and fewer gallons treated in April than in the previous month.

TABLE 4
Summary of Groundwater Analytical Data for April 2014 – Central Groundwater Treatment Plant

Constituent	Instantaneous Maximum* (µg/L)	Detection Limit (µg/L)	N/C	1 April 2014 (µg/L)			
				Influent	After Carbon 1 Effluent	After Carbon 2 Effluent	System Effluent
Halogenated Volatile Organics							
Carbon Tetrachloride	0.5	0.14	0	ND	ND	ND	ND
Chloroform	5.0	0.16	0	ND	ND	ND	ND
cis-1,2-Dichloroethene	5.0	0.19	0	68.3	ND	ND	ND
1,1-Dichloroethane	5.0	0.5	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	0.74	ND	ND	ND
Methylene Chloride	5.0	0.66	0	ND	ND	ND	ND
MTBE	1.0	0.5	0	ND	ND	ND	ND
Tetrachloroethene	5.0	0.21	0	0.53	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	322	ND	ND	ND
trans-1,2-Dichloroethene	5.0	0.33	0	3.4	ND	ND	ND
Vinyl Chloride	0.5	0.18	0	0.24 J	0.42 J	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	0.23 – 0.5	0	ND	ND	ND	ND
Other							
Total Dissolved Solids (mg/L)	NA	10	0	NM	NM	NM	NM

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

Notes:

J = analyte concentration is considered an estimated value due to a detected concentration value between the reporting limit and method detection limit for the contaminant
N/C = number of samples out of compliance with discharge limits
ND = not detected
µg/L = micrograms per liter
mg/L = milligrams per liter

Table 5 presents a twelve month summary of the Site DP039 bioreactor recirculation well pulsing dates.

Table 5 – Summary of DP039 Bioreactor "Pulsed Mode" Operations

Location	Pulse On Start Date	Pulse Off Start Date
MW750x39	10 May 2013	24 May 2013
	7 June 2013	21 June 2013
	15 July 2013	26 July 2013
	8 August 2013	16 August 2013
	30 August 2013	13 September 2013
	27 September 2013	11 October 2013
	25 October 2013	8 November 2013
	22 November 2013	5 December 2013
	20 December 2013	3 January 2014
	17 January 2014	31 January 2014
	18 February 2014	28 February 2014
	14 March 2014	28 March 2014
	22 April 2014	28 April 2014*

* Damage to the above ground discharge pipe feeding the bioreactor was observed and the bioreactor shut down for repair.
CGWTP = Central Groundwater Treatment Plant
EW = Extraction Well

Figure 1
CGWTP Total VOC Influent Concentrations and Average Flowrate
Twelve Month History
Travis Air Force Base, California

