



THE STATE
of **ALASKA**
GOVERNOR MIKE DUNLEAVY

Department of Environmental Conservation

SPILL PREVENTION & RESPONSE
Contaminated Sites Program

610 University Avenue
Fairbanks, Alaska 99709
Main: 907.451.2143
Fax: 907.451.2155
www.dec.alaska.gov

File Nos.: 860.38.002
860.38.005
860.38.045

June 28, 2021

Electronic Delivery Only

Christiana Hewitt
AFCEC/CIBE
2261 Hughes Ave., Suite 155
JBSA Lackland, TX 78236-9853

Subject: **DECISION DOCUMENT: CLEANUP COMPLETE WITH INSTITUTIONAL CONTROLS DETERMINATION**
Galena AFS / Airport – DSWD (DP023) Disposal Site West of Dike

Dear Ms. Hewitt,

The Alaska Department of Environmental Conservation (ADEC) has completed a review of the environmental records associated with the site, Galena AFS / Airport – DSWD (DP023) Disposal Site West of Dike, located in Galena, Alaska. Based on the information provided to date, it has been determined that the contaminant concentrations remaining at Site DP023 do not pose an unacceptable risk to human health or the environment. No further remedial action will be required as long as the institutional controls are maintained and effective and no information becomes available that indicates residual contamination poses an unacceptable risk.

Groundwater beneath the site is contaminated, however this contamination is believed to be associated with upgradient Site CG001 and not Site DP023. Accordingly, institutional controls for groundwater will remain in place and will be monitored as part of the remedy for Site CG001 (Galena AFS / Airport – CG001/CG002 MGH/MSA, File No. 860.38.002 and Hazard ID 1416).

This Cleanup Complete with Institutional Controls determination is based on the administrative record for Site DP023 at the Former Galena Forward Operating Location (FOL), which is located in the ADEC offices in Fairbanks, Alaska. This decision letter summarizes the site history, cleanup actions, regulatory decisions, and specific conditions required to effectively manage remaining contamination at this site.

Site Name and Location:

Disposal Site West of Dike (DP023)
Cantonment Triangle, West of POL Tank Farm
Galena, Alaska 99741
Latitude: 64.740153, Longitude: -156.962927

DEC Site Identifiers:

File No.: 860.38.045
Hazard ID: 25907

Name and Mailing Address of Contact Party:

Christiana Hewitt
AFCEC/CIBW
2261 Hughes Ave., Suite 155
JBSA Lackland, TX 78236-9853

Regulatory Authority for Determination:

18 AAC 75

Site Description and Background:

Site DP023 is an approximately 2-acre area located outside of the Former Galena Forward Operating Location (FOL) flood control dike (**Figure 1**) on property owned by the State of Alaska and managed by the Department of Transportation & Public Facilities (ADOT&PF). Site DP023 is located south of the base of Million Gallon Hill (MGH; Site CG001) and west of Site SS025, the West Perimeter Road Trichloroethene (TCE) Spill site. To the south, Site DP023 is bordered by a road that leads to a closed municipal landfill and a former small arm firing range. The area south of Site DP023 is also periodically used for staging gravel and construction equipment.

Site DP023 initially consisted of two areas: a former slit trench, identified from historical drawings and aerial photographs and a surface debris area.

Following investigation of the slit trench, it was determined that this area did not appear to have been used for disposal of waste materials. No debris except wood was located and no samples from the slit trench exceeded the applicable DEC cleanup levels.

The surface debris area also included a disposal trench, which was known to contain used transformers. In September 2011, the City of Galena removed the surface debris. Geophysical anomalies indicated that other buried wastes were present and test pits advanced in 2013 confirmed the presence of buried debris. The area defined by geophysical anomalies is hereafter described as the southeast debris area.

