

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

20 August 2014, 0930 Hours

Mr. Mark Smith, of the Air Force Civil Engineer Center (AFCEC) Restoration Support Team, conducted the Restoration Program Manager's (RPM) meeting in Building 248, on 20 August 2014 at 0930 hours, at Travis AFB, California. Attendees included:

- Mark Smith AFCEC/CZOW
- Glenn Anderson AFCEC/CZOW
- Lonnie Duke AFCEC/CZOW
- Erin Hernandez Travis AFB 60 AMW/JA
- William Hall AFCEC/CZRW
- Dezso Linbrunner USACE-Omaha
- Adriana Constantinescu California Regional Water Quality Control Board (RWQCB)
- John Hart (via telephone) California Department of Toxic Substances Control (DTSC)
- Nadia Hollan Burke (via telephone) United States Environmental Protection Agency (USEPA)

- Indira Balkissoon Techlaw, Inc
- Bob Driscoll CH2M HILL
- Tom O'Hara CH2M HILL
- Mike Wray CH2M HILL
- Loren Krook 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 (July 2014)
- Attachment 4 CGWTP Monthly Data Sheet (July 2014)
- Attachment 5 NGWTP Monthly Data Sheet (July 2014)
- Attachment 6 ST018 Monthly Data Sheet (July 2014)
- Attachment 7 Site LF044 Site Plan

- Attachment 8 EPA Road Map
- Attachment 9 Presentation: Program Update: Activities Completed, In Progress and Upcoming

1. ADMINISTRATIVE

A. Previous Meeting Minutes

The 23 July 2014 RPM meeting minutes were approved and finalized as written.

B. Action Item Review.

Action items from July were reviewed.

Action item 1 will remain open: AFCEC’s Travis Restoration Team and Travis AFB will continue to pursue opportunities for the beneficial reuse of treated water. AFCEC is in agreement with using Defense Environmental Restoration Account (DERA) funds under the authority of a “net-zero energy policy” for the Air Force for the beneficial reuse of treated groundwater. Current possibilities include: Rerouting treated water from the central plant to the duck pond or as irrigation as an energy reduction project with the intent of reducing on-base water usage. Due date will remain TBD to ensure this action item remains visible. 20 August 2014: No update.

Action item 2 was closed: Travis AFB to provide a site specific road map for the nineteen sites listed in the ROD. The EPA Road Map was provided and discussed at the 20 August 2014 RPM meeting. This item is now closed.

Master Meeting and Document Schedule Review (see Attachment 2)

The Travis AFB Master Meeting and Document Schedule (MMDS) was discussed during this meeting (see Attachment 2).

Travis AFB Annual Meeting and Teleconference Schedule

The next RPM meeting will be held on 17 September 2014 via teleconference. The October RPM meeting will be held at Travis AFB and the November RPM meeting is scheduled as a teleconference subject to change to a face to face meeting if presentations are scheduled. The next Restoration Advisory Board (RAB) meeting is scheduled for 23 October 2013 at 19:00 hours.

Travis AFB Master Document Schedule

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

- Site SD037 GW Remedial Design/Remedial Action Work Plan: Dates updated to reflect the actual draft delivery date of 13 August 2014 with the corresponding comments deadlines.
- Site SD036 Remedial Design/Remedial Action Work Plan: No changes to the schedule.
- Site SS016 GW Remedial Design/Remedial Action Work Plan: No changes to the schedule.
- Site SS015 GW Remedial Design/Remedial Action Work Plan: No changes to the schedule.
- Community Involvement Plan: New document. All dates to be determined. This document will be an update to the previous version of the Community Involvement Plan. Ms. Balkissoon gave recommendations to focus on the achievements of Travis AFB in community relations as progress has been made toward cleanup at the Base. Mr. Hart advised the inclusion of the DTSC public relations specialist in an email to gauge her expected level of involvement with the document.
- Potrero Hills Annex (FS, PP, and ROD): No change to the schedule.
- Site FT004 Technology Demonstration Work Plan: The response to comments meeting was updated to 20 August 2014. Mr. Anderson advised postponement of the response to comments meeting to provide the EPA with more time to review comments. Ms. Burke concurred with postponement.
- Site DP039 Lead Excavation Technical Memorandum: The response to comments meeting was updated to 20 August 2014. Mr. Anderson advised postponement of the response to comments meeting to allow Travis AFB more time in preparation of responses to comments. Ms. Burke concurred with postponement.
- Explanation of Significant Differences (ESD) to the NEWIOU Soil, Sediment, and Surface Water Record of Decision (ROD): All dates were revised to TBD pending determination of ESD versus ROD amendment applicability to changes in approach to the NEWIOU soil sites.
- Site TA500 Investigation Work Plan: The draft to agencies date was revised to 20 August 2014 with the comments due at the 30-day mark. This WP addresses an annex that is just north of the base. The chemical of concern is fluoride in groundwater. There has been a lot of upgrading of the infrastructure within the site that is unrelated to any environmental work. The source of the fluoride originated from a release of hydrofluorosilicic acid that was used to treat potable water. In theory, the fluoride should attenuate, but a data gap investigation needs to be conducted to see if attenuation took place or if additional remedial work is needed.
- Site SD031 Technology Demonstration Work Plan: No changes to schedule.
- Explanation of Significant Differences to the Soil Record of Decision for the WABOU: All dates were revised to TBD pending determination of ESD versus ROD amendment applicability to changes in approach to the WABOU soil sites.

- Site ST018 POCO Work Plan Addendum – New document. All new dates. This work plan addresses the installation of an additional extraction well at Site ST018. It will be an addendum to the previous ST018 work plan because the new extraction well will follow the same design plan of the existing three, previously installed at the site.
- Site SD034 Data Gap Investigation: New document. All new dates. This work identifies the plan for delineating the extent of Stoddard Solvent that remains in the soil at Site SD034. The Stoddard Solvent will also be characterized during the data gap investigation to determine its constituents and whether or not there is a potential ongoing source.
- Site SS014 Technology Demonstration Work Plan: No changes to the schedule.
- Quarterly Newsletter (October 2014): The dates for the October 2014 quarterly newsletter have been updated.
- Kinder Morgan LF044 Land Use Control Report: No changes to schedule.

2. CURRENT PROJECTS

Treatment Plant Operation and Maintenance Update

South Base Boundary Groundwater Treatment Plant (see Attachment 3)

The South Base Boundary Groundwater Treatment Plant (SBBGWTP) performed at 100% uptime, and 3.9 million gallons of groundwater were extracted and treated during the month of July 2014. All of the treated water was discharged to Union Creek. The average flow rate for the SBBGWTP was 71.2 gallons per minute (gpm). Electrical power usage was 5,520 kWh, and approximately 7,562 pounds of CO₂ were created (based on DOE calculation). Approximately 1.41 pounds of volatile organic compounds (VOCs) were removed in July. The total mass of VOCs removed since startup of the system is 450 pounds.

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

Ms. Balkissoon commented on the inconsistent electricity usage by the SBBGWTP. Mr. Duke said that he is still working with the Base to troubleshoot the electric meter at the plant.

Central Groundwater Treatment Plant (see Attachment 4)

The Central Groundwater Treatment Plant (CGWTP) performed at 94% uptime with approximately 1.33 million gallons of groundwater extracted and treated during the month of July 2014. All treated water was discharged to the storm drain. The average flow rate for the CGWTP was 35.2 gpm. Electrical power usage was 1,932 kWh for all equipment connected to the Central Plant, and approximately 2,647 pounds of CO₂ were generated. Approximately 3.36 pounds of VOCs were removed from groundwater by the treatment plant in July. The total mass of VOCs removed since the startup of the system is 11,375 pounds.

Optimization Activities for WTTP: The WTTP remains off line since it was shut down in April 2010 for the ongoing rebound study. The rebound study was concluded with the signing of the Groundwater ROD in July. No additional optimization activities to report for the month of July.

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

North Groundwater Treatment Plant (see Attachment 5)

The North Groundwater Treatment Plant (NGWTP) performed at 90% uptime with approximately 197,870 gallons of groundwater extracted and treated during the month of July 2014. The average flow rate at the NGWTP was 4.9 gpm, and electrical power use was 0 kWh for all the equipment connected to the North plant; and 0 pounds of CO₂ was generated; this system is 100 percent off of the power grid. Approximately 8.52×10^{-3} pounds of VOCs were removed from the groundwater in July. The total mass of VOCs removed since the startup of the system is 174.3 pounds.

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

Site ST018 Groundwater (MTBE) Treatment Plant (see Attachment 6)

The Site ST018 (MTBE) Treatment Plant (ST018 GWTP) performed at 56% uptime with approximately 99,000 gallons of groundwater extracted and treated during the month of July 2014. All treated water was diverted to the storm drain. The average flow rate for the ST018 GWTP was 4.12 gpm. Electrical power usage for the month was 77 kWh for all equipment connected to the ST018 GWTP plant, which equates to the creation of approximately 105 pounds of CO₂. Approximately 0.12 pounds of BTEX, MTBE and TPH were removed from groundwater in July from the treatment plant. The total BTEX, MTBE and TPH mass removed since the startup of the system is 30.4 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 solar powered.

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

Discussions:

Site LF044 Site Plan (see Attachment 7)

Glenn Anderson reported on the Site LF044 Site Plan.

Mr. Anderson provided a brief discussion and update on the LF044 Site Plan. The site plan is currently being revised based on the results of a ground truth inspection to confirm the boundaries of the existing land use controls and site features. Revisions to the controlled area boundaries will be made based on observations at the site. These revisions will include minimization of a bulge in the fence line on the northeast boundary of the site and removal of a notched out area of the fence, shown on the figure, which are not present at the site.

Ms. Burke suggested that the revised site plan should distinguish the controlled area boundary from the site boundary. Mr. Anderson concurred that the difference between the two areas is not made obvious by the figure and that changes will be made to clarify that the figure shows the current controlled area boundaries versus the original site area as a whole.

EPA Road Map (see Attachment 8)

Mike Wray presented the EPA Road Map, titled Travis AFB Federal Facility Remedial Design/Remedial Action Schedule. The EPA Road Map was initially put together by Ms. Burke to provide a comprehensive schedule showing the path forward for Travis AFB, including additional documents that are not included on the MMDS. Mr. Wray revised the original document provided by Ms. Burke to include additional dates based on the definitions provided on Slides 3 and 4, which define the logic used to populate the dates in the schedule.

Ms. Balkissoon asked about the origin of the definitions used to establish the dates in the schedule and whether they are consistent with EPA guidance. Ms. Burke provided feedback to help explain that the definitions were intended to show what the dates in the schedule are based on, not what is considered fulfillment of EPA requirements.

For sites where monitored natural attenuation (MNA) is the remedy selected in the Groundwater ROD, Remedial Design Complete is aligned with the finalization of the 2014 GRISR on 20 June 2015. For sites where the infrastructure needed to implement the selected final remedy, the date of the final Groundwater ROD signing (26 June 2014) is input for Remedial Design Complete. The remaining sites where additional infrastructure is necessary to implement the final remedy, the dates of the final Remedial Design/Remedial Actions Work Plans for each site are listed.

Remedial Action Start dates are assigned based on progress toward final remedy implementation. For systems that are already in place, the Remedial Action Start date is that of the final Groundwater ROD. The construction start date is input for those sites requiring significant construction to implement the final remedy. Finally, the date that the 2014 GRISR is anticipated to go final is input for MNA sites.

Remedial Action/Operations and Maintenance (O&M) Complete is the final category included in the schedule. For No Further Action Sites the date input is the date of the final Groundwater ROD signing. For non-detect sites and sites where the infrastructure to implement the final remedy is in place, the date listed is that of the final 2014 GRISR. For MNA, this date is three (3) months after the Remedial Action Start date, which is the time anticipated to complete the Remedial Action Completion Report (RACR). For RD/RA sites, the date of the final RACR is input as the RA/O&M start date.

Ms. Burke noted that the EPA considers the date of remedy selection to be the date that the EPA signed the final Groundwater ROD as opposed to the date all parties had signed. Mr. Anderson stated that for Travis AFB purposes and due to the fact that three parties are included in the Federal Facility Agreement, the final Groundwater ROD date is most appropriate for inclusion in the EPA Road Map.

Presentations:

Program Update: Activities Completed, In Progress and Upcoming (see Attachment 9)

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: None.

Newly Completed Field Work: None.

In-Progress Documents: Travis AFB UFP-QAPP, DP039 Lead Excavation Technical Memo, FT004 Technology Demonstration Work Plan, Kinder Morgan LF044 Land Use Control Report, TA500 Investigation Work Plan, SD037 RD/RA Work Plan.

In-Progress Field Work: Site CG508 Site Investigation, Old Skeet Range Characterization Sampling.

Upcoming Documents: Community Involvement Plan, ESD to WABOU Soil ROD, ESD to NEWIOU Soil, Sediment, & Surface Water ROD, SD031 Technology Demonstration Work Plan, SD036 RD/RA Work Plan, ST018 POCO Work Plan Addendum, SD034 Data Gap Investigation Work Plan, SS014 Technology Demonstration Work Plan, SS016 GW RD/RA Work Plan, SS015 GW RD/RA Work Plan.

Mr. Smith commented that a lot of coordination will be required at Site SD034 due to proximity of the site to an active hangar and requested patience while they coordinate with all of the interested parties during the work planning process.

Upcoming Field Work: SD031 Technology Demonstration, 4Q Semiannual GRIP Sampling Event, SD037 EVO Injection, ST018 Extraction Well Installation.

4. New Action Item Review

None.

5. PROGRAM/ISSUES/UPDATE

Mr. Linbrunner commended Mr. Hall's efforts in obtaining accelerated funding for the PBC-13 project. An additional \$4.2 million has been awarded outside the normal funding and an additional \$1.68 million is expected to be awarded soon. This will bring the FY2014 total up to approximately \$16 million and the total by FY2015 to approximately \$22 million.

