Final

Travis Air Force Base
Environmental Restoration Program
Restoration Program Manager's
Meeting Minutes
15 September 2021, 0930 Hours

Mr. Lonnie Duke of the Air Force Civil Engineer Center (AFCEC) Restoration Installation Support Section (ISS) conducted the Restoration Program Manager's (RPM) teleconference on 15 September at 0930 hours.

The 60 AMW/CC at Travis Air Force Base (AFB) has directed Health Protection Condition (HPCON) Bravo + (changed from HPCON Bravo) in response to the evolving COVID-19 public health situation in the local area. Masks are required on-base, regardless of vaccination status. The base continues to encourage teleworking and virtual meetings in place of in-person meetings. Essential missions will continue, and visitors are permitted with an approved base pass.

All attendees participated via telephone or Microsoft TEAMS due to increased teleworking measures meant to reduce the number of employees on the base at one time. Attendees included:

Lonnie Duke	AFCEC/CZOW
Chet Storrs	AFCEC/CZOW
Mobashir Ahmad	AFCEC/CZOW
Angel Santiago	AFCEC/CZOW
Dylan Hickey	AFCEC/CZOW
Dave Leeson	AFCEC/CZRW
Kurt Grunawalt	Travis AFB 60 AMW/JA
Rich Anderson	USACE-Omaha
Jessica Faragalli	USACE-Sacramento
Brian Boccellato	USACE-Omaha
Alan Soicher	USACE-Omaha
Nadia Hollan Burke	EPA
David Elias	RWQCB
Ciroos Liaghat	RWQCB
Kimiye Touchi	DTSC
Kerry Rasmussen	DTSC
Megan Duley	SRS
Diane Escobedo	SRS
Matt Mayry	SRS
Gaby Atik	FPM
Chris Coonfare	FPM
Lynette Mockry	FPM
Mark Wanek	SRS
Leslie Royer	CH2M/Jacobs

Jay Wilburn	CH2M/Jacobs
Jill Dunphy	CH2M/Jacobs

Handouts distributed prior to the meeting included:

Attachment 1	Meeting Agenda
Attachment 2	Master Meeting and Document Schedule
Attachment 3	SBBGWTP Monthly Data Sheet (August 2021)
Attachment 4	CGWTP Monthly Data Sheet (August 2021)
Attachment 5	LF007C GWTP Monthly Data Sheet (August 2021)
Attachment 6	ST018 GWTP Monthly Data Sheet (August 2021)
Attachment 7	Presentation: Program Update (September 2021)
Attachment 8	Travis AFB LUC Sites Update (September 2021)
Attachment 9	Travis AFB PFOS/PFOA Update (September 2021)
Attachment 10	Presentation: Phase 1 Remedial Investigation of AFFF Areas (September 2021)

I. JACOBS PBR CONTRACT UPDATES

A. ADMINISTRATIVE

1. Agenda and Introductions

Mr. Duke reviewed the agenda for the meeting.

Mr. Duke introduced Ms. Kerry Rasmussen of the Department of Toxic Substances Control (DTSC). She is the new public participation specialist. He also introduced Mr. Dylan Hickey of Travis AFB. Mr. Hickey works at the Travis Environmental Office and is particularly interested in the LUC updates as well as learning more about the CERCLA process as it relates to PFAS.

Mr. Duke reintroduced Ms. Jessica Faragalli of the U.S. Army Corps of Engineers (USACE) Sacramento District, who announced that the FPM/Jacobs team was awarded the Optimized Remediation Contract approximately two weeks ago. She introduced Mr. Gaby Atik (FPM Program Manager) and Mr. Chris Coonfare (FPM Project Manager).

Mr. Atik mentioned that he has been supporting the Air Force for over 20 years, and Plant 42 for many years. He is excited for the next 10 years working with the Travis team and Jacobs.

2. Previous Meeting Minutes

There were no DTSC or Regional Water Quality Control Board (RWQCB) comments on the content of the August 2021 RPM Meeting Minutes. Ms. Burke of the Environmental Protection Agency (EPA) noted an extra period in a sentence on Page 3, and a formatting issue in the Jacobs Action Items table. These items will be corrected in the Final meeting minutes.

3. Action Item Review

Action Item 1: Ms. Royer will provide the most recent treatment plant O&M manuals to the EPA for their document repository by the end of the PBC POP. September 2021 update: Ms. Royer will request a DoDSAFE link from Mr. Storrs in the coming weeks and will upload it there. Mr. Duke will provide the O&M manuals to the regulatory agencies via DoDSAFE and Mr. Storrs will also upload them to the Administrative Record. This action item remains open.

Action Item 4: Ms. Royer will look at established background concentration values for metals at the South Base Boundary GWTP in the Remedial Investigation Report for comparison to occasional exceedances in the effluent samples. September 2021 update: A column indicating background values for metals has been added to the analytical results table in the monthly data sheets for this year's metals sampling event. A similar column will be added in future monthly data sheets when the metals sampling event occurs. Table 5 of the June 2021 monthly data sheet has been updated with the background metals concentrations and source citation. The revised data sheets were included with the final July RPM meeting minutes. This action item is now closed.

4. 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 is scheduled for 1400 on 21 October 2021. It will be held as a teleconference via MSTeams.

Mr. Storrs suggested that all RPM meetings planned for 2022 switch to teleconference via MSTeams until all three regulatory agencies are permitted to attend in person. At that time, the schedule will resume to alternating in-person meetings and teleconferences.

Travis AFB Master Document Schedule

There is limited capability for producing document hard copies and CDs due to ongoing COVID-19 restrictions. For now, electronic versions of small documents will be emailed, and larger versions will be distributed via DOD SAFE. Hard copies and CDs cannot be made at the present time due to the CH2M/Jacobs offices being closed for COVID-19, with no access to reproduction equipment.

— Travis AFB AFFF Remedial Investigation Work Plan: There was no change to the schedule. With regulatory concurrence, the AFCEC/USACE and Oneida team conducted the initial fieldwork event using red line strike out (RLSO) Draft Final RI Work Plan document. Response to additional Agency comments is currently being developed and will need to be resolved in order to finalize the planning document. Mr. Storrs provided an update to the RTC resolutions noting anticipated submittal within the next few days.

— Travis AFB AFFF Remedial Investigation Quality Assurance Program Plan (QAPP): There was no change to the schedule. With regulatory concurrence, the AFCEC/USACE and Oneida team conducted the initial fieldwork event using RLSO Draft Final QAPP Work Plan document. Response to additional Agency comments is currently being developed and will need to be resolved in order to finalize the planning document. Mr. Storrs provided an update to the RTC resolutions noting anticipated submittal within the next few days.

— Quarterly Newsletter (October 2021): The Draft to Agencies/RAB due date was changed to 20 September 2021, the rest of the dates changed accordingly. Mr. Storrs noted that the Oneida team and USACE are currently working on an article for the October Guardian.

— 2020 Annual Groundwater Remedy Implementation Status Report (GRISR): The Response to Comments and Final due dates were changed to 9 September 2021 to reflect actual submittal date.

— Vapor Intrusion Assessment Report: The Response to Comments and Final due dates were changed to 27 September 2021. Responses to comments were sent to the regulatory agencies for review on 27 September, with a request for concurrence by 17 September. Ms. Touchi noted that her reviewer is on leave and will not be able to provide comment on the RTCs until early next week. Mr. Storrs stated that this document must be submitted by the end of the current contract,

so requested that it be prioritized as soon as her reviewer is back in the office.

— 2020 Annual Site LF007 CAMU Monitoring Report: There was no change to the schedule.

— Potrero Hills Annex (FS, PP, and ROD): There were no updates to the schedule.

— Community Relations Plan (CRP) Update: There was no change to the schedule. This document will be updated as a priority in the upcoming Optimized Remediation Contract.

— MOVED TO HISTORY:

- Site SD031B POCO Additional Site Investigation Report
- Technology Demonstration Technical Memorandum

B. CURRENT PROJECTS

1. Treatment Plant Operation and Maintenance Update

South Base Boundary Groundwater Treatment Plant, August 2021 (Attachment 3)

The South Base Boundary Groundwater Treatment Plant (SBBGWTP) performed at 100% uptime, and 7.127 million gallons of groundwater were extracted and treated in August 2021. All treated water was discharged to Union Creek. The average flow rate for the SBBGWTP was 142.1 gallons per minute (gpm). Electrical power usage was 22,409 kilowatt hours (kWh), and approximately 18,183 pounds of CO_2 were created (based on DOE calculation). Approximately 1.72 pounds of volatile organic compounds (VOCs) were removed in August. The total mass of VOCs removed since startup of the system is 541.7 pounds.

The system influent and effluent were analyzed for trivalent and hexavalent chromium. Hexavalent chromium was detected in influent samples. It was also detected in effluent samples at levels exceeding the discharge limit for the NPDES permit. No background concentration has been established. Confirmation samples from the influent, effluent, and receiving waters were collected and results will be conveyed to the regulatory agencies when available, and included in the September 2021 Monthly Data Sheet. Mr. Duke noted that the team consulted a chemist regarding the hexavalent chromium levels, who said that false positives are common.

Troubleshooting was performed on four extraction wells. Details are provided in Attachment 3.

No optimization activities were conducted in August 2021.

Central Groundwater Treatment Plant, August 2021 (Attachment 4)

The Central Groundwater Treatment Plant (CGWTP) performed at 100% uptime with approximately 1,067,030 gallons of groundwater extracted and treated in August 2021. All treated water was discharged to the storm sewer system which discharges to Union Creek. The average flow rate for the CGWTP was 21.2 gpm. Electrical power usage was 1,340 kWh for all equipment connected to the Central Plant, and approximately 1,880 pounds of CO_2 were generated. Approximately 1.8 pounds of VOCs were removed from groundwater by the treatment plant in August. The total mass of VOCs removed since the startup of the system is 11,574 pounds.

The system influent and effluent were analyzed for trivalent and hexavalent chromium. Neither were detected; therefore, future samples will be for total chromium; per the NPDES permit.

In August 2021, extraction well EW002x16 was temporarily offline because the level control was tripped. The well was restarted without issue.

No optimization activities were conducted in August 2021.

LF007C Groundwater Treatment Plant, August 2021 (Attachment 5)

The Subarea LF007C Groundwater Treatment Plant (LF007C GWTP) performed at 99.9% uptime with approximately 144,605 gallons of groundwater extracted and treated in August 2021. All treated water was discharged to Northgate Pond (formerly known as the Duck Pond) for beneficial reuse. The average flow rate was 2.9 gpm. Approximately 9.40 x 10^{-4} of a pound of VOCs was removed from groundwater by the treatment plant in August. The total mass of VOCs removed since the startup of the system is 174.4 pounds. There was no electrical power usage statistics because this plant operates on solar power only.

The system influent and effluent were analyzed for trivalent and hexavalent chromium. Neither were detected; therefore, future samples will be for total chromium; per the NPDES permit.

On 4 August 2021, the solar panels were cleaned to improve efficiency. On 24 August 2021, the LF007 GWTP was shut down for approximately 1 hour to repair a small leak on the lead carbon vessel. The system was restarted without issue.

No optimization activities were conducted in August 2021.

ST018 Groundwater (MTBE) Treatment Plant, August 2021 (Attachment 6)

Site ST018 (MTBE) Treatment Plant (ST018 GWTP) performed at 83.7% uptime with approximately 86,590 gallons of groundwater extracted in August 2021. All groundwater was discharged to the Fairfield – Suisun Sewer District. The average flow rate for the ST018 GWTP was 2.0 gpm. Electrical power usage for the month was 53 kWh for all equipment connected to the ST018 GWTP. The total CO_2 discharge equivalent equates to approximately 39 pounds. Approximately 0.04 of a pound of MTBE, BTEX, VOCs, and TPH was removed in August by the treatment plant, and 0.01 of a pound of MTBE-only was removed from groundwater. The total BTEX, MTBE and TPH mass removed since the startup of the system is 50.1 pounds, and the total MTBE mass removed since startup of the system is 12.3 pounds.

Note: Electrical power use at the ST018 GWTP is only for the alarm system and a pump that pushes influent tank water to the Fairfield-Suisun Sanitary Sewer line. The four groundwater extraction pumps in the system are all solar powered.

Between 28 July and 3 August 2021, the system was mostly offline because of a high water level alarm. On 3 August, the holding tank was drained and the system started without issue. On 4 August, the solar panels at the extraction wellheads were cleaned to improve efficiency.

No optimization activities were conducted in August 2021.

Mr. Elias said that Ms. Constantinescu has concerns about extraction of PFAS in the GWTPs and is therefore under the impression that effluents from the GWTPs are being monitored for PFAS. Mr. Duke replied that the current Performance-Based Remediation (PBR) contract, which is active through the end of September 2021, does not include sampling for PFAS, but as part of the AFFF RI, samples were collected from the influent and effluent of three of the GWTPs to gauge current status. The data will be presented in the AFFF RI Report along with a determination for how to proceed. Mr. Elias requested the data as soon as possible due to concerns about discharging to surface water and added that a discussion will be needed. Mr. Storrs noted that they will be presented in the AFFF RI report RTCs, and concerns will be addressed with remedial actions for the GWTPs, not as part of the AFFF RI contract.

C. PRESENTATIONS

1. Presentation: Program Update (see Attachment 7)

Ms. Royer reported on the status of fieldwork and documents that have been completed, are in progress, or are upcoming. Please refer to Attachment 7 for the full briefing. Ms. Royer noted that any outstanding reviews need to be completed as soon as possible because the current PBR contract ends this month.

D. PROGRAM ISSUES/UPDATE

Mr. Duke let the team know that he has accepted a position with CZPW, the branch of AFCEC dealing with pending legislation and regulatory issues. He will have input on legislation that affects Regions 7, 8, 9 and 10. He has been with the Travis Environmental Restoration Program for 18 years. He will still support the team through the end of 2021 and will still be assigned to Travis AFB, a few buildings down from where he is currently. If he is not replaced upon his full transition to his new role, Mr. Storrs will serve as the Acting RPM. He included an article in the upcoming Guardian about his transition.

E. NEW ACTION ITEM REVIEW

1. Mr. Storrs will distribute the updated O&M manuals to the regulatory team via DoDSAFE and will also upload them to the Administrative Record.

2. Mr. Duke will provide a graphic to the regulatory team illustrating the status of the KC-46 hangar and WTTP pipeline work.

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F. ACTION ITEMS

Item #	Responsible	Action Item Description	Due Date	Status
1.	Ms. Royer	Ms. Royer will provide the most recent treatment plant O&M manuals to the EPA for their document repository by the end of the PBC POP. Ms. Royer will arrange upload of the O&M manuals to DoDSAFE via Mr. Storrs.	30 September 2021	Open
2.	Mr. Storrs	Mr. Storrs will distribute the updated O&M manuals to the regulatory team via DoDSAFE and will eventually upload them to the Administrative Record.	30 September 2021	Open
3.	Mr. Duke	Mr. Duke will provide a graphic to the regulatory team illustrating the status of the KC-46 hangar and WTTP pipeline work.	21 October 2021	Open

II. TRAVIS AFB UPDATES

A. Land Use Control Sites, August 2021 (Attachment 8)

Mr. Duke reported on the status of the LUC sites at Travis AFB. Please refer to Attachment 8 for the full briefing. Highlights of the discussion include:

Mr. Hickey was on the call; he has familiarity with the LUCs and where wells will be installed in the coming years.

