Final

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

27 May 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 27 May 2015 at 0930 hours, in Building 248 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
• 1st Lt Alexi Fong	Travis AFB 60 AMW/JA
• Dezso Linbrunner (via telephone)	USACE-Omaha
• William Hall (via telephone)	AFCEC/CZRW
• Adriana Constantinescu (via telephone)	California Regional Water Quality Control Board (RWQCB)
• Ben Fries (via telephone)	California Department of Toxic Substances Control (DTSC)
• Nadia Hollan Burke (via telephone)	United States Environmental Protection Agency (USEPA)
• Indira Balkissoon (via telephone)	Techlaw, Inc
• 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 (April 2015)
• Attachment 4	CGWTP Monthly Data Sheet (April 2015)
• Attachment 5	ST018 Monthly Data Sheet (April 2015)
• Attachment 6	Presentation: Program Update: Activities Completed, In Progress and Upcoming

1. ADMINISTRATIVE

A. Previous Meeting Minutes

The 23 April 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. 27 May 2015: Mr. Duke informed the group that Travis AFB is considering the use of treated water during EVO injection at Site FT005 as opposed to potable water. Ms. Burke stated that a change in the work effort may require a revised work plan. Ms. Constantinescu stated that an addendum in letter format would likely be sufficient and should include details about the quality of the treated water and the benefits that using recycled water would provide. A new action item was added for Ms. Constantinescu to provide information about what water quality data would be necessary to demonstrate that the treated water is appropriate for injection.

Action item 2 is closed: Mr. Hall to determine the time requirements and signature process for getting the AFCEC signature on the upcoming ROD Amendments. 27 May 2015: Mr. Hall stated that there will be no changes to the existing signature process for the upcoming ROD Amendments and that the same process used for the Groundwater ROD will be followed.

Action item 3 is closed: Mr. Hall to ask if we can use DERA funds for the beneficial reuse of treated groundwater under AFCEC's "net-zero energy policy". 27 May 2015: Mr. Hall has received confirmation that DERA funds cannot be used beyond treatment.

Action item 4 is open: Mr. Smith to provide updates on PFOS and PFOA as he becomes aware of them. 27 May 2015: Mr. Smith stated that he has received the final preliminary assessment report from AFCEC, however, AFCEC has not provided any information as to what the next step will be..

C. 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 Wednesday, 17 June 2015 at 1200.

Ms. Burke noted that the 16 September 2015 teleconference was changed to 1300 at the April RPM meeting. Ms. Constantinescu confirmed the change. The MMDS will be revised to reflect the correct meeting time.

Travis AFB Master Document Schedule

— Site SD036 Remedial Design/Remedial Action Work Plan: No change to the schedule.

— Site SS016 GW Remedial Design/Remedial Action Work Plan: No change to the schedule.

— Site SS015 GW Remedial Design/Remedial Action Work Plan: The final due date changed to 19 May 2015 to reflect the actual date.

— Community Involvement Plan: All new dates.

— Site DP039 Remedial Design/Remedial Action Work Plan: The response to comments (RTC) meeting was changed to 27 May 2015, the rest of the dates were changed accordingly. Travis AFB is working on RTCs.

— Amendment to the NEWIOU Soil, Sediment, and Surface Water Record of Decision: Predraft to AF/Service Center date changed to 18 May 2015, all new dates follow.

— Amendment to the Soil Record of Decision for the WABOU: Predraft to AF/Service Center date changed to 18 May 2015, all new dates follow.

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

— Site SS014 POCO Technology Demonstration Work Plan: RTC and final dates changed to 27 May 2015.

— Old Skeet Range PAH Delineation Report: No change to the schedule.

— Site FT005 Technology Demonstration Work Plan: RTC and final dates changed to 26 May 2015.

— POCO Site ST032 Soil Excavation Work Plan: RTC and final dates changed to 7 May 2016.

— Site CG508 Site Investigation/Site Closure Request Report: No change to the schedule.

— Site ST028 POCO Work Plan: No change to the schedule.

— Quarterly Newsletter (July 2015): Draft to Agencies date scheduled for 8 July 2015, all new dates follow.

— 2014 Annual CAMU Monitoring Report: No change to schedule.

— 2014 Annual GRISR: AF/Service Center Comments Due was changed to 22 May 2015 to allow more time to review the document. The rest of the dates were changed accordingly.

— Site SD031 Technology Demonstration Construction Completion Report: No change to the schedule.

— Sites SD036 and SD037 Remedial Action Construction Completion Report: No change to the schedule.

— Site ST018 POCO Construction Completion Report: Predraft to AF/Service Center was changed to 24 June 2015 to accommodate a delay in the start of construction. The rest of the dates were changed accordingly

— Site SS016 Groundwater Remedial Action Construction Completion Report: Added to the schedule. Predraft to AF/Service Center scheduled for 7 July 2015. All new dates follow.

— Site SS015 Remedial Action Construction Completion Report: Added to the schedule. Predraft to AF/Service Center scheduled for 14 July 2015. All new dates follow.

— Proposed Plan for the Amendment to the NEWIOU Soil, Sediment, and Surface Water Record of Decision (ROD): Moved to History.

— Proposed Plan for the Amendment to the Soil Record of Decision for the WABOU: Moved to History.

— Site SD034 Data Gap Investigation: Moved to History.

— POCO Investigation Work Plan for Oil Water Separators: Moved to History.

2. CURRENT PROJECTS

Treatment Plant Operation and Maintenance Update

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

The South Base Boundary Groundwater Treatment Plant (SBBGWTP) performed at 63% uptime, and 1.7 million gallons of groundwater were extracted and treated during the month of April 2015. All of the treated water was discharged to Union Creek. The average flow rate for the SBBGWTP was 49.72 gallons per minute (gpm). Electrical power usage was 2,040 kWh, and approximately 2,795 pounds of CO_2 were created (based on DOE calculation). Approximately 0.71 pounds of volatile organic compounds (VOCs) were removed in April. The total mass of VOCs removed since startup of the system is 459.3 pounds.

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

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

The Central Groundwater Treatment Plant (CGWTP) performed at 100% uptime with approximately 1 million gallons of groundwater extracted and treated during the

month of April 2015. All treated water was discharged to the storm drain. The average flow rate for the CGWTP was 30.1 gpm. Electrical power usage was 2,019 kWh for all equipment connected to the Central Plant, and approximately 2,766 pounds of CO_2 were generated. Approximately 2.72 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 11,403 pounds.

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

LF007C Groundwater Treatment Plant, April 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. Because the extraction system remains off, waiting for the vernal pool to dry, a monthly report was not prepared.

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

The Site ST018 (MTBE) Treatment Plant (ST018 GWTP) performed at 100% uptime with approximately 256,870 gallons of groundwater extracted and treated during the month of April 2015. All treated water was diverted to the sanitary sewer. The average flow rate for the ST018 GWTP was 5.40 gpm. Electrical power usage for the month was 151 kWh for all equipment connected to the ST018 GWTP, which equates to the creation of approximately 207 pounds of CO_2. Approximately 0.09 pound of BTEX, MTBE and TPH was removed from groundwater in April by the treatment plant. Approximately 0.07 pound of MTBE was removed from groundwater. The total BTEX, MTBE and TPH mass removed since the startup of the system is 31.3 pounds, and the total MTBE mass removed since startup of the system is 7.0 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 April.