Mr. Linbrunner also mentioned a Defense Logistics Agency (DLA) project that USACE manages, and Mr. Duke oversees. The Lawler Ranch project is a Solano County project, and is managed by the Certified Unified Program Agency (CUPA). This project involves a jet fuel pipeline leak that occurred in 2009. Mr. Linbrunner shared that the work on this project was consolidated under one contract, which resulted in a savings of approximately \$2500 to \$3000, as well as his and his technical team's time on the project for a total savings of around \$5000 to \$7000.

Mr. Linbrunner mentioned Tom O'hara (CH2M HILL Atlanta) and Bob Driscoll's (CH2M HILL Kansas City) visit to Travis AFB for a visual on everything that was accomplished in the FY08 contract. He also showed them sites scheduled to be worked on in the PBC-13 contract.

Mr. Linbrunner stated that the FY2008 PBC is now completed and has gone through a quick closeout with both parties agreeing that neither will come back for adjustments on the closeout dollar values.

6. Action Items

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

| | | | | |
|----|------------|---|----------------|---------|
| 2. | Travis AFB | Travis AFB to provide a site specific roadmap for the nineteen sites listed in the ROD. | 20 August 2014 | Closed. |
|----|------------|---|----------------|---------|

TRAVIS AIR FORCE BASE
ENVIRONMENTAL RESTORATION PROGRAM
RESTORATION PROGRAM MANAGER'S MEETING
BLDG 248 Conference Room
20 August 2014, 9:30 A.M.
AGENDA

CALL IN NUMBER: 1-866-203-7023

CONFERENCE CODE: 5978759736 #

1. ADMINISTRATIVE

- A. PREVIOUS MEETING MINUTES
- B. ACTION ITEM REVIEW
- C. MASTER MEETING AND DOCUMENT SCHEDULE REVIEW

2. CURRENT PROJECTS

- A. TREATMENT PLANT OPERATION AND MAINTENANCE UPDATE

3. DISCUSSION

- A. SITE LF044 SITE PLAN
- B. EPA ROAD MAP

4. PRESENTATION

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

5. NEW ACTION ITEM REVIEW

6. PROGRAM/ISSUES/UPDATE

- A. RAB POST-ROD BASE VISIT

NOTES: AFTER THE RPM MEETING WE WILL HOLD A SEPARATE MEETING TO DISCUSS THE RESPONSES TO AGENCY COMMENTS ON THE DRAFT FT004 TECHNOLOGY DEMONSTRATION WORK PLAN, THE KINDER MORGAN SITE LF044 LUC REPORT, AND THE DP039 LEAD EXCAVATION TECHNICAL MEMORANDUM. ALL PARTICIPANTS ARE WELCOME TO ATTEND.

(2014)
Annual Meeting and Teleconference Schedule

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

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

² Note: Replaced with post-ROD base visit on 25 July 2014

Travis AFB Master Meeting and Document Schedule

| PRIMARY DOCUMENTS | | | |
|-------------------------------------|--|--|---|
| Life Cycle | Travis Air Force Base Uniform Federal Policy-Quality Assurance Project Plan Travis, Glenn Anderson CH2M HILL, Bernice Kidd | Site SD037 GW Remedial Design/Remedial Action Work Plan Travis AFB, Glenn Anderson CH2M HILL, Leslie Royer | Site SD036 Remedial Design/Remedial Action Work Plan Travis AFB, Glenn Anderson CH2M HILL, Leslie Royer |
| Scoping Meeting | NA | NA | NA |
| Predraft to AF/Service Center | 05-30-14 | 04-25-14 | 08-23-14 |
| AF/Service Center Comments Due | 06-13-14 | 05-08-14 | 09-05-14 |
| Draft to Agencies | 07-22-14 | 08-13-14 | 10-04-14 |
| Draft to RAB | 07-22-14 | 08-13-14 | 10-04-14 |
| Agency Comments Due | 08-20-14 | 09-12-14 | 11-02-14 |
| Response to Comments Meeting | 09-11-14 | 09-17-14 | 11-19-14 |
| Public Comment Period | NA | NA | NA |
| Public Meeting | NA | NA | NA |
| Response to Comments Due | 09-22-14 | 10-13-14 | 12-01-14 |
| Draft Final Due | 09-22-14 | 10-13-14 | 12-01-14 |
| Final Due | 10-22-14 | 11-12-14 | 01-20-15 |

Travis AFB Master Meeting and Document Schedule

| PRIMARY DOCUMENTS | | | |
|-------------------------------------|---|---|---|
| Life Cycle | 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 | Community Involvement Plan Travis AFB, Mark Smith CH2M HILL, Tricia Carter |
| Scoping Meeting | NA | NA | NA |
| Predraft to AF/Service Center | 10-24-14 | 02-18-15 | TBD |
| AF/Service Center Comments Due | 11-06-14 | 03-03-15 | TBD |
| Draft to Agencies | 12-05-14 | 04-01-15 | TBD |
| Draft to RAB | 12-05-14 | 04-01-15 | TBD |
| Agency Comments Due | 01-03-15 | 05-01-15 | TBD |
| Response to Comments Meeting | 01-21-15 | 05-20-15 | TBD |
| Public Comment Period | NA | NA | NA |
| Public Meeting | NA | NA | NA |
| Response to Comments Due | 02-02-15 | 06-01-15 | TBD |
| Draft Final Due | 02-02-15 | 06-01-15 | TBD |
| Final Due | 03-04-15 | 07-01-15 | TBD |

Travis AFB Master Meeting and Document Schedule

| PRIMARY DOCUMENTS | | | |
|-------------------------------------|---|----------------------|--------------------|
| Life Cycle | Potrero Hills Annex Travis, Glenn Anderson | | |
| | FS | Proposed Plan | ROD |
| Scoping Meeting | 180 days after Water Board Order Rescinded | +470 days | +735 days |
| Predraft to AF/Service Center | + 270 days | +530 days | + 915 days |
| AF/Service Center Comments Due | + 300 days | +560 days | + 975 days |
| Draft to Agencies | +330 days | +590 days | + 1035 days |
| Draft to RAB | + 330 days | +590 days | + 1035 days |
| Agency Comments Due | +390 days | +650 days | + 1095 days |
| Response to Comments Meeting | + 405 days | +665 days | + 1110 days |
| Agency Concurrence with Remedy | NA | NA | + 1130 days |
| Public Comment Period | NA | +735 to 765 days | NA |
| Public Meeting | NA | +745 days | NA |
| Response to Comments Due | +430 days | +695days | + 1190 days |
| Draft Final Due | +430 days | +695 days | + 1190 days |
| Final Due | +460 days | +725 days | + 1250 days |

Travis AFB Master Meeting and Document Schedule

| SECONDARY DOCUMENTS | | | |
|-------------------------------------|---|--|--|
| Life Cycle | Site FT004 Technology Demonstration Work Plan Travis AFB, Glenn Anderson CH2M HILL, Tony Chakurian | Site DP039 Lead Excavation Technical Memorandum Travis AFB, Glenn Anderson CH2M HILL, Loren Krook | Explanation of Significant Differences to the NEWIOU Soil, Sediment, and Surface Water Record of Decision Travis AFB, Glenn Anderson CH2M HILL, Loren Krook |
| Scoping Meeting | NA | NA | NA |
| Predraft to AF/Service Center | 04-21-14 | 06-02-14 | TBD |
| AF/Service Center Comments Due | 05-21-14 | 06-16-14 | TBD |
| Draft to Agencies | 06-28-14 | 07-01-14 | TBD |
| Draft to RAB | 06-28-14 | 07-01-14 | TBD |
| Agency Comments Due | 7-28-14 | 07-31-14 | TBD |
| Response to Comments Meeting | 08-20-14 | 08-20-14 | TBD |
| Response to Comments Due | 08-27-14 | 08-29-14 | TBD |
| Draft Final Due | NA | NA | NA |
| Final Due | 08-27-14 | 08-29-14 | TBD |
| Public Comment Period | NA | NA | NA |
| Public Meeting | NA | NA | NA |

Travis AFB Master Meeting and Document Schedule

| SECONDARY DOCUMENTS | | | |
|-------------------------------------|---|---|--|
| Life Cycle | Site TA500 Data Gap Investigation Work Plan Travis AFB, Glenn Anderson CH2M HILL, Leslie Royer | Site SD031 Technology Demonstration Work Plan Travis AFB, Glenn Anderson CH2M HILL, Leslie Royer | Explanation of Significant Differences to the Soil Record of Decision for the WABOU Travis AFB, Glenn Anderson CH2M HILL, Loren Krook |
| Scoping Meeting | NA | NA | NA |
| Predraft to AF/Service Center | 07-23-14 | 07-11-14 | TBD |
| AF/Service Center Comments Due | 08-05-14 | 07-25-14 | TBD |
| Draft to Agencies | 08-20-14 | 08-25-14 | TBD |
| Draft to RAB | 08-20-14 | 08-25-14 | TBD |
| Agency Comments Due | 09-19-14 | 09-24-14 | TBD |
| Response to Comments Meeting | 10-02-14 | 10-08-14 | TBD |
| Response to Comments Due | 10-20-14 | 10-24-14 | TBD |
| Draft Final Due | NA | NA | NA |
| Final Due | 10-20-14 | 10-24-14 | TBD |
| Public Comment Period | NA | NA | NA |
| Public Meeting | NA | NA | NA |

Travis AFB Master Meeting and Document Schedule

| SECONDARY DOCUMENTS | | | |
|-------------------------------------|---|--|--|
| Life Cycle | Site ST018 POCO Work Plan Addendum Travis AFB, Lonnie Duke CH2M HILL, Leslie Royer | Site SD034 Data Gap Investigation Travis AFB, Lonnie Duke CH2M HILL, Leslie Royer | Site SS014 POCO Technology Demonstration Work Plan Travis AFB, Glenn Anderson CH2M HILL, Leslie Royer |
| Scoping Meeting | NA | NA | NA |
| Predraft to AF/Service Center | 09-04-14 | 09-25-14 | 11-06-14 |
| AF/Service Center Comments Due | 09-17-14 | 10-08-14 | 11-19-14 |
| Draft to Agencies | 10-16-14 | 11-06-14 | 12-18-14 |
| Draft to RAB | 10-16-14 | 11-06-14 | 12-18-14 |
| Agency Comments Due | 11-14-14 | 12-05-14 | 01-23-15 |
| Response to Comments Meeting | 10-23-14 | 12-19-14 | 01-30-15 |
| Response to Comments Due | 12-15-14 | 01-05-15 | 02-23-15 |
| Draft Final Due | NA | NA | NA |
| Final Due | 12-15-14 | 01-05-15 | 02-23-15 |
| Public Comment Period | NA | NA | NA |
| Public Meeting | NA | NA | NA |

Travis AFB Master Meeting and Document Schedule

| INFORMATIONAL DOCUMENTS | | |
|-------------------------------------|--|--|
| Life Cycle | Quarterly Newsletters (October 2014) Travis, Glenn Anderson | Kinder Morgan Site LF044 Land Use Control Report Travis AFB, Glenn Anderson AMEC, Nick Ricono |
| Scoping Meeting | NA | NA |
| Predraft to AF/Service Center | NA | NA |
| AF/Service Center Comments Due | NA | NA |
| Draft to Agencies | 09-23-14 | 09-18-13 |
| Draft to RAB | NA | 09-18-13 |
| Agency Comments Due | 10-07-14 | 10-18-13 |
| Response to Comments Meeting | TBD | 06-18-14 |
| Response to Comments Due | 10-14-14 | 06-25-14 |
| Draft Final Due | NA | NA |
| Final Due | 10-14-14 | TBD |
| Public Comment Period | NA | NA |
| Public Meeting | NA | NA |

Travis AFB Master Meeting and Document Schedule

| HISTORY | |
|-------------------------------------|---|
| Life Cycle | Groundwater Record of Decision Travis, Glenn Anderson CH2M HILL, Leah Waller |
| Scoping Meeting | 01-24-07 (11-30-11) |
| Predraft to AF/Service Center | 11-28-12 |
| AF/Service Center Comments Due | 12-12-12 |
| Draft to Agencies | 01-02-13 ¹ |
| Draft to RAB | 01-02-13 ¹ |
| Agency Comments Due | 03-03-13 (04-05-13) |
| Response to Comments Meeting | 11-20-13 |
| Public Comment Period | NA |
| Public Meeting | NA |
| Response to Comments Due | 02-19-14 |
| Draft Final Due | 02-19-14 |
| Final Due | 06-26-14 |

Travis AFB Master Meeting and Document Schedule

| HISTORY | | |
|-------------------------------------|---|--|
| Life Cycle | Site CG508 POCO Work Plan Travis AFB, Glenn Anderson CH2M HILL, Tony Chakurian | 2013 Annual Groundwater Remediation Implementation Status Report Travis AFB, Lonnie Duke CH2M HILL, Royer/Berwick |
| Scoping Meeting | NA | NA |
| Predraft to AF/Service Center | 02-25-14 | 03-24-14 |
| AF/Service Center Comments Due | 03-11-14 | 04-10-14 |
| Draft to Agencies | 03-26-14 | 04-25-14 |
| Draft to RAB | 03-26-14 | 04-25-14 |
| Agency Comments Due | 04-27-14 | 05-26-14 |
| Response to Comments Meeting | 05-14-14 | 06-18-14 |
| Response to Comments Due | 06-25-14 | 06-26-14 |
| Draft Final Due | NA | NA |
| Final Due | 07-01-14 | 07-16-14 |
| Public Comment Period | NA | NA |
| Public Meeting | NA | NA |

