



THE STATE
of **ALASKA**
GOVERNOR MIKE DUNLEAVY

**Department of Environmental
Conservation**

DIVISION OF SPILL PREVENTION AND RESPONSE
Contaminated Sites Program

610 University Avenue
Fairbanks, AK 99709-3643
Phone: 907-451-2143
Fax: 907-451-2155
www.dec.alaska.gov

December 8, 2020

File No. 212.38.003

Sam Myers
ADOT&PF Maintenance & Operations
2301 Peger Road
Fairbanks, Alaska 99709

Re: Decision Document: ADOT&PF Slana Maintenance Station Class V Injection Well
Cleanup Complete Determination

Dear Mr. Myers

The Alaska Department of Environmental Conservation, Contaminated Sites Program (ADEC) has completed a review of the environmental records associated with the Alaska Department of Transportation and Public Facilities (ADOT&PF) Slana Maintenance Station Class V Injection Well contaminated Site Based on the information provided to date, it has been determined that the 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 contaminants may pose an unacceptable risk.

This Cleanup Complete determination is based on the administrative record for the ADOT&PF Slana Maintenance Station Class V Injection Well site, which is located in the ADEC office in Fairbanks Alaska. This decision letter summarizes the site history, cleanup actions and levels, and standard site closure conditions that apply.

Site Name and Location:

ADOT&PF Slana Maintenance Station
Class V Injection Well
Mile 0.2 Nabesna Rd, Alaska.

Name and Mailing Address of Contact Party:

Sam Myers
ADOT&PF Maintenance and Operations
2301 Peger Road
Fairbanks, AK 99709

DEC Site Identifiers:

File No.: 212.38.003
Hazard ID.: 26927

Regulatory Authority for Determination:

18 AAC 75

Site Description and Background

The ADOT&PF Slana Maintenance station located at the beginning of the Nabesna Highway, the garage bays in the shop were used for vehicle maintenance and had multiple floor drains that discharged to three underground injection wells (IWs) located outside the outside the building: SL-IW4, SL-IW-5, and

SL-IW6. All three injection wells received effluent from vehicle maintenance activities including snowmelt and incidental amounts of fuel, oil, lubricants and degreasers classifying them as banned motor vehicle waste disposal wells.

Contaminants of Concern

During the site characterization and cleanup activities at this site, samples collected from injection well contents and excavation limit soils were analyzed for gasoline range organics (GRO), diesel range organics (DRO), residual range organics (RRO), volatile organic compounds (VOCs), polycyclic aromatic hydrocarbons (PAHs) and metals. Based on these analyses, the following contaminants were detected above the applicable cleanup levels and are considered Contaminants of Concern at this site:

- DRO
- RRO
- benzene
- toluene
- ethylbenzene
- xylenes
- 1,2,4-trimethylbenzene
- 1,3,5-trimethylbenzene
- naphthalene
- 1-methylnaphthalene
- 2-methylnaphthalene
- benzo(a)anthracene
- cadmium
- lead

Cleanup Levels

The most stringent of the Method Two cleanup levels for the under 40 inch zone established in 18 AAC 75.341, Tables B1 and B2 apply at this site. Diesel range organics, RRO, multiple VOCs and PAHs and metals were detected in soil above the most stringent cleanup levels. The groundwater cleanup levels established in 18 AAC 75.345 Table C apply at this site.

Table 1 – Approved Cleanup Levels

Contaminant	Soil (mg/kg)	Groundwater (µg/L)
DRO	250	1,500
RRO	10,000	1,100
benzene	0.22	4.6
toluene	6.7	1,100
ethylbenzene	0.13	15
xylenes	1.5	190
1,2,4-trimethylbenzene	0.61	56
1,3,5-trimethylbenzene	0.66	60
naphthalene	0.038	1.7
1-methylnaphthalene	0.41	11
2-methylnaphthalene	1.3	36
benzo(a)anthracene	0.7	0.3
cadmium	9.1	9.2
lead	400	15

mg/kg = milligrams per kilogram

µg/L = micrograms per liter

Characterization and Cleanup Activities

In June of 2010, ADOT&PF hired contractors to investigate the floor drains and injection wells at this property. Contamination was confirmed to exist at IW-4 and it was evident other injection wells were present which would require investigation and clean up.

In 2018 contractors mobilized to the site to investigate 5 suspected injection wells. Upon arriving at the site it was determined that three of the floor drains shared a common discharge point which was given the identifier IW-6. It was also determined that IW-4 and IW-5 were part of the same discharge system.

During field activities in 2018 each floor drain and injection well were removed. Injection well contents were drained and sampled. During excavation soils were field screened, segregated and confirmation samples were collected.

All accessible piping inside and outside of the maintenance shop was removed. A total of 16 analytical samples were collected from soils surrounding the removed septic tank, piping runs, floor drains and other IW infrastructure. All of these samples were below the cleanup levels for all contaminants.

The DOT&PF Maintenance station is located on an elevated terrace above the Copper River. Based on nearby well logs groundwater is believed to be approximately 80ft bgs. The onsite drinking water well is screened at 180ft bgs and is upgradient of all former IWs. A sample collected from this well in 2018 did not contain detectable quantities of any VOCs. The nearest surface water receptor is the Copper River, 1,500 feet to the southwest. Contamination is not expected to migrate to surface water or groundwater.