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: ST032 POCO Soil Excavation Work Plan, SD036 RD/RA Work Plan, SS016 GW RD/RA Work Plan, SS015 GW RD/RA Work Plan, FT005 Technology Demonstration Work Plan.

Newly Completed Field Work: ST018 Well/Trench Installation, SD036 EVO Injection, Well Development (SS015, SS016), Baseline Sampling (SS015, SS016), SS014 Data Gap Investigation.

In-Progress Documents (CERCLA): TS060 Old Skeet Range PAH Delineation Report, DP039 RD/RA Work Plan, 2014 Annual CAMU Monitoring Report, SD031 Technology Demonstration Construction Completion Report,

In-Progress Documents (POCO): SS014 POCO Technology Demonstration Work Plan, ST028 POCO Work Plan, CG508 Site Investigation/Site Closure Request Report.

In-Progress Field Work: GRIP sampling (annual), SD034 Data Gaps Investigation, SD037 EVO Injection, Oil/Water Separators Site Investigation.

Upcoming Documents (CERCLA): Community Involvement Plan, 2014 GRISR, Sites SD036 and SD037 Remedial Action Construction Completion Report, ROD Amendment for NEWIOU Soil, Sediment, and Surface Water ROD, ROD Amendment for WABOU Soil ROD, SS016 Groundwater Remedial Action Construction Completion Report, SS015 Remedial Action Construction Completion Report.

Upcoming Documents (POCO): ST018 POCO Construction Completion Report.

Field Work Planned (CERCLA): FT004 Well Installation (June), SS015 EVO Injection (June), SS016 EVO Injection (June), TA500 Data Gaps Investigation (June), FT005 Injection Well Installation (June), FT004 Trench/Conveyance/Power Installation (July), DP039 Well Installation (June), FT004 EVO Injection (August), SS030 Trench/Conveyance/Power Installation (June), FT005 Trench Installation (August), FT005 EVO Injection (August), DP039 Infiltration Trench Installation (August), DP039 EVO Injection (September).

Field Work Planned (POCO): SS014 Bioreactor Installation (July).

4. New Action Item Review

New Action Item 5 was added for Ms. Constantinescu to provide information about the water quality data that must be provided and met in order to allow the use of treated water during EVO injection. This action item (AI) was added in response to a proposal by Travis AFB to use treated

water instead of potable water for the injection of EVO at Site FT005. AI 5 is to be completed by 10 June 2015.

New Action Item 6 was added for Mr. Smith to consult with RAB members to determine if the RAB meeting will be rescheduled to 5 November 2015 or another alternative date. AI 6 is to be completed by 17 June 2015.

5. PROGRAM/ISSUES/UPDATE

None

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. 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. Update: Mr. Duke informed the group that Travis AFB is considering the use of treated water during EVO injection at Site FT005 as opposed to potable water. New Action Item 5 added as a follow-up.	TBD	Open
2.	William Hall	Mr. Hall to determine the time requirements and signature process for getting the AFCEC signature on the upcoming ROD Amendments. Update: Mr. Hall stated that there will be no changes to the existing signatory process for the upcoming ROD Amendments and that the same process used for the Groundwater	27 May 2015	Closed

		ROD will be followed.		
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". Update: Mr. Hall has received confirmation that DERA funds cannot be used beyond treatment.	27 May 2015	Closed
4.	Mark Smith	Mr. Smith to provide updates on PFOS and PFOA as he becomes aware of them. Update: Mr. Smith stated that he has received the final preliminary assessment report from AFCEC. Direction from AFCEC for follow on steps has not yet been provided.	TDB	Open
5.	Adriana Constantinescu	Ms. Constantinescu to provide information about the water quality data that must be provided and met in order to allow the use of treated water during EVO injection.	10 June 2015	Open
6.	Mark Smith	Mr. Smith to consult with RAB members to determine if the RAB meeting will be rescheduled.	17 June 2015.	Open

TRAVIS AFB RPM TELECONFERENCE AGENDA
27 May 2015, 9:30 A.M.

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

The RPM teleconference is scheduled for 9:30 am on 27 May 2015. **The call-in number is 1-866-203-7023. Enter the Participation code 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)
  - Signature Blocks for ROD Amendments
- 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) 622-2353
EPA	Nadia Burke	(415) 972-3187
USACE	Dezso 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. 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 (start at 12:00)	—	—
—	07-15-15 (1:00 to 3:00)	—
08-19-15 (1:00 to 3:00)	—	—
—	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.

As of : 05-27-2015

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, Leslie Royer**	**Site SS016 GW Remedial Design/Remedial Action Work Plan Travis AFB, Glenn Anderson CH2M HILL, Leslie Royer**	**Site SS015 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	08-23-14	10-31-14	11-20-14
AF/Service Center Comments Due	09-05-14	11-17-14	12-08-14
Draft to Agencies	01-16-15	12-03-14	01-20-15
Draft to RAB	01-16-15	12-03-14	01-20-15
Agency Comments Due	02-16-15	01-08-15	02-20-15
Response to Comments Meeting	**02-18-15**	**01-21-15**	**02-26-15**
Agency Concurrence with Remedy	NA	NA	NA
Public Comment Period	NA	NA	NA
Public Meeting	**NA**	**NA**	**NA**
Response to Comments Due	04-20-15	03-20-15	04-16-15
Draft Final Due	04-20-15	03-20-15	04-16-15
Final Due	05-20-15	05-08-15	05-19-15

Travis AFB Master Meeting and Document Schedule

PRIMARY DOCUMENTS				
Life Cycle	**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**	**Record of Decision Amendment to the NEWIOU Soil, Sediment, and Surface Water Record of Decision** **Travis AFB, Glenn Anderson** **CH2M HILL, Loren Krook**	**Record of Decision Amendment to the Soil Record of Decision for the WABOU** **Travis AFB, Glenn Anderson** **CH2M HILL, Loren Krook**
Scoping Meeting	**NA**	**NA**	**TBD**	**TBD**
Predraft to AF/Service Center	NA	01-15-14	05-18-15	05-18-15
AF/Service Center Comments Due	NA	01-29-15	06-18-15	06-18-15
Draft to Agencies	07-29-15	03-03-15	07-02-15	07-02-15
Draft to RAB	07-29-15	03-03-15	07-02-15	07-02-15
Agency Comments Due	08-28-15	04-02-15	09-01-15	09-01-15
Response to Comments Meeting	**09-16-15**	**05-27-15**	**09-16-15**	**09-16-15**
Agency Concurrence with Remedy	NA	NA	NA	NA
Public Comment Period	NA	NA	NA	NA
Public Meeting	**NA**	**NA**	**NA**	**NA**
Response to Comments Due	09-30-15	05-27-15	09-30-15	09-30-15
Draft Final Due	09-30-15	05-27-15	09-30-15	09-30-15
Final Due	11-03-15	06-26-15	10-30-15	10-30-15

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 SS014 POCO Technology Demonstration Work Plan** **Travis AFB, Lonnie Duke** **CH2M HILL, Leslie Royer**	**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	12-05-14	11-24-14	02-19-15
AF/Service Center Comments Due	12-19-14	12-02-14	03-05-15
Draft to Agencies	02-04-15	01-13-15	03-17-15
Draft to RAB	02-04-15	01-13-15	03-17-15
Agency Comments Due	03-06-15	02-12-15	04-16-15
Response to Comments Meeting	**03-18-15**	**02-18-15**	**04-23-15**
Response to Comments Due	05-27-15	TBD	05-26-15
Draft Final Due	NA	NA	NA
Final Due	05-27-15	TBD	05-26-15
Public Comment Period	NA	NA	NA
Public Meeting	**NA**	**NA**	**NA**

