

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

18 March 2015, 0930 Hours

Mr. Mark Smith, of the Air Force Civil Engineer Center (AFCEC) Restoration Installation Support Team (IST), conducted the Restoration Program Manager's (RPM) teleconference meeting, on 18 March 2015 at 0930 hours, in Building 248 at Travis AFB, California. Attendees included:

- Mark Smith AFCEC/CZOW
- Lonnie Duke AFCEC/CZOW
- Erin Hernandez Travis AFB 60 AMW/JA
- Dezso Linbrunner USACE-Omaha
(via telephone)
- William Hall AFCEC/CZRW
(via telephone)
- Adriana Constantinescu California Regional Water Quality Control Board
(via telephone) (RWQCB)
- Ben Fries California Department of Toxic Substances Control
(via telephone) (DTSC)
- Nadia Hollan Burke United States Environmental Protection Agency
(via telephone) (USEPA)
- Indira Balkissoon Techlaw, Inc
(via telephone)
- Mike Wray CH2M HILL

Handouts distributed at the meeting, discussions and presentations included:

- Attachment 1 Meeting Agenda
- Attachment 2 Master Meeting and Document Schedule
- Attachment 3 SBBGWTP Monthly Data Sheet (February 2015)
- Attachment 4 CGWTP Monthly Data Sheet (February 2015)
- Attachment 5 ST018 Monthly Data Sheet (February 2015)
- Attachment 6 Presentation: Program Update: Activities Completed, In Progress and Upcoming

1. ADMINISTRATIVE

A. Previous Meeting Minutes

The 18 February 2015 RPM meeting minutes were approved and finalized as written.

B. Action Item Review.

Action items from February were reviewed.

Action item 1 will remain open: AFCEC's Travis Restoration Support Team and Travis AFB will continue to pursue opportunities for the beneficial reuse of treated water. Due date will remain TBD to ensure this action item remains visible. 18 March 2015: No updates.

Action item 2 is open: Mr. Hall to determine the time requirements and signature process for getting the AFCEC signature on the upcoming ROD Amendments. 18 March 2015: Mr. Hall said that Travis AFB should continue with the signature process that is currently in place. AFCEC is still working out the signature process.

Action item 3 is closed: Mr. Hall to review the ASTM E2893 Standard Guide for Greener Cleanups and what historically has been done along the lines of GSR. Update: 18 March 2015: Mr. Hall said that reporting on GSR is not a requirement that is written in the current baseline contract. He went on to say that future requests for proposal (RFP) may include reporting GSRs; adding AFCEC cannot force bidders to report GSR, however it can be taken into consideration when reviewing RFPs. Ms. Burke requested a copy of the language from Mr. Hall once completed, she also said she thought that CH2M HILL had some of this language included in their PBC. Mr. Wray said it is more along the lines of implementing the use of GSR; solar power use, EVO injections and reduce pump and treat, adding the data is already being reported. Mr. Smith said he will find the language in the PBC and email it to Ms. Burke. There was discussion on how detailed the reporting should be; reduced energy, materials used, water used, energy used, renewable use, reducing carbon footprint. Mr. Linbrunner said a new contract would have to be awarded for this type of request as it is out of CH2M HILL's scope of work. Ms. Burke said that she would like to table this discussion for another time and requested this action item to be closed. EPA will request a new action item and be more specific with their request.

Action item 4 is open: Mr. Hall to ask if we can use DERA funds for the beneficial reuse of treated groundwater under AFCEC's "net-zero energy policy". 18 March 2015: Mr. Hall reported that DERA funds could not be used for reuse of treated groundwater. The funds have to come from O&M or from new construction. Mr. Hall said he will contact legal to get more information.

Action item 5 is open: Mr. Smith to provide updates on PFOS and PFOA as he becomes aware of them. 18 March 2015: No updates. Due date changed to TBD.

Action item 6 is closed: Mr. Smith to schedule a teleconference with the regulators, Mr. Linbrunner, and Mr. Wray to review the RPM meeting schedule. 18 March 2015 Update: Mr. Smith decided it would be better to discuss the schedule during the April RPM meeting with all participants.

Action item 7 is closed: Mr. Smith to work with Ms. Burke/EPA regarding the design and contents of the community involvement plan and to agree on revised draft to agency date. 18 March 2015: Draft to Agencies is scheduled for 29 May 2015.

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, Thursday, 23 April 2015 at 1400, with the Proposed Plan and Public Meeting to follow at 1900 hours, followed by the Restoration Advisory Board (RAB) meeting at 2000 hours.

Travis AFB Master Document Schedule

- Travis Air Force Base Uniform Federal Policy-Quality Assurance Project Plan (UFP-QAPP): The final due date was updated to 11 March 2015 to reflect the date is went final. No other changes were made to the schedule. Ms. Burke will check with EPAs Quality Assurance Office to see if Travis AFB can email her a signature page or if a block signature page is needed with all agencies signatures.
- Site SD036 Remedial Design/Remedial Action Work Plan: Response to comments (RTC) date was changed to 26 March 2015 and the rest of the dates were changed accordingly. EPA is reviewing RTCs.
- Site SS016 GW Remedial Design/Remedial Action Work Plan: The RTC due date was changed to 26 March 2015, the rest of the dates were changed accordingly. EPA replied to comments and is awaiting the draft final.
- Site SS015 GW Remedial Design/Remedial Action Work Plan: The RTC due date was changed to 24 March 2015 and the rest of the dates were changed accordingly.
- Community Involvement Plan: The dates were all changed to TBD. Mr. Smith said the proposed date for draft to agencies and RAB members is 29 May 2015.
- Site DP039 Remedial Design/Remedial Action Work Plan: The draft to agencies date was changed to 3 March 2015; the rest of the dates were changed accordingly.
- Proposed Plan for the Amendment to the NEWIOU Soil, Sediment, and Surface Water Record of Decision (ROD): Response to comments due date was changed to 17 March

2015, the rest of the dates were changed accordingly. Mr. Anderson said that there were several comments received and that Travis AFB submitted a “working draft final” of each PP that contains all responses to the comments received from the agencies. Ms. Burke said she had no further comment and agreed they were in good shape and that she is waiting for some feedback from upper management. Mr. Anderson said he has “ownership” of the documents and can provide any additional text changes to EPA quickly upon request, to support the 23 April 2015 Public Meeting. Mr. Wray added the goal is to make it final by 16 April 2015. Ms. Burke said EPA received the draft final and that they are working on a few edits.

- Amendment to the NEWIOU Soil, Sediment, and Surface Water Record of Decision: No changes to the schedule.
- Proposed Plan for the Amendment to the Soil Record of Decision for the WABOU: Response to comment due date was changed to 17 March 2015, the rest of the dates were changed accordingly.
- Amendment to the Soil Record of Decision for the WABOU: No changes to the schedule.
- Potrero Hills Annex (FS, PP, and ROD): No change to the schedule. The regulators received a revised work plan (WP) on 17 March 2015.
- Site DP039 Lead Excavation Technical Memorandum: Final due date was changed to 26 February 2015 to reflect the actual date.
- Site SD034 Data Gap Investigation: Response to comments due date was changed to 31 March 2015. Travis AFB is working on RTCs.
- Site SS014 POCO Technology Demonstration Work Plan: No change to the schedule.
- POCO Investigation Work Plan for Oil Water Separators: No changes were made to the schedule.
- Old Skeet Range PAH Delineation Report: Response to comments meeting and final due were changed to 23 March 2015.
- Site FT005 Technology Demonstration Work Plan: Predraft to AF/Service Center was updated to reflect the actual date; no other changes made to the schedule.
- POCO Site ST032 Soil Excavation Work Plan: Draft to the Water Board due date was changed to 12 March 2015; Water Board comments due date was changed to 13 April 2015. No other changes were made to the schedule.
- Site CG508 Site Investigation/Site Closure Request Report: New document with all new dates.
- Site ST028 POCO Work Plan: New document with all new dates.
- SD031 Technology Demonstration Construction Completion Report: New document all new dates.
- Quarterly Newsletter (April 2015): No changes made to the schedule.

- 2014 Annual CAMU Monitoring Report: Predraft to AF/Service Center date was changed to 17 March 2015 to reflect the actual date. The rest of the dates were changed accordingly.
- 2014 Annual GRISR: Predraft to AF/Service Center was changed to 13 April 2015 to allow more time to write the document. The rest of the dates were changed accordingly. Mr. Fries asked if this is going to be an updated version of last year's report. Mr. Wray said it is a report with all new data and trends. Ms. Burke wondered if this document should move from informational documents to primary. Mr. Anderson said if that happened then the document would go to draft, then draft final. Ms. Burke said she didn't want that, she said she is basically asking for more review time. Mr. Duke said that 30 days can be added to the agency review schedule, however there will be sections of the GRISR that will require a shorter review to expedite certain field activities.
- Site SD031 Technology Demonstration Construction Completion Report: Response to comments due and final due dates were changed to 2 July 2015 to reflect the actual dates.
- Sites SD036 and SD037 Remedial Action Construction Completion Report: New document all new dates.
- Site ST018 POCO Construction Completion Report: New document all new dates.

