STATE OF ALASKA

SEAN PARNELL, GOVERNOR

DEPT. OF ENVIRONMENTAL CONSERVATION

DIVISION OF SPILL PREVENTION AND RESPONSE
CONTAMINATED SITES PROGRAM

555 Cordova Street
Anchorage, AK 99501
PHONE: (907) 269-7526
FAX: (907) 269-7649
www.dec.state.ak.us

File: 2100.38.120
Return Receipt Requested
Article No: 7007 3020 0000 1948 3228

November 12, 2009

Jan Shifflet
Alyeska Pipeline Service Company
Mail Stop 507
PO Box 196660
Anchorage, AK 99519-6660

Re: Record of Decision (ROD); Alyeska PS 05 Turbine Fuel Spill
Cleanup Complete Determination-Institutional Controls

Dear Mr. Shifflet:

The Alaska Department of Environmental Conservation, Contaminated Sites Program (ADEC) has completed a review of the environmental records associated with the Alyeska PS 05 Turbine Fuel Spill located at Mile 137 Dalton Highway. 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 as long as the site is in compliance with established institutional controls.

This decision is based on the administrative record for the Alyeska PS 05 Turbine Fuel Spill which is located in the offices of the ADEC in Anchorage, Alaska. This letter summarizes the decision process used to determine the environmental status of this site and provides a summary of the regulatory issues considered in the Cleanup Complete with ICs determination.

Introduction

Site Name and Location:
Alyeska PS 05 Turbine Fuel Spill
Mile 137 Dalton Highway
Near Coldfoot, Alaska 99701

Name and Mailing Address of Contact Party:
Jan Shifflet
Alyeska Pipeline Service Company
Mail Stop 507
PO Box 196660
Anchorage, AK 99519-6660

Database Record Key and File Number:
File: 330.38.120
Hazard ID: 5440

Regulatory authority under which the site is being cleaned up:
18 AAC 75

Background
On March 25, 2009, Alyeska personnel noticed smoke and observed discoloration of snow at the Solar™ generator. Turbine fuel, which is used to power these generators, was observed leaking from the Solar™ generator enclosure onto the snow covered ground. The spill volume was estimated by Alyeska to be 15 gallons.

Contaminants of Concern
During the investigations at this site, soil samples were analyzed for diesel range organics (DRO), gasoline range organics (GRO), residual range organics (RRO); and benzene, toluene, ethylbenzene, and xylenes (BTEX). Based on these analyses and knowledge of the source area, the following Contaminants of Concern were identified:

- Gasoline Range Organics (GRO)
- Diesel Range Organics (DRO)
- Residual Rage Organics (RRO)
- Benzene
- Toluene
- Ethylbenzene
- Xylenes

Cleanup Levels
The default soil cleanup levels for this site are established in 18 AAC 75.341 Tables B1 and B2, Under 40 inch Zone, Migration to Groundwater.

Contaminant	Site Cleanup Level (mg/kg)
GRO	300
DRO	250
RRO	11,000
Benzene	0.025
Toluene	6.5
Ethylbenzene	6.9
Total Xylenes	63

Site Characterization and Cleanup Actions
In April 2009, Alyeska excavated 36 cubic yards of contaminated soil in the source area. Soil beneath and directly adjacent to the Solar™ generator was not excavated because removal would undermine structural footings. Confirmation samples were collected with concentrations up to 0.386 mg/kg benzene, 10.7 mg/kg toluene, 21.7 mg/kg ethylbenzene, 141.2 mg/kg xylenes, 1,560 mg/kg GRO, 4,060 mg/kg DRO, and 26,000 mg/kg RRO. No groundwater

investigation was conducted due continuous permafrost documented in this area and the limited extent of contamination remaining.

Pathway Evaluation

The exposure pathways for human health that were evaluated include the following: ingestion of soil and groundwater; indoor and outdoor inhalation of vapors; and direct contact with soil. Exposure pathways are the conduits by which contamination may reach human or ecological receptors. Potential exposure pathways, presented in Table 1, were evaluated using ADEC's Exposure Tracking Model (ETM) and were determined to be either De Minimis Exposure or Pathway Incomplete.

