THE STATE of ALASKA
GOVERNOR SEAN PARNELL

Department of Environmental Conservation

Division of Spill Prevention and Response
Contaminated Sites Program

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File: 860.38.043
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August 16, 2012

Al Weilbacher
Building 171
2261 Hughes Ave., Suite 155
Lackland AFB, TX 78236-9853

Re: ADEC determination "Cleanup Complete" for Site Galena AFS/Airport OT099, Demolition/Drum Removal Site, Former Galena Forward Operating Location (FOL), Galena, Alaska.

Dear Mr. Weilbacher:

The Alaska Department of Environmental Conservation, Contaminated Sites Program (DEC) has completed a review of the Site investigations documented in the Final Building Demolition/Drum Removal Site (Site OT099) Interim Removal Action and Site Closure Report, May 2012, for the Site OT099, located at the Former Galena Forward Operating Location (FOL), Galena, Alaska. Based on the information provided to date, DEC has determined that the contaminant concentrations remaining on site do not pose an unacceptable risk to human health or the environment, and this site will be closed.

This decision is based on the administrative record for Galena AFS/Airport OT099, which is located in the offices of the DEC in Anchorage, Alaska. This letter summarizes the decision process used to determine the environmental status of the site and provides a summary of the regulatory issues considered in the Cleanup Complete Determination.

Introduction
Site Name and Location:
Galena AFS/Airport OT099
Galena Alaska, 99741

File Number and Hazard ID:
File: 860.26.043
Hazard ID: 25883

Regulatory Authority:
18 AAC 75.

Background and Characterization Activities

Site OT099 is located within Parcel EE south of the runway and adjacent to Old Town Galena. The "Parcel EE" identification was assigned by the State of Alaska Department of Transportation and Public Facilities (ADOT&PF) Aviation Leasing and Airport Land Development.

In 2001 and 2002, the USAF and its contractors Yukaana Development Corporation (YDC) and Bethel Services, Inc. (BSI) collected drums and containers and staged and crushed them at Site OT099, on land leased from the State of Alaska. The drums originated from the banks of the Yukon River and associated sloughs and lakes near Galena. Processing included characterizing waste, repackaging the drum contents for disposal, and cleaning and crushing the drums. During the project, 840 drums and containers were collected and disposed of.

In September 2002, the fence and containment pad liner were removed, and the site was leveled. Neither YDC nor USAF used the site after the drum-crushing project was completed. However, during a site visit in 2005, numerous stains were observed in the southern portion of the site, which reportedly were not present at the completion of the drum-crushing project.

In July 2005, a comprehensive surface soil investigation was conducted within the entire area of Site OT099 (YDC/BSI, August 2006). Two-hundred-and-four field screening soil samples were collected from 195 grid squares (20 feet by 20 feet each) at the site and analyzed with Dexsil® PetroFLAG™ field screening kits. Twenty-five surface stains were observed at Site OT099, 24 of which were observed in the southern half of the site. The sizes of observed stains ranged from 0.5 feet to 3 feet in diameter (YDC/BSI, August 2006). At observed stains (or locations with high PetroFLAG™ results), 26 soil samples for confirmation laboratory analysis were collected from the upper 3 feet of soil. SGS Environmental Services, Alaska Division, analyzed the soil samples for Benzene, toluene, ethylbenzene, and xylenes, (BTEX), gasoline range organics (GRO), diesel-range organics (DRO) and residual-range organics (RRO).

In addition to the above-listed analyses, the three locations with the highest PetroFLAG™ results (05DC-E10-001, 05DC-I10-002, and 05DC-J10-003) were analyzed for polynuclear aromatic hydrocarbons (PAHs) using EPA Method 8270 SIM. A majority of the samples had "chromatogram patterns consistent with a lube oil" (YDC/BSI, August 2006). DRO, RRO, and benzene concentrations from the 2005 site investigation exceeded the extent soil SLs. DRO was detected at concentrations up to 8,400 mg/kg and RRO was detected at concentrations up to 39,000 mg/kg. Benzene was detected at 1 sample location, with a concentration of 0.0338 mg/kg (higher than the extent soil SL of 0.025 mg/kg). Xylenes and PAHs were also detected in low concentrations that did not exceed the extent soil SLs.