Going forward, the LUC sites and Annual Report will be the responsibility of the ORC contractor, but Travis AFB will still keep track of work at sites with LUCs.

KC-46 Hangar Update: The West Transfer and Treatment Plant (WTTP) has been offline for years but was left in place as a contingency remedy. It is no longer used because the technology has been replaced by several in-situ remediation technologies such as the SPOC and bioreactors; therefore it will likely not be needed again and decommissioning may be considered in the future. Since no agreement with the regulatory agencies had been made for decommissioning the WTTP, Mr. Duke had assumed that the piping between the

WTTP and the CGWTP must be relocated rather than being capped and abandoned in place. However, both Ms. Burke and Ms. Touchi expressed interest in allowing the piping to be disconnected and capped, rather than going to the expense of relocating it, if the likelihood of it ever being used again was very low. If in the future, the piping was needed, it could be reconnected to the CGWTP; and the expense would only be incurred if it was needed. Mr. Duke will send a figure to the regulatory agencies for additional consideration.

Ms. Touchi inquired if the vapor barrier information will be included in forthcoming LUC reports. Mr. Duke responded that the information is to be included as part of the annual report and for the as-built reports for the hangar itself. There will be a report of all of the environmental work that has been done at the site, including all vapor intrusion mitigation work. He said that he will ensure that the Restoration team gets a copy so the information is onhand for quick reference. He added that because it is a MilCon project, it may take time to get the requested information.

ROD Language regarding LUCs: Mr. Duke said that he recently sent out a courtesy notification to the regulatory agencies regarding fuel probe sampling. The sample locations overlie a groundwater plume and are located in the airfield, and the activity is strictly O&M, not CERCLA. He wanted to provide situational awareness for what will be happening because he knows notifications will be coming to the agencies through the TerraDex alert system. He received several unexpected comments and questions related to the project design, worker protection, vernal pool protection, and others that seemed out of place for an O&M notification. He discussed the comments received with Air Force attorneys, who said that the language in the ROD is meant to trigger review if a hospital or daycare or other sensitive use is planned on an area with LUCs; not routine O&M work. Mr. Duke added that according to Air Force Legal, concurrence from the regulatory agencies is only needed if an aspect of the CERCLA remedy is being modified and the effectiveness of the remedy may be altered or disrupted; not for routine work.

Ms. Burke noted EPA's concern is because LUCs exist for protection from contaminants, but agreed to rethink what specifics her team members evaluate in similar notifications going forward. Ms. Touchi added that DTSC and RWQCB confusion was because the request for concurrence wasn't specific to LUCs. Mr. Duke noted the feedback and said he will be more specific in future notifications.

B. PFAS PROGRAM STATUS, August 2021 (Attachment 9)

Mr. Storrs reported on the status of the PFOS/PFOA Program at Travis AFB. Please see Attachment 9 for the full briefing. He noted that the personally identifiable information for the private wells that were sampled will be redacted from the Expanded Site Investigation Report so that it can be uploaded to the Administrative Record.

Now that point of entry treatment systems have been installed, bottled water delivery can stop, but the residents must be notified first.

The media removing the PFAS from the water is a resin. The engineers are doing calculations to determine when they will need to be changed out, but Mr. Duke said that they will likely last several years.

III. SRS PFOS/PFOA CONTRACT

A. ADMINISTRATIVE

All administrative topics were discussed earlier in the RPM meeting.

B. PRESENTATIONS

1. Travis AFB Phase I RI of AFFF Sites (Attachment 10)

Mr. Mayry presented slides providing an update on the Phase I RI of AFFF sites. Please refer to Attachment 10 for the full briefing.

23 August – 2 September Sampling Event

Mr. Mayry presented an update on the recent initial groundwater sampling event held 23 August – 2 September 2021. Three wells could not be located, were paved over, or had obstructions and therefore could not be sampled. The Team collected samples at alternative wells. The specific wells were highlighted in the presentation along with photos documenting limitations. The presentation slides included additional photos from the sampling event.

Phase I Remedial Investigation Data-Driven Process

Mr. Mayry presented a diagram illustrating the current position of the team's progress in the data-driven process. Recommendations for the next steps depend on the sampling results from the initial sampling event. In coming weeks, the team will begin to receive, validate, and start evaluation of site data to help refine the CSM and develop recommendations for monitoring well installation and soil, sediment, and surface water sampling. Site information and recommendations will be presented in Stakeholder Meeting #1 and documented in UFP-QAPP Addendum #1.

AFFF and Remedial Investigation Areas

A map showing the AFFF areas and the sampled wells was presented.

C. PROGRAM ISSUES/UPDATE

None

D. NEW ACTION ITEM REVIEW

No new action items identified.

E. ACTION ITEMS

Item #	Responsible	Action Item Description	Due Date	Status
1	Megan Duley/Diane Escobedo	Send meeting minutes to Travis AFB.	22 September 2021	Attached

TRAVIS AIR FORCE BASE
ENVIRONMENTAL RESTORATION PROGRAM
RESTORATION PROGRAM MANAGER'S MEETING

The RPM Teleconference is scheduled for 9:30 AM PST on 15 September 2021. **The call-in number will be provided in the MS Teams meeting invite and also in the same email that the meeting materials are provided in. If you are able to participate via MS Teams meeting, you will see the shared documents that will be viewable by all participants.**

AGENDA

A. JACOBS PBR CONTRACT

1. ADMINISTRATIVE

    a. INTRODUCTIONS
    b. PREVIOUS MEETING MINUTES
    c. ACTION ITEM REVIEW
    d. MASTER MEETING AND DOCUMENT SCHEDULE REVIEW

2. CURRENT PROJECTS

    TREATMENT PLANT OPERATION AND MAINTENANCE UPDATE

3. PRESENTATIONS

    PROGRAM UPDATE:
    DOCUMENTS & ACTIVITIES COMPLETED, IN PROGRESS & PLANNED

4. NEW ACTION ITEM REVIEW

5. PROGRAM/ISSUES/UPDATE

B. TRAVIS UPDATES

1. CURRENT PROJECTS

    a. LUC SITES
    b. PFOS / PFOA

C. SRS PFAS RI CONTRACT

1. ADMINISTRATIVE

    a. INTRODUCTIONS
    b. PREVIOUS MEETING MINUTES
    c. ACTION ITEM REVIEW
    d. MASTER MEETING AND DOCUMENT SCHEDULE REVIEW

2. CURRENT PROJECTS

    PHASE 1 REMEDIAL INVESTIGATION OF AFFF AREAS

3. PRESENTATIONS

    PROGRAM UPDATE

4. NEW ACTION ITEM REVIEW

5. PROGRAM/ISSUES/UPDATE

NOTES: AFTER THE RPM TELECONFERENCE, BASED ON THE DISCUSSION DURING THE REVIEW OF THE MASTER MEETING AND DOCUMENT SCHEDULE, WE WILL ALLOW TIME TO HOLD A SEPARATE SPLINTER MEETING TO DISCUSS RESPONSES TO AGENCY COMMENTS ON THOSE DOCUMENTS THAT ARE IN PROGRESS, OR OTHER ISSUES IF NEEDED. ALL PARTICIPANTS ARE WELCOME TO PARTICIPATE.

2021
Annual Meeting and Teleconference Schedule

Monthly RPM Meeting[1] (Begins at time noted)	RPM Teleconference (Begins at time noted)	Restoration Advisory Board Meeting (Begins at 7:00 p.m.) (Poster Session at 6:30 p.m.)
—	01-20-21	—
—	02-17-21	—
—	03-17-21	—
—	04-15-21 (Thursday 2:00 PM)	—
—	05-19-21	—
—	06-16-21	—
—	07-21-21	—
08-18-21	—	—
—	09-15-21	—
—	10-21-21 (Thursday 2:00 PM)	—
—	11-17-21	—
—	—	—

[1] Note: Meetings and teleconferences will be held at 09:30 AM on the third Wednesday of each month unless otherwise noted.

Travis AFB Master Meeting and Document Schedule

PRIMARY DOCUMENTS		
Life Cycle	**Travis AFB AFFF RI Work Plan[2] Travis AFB, Chet Storrs SRS, Megan Duley**	**Travis AFB AFFF RI QAPP[2] Travis AFB, Chet Storrs SRS, Megan Duley**
Scoping Meeting	**NA**	**NA**
Predraft to AF/Service Center	10-27-20	10-27-20
AF/Service Center Comments Due	12-08-20	12-08-20
Draft to Agencies / RAB	03-26-21	03-26-21
Agency Comments Due	**05-26-21**	**05-26-21**
Response to Comments Meeting	06-16-21	06-16-21
Agency Concurrence with Remedy	NA	NA
Public Comment Period	NA	NA
Public Meeting	**NA**	**NA**
Response to Comments Due	06-30-21	06-30-21
Draft Final Due	06-30-21	06-30-21
Final Due	07-30-21 (TBD)	07-30-21 (TBD)

[2] Note: SRS documents will be discussed during the afternoon meeting session.

Travis AFB Master Meeting and Document Schedule

INFORMATIONAL DOCUMENTS		
Life Cycle	**Quarterly Newsletter (October 2021) Travis, Lonnie Duke**	**2020 Annual GRISR Travis AFB, Mobashir Ahmad CH2M, Levi Pratt**
Scoping Meeting	**NA**	**NA**
Predraft to AF/Service Center	08-31-21	04-27-21
AF/Service Center Comments Due	09-03-21	05-27-21
Draft to Agencies / RAB	09-20-21	06-11-21
Agency Comments Due	09-27-21	07-12-21
Response to Comments Meeting	**09-30-21**	07-21-21
Response to Comments Due	09-30-21	09-09-21
Draft Final Due	NA	NA
Final Due	10-15-21	09-09-21
Public Comment Period	NA	NA
Public Meeting	**NA**	NA

Travis AFB Master Meeting and Document Schedule

INFORMATIONAL DOCUMENTS		
Life Cycle	**Vapor Intrusion Assessment Report Travis AFB, Chet Storrs CH2M, Stephanie Curtis**	**2020 Annual Site LF007 CAMU, Monitoring, and Maintenance Report Travis AFB, Mobashir Ahmad CH2M HILL, Levi Pratt**
Scoping Meeting	**NA**	**NA**
Predraft to AF/Service Center	07-14-21	06-03-21
AF/Service Center Comments Due	07-28-21	07-06-21
Draft to Agencies / RAB	08-11-21	07-19-21
Agency Comments Due	08-25-21	08-18-21
Response to Comments Meeting	**09-08-21**	**09-02-21**
Response to Comments Due	09-27-21	09-16-21
Draft Final Due	NA	NA
Final Due	09-27-21	09-16-21
Public Comment Period	NA	NA
Public Meeting	**NA**	**NA**

Travis AFB Master Meeting and Document Schedule

PRIMARY DOCUMENTS			
	Potrero Hills Annex Travis, Lonnie Duke		
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

https://geotracker.waterboards.ca.gov/profile_report.asp?global_id=SL20299915

Travis AFB Master Meeting and Document Schedule

PRIMARY DOCUMENTS	
Life Cycle	**Community Relations Plan Update[3] Travis AFB,TBD ORC Contractor TBD**
Scoping Meeting	**NA**
Predraft to AF/Service Center	08-23-16
AF/Service Center Comments Due	09-07-16
Draft to Agencies / RAB	09-28-16 (03-22-18)
Agency Comments Due	10-28-16 (04-27-18)
Response to Comments Meeting	**TBD**
Agency Concurrence with Remedy	NA
Public Comment Period	NA
Public Meeting	**NA**
Response to Comments Due	TBD
Draft Final Due	TBD
Final Due	TBD

[3] Note: The Community Relations Plan Update will be finalized in the first year of the ORC contract.

Travis AFB Master Meeting and Document Schedule

HISTORY - INFORMATIONAL DOCUMENTS		
Life Cycle	**Technology Demonstration Technical Memorandum** **Travis AFB, Lonnie Duke** **CH2M, Tony Chakurian**	**SD031B POCO Additional Site Investigation Report** **Travis AFB, Chet Storrs** **CH2M, Levi Pratt**
Scoping Meeting	**NA**	**NA**
Predraft to AF/Service Center	01-13-21	01-28-21
AF/Service Center Comments Due	03-02-21	03-17-21
Draft to Agencies / RAB	03-16-21	04-21-21
Agency Comments Due	04-15-21	06-21-21
Response to Comments Meeting	**05-28-21**	**07-21-21**
Response to Comments Due	06-14-21 (07-23-21)	08-04-21 (07-28-21)
Draft Final Due	NA	NA
Final Due	06-14-21 (07-23-21)	08-04-21 (07-28-21)
Public Comment Period	NA	NA
Public Meeting	**NA**	**NA**

South Base Boundary Groundwater Treatment Plant Monthly Data Sheet

Report Number: 250 **Reporting Period: 29 July 2021 – 2 September 2021** **Date Submitted: 13 September 2021**

This monthly data sheet presents information regarding the South Base Boundary Groundwater Treatment Plant (SBBGWTP).

System Metrics

Table 1 presents operational data from the August 2021 reporting period.

Table 1 – Operations Summary – August 2021

Initial Data Collection:	7/29/2021 12:45	**Final Data Collection:**	9/2/2021 8:30
Operating Time:	Percent Uptime:	Electrical Power Usage:	
SBBGWTP: 836 hours	**SBBGWTP:** 100%	**SBBGWTP:**	22,409 kWh (18,183 lbs CO_2 generated[a])
Gallons Treated: **7.127 million gallons**		Gallons Treated Since July 1998: **1.279 billion gallons**	
Volume Discharged to Union Creek: **7.127 million gallons**		Gallons Treated from Other Sources: **0 gallons**	
VOC Mass Removed: **1.72 lbs**[b]		VOC Mass Removed Since July 1998: **541.7bs**	
Rolling 12-Month Cost per Pound of Mass Removed: **$21,552**[c]			
Monthly Cost per Pound of Mass Removed: **$15,969**[c]			

lbs = pounds
[a] SiteWise™ estimate that 1 kilowatt hour generated produces 0.74 pounds of GHG. Value also includes approximately 1,600 pounds of GHG from GAC change out services averaged to a per month basis.
[b] Calculated using August 2021 EPA Method SW8260C analytical results.
[c] Costs include operations and maintenance, carbon change out, 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) – August 2021

FT005				SS029		SS030	
EW01x05	Offline[a]	EW743x05	Offline[a]	EW01x29	Offline[c]	EW01x30	6.6
EW02x05	Offline[a]	EW744x05	4.2	EW02x29	7.6	EW02x30	Offline[d]
EW03x05	Offline[a]	EW745x05	9.8	EW03x29	20.0	EW03x30	15.4
EW731x05	Offline[b]	EW746x05	Offline[a]	EW04x29	5.3	EW04x30	9.5
EW732x05	Offline[a]	EW2291x05	Offline[b]	EW05x29	4.6	EW05x30	6.8
EW733x05	Offline[a]	EW2782x05	7.6	EW06x29	13.9	EW2174x30	4.3
EW734x05	7.0	EW2783x05	2.2	EW07x29	7.7	EW711x30	5.1
EW735x05	7.0	EW2784x05	11.9				
EW736x05	Offline[a]	EW2785x05	19.1				
EW737x05	Offline[a]	EW2786x05	11.3				
EW742x05	Offline[a]						
FT005 Total: 80.1				**SS029 Total: 59.1**		**SS030 Total: 47.7**	

SBBGWTP Average Monthly Flow[e]: 142.1 gpm

[a] 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.*
[b] Extraction well was taken offline because the Site FT005 TD has concluded and COCs no longer exceed cleanup goals in this extraction area.
[c] Extraction well taken offline because of persistent fouling of the well pump and associated discharge piping.
[d] Extraction well was operational; however, well was recharging.
[e] The average SBBGWTP groundwater flow rate was calculated using the Union Creek Discharge Totalizer and dividing it by the total time the system was operational.