"De-minimis exposure" means that in ADEC's judgment receptors will be minimally affected by the small volume of remaining contamination. "Pathway incomplete" means that in ADEC's judgment contamination has no potential to contact receptors.

GRO, RRO, and xylene concentrations remaining in the soil were confirmed to be above cleanup levels for ingestion, direct contact and inhalation pathways, and migration to groundwater. However the exposure risk for these pathways is considered acceptable, primarily because the remaining amount of contaminated soil was determined to be de-minimis in extent. The groundwater ingestion exposure pathway is further protected by the documented presence of continuous permafrost.

Table 1 – Exposure Tracking Model Results

Pathway	Result	Explanation
Surface Soil Contact	De-minimis exposure	Extent of contamination deminimis - original spill was estimated to have been 15 gallons and 36 cubic yards of the accessible contaminated soil were removed. Exposure from remaining surface soil contamination is controlled by the presence of generator enclosure/structure.
Sub-Surface Soil Contact	De-minimis exposure	The extent of remaining contamination is considered deminimis because the original spill was estimated to have been 15 gallons. 36 cubic yards of the accessible contaminated soil were removed.
Inhalation – Outdoor Air	De-minimis exposure	The extent of remaining contamination is considered deminimis because the original spill was estimated to have been 15 gallons. 36 cubic yards of the accessible contaminated soil were removed.
Inhalation – Indoor Air (vapor intrusion)	De-minimis exposure	The extent of remaining contamination is considered deminimis because the original spill was estimated to have been 15 gallons. 36 cubic yards of the

		accessible contaminated soil were removed
Groundwater Ingestion	De-minimis exposure	The extent of remaining contamination is considered deminimis because the original spill was estimated to have been 15 gallons. 36 cubic yards of the accessible contaminated soil were removed. The area is reported to be underlain by continuous permafrost
Surface Water Ingestion	Pathway Incomplete	Distance to nearest surface water body approximately ¼ mile and no evidence of offsite migration.
Wild Foods Ingestion	Pathway Incomplete	Site is a gravel pad in a fenced, secure area.
Exposure to Ecological Receptors	Pathway Incomplete	Terrestrial or aquatic exposure routes unlikely to impact populations of organisms. The extent of remaining contamination is considered deminimis

ADEC Decision

There is contamination remaining above established cleanup levels at the Alyeska PS 05 Turbine Fuel Spill but ADEC has determined there is no unacceptable risk to human health or the environment, and this site will be granted a Cleanup Complete- ICs 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 ICs may not be protective and ADEC may require additional remediation and/or ICs. Therefore the Alyeska Pipeline Services Company shall report to ADEC every five years to document land use, or report as soon as Alyeska Pipeline Services Company 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. 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 attached site figure.)

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

4. Soil contamination is remaining under the generator shed (see attachment B). When the building is removed and/or the soil becomes accessible, the soil must be evaluated and contamination addressed in accordance with an ADEC approved work plan.

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. When

the site meets the requirements for a Cleanup Complete determination, then the Institutional Controls will be terminated.

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, 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 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 contact the ADEC project manager, Keather McLoone at (907) 269-7526.

Approved By,

Linda Nuechterlein
Environmental Manager

Recommended By,

Keather McLoone
Environmental Specialist

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

cc: Scott Rose, SLR
Jerry Brossia, JPO

ADEC File No.: **330.38.120**
Hazard ID: 5440
ADEC Project Manager: Keather McLoone

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

Alyeska Pipeline Service Company agrees to the terms of this Corrective Action Complete with Institutional Controls determination as stated in this Record of Decision (ROD) document dated **November 12, 2009**. 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).