2. CURRENT PROJECTS

Treatment Plant Operation and Maintenance Update

South Base Boundary Groundwater Treatment Plant, February 2015 (see Attachment 3)

The South Base Boundary Groundwater Treatment Plant (SBBGWTP) performed at 100% uptime, and 3.8 million gallons of groundwater were extracted and treated during the month of February 2015. All of the treated water was discharged to Union Creek. The average flow rate for the SBBGWTP was 75.78 gallons per minute (gpm). Electrical power usage was 6,240 kWh, and approximately 8,549 pounds of CO₂ were created (based on DOE calculation). Approximately 1.15 pounds of volatile organic compounds (VOCs) were removed in February. The total mass of VOCs removed since startup of the system is 457 pounds.

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

Central Groundwater Treatment Plant, February 2015 (see Attachment 4)

The Central Groundwater Treatment Plant (CGWTP) performed at 100% uptime with approximately 1.53 million gallons of groundwater extracted and treated during the month of February 2015. All treated water was discharged to the storm drain. The

average flow rate for the CGWTP was 30.9 gpm. Electrical power usage was 2,998 kWh for all equipment connected to the Central Plant, and approximately 4,107 pounds of CO₂ were generated. Approximately 3.76 pounds of VOCs were removed from groundwater by the treatment plant in February. The total mass of VOCs removed since the startup of the system is 11,396 pounds.

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

LF007C Groundwater Treatment Plant, February 2015

The LF007C Groundwater Treatment Plant was offline as of 2 December 2014, in accordance with the Biological Opinion from the US Fish and Wildlife Service, due to the presence of standing water in the vernal pools. As such, a monthly report was not prepared.

Site ST018 Groundwater (MTBE) Treatment Plant, February 2015 (see Attachment 5)

The Site ST018 (MTBE) Treatment Plant (ST018 GWTP) performed at 100% uptime with approximately 116,100 gallons of groundwater extracted and treated during the month of February 2015. All treated water was diverted to the sanitary sewer. The average flow rate for the ST018 GWTP was 4.33 gpm. Electrical power usage for the month was 118 kWh for all equipment connected to the ST018 GWTP, which equates to the creation of approximately 162 pounds of CO₂. Approximately 0.12 pounds of BTEX, MTBE and TPH were removed from groundwater in February from the treatment plant. Approximately 0.12 pounds of MTBE were removed from groundwater. The total BTEX, MTBE and TPH mass removed since the startup of the system is 31.1 pounds. And the total MTBE mass removed since startup of the system is 6.8 pounds.

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

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

Mr. Duke said that a system malfunction was discovered on 9 February 2015 after electrical power was restored to the ST018 following a scheduled power outage at the Base Exchange gas station, which supplies power to the ST018 GWTP. The motor starter for the pump that pushes water from the influent tank to the carbon vessels burned out, and it shut off the circuit panel. The sump pump in the secondary containment is on a different circuit, and it kept pumping. So the sump pump kept pumping into the influent tank and it just kept recirculating the groundwater with rainwater. A sample was collected from the secondary containment. The treatment

plant has been rewired now so that if it were to happen again, the entire plant will shut down. The sample results are included in the ST018 monthly report.

Mr. Duke said that the Fairfield Sanitary Sewer District (FSSD) will be visiting the site ST018 on 25 March 2015 to inspect ST018 treatment system because of the treated water is diverted to the FSSD.

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: Travis AFB UFP-QAPP, DP039 Lead Excavation Technical Memo.

Newly Completed Field Work: SD037 Well Installation, SD031 Trench/Conveyance/Power, SD031 EVO Injection.

In-Progress Documents (CERCLA): TS060 Old Skeet Range PAH Delineation Report, SD034 Data Gap Investigation Work Plan, SD036 RD/RA Work Plan, SS016 GW RD/RA Work Plan, SS015 GW RD/RA Work Plan, Proposed Plan for the Amendment to WABOU Soil ROD, Proposed Plan for the Amendment to NEWIOU Soil, Sediment, & Surface Water ROD, DP039 RD/RA Work Plan, FT005 Technology Demonstration Work Plan.

In-Progress Documents (POCO): SS014 POCO Technology Demonstration Work Plan, POCO Investigation Work Plan for Oil-Water Separators, ST032 POCO Soil Excavation Work Plan.

In-Progress Field Work: SD036 Well Installation, SS016 Well Installation, SS015 Well Installation, Well Development (SD037, SD036, SS016, SS015), Baseline Sampling (SD037, SD036).

Upcoming Documents (CERCLA): Community Involvement Plan, 2014 Annual CAMU Monitoring Report, 2014 GRISR, SD031 Technology Demonstration Construction Completion Report, Sites SD036 and SD037 remedial Action Construction Completion Report.

Upcoming Documents (POCO): ST028 POCO Work Plan, GC508 Site Investigation/Site Closure Request Report, ST018 POCO Construction Completion Report.

Field Work Planned (CERCLA): SD036 EVO Injection (April), SD037 EVO Injection (April), GRIP Sampling, annual (April), FT004 Well Installation (May), FT004 Trench/Conveyance/Power Installation (May), SS015 EVO Injection (May), SS016 EVO

Injection (May), SD034 Soil Sampling (May), DP039 Well Installation (May), TA500 Well Installation (May).

Field Work Planned (POCO): ST018 Well Installation (April), SS014 Site Investigation (April), ST018 Well/Trench Installation (April), Oil Water Separators Site Investigations (May).

4. New Action Item Review

None

5. PROGRAM/ISSUES/UPDATE

Mr. Smith mentioned that US Fish and Wildlife Service (USFWS) will be conducting a site walk on 25 March 2015, first to evaluate PG&E sites and then they will evaluate sites FT004, FT005, DP039, SS030 and LF007. Mr. Smith said that the biological assessment (BA) has been submitted to USFWS and that they are aware of the fieldwork that is proposed in the work plans (WPs). Ms. Balkissoon asked how Travis AFB is assessing the potential effects regarding EVO injections and the eucalyptus trees. Ms. Burke expressed concerns, specifically at site DP039, and the work proposed in the WP could be impacted adversely by USFWS regulations; suggesting that Site DP039 could possibly have the same hydrogeology conditions as Site LF007. Mr. Duke said that LF007 and DP039 do not have the same hydrogeology conditions. Mr. Wray reiterated everything Travis AFB is proposing is in the BA which the USFWS has already received.

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	TBD	Open

		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.		
2.	William Hall	Mr. Hall to determine the time requirements and signature process for getting the AFCEC signature on the upcoming ROD Amendments.	TBD	Open
3.	William Hall	Mr. Hall to ask if we can use DERA funds for the beneficial reuse of treated groundwater under AFCEC’s “net-zero energy policy”.	TBD	Open
4.	Mark Smith	Mr. Smith to provide updates on PFOS and PFOA as he becomes aware of them.	18 March 2015	Open
5.	Mark Smith	Mr. Smith to work with Ms. Burke/EPA regarding the design and contents of the community involvement plan and to agree on revised draft to agency date.	18 March 2015	Closed

TRAVIS AFB RPM TELECONFERENCE AGENDA
18 March 2015, 9:30 A.M.

To: EPA	Nadia Burke
DTSC	Ben Fries
RWQCB	Adriana Constantinescu
CH2M Hill	Mike Wray
AFCEC	William Hall
USACE	Deszo Linbrunner

The RPM teleconference is scheduled for 9:30 am on 18 Mar 2015. **The call-in number is 1-866-203-7023 and the Participation code is 5978-75-9736 then enter #.**

Topics for the teleconference include:

- ❖ Previous Meeting Minutes (All)
- ❖ Action Item Review (All)
- ❖ Master Meeting and Document Schedule Review (Mark, Glenn, Lonnie)
- ❖ Treatment Plant Operation and Maintenance Update (Lonnie)
- ❖ Program Update (Mike)
- ❖ New Action Item Review (All)

Participants:

TRAVIS	ERP Staff	(707) 424-3062
DTSC	Ben Fries	(916) 255-3667
RWQCB	Adriana Constantinescu	(510) 622-2352
EPA	Nadia Burke	(415) 972-3187
USACE	Deszo Linbrunner	(402) 238-8846
CH2M HILL	Mike Wray	(916) 715-0949
AFCEC	William Hall	(210) 259-3252

NOTES: AFTER THE RPM TELECONFERENCE, BASED ON THE DISCUSSION DURING THE REVIEW OF THE MASTER MEETING AND DOCUMENT SCHEDULE, WE ALLOW TIME TO HOLD A SEPARATE TELECONFERENCE TO DISCUSS THE RESPONSES TO AGENCY COMMENTS ON THOSE DOCUMENTS THAT ARE IN PROGRESS, IF NEEDED. FOLLOWING THIS RPM MEETING, WE WILL BE DISCUSSING RTCs ON THE TWO PROPOSED PLANS – NEWIOU/WABOU. ALL PARTICIPANTS ARE WELCOME TO PARTICIPATE.

