



THE STATE  
of **ALASKA**  
GOVERNOR MIKE DUNLEAVY

**Department of Environmental  
Conservation**

DIVISION OF SPILL PREVENTION AND RESPONSE  
Contaminated Sites Program

555 Cordova Street  
Anchorage AK, 99501  
Phone: 907-269-7558  
Fax: 907-269-7687  
www.dec.alaska.gov

File No. 180.38.011

March 11, 2024  
Electronic Delivery Only

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

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

Dear Mr. Myers,

The Alaska Department of Environmental Conservation, Contaminated Sites Program (DEC) has completed a review of the environmental records associated with the Alaska Department of Transportation and Public Facilities (ADOT&PF) Manley 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 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 Manley Maintenance Station Class V Injection Well site, which is located in the DEC 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 Manley Maintenance Station  
Class V Injection Well  
Mile 150 Elliot Highway  
Manley Hot Springs, AK 99756

**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.: 100.38.011  
Hazard ID.: 26572

**Regulatory Authority for Determination:**

18 AAC 75

### Site Description and Background

The former Maintenance station is located on the Elliot Highway outside Manley Hot Springs, Alaska. Since the new DOT&PF maintenance station was built down the road the site has only had limited use, primarily for storage and as temporary housing for DOT personnel in the bunkhouse addition. The shop was formerly used for vehicle maintenance and contained a floor drain sump that discharged to an underground injection well MN-IW-1. The injection well received snowmelt and incidental amounts of fuel, oil, lubricants, and degreasers from the maintenance shop activities. This well was classified as a banned Class V motor vehicle waste disposal well.

### Contaminants of Concern

During the site characterization and cleanup activities at this site, samples collected from injection well contents, excavation limit soils, and groundwater were analyzed for gasoline range organics (GRO), diesel range organics (DRO), residual range organics (RRO), volatile organic compounds (VOCs), polynuclear aromatic hydrocarbons (PAHs), polychlorinated biphenyls (PCBs) 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
- 1,2,4-trimethylbenzene
- 1,3,5-trimethylbenzene
- ethylbenzene
- xylenes
- trichloroethylene (TCE)
- naphthalene
- 1-methylnaphthalene
- 2-methylnaphthalene
- benzo(a)anthracene
- benzo(a)pyrene
- naphthalene

### 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. The groundwater cleanup levels established in 18 AAC 75.345 Table C apply at this site. The approved cleanup levels for the contaminants of concern at this site are listed below:

**Table 1 – Approved Cleanup Levels**

Contaminant	Soil (mg/kg)	Groundwater (µg/L)
DRO	250	1,500
RRO	10,000	1,100
1,2,4-trimethylbenzene	0.61	56
1,3,5-trimethylbenzene	0.66	60
ethylbenzene	0.13	15
xylenes	1.5	190
TCE	0.011	2.8
naphthalene	0.038	1.7
1-methylnaphthalene	0.41	11
2-methylnaphthalene	1.3	36
benzo(a)anthracene	0.7	0.3

benzo(a)pyrene	1.9	0.2
naphthalene	0.038	1.7

mg/kg = milligrams per kilogram

µg/L = micrograms per liter

### Characterization and Cleanup Activities

The injection well MN-IW-1 consisted of a perforated 600-gallon open-bottom steel tank buried on its side with the top of the tank at 6.5 feet below ground surface (ft bgs) and the bottom of the tank reaching 12 ft bgs. The tank received floor drain effluent through approximately 60 feet of cast iron and wood stave piping.

In August 2016, DOT&PF mobilized to the site to close the injection well by removal. The piping was located where it exits the building and excavation proceeded following the pipe to the injection well structure. The structure was located approximately 40 feet east of the maintenance shop. The top of the injection well was removed and the structure was found to contain a mixture of sludge and water with a petroleum odor and sheen. Analytical samples were collected from the the solid and liquid injection well contents. Injection well samples exceeded the DEC cleanup levels for petroleum constituents and TCE as listed in Table 1.

After removal of the injection well and piping, excavation proceeded guided by field screening with a photoionization detector. The final excavation was approximately 15 ft by 15 ft and reached a depth of 17 feet below ground surface. After exterior excavation concluded the concrete slab was cut open inside the shop and and the interior piping and floor drain were removed.

A total of 19 analytical samples were collected from the injection well, piping trench, and interior floor drain excavation in August of 2016. Two samples exceeded the cleanup levels, MN-IWE-7 and MN-IP-4. The injection well excavation base sample MN-IWE-7 exceeded the cleanup level for DRO at 652 mg/kg. Sample MN-IP-4 from the base of the floor drain excavation inside the shop contained the highest concentrations of remaining contamination which are shown in Table 2.