South Base Boundary Groundwater Treatment Plant Monthly Data Sheet

Report Number: 167

Reporting Period: 30 June 2014 – 31 July 2014

Date Submitted: 18 August 2014

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

System Metrics

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

| Table 1 – Operations Summary – July 2014 | | | |
|--|----------------------|---|-----------------|
| Initial Data Collection: | 6/30/2014 15:30 | Final Data Collection: | 7/31/2014 17:15 |
| Operating Time: | Percent Uptime: | Electrical Power Usage: | |
| SBBGWTP: 914 hours | SBBGWTP: 100% | SBBGWTP: 5,520 kWh (7,562 lbs CO ₂ generated ^a) | |
| Gallons Treated: 3.9 million gallons | | Gallons Treated Since July 1998: 865 million gallons | |
| Volume Discharged to Union Creek: 3.9 million gallons | | | |
| VOC Mass Removed: 1.41 lbs^b | | VOC Mass Removed Since July 1998: 450 lbs | |
| Rolling 12-Month Cost per Pound of Mass Removed: \$8,706 ^c | | | |
| Monthly Cost per Pound of Mass Removed: \$2,917 | | | |
| lbs = pounds | | | |
| ^a Based on Department of Energy estimate that 1 kilowatt hour generated produces 1.37 pounds of GHG. | | | |
| ^b Calculated using July 2014 EPA Method SW8260B analytical results. | | | |
| ^c Costs include operations and maintenance, reporting, analytical laboratory, project management, and utility costs related to operation of the system. | | | |

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

| Table 2 – SBBGWTP Average Flow Rate (gpm)^{a,b} | | | | | | | |
|--|---------|----------|---------|--------------------------|------|--------------------------|------|
| FT005^c | | | | SS029 | | SS030 | |
| EW01x05 | 1.5 | EW736x05 | Offline | EW01x29 | 0.5 | EW01x30 | 0.5 |
| EW02x05 | 1.4 | EW737x05 | Offline | EW02x29 | 3.1 | EW02x30 | 0.8 |
| EW03x05 | Offline | EW742x05 | Offline | EW03x29 | 1.6 | EW03x30 | 4.6 |
| EW731x05 | Offline | EW743x05 | Offline | EW04x29 | 4.5 | EW04x30 | 36.5 |
| EW732x05 | Offline | EW744x05 | Offline | EW05x29 | 11.7 | EW05x30 | 3.1 |
| EW733x05 | Offline | EW745x05 | Offline | EW06x29 | 4.8 | EW06x30 | Dry |
| EW734x05 | 1.7 | EW746x05 | Offline | EW07x29 | 9.5 | EW711x30 | 4.0 |
| EW735x05 | 1.3 | | | | | | |
| FT005 Total: 5.9 | | | | SS029 Total: 35.7 | | SS030 Total: 49.5 | |
| SBBGWTP Average Monthly Flow^c: 71.2 gpm | | | | | | | |
| ^a Extraction well flow rates are based on instantaneous weekly readings collected at the end of the month. ^b Most extraction wells at FT005 were taken offline in accordance with the <i>2008 Annual Remedial Process Optimization Report for the Central Groundwater Treatment Plant, North Groundwater Treatment Plant, and South Base Boundary Groundwater Treatment Plant.</i> ^c The average SBBGWTP groundwater flow rate was calculated using the Union Creek Discharge Totalizer and dividing it by the total time in the reporting period. gpm – gallons per minute SBBGWTP – South Base Boundary Groundwater Treatment Plant | | | | | | | |

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

| Table 3 – Summary of System Shutdowns | | | | | |
|---|-----------------|-------------|----------------|-------------|--------------|
| Location | Shutdown | | Restart | | Cause |
| | Date | Time | Date | Time | |
| SBBGWTP | None | NA | | | |
| SBBGWTP = South Base Boundary Groundwater Treatment Plant | | | | | |

Summary of O&M Activities

Monthly groundwater samples were collected at the SBBGWTP on 7 July 2014. Sample results are presented in Table 4. The total VOC concentration (43.2 µg/L) in the influent sample has decreased since the June sample (49.28 µg /L) was collected. Cis-1,2-DCE (2.6 µg/L) and TCE (40.6 µg/L) were detected at the influent sampling location. Acetone (11.4 J µg/L) was detected at the midpoint sampling location, as at the NGWTP, but was not detected at the influent sampling location. No contaminant concentrations were detected at the effluent sampling location. Effluent concentrations will continue to be monitored for breakthrough conditions.

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 July 2014 to 71.2 gpm from 78.7 gpm in June.

On 2 July 2014 maintenance of Site SS030 extraction wells EW711x30, EW03x30, and EW05x30 was performed. During this time, the level transducer at extraction well EW711x30 was replaced after the existing transducer ceased to register the water level with the SCADA system. Additional troubleshooting will be performed in August to get the new transducer functioning as intended. The pump at EW03x30 was removed on July 2nd and the pump discharge fitting was corroded. The fitting was replaced immediately and a new discharge manifold was installed on 23 July 2014 to remove additional corrosion identified in the well vault.

Optimization Activities

No optimization activities were performed in July 2014.

Sustainability

Travis AFB is committed to decreasing the amount of GHG produced directly (waste streams discharging GHG) or indirectly (GHG produced as related to electrical energy consumption) from all systems across Travis AFB. Travis AFB continues to optimize each treatment plant to reduce the amount of electrical energy consumed, and to implement sustainable treatment plant optimization programs, such as 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 7,562 pounds of GHG during July 2014. This is a decrease from usage during June 2014. GHG production at the SBBGWTP during July 2014 is consistent with expected monthly usage at the SBBGWTP.

TABLE 4

Summary of Groundwater Analytical Data for July 2014 – South Base Boundary Groundwater Treatment Plant

| Constituent | Instantaneous Maximum ^a (µg/L) | Detection Limit (µg/L) | N/C | 7 July 2014 (µg/L) | | |
|--|--|---------------------------|-----|-----------------------|----------|----------|
| | | | | Influent | Midpoint | Effluent |
| Halogenated Volatile Organics | | | | | | |
| Carbon Tetrachloride | 0.5 | 0.14 | 0 | ND | ND | ND |
| Chloroform | 5.0 | 0.16 | 0 | ND | ND | ND |
| 1,1-Dichloroethane | 5.0 | 0.50 | 0 | ND | ND | ND |
| 1,2-Dichloroethane | 0.5 | 0.15 | 0 | ND | ND | ND |
| 1,1-Dichloroethene | 5.0 | 0.19 | 0 | ND | ND | ND |
| cis-1,2-Dichloroethene | 5.0 | 0.19 | 0 | 2.6 | 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 | 40.6 | 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 | 14 J | NM | NM |

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

Notes:

J = analyte concentration is considered an estimated value due to a detected concentration value between the reporting limit and method detection limit for the contaminant

mg/L = milligrams per liter

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

ND = not detected

NE = not established

NM = not measured

µg/L = micrograms per liter

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

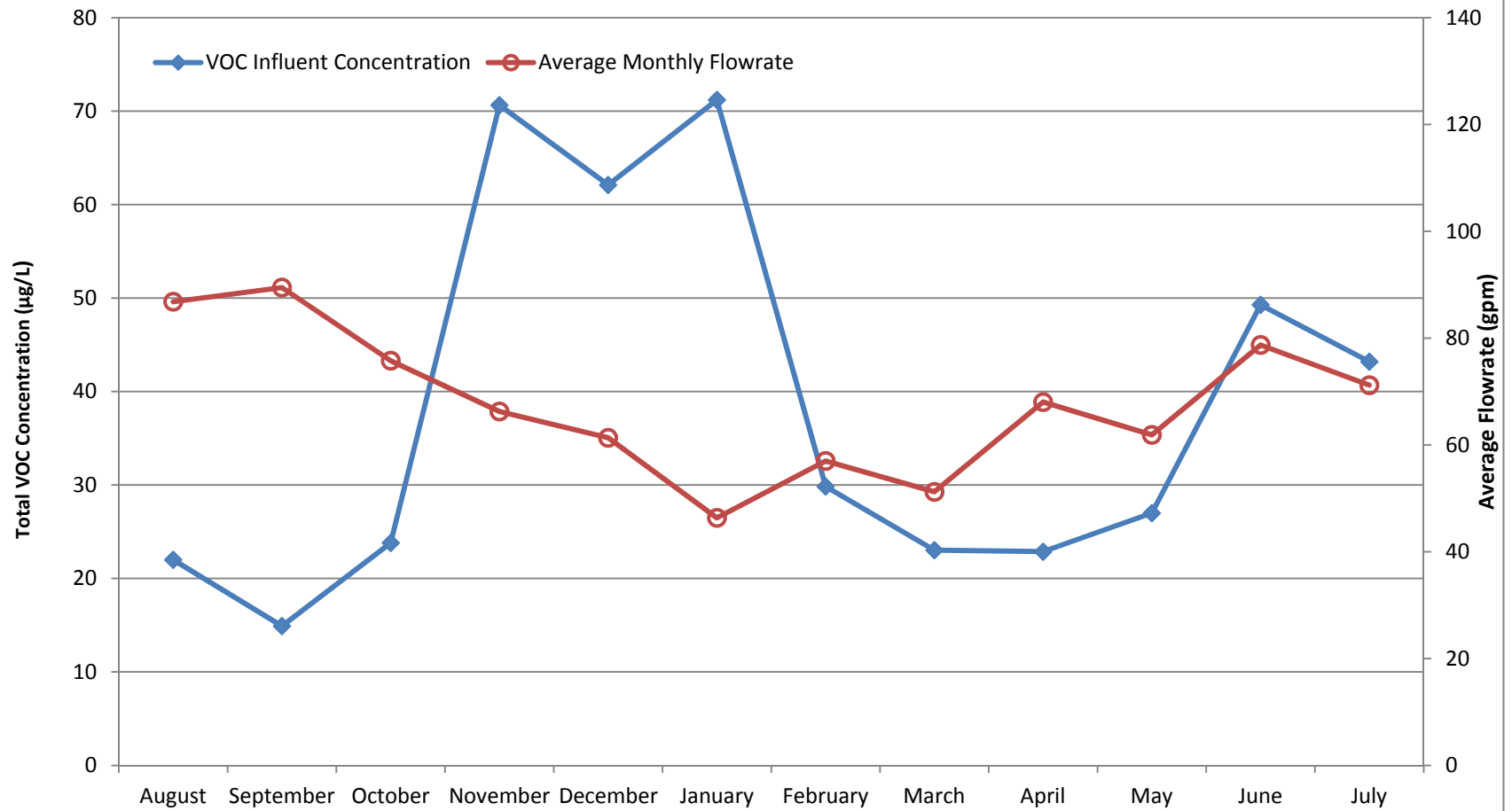
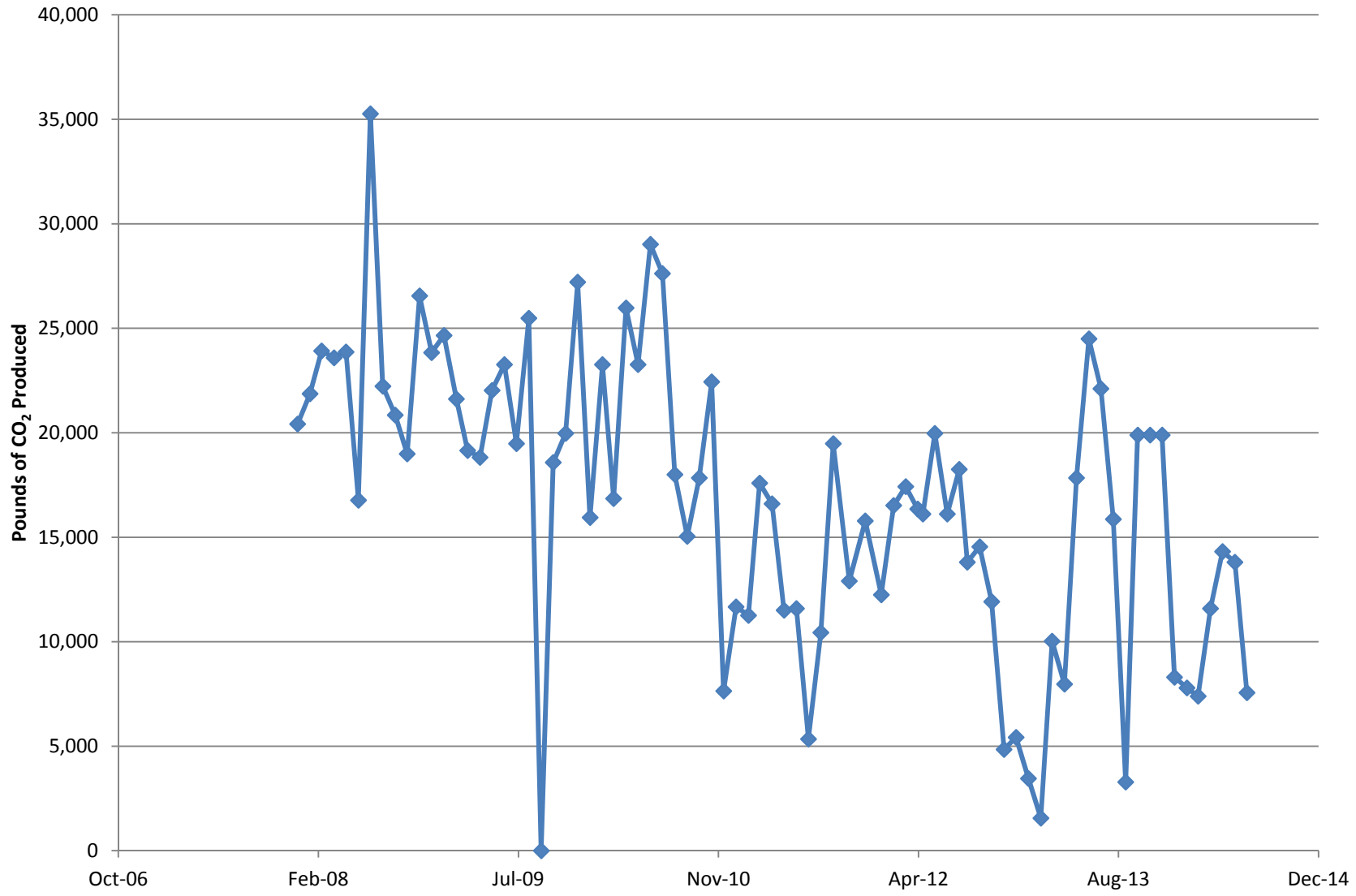