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	--	--	--	

[a] Shutdown and restart times estimated based on field notes
SBBGWTP = South Base Boundary Groundwater Treatment Plant

Summary of O&M Activities

Monthly groundwater treatment samples were collected at the SBBGWTP on 3 August 2021. Sample results are presented in Table 4. The total VOC concentration (28.9 µg/L) in the influent sample decreased from the July 2021 sample results (32.5 µg/L). TCE was the primary VOC detected in the influent sample at a concentration of 27 µg/L. Cis-1,2-DCE and chloroform were detected in the midpoint sampling location. No VOCs were detected in the effluent sampling location. The effluent sample was analyzed for TPH-g, TPH-d, and TPH-mo, and no TPH was detected.

The system influent and effluent were also analyzed for trivalent and hexavalent chromium. Previous chromium samples collected at the SBBGWTP were rejected due to an exceedance of sample hold times (24 hours) prior to analysis. Additional samples were therefore collected again in August 2021. Sample results are presented in Table 5. Hexavalent chromium (9.3 J- µg/L) was detected in the influent sample. Hexavalent chromium (48 µg/L) was detected in the effluent sample, in excess of the discharge limit in the current NPDES permit. No background concentration of hexavalent chromium has been established. Trivalent chromium was not detected in either samples. Confirmation samples were collected for the influent, effluent, and receiving waters on 9/10/2021. Analytical results from these confirmation samples will be conveyed to the regulatory agencies when available, and in the September 2021 SBBGWTP Monthly Data Sheet.

Figure 1 presents a plot of influent VOC concentrations and average flow at the SBBGWTP over the past twelve (12) months. VOC concentrations have been seasonally variable; however, over the last 12 months the trend has increased. An overall decreasing flow rate trend was also observed in the past 12 months.

In August 2021 troubleshooting was performed on four extraction wells. The following list presents the maintenance activities and status of those extraction wells:

- EW2784x05 – The flowmeter cartridge was replaced. Well is currently online.
- EW734x05 – The pump was replaced. Well is currently online.
- EW735x05 – The flowmeter cartridge was replaced. Well is currently online.
- EW03x30 – The transducer was replaced. Well is currently online.

Optimization Activities

No optimization activities occurred at the SBBGWTP in August 2021.

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 offline that are no longer necessary for contaminant plume capture.

Figure 2 presents the historical GHG production from the SBBGWTP. In August 2021, the SBBGWTP produced approximately 18,183 pounds of GHG, which includes approximately 1,600 pounds of GHG generated from GAC change out services averaged to a per month basis.

TABLE 4
Summary of Groundwater Analytical Data for August 2021 – South Base Boundary Groundwater Treatment Plant

Constituent	Instantaneous Maximum[a] (µg/L)	Detection Limit (µg/L)	N/C	3 August 2021 (µg/L)		
				Influent	Midpoint	Effluent[b]
Halogenated Volatile Organics						
Acetone	NA	1.9	0	ND	ND	ND
Bromodichloromethane	NA	0.17	0	ND	ND	ND
Chloroform	1.9	0.16	0	ND	ND	ND
Chloromethane	NA	0.30	0	ND	ND	ND
1,1-Dichloroethane	0.50	0.22	0	ND	ND	ND
1,2-Dichloroethane	0.50	0.13	0	ND	0.16 J	ND
1,1-Dichloroethene	0.50	0.23	0	ND	ND	ND
cis-1,2-Dichloroethene	0.50	0.15	0	1.9	1.4	ND
trans-1,2-Dichloroethene	0.50	0.11	0	ND	ND	ND
Dichlorodifluoromethane	NA	0.31	0	ND	ND	ND
Tetrachloroethene	0.50	0.20	0	ND	ND	ND
1,1,1-Trichloroethane	0.50	0.16	0	ND	ND	ND
1,1,2-Trichloroethane	0.50	0.27	0	ND	ND	ND
Trichloroethene	0.65	0.16	0	27	ND	ND
Vinyl Chloride	0.90	0.10	0	ND	ND	ND
Non-Halogenated Volatile Organics						
Benzene	0.50	0.13	0	ND	ND	ND
Ethylbenzene	0.50	0.15	0	ND	ND	ND
Toluene	0.50	0.25	0	ND	ND	ND
Xylenes	0.50	0.10 – 0.18	0	ND	ND	ND
Other						
Total Petroleum Hydrocarbons – Gasoline	50	10	0	NM	NM	ND
Total Petroleum Hydrocarbons – Diesel	50	25	0	NM	NM	ND
Total Petroleum Hydrocarbons – Motor Oil	100	32	0	NM	NM	ND

[a] In accordance with current National Pollutant Discharge Elimination System permit number CAG912002, Order number R2-2017-0048.

[b] Concentrations in **bold** exceeded discharge limits.

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.
NA = not applicable

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

TABLE 5
Summary of Groundwater Chromium Analytical Data for August 2021 – Central Groundwater Treatment Plant

Constituent	Instantaneous Maximum[a] (μg/L)	Detection Limit (μg/L)	N/C	Historical Background Concentrations (μg/L)	3 August 2021 (μg/L)	
					Influent	Effluent[b]
Metals						
Chromium, trivalent	340	20	0		ND	ND
Chromium, hexavalent	16	4.0	1		9.3 J-	**48**

[a] In accordance with current National Pollutant Discharge Elimination System permit number CAG912002, Order number R2-2017-0048.
[b] Concentrations in **bold** exceeded discharge limits

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.
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, biased low.
NA = not applicable
N/C = number of samples out of compliance with discharge limits.
ND = not detected
μg/L = micrograms per liter

Figure 1

SBBGWTP Total VOC Influent Concentrations and Average Flowrate Twelve Month History

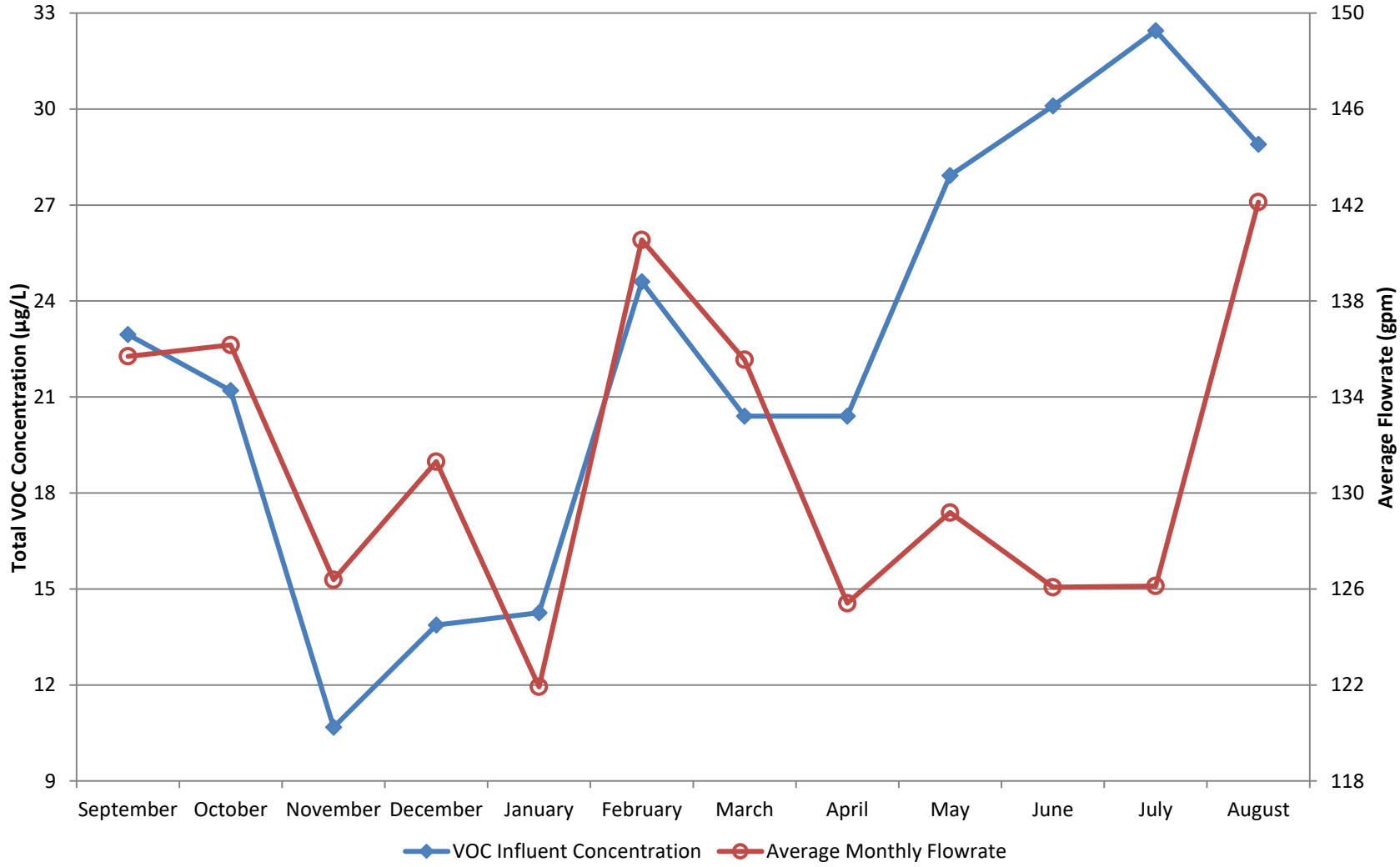
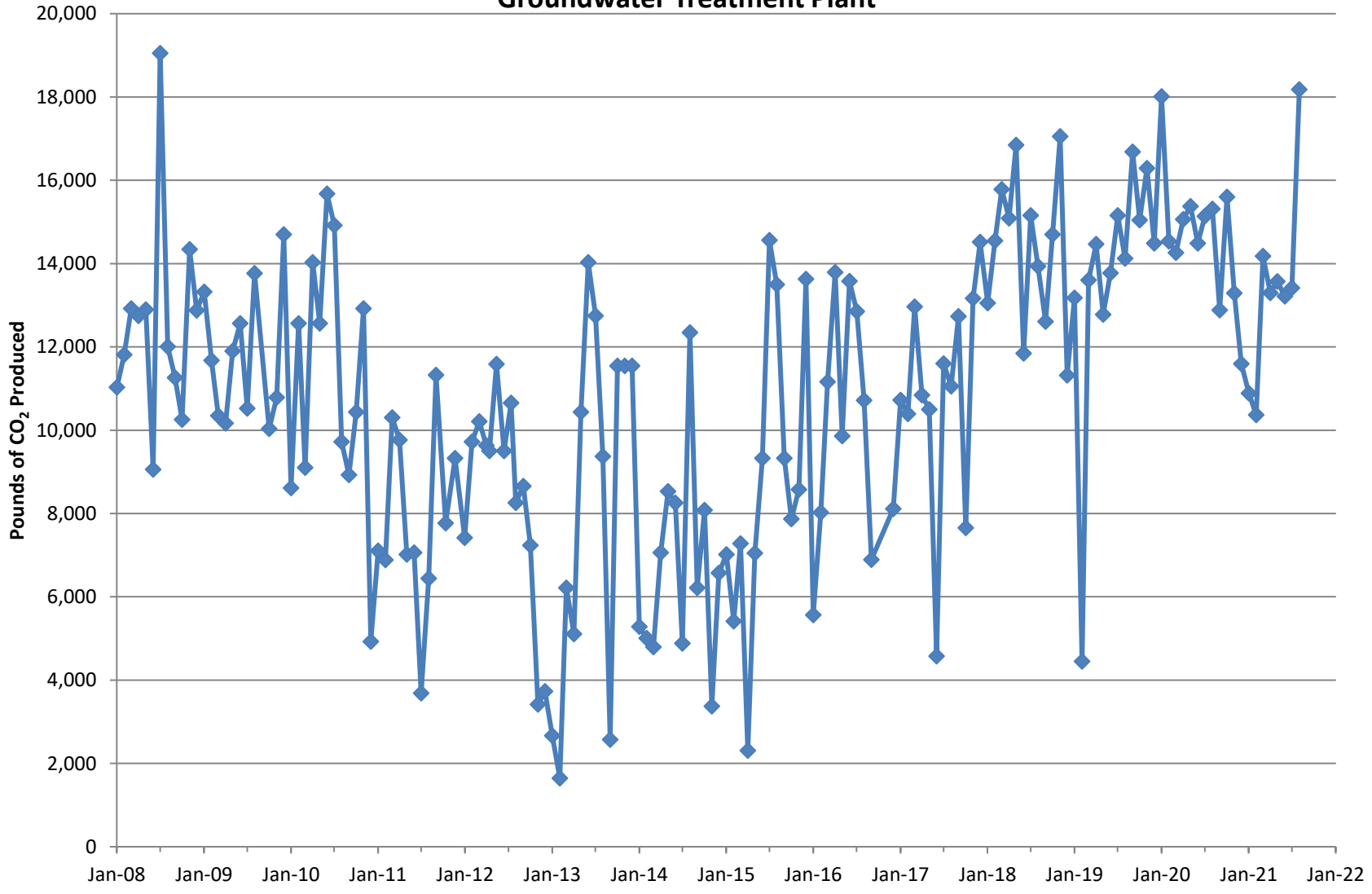


Figure 2

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



Central Groundwater Treatment Plant Monthly Data Sheet

Report Number: 265 **Reporting Period: 29 July 2021 – 2 September 2021** **Date Submitted: 13 September 2021**

This monthly data sheet presents information regarding the Central Groundwater Treatment Plant (CGWTP) and its associated bioreactors (Sites DP039 and SS016).

System Metrics

Table 1 presents operational data from the August 2021 reporting period.