**Table 2 – Highest Remaining Soil Concentrations from Sample MN-IP-4**

Contaminant	Soil (mg/kg)
DRO	2,490
ethylbenzene	4.76
xylenes	33.8
1,2,4-trimethylbenzene	24.6
1,3,5-trimethylbenzene	10.9
naphthalene	4.96
1-methylnaphthalene	8.27
2-methylnaphthalene	11.5

DOT&PF returned to the site in 2023 to characterize remaining soil contamination and investigate groundwater. Five soil borings were advanced up to 73 ft bgs downgradient of the shop and injection well. No contamination was found in samples collected from 3 depth intervals in each soil boring. Near the maintenance station there is perched groundwater overlaying an impermeable layer at 30 ft bgs with the deeper groundwater aquifer found at 70 ft bgs. Two borings were completed as temporary

monitoring wells and groundwater samples were collected from both the perched and deep aquifers, no contaminants of concern were detected in any groundwater samples. The on-site drinking water well was also sampled in 2023 and did not contain detectable levels of any contaminants.

Because contamination remains in place at 4 ft bgs under the building slab, A building survey and indoor air questionnaire was completed for the former maintenance station. A variety of fuels, lubricants, cleaners, and other sources of vapor were noted in the shop which is primarily used for storage currently. There is an ATCO unit used as a bunkhouse connected to the shop but the two spaces do not share indoor air. The bunkhouse addition provides housing for DOT personel and has one one permanent resident and up to three temporary residents at any time. Contamination remaining under the slab in the former floor drain area is not expected to impact indoor air in the shop or bunkhouse.

### 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, DEC 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 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 or Pathway Incomplete. A summary of this pathway evaluation is included in Table 3.

**Table 3 – Exposure Pathway Evaluation**

Pathway	Result	Explanation
Surface Soil Contact	Pathway Incomplete	Contamination is not present in surface soil (0 to 2 ftbgs).
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	Petroleum contamination is not expected to impact indoor air in the maintenance station.
Groundwater Ingestion	De Minimis Exposure	Contamination exceeding the migration to groundwater cleanup levels remains but has not impacted groundwater at this site based on soil and groundwater sample results.
Surface Water Ingestion	Pathway Incomplete	Remaining contamination is not expected ot impact the nearest surface water, the Hot Springs Slough, ¼ mile away.

Pathway	Result	Explanation
Wild and Farmed Foods Ingestion	Pathway Incomplete	Remaining contamination is not impacting an area where wild or farmed foods could be impacted.
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 DEC’s judgment receptors are unlikely to be adversely affected by the minimal volume or concentration of remaining contamination. “Pathway Incomplete” means that in DEC’s judgment contamination has no potential to contact receptors.

### DEC Decision

Petroleum contamination remains above the soil cleanup levels in the former injection well area and under the maintenance station beneath the former floor drain but groundwater has not been impacted. This site will receive a “Cleanup Complete” designation on the Contaminated Sites Database.

DEC approval is required for movement and disposal of soil and/or groundwater subject to the Site Cleanup Rules, in accordance with 18 AAC 75.325(i). Please contact DEC for information about applicable regulations and requirements. A “site”, as defined by 18 AAC 75.990, means an area that is contaminated, including areas contaminated by the migration of hazardous substances from a source area, regardless of property ownership.

Movement or use of contaminated material in an ecologically sensitive area or in a manner that results in a violation of 18 AAC 70 water quality standards is prohibited. Furthermore, 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. If, in the future, groundwater from this site is to be used for other purposes, 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 DEC from requiring additional assessment and/or cleanup action if 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, 610 University Avenue, Fairbanks, Alaska 99709, 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

