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: 330.38.126

October 5, 2015

Jan Shifflett
Response and Remediation SME
Alyeska Pipeline Service Company
PO Box 196660 Mail Stop 507
Anchorage, Alaska 99519

Re: Decision Document; Alyeska PS 01 Back 40 Staging Area
Cleanup Complete – Institutional Controls Determination

Dear Mr. Shifflett:

The Alaska Department of Environmental Conservation (ADEC) has reviewed the environmental records for the Alyeska PS 01 Back 40 Staging Area. 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:
Alyeska PS 01 Back 40 Staging Area
Spine Road
Alyeska Pump Station 01
Deadhorse, Alaska 99734

Name and Mailing Address of Contact Party:
Jan Shifflett
Response and Remediation SME
Alyeska Pipeline Service Company
PO Box 196660 Mail Stop 507
Anchorage, Alaska 99519

ADEC Site Identifiers:
File: 330.38.126
Hazard ID: 26246

Regulatory Authority for Determination:
18 AAC 75

Background

In August 2013, a black, tar-like product was discovered in the soil at the pad edge of the back 40 staging area at Alyeska Pump Station 1. This is the location of a retired class III camp landfill known as Alyeska Pump Station #1 (DS 138-3). The permit for this historic landfill expired on September 1, 1984.

Contaminants of Concern

During the investigations at the site, soil samples were analyzed for gasoline range organics (GRO), diesel range organics (DRO), residual range organics (RRO), polyaromatic hydrocarbons (PAHs) and the volatile organic compounds (VOCs) benzene, toluene, ethylbenzene, and xylenes. Based on these analyses and knowledge of the source area, the following contaminants of concern (COC) were identified in soil:

- GRO
- DRO
- RRO

Cleanup Levels

Factors below are considered by ADEC when evaluating site specific cleanup levels and the need for institutional controls in the Arctic Zone.

- Arctic Zone cleanup levels promulgated in 18 AAC 75
- ecological impacts
- surface water quality
- presence of free phase product
- whether a cleanup action would cause more severe or long-lasting damage than the discharge or release for undisturbed tundra and native vegetation;
- other factors that might cause a deleterious impact to the environment.

The migration to groundwater pathway is not considered applicable in the Arctic Zone due to the presence of continuous permafrost. However, the migration to surface water pathway is evaluated for risk to human health (drinking water source), and for compliance with Alaska Water Quality standards (18 AAC 70) due to the tundra wetland ecosystem that exists throughout the Arctic region.

Arctic Zone cleanup levels promulgated in 18 AAC 75.341 include Method One Table A2 (for manmade gravel pads and roads), Method Two - Table B1 (for hazardous substances) and B2 (for petroleum hydrocarbons). If cleanup levels in Table A.2 - Method One are met, the site may be considered for unrestricted closure without institutional controls (ICs). For this site, Method Two levels are applicable to soil below the pad or off the pad. If contaminant concentrations exceed Method One, then risk-based Method Two cleanup levels are utilized to evaluate the potential risk to human health via specific exposure pathways (such as inhalation and ingestion). Contaminants of concern and applicable cleanup levels for the subject site are listed in the table below.

Table 1 - Arctic Zone Soil Cleanup Levels

Contaminants of Concern	Method One, BTEX < 15 mg/kg	Method Two, Direct Contact/Ingestion	Method Two, Inhalation	Migration to Groundwater
GRO	100	1.400	1.400	N/A
DRO	500	12,500	12,500	N/A
RRO	2,000	13,700	22,000	N/A

Notes to Table 1:

1. All soil contaminant concentrations are presented as mg/kg.
2. Due to continuous permafrost in the Arctic Zone, the "Migration to Groundwater" pathway is considered incomplete or non-applicable (N/A).

3. The department will determine the cleanup levels for undisturbed tundra and native vegetation on a site-specific basis, depending on whether a cleanup action would cause more severe or long-lasting damage than would the discharge or release alone.

Site Characterization and Cleanup Actions

In 2013, contaminated soil was excavated 3 to 4 feet below ground surface (bgs) where seven drums containing tar like substances were encountered. Samples collected from the drums' tar substance and analyzed for toxicity characteristic leaching procedure (TCLP) metals, TCLP semi-VOCs, TCLP VOCs, polychlorinated biphenyls (PCBs), and halogens contained detectable concentrations, but below applicable regulatory criteria. A total of 19 drums of grossly contaminated soil were generated during excavation activities and another 10 cubic yards (cy) of impacted soil were stockpiled onsite. Nine confirmation soil samples collected from the sidewall and bottom of the excavation contained GRO up to 882 mg/kg, DRO up to 7,420 mg/kg, RRO up to 13,500 mg/kg, and xylenes up to 138.6 mg/kg. The excavation was then backfilled with clean fill and sloped for safety and drainage. Surface water samples collected from the nearest water body 150 feet away and analyzed for total aromatic hydrocarbons (TAH) and total aqueous hydrocarbons (TAqH) contained detectable levels of toluene but below Alaska water quality standards (WQS). The seven drums of tar like substances and the 19 drums of grossly contaminated soil were disposed of as non-hazardous. The 10 cubic yard stockpile was stockpiled at pump station 1 for future remediation in accordance with the Alyeska Soil Stockpile Management Plan TAPS EN-21-01.