(2015)
Annual Meeting and Teleconference Schedule

Monthly RPM Meeting ¹ (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.)
01-21-15	—	—
02-18-15	—	—
—	03-18-15	—
04-23-15 (Thursday 2:00 PM)	—	04-23-15
—	05-27-15	—
06-17-15	—	—
—	07-15-15	—
08-19-15	—	—
—	09-16-15	—
10-22-15 (Thursday 2:00 PM)	—	10-22-15
—	11-18-15	—
—	—	—

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

Travis AFB Master Meeting and Document Schedule

PRIMARY DOCUMENTS			
Life Cycle	Travis Air Force Base Uniform Federal Policy-Quality Assurance Project Plan Travis, Glenn Anderson CH2M HILL, Bernice Kidd	Site SD036 Remedial Design/Remedial Action Work Plan Travis AFB, Glenn Anderson CH2M HILL, Leslie Royer	Site SS016 GW Remedial Design/Remedial Action Work Plan Travis AFB, Glenn Anderson CH2M HILL, Leslie Royer
Scoping Meeting	NA	NA	NA
Predraft to AF/Service Center	05-30-14	08-23-14	10-31-14
AF/Service Center Comments Due	06-13-14	09-05-14	11-17-14
Draft to Agencies	07-22-14	01-16-15	12-03-14
Draft to RAB	07-22-14	01-16-15	12-03-14
Agency Comments Due	08-20-14	02-16-15	01-08-15
Response to Comments Meeting	10-23-14	02-18-15	01-21-15
Agency Concurrence with Remedy	NA	NA	NA
Public Comment Period	NA	NA	NA
Public Meeting	NA	NA	NA
Response to Comments Due	11-14-14	03-26-15	03-19-15
Draft Final Due	11-14-14	03-26-15	03-19-15
Final Due	03-11-15	04-27-15	04-20-15

Travis AFB Master Meeting and Document Schedule

PRIMARY DOCUMENTS			
Life Cycle	Site SS015 GW Remedial Design/Remedial Action Work Plan Travis AFB, Glenn Anderson CH2M HILL, Leslie Royer	Community Involvement Plan Travis AFB, Mark Smith CH2M HILL, Tricia Carter	Site DP039 Remedial Design/Remedial Action Work Plan Travis AFB, Glenn Anderson CH2M HILL, Leslie Royer
Scoping Meeting	NA	NA	NA
Predraft to AF/Service Center	11-20-14	NA	01-15-14
AF/Service Center Comments Due	12-08-14	NA	01-29-15
Draft to Agencies	01-20-15	TBD	03-03-15
Draft to RAB	01-20-15	TBD	03-03-15
Agency Comments Due	02-20-15	TBD	04-02-15
Response to Comments Meeting	02-26-15	TBD	04-15-15
Agency Concurrence with Remedy	NA	NA	NA
Public Comment Period	NA	NA	NA
Public Meeting	NA	NA	NA
Response to Comments Due	03-24-15	TBD	04-23-15
Draft Final Due	03-24-15	TBD	04-23-15
Final Due	04-23-15	TBD	05-25-15

Travis AFB Master Meeting and Document Schedule

PRIMARY DOCUMENTS				
Life Cycle	Proposed Plan for the Record of Decision Amendment to the NEWIOU Soil, Sediment, and Surface Water Record of Decision Travis AFB, Glenn Anderson CH2M HILL, Tricia Carter	Record of Decision Amendment to the NEWIOU Soil, Sediment, and Surface Water Record of Decision Travis AFB, Glenn Anderson CH2M HILL, Loren Krook	Proposed Plan for the Record of Decision Amendment to the Soil Record of Decision for the WABOU Travis AFB, Glenn Anderson CH2M HILL, Tricia Carter	Record of Decision Amendment to the Soil Record of Decision for the WABOU Travis AFB, Glenn Anderson CH2M HILL, Loren Krook
Scoping Meeting	NA	TBD	NA	TBD
Predraft to AF/Service Center	11-05-14	05-25-15	11-05-14	05-25-15
AF/Service Center Comments Due	11-26-14	06-24-15	11-26-14	06-24-15
Draft to Agencies	12-19-14	07-08-15	12-19-14	07-08-15
Draft to RAB	12-19-14	07-08-15	12-19-14	07-08-15
Agency Comments Due	01-19-15	08-07-15	01-19-15	08-07-15
Response to Comments Meeting	01-21-15	08-19-15	01-21-15	08-19-15
Agency Concurrence with Remedy	NA	10-02-15	NA	10-02-15
Public Comment Period	4-16-15 to 5-16-15	NA	4-16-15 to 5-16-15	NA
Public Meeting	4-23-15	NA	4-23-15	NA
Response to Comments Due	03-17-15	09-02-15	03-17-15	09-02-15
Draft Final Due	03-17-15	09-02-15	03-17-15	09-02-15
Final Due	04-16-15	10-02-15	04-16-15	10-02-15

Travis AFB Master Meeting and Document Schedule

PRIMARY DOCUMENTS			
Life Cycle	Potrero Hills Annex Travis, Glenn Anderson		
	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 DP039 Lead Excavation Technical Memorandum Travis AFB, Glenn Anderson CH2M HILL, Loren Krook	Site SD034 Data Gap Investigation Work Plan Travis AFB, Lonnie Duke CH2M HILL, Leslie Royer	Site SS014 POCO Technology Demonstration Work Plan Travis AFB, Lonnie Duke CH2M HILL, Leslie Royer
Scoping Meeting	NA	NA	NA
Predraft to AF/Service Center	06-02-14	10-01-14	12-05-14
AF/Service Center Comments Due	06-16-14	10-15-14	12-19-14
Draft to Agencies	07-01-14	11-06-14	02-04-15
Draft to RAB	07-01-14	11-06-14	02-04-15
Agency Comments Due	07-31-14	12-05-14	03-06-15
Response to Comments Meeting	10-23-14	12-19-14	03-18-15
Response to Comments Due	02-26-15	03-31-15	04-01-15
Draft Final Due	NA	NA	NA
Final Due	02-26-15	03-31-15	04-01-15
Public Comment Period	NA	NA	NA
Public Meeting	NA	NA	NA

Travis AFB Master Meeting and Document Schedule

SECONDARY DOCUMENTS			
Life Cycle	POCO Investigation Work Plan for Oil Water Separators Travis AFB, Lonnie Duke CH2M HILL, Ashley Shaddy	Old Skeet Range PAH Delineation Report Travis AFB, Glenn Anderson Bay West, Steve Thornton	Site FT005 Technology Demonstration Work Plan Travis AFB, Glenn Anderson CH2M HILL, Leslie Royer
Scoping Meeting	NA	NA	NA
Predraft to AF/Service Center	01-05-15	11-24-14	02-19-15
AF/Service Center Comments Due	01-19-15	12-02-14	03-05-15
Draft to Agencies	02-06-15	01-13-15	03-17-15
Draft to RAB	02-06-15	01-13-15	03-17-15
Agency Comments Due	03-09-15	02-12-15	04-16-15
Response to Comments Meeting	03-18-15	02-18-15	04-23-15
Response to Comments Due	04-03-15	03-23-15	05-07-15
Draft Final Due	NA	NA	NA
Final Due	04-03-15	03-23-15	05-07-15
Public Comment Period	NA	NA	NA
Public Meeting	NA	NA	NA

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Travis AFB Master Meeting and Document Schedule

SECONDARY DOCUMENTS			
Life Cycle	POCO Site ST032 Soil Excavation Work Plan Travis AFB, Lonnie Duke CH2M HILL, Doug Berwick	Site CG508 Site Investigation/Site Closure Request Report Travis AFB, Lonnie Duke CH2M HILL, Ashley Shaddy	Site ST028 POCO Data Gap Investigation Work Plan Travis AFB, Lonnie Duke CH2M HILL, Doug Berwick
Scoping Meeting	NA	NA	NA
Predraft to AF/Service Center	02-03-15	03-25-15	03-18-15
AF/Service Center Comments Due	02-17-15	04-08-15	04-01-15
Draft to Agencies	03-12-15	05-08-15	04-15-15
Draft to RAB	03-12-15	05-08-15	04-15-15
Agency Comments Due	04-13-15	06-08-15	05-15-15
Response to Comments Meeting	04-23-15	06-17-15	05-27-15
Response to Comments Due	05-12-15	07-07-15	06-12-15
Draft Final Due	NA	NA	NA
Final Due	05-12-15	07-07-15	06-12-15
Public Comment Period	NA	NA	NA
Public Meeting	NA	NA	NA

Travis AFB Master Meeting and Document Schedule

INFORMATIONAL DOCUMENTS			
Life Cycle	Quarterly Newsletters (April 2015) Travis, Glenn Anderson	2014 Annual CAMU Monitoring Report Travis AFB, Lonnie Duke CH2M HILL, Ashley Shaddy	2014 Annual GRISR Travis AFB, Lonnie Duke CH2M HILL, Leslie Royer
Scoping Meeting	NA	NA	NA
Predraft to AF/Service Center	NA	03-17-15	04-13-15
AF/Service Center Comments Due	NA	03-31-15	04-27-15
Draft to Agencies	03-24-15	04-14-15	05-11-15
Draft to RAB	NA	04-14-15	05-11-15
Agency Comments Due	04-10-15	05-14-15	06-10-15
Response to Comments Meeting	TBD	05-27-15	06-17-15
Response to Comments Due	04-13-15	06-10-15	07-01-15
Draft Final Due	NA	NA	NA
Final Due	04-13-15	06-10-15	07-01-15
Public Comment Period	NA	NA	NA
Public Meeting	NA	NA	NA