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 POCO Site Investigation/Site Closure Request Report** **Travis AFB, Lonnie Duke** **CH2M HILL, Ashley Shaddy**	**POCO Site ST028 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	04-22-15	04-22-15
Draft to RAB	03-12-15	04-22-15	04-22-15
Agency Comments Due	04-13-15	05-22-15	05-22-15
Response to Comments Meeting	**04-23-15**	**05-27-15**	**05-27-15**
Response to Comments Due	05-07-15	06-16-15	06-12-15
Draft Final Due	NA	NA	NA
Final Due	05-07-15	06-16-15	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 (July 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	Site SD031 Technology Demonstration Construction Completion Report Travis AFB, Lonnie Duke CH2M HILL, Ashley Shaddy
Scoping Meeting	**NA**	**NA**	**NA**	**NA**
Predraft to AF/Service Center	NA	03-17-15	04-24-15	04-23-15
AF/Service Center Comments Due	NA	03-31-15	05-22-15	05-07-15
Draft to Agencies	07-08-15	04-15-15	06-09-15	05-21-15
Draft to RAB	NA	04-15-15	06-09-15	05-21-15
Agency Comments Due	07-22-15	05-15-15	08-10-15	06-22-15
Response to Comments Meeting	**TBD**	**05-27-15**	**08-19-15**	**07-15-15**
Response to Comments Due	07-24-15	06-10-15	09-02-15	07-29-15
Draft Final Due	NA	NA	NA	NA
Final Due	07-29-15	06-10-15	09-02-15	07-29-15
Public Comment Period	NA	NA	NA	NA
Public Meeting	**NA**	**NA**	**NA**	**NA**

Travis AFB Master Meeting and Document Schedule

INFORMATIONAL DOCUMENTS				
Life Cycle	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	Site SS016 Groundwater Remedial Action Construction Completion Report Travis AFB, Glenn Anderson CH2M HILL, Ashley Shaddy	Site SS015 Remedial Action Construction Completion Report Travis AFB, Glenn Anderson CH2M HILL, Ashley Shaddy
Scoping Meeting	**NA**	**NA**	**NA**	**NA**
Predraft to AF/Service Center	06-17-15	06-24-15	07-07-15	07-14-15
AF/Service Center Comments Due	07-01-15	07-09-15	07-21-15	07-28-15
Draft to Agencies	07-15-15	07-23-15	08-04-15	08-11-15
Draft to RAB	07-15-15	07-23-15	08-04-15	08-11-15
Agency Comments Due	08-17-15	08-24-15	09-03-15	09-10-15
Response to Comments Meeting	**09-02-15**	**09-16-15**	**09-16-15**	**09-16-15**
Response to Comments Due	09-16-15	10-05-15	10-07-15	10-08-15
Draft Final Due	NA	NA	NA	NA
Final Due	09-16-15	10-05-15	10-07-15	10-08-15
Public Comment Period	NA	NA	NA	NA
Public Meeting	**NA**	**NA**	**NA**	**NA**

Travis AFB Master Meeting and Document Schedule

HISTORY		
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**	**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**
Scoping Meeting	**NA**	**NA**
Predraft to AF/Service Center	11-05-14	11-05-14
AF/Service Center Comments Due	11-26-14	11-26-14
Draft to Agencies	12-19-14	12-19-14
Draft to RAB	12-19-14	12-19-14
Agency Comments Due	01-19-15	01-19-15
Response to Comments Meeting	**01-21-15**	**01-21-15**
Agency Concurrence with Remedy	NA	NA
Public Comment Period	4-15-15 to 5-15-15	4-15-15 to 5-15-15
Public Meeting	**4-23-15**	**4-23-15**
Response to Comments Due	03-17-15	03-17-15
Draft Final Due	03-17-15	03-17-15
Final Due	04-16-15	04-16-15

Travis AFB Master Meeting and Document Schedule

HISTORY		
Life Cycle	Site SD034 Data Gap Investigation Work Plan Travis AFB, Lonnie Duke CH2M HILL, Leslie Royer	POCO Investigation Work Plan for Oil Water Separators Travis AFB, Lonnie Duke CH2M HILL, Ashley Shaddy
Scoping Meeting	**NA**	**NA**
Predraft to AF/Service Center	10-01-14	01-05-15
AF/Service Center Comments Due	10-15-14	01-19-15
Draft to Agencies	11-06-14	02-06-15
Draft to RAB	11-06-14	02-06-15
Agency Comments Due	12-05-14	03-09-15
Response to Comments Meeting	**12-19-14**	**03-18-15**
Response to Comments Due	04-16-15	04-01-15
Draft Final Due	NA	NA
Final Due	04-16-15	04-01-15
Public Comment Period	NA	NA
Public Meeting	**NA**	**NA**

South Base Boundary Groundwater Treatment Plant Monthly Data Sheet

Report Number: 176 **Reporting Period: 01 April 2015 – 01 May 2015** **Date Submitted: 15 May 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 April 2015 reporting period.

Table 1 – Operations Summary – April 2015

Initial Data Collection:	04/01/2015 13:20	**Final Data Collection:**	05/01/2015 16:00
Operating Time: **SBBGWTP:**	459 hours	Percent Uptime: **SBBGWTP:**	63%
Electrical Power Usage: **SBBGWTP:**	2,040 kWh (2,795 lbs CO_2 generated[a])		
Gallons Treated: **1.7 million gallons**		Gallons Treated Since July 1998: **890 million gallons**	
Volume Discharged to Union Creek: **1.7 million gallons**			
VOC Mass Removed: **0.71 lbs**[b]		VOC Mass Removed Since July 1998: **459.3 lbs**	
Rolling 12-Month Cost per Pound of Mass Removed: $3,153[c]			
Monthly Cost per Pound of Mass Removed: $3,986			

lbs = pounds

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

[b] Calculated using April 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	Offline *	EW736x05	Offline	EW01x29	1.6	EW01x30	11.6
EW02x05	0.3	EW737x05	Offline	EW02x29	2.9	EW02x30	1.0
EW03x05	Offline	EW742x05	Offline	EW03x29	2.1	EW03x30	2.9
EW731x05	Offline	EW743x05	Offline	EW04x29	9.0	EW04x30	12.1
EW732x05	Offline	EW744x05	Offline	EW05x29	3.6	EW05x30	2.1
EW733x05	Offline	EW745x05	Offline	EW06x29	4.9	EW06x30	Dry
EW734x05	Offline *	EW746x05	Offline	EW07x29	2.5	EW711x30	2.4
EW735x05	1.3						
FT005 Total:	**1.6**			**SS029 Total:**	**26.6**	**SS030 Total:**	**32.1**

SBBGWTP Average Monthly Flow[c]: 49.72 gpm

* These extraction wells are offline due to pump or other malfunction.
[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 *2008 Annual Remedial Process Optimization Report for the Central Groundwater Treatment Plant, North Groundwater Treatment Plant, and South Base Boundary Groundwater Treatment Plant.*
[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] Transmission issues, flowrate not recorded
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	07 April 2015	12:00	13 April 2015	13:15	System taken off line to prepare for and perform carbon change out of primary carbon vessel on 8 April 2015. System restarted for sampling on 16 April 2015.
SBBGWTP	16 April 2015	13:00	21 April 2015	13:00	System samples collected on 16 April 2015 and the system taken off line while waiting for results. System restarted on 21 April 2015.