Table 1 – Operations Summary – August 2021

Initial Data Collection: 7/29/2021 9:30 **Final Data Collection:** 9/2/2021 9:30

Operating Time:
CGWTP: 840 hours

Percent Uptime:
CGWTP: 100%

Electrical Power Usage:
CGWTP: 1,340 kWh (1,880 lbs CO_2 generated[a])

Gallons Treated (discharge to storm sewer): **1,067,030 gallons**

Gallons Treated Since January 1996: **596.7 million gallons**

VOC Mass Removed from groundwater: **1.8 lbs**[b]

VOC Mass Removed Since January 1996:
2,888 lbs from groundwater
8,686 lbs from vapor

Rolling 12-Month Cost per Pound of Mass Removed: $2,979[c]

Monthly Cost per Pound of Mass Removed: $2,872[c]

[a] SiteWise™ estimate that 1 kilowatt hour generated produces 0.74 pounds of GHG. Value also includes approximately 888 pounds of GHG from GAC change out services averaged to a per month basis.
[b] Calculated using August 2021 EPA Method SW8260C analytical results.
[c] Costs include operations and maintenance, carbon change out, reporting, analytical laboratory, project management, and utility costs related to operation of the system.

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

Table 2 – CGWTP Average Flow Rates[a] – August 2021

Location	Average Flow Rate Groundwater (gpm)
EW001x16	10.0
EW002x16	5.4
EW003x16[b]	0.0
EW605x16	NM[c]
EW610x16	NM[c]
CGWTP	21.2

[a] Flow rates calculated by dividing total gallons processed by system operating time for the month or the average of the instantaneous readings.
[b] Extracted groundwater from EW003x16 had been treated in Site SS016 bioreactor until November 2020 when it was taken offline and decommissioned. The well replacing EW003x16 (EW003Ax16) has been installed but is not yet online.
[c] No current access available to the wellhead totalizers because of construction activities
gpm = gallons per minute
NM = not measured

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

Table 3 – Summary of System Shutdowns

Location	Shutdown[a]		Restart		Cause
	Date	Time	Date	Time	
CGWTP	None	--	--	--	

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

Summary of O&M Activities

Monthly groundwater treatment samples were collected at the CGWTP on 3 August 2021. Sample results are presented in Table 4. The total VOC concentration (205.3 µg/L) in the August 2021 influent sample has increased from the July 2021 sample (168.5 µg/L). The cause of the increase is likely because EW605x16 and EW610x16 were restarted before the monthly samples were collected. TCE was the primary VOC detected in the influent sample at a concentration of 150 µg/L. Vinyl chloride was detected at a trace concentration in the sample collected after the first carbon vessel. No VOCs were detected in the samples collected after the second carbon vessel and in the effluent sample. The August effluent sample was analyzed for TPH-g, TPH-d, and TPH-mo, and no TPH was detected.

The system influent and effluent were also analyzed for trivalent and hexavalent chromium. Previous chromium samples collected at the CGWTP were rejected due to an exceedance of sample hold times (24 hours) prior to analysis. Additional samples were therefore collected again in August 2021. Sample results are presented in Table 5. Trivalent and hexavalent chromium were not detected in any sample collected at the CGWTP. These annual chromium samples are collected in accordance with the VOC and Fuel General NPDES permit. As stated in the permit, trivalent and hexavalent chromium samples must be collected on an annual basis, but analysis for total chromium may be substituted for analysis of chromium (III) and chromium (VI) if the concentration measured is below the lowest hexavalent chromium criterion of 11 µg/L. Because these samples did not detect either chromium (III) or chromium (VI) in the influent or effluent samples, future chromium samples collected at the CGWTP will be for total chromium.

In August 2021, EW002x16 was temporarily offline because the level control was tripped. The well was restarted without issue.

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 influent concentrations have been seasonally variable; however, over the last 12 months the trend has decreased. An overall decreasing flow rate trend was observed in the past 12 months.

The Site SS016 subgrade biogeochemical reactor (SBGR), also known as the bioreactor, and the Site DP039 bioreactor both continued operating in August 2021. The Site SS016 bioreactor was offline between November 2020 and March 2021 because EW003x16, which fed the bioreactor, was offline. EW003x16 has since been decommissioned, and a replacement horizontal extraction well (EW003Ax16) has been installed but has not yet been brought online. On 20 April 2021, the Site SS016 bioreactor began receiving groundwater from a pump installed in a nearby monitoring well, MW2022x16, located near the northwest corner of the bioreactor. In August 2021, the Site SS016 bioreactor continued receiving approximately 6-10 gallons of groundwater from MW2022x16 per day.

A 3-bay aircraft hangar is being constructed over much of the Oil Spill Area (OSA) source area (former Buildings 16 and 18 area). This project is scheduled to be constructed over at least the next year or so. Every attempt will be made to keep all extraction wells and the Site SS016 bioreactor in operation. However, there may be times when extraction needs to be shutdown to facilitate construction activities. On 25 August, EW605x16 and EW610x16 were temporarily offline for approximately 4 hours due to construction activities. Both wells are currently operational.

Optimization Activities

No optimization activities occurred at the CGWTP in August 2021.

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 1,880 pounds of GHG during August 2021.

TABLE 4
Summary of Groundwater Analytical Data for August 2021 – Central Groundwater Treatment Plant

Constituent	Instantaneous Maximum[a] (µg/L)	Detection Limit (µg/L)	N/C	3 August 2021 (µg/L) Influent	After Carbon 1 Effluent	After Carbon 2 Effluent	System Effluent[b]
Halogenated Volatile Organics							
Acetone	NA	1.9 – 3.8	0	ND	ND	ND	ND
Bromomethane	NA	0.21 – 0.42	0	ND	ND	ND	ND
Carbon disulfide	NA	0.17	0	0.33 J	ND	ND	ND
Chloroform	1.9	0.16 – 0.32	0	ND	ND	ND	ND
Chloromethane	NA	0.30 – 0.60	0	ND	ND	ND	ND
1,2-Dichlorobenzene	NA	0.15 – 0.30	0	0.34 J	ND	ND	ND
1,3-Dichlorobenzene	NA	0.13 – 0.26	0	0.42 J	ND	ND	ND
1,4-Dichlorobenzene	NA	0.16 – 0.32	0	ND	ND	ND	ND
1,1-Dichloroethane	0.50	0.22 – 0.44	0	ND	ND	ND	ND
1,2-Dichloroethane	0.50	0.13 – 0.26	0	ND	ND	ND	ND
1,1-Dichloroethene	0.50	0.23 – 0.46	0	ND	ND	ND	ND
cis-1,2-Dichloroethene	0.50	0.15 – 0.30	0	50	ND	ND	ND
trans-1,2-Dichloroethene	0.50	0.15 – 0.30	0	3.3 J	ND	ND	ND
Tetrachloroethene	0.50	0.20 – 0.40	0	0.53 J	ND	ND	ND
1,1,1-Trichloroethane	0.50	0.16 – 0.32	0	ND	ND	ND	ND
1,1,2-Trichloroethane	0.50	0.27 – 0.54	0	ND	ND	ND	ND
Trichloroethene	0.65	0.16 – 0.32	0	150	ND	ND	ND
Vinyl Chloride	0.90	0.10 – 0.20	0	0.38 J	0.30 J	ND	ND
Non-Halogenated Volatile Organics							
Benzene	0.50	0.16 – 0.32	0	ND	ND	ND	ND
Ethylbenzene	0.50	0.16 – 0.32	0	ND	ND	ND	ND
Toluene	0.50	0.17 – 0.34	0	ND	ND	ND	ND
Total Xylenes	0.50	0.15 – 0.38	0	ND	ND	ND	ND
Other							
Total Petroleum Hydrocarbons – Gasoline (C6 – C10)	50	10	0	NM	NM	NM	ND
Total Petroleum Hydrocarbons – Diesel (C10 – C28)	50	24 – 27	0	NM	NM	NM	ND
Total Petroleum Hydrocarbons – Motor Oil (C28 – C40)	100	24 – 27	0	NM	NM	NM	ND

[a] In accordance with current National Pollutant Discharge Elimination System permit number CAG912002, Order number R2-2017-0048.

[b] Concentrations in **bold** exceeded discharge limits

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.

NA = not applicable

NM = not measured

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

µg/L = micrograms per liter

ND = not detected

TABLE 5
Summary of Groundwater Chromium Analytical Data for August 2021 – Central Groundwater Treatment Plant

Constituent	Instantaneous Maximum[a] (µg/L)	Detection Limit (µg/L)	N/C	Historical Background Concentrations (µg/L)	3 August 2021 (µg/L)	
					Influent	Effluent[b]
Metals						
Chromium, trivalent	340	20	0	NA	ND	ND
Chromium, hexavalent	16	4.0	0	NA	ND	ND

[a] In accordance with current National Pollutant Discharge Elimination System permit number CAG912002, Order number R2-2017-0048.
[b] Concentrations in **bold** exceeded discharge limits

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.
NA = not applicable
N/C = number of samples out of compliance with discharge limits.
ND = not detected
µg/L = micrograms per liter

Figure 1

CGWTP Total VOC Influent Concentrations and Average Flowrate Twelve Month History

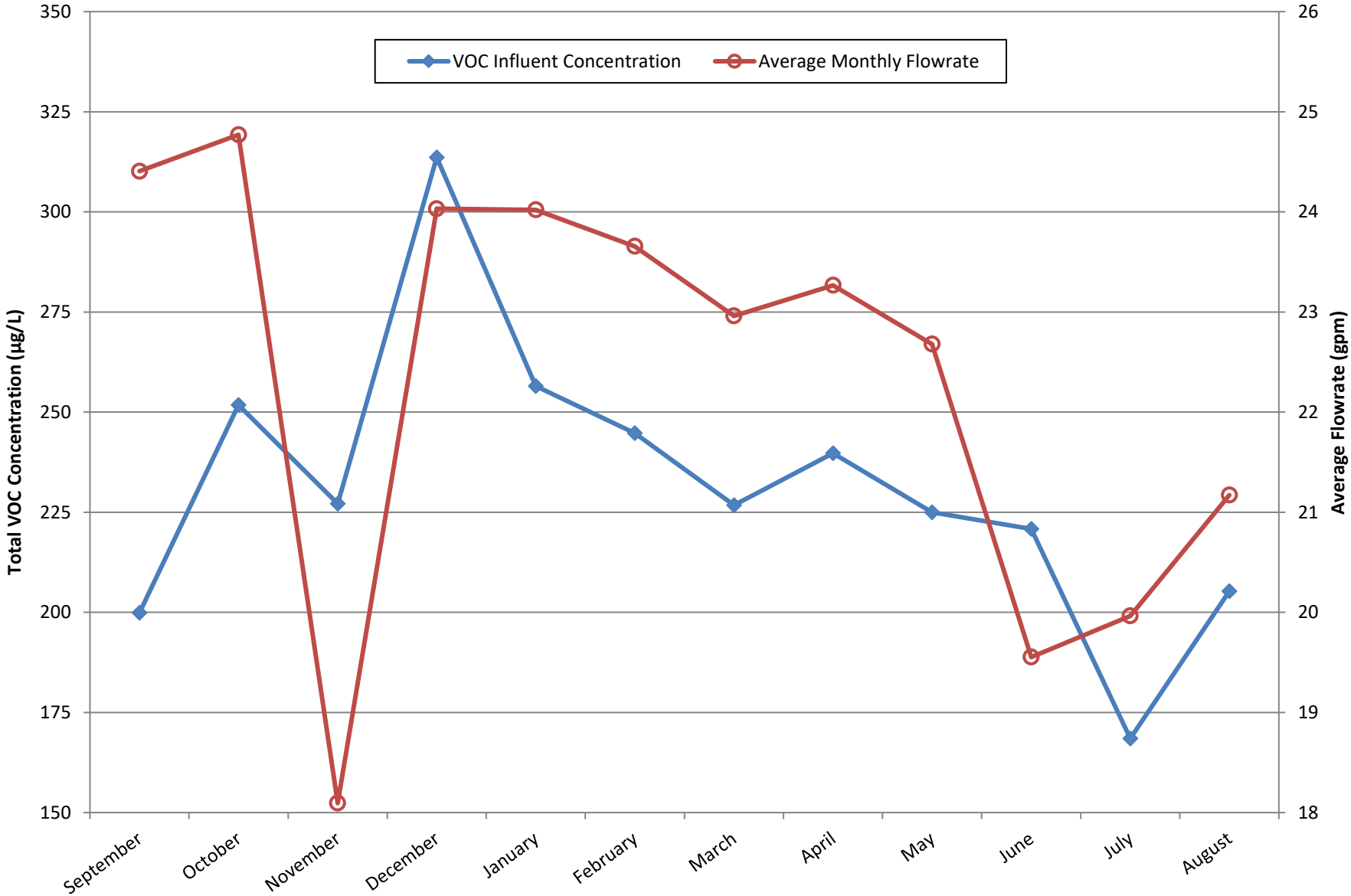
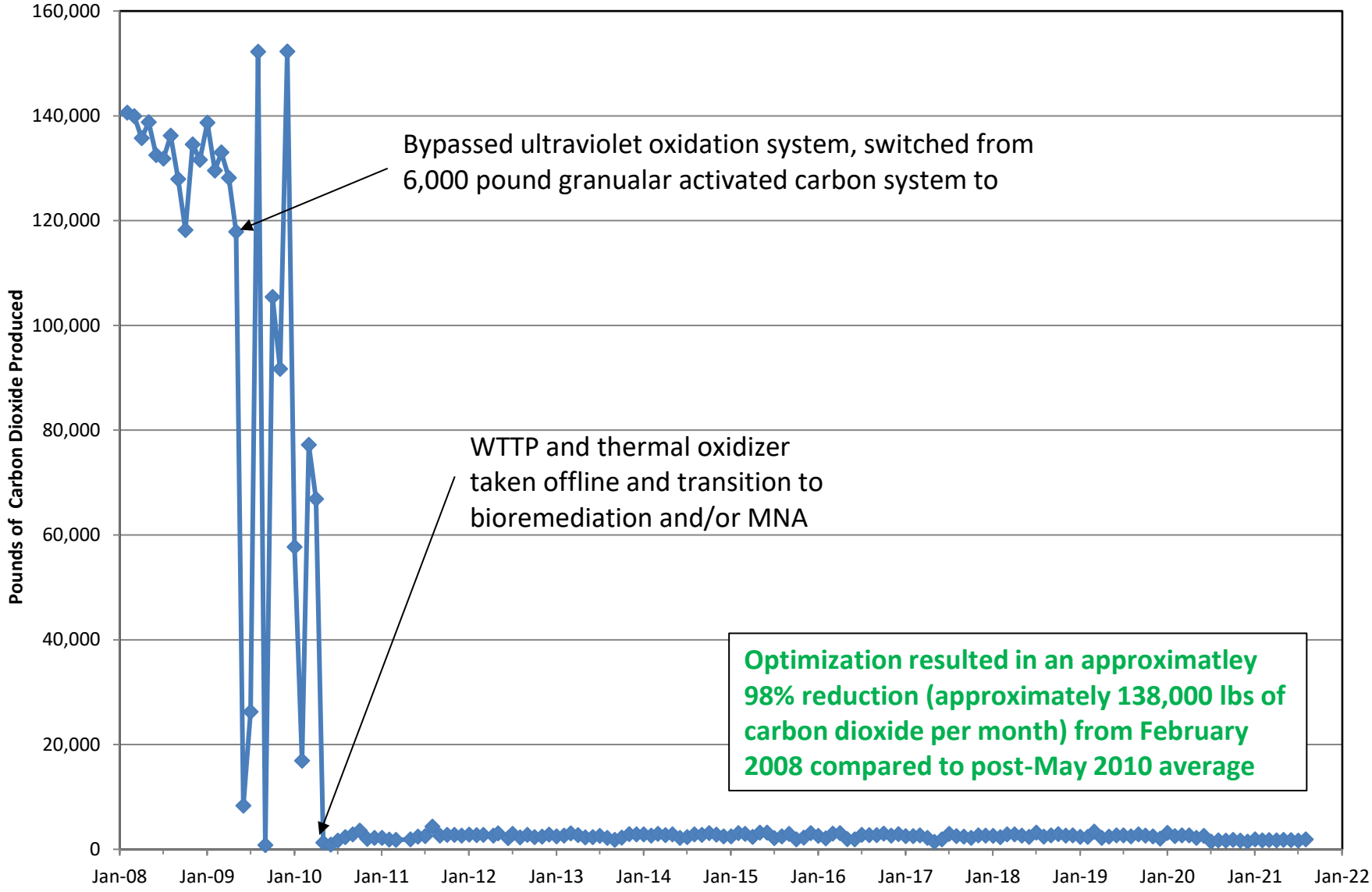


Figure 2

Equivalent Pounds of Carbon Dioxide Produced by the Central Groundwater Treatment Plant



Subarea LF007C Groundwater Treatment Plant Monthly Data Sheet

Report Number: 204 **Reporting Period: 29 July 2021 – 2 September 2021** **Date Submitted: 13 September 2021**

This monthly data sheet presents information regarding the Subarea LF007C Groundwater Treatment Plant (LF007C GWTP).