Figure 2

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



Central Groundwater Treatment Plant Monthly Data Sheet

Report Number: 180

Reporting Period: 30 June 2014 – 28 July 2014

Date Submitted: 18 August 2014

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

System Metrics

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

| Table 1 – Operations Summary – July 2014 | | | |
|---|--|--------------------------------------|---|
| Initial Data Collection: | 6/30/2014 15:00 | Final Data Collection: | 7/28/2014 16:45 |
| Operating Time: | | Percent Uptime: | Electrical Power Usage: |
| CGWTP: | 631 hours | CGWTP: | 94% |
| WTTP: | Water: 0 hours Vapor: 0 hours | WTTP: | Water: 0% Vapor: 0% |
| | | CGWTP: | 1,932 kWh (2,647 lbs CO ₂ generated ^a) |
| | | WTTP: | 0 kWh |
| Gallons Treated: | 1.33 million gallons | Gallons Treated Since January 1996: | 498 million gallons |
| VOC Mass Removed: | | VOC Mass Removed Since January 1996: | |
| | 3.36 lbs^b (groundwater only) | | 2,689 lbs from groundwater |
| | 0 lbs (vapor only) | | 8,686 lbs from vapor |
| Rolling 12-Month Cost per Pound of Mass Removed: | \$2,298 ^c | | |
| Monthly Cost per Pound of Mass Removed: | \$908 | | |
| ^a Based on Department of Energy estimate that 1 kilowatt hour generated produces 1.37 pounds of GHG. ^b Calculated using July 2014 EPA Method SW8260B analytical results. ^c Costs include operations and maintenance, reporting, analytical laboratory, project management, and utility costs related to operation of the CGWTP and are reported based on the calendar month. | | | |

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

| Table 2 – CGWTP Average Flow Rates ^a | | |
|---|-------------------|--------------------------------|
| Location | Average Flow Rate | |
| | Groundwater (gpm) | Soil Vapor (scfm) ^b |
| EW01x16 | 19.9 ^c | Offline |
| EW02x16 | 7.2 ^c | Offline |
| EW03x16 | 0.2 | Offline |
| EW605x16 | 7.5 | Offline |
| EW610x16 | 2.8 | Offline |
| CGWTP | 35.2 | -- |
| WTTP | -- ^b | Offline |

^a Flow rates calculated by dividing total gallons processed by system operating time for the month.
^b No soil vapor was treated in July 2014.
^c Flow rate based on instantaneous, end of the month reading for July 2014.
gpm = gallons per minute
-- = not applicable/not available
scfm = standard cubic feet per minute

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

| Table 3 – Summary of System Shutdowns | | | | | |
|---------------------------------------|-------------|--------------------|-------------|--------------------|--|
| Location | Shutdown | | Restart | | Cause |
| | Date | Time | Date | Time | |
| CGWTP (Groundwater) | | | | | |
| CGWTP | 1 July 2014 | 08:00 ^a | 3 July 2014 | 18:00 ^a | System offline for work on the SCADA system. |
| WTTP | | | | | |
| | None | NA | | | |

^a Shutdown times estimated based on the notes of the SCADA technician who worked on the system via the remote interface.
CGWTP = Central Groundwater Treatment Plant
WTTP = West Transfer Treatment Plant

Summary of O&M Activities

Monthly groundwater samples were collected at the CGWTP on 7 July 2014. Sample results are presented in Table 4. The total VOC concentration (302.7 µg/L) in the influent sample has decreased since the June 2014 sample (331.26 µg/L) was collected. Concentrations of cis-1,2-DCE (57.7 µg/L), trans-1,2-Dichloroethene (3 µg/L), and TCE (242 µg/L) were detected at the influent sampling location. No contaminants were detected at the effluent sampling location. Travis Air Force Base will continue to monitor contaminant concentrations at the CGWTP for breakthrough in the primary vessel.

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

On 3 July 2014, revisions to the SCADA logic code at the CGWTP were applied to address problematic sections of code identified in June 2014. The SCADA system is now operating as expected with the exception of scaling issues at the WTTP in tank T-901, which are still being addressed. Approximately 40 hours of downtime

occurred at the CGWTP in July, while work on the SCADA system took place. Extraction well EW610x16 also shut down twice, due to a low level alarm. It is likely that the seasonal low groundwater level is resulting in more frequent drawdown and the well will operate more consistently as recharge occurs.

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 July 2014.

Optimization Activities

No optimization activities occurred at the CGWTP in July 2014.

Sustainability

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

Figure 2 presents the historical GHG production from the systems associated with the CGWTP. The CGWTP produced approximately 2,647 pounds of GHG during July 2014. This is an increase from the amount produced in June 2014 (approximately 2,402 pounds) and is the result of greater hours of operation and gallons treated in July.

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

| Constituent | Instantaneous Maximum* (µg/L) | Detection Limit (µg/L) | N/C | 7 July 2014 (µg/L) | | | |
|--|-------------------------------|------------------------|-----|--------------------|-------------------------|-------------------------|-----------------|
| | | | | Influent | After Carbon 1 Effluent | After Carbon 2 Effluent | System Effluent |
| Halogenated Volatile Organics | | | | | | | |
| Carbon Tetrachloride | 0.5 | 0.14 | 0 | ND | ND | ND | ND |
| Chloroform | 5.0 | 0.16 | 0 | ND | ND | ND | ND |
| cis-1,2-Dichloroethene | 5.0 | 0.19 | 0 | 57.7 | 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 | ND | 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 | ND | 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 | 242 | ND | ND | ND |
| trans-1,2-Dichloroethene | 5.0 | 0.33 | 0 | 3 | ND | ND | ND |
| Vinyl Chloride | 0.5 | 0.18 | 0 | ND | ND | ND | ND |
| Non-Halogenated Volatile Organics | | | | | | | |
| Benzene | 1.0 | 0.17 | 0 | ND | ND | ND | ND |
| Ethylbenzene | 5.0 | 0.22 | 0 | ND | ND | ND | ND |
| Toluene | 5.0 | 0.14 | 0 | ND | ND | ND | ND |
| Total Xylenes | 5.0 | 0.23 – 0.5 | 0 | ND | ND | ND | ND |
| Other | | | | | | | |
| Total Dissolved Solids (mg/L) | NA | 10 | 0 | NM | NM | NM | NM |

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

Notes:

J = analyte concentration is considered an estimated value due to a detected concentration value between the reporting limit and method detection limit for the contaminant

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

ND = not detected

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 | 8 August 2013 | 16 August 2013 |
| | 30 August 2013 | 13 September 2013 |
| | 27 September 2013 | 11 October 2013 |
| | 25 October 2013 | 8 November 2013 |
| | 22 November 2013 | 5 December 2013 |
| | 20 December 2013 | 3 January 2014 |
| | 17 January 2014 | 31 January 2014 |
| | 18 February 2014 | 28 February 2014 |
| | 14 March 2014 | 28 March 2014 |
| | 22 April 2014 | 28 April 2014 |
| | 12 May 2014 | 12 May 2014 |
| | 6 June 2014 | 20 June 2014 |
| | 3 July 2014 | 24 July 2014 |

CGWTP = Central Groundwater Treatment Plant
 EW = Extraction Well

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

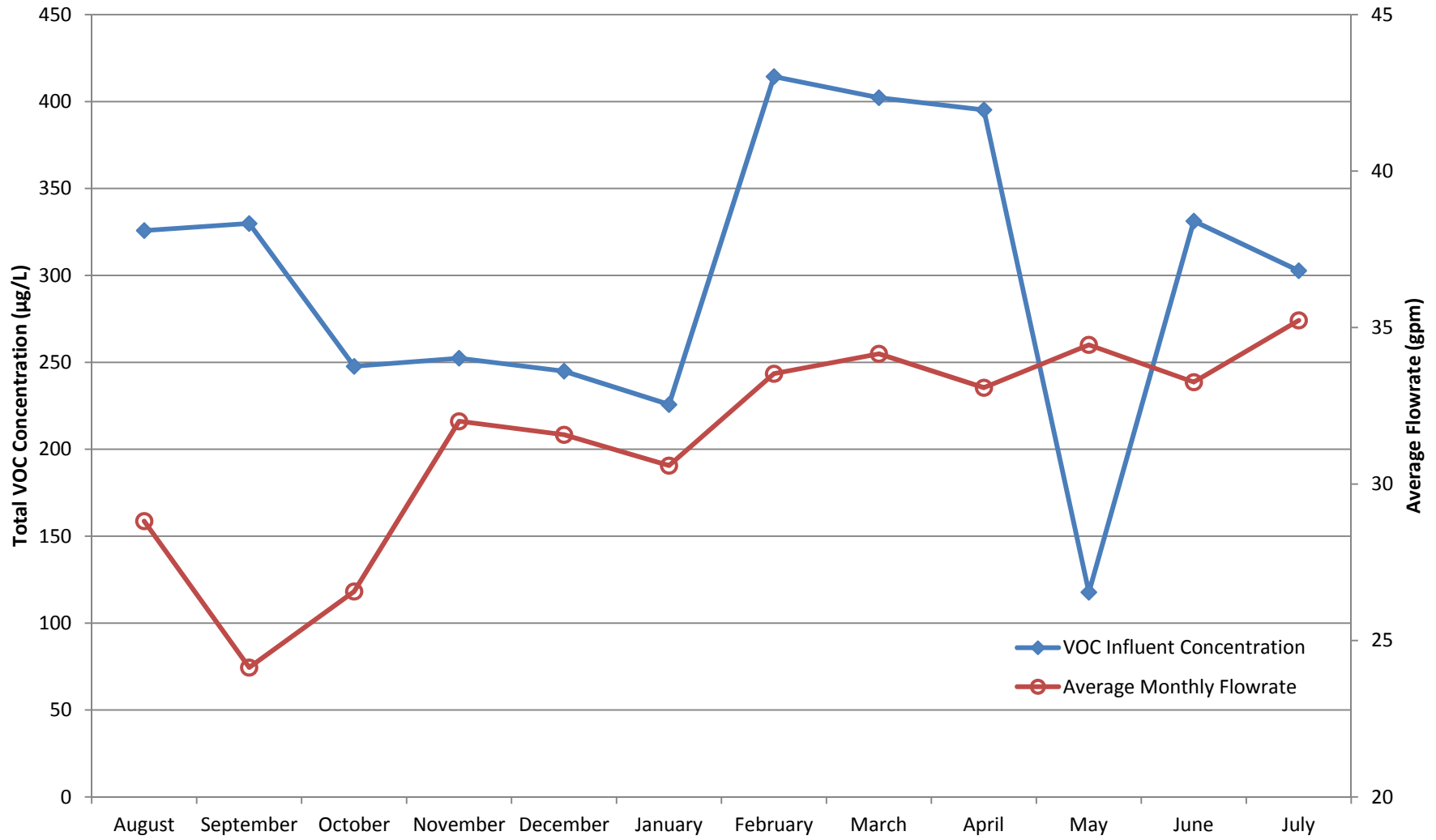


Figure 1
CGWTP Total VOC Influent Concentrations and Average Flowrate
Twelve Month History
Travis Air Force Base, California