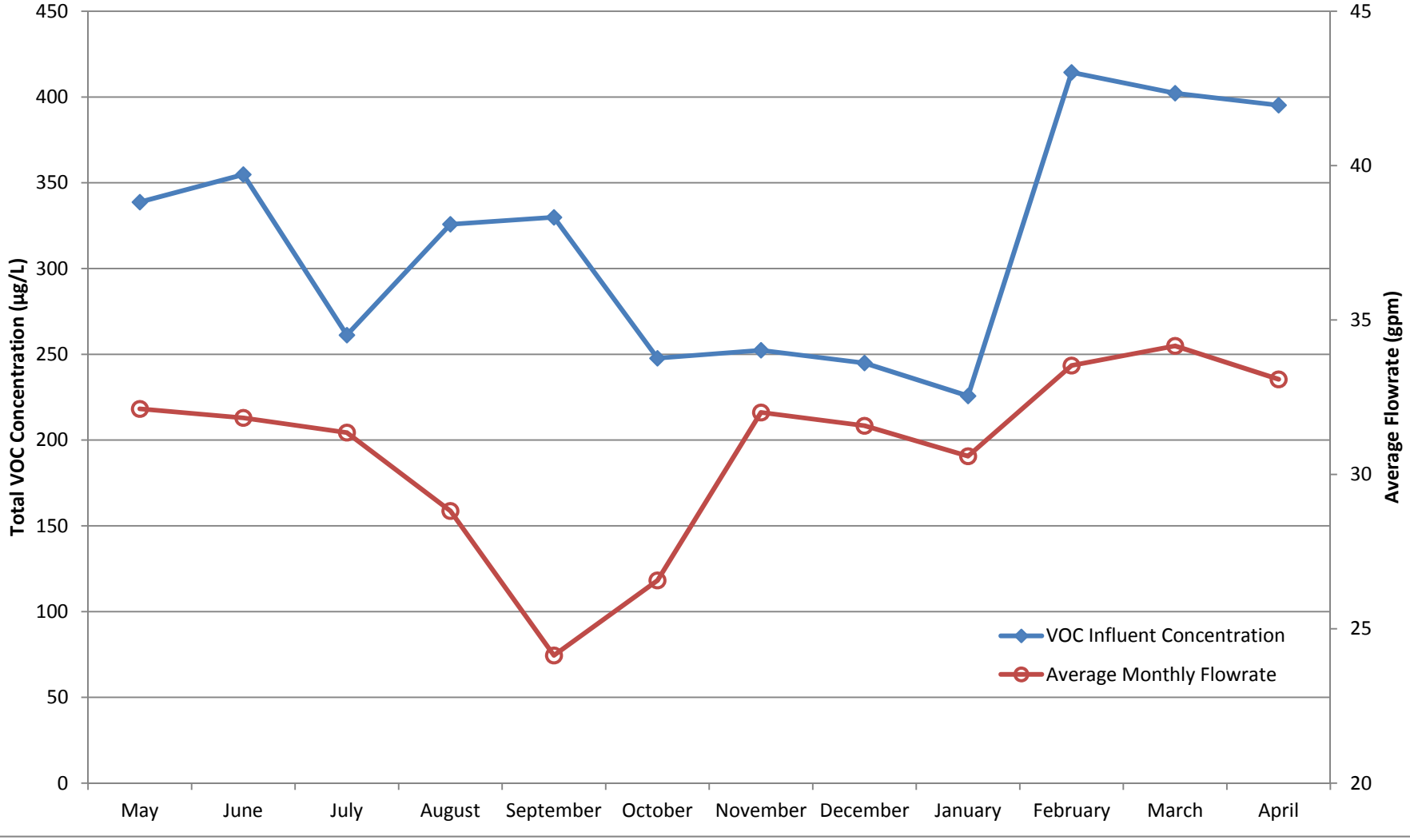
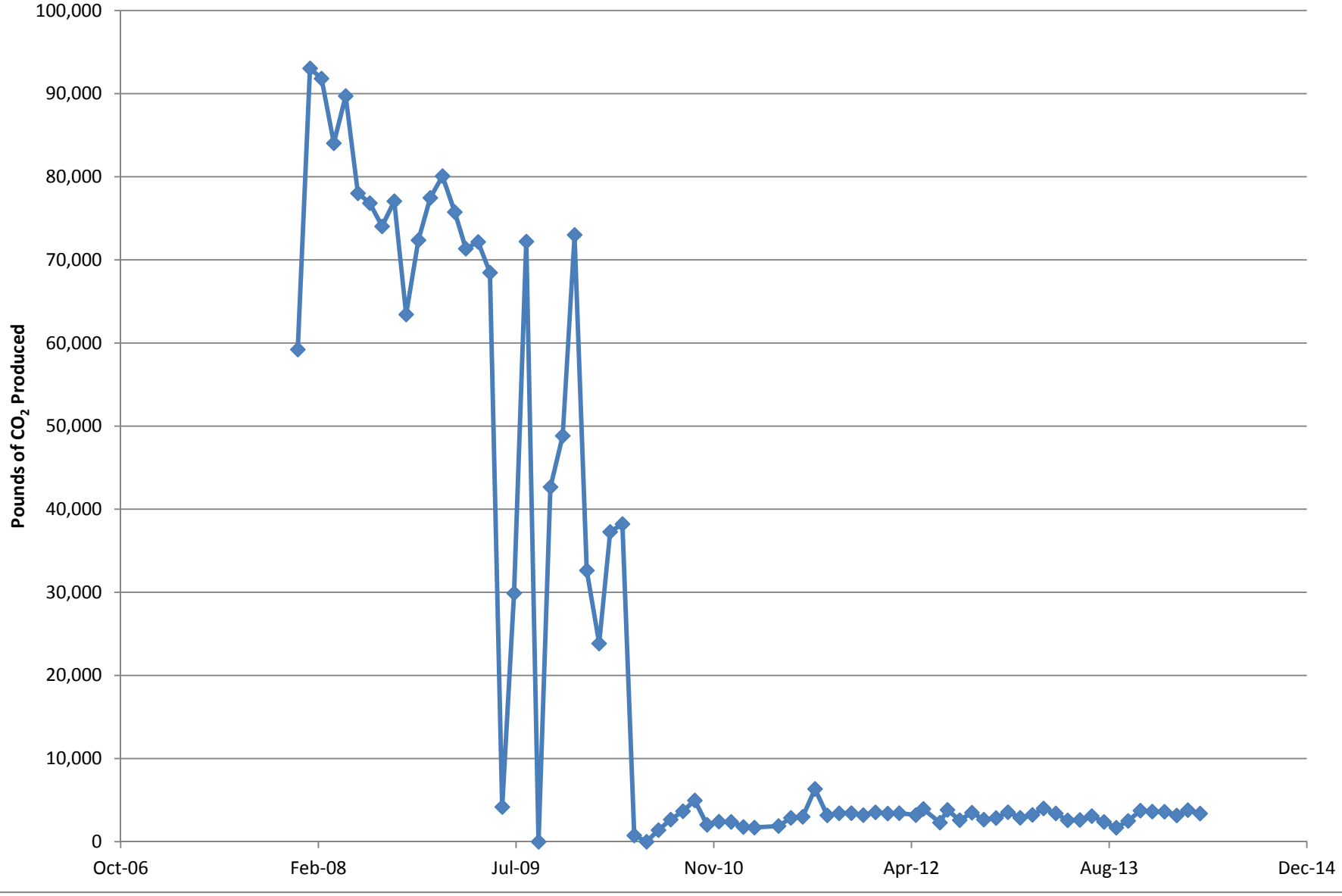