System Metrics

Table 1 presents operational data from the August 2021 reporting period:

Table 1 – Operations Summary – August 2021

Initial Data Collection:	7/29/2021 14:00		**Final Data Collection:**	9/2/2021 14:00	
Operating Time:		Percent Uptime:		Electrical Power Usage[a]:	
LF007C GWTP:	839 hours	**LF007C GWTP**	99.9%	**LF007C GWTP:**	0 kWh
Gallons Treated: **144,605 gallons**				Gallons Treated Since March 2000: **92.1 million gallons**	
Volume Discharged to Northgate Pond (formerly the Duck Pond): **144,605 gallons**					
VOC Mass Removed: **9.40×10^{-4} pounds**[b]				VOC Mass Removed Since March 2000: **174.4 pounds (Groundwater)**	
Rolling 12-Month Cost per Pound of Mass Removed: **Not Measured**[c]					
Monthly Cost per Pound of Mass Removed: **Not Measured**[c]					

[a] The LF007C GWTP operates on solar power only.
[b] VOCs from August 2021 influent sample detected by EPA Method SW8260C.
[c] Value not calculated since measurement does not accurately represent the cost effectiveness of the system.

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

Table 2 – LF007C GWTP Average and Total Flow Rates – August 2021

Location	Average Flow Rate (gpm)[a]	Total Gallons Processed (gallons)
EW614x07	2.6	131,442
EW615x07	0.5	27,531
LF007C GWTP	**2.9**	**144,605**

[a] Flow rates calculated by dividing total gallons processed by system operating time for the month or the average of the instantaneous readings.
gpm = gallons 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	
LF007C GWTP	24 August 2021	10:00	24 August 2021	11:00	Repaired small leak on lead carbon vessel.

-- = Time not recorded
[a] Shutdown and restart times estimated based on field notes
LF007C GWTP = Subarea LF007C Groundwater Treatment Plant

Summary of O&M Activities

Monthly groundwater treatment samples were collected at the LF007C GWTP on 3 August 2021. Sample results are presented in Table 4. The total VOC concentration in the August 2021 influent sample was 0.78 J-µg/L. TCE was the only VOC detected at the influent sample location. TCE (0.32 J µg/L) was also detected in the midpoint sample location. No VOCs were detected in the effluent sample location.

The system influent and effluent were also analyzed for trivalent and hexavalent chromium. Previous chromium samples collected at the LF007C GWTP were rejected due to an exceedance of sample hold times (24 hours) prior to analysis. Additional samples were therefore collected again in August 2021. Sample results are presented in Table 5. Trivalent and hexavalent chromium were not detected in any sample collected at the LF007C GWTP. These annual chromium samples are collected in accordance with the VOC and Fuel General NPDES permit. As stated in the permit, trivalent and hexavalent chromium samples must be collected on an annual basis, but analysis for total chromium may be substituted for analysis of chromium (III) and chromium (VI) if the concentration measured is below the lowest hexavalent chromium criterion of 11 µg/L. Because these samples did not detect either chromium (III) or chromium (VI) in the influent or effluent samples, future chromium samples collected at the CGWTP will be for total chromium.

On 4 August 2021, the solar panels were cleaned to improve efficiency. On 24 August 2021, the LF007C GWTP was shut down for approximately 1 hour to repair a small leak on the lead carbon vessel. The system was restarted without issue.

Figure 1 presents a chart of influent concentrations (total VOCs) at the LF007C GWTP versus time for the past twelve (12) months. VOC concentrations, primarily TCE, have been shown to be seasonally variable; however, over the last 12 months the trend has decreased. The average flow rate through the LF007C GWTP has gradually increased over the last 12 months due to typical seasonal variation.

Optimization Activities

No optimization activities occurred at the LF007C GWTP in August 2021.

Sustainability

Travis AFB is committed to decreasing the amount of GHG produced directly (waste streams discharging GHG) or indirectly (GHG produced as related to electrical energy consumption) from all systems across Travis AFB. Travis AFB continues to optimize each treatment plant to reduce the amount of electrical energy consumed, and to implement sustainable treatment plant optimization programs, such as the solar arrays employed to power the system.

Figure 2 presents the historical GHG production from the systems associated with the NGWTP and LF007C GWTP. The LF007C GWTP is a solar-only operated treatment system and does not generate GHG, with exception of a small amount of GHG generated from changing out the GAC averaged to a per month basis.

TABLE 4
Summary of Groundwater Analytical Data for August 2021 – Subarea LF007C Groundwater Treatment Plant

Constituent	Instantaneous Maximum[a] (µg/L)	Detection Limit (µg/L)	N/C	3 August 2021 (µg/L)		
				Influent	After Carbon 1	Effluent[b]
Halogenated Volatile Organics						
Acetone	NA	1.9	0	ND	ND	ND
Bromodichloromethane	NA	0.17	0	ND	ND	ND
Bromoform	NA	0.46	0	ND	ND	ND
2-Butanone	NA	2.0	0	ND	ND	ND
Carbon Tetrachloride	NA	0.19	0	ND	ND	ND
Chloroform	1.9	0.16	0	ND	ND	ND
Chloromethane	NA	0.30	0	ND	ND	ND
Dibromochloromethane	NA	0.17	0	ND	ND	ND
1,3-Dichlorobenzene	NA	0.13	0	ND	ND	ND
1,4-Dichlorobenzene	NA	0.16	0	ND	ND	ND
1,1-Dichloroethane	0.50	0.22	0	ND	ND	ND
1,2-Dichloroethane	0.50	0.13	0	ND	ND	ND
1,1-Dichloroethene	0.50	0.23	0	ND	ND	ND
cis-1,2-Dichloroethene	0.50	0.15	0	ND	ND	ND
trans-1,2-Dichloroethene	0.50	0.15	0	ND	ND	ND
Methylene Chloride	NA	0.94	0	ND	ND	ND
Tetrachloroethene	0.50	0.20	0	ND	ND	ND
1,1,1-Trichloroethane	0.50	0.16	0	ND	ND	ND
1,1,2-Trichloroethane	0.50	0.27	0	ND	ND	ND
Trichloroethene	0.65	0.16	0	0.78 J-	0.32 J	ND
Vinyl Chloride	0.90	0.10	0	ND	ND	ND
Non-Halogenated Volatile Organics						
Benzene	0.50	0.16	0	ND	ND	ND
Ethylbenzene	0.50	0.16	0	ND	ND	ND
Toluene	0.50	0.17	0	ND	ND	ND
Xylenes	0.50	0.15 – 0.19	0	ND	ND	ND

[a] In accordance with current National Pollutant Discharge Elimination System permit number CAG912002, Order number R2-2017-0048.
[b] Concentrations in **bold** exceeded discharge limits

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.
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, biased low.
NA = not applicable
N/C = number of samples out of compliance with discharge limits.
ND = not detected
µg/L = micrograms per liter

TABLE 5

Summary of Groundwater Chromium Analytical Data for August 2021 – Subarea LF007C Groundwater Treatment Plant

Constituent	Instantaneous Maximum[a] (µg/L)	Detection Limit (µg/L)	N/C	Historical Background Concentrations (µg/L)	3 August 2021 (µg/L)	
					Influent	Effluent[b]
Chromium, total						
Chromium, trivalent	340	20	0	NA	ND	ND
Chromium, hexavalent	16	4.0	0	NA	ND	ND

[a] In accordance with current National Pollutant Discharge Elimination System permit number CAG912002, Order number R2-2017-0048.
[b] Concentrations in **bold** exceeded discharge limits

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.
NA = not applicable
N/C = number of samples out of compliance with discharge limits.
ND = not detected
µg/L = micrograms per liter

Figure 1

LF007CGWTP Total VOC Influent Concentrations and Average Flowrate Twelve Month History

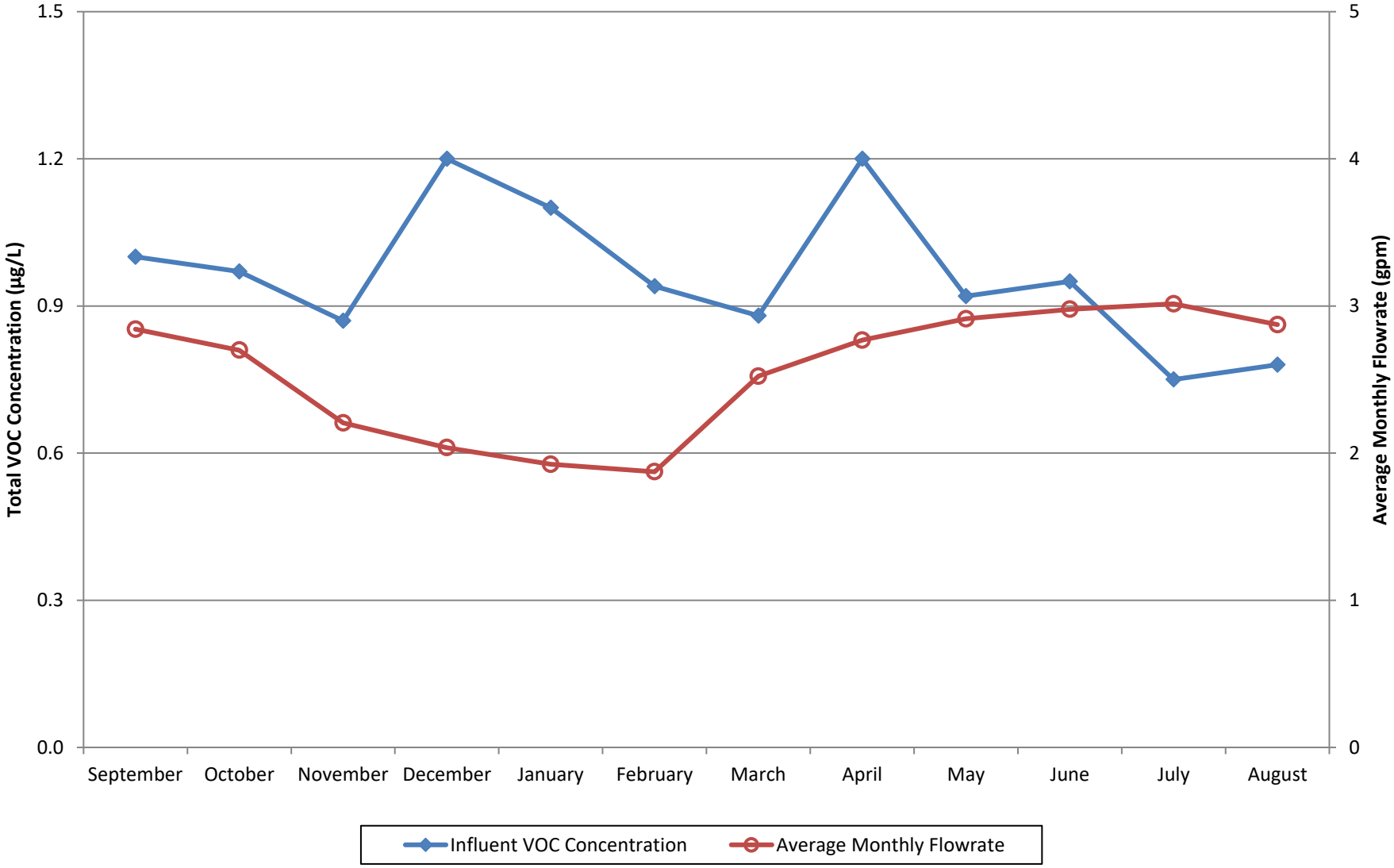
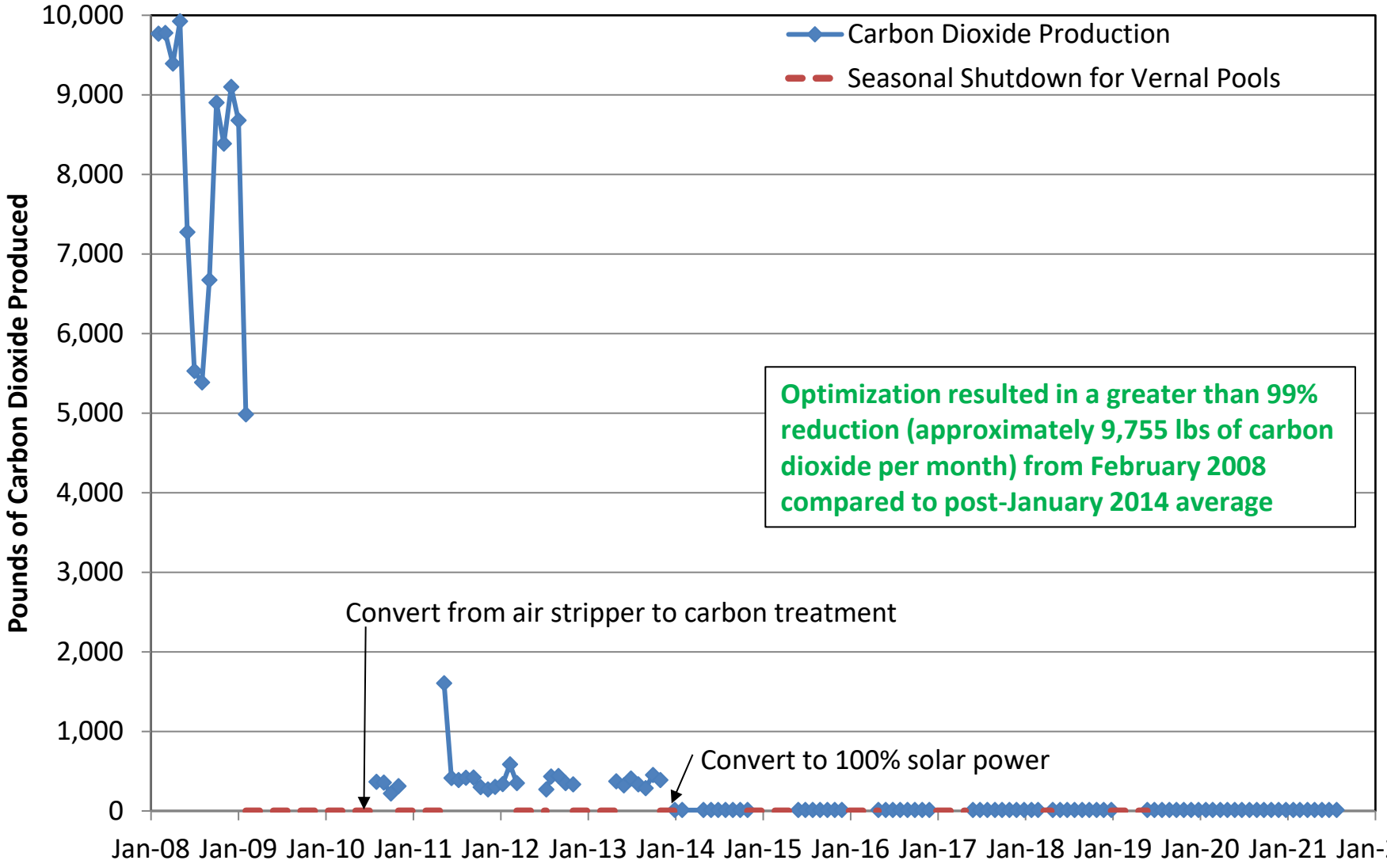


Figure 2

Equivalent Pounds of Carbon Dioxide Produced by the NGWTP/LF007C GWTP



Note: Dashed line represents seasonal shutdowns due to the presence of vernal pools at Site LF007C during which no carbon dioxide production occurred.