-- = 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 16 April 2015 sampling event are presented in Table 4. The total VOC concentration (49.5µg/L) in the influent sample increased from the March 2015 sample results (43.3 µg/L). 1,2-DCA (0.31 J µg/L), chloroform (0.24 J µg/L), cis-1,2-DCE (2.7 µg/L) and TCE (46.2 µg/L) were detected at the influent sampling location. No contaminants were detected at the midpoint or effluent sampling locations. A carbon change out of the primary carbon vessel was completed on 8 April 2015. Sample results following this carbon change out have confirmed the effectiveness of the new carbon.

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 April 2015 to 62.7 gpm from the March 2015 flowrate of 75.3 gpm due to downtime and decreased gallons treated.

All of the system down time during April was due to carbon change out. During the change out process, the system is typically taken offline for an extended period of time. The SBBGWTP was taken off line on 7 April 2015 to drain water in the primary carbon vessel in preparation of a carbon change out on 8 April 2015. Following the change out, the new carbon was left to soak until 13 April 2015, at which time the system was restarted prior to monthly sample collection on 16 April 2015. The system was taken off line following sampling on 16 April 2015 while waiting for sample results to confirm effective treatment with the new carbon. The system was brought back online on 21 April 2015.

Wells EW01x05 and EW734x05 were off line for most of April 2015 due to a repeatedly tripped circuit breaker for those extraction well pumps. The breaker was switched out at EW734x05 in March 2015, but has continued to trip. Further troubleshooting will continue to identify and fix the problem in order to maintain consistent run-time.

Optimization Activities

No optimization activities were performed in April 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 2,795 pounds of GHG during April 2015. This amount is lower than the March 2015 amount of 12,001 pounds of GHG, which is due to the lower runtime.

TABLE 4
Summary of Groundwater Analytical Data For April 2015 – South Base Boundary Groundwater Treatment Plant

Constituent	Instantaneous Maximum* (µg/L)	Detection Limit (µg/L)	N/C	16 April 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	ND	ND
1,1-Dichloroethane	5.0	0.50	0	ND	ND	ND
1,2-Dichloroethane	0.5	0.15	0	0.31 J	ND	ND
1,1-Dichloroethene	5.0	0.19	0	ND	ND	ND
cis-1,2-Dichloroethene	5.0	0.19	0	2.7	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	46.2	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

* 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

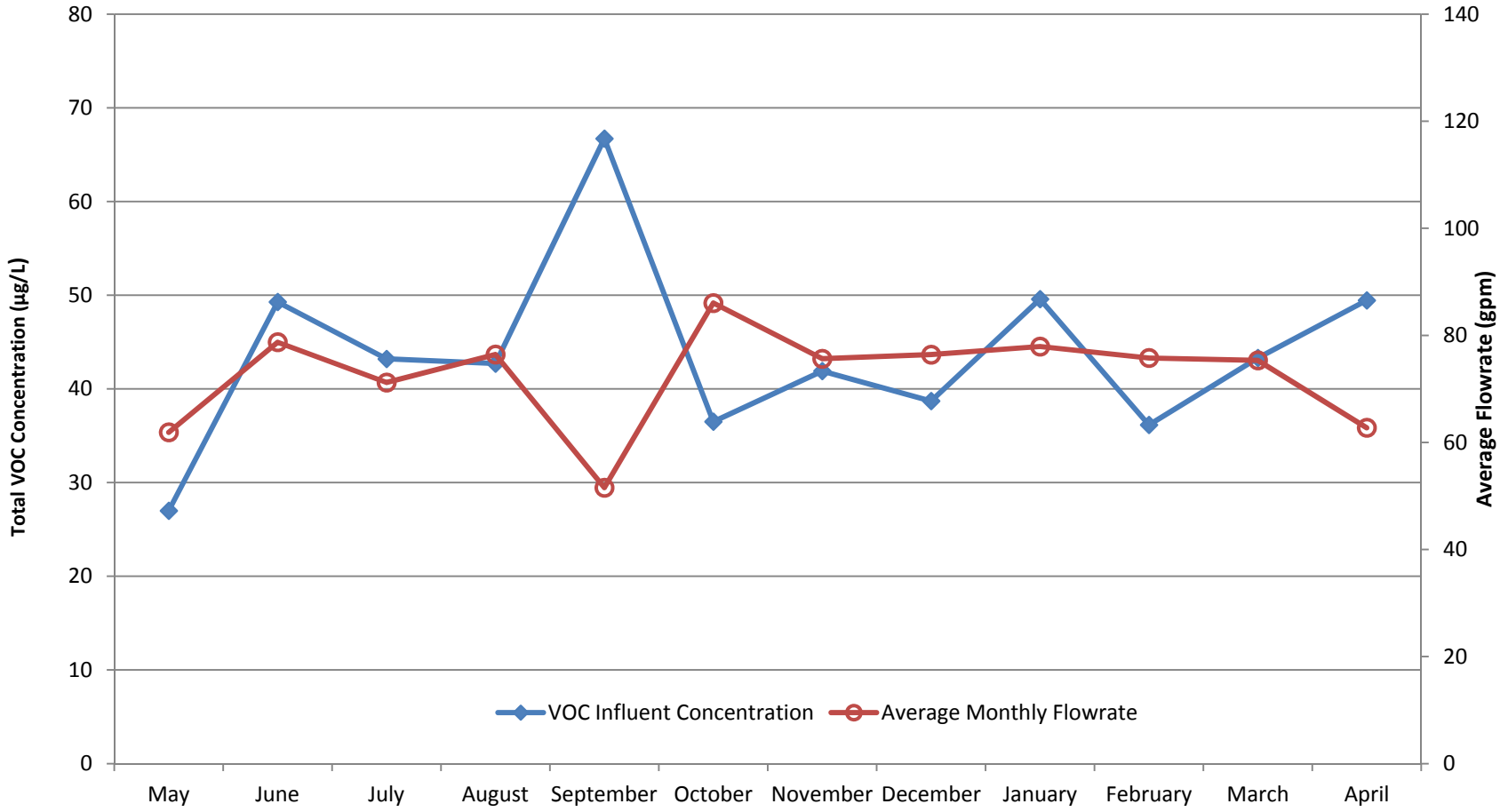
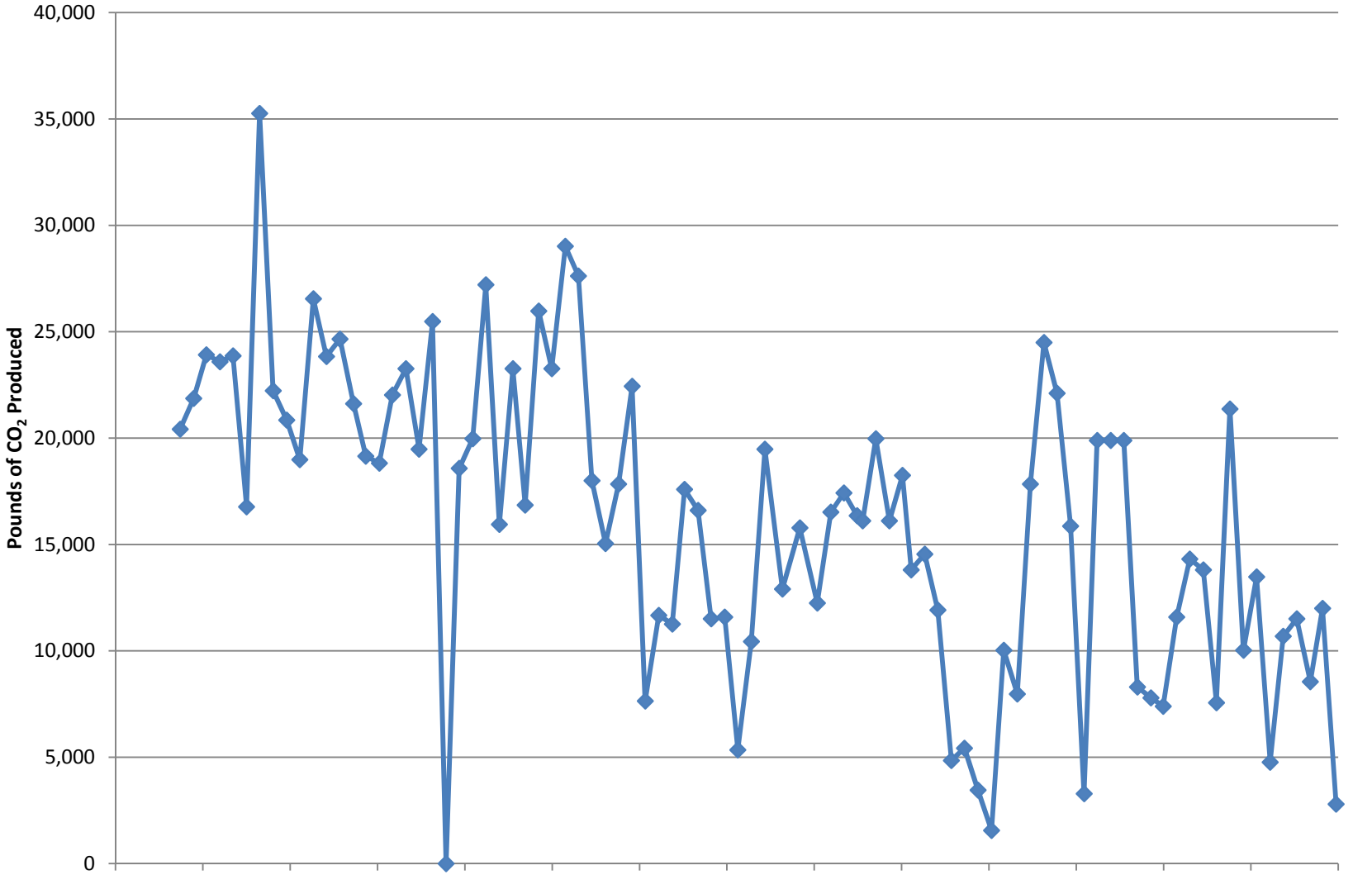