Travis AFB Master Meeting and Document Schedule

INFORMATIONAL DOCUMENTS			
Life Cycle	Site SD031 Technology Demonstration Construction Completion Report Travis AFB, Lonnie Duke CH2M HILL, Ashley Shaddy	Sites SD036 and SD037 Remedial Action Construction Completion Report Travis AFB, Glenn Anderson CH2M HILL, Ashley Shaddy	Site ST018 POCO Construction Completion Report Travis AFB, Lonnie Duke CH2M HILL, Ashley Shaddy
Scoping Meeting	NA	NA	NA
Predraft to AF/Service Center	04-14-15	06-17-15	06-01-15
AF/Service Center Comments Due	04-28-15	07-01-15	06-15-15
Draft to Agencies	05-12-15	07-15-15	06-29-15
Draft to RAB	05-12-15	07-15-15	06-29-15
Agency Comments Due	06-11-15	08-17-15	07-29-15
Response to Comments Meeting	06-17-15	09-02-15	08-19-15
Response to Comments Due	07-02-15	09-16-15	09-04-15
Draft Final Due	NA	NA	NA
Final Due	07-02-15	09-16-15	09-04-15
Public Comment Period	NA	NA	NA
Public Meeting	NA	NA	NA

Travis AFB Master Meeting and Document Schedule

HISTORY	
Life Cycle	Site SD037 GW Remedial Design/Remedial Action Work Plan Travis AFB, Glenn Anderson CH2M HILL, Leslie Royer
Scoping Meeting	NA
Predraft to AF/Service Center	04-25-14
AF/Service Center Comments Due	05-08-14
Draft to Agencies	08-13-14
Draft to RAB	08-13-14
Agency Comments Due	09-12-14
Response to Comments Meeting	09-17-14
Agency Concurrence with Remedy	NA
Public Comment Period	NA
Public Meeting	NA
Response to Comments Due	01-09-15
Draft Final Due	01-09-15
Final Due	02-09-15

South Base Boundary Groundwater Treatment Plant Monthly Data Sheet

Report Number: 174

Reporting Period: 23 January 2015 – 27 February 2015

Date Submitted: 17 March 2015

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 February 2015 reporting period.

Table 1 – Operations Summary – February 2015			
Initial Data Collection:	1/23/2015 13:00	Final Data Collection:	02/27/2015 12:30
Operating Time:	Percent Uptime:	Electrical Power Usage:	
SBBGWTP: 840 hours	SBBGWTP: 100%	SBBGWTP: 6,240 kWh (8,549 lbs CO ₂ generated ^a)	
Gallons Treated: 3.8 million gallons		Gallons Treated Since July 1998: 885 million gallons	
Volume Discharged to Union Creek: 3.8 million gallons			
VOC Mass Removed: 1.15 lbs^b		VOC Mass Removed Since July 1998: 457 lbs	
Rolling 12-Month Cost per Pound of Mass Removed: \$4,401 ^c			
Monthly Cost per Pound of Mass Removed: \$2,209			
lbs = pounds			
^a Based on Department of Energy estimate that 1 kilowatt hour generated produces 1.37 pounds of GHG.			
^b Calculated using February 2015 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^b				SS029		SS030	
EW01x05	2.9	EW736x05	Offline	EW01x29	1.9	EW01x30	10.5
EW02x05	1.9	EW737x05	Offline	EW02x29	1.9	EW02x30	0.2
EW03x05	Offline	EW742x05	Offline	EW03x29	2.1	EW03x30	1.8
EW731x05	Offline	EW743x05	Offline	EW04x29	8.4	EW04x30	Offline ^d
EW732x05	Offline	EW744x05	Offline	EW05x29	12.2	EW05x30	1.8
EW733x05	Offline	EW745x05	Offline	EW06x29	4.8	EW06x30	Dry
EW734x05	Offline	EW746x05	Offline	EW07x29	1.1	EW711x30	2.4
EW735x05	1.5						
FT005 Total: 6.3				SS029 Total: 32.4		SS030 Total: 16.7	
SBBGWTP Average Monthly Flow^c: 75.78 gpm							
^a Extraction well flow rates are based on instantaneous weekly readings collected at the end of the month. ^b Most extraction wells at FT005 were taken offline in accordance with the <i>2008 Annual Remedial Process Optimization Report for the Central Groundwater Treatment Plant, North Groundwater Treatment Plant, and South Base Boundary Groundwater Treatment Plant</i> . ^c 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. ^d Extraction well EW04x30 was offline during February 2015 due to a failure of the well pump. 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^a		Restart^a		Cause
	Date	Time	Date	Time	
SBBGWTP	None	NA	None	NA	
-- = Time not recorded ^a Shutdown and restart times estimated based on field notes. NA = not applicable SBBGWTP = South Base Boundary Groundwater Treatment Plant					

Summary of O&M Activities

Analytical data from the February 2015 sampling event are presented in Table 4. The total VOC concentration (36.15 µg/L) in the influent sample decreased from the January 2015 sample results (49.58 µg/L). Chloroform (0.24 J µg/L), 1,2-DCA (0.41 J µg/L), cis-1,2-DCE (2.1 µg/L), and TCE (33.4 µg/L) were detected at the influent sampling location. 1,2-DCA (0.6 µg/L), chloroform (0.2 J µg/L), TCE (0.44 J µg/L), and cis-1,2-DCE (2.3 µg/L) were detected at the midpoint sampling location; no other contaminants were detected in the midpoint sample. The concentration of cis-1,2-DCE has increased at the midpoint location since the December 2014 sampling event (from 2.3 µg/L). The detections of cis-1,2-DCE at the midpoint location are indicative of approaching breakthrough conditions. Maintenance service for the GAC will be initiated for change out of the lead vessel. No contaminants were detected at the effluent sample location.

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 decreased in February 2015 to 75.78 gpm from the January 2015 flowrate of 77.91 gpm.

Extraction well EW04x30 was offline during February 2015 due to a failure of the well pump. Troubleshooting in February 2015 included verifying the integrity of the power wiring, locating the problem area, and re-splicing power wiring connections. Extraction well EW04x30 will be brought back on line in March 2015.

Optimization Activities

No optimization activities were performed in February 2015.

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 taking extraction pumps off line that are no longer necessary for contaminant plume capture.

Figure 2 presents the historical GHG production from the SBBGWTP. The SBBGWTP produced approximately 8,549 pounds of GHG during February 2015. This amount is typical for the SBBGWTP with uptime at or around 100 percent; 11,508 pounds of GHG was produced in January 2015, which also had an uptime of 100 percent.

TABLE 4

Summary of Groundwater Analytical Data For February 2015 – South Base Boundary Groundwater Treatment Plant

Constituent	Instantaneous Maximum* (µg/L)	Detection Limit (µg/L)	N/C	12 February 2015 (µg/L)		
				Influent	Midpoint	Effluent
Halogenated Volatile Organics						
Carbon Tetrachloride	0.5	0.14	0	ND	ND	ND
Chloroform	5.0	0.16	0	0.24 J	0.2 J	ND
1,1-Dichloroethane	5.0	0.50	0	ND	ND	ND
1,2-Dichloroethane	0.5	0.15	0	0.41 J	0.6	ND
1,1-Dichloroethene	5.0	0.19	0	ND	ND	ND
cis-1,2-Dichloroethene	5.0	0.19	0	2.1	2.3	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	33.4	0.44 J	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	6 J	NM	NM

* In accordance with Appendix B of the Travis AFB South Base Boundary Groundwater Treatment Plant Operations and Maintenance Manual (CH2M HILL, 2004).