Site ST018 Groundwater Treatment Plant Monthly Data Sheet

Report Number: 126 **Reporting Period: 29 July 2021 – 2 September 2021** **Date Submitted: 13 September 2021**

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

System Metrics

Table 1 presents operation data from the August 2021 reporting period.

Table 1 – Operations Summary – August 2021

Initial Data Collection:	7/29/2021 9:00	**Final Data Collection:**	9/2/2021 14:30
Operating Time:		Percent Uptime:	Electrical Power Usage:
ST018GWTP: 708 hours		**ST018GWTP: 83.7**%	**ST018GWTP:** 53 kWh (39 lbs CO_2 generated[a])
Gallons Extracted: **86,590 gallons**		Gallons Extracted Since March 2011: **20.5 million gallons**	
Volume Discharged to Sanitary Sewer: **86,590 gallons**		Final Totalizer Reading: **20,489,939 gallons**	
Cumulative Volume Discharged to Sanitary Sewer since 1 November 2014: **14.0 million gallons**			
MTBE, BTEX, VOC, TPH Mass Removed: **0.04 lbs**[b]		MTBE, BTEX, VOC, TPH Mass Removed Since March 2011: **50.1 lbs**	
MTBE (Only) Removed: **0.01 lbs**[b]		MTBE (Only) Mass Removed Since March 2011: **12.3 lbs**	
Rolling 12-Month Cost per Total Pounds of Mass Removed: $87,412[bc]			
Monthly Cost per Pound of Mass Removed: $126,825[bc]			

[a] SiteWise™ estimate that 1 kilowatt hour generated produces 0.74 pounds of GHG.
[b] Calculated using August 2021 EPA Method SW8260C and SW8015B analytical results.
[c] Costs include operations and maintenance, reporting, analytical laboratory, project management, and utility costs related to operation of the system.
kWh = kilowatt hour
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 – August 2021

Location	Average Flow Rate Groundwater (gpm)[a]	Hours of Operation
EW2014x18	1.3	677
EW2016x18	0.9	708
EW2019x18	0.0	Offline[b]
EW2333x18	1.8	708
ST018GWTP	2.0	708

[a] Flow rates calculated by dividing total gallons processed by amount of operating time of the pump/system. The extraction pumps take in air from the subsurface, which alters the flow and totalizer.
[b] Extraction well was turned off with regulatory approval on 25 November 2019 because of low MTBE concentrations.

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	28 July 2021	17:40	3 August 2021	10:30	High water level alarm

-- = Time not recorded
[a] Shutdown and restart times estimated based on field notes
ST018GWTP = Site ST018 Groundwater Treatment Plant

Summary of O&M Activities

Monthly groundwater discharge samples were collected at the ST018GWTP on 3 August 2021. Because the extracted groundwater is no longer treated with carbon prior to discharge to the sanitary sewer, only discharge samples are now collected, rather than influent and effluent samples. Results are presented in Table 4. The complete August 2021 laboratory data report is available upon request. The MTBE discharge concentration during the August 2021 sampling event was 14 µg/L, which is an increase from the July 2021 sample result of 13 µg/L. TPH-d, TPH-g, and benzene were also detected in the system discharge sample and are listed in Table 4.

The Fairfield-Suisun Sewer District does not currently have a discharge limit for MTBE, but a limit of 6,400 µg/L is advised based on worker health and safety. Travis AFB will continue to monitor discharge contaminant concentrations to maintain compliance with the Fairfield-Suisun Sewer District discharge permit.

Between 28 July and 3 August 2021, the system was mostly offline because of a high water level alarm. On August 3, the holding tank was drained and the system restarted without issue. On 4 August, the solar panels at the extraction wellheads were cleaned to improve efficiency.

Figure 1 presents plots of the average flow rate and total extracted contaminants (MTBE, TPH-g, TPH-d, TPH-mo, BTEX, and VOCs) and extracted MTBE concentrations at the ST018GWTP over the past twelve (12)

months. The average flow rate through the ST018GWTP has been cyclical with typical flow rates decreasing during the dry season (summer and fall) and increasing during the rainy season (winter and spring). The overall average flow rates in the past 12 months show an increasing trend. The extracted MTBE concentrations and extracted total concentrations have exhibited overall slightly increasing and decreasing trend, respectively, over the past 12 months.

Optimization Activities

No optimization activities occurred at the ST018GWTP in August 2021.

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 a majority of the ST018GWTP system.

Figure 2 presents the historical GHG production from the ST018GWTP. The ST018GWTP produced 39 pounds of GHG during August 2021 and removed 86,590 gallons of water. The amount of GHG produced is directly attributed to the amount of water removed through the system because the only line-power electrical use is for a transfer pump to push the water from the system to the sanitary sewer.

TABLE 4
Summary of Groundwater Analytical Data for August 2021 – Site ST018 Groundwater Treatment Plant

Constituent	Instantaneous Maximum[a] (µg/L)	Detection Limit (µg/L)	N/C	3 August 2021 (µg/L)
				System Discharge[b]
Fuel Related Constituents				
Methyl tert-Butyl Ether	6,400	0.25	0	14
Benzene	25,000[c]	0.16	0	0.30 J
Ethylbenzene	25,000[c]	0.16	0	ND
Toluene	25,000[c]	0.17	0	ND
Total Xylenes	25,000[c]	0.19 – 0.34	0	ND
Total Petroleum Hydrocarbons – Gasoline	50,000[d]	10	0	20 J-
Total Petroleum Hydrocarbons – Diesel	50,000[d]	15	0	22 J
Total Petroleum Hydrocarbons – Motor Oil	100,000	160	0	ND
Other				
Acetone	NA	1.9	0	ND
Bromomethane	NA	0.21	0	ND
2-Butanone (MEK)	NA	2.0	0	ND
1,2-Dichloroethane	20	0.13	0	ND
Isopropylbenzene	NA	0.19	0	ND
Naphthalene	NA	0.22	0	ND
N-Propylbenzene	NA	0.16	0	ND

[a] In accordance with the Fairfield-Suisun Sewer District Discharge Limitations

[b] Concentrations in **bold** exceeded discharge limits

[c] The limit of 25,000 µg/L is a combined limit for BTEX.

[d] The limit of 50,000 µg/L is a combined limit for TPH-g and TPH-d.

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.
NA = not applicable
N/C = number of samples out of compliance with discharge limits.
ND = not detected above method detection limit.

Figure 1

ST018GWTP Total Influent and MTBE Concentrations and Average Flowrate Twelve Month History

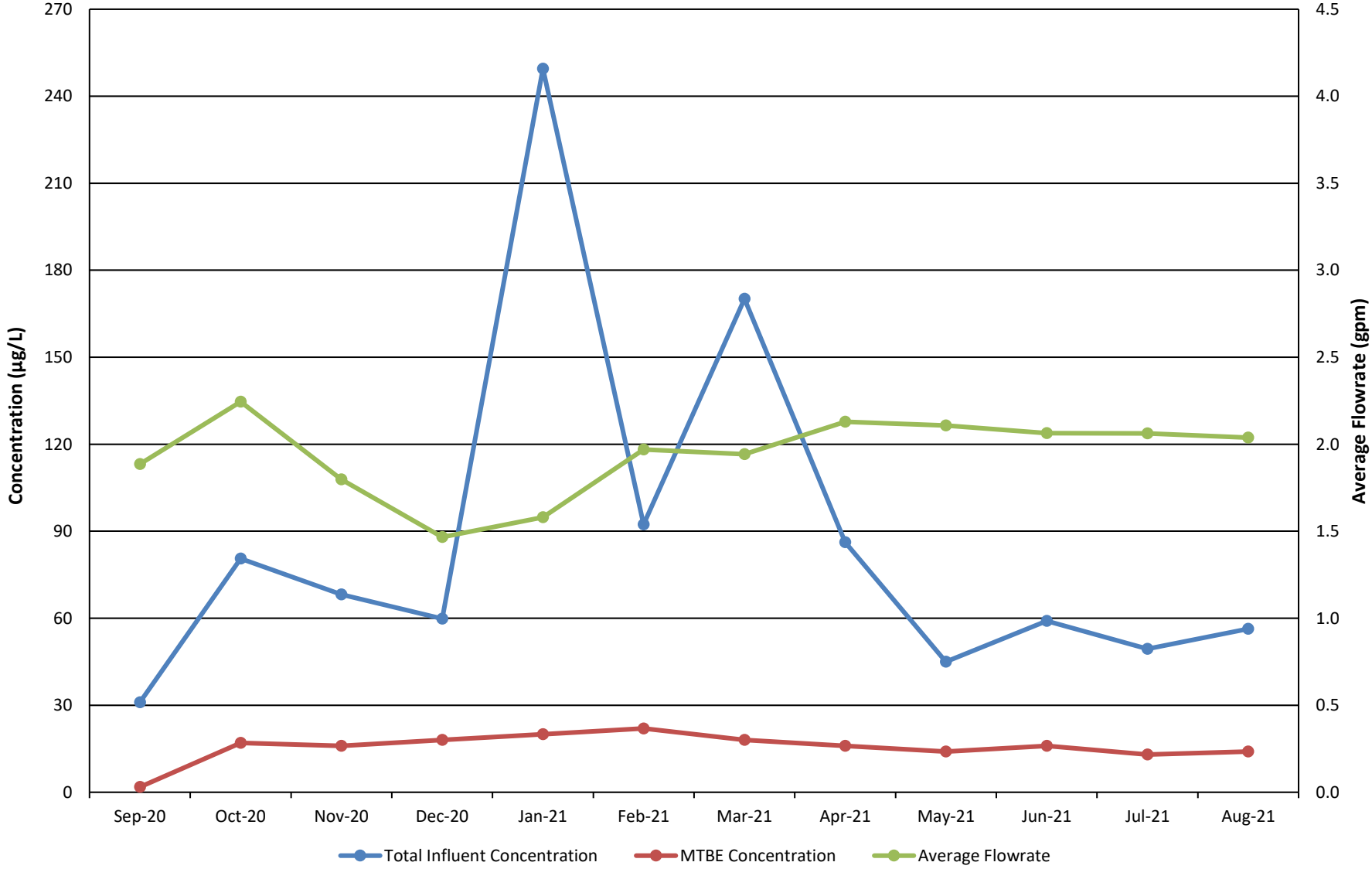
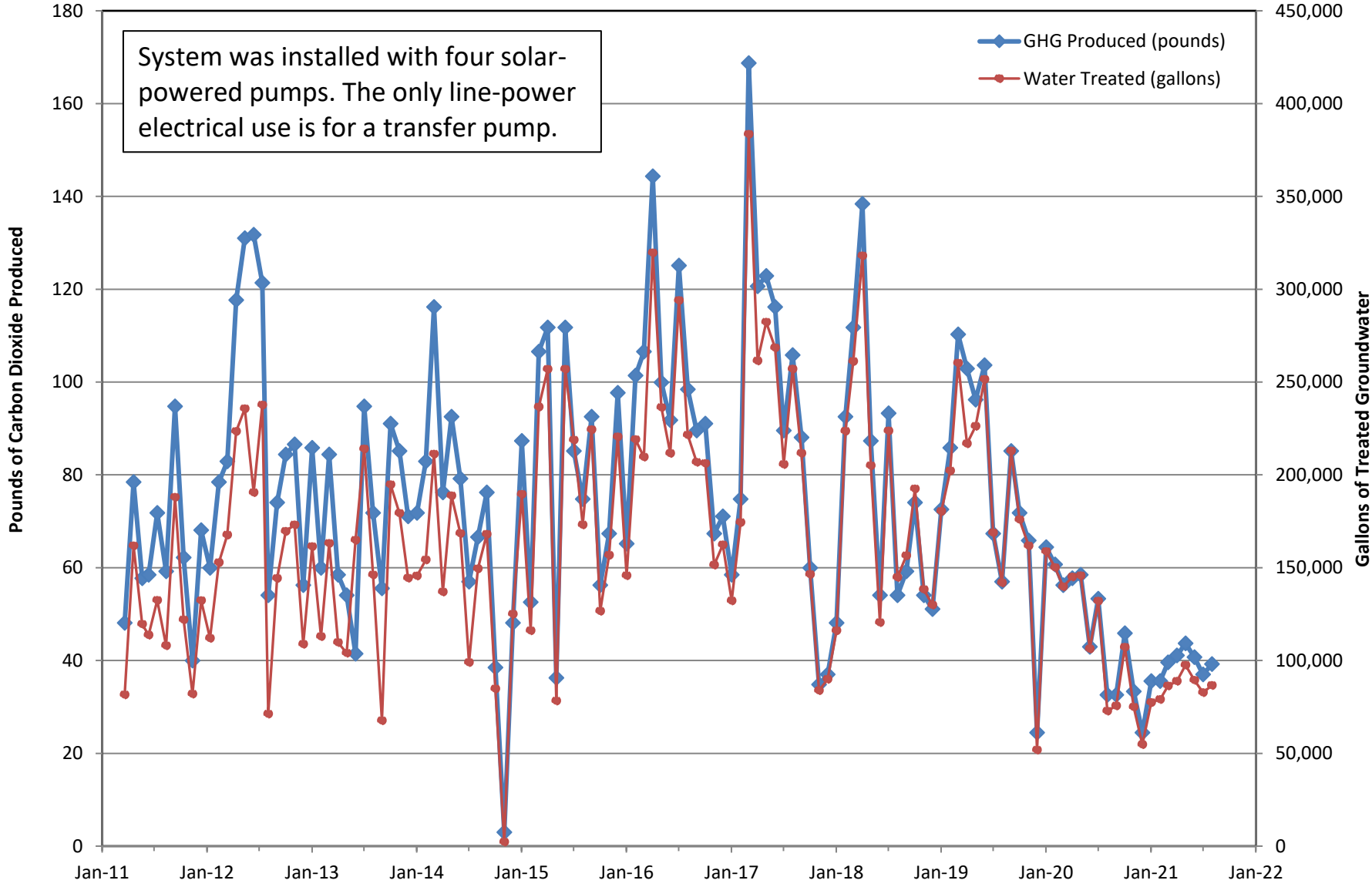