SL-IW-4/SL-IW-5

The discharge point IW-4 was a 500-gallon perforated tank buried 5 ft below ground surface (ft bgs) approximately 100 ft from the maintenance shop. This injection well also served as the building's leach field receiving domestic wastewater from the building's plumbing in addition to vehicle maintenance effluent from the floor drains. Effluent and wastewater from the building went through a septic tank before reaching IW-4. At some point to increase the capacity of the wastewater system IW-5 was constructed by connecting a linear run of 71 feet of perforated piping to the discharge point of IW-4 at 5 ft bgs.

The septic tank, IW-4 and associated piping were removed along with 16 cubic yards (cubic yards) of contaminated sludge and soils. Samples from semi-solid contents removed from the injection well exceeded the soil cleanup levels for DRO, RRO, petroleum VOCs, PAHs, and cadmium.

Excavation continued 5 ft below the base of injection to clean limits at 20 ft bgs. The perforated piping making up IW-5 was removed with the exception of 21 feet of piping inaccessible under a utility pole, the bull rock making up the leach field was also removed. Excavation at IW-5 extended to 10 ft bgs and no contamination was found, likely due to IW-5's location past the discharge point of IW-4. Analytical samples were collected from the excavation limits before backfilling with clean gravel. All excavation limit samples were below the cleanup levels for all contaminants of concern.

SL-IW-6

The discharge point IW-6 was a 55-gallon drum with the bottom removed buried 2 ft bgs directly adjacent to the maintenance shop. This injection well received vehicle maintenance effluent from three floor drains in the shop.

The injection well was unearthed, and 30 gallons of liquids and semi-solids were extracted from the buried drum at which point the drum was removed. Samples from semi-solid and liquid contents removed from the injection well exceeded the soil and groundwater cleanup levels for DRO, RRO, trimethylbenzenes and lead.

After removal of the injection well 10 cy of contaminated soil surrounding the injection well was removed. Heavy rain and proximity to the building prevented excavating deeper than 5 ft bgs. Three samples were collected from the excavation base at 4.5 to 5ft bgs. One sample from below IW-6 at 5 ft bgs had an exceedance of the migration to groundwater cleanup level for DRO at 345 mg/kg. The other two samples from the excavation limits collected at 4.5 ft bgs were below the most stringent cleanup levels. All grossly contaminated material was removed from the injection well. Remaining contaminated soil at SL-IW-6 is not expected to pose a risk to human health or the environment.

Sufficient site characterization has been completed and ADEC has determined that residual contaminants in soil have achieved steady-state equilibrium and will not migrate to groundwater.

Cumulative Risk Evaluation

Pursuant to 18 AAC 75.325 when detectable contamination remains on-site following a cleanup, 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 noncarcinogenic risk standard at a hazard index of one across all exposure pathways.

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

Exposure Pathway Evaluation

Following investigation and cleanup 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, Exposure Controlled, 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	Contamination is not present in surface soil (0 to 2 ft bgs).
Sub-Surface Soil Contact	De Minimis Exposure	Contamination is present in sub-surface soils (2 to 15 ft bgs), but is below the human health and ingestion cleanup levels.
Inhalation – Outdoor Air	De Minimis Exposure	Contamination is present in sub-surface soils (2 to 15 ft bgs), but is below the human health and inhalation cleanup levels.
Inhalation – Indoor Air (vapor intrusion)	De Minimis Exposure	Remaining contamination is limited to a small area 5ft bgs at the former location of IW-6 and is not expected to impact indoor air in the maintenance shop. Volatile compounds do not exceed the most stringent cleanup levels.

Pathway	Result	Explanation
Groundwater Ingestion	De Minimis Exposure	Remaining contamination is not expected to impact groundwater at 80 ft bgs.
Surface Water Ingestion	Pathway Incomplete	The small release is not expected to impact the nearest surface water, the Copper River, 1,500 ft away.
Wild and Farmed Foods Ingestion	Pathway Incomplete	Remaining contaminants do not have the potential to bioaccumulate in plants or animals.
Exposure to Ecological Receptors	Pathway Incomplete	Remaining contamination is not impacting an area where ecological receptors will be impacted.

Notes to Table 2: “De Minimis Exposure” means that in ADEC’s judgment receptors are unlikely to be adversely affected by the minimal volume or concentration of remaining contamination. “Pathway Incomplete” means that in ADEC’s judgment contamination has no potential to contact receptors.

ADEC Decision

Remaining soil contamination does not pose a risk to human health or the environment. This site will receive a “Cleanup Complete” designation on the Contaminated Sites Database, subject to the following standard conditions.

Standard Conditions

1. Any proposal to transport soil or groundwater from a site that is subject to the site cleanup rules or for which a written determination from the department has been made under 18 AAC 75.380(d)(1) that allows contamination to remain at the site above method two soil cleanup levels or groundwater cleanup levels listed in Table C 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 attached site figure showing remaining DRO contamination at SL-IW-6)
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 20 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.