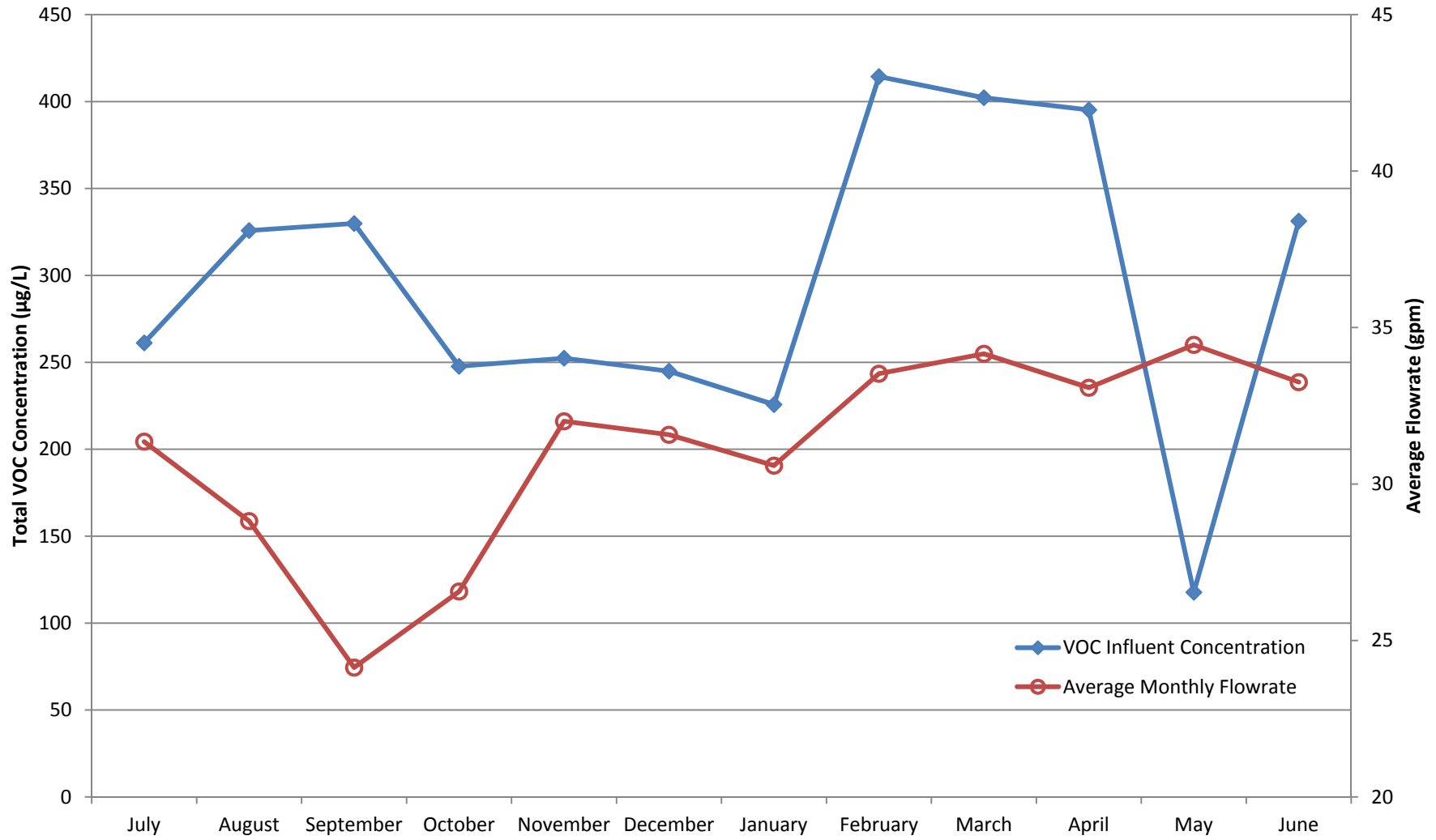
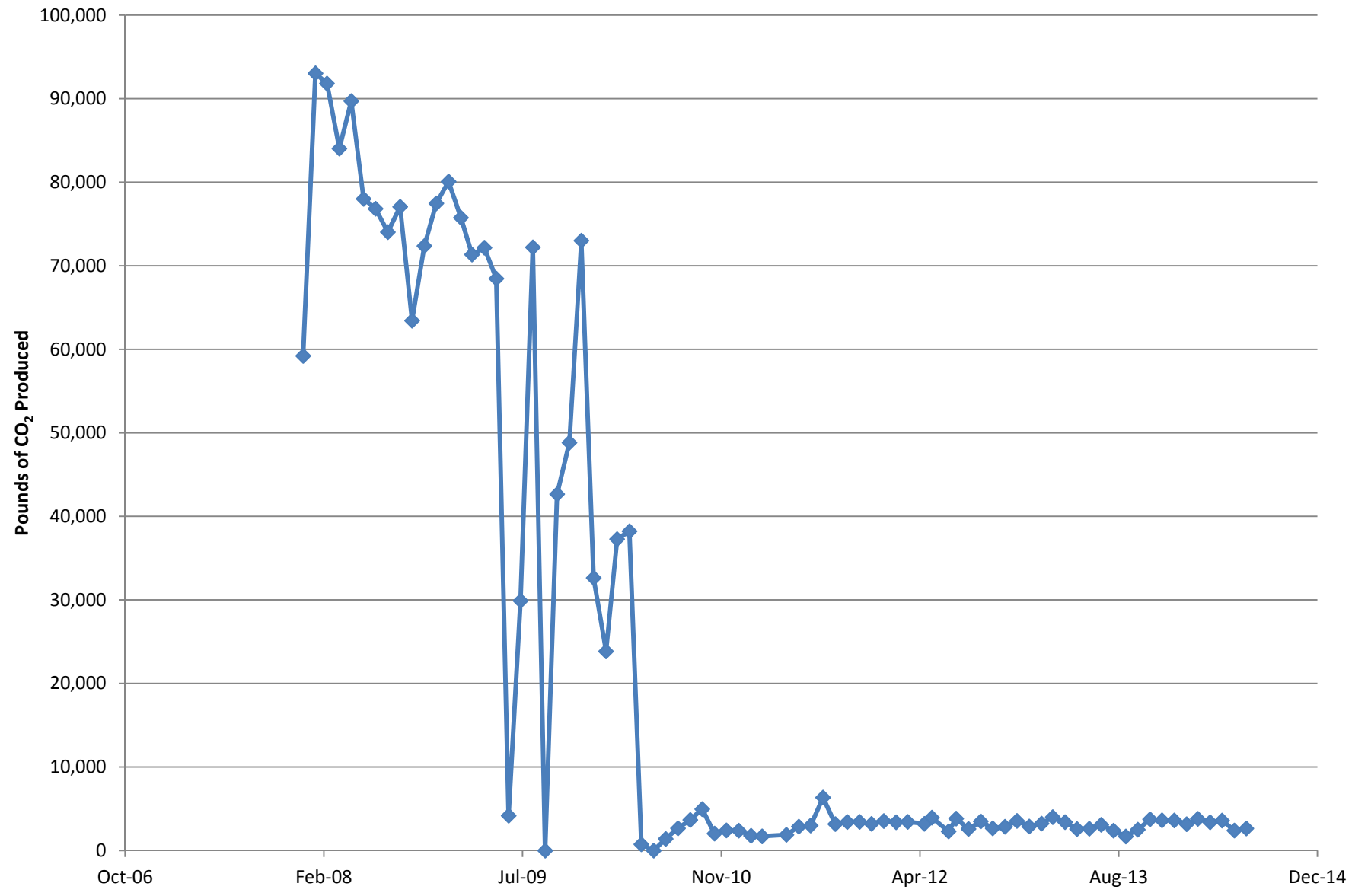


Figure 2
Equivalent Pounds of CO₂ Produced by the Central Groundwater Treatment Plant



North Groundwater Treatment Plant Monthly Data Sheet

Report Number: 140

Reporting Period: 30 June 2014 – 31 July 2014

Date Submitted: 18 August 2014

This monthly data sheet presents information regarding the North Groundwater Treatment Plant (NGWTP) and associated remedial process optimization (RPO) activities.

System Metrics

Table 1 presents operational data from the July 2014 reporting period:

| Table 1 – Operations Summary – July 2014 | | | |
|---|-------------------|--|-----------------|
| Initial Data Collection: | 6/30/2014 12:30 | Final Data Collection: | 7/31/2014 08:45 |
| Operating Time: | Percent Uptime: | Electrical Power Usage ^a : | |
| NGWTP: 667 hours | NGWTP: 90% | NGWTP: 0 kWh | |
| Gallons Treated: 197,870 gallons | | Gallons Treated Since March 2000: 83.5 million gallons | |
| Volume Discharged to Duck Pond: 197,870 gallons | | Volume Discharge to Storm Drain: 0 gallons | |
| VOC Mass Removed: 8.52 x 10⁻³ pounds^b | | VOC Mass Removed Since March 2000: 174.3 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 NGWTP operates on solar power only. | | | |
| ^b VOCs from July 2014 influent sample detected by EPA Method SW8260B. | | | |
| ^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 – NGWTP Average and Total Flow Rates – July 2014 | | |
|---|--|--|
| Location | Average Flow Rate (gpm)^a | Total Gallons Processed (gallons)^b |
| EW614x07 | 4.6 | 184,800 |
| EW615x07 | 0.01 | 470 |
| NGWTP | 4.9 | 197,870 |

^a Average flow rate calculated by dividing the total gallons processed collected from wellhead totalizers by the hours recorded by the system hour meter.
^b A discrepancy in totalizer values was recorded in June and troubleshooting of the meters began in July.
gpm = gallons per minute

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

| Table 3 – Summary of System Shutdowns | | | | | |
|--|-----------------|--------------------|----------------|--------------------|--|
| Location | Shutdown | | Restart | | Cause |
| | Date | Time | Date | Time | |
| NGWTP | 1 July 2014 | 08:00 ^a | 1 July 2014 | 16:00 ^a | System offline for carbon changeout. |
| NGWTP | 7 July 2014 | 14:00 | 8 July 2014 | 12:30 | Patched leak on outlet of lag GAC vessel. |
| NGWTP | 12 July 2014 | 08:00 ^a | 12 July 2014 | 16:00 ^a | System shutdown for work inside extraction well control panels. |
| NGWTP | 15 July 2014 | 10:00 ^a | 15 July 2014 | 11:30 | Replaced cracked fitting on outlet of lag GAC vessel. |
| NGWTP | 24 July 2014 | 09:45 | 24 July 2014 | 16:00 ^a | System shutdown for work on redline electrical drawings at extraction well control panels. |

^a Shutdown and restart times estimated based on field notes.
NGWTP = North Groundwater Treatment Plant

Summary of O&M Activities

Analytical data from the 7 July 2014 sampling event are presented in Table 4. Cis-1,2-dichloroethene (0.37 µg/L) and TCE (4.8 µg/L) were detected at the influent sample location. Acetone (10.5 µg/L) was detected at the midpoint sample location, but was not detected in the influent sample and is a potential lab contaminant. No contaminant concentrations were measured at the effluent sample location.

Figure 1 presents a chart of influent concentrations (total VOCs) at the NGWTP versus time for the past twelve (12) months. Analytical data (Table 4) continue to indicate effective treatment of the influent process stream with only two (2) operating GAC drums online.

The average flow rate through the NGWTP in July 2014 (4.95 gpm) increased from the average flow rate in June 2014 (3.71 gpm). On 2 July 2014, totalizer readings were collected at the extraction wells and at the plant effluent totalizers over a period of 6 hours to begin troubleshooting the discrepancy in gallons treated observed at the totalizers in June. The total gallons measured by the effluent totalizer at the conclusion of the

test was less than the sum of the extraction wells totalizers by 81.5 gallons. This suggests that the calibration of one of the totalizers may not be accurate. Additional troubleshooting will occur in August to try and identify if one of the totalizers is faulty, so that it can be replaced.

On 1 July 2014, the lead granular activated carbon (GAC) vessel at the NGWTP was replaced. The existing lag vessel was moved into the lead position at this time and the system was brought online. A cracked fittings at the outlet of the lag vessel was replaced on 15 July 2014.

Optimization Activities

No optimization activities were performed during July 2014.

Sustainability

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

Figure 2 presents the historical GHG production from the systems associated with the NGWTP. The NGWTP is taken off line when the vernal pools at Site LF007C contain standing water. The NGWTP is now a solar-only operated treatment system.

TABLE 4
Summary of Groundwater Analytical Data for July 2014 – North Groundwater Treatment Plant

| Constituent | Instantaneous Maximum* (µg/L) | Detection Limit (µg/L) | N/C | 7 July 2014 (µg/L) | | |
|--|-------------------------------------|------------------------------|-----|-----------------------|----------------|----------|
| | | | | Influent | After Carbon 1 | Effluent |
| Halogenated Volatile Organics | | | | | | |
| Bromodichloromethane | 5.0 | 0.15 | 0 | ND | ND | ND |
| Bromoform | 5.0 | 0.19 | 0 | ND | ND | ND |
| Carbon Tetrachloride | 0.5 | 0.14 | 0 | ND | ND | ND |
| Chloroform | 5.0 | 0.16 | 0 | ND | ND | ND |
| Dibromochloromethane | 5.0 | 0.13 | 0 | ND | ND | ND |
| 1,3-Dichlorobenzene | 5.0 | 0.15 | 0 | ND | ND | ND |
| 1,4-Dichlorobenzene | 5.0 | 0.15 | 0 | ND | ND | ND |
| 1,1-Dichloroethane | 5.0 | 0.15 | 0 | ND | ND | ND |
| 1,2-Dichloroethane | 0.5 | 0.15 | 0 | ND | ND | ND |
| 1,1-Dichloroethene | 5.0 | 0.19 | 0 | ND | ND | ND |
| cis-1,2-Dichloroethene | 5.0 | 0.19 | 0 | 0.37 J | 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 | 0.2 | 0 | ND | ND | ND |
| Trichloroethene | 5.0 | 0.19 | 0 | 4.8 | 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 Dissolved Solids (mg/L) | NA | 10 | 0 | NM | NM | NM |

* In accordance with Appendix G of the *Travis AFB North Groundwater Treatment Plant Operations and Maintenance Manual*, Sites FT004, SD031, and LF007 Area C (URS Group, Inc., 2005).