Figure 2

Equivalent Pounds of CO2 Produced by the Central Groundwater Treatment Plant



Site ST018 Groundwater Treatment Plant Monthly Data Sheet

Report Number: 038 **Reporting Period: 31 March 2014 – 1 May 2014** **Date Submitted: 8 May 2014**

This monthly data sheet presents information regarding the Site ST018 Groundwater Treatment Plant (ST018GWTP).

System Metrics

Table 1 presents operation data from the April 2014 reporting period.

Table 1 – Operations Summary – April 2014

Initial Data Collection: 3/31/2014 11:00	**Final Data Collection:** 5/1/2014 10:00
Operating Time: **ST018GWTP:** 459 hours	Percent Uptime: **ST018GWTP:** 62%
Electrical Power Usage: **ST018GWTP:** 103 kWh (141 lbs CO_2 generated[a])	
Gallons Treated: **136.9 thousand gallons**	Gallons Treated Since March 2011: **5.64 million gallons**
Volume Discharged to Union Creek: **136.9 thousand gallons**	
BTEX, MTBE, TPH Mass Removed: **1.21 lbs**[b]	BTEX, MTBE, TPH Mass Removed Since March 2011: **27.3 lbs**
MTBE (Only) Removed: **0.10 lbs**[b]	MTBE (Only) Mass Removed Since March 2011: **6.1 lbs**
Rolling 12-Month Cost per Total Pounds of Mass Removed: $25,322[c]	
Monthly Cost per Pound of Mass Removed: $7,736	

[a] Based on Department of Energy estimate that 1 kilowatt hour generated produces 1.37 pounds of GHG.
[b] Calculated using April 2014 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.
lbs = pounds

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

Table 2 – ST018GWTP Average Flow Rates

Location	Average Flow Rate Groundwater (gpm)[a]	Hours of Operation
EW2014x18	1.94	459
EW2016x18	1.69	459
EW2019x18	1.03	459 (743[b])
Site ST018 GWTP	4.97	459

[a] Flow rates calculated by dividing total gallons processed by the hours of operation, from the totalizer and hour meter at each location.
[B] The hour meter at EW2019x18 continued to record hours while the pump was shutdown.
gpm = gallons per minute
ST018GWTP = Site ST018 Groundwater Treatment Plant

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

Table 3 – Summary of System Shutdowns

Location	Shutdown		Restart		Cause
	Date	Time	Date	Time	
ST018GWTP	19 April 2014*	12:00	30 April 2014*	12:00	The treatment shut down as the result of high pressure due to sedimentation.