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

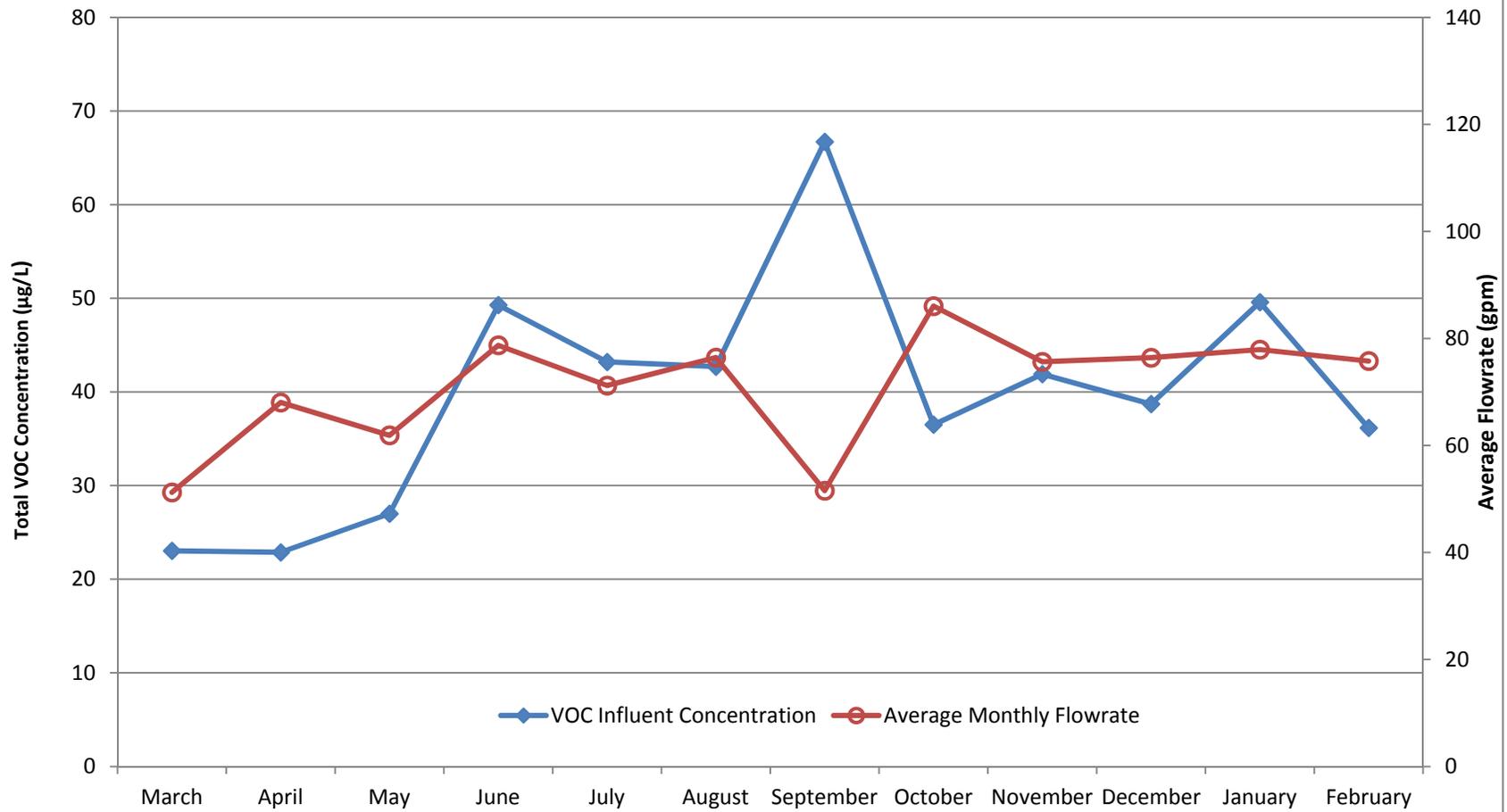
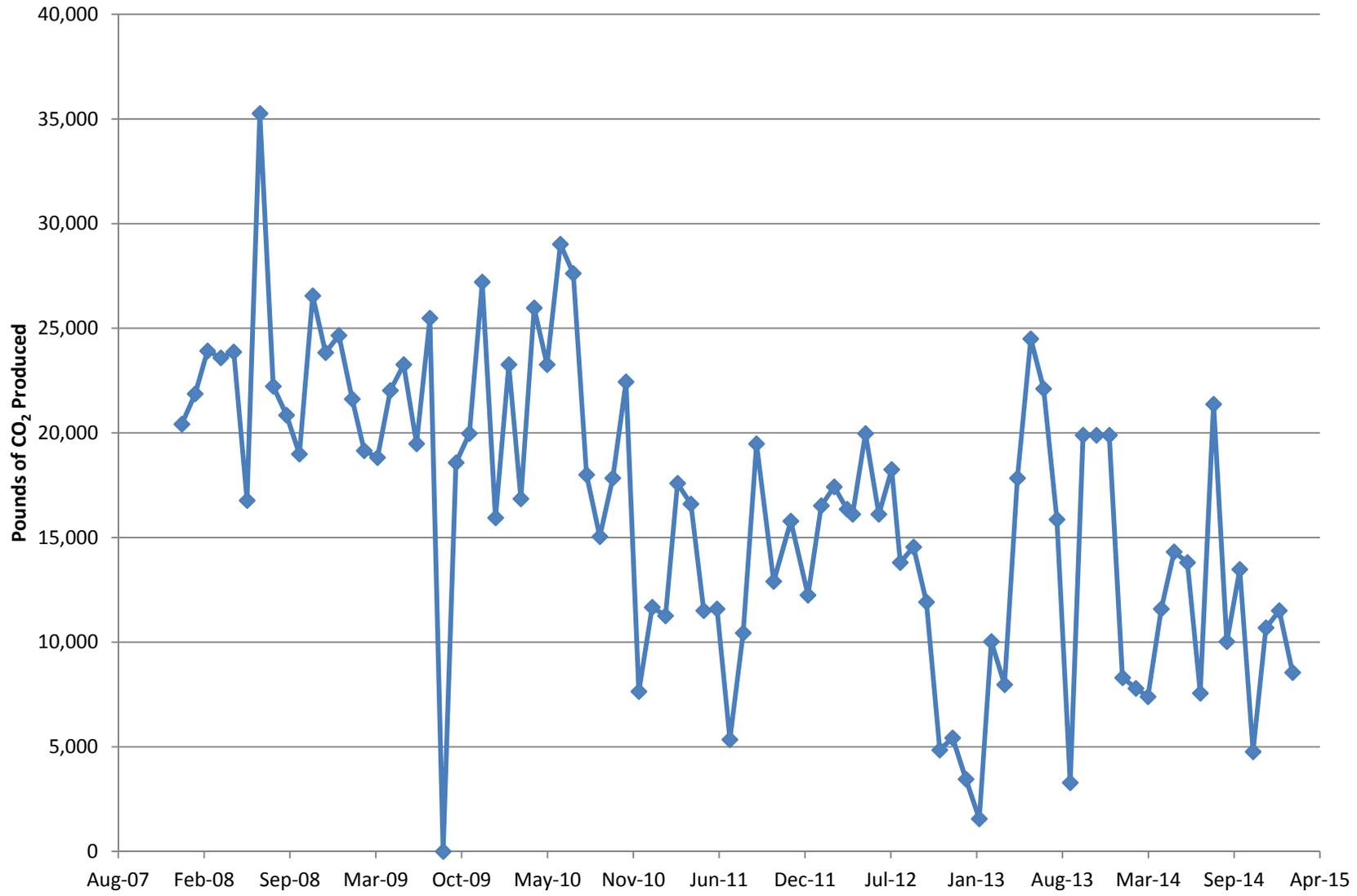


Figure 2

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



Central Groundwater Treatment Plant Monthly Data Sheet

Report Number: 187

Reporting Period: 23 January 2015 – 27 February 2015

Date Submitted: 17 March 2015

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 and two (2) bioreactor treatability studies.

System Metrics

Table 1 presents operational data from the February 2015 reporting period.

Table 1 – Operations Summary – February 2015			
Initial Data Collection:	1/23/2015 16:00	Final Data Collection:	2/27/2015 13:30
Operating Time:		Percent Uptime:	Electrical Power Usage:
CGWTP:	838 hours	CGWTP:	100%
WTTP:	Water: 0 hours Vapor: 0 hours	WTTP:	Water: 0% Vapor: 0%
		CGWTP:	2,998 kWh (4,107 lbs CO ₂ generated ^a)
WTTP:		WTTP:	0 kWh
Gallons Treated: 1.53 million gallons		Gallons Treated Since January 1996: 507.5 million gallons	
VOC Mass Removed:		VOC Mass Removed Since January 1996:	
3.76 lbs^b (groundwater only)		2,710 lbs from groundwater	
0 lbs (vapor only)		8,686 lbs from vapor	
Rolling 12-Month Cost per Pound of Mass Removed: \$1,146 ^c			
Monthly Cost per Pound of Mass Removed: \$615			
^a Based on Department of Energy estimate that 1 kilowatt hour generated produces 1.37 pounds of GHG. ^b Calculated using February 2015 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	16.9 ^c	Offline
EW02x16	7.0 ^c	Offline
EW03x16	1.0 ^c	Offline
EW605x16	6.8 ^c	Offline
EW610x16	3.2 ^c	Offline
CGWTP	30.9	--
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 February 2015.
^c Flow rate based on instantaneous, end of the month reading for February 2015.
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			

-- = Time not recorded
^a Shutdown and restart times estimated based on field notes
CGWTP = Central Groundwater Treatment Plant
NA = not applicable
WTTP = West Transfer Treatment Plant

Summary of O&M Activities

Monthly groundwater samples were collected at the CGWTP on 12 February 2015. Sample results are presented in Table 4. The total VOC concentration (295.33 µg/L) in the February 2015 influent sample has decreased slightly since the January 2015 sample (299.10 µg/L) was collected. Concentrations of 1,1-DCE (0.65 µg/L), methylene chloride (0.8 J µg/L), cis-1,2-DCE (45.3 µg/L), PCE (0.45 J µg/L), trans-1,2-DCE (2.8 µg/L), and TCE (245 µg/L) were detected at the influent sampling location. None of these constituents were detected at the midpoint or effluent sampling locations.

Vinyl chloride was detected in the influent sample (0.33 J µg/L), after the first carbon vessel (0.46 J µg/L), which was an increase since the January 2015 sampling event (0.26 J µg/L), after the second carbon vessel (0.66 J µg/L), and also in the effluent sample (0.18 J µg/L). The concentration of vinyl chloride in the effluent sample was below the effluent limitation of 0.5 µg/L. 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 decreased slightly in February 2015 from the flowrate measured in January 2015 (from 30.83 gpm to 30.45 gpm).