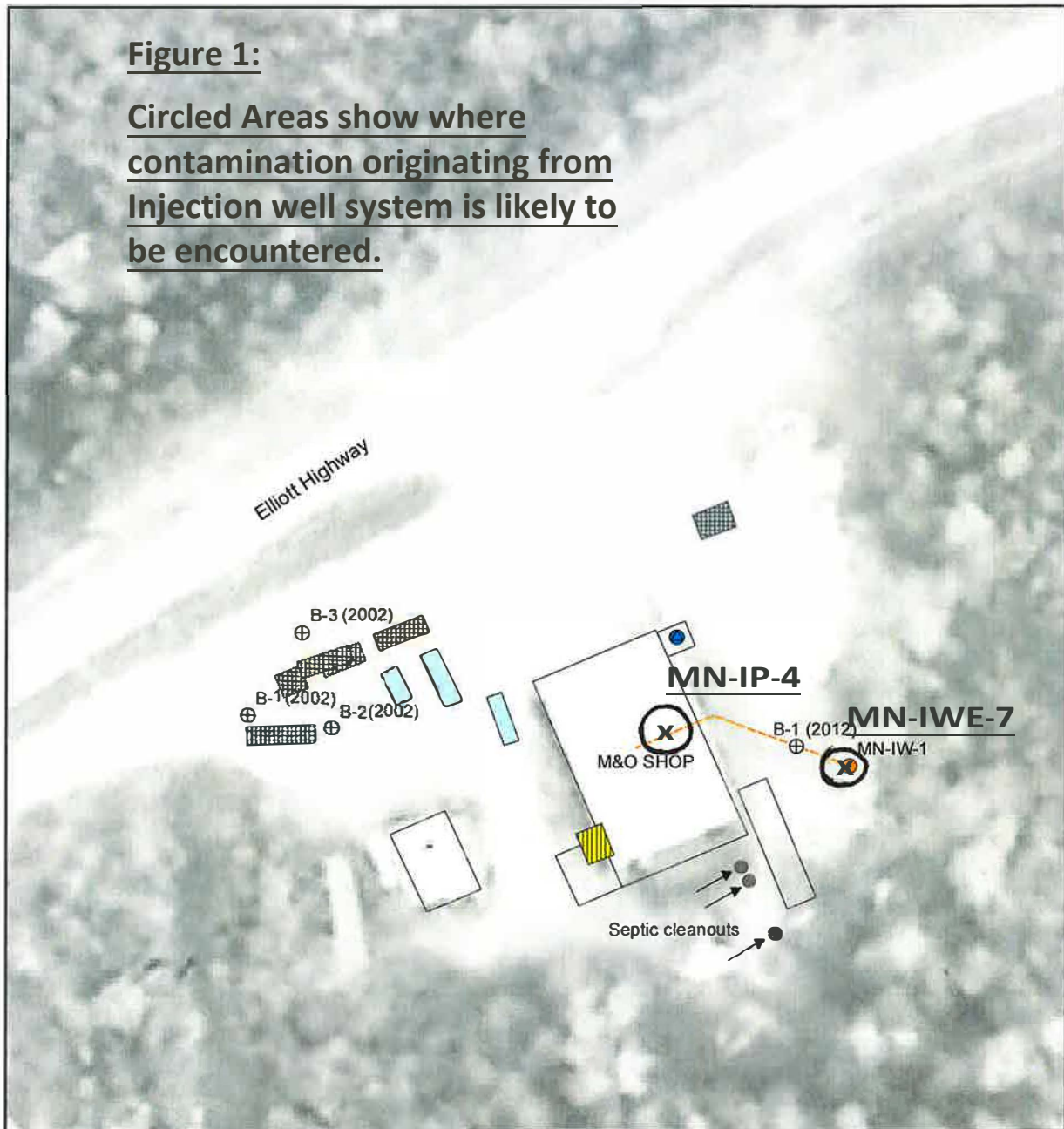
Sincerely,

Michael Hooper  
Project Manager

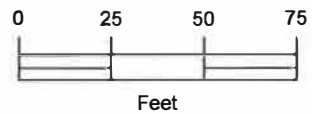
cc: Spill Prevention and Response, Cost Recovery Unit  
Janice Wiegers, DEC

Enclosures: Figure 1 Shannon & Wilson Figure showing location of former injection well and sample locations.

**Figure 1:**  
Circled Areas show where  
contamination originating from  
Injection well system is likely to  
be encountered.



Aerial photography provided by DOT&PF



**LEGEND**

- |  |                       |  |                          |
|--|-----------------------|--|--------------------------|
|  | Injection Well        |  | Underground Storage Tank |
|  | Drinking-water Well   |  | Closed                   |
|  | Soil Boring           |  | Unknown                  |
|  | Utility               |  | Aboveground Storage Tank |
|  | Underground Injection |  | Active                   |
|  |                       |  | Closed                   |



DOT&PF Injection-Well Closure Report Manley Hot Springs, Alaska	
<b>SITE PLAN</b>	
February 2017	31-111729-024
SHANNON & WILSON, INC. GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS	<b>Figure 2</b>