THE STATE of ALASKA
GOVERNOR BILL WALKER

Department of Environmental Conservation

DIVISION OF SPILL PREVENTION AND RESPONSE
Contaminated Sites Program

PO Box 111800
410 Willoughby Ave #303
Juneau, AK 99811-1800
Main: 907-465-5390
Fax: 907-465-5218
www.dec.alaska.gov

File No: 1513.38.024

August 26, 2016

Via electronic and regular mail
Ms. Hilary Lindh, Manager
Environmental Division, Southeast Region
Alaska Department of Transportation & Public Facilities
P.O. Box 112506
Juneau Alaska 99811-2506

RE: Decision Document: ADOT&PF Juneau Equipment Yard
Cleanup Complete Determination

Dear Ms. Lindh,

The Alaska Department of Environmental Conservation, Contaminated Sites Program (DEC) has reviewed the environmental records for the referenced Site managed by the Alaska Department Transportation & Public Facilities (ADOT&PF). Base on the information provided to date, it has been determined that that contaminant concentrations remaining on site do not pose an unacceptable risk to human health or the environment and no further remedial action will be required unless new information becomes available that indicates residual contamination may pose an unacceptable risk.

Site Name and Location
ADOT&PF Juneau Equipment Yard
6860 Glacier Highway
Juneau, Alaska
USS 3258 Lots 5-21, Parcel 5B1401000010

Address of Contact Party
Ms. Hilary Lindh
ADOT&PF Southeast Regional Office
P.O. Box 112506
Juneau, AK 99811-2506

DEC Site Identifiers
Hazard ID: 1177
File: 1513.38.024

Regulatory Authority for Determination
Title 18 Alaska Administrative Code 75

Site Description and Background
Juneau, due to its location, has a mild maritime climate. The mean annual summer temperature in Juneau ranges from 44 to 65 degrees Fahrenheit. Juneau has a relatively wet climate with an average annual precipitation of 92 inches per year and a snowfall average of approximately 101 inches. Groundwater is present at the site and may have sufficient quality and quantity to become a drinking

water source but its use is unknown. The City and Borough of Juneau provides drinking water and sewer to Site and the area.

Located at 6860 Glacier Highway in Juneau, the referenced equipment and material stockyard is located in a suburban area with residential and commercial areas nearby. The larger facility serves as the regional base of operations for the ADOT&PF and is zoned industrial land use by the City and Borough of Juneau (CBJ). Structures on the east end of the property include a large vehicle maintenance shop, a materials testing laboratory, and two office buildings. In the middle of the property is a large parking lot and on the west end of the property is the equipment and materials stockyard.

In January, 2003, ADOT&PF began an environmental assessment of the eastern half of the property for release(s) from multiple regulated underground storage tank (UST) systems. DEC approved installation of monitoring wells to characterize groundwater contamination from confirmed releases. A record of DEC oversight of contamination resulting from leaking USTs on the eastern half of the property is located under the name ADOT&PF Regional Complex Juneau Hazard ID# 25131.

Two release investigations not involving regulated underground storage tanks (USTs) have taken place at the facility. A gasoline tank and dispenser were removed from between the main building and the parking area and an underground heating oil tank located behind the main shop building was closed by removal. Three other environmental investigations have occurred on Lots 5 through 21, located at the west end of the property. This determination letter summarizes the results of these environmental investigations over the last 25 years.

Contaminants of Concern

The following petroleum contaminants of concern are those above cleanup levels that were identified during the course of the site investigations summarized in the Characterization and Cleanup Activities section of this decision letter.

- Diesel Range Hydrocarbons (DRO)

Cleanup Levels

Alaska Statutes Title 46 and Title 18 of Alaska's Administrative Code of regulations, Chapter 75 specify the cleanup level requirements for hazardous substances in soil, groundwater, and surface water at this Site are those established in 18 AAC 75.341(d) Method Two for soil with chemicals listed on 18 AAC 75.341(c) Table B1 and petroleum hydrocarbon ranges listed on 18 AAC 75.341(d) Table B2 in the over 40 inch rainfall zone.