Contaminants of Concern

The following contaminants of concern (COCs) in soil were identified in the Record of Decision (ROD) for Site DP023:

- Gasoline-Range Organics (GRO)
- Benzene
- 1,2,4-Trimethylbenzene
- 1-Methylnaphthalene
- Benzo(a)anthracene
- Dibenz(a,h)anthracene
- 4,4-Dichlorodiphenyldichloroethane (DDD)
- Diesel-Range Organics (DRO)
- Ethylbenzene
- Naphthalene
- 2-Methylnaphthalene
- Benzo(a)pyrene
- Trichloroethylene (TCE)

No groundwater COCs associated with Site DP023 have been identified. DRO, residual-range organics (RRO), and benzene have been detected in monitoring wells within the Site DP023 boundary at concentrations above ADEC Table C Cleanup Levels (CULs). However, these contaminants are associated with upgradient Site CG001 and will be addressed as part of the remedy for Site CG001.

A 2017 Memorandum of Agreement (MOA) between the United States Air Force and ADOT&PF¹ addresses the implementation and management of institutional controls associated with land owned by the State of Alaska, including Sites DP023 and CG001. The MOA was recorded with the Alaska Department of Natural Resources Recorder's Office. The final 2020 First Five-Year Review² also describes the land use controls associated with Site CG001. The attached **Figure 2** shows land use controls for contaminated groundwater associated with Site CG001.

Cleanup Levels

The following 18 AAC 75 soil and groundwater cleanup levels apply at Site DP023:

- Table B1 and B2 Method Two Migration to Groundwater soil cleanup levels
- Table B1 Under 40-Inch Zone Human Health soil cleanup levels
- Table B2 Maximum Allowable Concentrations for soil
- Method Three alternative Migration to Groundwater CULs developed in accordance with 18 AAC 75.340(e)
- Table C groundwater CULs (Groundwater contamination is associated with upgradient Site CG001)

The approved cleanup levels and residual concentrations are presented in **Table 1**, below.

Table 1 – Approved Soil Cleanup Levels and Remaining Contaminant Concentrations

Contaminant	Method Two Human Health Soil Cleanup Level (mg/kg)	Method Three Migration to Groundwater Alternative Cleanup Level (mg/kg)	Maximum Remaining Backfill Concentration (mg/kg)	95% UCL for Backfill (mg/kg)	Maximum Remaining Concentration Soil Left in Place (mg/kg)	95% UCL for Soil Left in Place (mg/kg)
GRO	1,400	860	97 J	-	88	-
DRO	10,250	780	2300	326.7	1840	155.3
Benzene	11	0.15	0.28 J	0.0239	0.025 J	0.00239
Ethylbenzene	49	1.1	0.32 J	0.0487	0.21	0.0136
1,2,4-Trimethylbenzene	43	5.2	1.2	0.21	1.1	0.00453
Naphthalene	29	0.35	1.4	0.0598	6.8	0.0129
1-Methylnaphthalene	68	3.8	0.51	0.0655	3.8 J	0.217
2-Methylnaphthalene	310	12	0.51	-	6.4 J	0.351
Benzo(a)anthracene	14	6.8	1.8	0.505	25	0.202
Benzo(a)pyrene	1.5	19	1.7	0.521	20	0.613
Dibenz(a,h)anthracene	1.5	62	0.23	0.073	2.7	0.021
TCE	4.9	0.065	0.3 J	0.0293	0.3 J	0.0262
4,4-DDD	2.5	0.96	4.5	0.65	5.1	0.587
Lead	400	-	490	86.92	187	34.16
PCBs	1	-	1.0	0.349	1.9	0.498

mg/kg = milligrams per kilogram

J = the analyte was positively identified: the associated value is the approximate concentration of the analyte in the sample

UCL = Upper Confidence Limit for mean concentrations, based on 95% confidence (18 AAC 75.380(c)(1))

¹ Memorandum of Agreement, State of Alaska Department of Transportation and Public Facilities and United States Air Force for the Implementation of Institutional Controls at the Former Galena Forward Operating Location and Associated Matters:

<http://dnr.alaska.gov/ssd/recoff/search/docdisplay?District=415&SelectedDoc=20170001080>

² The final First Five-Year Review is uploaded to the U.S. Air Force Civil Engineer Center Administrative Record: <https://ar.afceec-cloud.af.mil/>, AR# 598192 (Note that "BRAC" must be selected to view recent Galena documents.)