Figure 2

Equivalent Pounds of CO_2 Produced by the South Base Boundary Groundwater Treatment Plant



Central Groundwater Treatment Plant Monthly Data Sheet

Report Number: 189 **Reporting Period: 01 April 2015 – 24 April 2015** **Date Submitted: 15 May 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 April 2015 reporting period.

Table 1 – Operations Summary – April 2015

Initial Data Collection:	4/01/2015 14:30	**Final Data Collection:**	04/24/2015 13:36		
Operating Time:		Percent Uptime:		Electrical Power Usage:	
CGWTP:	551 hours	**CGWTP:**	100%	**CGWTP:**	2,019 kWh (2,766 lbs CO_2 generated[a])

Gallons Treated: **1 million gallons**

Gallons Treated Since January 1996: **510 million gallons**

VOC Mass Removed from groundwater:

2.72 lbs[b]

VOC Mass Removed Since January 1996:

2,717 lbs from groundwater

8,686 lbs from vapor

Rolling 12-Month Cost per Pound of Mass Removed: $950[c]

Monthly Cost per Pound of Mass Removed: $1,042

[a] Based on Department of Energy estimate that 1 kilowatt hour generated produces 1.37 pounds of GHG.
[b] Calculated using April 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[d]	Offline
EW605x16	6.8[d]	Offline
EW610x16	2.8[c]	Offline
CGWTP	30.1	--
WTTP	--[e]	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 2015.
[c] Flow rate based on instantaneous, end of the month reading for April 2015.
[d] Flow rate estimated. Flow rate not being transmitted to SCADA, or pump not running at the time of system reads, though the wells are operational.
[e] Groundwater extraction at sites feeding into the WTTP is shut down in accordance with the GW Record of Decision (ROD).
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[a]		Restart[a]		Cause
	Date	Time	Date	Time	
CGWTP					
	NA	--			

-- = Time not recorded
[a] Shutdown and restart times estimated based on field notes
CGWTP = Central Groundwater Treatment Plant
NA = not applicable

Summary of O&M Activities

Monthly groundwater samples were collected at the CGWTP on 16 April 2015. Sample results are presented in Table 4. The total VOC concentration (328.49 µg/L) in the April 2015 influent sample has increased since the March 2015 sample (297.10 µg/L) was collected. Concentrations of cis-1,2-DCE (56.4 µg/L), trans-1,2-DCE (2.7 µg/L), and TCE (238 µg/L) were detected at the influent sampling location along with trace amounts of 1,1-DCE, 1,2-dichlorobenzene, tetrachloroethene, and vinyl chloride. Vinyl chloride was detected at a concentration of 0.31 J µg/L after the first carbon vessel, and 0.5 J µg/L after the second carbon vessel, but no detections were observed at the effluent sampling location.

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 remained consistent in April 2015 with the flowrate measured in March 2015 (approximately 30.1 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 April 2015, and was brought back on line from 10 April to 24 April 2015, then turned off again. The bioreactor pump is scheduled to be brought back online on May 8, 2015.

Optimization Activities

No optimization activities occurred at the CGWTP in April 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 2,766 pounds of GHG during April 2015. This is a decrease from the amount produced in March 2015 (approximately 3,846 pounds) which is the consistent with the shorter observation time.