Groundwater criteria listed in Table C at 18 AAC 75.345(b)(1) apply to this Site, and surface water as referenced in 18 AAC 75.345(f) must meet the Water Quality Standards found in 18 AAC 70 for TAqH and TAH (volatile and semi-volatile hydrocarbons). Although groundwater investigation did not indicate contamination, soil cleanup levels protective of migration to groundwater and in turn, surface water, apply to this site. The following table displays the contaminants of concern cleanup levels for completed pathways at this site:

Table 1. Cleanup levels

Chemical	Soil	Groundwater	Surface Water
Benzene	0.025	0.005	N/A
Toluene	6.5	1.0	N/A
Ethylbenzene	6.9	0.7	N/A
Total Xylenes	63	10	N/A
DRO	230	1.5	N/A
RRO	8300	1.1	N/A
TAqH	N/A	N/A	15.0 ug/L
TAH	N/A	N/A	10.0 ug/L

mg/kg = milligrams per kilogram
mg/L = milligrams per liter
ug/L = micrograms per liter

Site Characterization and Cleanup Activities

Release investigation and corrective action activities conducted under the regulatory authority of the Contaminated Sites Program began in 1991. These activities are described below.

In August 1991, Mr. Randy Bayliss, P.E. (Bayliss) submitted a Corrective Action Plan (CAP) to remediate soil contaminated by an estimated 130-gallon diesel release from the dispenser for an underground storage tank (UST) system. Based on the investigation confirming that the release was not a UST system failure, DEC concluded spill oversight by the Contaminated Sites Program was appropriate and approved the CAP. ADOT&PF excavated an estimated volume of 92 cubic yards of contaminated soil with the highest sample concentration of DRO reaching 13,000 milligrams per kilogram (mg/kg) and an average DRO concentration of 8,000 mg/kg.

ADOT&PF placed the soil in the landfill area in lined and covered bioremediation cells designated Biocells A and B in accordance with a DEC approved 2-year Bioremediation Plan. Although pit confirmation samples were not collected, based on field screening data DEC concluded no further corrective action was necessary at the release site.

In October, 1995, ADOT&PF closed a 6,000 gallon underground heating oil tank by removal. Soil sample screening indicated no petroleum release. A laboratory confirmation sample was collected from the tank excavation. Although analysis detected a diesel range organics (DRO) hydrocarbon concentration of 33 mg/kg in the sample, the analyst concluded the chromatogram pattern was not match for DRO. DEC concluded no further corrective action was necessary and ADOT&PF returned the soil to the excavation.

In December, 1998, sampling confirmed DRO levels in Biocells A and B from the 1991 release were low enough to approve land spreading the remediated soil in the equipment stockyard with a restriction that transport off-site required department approval.

Two site investigations have been conducted on the former landfill site located under the equipment stockyard and material storage on Lot 5 west of the parking area and main building. Mr. Randy Bayliss, P.E. (Bayliss) performed the first environmental assessment on the property west of the parking area in September, 1993, by conducting interviews with State personnel and collecting soil

and groundwater samples for laboratory analysis (Bayliss, December, 1993). The purpose was to examine conditions resulting from the expansion of land use into the undeveloped west end of the property.

The site characterization report concluded that the former unpermitted landfill that expanded on Lot 5 between the mid-1970s and the early 1990s may contain a variety of chemicals ranging from paint and solvents to pesticides, herbicides, creosote, galvanized metals, asbestos, and potentially polychlorinated biphenyls. In addition to chemicals, the site was potentially utilized for disposing of construction debris, including carpet scraps and roofing materials. The landfill could originally be accessed by the public. There are no records of the type and quantity of material placed in the landfill and was not under a waste management plan.