Characterization and Cleanup Activities

The nature and extent of contamination was determined during the 2013 Remedial Investigation (RI) and the 2015 Supplemental RI. Soil samples were collected and analyzed for DRO, GRO, RRO, VOCs, polynuclear aromatic hydrocarbons (PAHs), semi-volatile organic compounds (SVOCs), metals, pesticides, and PCBs.

A Time Critical Removal Action (TCRA) was performed in 2015 by the Air Force under authority of CERCLA, Section 104. The TCRA covered an area of approximately 9,000 square feet, and approximately 4,100 cubic yards of material was excavated for screening and characterization. Approximately two thirds of the contaminated surface soil and debris at Site DP023 was excavated and disposed during the TCRA.

Excavation and removal were selected as the final remedy in the ROD for the remaining debris and contaminated soil in the southeast debris area. Excavation of the remaining debris and contaminated soil from the southern portion of the southeast debris area was accomplished in 2019 and final debris disposal was completed in 2020.

Confirmation soil samples were collected in 2015 and 2019. Statistical analysis was performed using USEPA's ProUCL software to determine the 95 percent upper confidence limit (UCL) for each COC. The resulting 95 percent UCLs were below the applicable Method 2 or Method 3 CULs presented in **Table 1**.

Groundwater samples were collected in 2019 and analyzed for DRO, GRO, RRO, VOCs, PAHs, SVOCs, metals, pesticides, and PCBs. DRO, RRO, and benzene exceeded the respective Table C cleanup levels. However, Site DP023 is located on top of a petroleum plume originating at the upgradient Million Gallon Hill site (Site CG001). Petroleum constituents in deep soil (> 15 feet bgs) and groundwater are attributed to Site CG001 and are being addressed by the remedy for that site.

Cumulative Risk Evaluation

Pursuant to 18 AAC 75.325(g), when detectable contamination remains onsite, a cumulative risk determination must be made that the risk from hazardous substances does not exceed a cumulative carcinogenic risk standard of 1 in 100,000 across all exposure pathways and does not exceed a cumulative non-carcinogenic risk standard at a hazard index of one across all exposure pathways. Cumulative risk is calculated using all contaminant concentrations remaining on site at concentrations above one-tenth the cleanup level, per 18 AAC 75.340(k).

A risk evaluation using the Method Three Cumulative Risk Calculator under ADEC Method Three (18 AAC 75.340(f)) was conducted. The Remedial Action Completion Report for Site DP023 presents the methods, input data and results of the risk calculations. The results of the risk calculations are summarized below:

- The non-carcinogenic hazard index (HI) was 0.3, below the regulatory risk standard of 1 for direct contact/ingestion, outdoor air inhalation, vapor intrusion, and groundwater ingestion pathways.
- The carcinogenic risk was 7×10^{-6} , below the below the regulatory risk standard of 1.0×10^{-5} for direct contact/ingestion, outdoor air inhalation, vapor intrusion, and groundwater ingestion pathways.

Based on a review of the environmental record and the results of the risk calculations, DEC has determined that residual contaminant concentrations meet the human health cumulative risk criteria for residential land use risk.

Exposure Pathway Evaluation

Following investigation at the site, exposure to the remaining contaminants was evaluated using ADEC's Exposure Tracking Model (ETM). Exposure pathways are the conduits by which contamination may reach human or ecological receptors. ETM results show all pathways to be one of the following: De Minimis Exposure or Pathway Incomplete. A summary of this pathway evaluation is included in **Table 2**.