In 2014, additional cleanup activities were conducted. Clean overburden was removed to a lens of soil impacted by tar-like petroleum substance and drums. Five test pits were then advanced to determine extent of contamination. A total of seven drums containing free product were removed from the excavation and disposed of as non-hazardous. A total of 400 cy of soil were removed and segregated into a 200 cy assumed dirty pile and a 200 cy assumed clean pile. The 200 cy assumed dirty pile was stockpiled at pump station 01 for future remediation in accordance with the Alyeska Soil Stockpile Management Plan TAPS EN-21-01. The 200 cy assumed clean pile was stockpiled for later use as backfill. A one foot wide lens of impacted soil was observed where the drums were located. The excavation was halted upon encountering solid waste presumed to represent the retired class III camp Alyeska Pump Station #1 (DS 138-3) landfill and at the gravel pad tundra interface. The dimensions of the final excavation was approximately 28 feet by 47 feet by up to 8 feet high where the drums were located. A total of 15 confirmation soil samples collected from the excavation bottom and sidewalls contained GRO up to 191 mg/kg, DRO up to 4,170 mg/kg, and RRO up to 8,410 mg/kg. Six soil samples collected from the 200 cy assumed clean pile contained DRO at 1,560. This 200 cy stockpile was then put back in the excavation and later capped with 2 feet of clean fill and contoured to match the surrounding slope in 2015 (see attachment B).

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 this site, exposure to remaining contaminants was evaluated using ADEC's Exposure Tracking Model (ETM). Exposure pathways are conduits by which contamination may reach human or ecological receptors. ETM results show all pathways to 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	Contaminated surface soil at the source area has been excavated and capped with two feet of clean fill.
Sub-Surface Soil Contact	De Minimis Exposure	Sub-Surface soil samples collected were below ingestion cleanup levels. Exposure through this pathway is considered insignificant.
Inhalation – Outdoor Air	De Minimis Exposure	Soil samples collected were below outdoor inhalation cleanup levels. Exposure through this pathway is considered insignificant.
Inhalation – Indoor Air (vapor intrusion)	Pathway Incomplete	There are no occupied structures within 100 feet of the source area nor is there expected to be in the future.
Ground-water Ingestion	Pathway Incomplete	Groundwater is not utilized as a drinking water source in this area, or the Arctic Zone
Surface Water Ingestion	Pathway Incomplete	Surface water is not utilized as a drinking water source in this area
Wild Foods Ingestion	Pathway Incomplete	Contaminants of concern do not have the potential to bioaccumulate in plants or animals. This area is not used for harvesting wild foods.
Exposure to Ecological Receptors	De Minimis Exposure	Contaminated surface soil at the source area has been excavated and capped with two feet of clean fill. Surface water contains detectable levels of toluene below WQS. Exposure through this pathway is considered insignificant.

Notes to Table 2: "De minimis exposure" means that in ADEC's judgment receptors are unlikely to be affected by the minimal volume 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 ground water use, or a physical barrier in place that deters contact with residual contamination.

ADEC Decision

There is contamination remaining above established cleanup levels at the Alyeska PS 01 Back 40 Staging Area**,** but ADEC has determined there is no unacceptable risk to human health or the environment. Contaminated soil was removed to the permafrost gravel interface and to the landfill interface to the best extent practicable. This site will be granted a Cleanup Complete- Institutional Controls Determination subject to the following:

1. Any future change in land use may impact the exposure assumptions cited in this document. If land use and/or ownership changes, current institutional controls may not be protective and ADEC may require additional remediation and/or institutional controls. Therefore, the

Owner(s) will report to ADEC every five years to document land use, or as soon as the Owner(s) becomes aware of any change in land ownership and/or use. **The report can be sent to the local ADEC office or electronically to DEC.ICUnit@alaska.gov**.

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

3. Any proposal to transport soil or groundwater off site requires ADEC 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 Attachment C).

4. Attachment A must be signed and dated by an authorized representative of Alyeska and returned to ADEC.

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. Note: management conditions 3 and 4 will remain in effect after ICs are removed.

This determination is in accordance with 18 AAC 75.380(d) 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, 555 Cordova Street, Anchorage, AK 99501, 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, AK 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.

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 Grant Lidren at (907) 269-8685.

Sincerely,

Grant Lidren
Environmental Specialist

Electronic CC: Neil Lehner, Solid Waste Program/ Environmental Specialist

Attachment A: Cleanup Complete-ICs Agreement Signature Page
Attachment B: Photos
Attachment C: Site Figure

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

Alyeska agrees to the terms of this Cleanup Complete with Institutional Controls determination as stated in this closure decision document dated **October 5, 2015** for the *Alyeska PS 01 Back 40 Staging Area* site. 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 78.276(f).

Jan Shifflett 10/8/15

Signature Jan Shifflett or Authorized Representative, Title
Alyeska

Jan Shifflett, Remediation SME

Printed name of Jan Shifflett or Authorized Representative, Title
Alyeska

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.

ADEC File No.: 330.38.126
Hazard ID: 26246
ADEC Project Manager: Grant Lidren

For Internal Use Only

***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

Attachment B: Photos of excavation capped with 2 feet of clean fill September 2015

Attachment C: Site Figure