* The shutdown date and time is estimated based on weekly hour meter readings.
ST018GWTP = Site ST018 Groundwater Treatment Plant

Summary of O&M Activities

Groundwater samples were collected at the ST018GWTP on 1 April 2014. Sample results from the April sampling event are presented in Table 4. The total influent concentration (benzene, toluene, ethylbenzene, total xylenes, MTBE, TPH-gas, TPH-diesel, and TPH-motor oil) in the April 2014 influent sample was 1,064.5 µg/L, which is a significant increase from the previous (March 2014) influent concentration of 20.1 µg/L. TPH was detected in the influent sample for the first time in several months during the April 2014 sampling event. The influent concentration for MTBE during April 2014 was 89.3 µg/L. This is also an increase from the March 2014 influent concentration for MTBE of 13.5 µg/L.

Figure 1 presents plots of flow rate and influent total VOC (TPHg, TPHd, MTBE, and BTEX) and MTBE concentrations at the ST018GWTP versus time. No contaminants were detected at the midpoint and effluent sampling locations in April 2014.

As shown on Figure 1, the average flow rate through the ST018GWTP has increased from the first quarter 2014 average flow rates. Downtime occurred at the ST018GWTP from approximately 19 April through 30 April due to high pressure which was likely the result of sedimentation in the carbon vessels. Operation of the ST018GWTP was restored on 30 April after an initial attempt to restart the system on 21 April failed to result in sustained operation.

Optimization Activities

No optimization activities were performed in April 2014.

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.

The ST018GWTP produced approximately 141 pounds of GHG during April 2014. This is a decrease from March 2014 (215 pounds) and is likely due to downtime at the ST018GWTP and extraction wells EW2014x18 and EW2016x18 that occurred during the reporting period. Figure 2 presents the historical GHG production from the ST018GWTP. The overall GHG generation remains considerably lower than traditional GWTPs since the system is predominantly powered by solar arrays.

TABLE 4
Summary of Groundwater Analytical Data for April 2014 – Site ST018 Groundwater Treatment Plant

Constituent	Instantaneous Maximum[a] (µg/L)	Detection Limit (µg/L)	N/C	1 April 2014 (µg/L) Influent	After Carbon 1	After Carbon 2	System Effluent[b]
Fuel Related Constituents							
MTBE	5	0.5	0	89.3	NM	ND	ND
Benzene	5	0.17	0	5.6	NM	ND	ND
Ethylbenzene	5	0.22	0	2.5	NM	ND	ND
Toluene	5	0.14	0	0.91 J	NM	ND	ND
Total Xylenes	5	0.23 – 0.5	0	4.22	NM	ND	ND
Total Petroleum Hydrocarbons – Gasoline	50	8.5	0	740	ND	NM	ND
Total Petroleum Hydrocarbons – Diesel	50	50	0	52 J	ND	NM	ND
Total Petroleum Hydrocarbons – Motor Oil	--	160	--	170 J	ND	NM	ND

[a] In accordance with the National Pollutant Discharge Elimination System (NPDES) Effluent Limitations
µg/L = micrograms per liter
[b] Effluent sample results are presented for samples collected on 4 April 2014 after several of the samples collected in 1 April 2014 were damaged in shipment.
J = analyte concentration is considered an estimated value due to a detected concentration value between the reporting limit and method detection limit for the contaminant
ND = not detected above method detection limit
NM = not measured this month

Figure 1
S18GWTP Total VOC and MTBE Influent Concentrations (Benzene, Toluene, Ethylbenzene, Xylenes, MTBE, TPH)
Travis Air Force Base, California