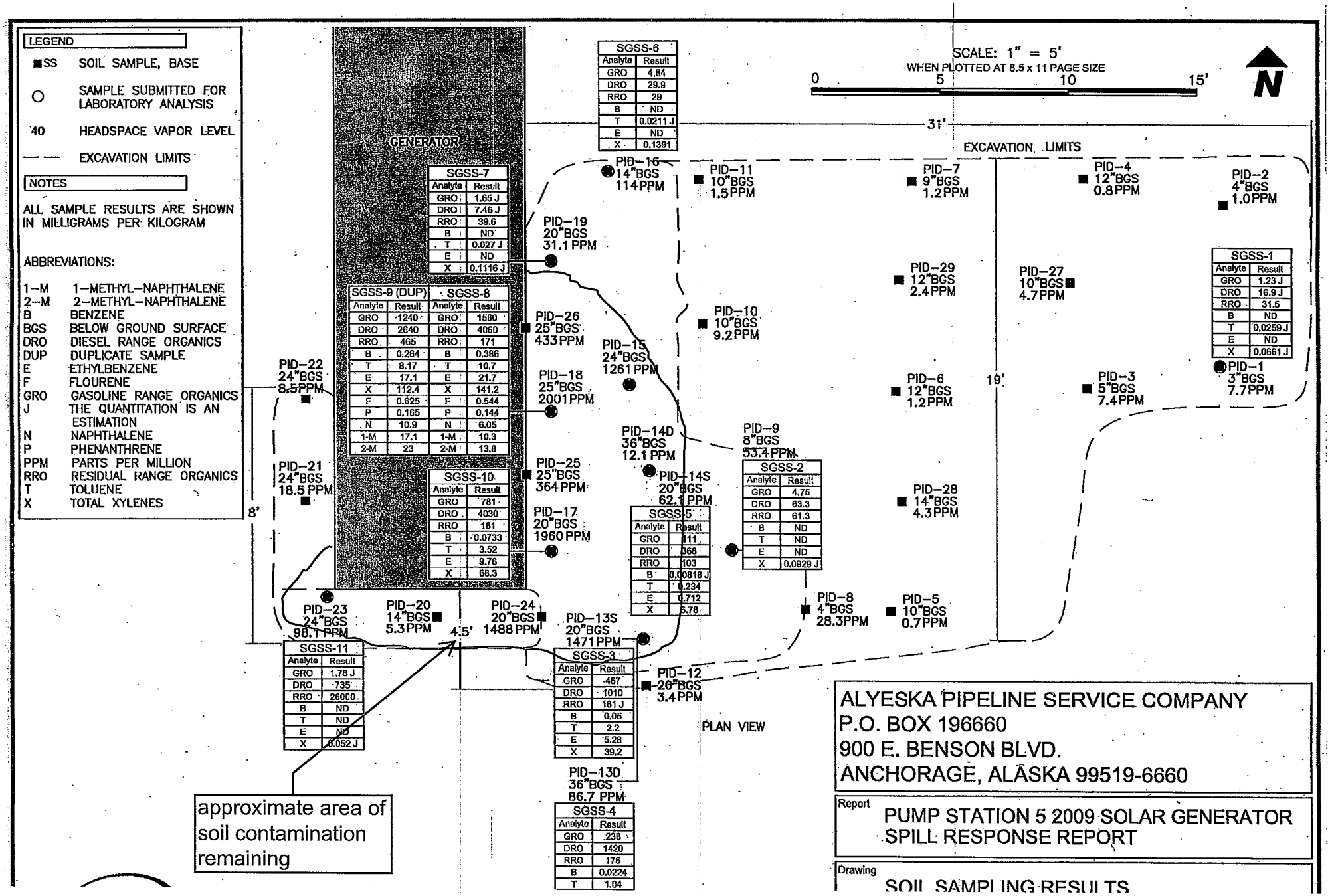
_____
Signature of Authorized Representative, Title
Jan Shifflet/ Alyeska Pipeline Service Company

_____
Printed Name of Authorized Representative, Title
Jan Shifflet/ Alyeska Pipeline Service Company

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 so that the PM can update the CS database.