In samples collected from nine test pits on Lot 5 and four monitoring wells installed on the perimeter of the landfill site for the 1993 site investigation, Bayliss detected no soil and groundwater contamination above petroleum and total metals cleanup levels migrating from the Site except in one location. Test pit TP9 on the south side of the Lot 5, the sample had a DRO concentration of 240 mg/kg. The result was close enough to the cleanup level for Bayliss to conclude the quantity was minor and recommend that no remedial action was necessary. Now at an estimated depth twelve feet below grade, the landfill area was capped with sand and crushed rock as land use transitioned into an equipment stockyard and materials storage area for the facility.

In 2003, Smith, Bayliss, LeResche Inc. (SBL) performed a site characterization of Lots 4 and 21, west of the former landfill (Smith, Bayliss, LeResche Inc., 2004) on Lot 5. SBL advanced six test pits and, based on field screening sample readings, collected one confirmation soil sample from test pit TP-1. SBL excavated rock fill in the test pits to depths ranging from three to five feet below ground surface (BGS) and then began to encounter woody debris mixed with native peat and sand.

The small quantity of contaminated soil identified by field screen and laboratory confirmation sampling was located in the native soil at six feet BGS. The confirmation sample had a DRO concentration of 300 mg/kg. Gasoline range (GRO) and residual range (RRO) hydrocarbons, and benzene, toluene, ethylbenzene, and toluene (BTEX) hydrocarbon compounds were below either the laboratory reporting limits or the respective soil cleanup level. Sample field screen readings from the overlying soil did not indicate contamination. The investigation concluded that a small pocket of subsurface petroleum contamination, probably originating from leaking equipment parked in storage, remained on the property line between Lots 4 and 5. DEC concluded no remedial action was necessary in this area.

The highest level of contamination remaining at the Site was detected in sample TP-1-1 collected in the southwest corner of Lot 5. The levels in each of the other confirmation soil samples were below the DEC Method Two Migration to Groundwater (M2 MTG) soil cleanup levels listed in Title 18 Alaska Administrative Code (AAC) 75.341 Table B1 and B2. Table 1 displays the highest levels detected in soil remaining at the site, the sample depth, and the M2 MTG cleanup levels. Levels shown in bold are above the applicable cleanup levels and represent the contaminant(s) of concern.

Table 2 the greatest levels of analytes detected in remaining soil at the site.

Hydrocarbon range	Greatest level in soil mg/kg	Sample name and depth below the surface	M2 MTG Cleanup Levels mg/kg
GRO	3.96	TP-1-1 at 8.5 feet	260
DRO	**300**	TP-1-1 at 8.5 feet	230
RRO	923	TP-1-1 at 8.5 feet	8,300
Total Xylenes	0.06	TP-1-1 at 8.5 feet	63

Groundwater Investigation
The subsurface geology for the Lot 5 former landfill is not conclusively known. It appears from boring logs in the Bayliss 1993 site investigation that subsurface conditions near the landfill are primarily shallow peat to approximately 1.5 to 2 feet below ground surface (bgs). Fine-grained silt and sand were encountered beneath the peat extending from approximately 2 to 4 feet bgs. Further information about subsurface conditions deeper than 4 feet bgs is unknown.

In the 1993, Bayliss collected groundwater samples from wells MW-1, MW-2, MW-3 and MW-4. Concentrations of GRO, DRO, RRO and BTEX in the samples were below either the laboratory reporting limit or the respective levels in Table C.

In 2007 DEC initiated a site investigation of the closed landfill on Lot 5 at the west end of the property. SLR Inc. (SLR) found that monitoring wells MW-2, MW-3, and MW-4 were either destroyed or could not be located. SLR found well MW-1 and it contained a silt plug. SLR purged and redeveloped the well, and on the next day collected a groundwater sample and field duplicate. Concentrations of GRO, DRO, RRO and BTEX in the samples were below either the laboratory reporting limit or the respective Table C cleanup levels.

