



THE STATE
of **ALASKA**
GOVERNOR BILL WALKER

Department of Environmental
Conservation

DIVISION OF SPILL PREVENTION AND RESPONSE
Contaminated Sites Program

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File No: 2106.38.011

February 10, 2015

Jennifer Micolichek, Environmental Impact Analyst
ADOT&PF Maintenance and Operations
P.O. Box 196900
MS-2525
Anchorage, AK 99519-6900

Re: Decision Document: ADOT&PF Birchwood Maintenance Station Class V Injection Well
Cleanup Complete – Institutional Controls Determination

Dear Ms. Micolichek:

The Alaska Department of Environmental Conservation (ADEC) has reviewed the environmental records for the ADOT&PF Birchwood Maintenance Station Class V Injection Well site. This decision letter memorializes the site history, cleanup actions, and specific conditions required to effectively manage remaining contamination. No further remedial action will be required as long as compliance with these conditions is maintained.

Site Name and Location:

ADOT&PF Birchwood Maintenance
Station Class V Injection Well
20651 Birchwood Spur Road
Chugiak, AK 99567

Name and Mailing Address of Contact Party:

Jennifer Micolichek
ADOT&PF Maintenance and Operations
P.O. Box 196900
MS-2525
Anchorage, AK 99519-6900

DEC Site Identifiers:

File No: 2106.38.011
Hazard ID: 26242

Regulatory Authority for Determination:

18 AAC 75

Site Description and Background

The Alaska Department of Transportation & Public Facilities (ADOT&PF) Birchwood Maintenance Station Class V Injection Well site is located generally northwest of the Birchwood Spur and Stoltze Drive intersection in Chugiak, Alaska. The immediate area (outside the maintenance station property boundary) surrounding the site is primarily undeveloped, except for the Birchwood Airport, which is located across the Birchwood Spur to the south. A small stream is present 600 feet to the northeast of the site. There are occupied structures on the maintenance station property and one drinking water well (DWW) is present near the southeast corner of the maintenance station property boundary.

A subsurface soil investigation was performed on March 25, 2013 to identify types of contamination associated with the Class V injection well located on the property. Five soil borings were advanced in the vicinity of the well, ranging in depths from 7.5 to 25 feet below ground surface (bgs). One analytical soil

sample was collected from 24.5 feet bgs, roughly 9 feet below the Class V well base, and was analyzed for Resource Conservation and Recovery Act (RCRA) metals, semi-organic volatile organic compounds (SVOCs), and volatile organic compounds (VOCs). Chromium was the only contaminant detected above the most stringent ADEC migration to groundwater (MTG) cleanup level; however, at a concentration typically seen in Alaskan soils. Several other VOCs were also present, but at concentrations below applicable ADEC cleanup levels.

Contaminants of Concern

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

- Diesel Range Organics (DRO)
- Residual Range Organics (RRO)

Cleanup Levels

DRO and RRO were detected in soil above the migration to groundwater (MTG) cleanup levels established in 18 AAC 75.341(d), Table B2. RRO was also detected above ingestion cleanup levels.

Table 1 – ADEC Cleanup Levels

Contaminant	Soil – Ingestion (mg/kg)	Soil – Inhalation (mg/kg)	Soil – MTG (mg/kg)	Maximum Remaining Concentration (mg/kg)
DRO	10,250	12,500	250	4,970
RRO	10,000	22,000	11,000	12,400

MTG = migration to groundwater

mg/kg = milligrams per kilogram

bold = exceeds ADEC MTG cleanup level

Characterization and Cleanup Activities

In October of 2013, the Class V well and its associated piping (up to the building foundation) were removed from the ground. During the removal activities, roughly 300 to 350 cubic yards (cy) of impacted soils were excavated and stockpiled onsite. Confirmation soil samples were collected from the base and sidewalls of the excavation and were analyzed for gasoline range organics (GRO), DRO, RRO, VOCs, SVOCs, and RCRA metals. Soil samples collected from the northern portion of the excavation exhibited concentrations of DRO up to 4,970 mg/kg and RRO up to 12,400 mg/kg; both of which exceed their respective ADEC cleanup levels. Due to a buried electrical line, septic system, and fence, additional excavation in the northern portion of the excavation was not feasible during these field activities.

