

Air Force Civil Engineer Center



Performance-Based Remediation (PBR) at the Former Galena Forward Operating Location (FOL), Alaska

Restoration Advisory
Board (RAB) Meeting
23 October 2019

Battle Ready...Built Right!

1



Former Galena FOL Performance Based Contract



- Parsons - Prime Contractor
- Partnering Team – CH2M/Jacobs and Ahtna Engineering Services
- Remediation of 32 sites contaminated primarily with fuels and solvents
- To date, six sites have achieved Cleanup Complete (one site pending)
- Installation of remediation systems is complete
- Operations and monitoring through Summer 2020



2019 Excavation at Disposal Site West of Dike (Site DP023)

2

2



Sites Achieving Cleanup Complete



Sites with Cleanup Complete

1. Site CST009 Building 1400 Former Ammunition Storage UST (UST1400) – 9/29/15
2. Site CST013 Former Incinerator USTs (UST1770) – 12/6/16
3. Site CSS005 Refueling Pads (PADS) – 6/23/17
4. Site CSS001 Electric Power Station AST (AST1569) – 6/30/17
5. Site SS021 Building 1549 Old Fire Station - 9/29/17
6. Site SS013 Control Tower Drum Storage Area South – 8/13/18

Site Closures under Review

1. Site OW024 – OWS1833 MWR Storage OWS
2. Site CG002 – Missile Storage Area (administrative closure)
3. Site CB001 - Galena Aviation Vocation Technical Center (administrative closure)

3

3



2019 Field Activities



Soil Vapor Extraction (SVE) and Bioventing

- Completed installation and start up SVE system at Building 1845 TCE Area/Building 1700 Refueler Maintenance Shop (Sites SS006/SS019)
- Expanded bioventing system at Southeast Runway Fuel Spill (Site ST010)

Excavations

- Former Waste Accumulation Area South of Building 1499 (Site SS018)
- Disposal Site West of Dike (Site DP023)
- POL Tank Farm - Former Fuel Filling Station (Site ST005 Area D)
- Combat Alert Cell USTs (Site CST011 Area 1)

4

4



2019 Field Work (continued)



Other Field Work

- Annual groundwater monitoring
- Confirmation Soil and Groundwater Sampling
- TCE soil pile remediation
- Landfarm operation and soil transfer
- Well abandonment and removal of old remediation systems

5

5



2019 Remediation Field Locations



Legend

- SVE System Status (2019)
- Excavation
- Blowing System Operation

0 300 600
Feet

Figure 2
Excavations and Remedial System
Startups in 2019
at the Former Galena FOL.

Former Galena Forward Operating Location, Alaska
PARSONS

6



SVE Startup at Site SS006



- System startup in July 2019
- Blower shed located on east side of City Storage Shed
- Emission Stack 30 feet tall



Blower Shed with Stack on Right



- Blower Stack Location (30 feet high)
- ▲ 21-Day Ambient Air Monitoring Station

7

7



SVE Startup and Air Monitoring at Site SS006



- Startup flow rates at 1/3 of design and initial emissions are treated by granular activated carbon (GAC). Flow rates are adjusted to keep emissions at or below target extraction rate of 5.88 pounds per day.
- Startup completed 27 July 2019; disconnected GAC and began ambient air monitoring program.
- 21-day ambient air monitoring stations located north, south, east and west of stack.
- Three 21-day monitoring events were completed from 27 July to 29 September 2019.
- All results well below target concentration of 2.0 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$) conservatively based on indoor air.
- Emissions were maintained below the target extraction rate of 5.88 lbs/day.
- Ambient air monitoring will continue quarterly. Process begins again when new vent wells are brought online.