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

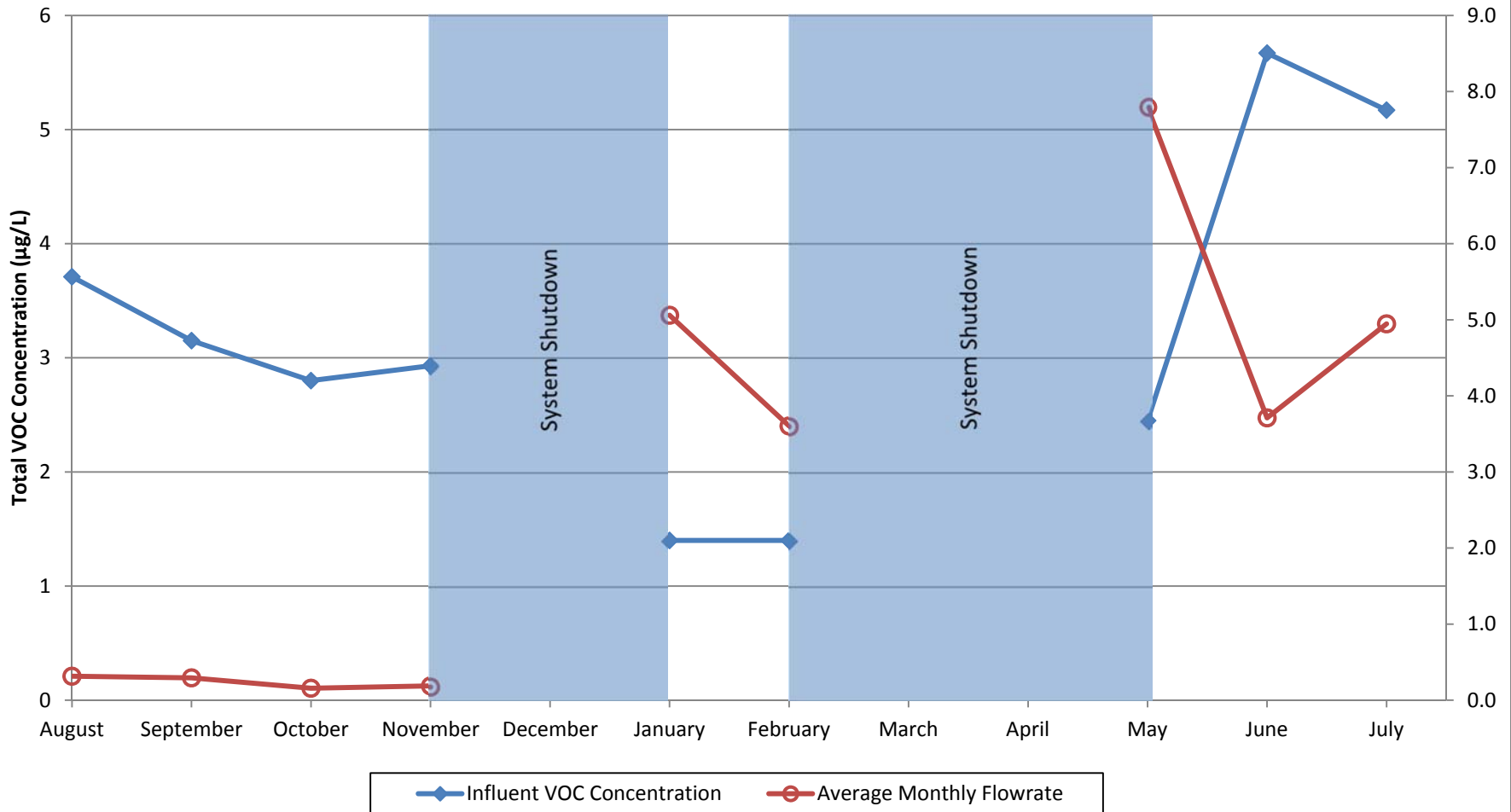
ND = not detected

NM = not measured

µg/L = micrograms per liter

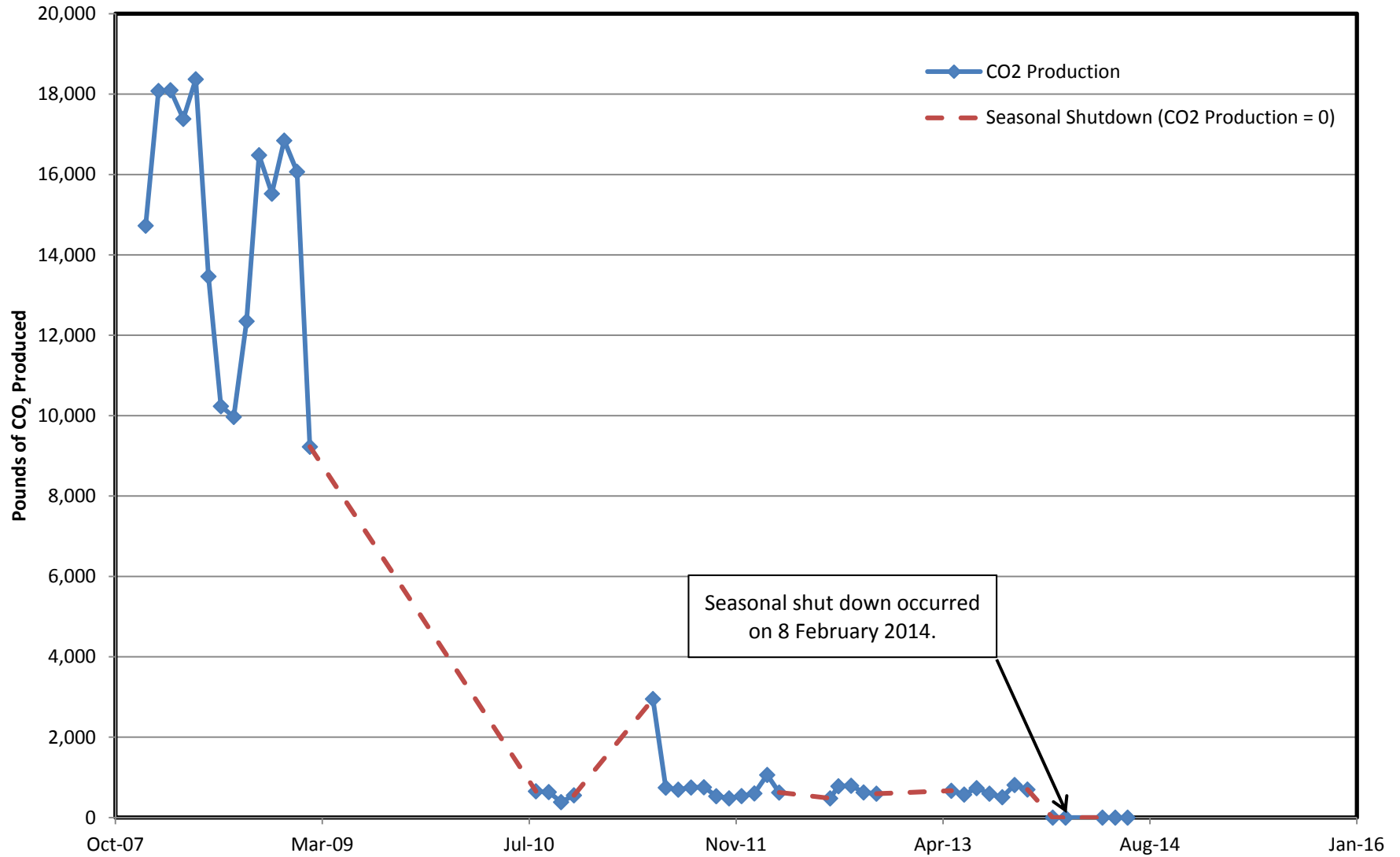
mg/L = milligrams per liter

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



*20 January 2014 sample results are shown as an estimation of February influent concentrations due to seasonal shutdown prior to the February monthly sampling event.

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



Note: Dashed line represents seasonal shutdowns due to the presence of vernal pools at Site LF007C during which no CO₂ production occurred.

Site ST018 Groundwater Treatment Plant Monthly Data Sheet

Report Number: 041

Reporting Period: 30 June 2014 – 30 July 2014

Date Submitted: 18 August 2014

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

System Metrics

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

| Table 1 – Operations Summary – July 2014 | | | |
|--|-----------------------|---|-----------------|
| Initial Data Collection: | 6/30/2014 9:45 | Final Data Collection: | 7/30/2014 11:00 |
| Operating Time: | Percent Uptime: | Electrical Power Usage: | |
| ST018GWTP: 401 hours | ST018GWTP: 56% | ST018GWTP: 77 kWh (105 lbs CO₂ generated^a) | |
| Gallons Treated: 99.0 thousand gallons | | Gallons Treated Since March 2011: 6.09 million gallons | |
| Volume Discharged to Union Creek: 99.0 thousand gallons | | | |
| BTEX, MTBE, TPH Mass Removed: 0.12 lbs^b | | BTEX, MTBE, TPH Mass Removed Since March 2011: 30.4 lbs | |
| MTBE (Only) Removed: 0.06 lbs^b | | MTBE (Only) Mass Removed Since March 2011: 6.4 lbs | |
| Rolling 12-Month Cost per Total Pounds of Mass Removed: \$14,397 ^c | | | |
| Monthly Cost per Pound of Mass Removed: \$30,979 ^d | | | |
| ^a Based on Department of Energy estimate that 1 kilowatt hour generated produces 1.37 pounds of GHG. | | | |
| ^b Calculated using July 2014 EPA Method SW8260B analytical results. | | | |
| ^c Costs include operations and maintenance, reporting, analytical laboratory, project management, and utility costs related to operation of the system. | | | |
| ^d Monthly cost per pound elevated for July due to decreased influent concentrations. | | | |
| lbs = pounds | | | |

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

| Table 2 – ST018GWTP Average Flow Rates | | |
|--|--|-------------------------|
| Location | Average Flow Rate Groundwater (gpm) ^a | Hours of Operation |
| EW2014x18 | 2.13 | 397 |
| EW2016x18 | 1.41 | 397 |
| EW2019x18 | 0.81 | 401 (721 ^b) |
| Site ST018 GWTP | 4.12 | 401 |

^a Flow rates calculated by dividing total gallons processed by the hours of operation, from the totalizer and hour meter at each location.
^b The hour meter at EW2019x18 continued to record hours while the treatment system and pumps were shutdown.
gpm = gallons per minute
ST018GWTP = Site ST018 Groundwater Treatment Plant

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

| Table 3 – Summary of System Shutdowns | | | | | |
|---------------------------------------|--------------|--------------------|--------------|--------------------|--|
| Location | Shutdown | | Restart | | Cause |
| | Date | Time | Date | Time | |
| ST018GWTP | 3 July 2014 | 08:00 ^a | 3 July 2014 | 15:30 | Treatment system shut down after the influent tank filled causing a high level alarm. Tank was drained and system restarted. |
| ST018GWTP | 7 July 2014 | 08:00 ^a | 7 July 2014 | 09:00 | High level alarm on influent tank. |
| ST018GWTP | 10 July 2014 | 08:00 ^a | 10 July 2014 | 13:30 | High level alarm on influent tank. |
| ST018GWTP | 11 July 2014 | 16:00 ^a | 15 July 2014 | 09:00 | Shut down system to clean tank level rods and tighten connections. |
| ST018GWTP | 22 July 2014 | 08:00 ^a | 22 July 2014 | 16:45 | High pressure alarm. |
| ST018GWTP | 28 July 2014 | 08:00 ^a | 28 July 2014 | 16:00 ^a | System offline to troubleshoot cause of repeat system shut downs. |

^aTime estimated based on notes and activities of field technician.
ST018GWTP = Site ST018 Groundwater Treatment Plant

Summary of O&M Activities

Groundwater samples were collected at the ST018GWTP on 8 July 2014. Sample results from the July sampling event are presented in Table 4. The total influent concentration (benzene, toluene, ethylbenzene, total xylenes, MTBE, TPH-gas, TPH-diesel, and TPH-motor oil) in the July 2014 influent sample was 145.5 µg/L, which is a decrease from the previous (June 2014) influent concentration of 1,012 µg/L. The influent concentration for MTBE during July 2014 was 78 µg/L. This is an increase from the June 2014 influent concentration for MTBE of 50 µg/L. TPH was also detected in the influent sample during the quarterly (8 July 2014) sampling event and is reflected in the July influent concentration. Influent TPH samples are collected on a quarterly basis in accordance with the National Pollutant Discharge Elimination System (NPDES) permit.

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

As shown on Figure 1, the average flow rate through the ST018GWTP has continued to decrease since the average flow rate peaked at 4.97 gallons per minute in April 2014. Repeat occurrence of system shut downs occurred throughout July due to high tank level and high pressure alarms. Initial troubleshooting activities identified a wiring issue within the continuity probes that alert the system to shut down due to a high tank level. Adjustment of the probes should resolve the issue with system shut downs due to a high tank level alarm at times when the tank is not yet at capacity.

Optimization Activities

No optimization activities were performed in July 2014.

Sustainability

Travis AFB is committed to decreasing the amount of GHG produced directly (waste streams discharging GHG) or indirectly (GHG produced as related to electrical energy consumption) from all systems across Travis AFB. Travis AFB continues to optimize each treatment plant to reduce the amount of electrical energy consumed, and to implement sustainable treatment plant optimization programs, such as the solar arrays employed to power the ST018GWTP system.

The ST018GWTP produced approximately 105 pounds of GHG during July 2014. This is a decrease from June 2014 (147 pounds) and is likely the result of fewer gallons having been treated and reduced hours of operation in July from the previous month. Figure 2 presents the historical GHG production from the ST018GWTP. The overall GHG generation remains considerably lower than traditional GWTPs since the system is predominantly powered by solar arrays.

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

| Constituent | Instantaneous Maximum ^a (µg/L) | Detection Limit (µg/L) | N/C | 8 July 2014 (µg/L) | | | |
|--|--|---------------------------|-----|-----------------------|----------------|----------------|-----------------|
| | | | | Influent | After Carbon 1 | After Carbon 2 | System Effluent |
| Fuel Related Constituents | | | | | | | |
| MTBE | 5 | 0.5 | 0 | 78 | NM | ND | ND |
| Benzene | 5 | 0.17 | 0 | 0.51 | NM | ND | ND |
| Ethylbenzene | 5 | 0.22 | 0 | ND | NM | ND | ND |
| Toluene | 5 | 0.14 | 0 | ND | NM | ND | ND |
| Total Xylenes | 5 | 0.23 – 0.5 | 0 | ND | NM | ND | ND |
| Total Petroleum Hydrocarbons – Gasoline | 50 | 8.5 | 0 | 67 ^b | ND | NM | ND |
| Total Petroleum Hydrocarbons – Diesel | 50 | 50 | 0 | ND ^b | ND | NM | ND |
| Total Petroleum Hydrocarbons – Motor Oil | -- | 160 | -- | ND ^b | ND | NM | ND |

^a In accordance with the National Pollutant Discharge Elimination System (NPDES) Effluent Limitations
 µg/L = micrograms per liter

^b Influent TPH samples are collected on a quarterly basis. Results presented from 8 July 2014.