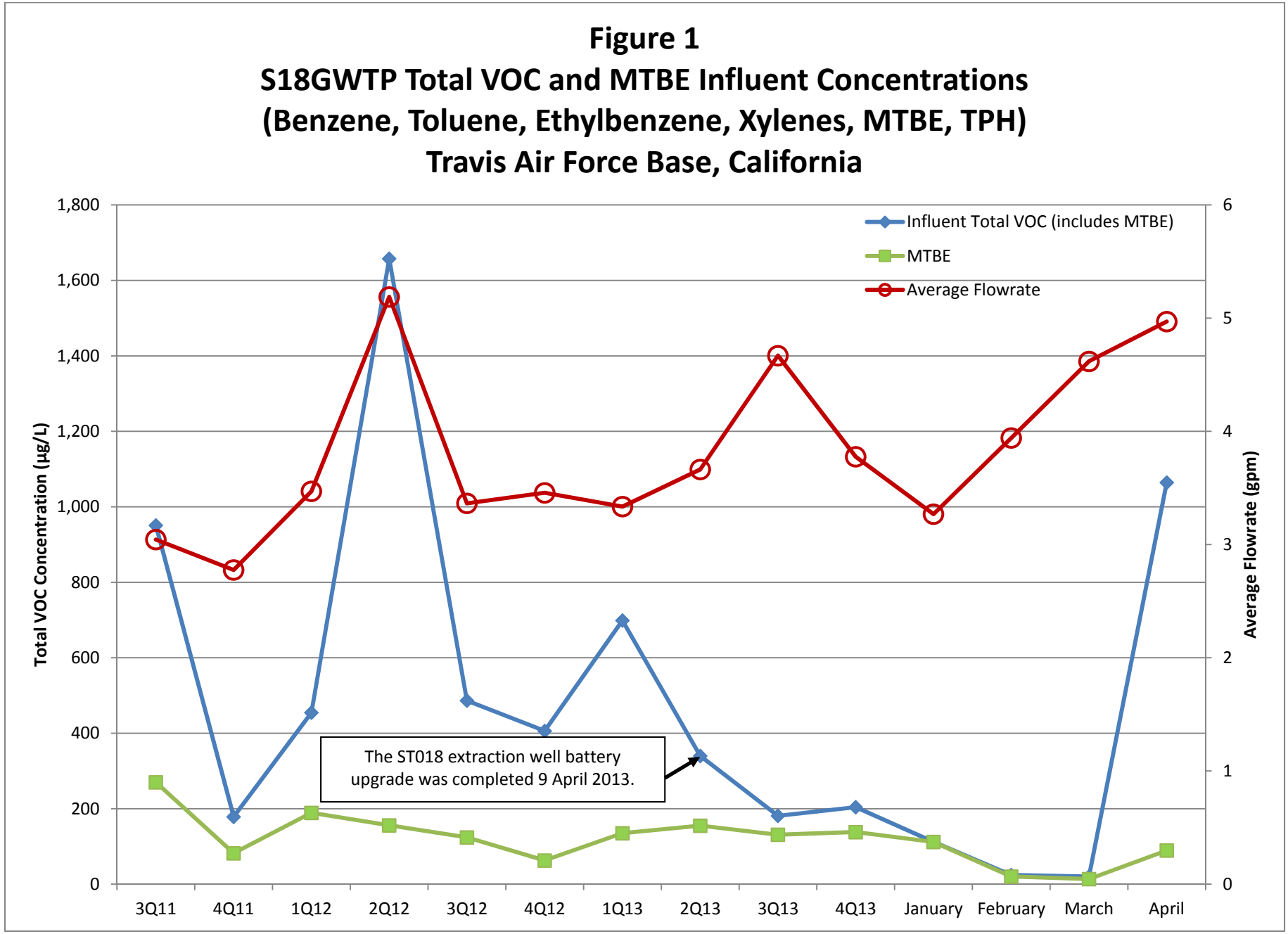