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. The “pulsed mode” operation continued on a two (2) week transition schedule in February 2015, and was brought back on line from 13 February to 27 February 2015, then turned off again.

Optimization Activities

No optimization activities occurred at the CGWTP in February 2015.

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 4,107 pounds of GHG during February 2015. This is an increase from the amount produced in January 2015 (approximately 2,910 pounds) which is the result of almost 260 hours more of total system runtime.

TABLE 4

Summary of Groundwater Analytical Data for February 2015 – Central Groundwater Treatment Plant

Constituent	Instantaneous Maximum* (µg/L)	Detection Limit (µg/L)	N/C	12 February 2015 (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	45.3	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	0.65	ND	ND	ND
Methylene Chloride	5.0	0.66	0	0.8 J	ND	ND	ND
MTBE	1.0	0.5	0	ND	ND	ND	ND
Tetrachloroethene	5.0	0.21	0	0.45 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	245	ND	ND	ND
trans-1,2-Dichloroethene	5.0	0.33	0	2.8	ND	ND	ND
Vinyl Chloride	0.5	0.18	0	0.33 J	0.46 J	0.66 J	0.18 J
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	7 J	NM	NM	NM

* In accordance with Appendix G of the *Travis 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

NM = not measured

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	18 February 2014	28 February 2014
	14 March 2014	28 March 2014
	22 April 2014	28 April 2014
	12 May 2014	12 May 2014
	6 June 2014	20 June 2014
	3 July 2014	24 July 2014
	01 August 2014	15 August 2014
	01 September 2014	12 September 2014
	26 September 2014	30 September 2014 ^a
	24 October 2014	7 November 2014
	21 November 2014	4 December 2014
	19 December 2014	January 2, 2015
	16 January 2015	29 January 2015
13 February 2015	27 February 2015	

^a = DP039 Bioreactor turned off on 30 September 2014 to replace hose.
 CGWTP = Central Groundwater Treatment Plant
 MW = Monitoring Well

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

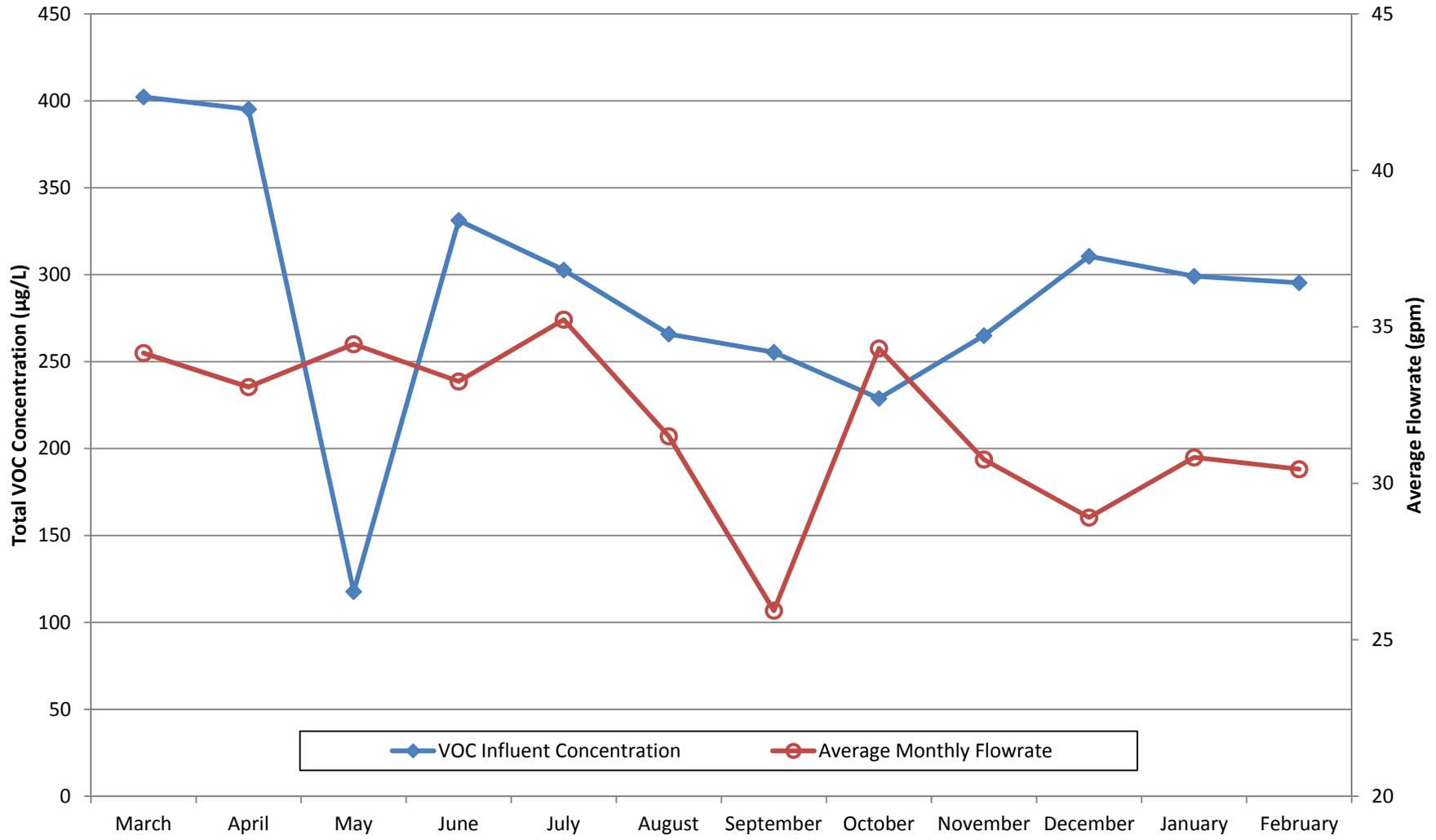
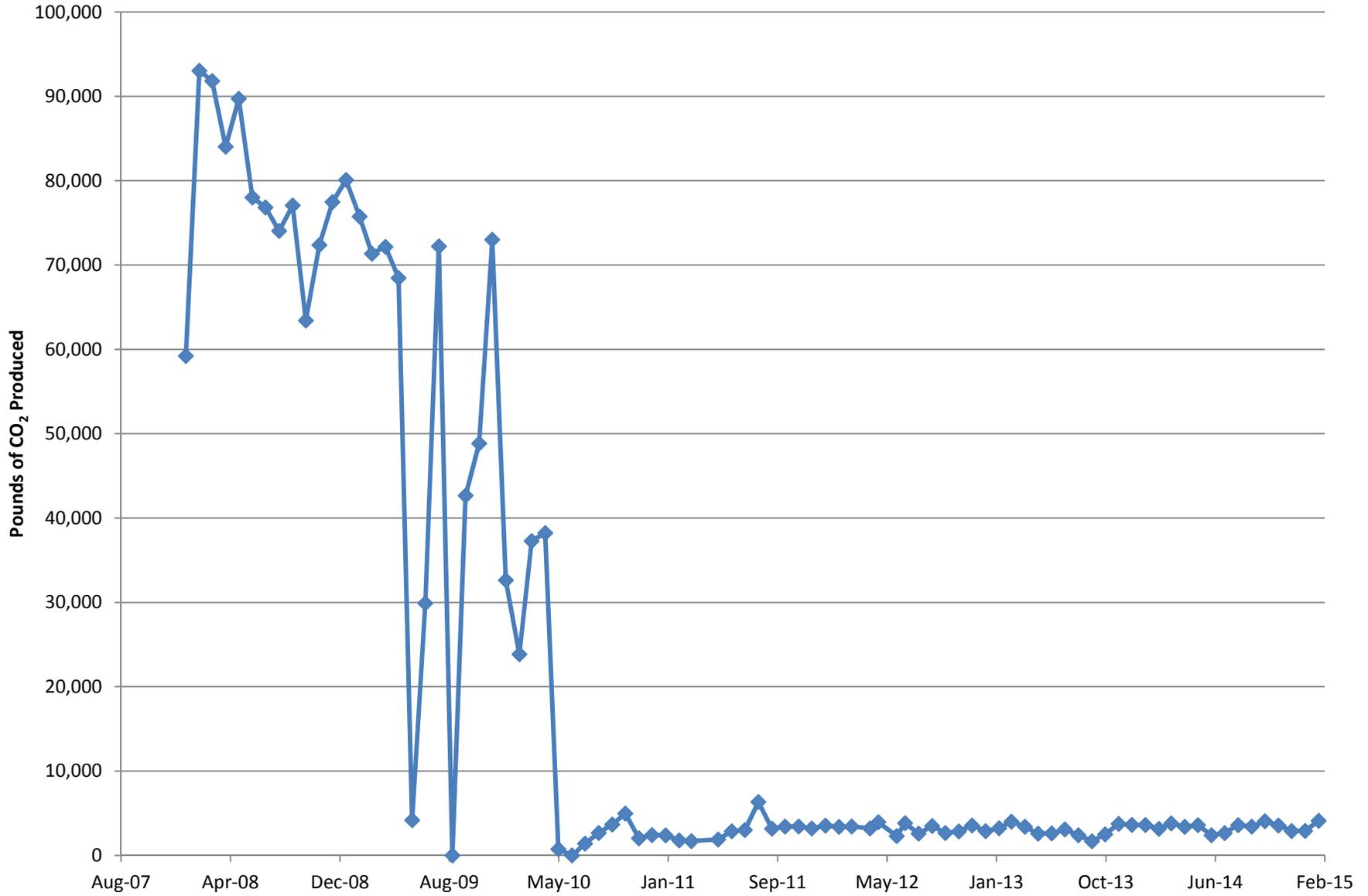


Figure 2

Equivalent Pounds of CO₂ Produced by the Central Groundwater Treatment Plant



Site ST018 Groundwater Treatment Plant Monthly Data Sheet

Report Number: 048

Reporting Period: 30 January 2015 – 26 February 2015

Date Submitted: 17 March 2015

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

System Metrics

Table 1 presents operation data from the February 2015 reporting period.