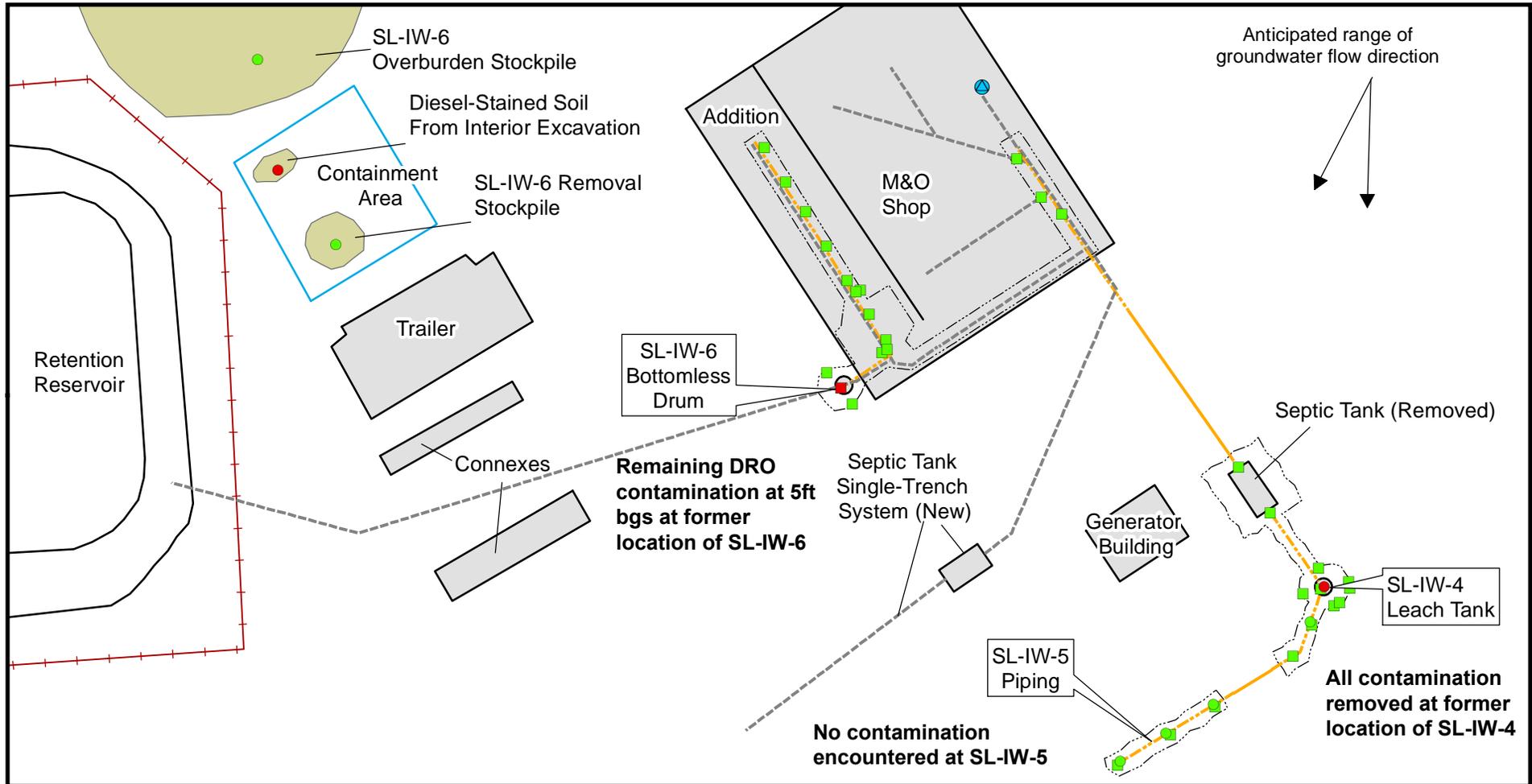
If you have questions about this closure decision, please feel free to contact me at (907) 451-5174 or via email at michael.hooper@alaska.gov

Sincerely,

Michael Hooper
Project Manager

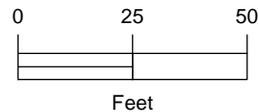
cc: Spill Prevention and Response, Cost Recovery Unit

Enclosures: Shannon & Wilson Figure showing location of former injection wells.



LEGEND

- Excavated Soil, Analytical Results Below ADEC Cleanup Levels (CULs)
- Excavation Limits, Analytical Soil Results Below ADEC CULs
- Excavated Soil, Analytical Results Exceed ADEC CULs
- Excavation Limits, Analytical Soil Results Exceed ADEC CULs
- Drinking Water Well
- +— Fence
- Excavation Limits
- Current Underground Piping
- Historical Injection Well Piping (Closed in Place)
- - - Historical Injection Well Piping (Removed)



ADOT&PF Slana Maintenance Station
Injection Well Site Characterization
and Closure Report
Slana, Alaska

SOIL SAMPLE LOCATIONS

January 2019 31-1-11729-058

SHANNON & WILSON, INC.
GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS

Figure 3

Figure 3