Prior to backfilling, a new wastewater holding tank was placed in the excavation to replace the former Class V well. The excavated soil (643.75 tons) was disposed of at Alaska Soil Recycling (ASR) on August 20, 2014.

Contamination remains in the subsurface soils (around 20 feet bgs) above MTG and ingestion cleanup levels in the northern portion of the excavation. However, groundwater was not encountered in the deepest soil boring up to 25 feet bgs, and the DWW is located over 100 feet from the remaining contamination. Therefore, risk via the groundwater pathway is considered insignificant.

Cumulative Risk Evaluation

Pursuant to 18 AAC 75.325(g), 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 do not pose a cumulative human health risk.

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 feet below ground surface).
Sub-Surface Soil Contact	De-Minimis Exposure	Concentrations of RRO remain in the subsurface soils above ingestion cleanup levels; however, the contamination is located approximately 15 feet bgs, and further excavation is not feasible (or expected).
Inhalation – Outdoor Air	De-Minimis Exposure	Contamination remains in the sub-surface, but is below inhalation cleanup levels.
Inhalation – Indoor Air (vapor intrusion)	Pathway Incomplete	Volatile contamination is not present and there are no buildings within 30 feet of the remaining contamination.
Groundwater Ingestion	De-Minimis Exposure	Groundwater was not encountered at 25 feet bgs in the deepest soil boring.
Surface Water Ingestion	Pathway Incomplete	Surface water is not impacted.
Wild and Farmed Foods Ingestion	Pathway Incomplete	Contaminants of concern do not have the potential to bioaccumulate in plants or animals
Exposure to Ecological Receptors	Pathway Incomplete	No terrestrial or aquatic routes are present.

Notes to Table 2: “De-Minimis Exposure” means that in ADEC’s judgment receptors are unlikely to be 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. “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.

ADEC Decision

Petroleum contamination remains in sub-surface soil above ADEC cleanup levels; however ADEC has determined there is no unacceptable risk to human health or the environment as long as the contamination is properly managed in accordance with the following conditions.

1. Any future change in land use may impact the exposure assumptions cited in this document. If land use and/or ownership changes, these management conditions may not be protective and ADEC may require additional remediation and revised conditions. Therefore the ADOT&PF shall report to ADEC every five (5) years to document land use, or report as soon as ADOT&PF becomes aware of any change in land ownership and/or use, if earlier. **The report can be sent to the local ADEC office or electronically to DEC.ICUnit@alaska.gov.**
2. Installation of groundwater wells requires ADEC approval.

3. Sub-surface soil contamination remains in the northern portion of the excavation. When the soil becomes accessible, the soil must be evaluated and addressed to the satisfaction of ADEC.
4. Attachment A must be signed and dated by an authorized representative and returned to ADEC within 30 days.
5. Any proposal to transport soil or groundwater off-site requires ADEC approval in accordance with 18 AAC 75.325. 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.
6. Movement or use of contaminated material in a manner that results in a violation of 18 AAC 70 water quality standards is prohibited.

The ADEC Contaminated Sites Database will be updated to reflect the change in site status as detailed above, and will include a description of the contamination remaining at the site. Institutional controls will be removed in the future if documentation can be provided that shows cleanup levels have been met. Management conditions 5 and 6 remain in effect after ICs are removed.

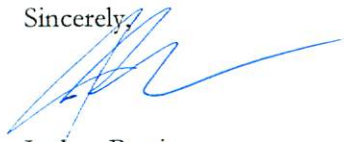
This determination is in accordance with 18 AAC 75.380 and does not preclude ADEC from requiring additional assessment and/or cleanup action if future information indicates that this site may pose an unacceptable risk to human health or the environment.