Figure 2

Equivalent Pounds of Carbon Dioxide Produced by the Site ST018 Groundwater Treatment Plant



Travis AFB
Restoration Program

Program Update

RPM Meeting September 15, 2021

Completed Documents (1)

- 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 (2)

- 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
- 2014 Annual CAMU Monitoring Report
- Old Skeet Range PAH Delineation Report
- ST028 POCO Work Plan
- SS014 POCO TD Work Plan
- CG508 Site Investigation/Site Closure Request Report
- 2014 Annual CAMU Monitoring Report
- DP039 GW RD/RA Work Plan
- SD031 TDCCR
- ST018 POCO CCR
- Site SS030 Groundwater RA CCR
- Sites SD036 and SD037 Groundwater RACCR
- Site SS016 Groundwater RACCR
- Site SS015 Groundwater RACCR
- 2014 Annual GRISR
- Site CG508 Well Decommissioning Work Plan

Completed Documents (3)

- Data Gap Investigation TM for Soil Sites SD033, SD043, & SS046
- Site FT004 Technology Demonstration Construction Completion Report
- Site SD031 Soil Remedial Investigation Work Plan
- Corrective Action Plan for DERA-Funded Oil Water Separators
- Site ST032 POCO Completion Report
- Site ST028 POCO Completion Report
- 2015 Annual CAMU Monitoring Report
- Site SD031 Remedial Investigation Work Plan
- Site SD034 Technology Demonstration Work Plan
- Site SS016 Soil Data Gaps Investigation Work Plan
- Multi-Site Bioaugmentation Technology Demonstration Work Plan
- Sites ST028 and ST032 POCO Well Decommissioning Work Plan
- Site TS060 Action Memorandum
- 2015 Annual GRISR
- FT005 Technology Demonstration Construction Completion Report
- Site CG508 POCO Well Decommissioning and Site Closeout Technical Memorandum
- Site DP039 Remedial Action Construction Completion Report
- ST028 POCO Well Decommissioning/Site Closeout Technical Memorandum
- Site TS060 Removal Action Work Plan

Completed Documents (4)

- Multisite Technology Demonstration Construction Completion Report
- SS014 POCO Technology Demonstration Construction Completion Report
- Site LF044 Investigation Work Plan
- Site FT004 POCO Soil Data Gap Investigation Work Plan
- SD034 Technology Demonstration Construction Completion Report
- POCO Evaluation/Closeout Report for DERA-funded oil/water separators OW051, OW053, and OW054
- ST032 POCO Well Decommissioning and Site Closeout Technical Memorandum
- 2016 Annual CAMU Monitoring Report
- Work Plan for Fourth Five-year Review
- 2016 Annual GRISR
- Data Gap Investigation Results, Technical Memorandum for Soil, Sites SD033, SD043, SS046
- TS060 Removal Action Completion Report
- SS035 Site Closure Report
- AOC TA500 Data Gaps Investigation and Closure Report
- Site TS060 No Further Action Proposed Plan
- POCO Evaluation/Closure Report for DERA-funded Oil/Water Separators OW040, OW047, OW048, OW049, OW050, OW052, OW055, OW056, and OW057

Completed Documents (5)

- Data Gap Investigation Results, Technical Memorandum for Soil Site SS016
- LF006, SS030, SD031 Aquifer Test Activities Technical Memorandum
- SS015 Soil Sampling Plan
- Monitoring Well Installation Tech Memo for Site DP039, Addendum to the RACCR
- FT005 Extraction System Optimiz-ation Tech Memo
- 2017 Annual CAMU Monitoring Report
- LF044 Sediment Sampling Report
- SD043 RD/RA Work Plan
- SS046 RD/RA Work Plan
- Amendment to the WABOU Soil ROD for sites DP039, SD043, and SS046
- EVO Sites FT004, SS015, SD031, & SD036 Optimization Injections Tech Memo
- LF006 Technology Demonstration Work Plan
- AOC TA500 Well Decommissioning and Site Closeout Tech Memo
- SS015 Soil Sampling Results Tech Memo
- LF006 Technology Demonstration Construction Completion Report
- Subarea LF007C TPH Chromatogram Review TM
- 2017 Annual GRISR
- SS014 POCO Subsites 2, 4, and 5 Closure Evaluation Report
- Addendum to the Site SS016 Groundwater RD/RA Work Plan

Completed Documents (6)

- SD043 Remedial Action Completion Report
- NFA ROD for Old Skeet Range (TS060/TS060A MRA)
- 2018 Annual GRISR
- SS046 Remedial Action Completion Report and Well Decommissioning Work Plan
- 2018 LF007 CAMU Inspection, Monitoring, and Maintenance Report
- Amendment to the NEWIOU Soil ROD for Sites SS016 and SD033
- SS016 RD/RA Work Plan
- 4th Five Year Review Report for Multiple Groundwater, Soil, and Sediment Sites
- SD043 Site Closure Report
- SS046 Well Decommissioning and Site Closeout Tech Memo
- LF008 Remedial Action Evaluation Report
- SD031B POCO Additional Site Investigation Work Plan
- Initial Passive Vent Systems Sampling Work Plan Tech Memo
- Optimization Activities Tech Memo for SD034 and SD037
- SD043 Well Decommissioning and Site Closeout Tech Memo
- FT004 POCO Corrective Action Plan
- 2019 GRISR
- 2019 CAMU Monitoring Report
- SD031 Soil RI/FS

Completed Documents (7)

- SS016 Soil RACR
- Addendum to the Initial Passive Vent System Sampling Work Plan
- Site LF008 Remedial Infrastructure Decommissioning TM
- Site FT004 POCO Soil Corrective Action Completion Report
- Technology Demonstration TM
- Site SD031 and FT004 Groundwater Sampling Results TM
- Site SD031B POCO Additional Site Investigation Report
- ***2020 GRISR***

Completed Field Work (1)

- 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
- SS016 EVO Injection
- TA500 Data Gaps Investigation

Completed Field Work (2)

- 2015 Annual GRIP Sampling
- SD037 EVO Injection
- SD034 Data Gaps Investigation
- SS015 EVO Injection
- FT005 Injection Well Installation
- OWS 47, 48, 49 Site Investigations
- SS030 Trench/Conveyance/Power Installation
- FT005 Trench Installation
- FT005 Well Development
- FT004 Well Installation, Well Development, Baseline Sampling
- FT005 Baseline Sampling
- DP039 Well Installation, Well Development, Baseline Sampling
- FT004 EVO Injection
- FT004 Trench/Conveyance/Power Installation
- DP039 Infiltration Trench Installation
- TA500 Groundwater Sampling
- FT005 EVO Injection
- 2016 Q2 GRIP Sampling
- Data Gap Inv. for Soil Sites (SD043, SS046)
- SD031 Remedial Investigation Step-out Sampling (2nd round)
- DP039 EVO Injection
- CG508 Well Decommissioning
- SD033 Soil Sampling
- Multi-site Bioaugmentation Well Installation
- SD034 Technology Demonstration Well Installation
- SS014 Bioreactor Installation
- ST028 & ST032 Well Decommissioning

Completed Field Work (3)

- SS016 Soil Data Gaps Investigation
- SD031 Remedial Investigation Soil Sampling (3rd round)
- Oil Water Separators Step-out Drilling
- OW055 Close-in-place
- Q4 2016 GRIP Sampling
- OW040 Soil Excavation/Surface Restoration
- OW057 Soil Excavation/Surface Restoration
- Multi-site Bioaugmentation & EVO Injection
- SD034 Technology Demonstration Bioreactor Installation
- OW050 Soil Sampling at Former Location of OWS
- OW055 Sidewalk Repairs
- SD031 Finish Soil Delineation (NE portion of site)
- Q2 2017 GRIP Sampling Event
- SS015 Optimization: Injection Well Installation
- DP039 Down-gradient Monitoring Well Installation (1st round)
- SD036 Optimization: Injection Well Installation
- SD031 Optimization: Injection Well Installation
- OW056 Site Excavation/Closure
- Well Re-development
- TS060 Removal Action

Completed Field Work (4)

- FT004 POCO Soil Data Gaps Investigation
- LF044 Sediment Sampling
- FT004 EVO Optimization
- DP039 Install downgradient monitoring wells (2nd round)
- FT005 – Install Extraction Wells
- DP039 Repair SBGR distribution headers
- Q4 2017 GRIP Sampling
- SD036 EVO Optimization
- SS015 EVO Optimization
- SD031 EVO Optimization
- FT005 Installation of Pumps and Controls in 5 New Extraction Wells
- Q1 2018 GRIP Sampling
- SD037 EVO reinjection
- Q2 2018 GRIP Sampling
- SS015 Soil sampling
- TA500 Well Decommissioning
- FT005 EVO injection
- FT004 POCO Soil Investigation
- 3Q 2018 GRIP Sampling
- LF006 Well Installations and Injections
- 4Q 2018 GRIP Sampling
- SD043 Soil excavation
- 1Q 2019 GRIP Sampling
- 2019 Annual LUC Inspections
- SS046 Soil excavation
- 2Q 2019 GRIP Sampling Event
- Well Re-development (11 wells)
- SD037 Injection Well Installation
- SS046 Well Decommissioning

Completed Field Work (5)

- 3rd Quarter 2019 GRIP Sampling
- SD034 O_2 Enhancement
- SS016 SBGR Repairs
- SD037 EVO Re-injection
- 4th Quarter 2019 GRIP Sampling
- SD031B POCO Additional Investigation (Gore Sorber Round 1)
- SD043 Well and GETS Decommissioning
- SS016 Soil excavation
- SS015 SPOC system installation
- SD031B POCO Additional Investigation (Gore Sorber Round 2)
- Annual CAMU Gas Monitoring
- SS015 SPOC Sampling
- 2Q20 GRIP Sampling
- DP039 Bioreactor Rejuvenation
- SD031B Phase 2 Soil, Vapor, & Groundwater Sampling
- DP039 Phytoremediation Trench extension
- Sampling Offbase LF007C wells
- LF008 Well Decommissioning
- Passive Vent Systems Sampling
- FT004 Soil Excavation
- SD031B Phase 3 MW Installation & GW Sampling
- PFAS Pilot Test

Completed Field Work (6)

- 4Q20 GRIP
- CAMU Topographic Survey
- SBBGWTP SCADA Upgrade
- Winter 2021 Vapor Intrusion Sampling Event
- 2Q GRIP Event
- Summer 2021 VI Sampling Event

Documents In-Progress

CERCLA Draft Docs

- 2020 CAMU Report
- Vapor Intrusion Assessment Report

POCO Draft Docs

None

Field Work In-Progress

CERCLA

None

POCO

None

Documents Planned

CERCLA

None

POCO

None

Field Work Planned

CERCLA

None

POCO

None

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

Completed Documents (Historical 1)

- 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 (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 (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

Travis AFB
RPM Meeting
15 September 2021

Land Use Control Sites
Status/Update

Projects on Sites with LUCs Will Start Documenting in Annual Report

Site #	Project Description	Date Discussed/Approved	Additional Information
SS016	KC-46 Hangar and Fuel System Project	Starting in 2018 with approval and following up during construction	Regulators provided input from the beginning of the design of this project
SD037	New Material Handling System at Bldg. 977	January 2019 and August 2020	Soil impacted with TPH from old hydraluic rams will be sampled and properly disposed of.
LF044	Concrete Batch Plant	May 2021 RPM meeting	Soil and or debris scraped up during ground preparation will be sampled and properly disposed of.
SS016/SS029/ST032	Runway Replacement	May 2021 RPM meeting	EA submitted to regulators on June 8
SS016	Fuel Sample Probes	Email Discussion Initiated 27 August 2021	Email notification that project is scheduled to begin sent 09 September 2021

UPDATE

SS016-KC-46 Hangar Project

-There continues to be issues with interference from other utilities to include the connection between the CGWTP and the WTTP

- Anticipate scheduling the step-rate pump test and bringing the replacement horizontal well on line after start of FY22

SD037-Bldg. 977 Material Handling System-No Update, project not yet funded

LF044-Concrete Batch Plant-Construction ongoing, footprint of LF044 not impacted

SS016/SS029/ST032-Runway Replacement-Air Force working to finalize EA

SS016-Fuel Sample Probes-Project starting this week

ROD Language
2.12.2.8 Land Use Controls

Travis AFB shall not modify or terminate LUCs, implementation actions, or land use that are associated with the selected remedy without the approval of EPA and the opportunity for concurrence by the State. Travis AFB shall seek prior concurrence of EPA and the State before any anticipated action that may disrupt the effectiveness of the LUCs or any action that may alter or negate the need for LUCs.