DEC requested remedial action for the petroleum contamination at Site OT099 and suggested excavation and confirmation sampling in the areas of surface stains documented in the southern third of the site.

Groundwater samples were collected in 2008 for VOC analysis at DCA-GW407, POL-GW328, and POL-GW329. Benzene was detected above the ground-water to-surface-water extent SL at a concentration of 0.68 micrograms per liter (µg/L) at 123 feet bgs. This deep contamination is not considered to be a result of Site
OT099 surface spills, but is associated with a contamination plume from up-gradient sources.

A site characterization investigation was conducted in 2010. Five soil borings were advanced to fill the identified data gaps at Site OT099. Soil samples were collected at depths of 0 to 2, 5 to 7, 10 to 12, 14 to 16 (middle of the variably saturated zone), 24 to 26 (bottom of the variably saturated zone), and 34 to 36 (10 feet into the permanently saturated zone) feet bgs at each location. Soil samples from the top of the water table and 10 feet into the permanently saturated were collected from two of the borings and were collocated

with groundwater samples. Samples were analyzed for GRO, DRO, RRO, VOCs, PAHs, and Metals. Soil samples were also screened for trichloroethene (TCE) and tetrachloroethene (PCE).

TCE and PCE were not detected in any soil screening samples collected from Site OT099. DRO, RRO, Methylene Chloride, and Arsenic were detected above screening levels in soil. DRO and RRO detections were limited to the first 4 feet of soil. Methylene Chloride and Arsenic were detected at all depth intervals, however, the Methylene Chloride was B-qualified and the Arsenic concentrations were below background threshold values (BTVs) for arsenic that were approved by DEC. No petroleum compounds were detected above the SL in any of the groundwater samples collected in 2010. Elevated levels of Metals (Arsenic, Barium, Cadmium, Iron and Nickel) were detected above SLs in groundwater samples, however, the concentrations are considered low and likely background concentrations.

2010 & 2011 Interim Removal Actions

One large square excavation and multiple small surface stain locations were excavated from Site OT099 in 2010, and three additional 10-foot-by-10-foot excavations (centered on locations of historical exceedances) were excavated in 2011. Soil excavation activities were performed in accordance with the procedures described in the approved Work Plan. All surface stains were removed as a result of the excavation efforts. All contaminated soil above DEC Method Two cleanup levels has been removed and is temporarily stored in the long-term stockpile at Campion airstrip. The confirmation samples and duplicate results were below the DEC Method Two cleanup levels for all petroleum constituents. Arsenic results were above cleanup level in all excavation samples, but were below the approved arsenic BTV of 13.3 mg/kg.

Risk Evaluations

The cumulative effects of the detected site-related analytes in soil post-IRA at Site OT099 were evaluated in accordance with DEC guidance using the online Cumulative Risk Calculator. Chemicals detected at levels greater than or equal to one-tenth of the DEC Table B1 direct contact and inhalation cleanup levels for soil and DEC Table C for groundwater are identified as COPCs and included in the cumulative risk calculation. Only arsenic was detected at a level exceeding the one-tenth criteria. Given the investigation data, the results indicate the cumulative cancer risk and cumulative non-cancer hazard index for unrestricted land use (residential land use) are estimated to be 3 x 10-4 and 2. These cumulative risk calculations exceed the DEC target threshold for cancer risk and hazard index of 1 x 10-5, and HI of 1. The only contributor to cumulative cancer risk is arsenic.

Excluding arsenic from the calculations, there are no analytes that exceed the one-tenth threshold for inclusion as a COPC and, therefore, there is no unacceptable cumulative risk for soil at Site OT099.