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 99811-1800, 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 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.

Please sign and return *Attachment A* to ADEC within 30 days of receipt of this letter. If you have questions about this closure decision, please feel free to contact me at (907) 269-7691.

Sincerely,



Joshua Barsis
Environmental Program Specialist

Enclosures: Attachment A: Cleanup Complete-ICs Agreement and Signature Page
Attachment B: Soil Sampling Figure

cc: RFA via email at dec.spar.cr@alaska.gov
Kamie Willis, DOL (via email)

Attachment A: Cleanup Complete-ICs Agreement and Signature Page*

ADOT&PF agrees to the terms and conditions of this Cleanup Complete Determination as stated in the decision letter dated **February 10, 2015** (and below) for the ADOT&PF Birchwood Maintenance Station Class V Injection Well site.

1. Any future change in land use may impact the exposure assumptions cited in this document. If land use and/or ownership changes, these management conditions may not be protective and ADEC may require additional remediation and revised conditions. Therefore the ADOT&PF shall report to ADEC every five (5) years to document land use, or report as soon as ADOT&PF becomes aware of any change in land ownership and/or use, if earlier. **The report can be sent to the local ADEC office or electronically to DEC.ICUnit@alaska.gov.**
2. Installation of groundwater wells requires ADEC approval.
3. Sub-surface soil contamination remains in the northern portion of the excavation. When the soil becomes accessible, the soil must be evaluated and addressed to the satisfaction of ADEC.
4. Attachment A must be signed and dated by an authorized representative and returned to ADEC within 30 days.
5. Any proposal to transport soil or groundwater off-site requires ADEC approval in accordance with 18 AAC 75.325. 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.
6. Movement or use of contaminated material in a manner that results in a violation of 18 AAC 70 water quality standards is prohibited.

Failure to comply with the terms of this agreement may result in ADEC reopening this site and requiring further remedial action in accordance with 18 AAC 75.380.

Signature of Authorized Representative, Title

Date

Printed Name of Authorized Representative, Title

Note to Responsible Person (RP): After making a copy for your records, please return a signed copy of this form to the ADEC project manager at the address on this correspondence within 30 days of receipt of this letter.