8

8



Excavation at Site SS018



- Site SS018 was a waste accumulation area south of the steam plant
- Fuel pipeline leak impacted approximately 500 cy of soil
- Soil around pipeline was removed by hand
- Soil excavated and transported to the landfarm for treatment
- Pipeline was inspected after excavation and before final backfill



Site SS018 Excavation Area

9

9



Excavation at Site DP023



- Site DP023 was a waste disposal area south of Million Gallon Hill
- Time Critical Removal Action in 2015 removed about 2/3 of the disposal area
- Excavated remaining disposal area in 2019
- Soil and waste material is being segregated and characterized for disposal
- Waste may be disposed of in Galena or out of Galena at licensed waste disposal facilities



Site DP023 2019 Excavation

10

10



Excavation at Site ST005 Area D



- Site ST005 Area D was a fuel filling station located adjacent to the current City of Galena fill stand
- Initial excavation in 2018 removed 75 CY of petroleum-contaminated soil around the concrete pad, but some contamination remained.
- In 2019, the concrete pad was demolished and buried onsite.
- Additional excavation removed 735 CY of contaminated soil beneath the concrete pad and within the roadway.
- Petroleum-contaminated soil transported to Galena landfarm for treatment.



Site ST005 Area D 2018 and 2019 Excavations

11

11



Soil Excavation at Site CST011 Area 1



- Site CST011 Area 1 is a former UST location near the northwest corner of the Combat Alert Cell (CAC) hangar building.
- In-situ chemical oxidation (ISCO) was used in 2018 to treat a small area of gasoline-contaminated soil.
- When the treated soil was tested in 2019, the extent of contamination was found to be larger than previously known.
- Two excavations were performed, removing a total of 300 CY of contaminated soil.
- The soil was transported to the Galena landfarm for treatment.



12

12



Confirmation Soil and Groundwater Sampling



- Site ST020 (Building 1837 – Former UST)
- Site SS005 (Wilderness Hall (Bldg 1872))
- Site CST014 (Dining Facility UST)
- Site TU001 (Power Plant Tank 49)
- Site CST011 Areas 1 and 2 (Combat Alert Cell USTs)
- Site SS025 (West Perimeter Road TCE Spill)
- Site CPL006 Area 2 (Old Abandoned Pipeline)

Confirmation soil and groundwater sampling is used to evaluate cleanup progress and confirm if a site has met cleanup goals. If goals have been met, a report is prepared requesting closure.

13

13



Galena Landfarm



- Landfarm expanded in 2018
- Amount of soil treated and transported to City landfill for cover in 2019 was approximately 2,200 cubic yards
- Soil will continue to be treated in 2020



Tilling Operations at the Landfarm

14

14



Winter 2019 to Spring 2020 Activities



- Bioventing and soil vapor extraction (SVE) running and monitored monthly at 15 sites
- Vertical and horizontal air sparging systems running and monitored monthly at 7 sites (3 with SVE)
- One SVE system (Site SS025) only operates during the summer and fall
- April/May 2020 – The operating systems will be shut down for annual soil vapor sampling to track cleanup progress

15

15



Remediation Systems in Operation



Legend

- Bioventing System
- SVE System
- Horizontal Air Sparge System
- Sulfate Enhanced Bioremediation Injection
- Vertical Air Sparge System (SVE)
- Enhanced Anaerobic Bioremediation
- Enhanced Biogeochemical Transformation Injection



Figure 1
Remediation Systems in Operation as of 2019
at the Former Galena FOL
Former Galena Forward Operating Location, Alaska
PARSONS

16

16



Galena PBR 2020 Schedule



- 2020 ROD for Site CS001 (Contaminated Sediments – DDT Soils)
- Summer 2020 – Final field season
 - Site DP023 waste disposal
 - Operate SVE systems at Site SS025 and Sites SS006/SS019
 - Operate landfarm
- Field work stops by 30 August 2020
- Prepare close out reports, as appropriate
- Five-year Review for all open sites
- Current PBR Contract ends September 2020
- Follow on PBR Contract to be determined

17

17



Communications



- Public Review of Proposed Plan for remaining CERCLA sites
 - Site CS001 public review through 25 November 2019
- Notice will be published when the ROD for Site CS001 is finalized for public review
- Semi-annual RAB Meetings (April/October) to continue
- Air Force maintains Administrative Record for Final Documents at:
<http://afcec.publicadmin-record.us.af.mil/>

18

18



Questions?



Air Force Installation and Mission Support Central (AFIMSC) Public Affairs

AFIMSC/Public Affairs
2261 Hughes Ave., Suite 155
JBSA Lackland, TX 78236-9853
Toll Free (866) 725-7617

afimsc.pa.workflow@us.af.mil



19

19



20