J = analyte concentration is considered an estimated value due to a detected concentration value between the reporting limit and method detection limit for the contaminant

ND = not detected above method detection limit

NM = not measured this month

Figure 1
S18GWTP Total VOC and MTBE Influent Concentrations
Twelve Month History
Travis Air Force Base, California

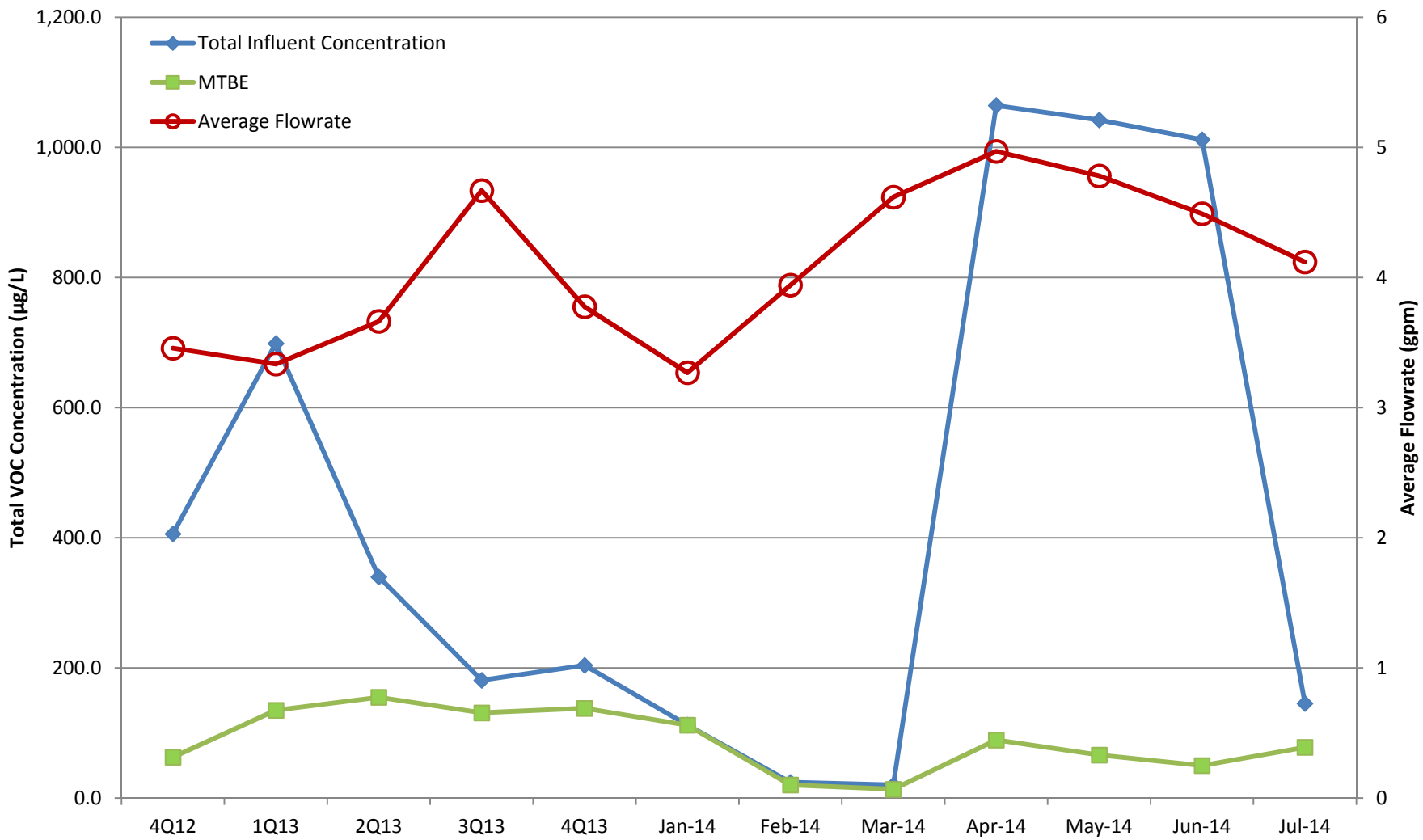
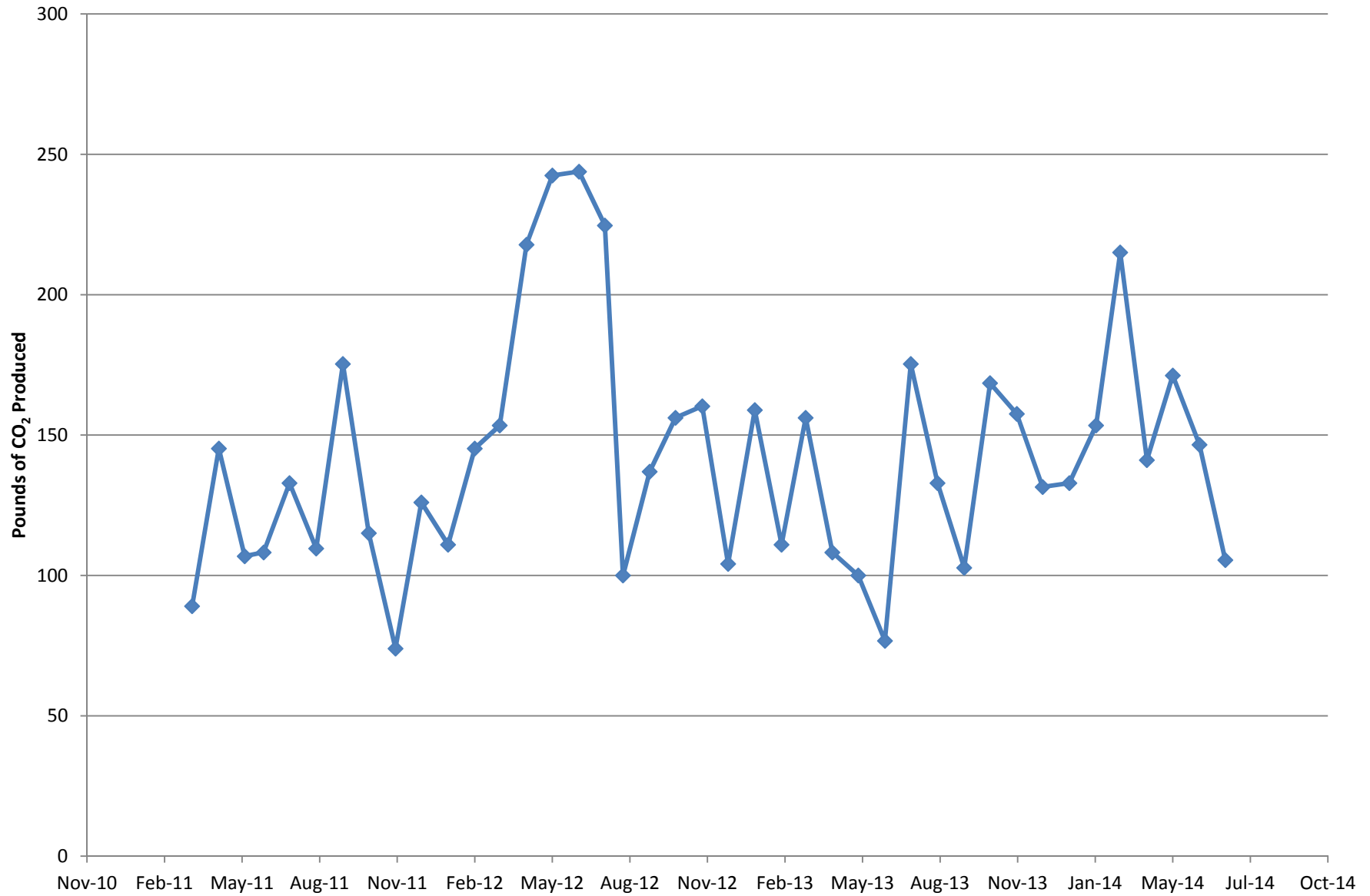
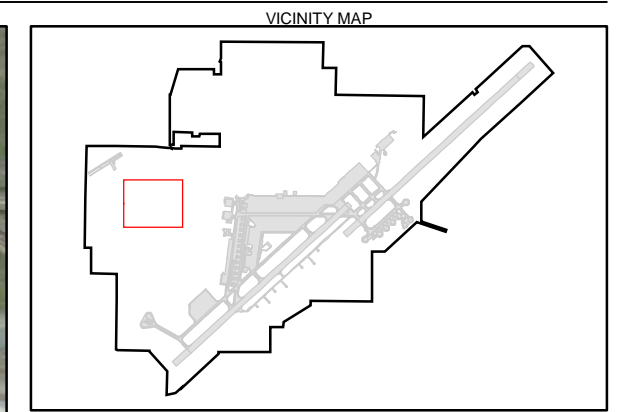


Figure 2
Equivalent Pounds of CO₂ Produced by the Site ST018 Groundwater Treatment Plant





- LEGEND**
- Base Boundary
 - Berm
 - x- Soil Land Use Control Boundary and Fenceline
 - Site Boundary

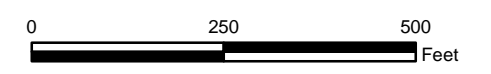


FIGURE 1
SITE LF044 SITE PLAN
 KINDER MORGAN SITE LF044
 LAND USE CONTROL REPORT
 TRAVIS AIR FORCE BASE, CALIFORNIA

Travis AFB
Federal Facility Remedial
Design/Remedial Action
Schedule

Travis AFB
RPM Meeting
August 20, 2014

Travis AFB RD/RA Schedule

- Post-ROD Remedy Implementation
 - Remedial Design
 - Remedial Action
 - Operations & Maintenance
- Path Forward
 - RD/RA Work Plans
 - Remedial Actions
 - Remedial Action Completion Reports
 - Operations & Maintenance
- Travis will continue to be aggressive in developing new ways to enhance remedies – through technology demonstrations – with the ultimate goal of efficiently restoring natural habitat and Air Force mission capabilities

Definitions Used to Populate the “Road Map” Table:

- **RD Start:**
 - For all Sites is date of Final ROD (26 June 2014), except the NFA Site SS041
- **RD Complete:**
 - MNA sites¹ – At Final 2014 GRISR (scheduled to be final on 20 June 2015)
 - Sites where systems are already in place (i.e., GET, Passive Skimming) – At final GW ROD signing (26 June 2014)
 - Bioreactor, EVO/EA sites (sites needing new construction to install selected remedy) – At final RD/RA Work Plan date (site specific)
- **RA Start:**
 - Systems in place as of final GW ROD – Use final ROD date (26 June 2014)
 - Site needs significant construction – Use date of start of construction (initiation of dig permit)
 - MNA sites – Three (3) months after final 2014 GRISR (scheduled to be final on 20 June 2015), to install new MNA monitoring wells (use 20 September 2015)

Definitions Used to Populate the “Road Map” Table (cont’d):

- **RA Complete/O&M Start:**

- NFA sites – At final GW ROD signing (26 June 2014)
- ND sites – At final 2014 GRISR (20 June 2015)
- System in place, but needs evaluation to confirm no additional components needed - At final 2014 GRISR (20 June 2015)
- MNA sites – At three (3) months after RA Start (assume three (3) months to prepare Remedial Action Completion Report (RACR))
- RD/RA sites – At final RACR

Note ¹: There is one special MNA case: The Site LF006 interim remedy was MNA, which is also the final remedy. Since the monitoring system is already in place, all dates on the Road Map are set to the final GW ROD date (26 June 2014).

| OU6 IRP Site Name (NEWIOU OU1 unless otherwise specified) | Primary COCs Currently Above MCL Trichloroethylene (TCE) 5 ppb cis-1,2-Dichloroethylene (DCE) 6 ppb Vinyl Chloride (VC) 0.5 ppb | Interim Remedy (Reduction/ Containment) | Final Remedy (Cleanup to MCLs) And Expected Future Modifications | Est.Yrs. | Est. Cost \$000 | FF RD/RA Schedule ¹ | | | |
|--|---|---|---|----------|-----------------------|--------------------------------|-----------------|-----------------------|-----------------|
| | | | | | | RD Complete | RA Start | RA Compl. OM Start | OM Complete |
| FT004 Fire Training Area 3 | TCE ~300 ppb; cis-1,2-DCE ~13 ppb; VC ~15 ppb 2 plumes | GET & MNA Assessment | Alternative 2—MNA GW and VI LUC Poss. TD to Alt 5 EVO/EA | 35 | 60 | 20 Jun 2015 | 20 Sept 2015 | 20 Dec 2015 | 30 July 2049 |
| FT005 Fire Training Area 4 | TCE ~5 ppb 1,2-Dichloroethane (DCA) ~6 ppb (MCL 0.5 ppb) | GET | Alternative 3—GET* GW LUCs Poss. TD to EVO/Bio- augmentation for 1,2-DCA | 10 | 94 | 26 June 2014 | 26 June 2014 | 20 Jun 2015 | 30 July 2024 |
| LF006 Landfill 1 | TCE ~7 ppb | MNA | Alternative 2—MNA GW LUCs | 5 | 12 | 26 June 2014 | 26 June 2014 | 26 Jun 2014 | 13 Jan 2020 |
| LF007C Landfill 2; Sub-area C | TCE ~ 10 (40) ppb | GET | Alternative 3—GET** GW and VI LUCs ESD to Alt. 2---MNA | 26 | 432 | 26 June 2014 | 26 June 2014 | 20 Jun 2015 | 30 July 2040 |
| LF007D Landfill 2; Sub-area (MW261x07) | Benzene ~2 (MCL 1 ppb) 1,4-dichlorobenzene (DCB) ~13ppb (MCL 5ppb) | MNA Assessment | Alternative 2—MNA | 23-49 | 18 | 20 Jun 2015 | 20 Sept 2015 | 20 Dec 2015 | 30 July 2044 |
| LF007B Landfill 2; Sub-area B | N/D | MNA Assessment | Alternative 2—MNA | 0 | 0 | 20 Jun 2015 | 20 Sept 2015 | 20 Dec 2015 | 30 July 2017 |