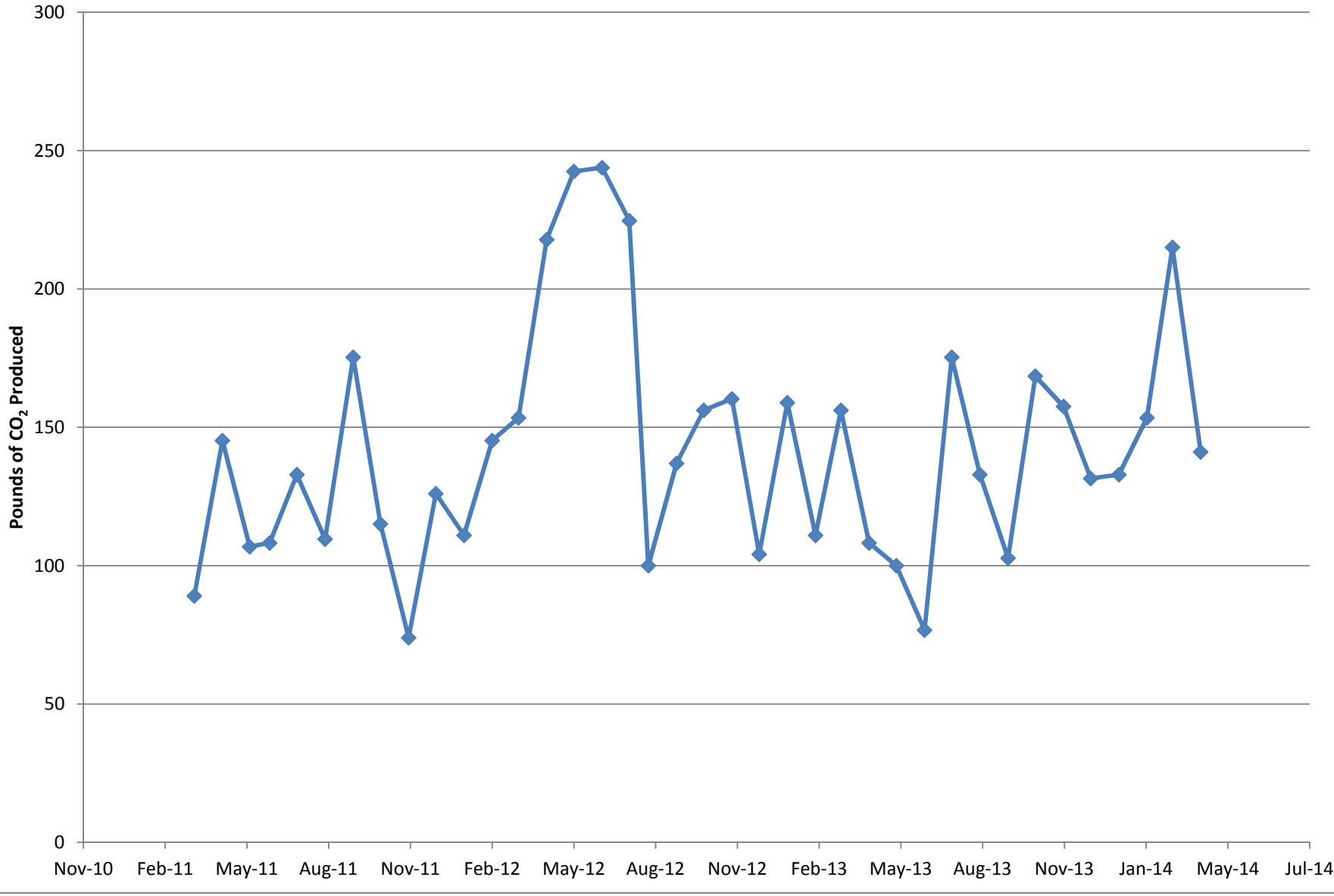