Table 1 – Operations Summary – February 2015			
Initial Data Collection:	01/30/2015 17:33	Final Data Collection:	02/26/2015 15:30
Operating Time:		Percent Uptime:	Electrical Power Usage:
ST018GWTP: 447 hours		ST018GWTP: 70%	ST018GWTP: 118 kWh (162 lbs CO₂ generated^a)
Gallons Treated: 116,100 gallons		Gallons Treated Since March 2011: 6.93 million gallons	
Volume Discharged to Sanitary Sewer: 116,100 gallons		Final Totalizer Reading: 6,816,100 gallons	
BTEX, MTBE, TPH Mass Removed: 0.12 lbs^b		BTEX, MTBE, TPH Mass Removed Since March 2011: 31.1 lbs	
MTBE (Only) Removed: 0.12 lbs^b		MTBE (Only) Mass Removed Since March 2011: 6.8 lbs	
Rolling 12-Month Cost per Total Pounds of Mass Removed: \$8,279 ^c			
Monthly Cost per Pound of Mass Removed: \$37,628 ^d			
^a Based on Department of Energy estimate that 1 kilowatt hour generated produces 1.37 pounds of GHG.			
^b Calculated using February 2015 effluent 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.			
^d Value slightly inflated due to small influent concentration in the denominator when determining the cost per pound of mass removed.			
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	2.6	447
EW2016x18	2.6	447
EW2019x18	2.6	447
Site ST018 GWTP	4.33	447

^a Flow rates calculated by dividing total gallons processed by the hours of operation, from the totalizer and hour meter at each location.
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 ^a		Restart ^a		Cause
	Date	Time	Date	Time	
ST018GWTP	02/08/2015	17:00	02/09/2015	16:00	Found motor starter for transfer pump had failed from heavy rain over weekend, which flooded the containment. The time of shutdown was back-calculated from system hour meter readings.
ST018GWTP	02/09/2015	16:30	02/19/2015	10:05	Faulty transfer pump motor starter. System taken off line for repair.

^a Shutdown and restart times estimated based on field notes
-- = time not known
NA = not applicable
ST018GWTP = Site ST018 Groundwater Treatment Plant

Summary of O&M Activities

Monthly groundwater treatment samples were collected at the ST018GWTP on 19 February 2015. Results are presented in Table 4. The complete February 2015 laboratory data report is available upon request.

The influent concentration for MTBE during the February 2015 sampling was 53.1 µg/L, which is a decrease from the January 2015 sample (74.3 µg/L). Benzene (1.4 µg/L), ethylbenzene (1.7 µg/L), and m,p-Xylene (1.7 µg/L) were also detected in the influent sample. No other contaminants were detected at the influent sample location during the sampling event and no contaminants were detected at the midpoint or effluent locations.

Figure 1 presents plots of flow rate and influent total VOC (TPH-g, TPH-d, MTBE, and BTEX) and MTBE concentrations at the ST018GWTP versus time.

A system malfunction was discovered on 9 February 2015 after electrical power was restored to the ST018GWTP following a scheduled power outage at the Base Exchange gas station (which supplies power to the ST018GWTP). The transfer pump motor starter had failed at approximately 1700 hours on Sunday, 8 February 2015, which had caused a shut-down alarm at the ST018GWTP. The damage to the motor starter had

caused a short circuit, which shut off power to the control relays within the ST018GWTP control panel. Since system controls were off line, the sump pump continued to process excess rain water despite the alarm condition. As a result, the treatment system containment pad flooded and overflowed with some of the accumulated rainwater. All extraction wells had been shut off since the original shut off date of 8 February 2015.

Standing water within the containment pad sump was sampled on 12 February 2015, and processed through the system in order to eliminate the flooding. Laboratory results showed that the sump water contained MTBE at a concentration of 11.9 µg/L. No other contaminants were detected. The full laboratory analytical report from the sump water sample is available upon request.

The treatment system was rewired on 17 February 2015 to include an extra control to shut off the sump pump in event of future power losses. In addition, the containment pad high level float switch was replaced due to faulty operation. The system was brought back on line on 19 February 2015 and operated without further incident throughout the remainder of February 2015.

As shown on Figure 1, the average flow rate through the ST018GWTP has been seasonally variable with a slight increasing trend since the battery upgrade in 2013. TPH-g, TPH-d and TPH-mo were not detected in the February 2015 influent sample.

Optimization Activities

No optimization activities were performed in February 2015.

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 ST018GWTP system.

The ST018GWTP produced 97 pounds of GHG during February 2015, which was a decrease of GHG produced in January 2015 (162 pounds). The amount of water treated in February 2015 was lower than that of the January 2015 treatment (189,600 gallons in January 2015 and 116,100 gallons in February 2015). The amount of GHG produced during February was representative of typical values observed during decreased performance operation (since the ST018GWTP uptime was at 70% in February 2015). Figure 2 presents the historical GHG production from the ST018GWTP. The overall GHG generation has been decreasing since a 2014 peak in March, and remains considerably lower than traditional GWTPs since the system is predominantly powered by solar arrays. The previous increasing GHG production reflected an inverse relationship between solar exposure in the fall and winter relative to GHG production.

TABLE 4

SUMMARY OF GROUNDWATER ANALYTICAL DATA FOR FEBRUARY 2015 – SITE ST018 GROUNDWATER TREATMENT PLANT

Constituent	Instantaneous Maximum* (µg/L)	Detection Limit (µg/L)	N/C	19 February 2015 (µg/L)			12 February 2015 (µg/L)	
				Influent	After Carbon 1	After Carbon 2	System Effluent	Overflow Sump Area
Fuel Related Constituents								
MTBE	5	0.5	0	53.1	NM	ND	ND	11.9
Benzene	5	0.17	0	1.4	NM	ND	ND	ND
Ethylbenzene	5	0.22	0	1.7	NM	ND	ND	ND
Toluene	5	0.14	0	ND	NM	ND	ND	ND
Total Xylenes	5	0.23 – 0.5	0	1.7	NM	ND	ND	ND
Total Petroleum Hydrocarbons – Gasoline	50	8.5	0	ND	ND	NM	ND	ND
Total Petroleum Hydrocarbons – Diesel	50	50	0	ND	ND	NM	ND	ND
Total Petroleum Hydrocarbons – Motor Oil	--	160	--	ND	ND	NM	ND	ND

* In accordance with the National Pollutant Discharge Elimination System (NPDES) Effluent Limitations

Laboratory data available on request

µg/L = micrograms per liter

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 above method detection limit

NM = not measured this month

Figure 1
ST18GWTP Total VOC and MTBE Influent Concentrations
Quarterly History
Travis Air Force Base, California