TABLE 4
Summary of Groundwater Analytical Data for April 2015 – Central Groundwater Treatment Plant

Constituent	Instantaneous Maximum* (µg/L)	Detection Limit (µg/L)	N/C	16 April 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	58.9	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	0.57	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	265	ND	ND	ND
trans-1,2-Dichloroethene	5.0	0.33	0	2.8	ND	ND	ND
Vinyl Chloride	0.5	0.18	0	0.23 J	0.31 J	0.5 J	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 Suspended Solids (mg/L)	NA	10	0	ND	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

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	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 March 2015
	10 April 2015	24 April 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

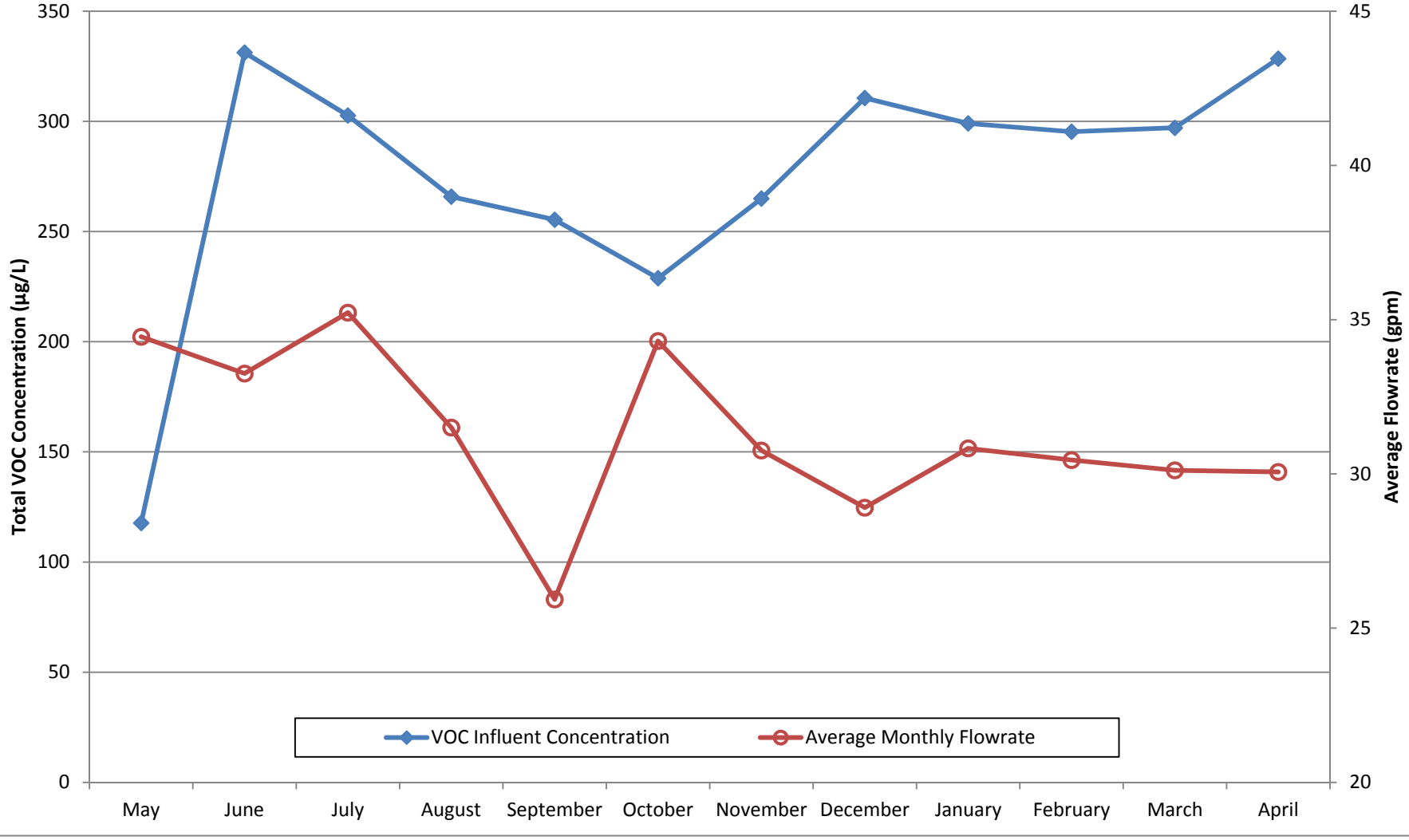
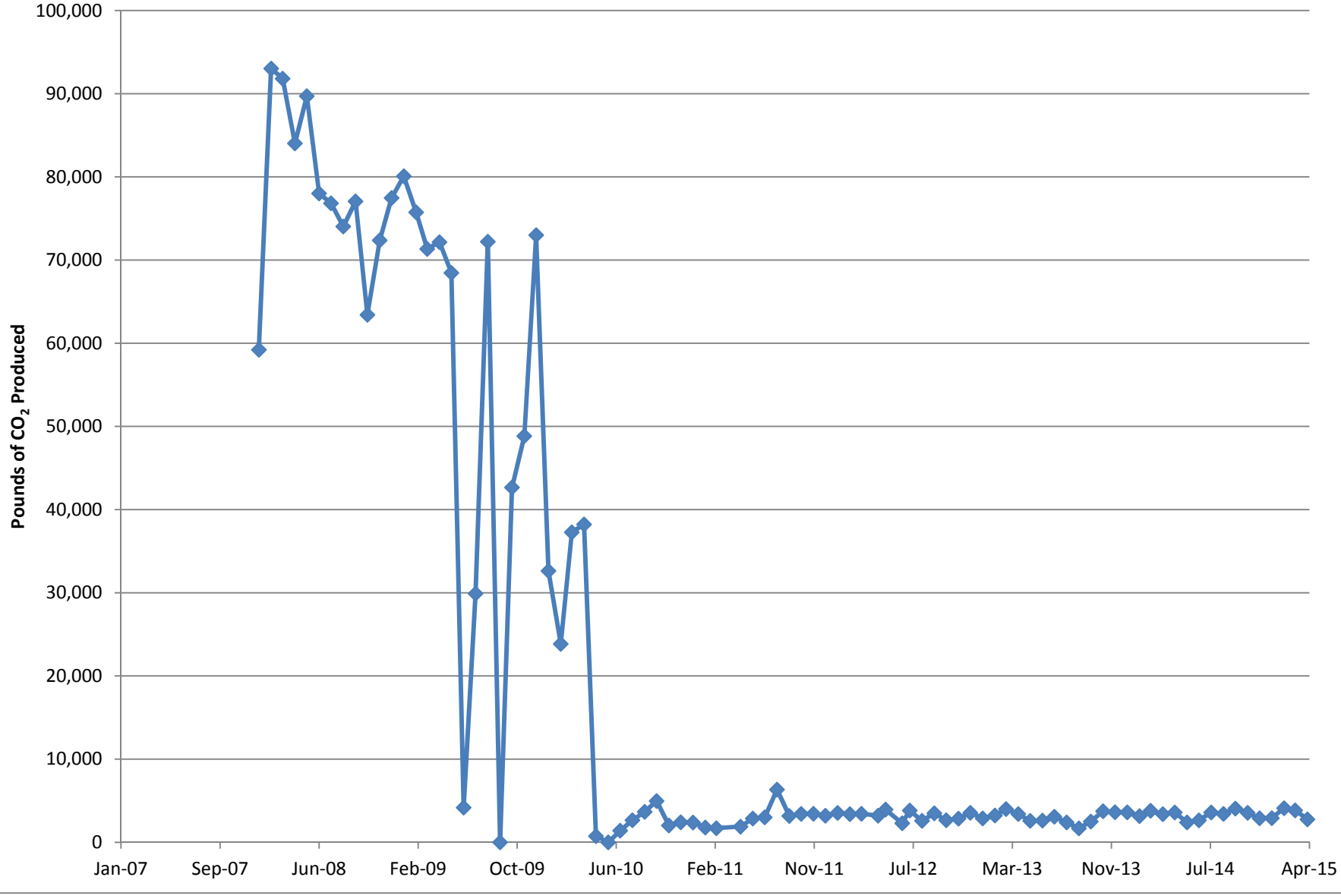