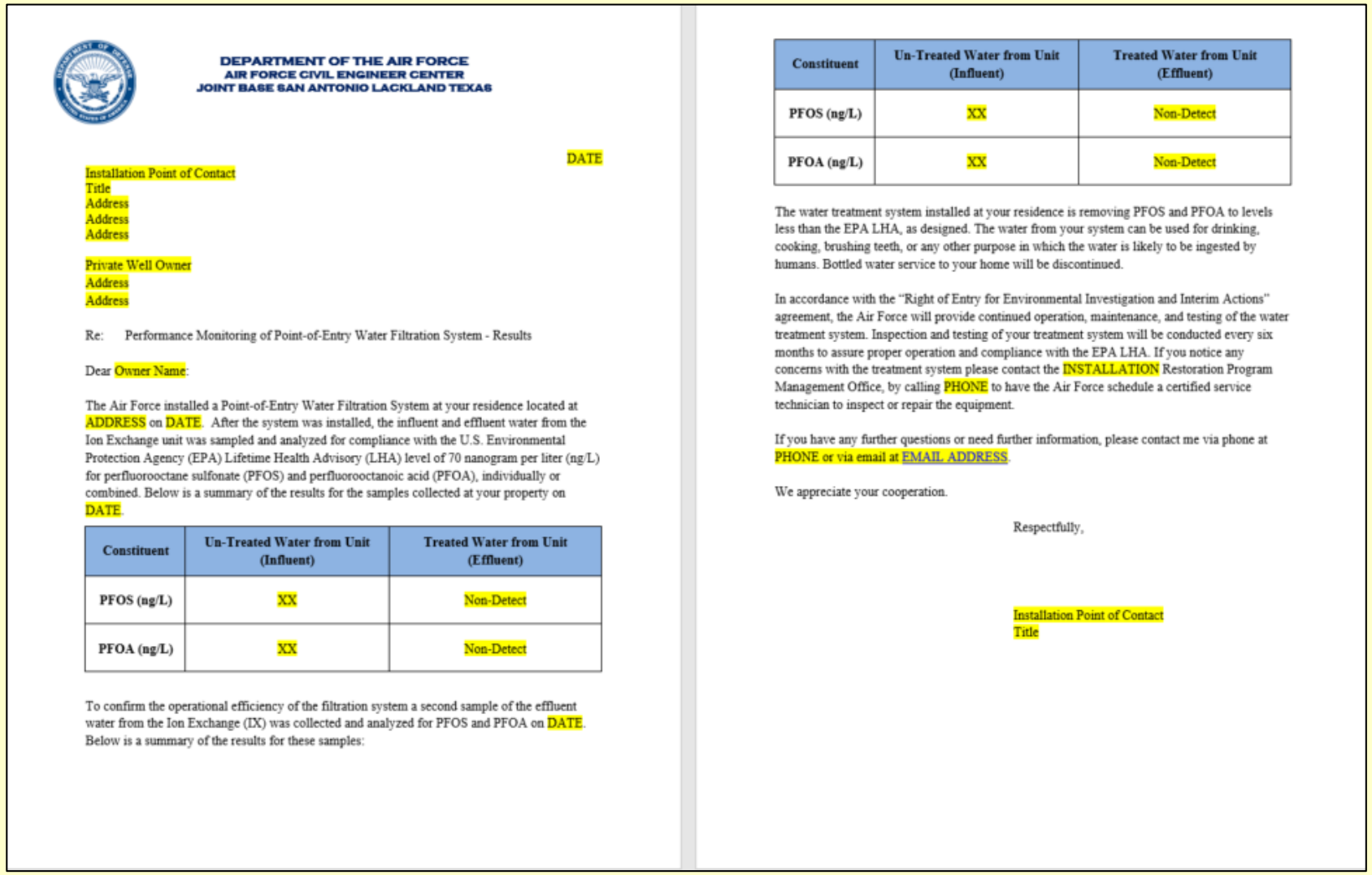
PFOS/PFOA Updates

Off-Base Point-Of-Entry-Treatment-Systems

- Effluent data (validated) from the initial sampling event and 30-day post system monitoring were non-detect.
- Letters to residents are complete and pending routing through Base staff sections for the Commander's signature.
  - Once letters are submitted/received by property owners, delivery of bottled water will be discontinued.
- 16 Sep 2021: 90-day system monitoring sampling event scheduled.
- Quarterly sampling thereafter.

Off-Base Point-Of-Entry-Treatment-Systems

Sample of letter to property owners.



DEPARTMENT OF THE AIR FORCE
AIR FORCE CIVIL ENGINEER CENTER
JOINT BASE SAN ANTONIO LACKLAND TEXAS

DATE

Installation Point of Contact
Title
Address
Address
Address

Private Well Owner
Address
Address

Re: Performance Monitoring of Point-of-Entry Water Filtration System - Results

Dear Owner Name:

The Air Force installed a Point-of-Entry Water Filtration System at your residence located at ADDRESS on DATE. After the system was installed, the influent and effluent water from the Ion Exchange unit was sampled and analyzed for compliance with the U.S. Environmental Protection Agency (EPA) Lifetime Health Advisory (LHA) level of 70 nanogram per liter (ng/L) for perfluorooctane sulfonate (PFOS) and perfluorooctanoic acid (PFOA), individually or combined. Below is a summary of the results for the samples collected at your property on DATE.

Constituent	Un-Treated Water from Unit (Influent)	Treated Water from Unit (Effluent)
PFOS (ng/L)	XX	Non-Detect
PFOA (ng/L)	XX	Non-Detect

To confirm the operational efficiency of the filtration system a second sample of the effluent water from the Ion Exchange (IX) was collected and analyzed for PFOS and PFOA on DATE. Below is a summary of the results for these samples:

Constituent	Un-Treated Water from Unit (Influent)	Treated Water from Unit (Effluent)
PFOS (ng/L)	XX	Non-Detect
PFOA (ng/L)	XX	Non-Detect

The water treatment system installed at your residence is removing PFOS and PFOA to levels less than the EPA LHA, as designed. The water from your system can be used for drinking, cooking, brushing teeth, or any other purpose in which the water is likely to be ingested by humans. Bottled water service to your home will be discontinued.

In accordance with the "Right of Entry for Environmental Investigation and Interim Actions" agreement, the Air Force will provide continued operation, maintenance, and testing of the water treatment system. Inspection and testing of your treatment system will be conducted every six months to assure proper operation and compliance with the EPA LHA. If you notice any concerns with the treatment system please contact the INSTALLATION Restoration Program Management Office, by calling PHONE to have the Air Force schedule a certified service technician to inspect or repair the equipment.

If you have any further questions or need further information, please contact me via phone at PHONE or via email at EMAIL ADDRESS.

We appreciate your cooperation.

Respectfully,

Installation Point of Contact
Title

Expanded Site Inspection

- The Draft Expanded Site Inspection Report is complete with internal comments submitted.
- Currently waiting for RTCs which are expected the week of 13 Sep.
- The final report will be redacted of PII for uploading to the Administrative Record.

AFFF RI Updates

Travis Air Force Base
Phase I Remedial Investigation of AFFF Areas

Presented by
Matthew Mayry PG, CHG

ONEIDA Sustainment and Restoration Services

15 September 2021

Planning Document Update

- *25 March 2021*. Phase I RI WP and UFP-QAPP Intro Mtg.
- *26 March 2021*. Draft docs submitted electronically.
- *26 May 2021*. Regulatory comments received.
- *16 June 2021*. Comment discussion/resolution mtg held.
- *30 June 2021*. Draft Final docs submitted.
- *30 July 2021 – 5 August 2021*. Regulatory concurrence on the Draft-Final docs for initial sampling and additional Agency concerns received.
- *12 August 2021*. USACE Approves Project APP/SSHP.
- *18 August 2021*. RLSO Draft Final WP and UFP-QAPP docs posted to Sharepoint for initial sampling event.
- *Ongoing*. Response to additional Agency comments are currently being developed in order to finalize docs.

23 Aug – 2 Sep Sampling Event

- First week was supported with field observations by two USACE representatives
- Day 1 primarily consisted of:
  - Base access acquisition
  - Natural resources awareness training
  - Flightline and general safety briefings
  - Laydown yard recon and equipment organization
  - General familiarization with the Base
  - Pre-sampling bio monitoring
- Days 4-6 flightline wells requiring escort were sampled
- All other days no escort required
- Appropriate bio monitoring was conducted at wells in/near protected species habitat

23 Aug – 2 Sep Sampling Event

- 99 total sample locations during the event:
  - 96 existing MWs
  - Three treatment systems: SBBGWTP, CGWTP, and LF007
    - Influent and effluent samples collected from each system
  - Eighteen QC samples field duplicates and MS/MSDs
  - Three QC blanks (field reagent blanks (FRBs) and equipment blank).

23 Aug – 2 Sep Sampling Event

- Unable to sample five MWs:
  - MW254X05 Dry
  - MW108X16 Not found
  - MW211X16 Not found
  - PZ11NSX18 Not sampled due to construction
  - PZ12NSX18 Not sampled due to construction

- Replacement wells:
  - MW213NSX18 replaced PZ wells

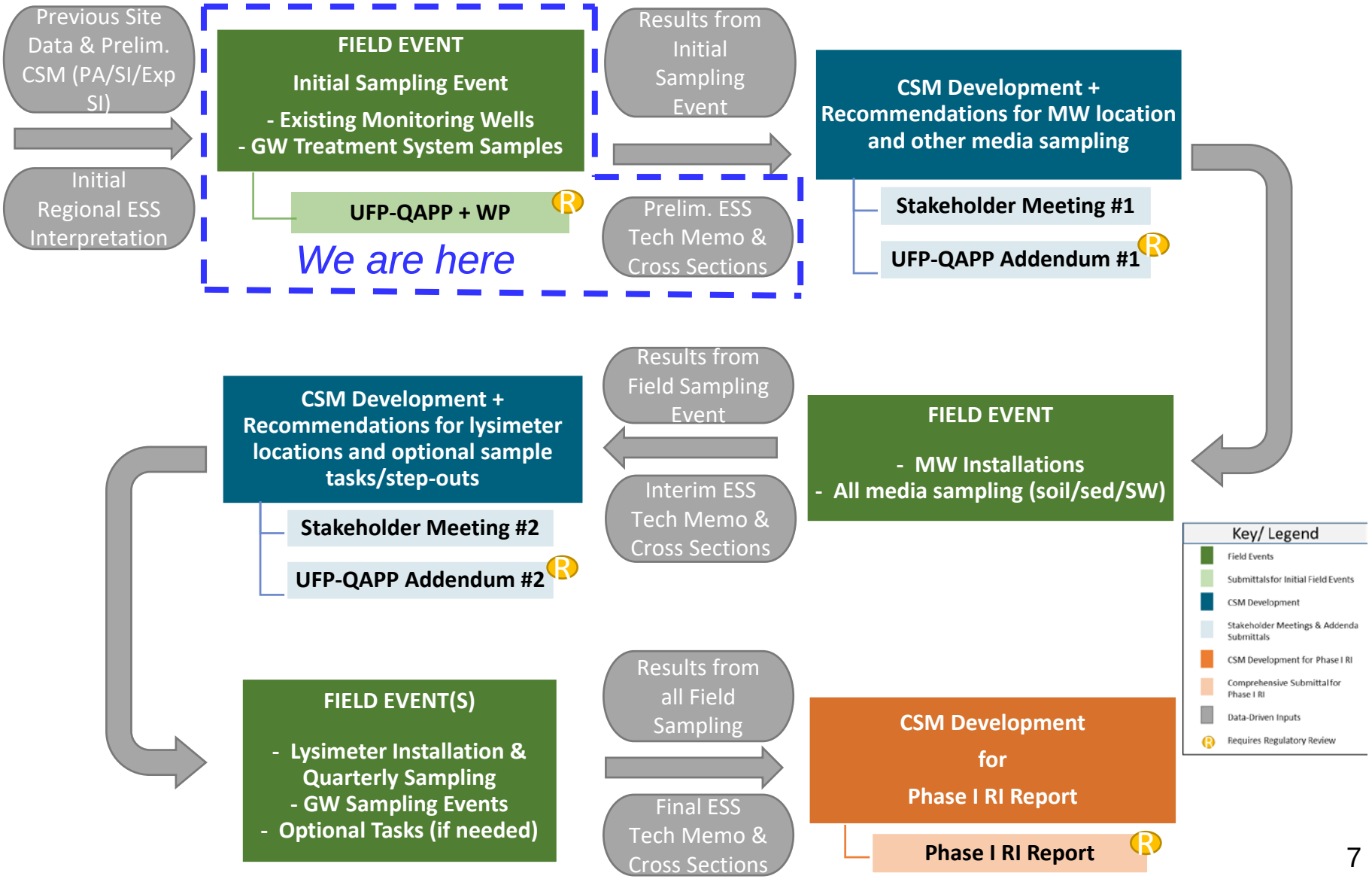
The PZ wells could not be accessed as there was a blockage that prevented equipment from accessing the appropriate depth. PZ well diameter were too narrow for troubleshooting to remove blockage.

  - MW226X16 replaced MW 211X16

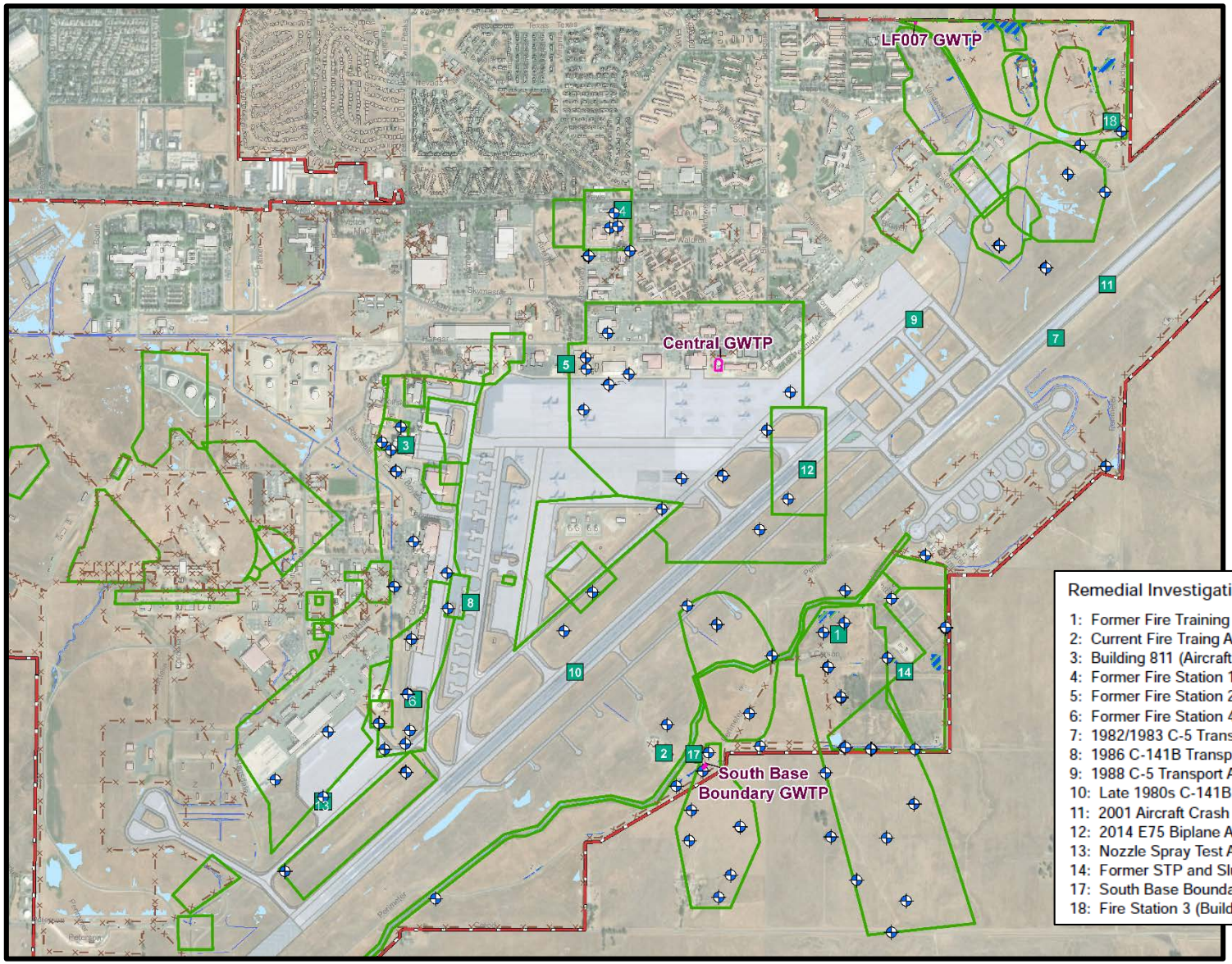
MW226x16 is located on a construction site. Access to well is limited to do construction material/hazards.

23 Aug – 2 Sep Sampling Event

Phase I Remedial Investigation Data-Driven Process



AFFF and Remedial Investigation Areas

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