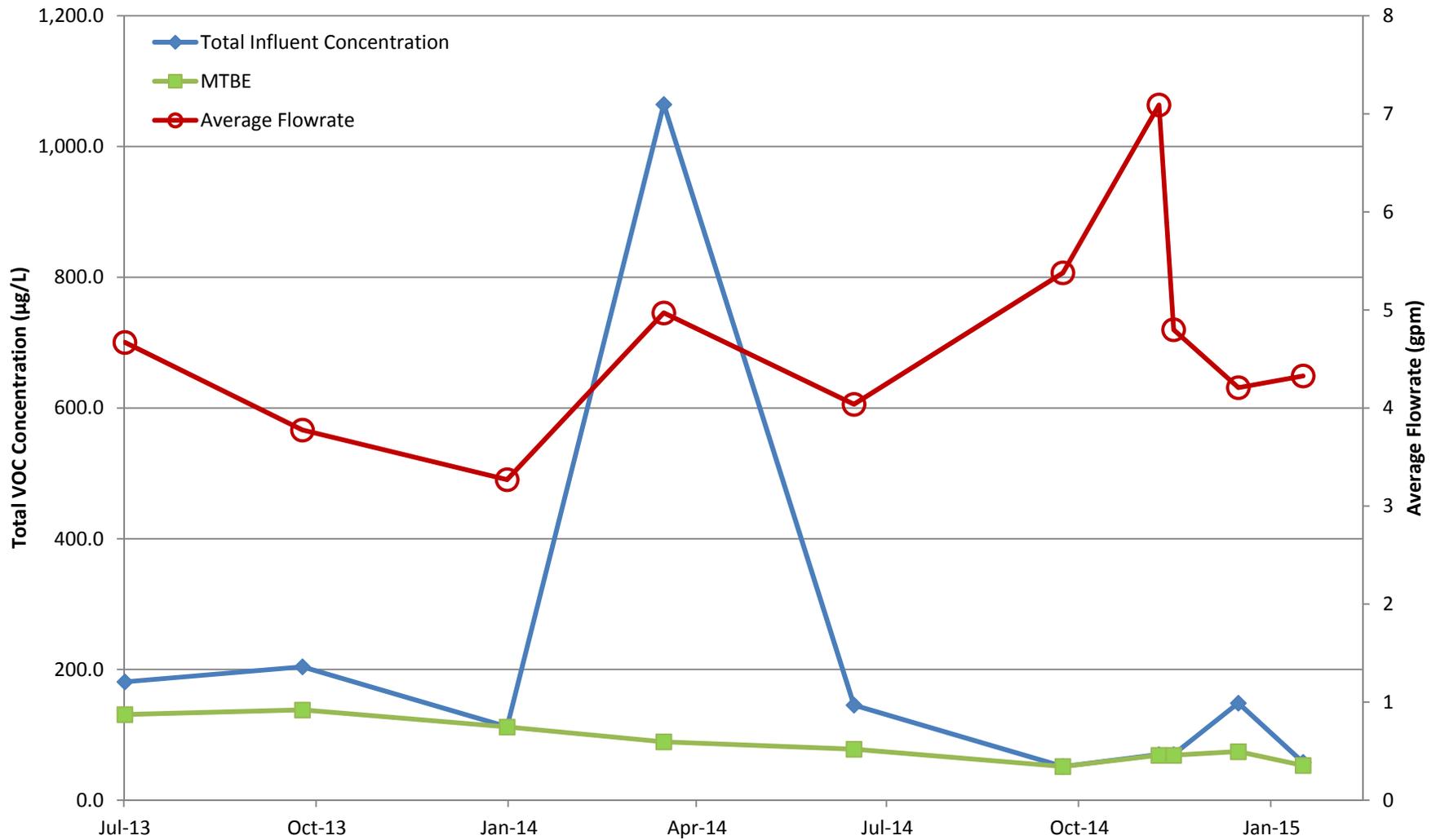
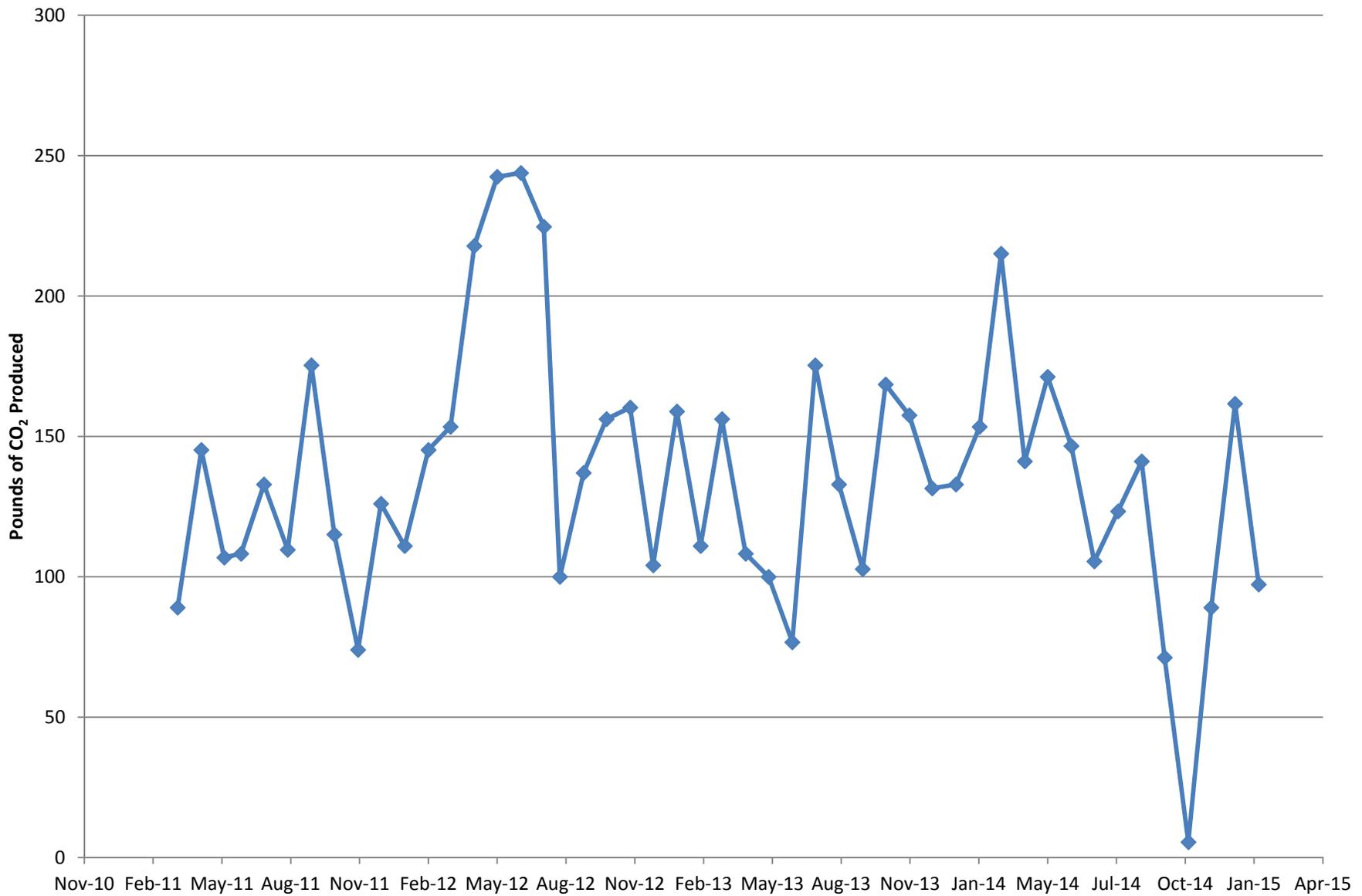


Figure 2
Equivalent Pounds of CO₂ Produced by the Site ST018 Groundwater Treatment Plant



Travis AFB Restoration Program

Program Overview

*RPM Meeting
March 18, 2015*

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
- Groundwater Record of Decision (ROD)
- CG508 POCO Work Plan
- 2013 Annual GRISR
- FT004 Technology Demonstration Work Plan
- Kinder Morgan LF044 Land Use Control Report
- SD031 Technology Demonstration Work Plan
- TA500 Data Gap Investigation Work Plan
- ST018 POCO Work Plan Addendum
- SD037 GW RD/RA Work Plan
- **Travis AFB UFP-QAPP**
- **DP039 Lead Excavation Technical Memo**

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
- Biological Resource Assessment
- Site CG508 Site Investigation
- Old Skeet Range Characterization Sampling
- 4Q Semiannual GRIP Sampling Event
- SD031 Technology Demonstration Well Installation
- **SD037 Well Installation**
- **SD031 Trench/Conveyance/Power Installation**
- **SD031 EVO Injection**

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Documents In-Progress

CERCLA

- Old Skeet Range PAH Delineation Report
- SD034 Data Gap Investigation Work Plan
- SD036 RD/RA Work Plan
- SS016 GW RD/RA Work Plan
- SS015 GW RD/RA Work Plan
- Proposed Plan for ROD Amendment to WABOU Soil ROD
- Proposed Plan for ROD Amendment to NEWIOU Soil, Sediment, & Surface Water ROD
- **DP039 RD/RA Work Plan**
- **FT005 Technology Demonstration Work Plan**

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Documents In-Progress

POCO

- SS014 POCO Technology Demonstration Work Plan
- POCO Investigation Work Plan for Oil-Water Separators
- ***ST032 POCO Soil Excavation Work Plan***

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Field Work In-Progress

- ***SD036 Well Installation***
- ***SS016 Well Installation***
- ***SS015 Well Installation***
- ***Well Development (SD037, SD036, SS016, SS015)***
- ***Baseline Sampling (SD037, SD036)***

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Documents Planned

CERCLA

- Community Involvement Plan TBD
- 2014 Annual CAMU Monitoring Report Apr
- 2014 Annual GRISR May
- SD031 Technology Demonstration Construction Completion Report May
- **Sites SD036 and SD037 Remedial Action Construction Completion Report July**

POCO

- ST028 POCO Work Plan Apr
- CG508 Site Investigation/Site Closure Request Report May
- **ST018 POCO Construction Completion Report Jun**

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Field Work Planned

CERCLA

- SD036 EVO Injection Apr
- SD037 EVO Injection Apr
- GRIP Sampling (annual) Apr
- **FT004 Well Installation May**
- **FT004 Trench/Conveyance/Power Installation May**
- **SS015 EVO Injection May**
- **SS016 EVO Injection May**
- **SD034 Soil Sampling May**
- **DP039 Well Installation May**
- **TA500 Well Installation May**

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

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Field Work Planned

POCO

- ST018 Well Installation Apr
- SS014 Site Investigation Apr
- **ST018 Trench/Conveyance/Power Installation Apr**
- **Oil Water Separators Site Investigations May**

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

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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

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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 11

Completed Field Work (Historical 1)

- 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 (4th 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