Ecological habitat on and around the site is of marginal quality and consists of an open gravelly area with sparse grass and forbs (yarrow, clover) as well as scattered small willows and alders that have been mowed. Therefore, terrestrial ecological exposure pathways are considered to be potentially complete and an Ecological Risk Evaluation was performed in accordance with the Work Plan and DEC Ecoscoping Guidance. In addition, Site OT099 is within 1,000 feet of the Yukon River, therefore, aquatic ecological exposure pathways are potentially complete.

Contaminants of Concern

Based on data collected during the site investigations, GRO, DRO, RRO, Benzene, 1-Methylnaphthalene, 2-Methylnaphthalene, and Naphthalene were detected at a level above the extent screening levels.

Clean Up Levels

The default soil cleanup levels for this site are established in 18 AAC 75.341, Method Two, Tables B1 and B2, Migration to Groundwater.

Contaminant	Site Cleanup Level (mg/kg)
GRO	300
DRO	250
RRO	11,000
Benzene	0.025
1-Methylnaphthalene	6.2
2-Methylnaphthalene	6.1
Naphthalene	20

The default groundwater cleanup levels for this site are established in 18 AAC 75.345 Table C Groundwater Cleanup Levels.

Contaminant	Site Cleanup Level (mg/L)
GRO	2.2
DRO	1.5
RRO	1.1
Benzene	0.005
1-Methylnaphthalene	0.15
2-Methylnaphthalene	0.15
Naphthalene	0.73

Pathway Evaluation

Following the interim removal action and review of confirmation sampling at the site, exposure to the remaining contaminants was evaluated using DEC'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, Exposure Controlled, or Pathway Incomplete. A summary of this pathway evaluation is included in Table 1.

Table 1

Pathway	**Result**	**Explanation**
Surface Soil Contact	Pathway Incomplete	No contamination of surface soils was indicated during investigations. There is no surface soil contact.
Sub-Surface Soil Contact	De-minimis exposure	Contamination remains in the subsurface, but is below migration to groundwater levels.
Inhalation – Outdoor Air	De-minimis exposure	Contamination remains in the subsurface, but is below migration to groundwater levels.
Inhalation – Indoor Air (vapor intrusion)	Pathway Incomplete	There are no buildings at the site and any remaining contamination is below migration to groundwater levels.
Groundwater Ingestion	Pathway Incomplete	Groundwater contamination above DEC cleanup levels was not encountered during the investigations.
Surface Water Ingestion	Pathway Incomplete	There is no surface water located within ¼ mile of the site.
Wild Foods Ingestion	Pathway Incomplete	There is no surface or subsurface contamination remaining above migration to groundwater levels.
Exposure to Ecological Receptors	Pathway Incomplete	Contaminated soil is not present at surface.

DEC Decision

The investigations to date have adequately characterized and removed contaminated soil at the site. Based on the information available, DEC has determined no further assessment or cleanup action is required. The Release Investigation is complete for this site, any potential risk to human health or the environment is acceptable as it is determined to be below action levels, and any contamination remaining has been evaluated as de-minimus. Based on these findings the site status will be designated -"cleanup complete" and the site will be listed as closed on the Department's database.

Although a cleanup complete determination has been granted, DEC approval is required for off-site soil disposal in accordance with 18 AAC 75.375 (i). It should be noted that movement or use of potentially contaminated soil in a manner that results in a violation of 18 AAC 70 water quality standards is unlawful.

This determination is in accordance with the site cleanup rules in 18 AAC 75.325 Article 3 and site closure rules in 18 AAC 75.380 (d). The determination does not preclude DEC from requiring additional assessment and/or cleanup action if future information indicates that this site may pose an unacceptable risk to human health or 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, 410 Willoughby Avenue, Suite 303, Juneau, Alaska 99801, 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, Juneau, Alaska 99801, 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 concerning this closure decision, please do not hesitate to contact the DEC project manager at (907) 451-2180, or by email at dennis.shepard@alaska.gov.

Approved By,

Fred Vreeman
Environmental Program Manager

Recommended By,

Dennis Shepard
Environmental Program Specialist

cc: Donna Kozak, Booz Allen Hamilton, via email
Win Westervelt, CH2MHill, via email
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