LEGEND
■SS SOIL SAMPLE, BASE
○ SAMPLE SUBMITTED FOR LABORATORY ANALYSIS
40 HEADSPACE VAPOR LEVEL
— — EXCAVATION LIMITS
NOTES
ALL SAMPLE RESULTS ARE SHOWN IN MILLIGRAMS PER KILOGRAM
ABBREVIATIONS:
1-M 1-METHYL-NAPHTHALENE
2-M 2-METHYL-NAPHTHALENE
B BENZENE
BGS BELOW GROUND SURFACE
DRO DIESEL RANGE ORGANICS
DUP DUPLICATE SAMPLE
E ETHYLBENZENE
F FLOURENE
GRO GASOLINE RANGE ORGANICS
J THE QUANTITATION IS AN ESTIMATION
N NAPHTHALENE
P PHENANTHRENE
PPM PARTS PER MILLION
RRO RESIDUAL RANGE ORGANICS
T TOLUENE
X TOTAL XYLENES
SCALE: 1" = 5'
WHEN PLOTTED AT 8.5 x 11 PAGE SIZE
0 5 10 15'
N
GENERATOR
EXCAVATION LIMITS
31'
19'
8'
4.5'
SGSS-6
Analyte Result
GRO 4.84
DRO 29.9
RRO 29
B ND
T 0.0211 J
E ND
X 0.1391
SGSS-7
Analyte Result
GRO 1.65 J
DRO 7.46 J
RRO 39.6
B ND
T 0.027 J
E ND
X 0.1116 J
SGSS-9 (DUP)
Analyte Result
GRO 1240
DRO 2640
RRO 465
B 0.264
T 8.17
E 17.1
X 112.4
F 0.625
P 0.165
N 10.9
1-M 17.1
2-M 23
SGSS-8
Analyte Result
GRO 1580
DRO 4060
RRO 171
B 0.386
T 10.7
E 21.7
X 141.2
F 0.544
P 0.144
N 6.05
1-M 10.3
2-M 13.8
SGSS-10
Analyte Result
GRO 781
DRO 4030
RRO 181
B 0.0733
T 3.52
E 9.76
X 68.3
SGSS-11
Analyte Result
GRO 1.78 J
DRO 735
RRO 26000
B ND
T ND
E ND
X 0.052 J
SGSS-5
Analyte Result
GRO 111
DRO 368
RRO 103
B 0.00818 J
T 0.234
E 0.712
X 3.78
SGSS-2
Analyte Result
GRO 4.75
DRO 63.3
RRO 61.3
B ND
T ND
E ND
X 0.0929 J
SGSS-3
Analyte Result
GRO 467
DRO 1010
RRO 181 J
B 0.05
T 2.2
E 5.28
X 39.2
SGSS-4
Analyte Result
GRO 238
DRO 1420
RRO 175
B 0.0224
T 1.04
SGSS-1
Analyte Result
GRO 1.23 J
DRO 16.9 J
RRO 31.5
B ND
T 0.0259 J
E ND
X 0.0661 J
PID-16 14"BGS 114PPM
PID-11 10"BGS 1.5PPM
PID-7 9"BGS 1.2PPM
PID-4 12"BGS 0.8PPM
PID-2 4"BGS 1.0PPM
PID-19 20"BGS 31.1 PPM
PID-29 12"BGS 2.4PPM
PID-27 10"BGS 4.7PPM
PID-10 10"BGS 9.2PPM
PID-26 25"BGS 433PPM
PID-15 24"BGS 1261 PPM
PID-1 3"BGS 7.7PPM
PID-22 24"BGS 8.5PPM
PID-18 25"BGS 2001PPM
PID-6 12"BGS 1.2PPM
PID-3 5"BGS 7.4PPM
PID-14D 36"BGS 12.1 PPM
PID-9 8"BGS 53.4 PPM
PID-21 24"BGS 18.5 PPM
PID-25 25"BGS 364 PPM
PID-14S 20"BGS 62.1 PPM
PID-28 14"BGS 4.3PPM
PID-17 20"BGS 1960 PPM
PID-23 24"BGS 98.1 PPM
PID-20 14"BGS 5.3PPM
PID-24 20"BGS 1488 PPM
PID-13S 20"BGS 1471 PPM
PID-8 4"BGS 28.3PPM
PID-5 10"BGS 0.7PPM
PID-12 26"BGS 3.4PPM
PID-13D 36"BGS 86.7 PPM
PLAN VIEW
approximate area of soil contamination remaining
ALYESKA PIPELINE SERVICE COMPANY
P.O. BOX 196660
900 E. BENSON BLVD.
ANCHORAGE, ALASKA 99519-6660
Report
PUMP STATION 5 2009 SOLAR GENERATOR SPILL RESPONSE REPORT
Drawing
SOIL SAMPLING RESULTS