Table 2 – Exposure Pathway Evaluation

Pathway	Result	Explanation
Surface Soil Contact	Pathway Incomplete	A major excavation was conducted at Site DP023 and backfilled with approved fill material. There are no exceedances from 0 to 2 feet bgs.
Subsurface Soil Contact	De Minimis	Backfill and excavation confirmation samples exceeded the HH cleanup level in the following samples: <ul style="list-style-type: none"> – Benzo(a)anthracene: 1 of 184 samples – Benzo(a)pyrene: 6 of 184 samples – Dibenz(a,h)anthracene: 1 of 184 samples – 4,4-DDD: 4 of 185 samples – Lead: 1 of 185 samples – PCBs: 1 of 189 samples <p>The 95% UCLs for all analytes are below the approved cleanup levels. Residual subsurface contamination at this site is de minimis.</p>
Inhalation Outdoor Air	Pathway Incomplete	Residual contamination at Site DP023 is not expected to reach outdoor air.
Groundwater Ingestion	Exposure Controlled	Site DP023 sits atop the upgradient petroleum groundwater plume attributed to Million Gallon Hill (Site CG001). Groundwater contamination will be addressed under Site CG001. Land use controls prohibit the installation of drinking water wells in this area.
Surface Water Ingestion	Pathway Incomplete	There is no surface water at Site DP023. The nearest surface water is the Yukon River, approximately 1400 feet south of Site DP023.
Wild and Farmed Foods Ingestion	Pathway Incomplete	Site DP023 is covered with several feet of gravel and is unlikely to be used for Wild or Farmed Foods. Residual contamination is not expected to pose a risk to plants or animals.
Inhalation (Vapor Intrusion) Indoor Air	Pathway Incomplete	There are no structures at Site DP023. It is not expected that this area would be used for future construction as it is outside of the flood control dike.
Exposure to Ecological Receptors	Pathway Incomplete	There are no concerns about other ecological receptors.

Notes to Table 2:

- *De Minimis* means that in ADEC's judgement, receptors are unlikely to be affected by the minimum volume or concentration of remaining contamination.
- *Exposure Controlled* means there is an institutional control in place limiting land or groundwater use and there may be a physical barrier in place that prevents contact with residual contamination.
- *Pathway Incomplete* means that in ADEC's judgement contamination has no potential to contact receptors.

ADEC Decision

Soil contamination at the site has been cleaned up to concentrations below the approved levels suitable for residential land use. Sufficient site characterization and cleanup have been completed and ADEC has determined that residual contaminants in soil have achieved steady-state equilibrium and will not migrate to groundwater.

Institutional controls for groundwater associated with Site CG001, located beneath Site DP023, will remain in place and will be monitored as part of Site CG001 (Galena AFS / Airport – CG001/CG002 MGH/MSA, Hazard ID 1416; File ID 860.38.002).

Site DP023, tracked under File 860.38.045 and Hazard ID 25907, will receive a Cleanup Complete with Institutional Controls designation. The removal of institutional controls on Site DP023 will be considered when groundwater beneath the site has achieved Table C CULs.

Standard Conditions

1. Any proposal to transport soil or groundwater off-site requires DEC approval in accordance with 18 AAC 75.325(i). A “site” [as defined by 18 AAC 75.990 (115)] means an area that is contaminated, including areas contaminated by the migration of hazardous substances from a source area, regardless of property ownership. (See **Figures 1 and 2**)
2. Movement or use of contaminated material in a manner that results in a violation of 18 AAC 70 water quality standards is prohibited.
3. Groundwater throughout Alaska is protected for use as a water supply for drinking, culinary and food processing, agriculture including irrigation and stock watering, aquaculture, and industrial use. Contaminated site cleanup complete determinations are based on groundwater being considered a potential drinking water source. In the event that groundwater from this site is to be used for other purposes in the future, such as aquaculture, additional testing and treatment may be required to ensure the water is suitable for its intended use.

This determination is in accordance with 18 AAC 75.380 and does not preclude ADEC from requiring additional assessment and/or cleanup action if future information indicates that contaminants at this site may pose an unacceptable risk to human health, safety, or welfare or to the environment.