In 2014, Shannon & Wilson performed a site inspection and confirmed for DEC that the all the monitoring wells had been removed from the Lot 5 release Site.

Cumulative Health Risk Calculation
Based on a review of the environmental record, DEC has determined that residual contaminant concentrations do not pose a cumulative human health risk.

Pathway Evaluation
Following investigation and cleanup 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 as Attachment A to this letter.

DEC Decision
DEC has determined that remaining contamination is petroleum only and the de minimis extent does not pose a risk to workers at the Site, occasional visitors to the Site, or the quality of off-site

surface water and groundwater. Remaining pockets of low concentrations of petroleum in soil are isolated and impracticable to remove and sampling and analysis consistently supports the conclusion that infiltration of residual contamination to groundwater as a transport mechanism surface water is not present.

This determination is in accordance with 18 AAC 75.380(d)(2) and 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, safety or the environment. This site will be designated as closed on the Contaminated Sites Database subject to the following standard conditions:

Standard Conditions

1. Any proposal to transport soil or groundwater off-site requires DEC approval in accordance with 18 AAC 75.600(h). 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.

2. Movement or use of contaminated material in a manner that results in a violation of 18 AAC 70 water quality standards is prohibited.

Appeal

Any person who disagrees with this decision may request an adjudicatory hearing in accordance with 18 AAC 75.195 -18 AAC 75.340 or an informal review by the Division Director in accordance with 18 AAC 75.185. 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 75.185. If a hearing is not requested within 30 days, the right to appeal is waived.

If you have questions about this closure decision, please contact the DEC project manager, Bruce Wanstall at (907) 465-5210.

Sincerely,

Bruce Wanstall
Remedial Project Manager
Contaminated Sites Program

Attachment A: Table 3 – Exposure Pathway Evaluation
Attachment B: Site Figure 1

cc: Sally Schlichting, DEC Unit Manager, CS Program, via email
DEC SPAR Cost Recovery, via email

Attachment A: Exposure Pathway Evaluation

Table 3 – Exposure Pathway Evaluation

Pathway	Result	Explanation
Surface Soil Contact	Pathway Incomplete	Surface soil contamination has been removed and remediated off-site. There is no soil contamination remaining at the surface on the site above the direct contact cleanup levels.
Sub-Surface Soil Contact	De-minimis exposure	Soil contamination remains not accessible in the subsurface at levels between Method Two Table B2 Migration to Groundwater and human health ingestion levels and future excavation is not planned.
Inhalation – Outdoor Air	Pathway Incomplete	Contamination remains in the subsurface, but no volatile compounds are present at levels above outdoor inhalation screening levels
Inhalation – Indoor Air (vapor intrusion)	Pathway Incomplete	Buildings are not present and any remaining volatile petroleum levels are either below laboratory reporting limits and/or the inhalation and migration to groundwater screening levels.
Groundwater Ingestion	Pathway Incomplete	Groundwater is not used as a drinking water source. If present, petroleum concentrations are below either laboratory reporting limits or Table C cleanup levels. CBJ provides potable water to the Site and area.
Surface Water Ingestion	Pathway Incomplete	Surface water hydraulically connected to the Site is not of sufficient quality or quantity for a potable water source.
Wild Foods Ingestion	Pathway Incomplete	The Site and the suburban area are not wild foods harvest areas and none of the contaminants have potential to bioaccumulate in flora or fauna.
Exposure to Ecological Receptors	Pathway Incomplete	Ecological receptors may be present in adjacent roadside drainages and wetlands. Groundwater investigation indicates no off-site migration.

Notes to Table 1: "De-minimis exposure" means that in DEC's judgment receptors are unlikely to be affected by the minimal volume of remaining contamination. "Pathway incomplete" means that in DEC's judgment contamination has no potential to contact receptors. "Exposure controlled" means there is an administrative mechanism in place limiting land or groundwater use, or a physical barrier in place that deters contact with residual contamination.

Attachment B: Site Figure 1