Figure 2

Equivalent Pounds of CO_2 Produced by the Central Groundwater Treatment Plant



Site ST018 Groundwater Treatment Plant Monthly Data Sheet

Report Number: 050 **Reporting Period: 01 April 2015 – 04 May 2015** **Date Submitted: 15 May 2015**

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

System Metrics

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

Table 1 – Operations Summary – April 2015

Initial Data Collection:	04/01/2015 13:20	**Final Data Collection:**	05/04/2015 14:20
Operating Time:		Percent Uptime:	Electrical Power Usage:
ST018GWTP: 793 hours		**ST018GWTP:** 100%	**ST018GWTP:** 151 kWh (207 lbs CO_2 generated[a])
Gallons Treated: **256,870 gallons**		Gallons Treated Since March 2011: **7.42 million gallons**	
Volume Discharged to Sanitary Sewer: **256,870 gallons**		Final Totalizer Reading: **7,309,500 gallons**	
Cumulative Volume Discharged to Sanitary Sewer since 1 November 2014: **926,415 gallons**			
BTEX, MTBE, TPH Mass Removed: **0.09 lbs**[b]		BTEX, MTBE, TPH Mass Removed Since March 2011: **31.3 lbs**	
MTBE (Only) Removed: **0.07 lbs**[b]		MTBE (Only) Mass Removed Since March 2011: **7.0 lbs**	
Rolling 12-Month Cost per Total Pounds of Mass Removed: $8,349[c]			
Monthly Cost per Pound of Mass Removed: $30,763[d]			

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

[b] Calculated using April 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	1.65	793
EW2016x18	1.44	793
EW2019x18	1.42	793
Site ST018 GWTP	5.40	793

[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	N/A	--			

[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 17 April 2015. Results are presented in Table 4. The complete April 2015 laboratory data report is available upon request.

The influent concentration for MTBE during the April 2015 sampling was 33.8 µg/L, which is a decrease from the March 2015 sample (47.30 µg/L). Trace amounts of 1,2-dichlorobenzene, benzene, ehtylbenzene, m,p-xylene, and toluene were also detected at the influent sampling location. 1,2-dichlorobenzene and TCE were also detected after the second carbon vessel. No contaminants were detected at the effluent sample location in April 2015.

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

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. April 2015 represents the highest amount of groundwater treated and discharged by the ST018GWTP. This increase is likely due to consistent run-time throughout the month.

Optimization Activities

No optimization activities were performed in April 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 207 pounds of GHG during April 2015, which was an increase of GHG produced in March 2015 (197 pounds). The amount of water treated in April 2015 (256,870 gallons) was higher than that of the March 2015 treatment (236,530 gallons). The amount of GHG produced during April was representative of typical values observed during normal operation. 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 April 2015 – Site ST018 Groundwater Treatment Plant

Constituent	Instantaneous Maximum* (µg/L)	Detection Limit (µg/L)	N/C	17 April 2015 (µg/L)			
				Influent	After Carbon 1	After Carbon 2	System Effluent
Fuel Related Constituents							
MTBE	5	0.5	0	33.8	NM	ND	ND
Benzene	5	0.17	0	2.2	NM	ND	ND
Ethylbenzene	5	0.22	0	1.6	NM	ND	ND
Toluene	5	0.14	0	0.16 J	NM	ND	ND
Total Xylenes	5	0.23 – 0.5	0	2.9	NM	ND	ND
Total Petroleum Hydrocarbons – Gasoline	50	8.5	0	ND	ND	NM	ND
Total Petroleum Hydrocarbons – Diesel	50	50	0	ND	ND	NM	ND
Total Petroleum Hydrocarbons – Motor Oil	--	160	--	ND	ND	NM	ND

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

Laboratory data available on request

µg/L = micrograms per liter
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