Appeal

Any person who disagrees with this decision may request an adjudicatory hearing in accordance with 18 AAC 15.195 – 18 AAC 15.340 or an informal review by the Division Director in accordance with 18 AAC 15.185. Informal review requests must be delivered to the Division Director, 555 Cordova Street, Anchorage, Alaska 99501-2617, within 15 days after receiving the department’s decision reviewable under this section. Adjudicatory hearing requests must be delivered to the Commissioner of the Department of Environmental Conservation, 410 Willoughby Avenue, Suite 303, P.O. Box 111800, Juneau, Alaska 99811-1800, within 30 days after the date of issuance of this letter, or within 30 days after the department issues a final decision under 18 AAC 15.185. If a hearing is not requested within 30 days, the right to appeal is waived.

If you have any questions, please contact me at (907) 451-5175 or via email at jamie.mckellar@alaska.gov.

Sincerely,

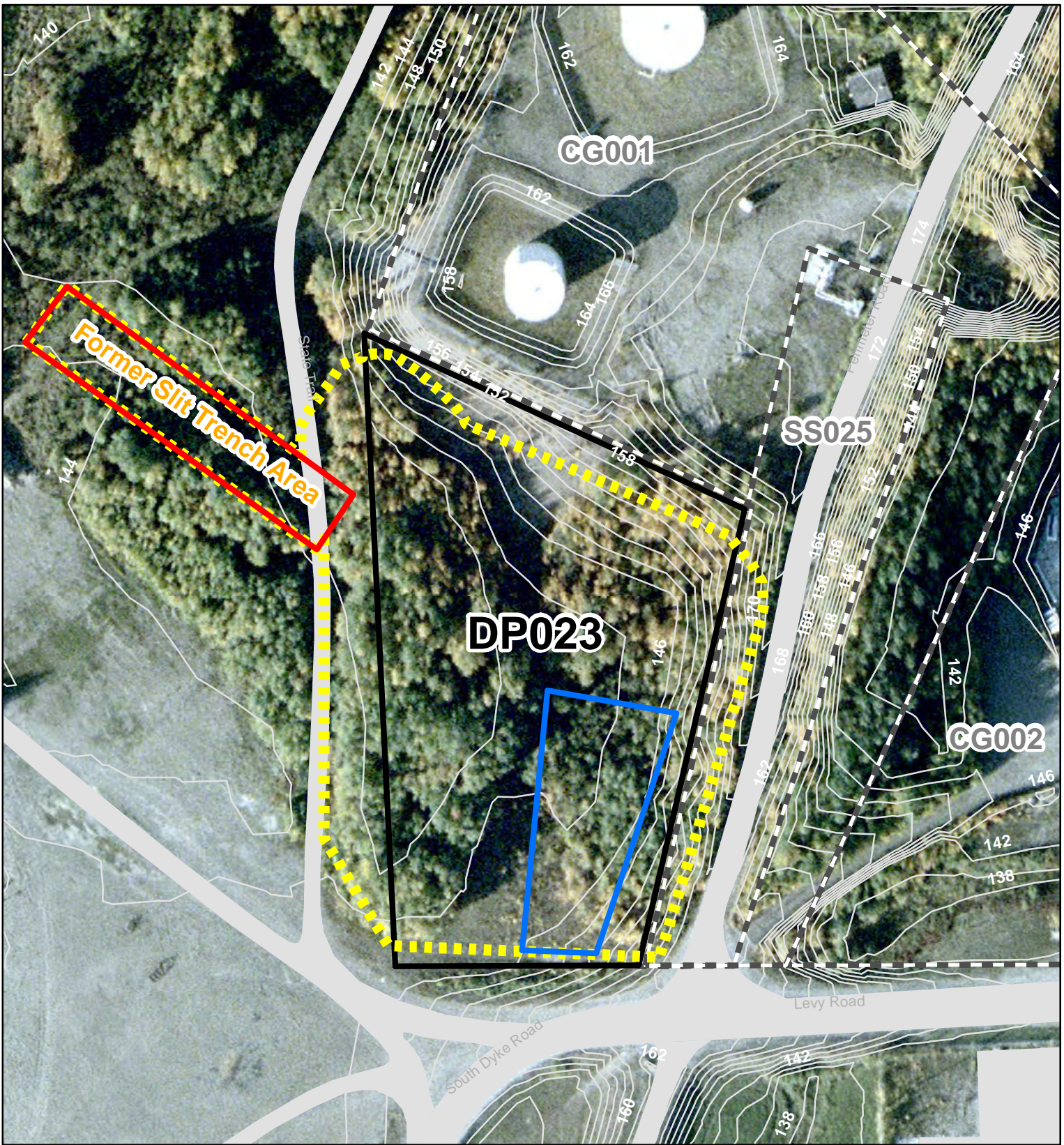


Jamie McKellar
Environmental Program Specialist

Enclosures: Figure 1 – Site Figure
Figure 2 – CG001 Land Use Controls

cc, via email: Donna Kozak, BAH
Ed Heyse, Parsons
Bruce Henry, Parsons
Andrea Finlay, Parsons
Win Westervelt, CH2M/Jacobs
Bill O’Connell, DEC
Eric Breitenberger, DEC

Sam Myers, ADOT&PF
Diana Osborne, ADOT&PF
Elzbeth Robson, ADOT&PF
Margaret Moody, ADOT&PF



Legend

- DP023
- Airfield Surface or Road
- Ground Surface Elevation Contour
- Boundary of Adjacent or Overlapping Site
- CG001
- CG002