Figure 2

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



Travis AFB
Restoration Program

Program Overview

RPM Meeting

May 14, 2014

Completed Documents

- Vapor Intrusion Assessment Update Technical Memorandum
- 2012 CAMU Annual Report
- Old Skeet Range Action Memorandum
- 3rd Five-Year Review
- 2012 Annual Groundwater Remediation Implementation Status Report (GRISR)
- Subarea LF007C and Site SS030 Remedial Process Optimization Work Plan
- Pre-Design Site Characterization of SS029 Report
- Old Skeet Range Removal Action Work Plan
- 2013 CAMU Inspection Annual Report

Completed Field Work

- Replace battery banks at ST018 Groundwater Treatment Plant
- Annual Groundwater Remediation Implementation Program (GRIP) Sampling event
- Well Decommissioning (9 Wells)
- Electrical repairs to FT005 extraction system (well EW01x05)
- Electrical repairs to Site SS029 extraction system
- Site ST018 carbon vessels upgrade
- 2014 GRIP Semiannual Sampling Event
- Pump repairs to Site SS016 well (EW610x16)
- Subsite LF007C optimization upgrades
- ***2014 Annual GRIP Sampling Event***

Documents & Field Work In-Progress

Documents

- Groundwater Record of Decision (ROD)
- Kinder Morgan LF044 Land Use Control Report
- CG508 POCO Work Plan
- 2013 Annual GRISR

Field Work

- Biological Resource Assessment

Documents Planned

• ESD to WABOU Soil ROD	May
• ESD to NEWIOU Soil, Sediment, & Surface Water ROD	May
• Travis AFB UFP-QAPP	Jun
• FT004 Treatment Demonstration Work Plan	Jun
• DP039 Lead Excavation Technical Memo	Jun
• SD031 Treatment Demonstration Work Plan	TBD
• SS014 Technology Demonstration Work Plan	TBD
• TA500 Investigation Work Plan	TBD
• SS015 GW RD/RA Work Plan	TBD
• SS016 GW RD/RA Work Plan	TBD
• SD036 RD/RA Work Plan	TBD
• SD037 GW RD/RA Work Plan	TBD

ESD = Explanation of Significant Defferences

Field Work Planned

- Old Skeet Range Characterization Sampling TBD
- ***Site CG508 Site Investigation*** ***Jun***

Note: Travis will try to notify regulatory agencies via email approximately one week in advance of planned field work

Completed Documents (Historical1)

- 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 Work Plan
- ST027B Site Characterization Work Plan
- 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 Work Plan
- Phytostabilization Demonstration Technical Memo
- Model QAPP
- LF008 Rebound Test Technical 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

Completed Documents (Historical 2)

- 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
- Site ST018 POCO Baseline Implementation Report
- FT005 Data Gaps Investigation Report
- Comprehensive Site Evaluation Phase II Report
- 2010 Groundwater RPO Annual Report
- Focused Feasibility Study (FFS)
- Site ST027-Area B Human Health Risk Assessment
- Site ST027-Area B Ecological Risk Assessment
- Work Plan for Assessment of Aerobic Chlorinated Cometabolism Enzymes
- 2010/2011 Annual GSAP Report
- Baseline Implementation Report (Sites SS015, SS016, SD036, SD037, and DP039)
- 2011 CAMU Annual Report
- Technical and Economic Feasibility Analysis (TEFA)
- Work Plan for RPO of Sites SS016 and SS029
- Site LF007C Data Gaps Investigation Technical Memorandum
- Technical Memorandum for Assessment of Aerobic Chlorinated Cometabolism Enzymes
- Old Skeet Range Engineering Evaluation/Cost Analysis
- 2011 Groundwater Treatment RPO Annual Report
- Groundwater Proposed Plan (PP)
- FT005 Remedial Action Completion Report
- 2012 GSAP Technical Memorandum

Completed Field Work (Historical1)

- ST027B Gore Sorber Survey–Phase 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–Phase 1
- ST027 Site Characterization -Phase 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

Completed Field Work (Historical 2)

- DP039 Bioreactor Quarterly Performance Sampling
- SD037 EVO Quarterly Performance Sampling
- SS015 EVO Baseline Sampling
- SD036 EVO Baseline Sampling
- SS016 Bioreactor Startup
- SD036 Injection Wells Installation
- SS015 Injection Wells Installation
- ST018 GETS Installation
- SD036 EVO Injection
- 2010 Semiannual GSAP
- SS015 EVO Injection
- Quarterly RPO Performance Monitoring (Feb 2011)
- ST018 GETS Startup
- Quarterly RPO Performance Monitoring (May 2011)
- 2011 Annual GSAP Sampling
- SS029 GET Shutdown Test (System Optimization analysis)
- Quarterly RPO Performance Monitoring (Aug 2011)
- Quarterly RPO Performance Monitoring (Nov 2011)
- 2011 Semiannual GSAP Sampling
- LF007C Site Characterization (Wetlands)
- FT005 Soil Remedial Action
- Performance Monitoring SS015 (4^{th} Quarterly event)
- Sampling for Assessment of Aerobic Chlorinated Cometabolism Enzymes (Feb 21-22)
- 2012 Annual GSAP Sampling
- CAMU Lysimeter Removal
- LF007C GET System Optimization
- SS029/SS016 System Optimization Analysis
- GSAP Semiannual Sampling Event
- Replace electrical wiring for well field at Site SS030