| OU6 IRP Site Name (NEWIOU OU1 unless otherwise specified) | Primary COCs Currently Above MCL Trichloroethylene (TCE) 5 ppb cis-1,2-Dichloroethylene (DCE) 6 ppb Vinyl Chloride (VC) 0.5 ppb | Interim Remedy (Reduction/ Containment) | Final Remedy (Cleanup to MCLs) And Expected Future Modifications | Est.Yrs. | Est. Cost \$000 | FF RD/RA Schedule ¹ | | | | |
|--|--|--|---|----------|-----------------------|--------------------------------|--------------|-----------------------|----------|--------------|
| | | | | | | RD Complete | RA Start | RA Compl. OM Start | Complete | OM |
| LF008 (WABOU OU3) Landfill 3 | Alpha-chlordane ~0.43 ppb (MCL 0.10ppb) Heptachlor epoxide ~0.02 ppb (MCL0.01ppb) | GET | Alternative 2—MNA GW LUCs | 100-110 | 46 | 20 Jun 2015 | 20 Sept 2015 | 20 Dec 2015 | 2015 | 30 July 2015 |
| SS015 Solvent Spill Area & 808, 1832, and 552 | TCE ~230 ppb; cis-1,2-DCE ~600 ppb; VC ~70 ppb | MNA Assessment | Alternative 5—EVO&EA GW and VI LUCs (554 passive vent) | 70 | 358 | 29 June 2015 | 20 May 2016 | 30 Nov 2016 | 2088 | 30 July 2015 |
| SS016 Oil Spill Area; Facilities 11, 13/14, 20,42/1941, 139/144, Sewer ----- SS029 MW 329 Area | TCE ~40,000 (80,000) ppb; cis-1,2-DCE ~8,200 (21,000) ppb; VC ~812 (1,700 ppb); 1,4-DCB ~700ppb; 1,1-DCE ~50 (MCL 6ppb); 1,2-DCA~13ppb; Perchloroethylene(PCE) ~100ppb (MCL5ppb) (SS016 merged w/ SS029) | GET | Alternative 4—Bioreactor & GET*** GW and VI LUCs | 62 | 1,116 | 04 Mar 2015 | 11 Mar 2015 | 18 Nov 2015 | | 30 July 2154 |
| SS030 MW 269 Area | TCE~50 ppb | GET | Alternative 3—GET* GW and VI LUCs Poss. ESD to Alt. 2---MNA | 22 | 294 | 26 June 2014 | 06 May 2015 | 09 Oct 2015 | 2036 | 30 July 2014 |
| SS041 (WABOU OU3) | Heptachlor epoxide N/D (MCL 0.01ppb) | GET | Alternative 1—NFA | N/A | N/A | N/A | N/A | 26 June 2014 | | N/A |
| SD031 Facility 1205 | TCE ~7ppb (100-1000) Figure 2.2-3 1,1-DCE ~57 ppb (~300ppb EW) | GET & MNA Assessment | Alternative 2—MNA GW LUCs Poss. TD to EVO recirc for 1,1-DCE | 15 | 30 | 20 Jun 2015 | 20 Sept 2015 | 20 Dec 2015 | | 30 July 2029 |

| OU6 IRP Site Name (NEWIOU OU1 unless otherwise specified) | Primary COCs Currently Above MCL Trichloroethylene (TCE) 5 ppb cis-1,2-Dichloroethylene (DCE) 6 ppb Vinyl Chloride (VC) 0.5 ppb | Interim Remedy (Reduction/ Containment) | Final Remedy (Cleanup to MCLs) And Expected Future Modifications | Est.Yrs. | Est. Cost \$000 | FF RD/RA Schedule ¹ | | | | |
|--|---|--|---|----------|-----------------------|--------------------------------|-------------------|----------------|-----------------|-----------------|
| | | | | | | Complete RD | Start RA Start | OMI Compl. | Complete RA | OMI |
| ST027B Facilities 1918, 1919 | TCE ~435 ppb; VC ~7ppb cis-1,2-DCE ~340ppb | N/A (formerly POCO Site) | Alternative 2—MNA GW LUCs | 50 | 50 | 20 Jun 2015 | 20 Sept 2015 | 20 Dec 2015 | 30 July 2064 | 30 July 2064 |
| DP039 (WABOU OU3) Building 755 | TCE~1,700ppb; cis1,2DCE~1,800ppb1, 1-DCE ~2,200ppb; VC ~48 ppb; 1,2DCA~5ppb; MethyleneChloride~24 ppb(MCL 5ppb) | GET and MNA Assessment | Alternative 6—Bioreactor, Phyto., EVO PRB, & EA GW and VI LUCs | 58 | 1,178 | 07 May 2015 | 03 Jun 2015 | 07 Apr 2016 | 30 July 2072 | 30 July 2072 |
| WIOU SD033 Strm.SewerII, South Gate Area, 810 and 1917, & W Br. U. Crk. | TCE ~100 ppb cis-1,2-DCE ~50ppb | GET & MNA Assessment | Alternative 2—MNA GW and VI LUCs | 60 | 42 | 20 Jun 2015 | 20 Sept 2015 | 20 Dec 2015 | 30 July 2074 | 30 July 2074 |
| WIOU SD034 Facility 811 | TCE ~6 ppb; VC ~2ppb; cis-1,2- DCE~6ppb Stoddard Solvent | GET w/ Free Product Removal | Alternative 7—Passive Skimming and EA GW LUCs Poss. TD for ISCO | 60 | 81 | 26 June 2014 | 26 Jun 2014 | 20 Jun 2015 | 30 July 2074 | 30 July 2074 |
| WIOU SS035 Facility 818/819 | TCE N/D | GET and MNA Assessment | Alternative 2—MNA | 0 | 0 | 20 Jun 2015 | 20 Sept 2015 | 20 Dec 2015 | 30 July 2017 | 30 July 2017 |
| WIOU SD036 Facility 872/873/876 | TCE ~14,400 ppb; cis-12-DCE~3,900 ppb vinyl chloride ~1,100(3,500)ppb; 1,1- DCE~12ppb; 1,2-DCA ~1ppb; PCE ~13ppb | GET and MNA Assessment | Alternative 5—EVO & EA GW and VI LUCs | 60 | 760 | 22 Jan 2015 | 16 Nov 2015 | 20 May 2016 | 30 Sept 2075 | 30 Sept 2075 |

| OU6 IRP Site Name (NEWIOU OU1 unless otherwise specified) | Primary COCs Currently Above MCL Trichloroethylene (TCE) 5 ppb cis-1,2-Dichloroethylene (DCE) 6 ppb Vinyl Chloride (VC) 0.5 ppb | Interim Remedy (Reduction/ Containment) | Final Remedy (Cleanup to MCLs) And Expected Future Modifications | Est.Yrs. | Est. Cost \$000 | FF RD/RA Schedule ¹ | | | |
|---|---|--|--|----------|--------------------|--------------------------------|---------------------|--------------------|---------------------|
| | | | | | | RD Complete | RA Start | RA Compl. OM Start | OM Complete |
| WIOU SD037 San Swr Sys, 837/838, 919,977,981, Ragsdale/V Area, Area G Ramp | TCE ~1,700ppb; PCE ~200ppb; VC ~30 ppb; cis-1,2-DCE ~750 ppb; Benzene ~8ppb Carbon Tetrachloride ~8 ppb (MCL 0.5ppb) | GET & MNA Assessment | Alternative 5—EVO & EA GW and VI LUCs | 60 | 1,299 | 13 Nov 2014 | 10 Dec 2014 | 16 Jul 2015 | 30 June 2075 |
| WIOU SD043 (WABOU OU3) Building 916 | TCE ~1.0 | GET | Alternative 2—MNA GW LUCs | 0 | 26 | 20 Jun 2015 | 20 Sept 2015 | 20 Dec 2015 | 30 July 2017 |

GET*--LGAG treatment at SBBGWTP with treated water discharge to Main Branch of Union Creek, existing outfall
 GET**--LGAG treatment at NGWTP or other nearby on-base LGAC unit with treated discharge to duck pond
 GET***--LGAG treatment at CGWTP with treated water discharge to stormwater drainage system

Footnote 1:

- Federal Facility Remedial Design/Remedial Action (RD/RA) Schedule
- 2014 Accomplishments: **Bolded dates**
- 2017 Targets: **Yellow Highlight**
- Red font: **Dates edited from original EPA schedule**

Acronyms:

- COC Chemical of Concern
- DCA Dichloroethane
- DCB Dichlorobenzene
- DCE Dichloroethene
- EA Enhanced Attenuation
- ESD Explanation of Significant Differences
- EVO Emulsified Vegetable Oil
- GET Groundwater Extraction & Treatment
- GRISR Groundwater Remediation Implementation Status Report
- GW Groundwater
- ISCO In Situ Chemical Oxidation
- LUC Land Use Controls
- MNA Monitored Natural Attenuation
- MCL Maximum Contaminant Level
- N/D Non-detect
- NFA No Further Action
- OM Operations & Maintenance
- POCO Petroleum Only Contamination
- PRB Passive Reactive Barrier
- RA Remedial Action
- RACR Remedial Action Construction Report
- RD Remedial Design
- ROD Record of Decision
- TCE Trichloroethene
- TD Technology Demonstration
- VC Vinyl Chloride
- VI Vapor Intrusion

Travis AFB Restoration Program

Program Overview

*RPM Meeting
August 20, 2014*

Completed Documents

- Vapor Intrusion Assessment Update Technical Memorandum
- 2012 CAMU Annual Report
- Old Skeet Range Action Memorandum
- 3rd Five-Year Review
- 2012 Annual Groundwater Remediation Implementation Status Report (GRISR)
- Subarea LF007C and Site SS030 Remedial Process Optimization Work Plan
- Pre-Design Site Characterization of SS029 Report
- Old Skeet Range Removal Action Work Plan
- 2013 CAMU Inspection Annual Report
- Groundwater Record of Decision (ROD)
- CG508 POCO Work Plan
- 2013 Annual GRISR

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

Documents & Field Work In-Progress

Documents

- ***TA500 Investigation Work Plan***
- ***SD037 GW RD/RA Work Plan***
- Travis AFB UFP-QAPP
- DP039 Lead Excavation Technical Memo
- FT004 Technology Demonstration Work Plan
- Kinder Morgan LF044 Land Use Control Report

Field Work

- Site CG508 Site Investigation
- Old Skeet Range Characterization Sampling

Documents Planned

- ***Community Involvement Plan*** ***TBD***
- ESD to WABOU Soil ROD **TBD**
- ESD to NEWIOU Soil, Sediment, & Surface Water ROD **TBD**
- SD031 Technology Demonstration Work Plan **Aug**
- SD036 RD/RA Work Plan **Oct**
- ***ST018 POCO Work Plan Addendum*** ***Oct***
- ***SD034 Data Gap Investigation*** ***Nov***
- SS014 Technology Demonstration Work Plan **Dec**
- SS016 GW RD/RA Work Plan **Dec**
- SS015 GW RD/RA Work Plan **Apr '15**

Field Work Planned

- ***SD031 Technology Demonstration*** ***Oct***
- ***2Q Semiannual GRIP Sampling Event*** ***Oct***
- ***SD037 EVO Injection*** ***Jan***
- ***ST018 Extraction Well Installation*** ***Jan***

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

Completed Documents (Historical1)

- Basewide Health & Safety Plan (HSP)
- Action Plan
- 2007/2008 GSAP Annual Report
- LF007C RPO Work Plan
- LF008 Rebound Study Work Plan
- SS014 Tier 1 POCO Evaluation Work Plan
- ST027B Site Characterization Work Plan
- SS030 RPO Work Plan
- ST032 POCO Technical Memo
- DP039 Bioreactor Work Plan
- 2008 Annual GWTP RPO Report
- Passive Diffusion Bag (PDB) Technical Memo
- RD/RA QAPP Update
- ST032 Tier 1 POCO Evaluation Work Plan
- Phytostabilization Demonstration Technical Memo
- Model QAPP
- LF008 Rebound Test Technical Memo
- Comprehensive Site Evaluation Phase II Work Plan
- Field Sampling Plan (FSP)
- SS016 RPO Work Plan
- ST018 POCO RA Work Plan
- Vapor Intrusion Assessment Report
- GSAP 2008/2009 Annual Report
- FT005 Data Gap Work Plan
- First, Second, & Third Site DP039 Sustainable Bioreactor Demonstration Progress Reports
- DP039 RPO Work Plan
- SD036/SD037 RPO Work Plan
- ST027B Site Characterization Report
- 2009 GWTP RPO Annual Report Natural Attenuation Assessment Report (NAAR)
- Union Creek Sites SD001 & SD033 Remedial Action Report
- CAMU 2008-2009 Monitoring Annual Report

Completed Documents (Historical 2)

- Phytostabilization Study Report
- 2009/2010 Annual GSAP Report
- SS015 Remedy Optimization Field Implementation Plan
- Sites SS014 and ST032 Tier 1 POCO Evaluation Report
- SD036 Remedy Optimization Field Implementation Plan
- 2010 Annual CAMU Inspection Report
- Site ST018 POCO Baseline Implementation Report
- FT005 Data Gaps Investigation Report
- Comprehensive Site Evaluation Phase II Report
- 2010 Groundwater RPO Annual Report
- Focused Feasibility Study (FFS)
- Site ST027-Area B Human Health Risk Assessment
- Site ST027-Area B Ecological Risk Assessment
- Work Plan for Assessment of Aerobic Chlorinated Cometabolism Enzymes
- 2010/2011 Annual GSAP Report
- Baseline Implementation Report (Sites SS015, SS016, SD036, SD037, and DP039)
- 2011 CAMU Annual Report
- Technical and Economic Feasibility Analysis (TEFA)
- Work Plan for RPO of Sites SS016 and SS029
- Site LF007C Data Gaps Investigation Technical Memorandum
- Technical Memorandum for Assessment of Aerobic Chlorinated Cometabolism Enzymes
- Old Skeet Range Engineering Evaluation/Cost Analysis
- 2011 Groundwater Treatment RPO Annual Report
- Groundwater Proposed Plan (PP)
- FT005 Remedial Action Completion Report
- 2012 GSAP Technical Memorandum 8

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 (4th Quarterly event)
- Sampling for Assessment of Aerobic Chlorinated Cometabolism Enzymes (Feb 21-22)
- 2012 Annual GSAP Sampling
- CAMU Lysimeter Removal
- LF007C GET System Optimization
- SS029/SS016 System Optimization Analysis
- GSAP Semiannual Sampling Event
- Replace electrical wiring for well field at Site SS030