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For Internal Use Only

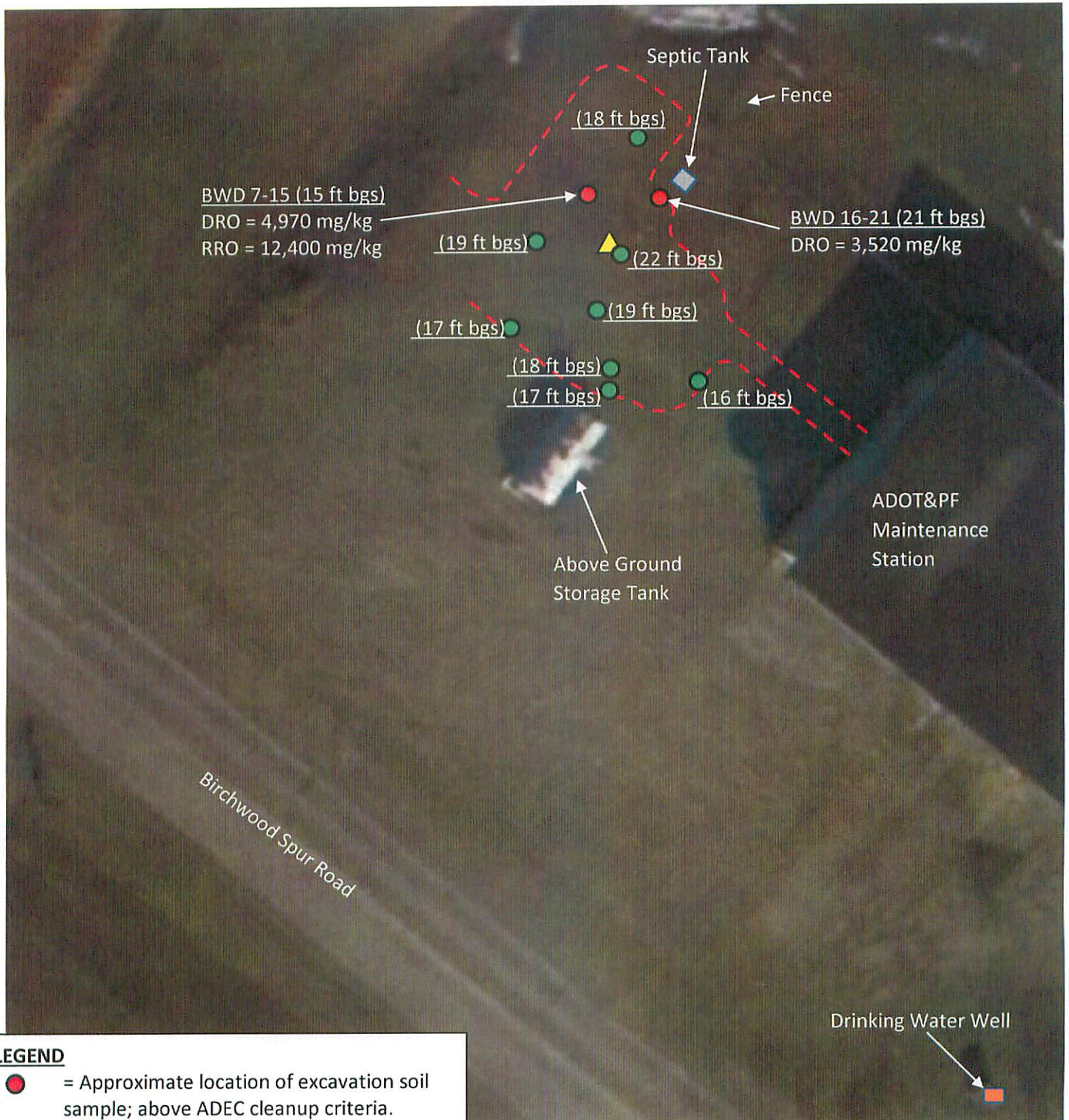
ADEC File No. 2106.38.011

Hazard ID: 26242

ADEC Project Manager: Joshua Barsis

***Attention ADEC Administration Staff:** Please follow the procedure below after Attachment A is signed/returned to ADEC.

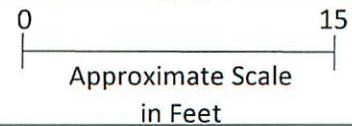
1. Log-in and Date Stamp *Attachment A*
2. Scan and Save to the appropriate electronic folder on the network Drive
3. File the hard copy in the appropriate project/site file Correspondence Folder (blue in Anchorage).
4. Provide the Correspondence folder (with the filed *Attachment A* hard copy) to the ADEC Project Manager



LEGEND

- = Approximate location of excavation soil sample; above ADEC cleanup criteria.
- = Approximate location of excavation soil sample; below ADEC cleanup criteria.
- (16 ft bgs) = sample depth in feet (ft) below ground surface (bgs)
- ▲ = Approximate location of EPA Class V Well.
- ⊙ = Approximate location of excavation.

The ADEC migration to groundwater (MTG) cleanup level for DRO is 250 mg/kg and RRO is 11,000 mg/kg. Further excavation is not feasible because of onsite utilities, septic, and fencing.



ADOT&PF Birchwood Maintenance Station Class V Injection Well

20651 Birchwood Spur Road
 ADEC File Number: 2106.38.011
 ADEC Hazard ID: 26242

**Attachment B
 February 2015**

**Alaska Department of
 Environmental Conservation**