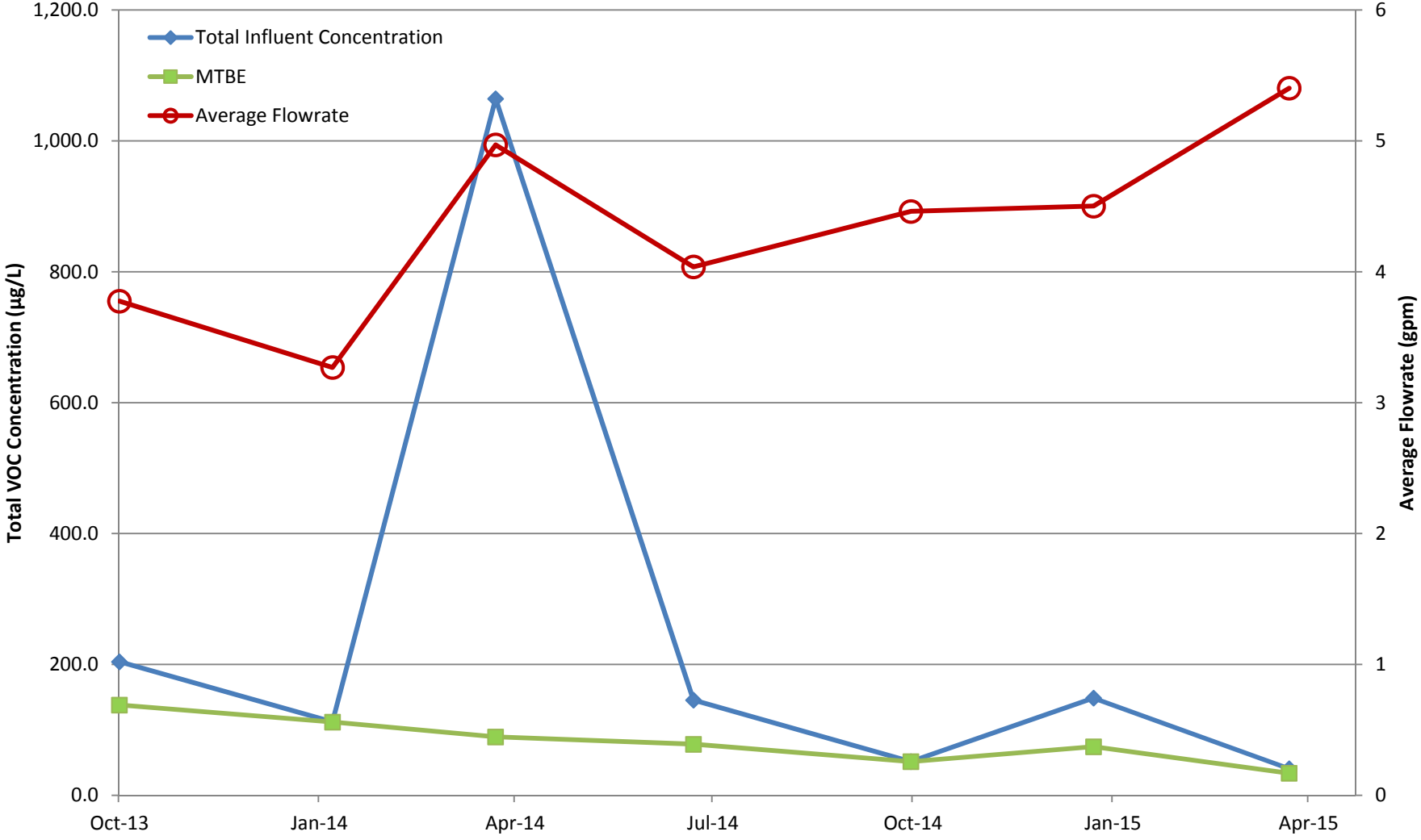
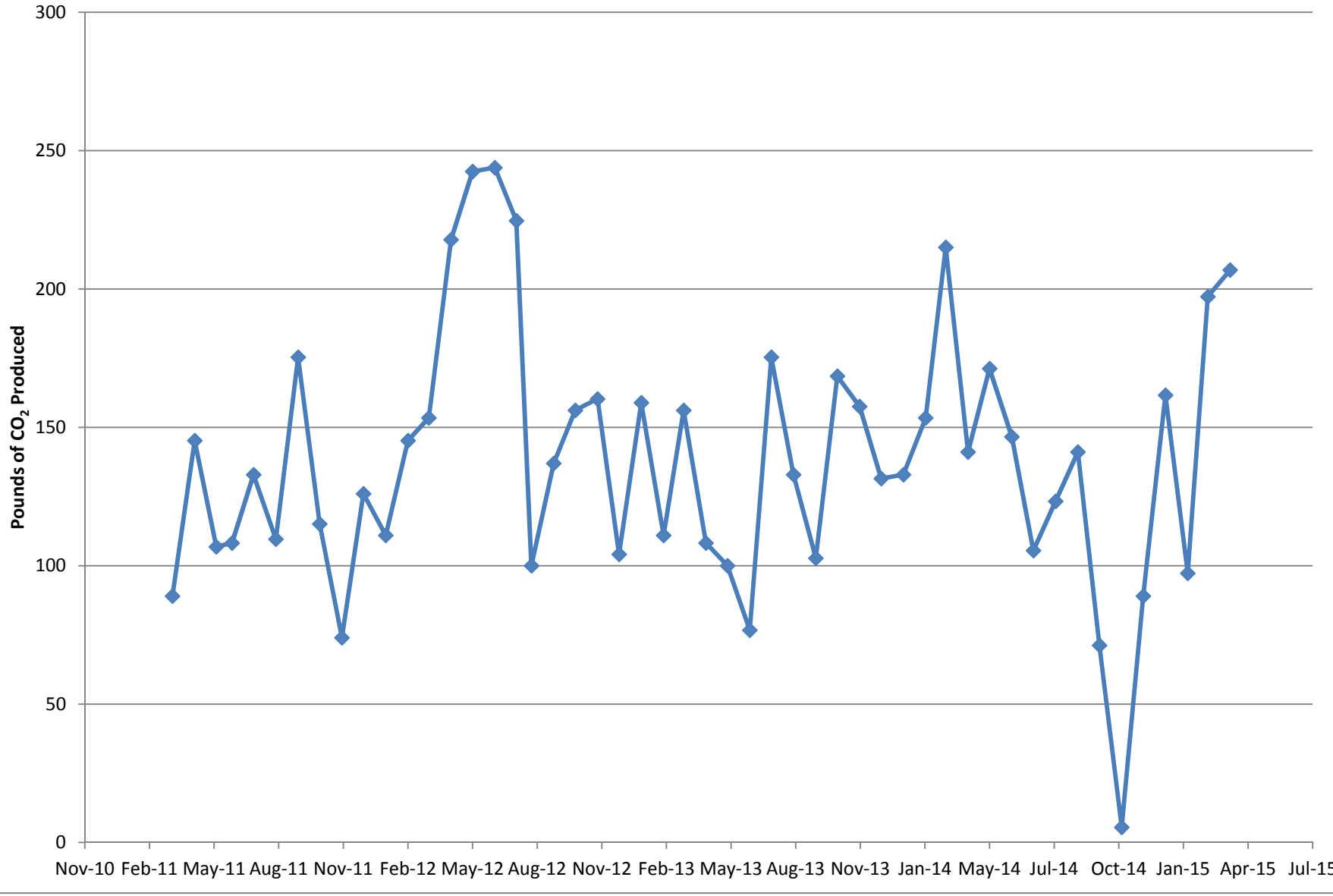


Figure 2

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



Travis AFB
Restoration Program

Program Overview

RPM Meeting

May 27, 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 Documents (cont'd)

- Proposed Plan for ROD Amendment to WABOU Soil ROD
- Proposed Plan for ROD Amendment to NEWIOU Soil, Sediment, & Surface Water ROD
- SD034 Data Gap Investigation Work Plan
- POCO Investigation Work Plan for Oil-Water Separators
- ***ST032 POCO Soil Excavation Work Plan***
- ***SD036 GW RD/RA Work Plan***
- ***SS016 GW RD/RA Work Plan***
- ***SS015 GW RD/RA Work Plan***
- ***FT005 Technology Demonstration Work Plan***

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
- ST018 Well Installation
- SS015 Well Installation
- SS016 Well Installation
- Well Development (SD036, SD037)
- ***ST018 Trench/Conveyance/Power Installation***
- ***SD036 EVO Injection***
- ***Well Development (SS015, SS016)***
- ***Baseline Sampling (SS015, SS016)***
- ***SS014 Data Gap Investigation***

Documents In-Progress

CERCLA

- ***SD031 Technology Demonstration Construction Completion Report***
- Old Skeet Range PAH Delineation Report
- DP039 GW RD/RA Work Plan
- ***2014 Annual CAMU Monitoring Report***

Documents In-Progress

POCO

- ***CG508 Site Investigation/Site Closure Request Report***
- SS014 POCO Technology Demonstration Work Plan
- ST028 POCO Work Plan

Field Work In-Progress

- ***GRIP Sampling (annual)***
- ***SD034 Data Gaps Investigation***
- ***SD037 EVO Injection***
- ***Oil Water Separators Site Investigation***

Documents Planned

CERCLA

- 2014 Annual GRISR — Jun
- Community Involvement Plan — Jul
- Sites SD036 and SD037 Remedial Action Construction Completion Report — Jul
- ***ROD Amendment for NEWIOU Soil, Sediment, and Surface Water ROD*** — ***Jul***
- ***ROD Amendment for WABOU Soil ROD*** — ***Jul***
- ***Site SS016 Groundwater Remedial Action Construction Completion Report*** — ***Aug***
- ***Site SS015 Groundwater Remedial Action Construction Completion Report*** — ***Aug***

Documents Planned

POCO

- ST018 POCO Construction Completion Report Jul

Field Work Planned

CERCLA

• SS015 EVO Injection	Jun
• SS016 EVO Injection	Jun
• TA500 Data Gaps Investigation	Jun
• FT005 Injection Well Installation	Jun
• FT004 Injection Wells	Jun
• DP039 Well Installation	Jun
• SS030 Trench/Conveyance/Power Installation	Jun
• FT004 Trench/Conveyance/Power Installation	Jul
• ***FT005 Trench Installation***	***Jul***
• ***FT004 EVO Injection***	***Aug***
• ***FT005 EVO Injection***	***Aug***
• ***DP039 Infiltration Trench Installation***	***Aug***
• ***DP039 EVO Injection***	***Sep***

Note: Contact Lonnie Duke if you would like to observe planned field work events

Field Work Planned

POCO

- ***SS014 Bioreactor Installation*** ***Jul***

Note: Contact Lonnie Duke if you would like to observe planned field work events

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