- SS025
- Exposure Area Applies to All Receptors
- Northwest Slit Trench Exposure Area for Human Health
- Southeast Exposure Area for Human Health
- Ecological Exposure Area

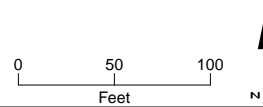
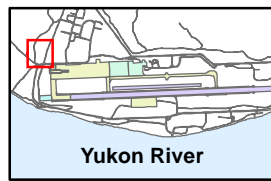
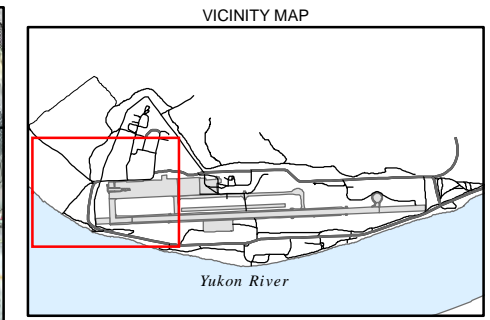


FIGURE 1

Features at and near Site DP023

Remedial Action Completion Report for
 Disposal Site West of Dike (Site DP023)
 Former Galena Forward Operating Location, Alaska
PARSONS



LEGEND

- CG001/CG002
- Adjacent Site
- Approximate Location of Former Feature
- Structure
- Airfield Surface or Road
- Index Contour
- Intermediate Contour Depression
- Intermediate Contour
- Water Line
- Heating/Cooling Line
- Main Wastewater Line
- Electrical Line
- Abandoned Fuel Line
- Main Fuel Line

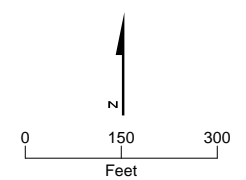
Underground Utility Locates - 2010

- Electrical Line
- Potable Water Main
- Communications Line
- Sanitary Sewer Main

Land Ownership

- BLM Reserve
- City of Galena
- FAA Reserve
- State Owned
- US AF Reserve (pending transfer to BLM)
- US Fish and Wildlife Service

Land Use Control Area. Contamination is present in the groundwater and could be present at any depth. Groundwater is unsuitable for drinking.



Note:
1. 2010 utilities shown are underground only.

FIGURE 2
FIGURE CG001/CG002-3
Site CG001/CG002 and ST009 Land Control Area for Groundwater Contamination above CULs
 2019 Land Use Controls Implementation Plan Update
 Former Galena Forward Operating Location, Alaska