THE STATE of ALASKA
GOVERNOR BILL WALKER

Department of Environmental Conservation

Division of Spill Prevention and Response
Contaminated Sites Program

610 University Ave.
Fairbanks, Alaska 99709-3643
Main: 907.451.2127
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File No: 100.38.136

October 25, 2015

John Mossman
1216 6th Avenue N
Grand Forks, North Dakota 58203

Re: Decision Document: Residence – 2954 Circle Loop Road
Cleanup Complete Determination – Institutional Controls

Dear Mr. Mossman:

The Alaska Department of Environmental Conservation (ADEC) has reviewed the environmental records for the referenced 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:
Residence – 2954 Circle Loop Road
2954 Circle Loop Road
Fairbanks, Alaska 9975

Name and Mailing Address of Contact Party:
John Mossman
1216 6th Avenue North
Grand Forks, North Dakota 58203

ADEC Site Identifiers:
File No: 100.38.136
Hazard ID: 3220

Regulatory Authority for Determination:
18 AAC 75

Site Description and Background

In February 1999, ADEC was informed of a heating oil release of an unknown volume that occurred at 2954 Circle Loop Road in Fairbanks, Alaska. Approximately 90 cubic yards of contaminated soil were excavated from around the tank and taken to Organic Incineration Technologies (OIT) for thermal remediation. In addition, approximately 310 gallons of diesel fuel were recovered from the groundwater surface in the excavation. The goal of the cleanup was to remove as much contaminated soil and groundwater as practicable and evaluate the remaining contamination for stability and potential migration to drinking water wells. Depth to groundwater at this location is approximately 7 feet below ground surface (ft bgs).

Contaminants of Concern
The following petroleum contaminants of concern, those above approved 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)
- Benzene, Toluene, Ethylbenzene, and Xylenes (BTEX)

Groundwater was also tested for polycyclic aromatic hydrocarbons in 1999; however, none were detected.

Cleanup Levels
Diesel range organics and BTEX were detected in soil above the approved Method 2 migration to groundwater cleanup levels for the under 40-inch precipitation zone, established in 18 AAC 75.341(c), Table B1, and 18 AAC 75.341 (d), Table B2. The migration to groundwater soil cleanup levels are applicable in this situation because of the presence of groundwater contamination and the need to stop further contaminant migration through soil and into groundwater.

No COCs were detected in groundwater above the approved cleanup levels established in 18 AAC 75.345 Table C.

Table 1 – Approved Cleanup Levels

Contaminant	Soil (mg/kg)	Groundwater (mg/L)
DRO	250	1.5
Benzene	0.025	0.005
Toluene	6.5	1.0
Ethylbenzene	6.9	0.7
Total Xylenes	63	10

mg/kg = milligrams per kilogram
mg/L = milligrams per liter
ug/L = micrograms per liter

Characterization and Cleanup Activities
According to the May 12, 1999 report by Shannon & Wilson, Inc., additional contaminated soil removal was not possible after the initial excavation work because the remaining contamination was beneath the foundation of the garage. Eight soil samples were collected from the excavation, which extended to 5 to 8 ft bgs. Soil samples collected from the excavation sidewall under the garage foundation at approximately 6 to 7 ft bgs contained BTEX and DRO above ADEC cleanup levels, including benzene up to 2.560 milligrams per kilogram (mg/kg), toluene up to 26.7 mg/kg, ethylbenzene up to 34.4 mg/kg, total xylenes up to 161.8 mg/kg, and DRO up to 8,920 mg/kg. Soil contamination may also remain beneath the former excavation area under the groundwater table where diesel product was present. However, it appears that residual contamination remaining at the site is limited in extent.
Prior to backfilling, slotted 4-inch piping was placed in the excavation along the north and east sides of the residence for product collection. Product collection continued through 2001, with

approximately 15 gallons of product removed. In 2004, the consultant found that the riser pipes to the collection gallery had been destroyed during construction work at the residence.

Three monitoring wells were installed in July 1999. Between 1999 and 2004, groundwater samples were collected 5 times and the onsite drinking water well was sampled 4 times. Contaminants were not detected above groundwater cleanup levels in any of the samples.

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	Contamination remains in the sub-surface, but is below direct contact cleanup levels.
Inhalation – Outdoor Air	De-Minimis Exposure	Contamination remains in the sub-surface, but is below inhalation cleanup levels.
Inhalation – Indoor Air (vapor intrusion)	Exposure Controlled	Soil contamination remains in the subsurface soil at levels that may cause vapor intrusion. Vapors do not appear to be migrating into the residence currently, but ADEC should be contacted prior to construction in the contaminated area.
Groundwater Ingestion	Exposure Controlled	Groundwater contamination was not observed in on-site monitoring and drinking water wells. However, groundwater contamination may remain closer to the original spill location. ADEC should be contacted prior to installation of new wells.
Surface Water Ingestion	Pathway Incomplete	Surface water is not used as a drinking water source in the vicinity of the site.
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	Contamination is only present in the sub-surface and do not have the potential to affect ecological receptors.

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 approved 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.

A Notice of Environmental Contamination (deed notice) shall be recorded in the State Recorder's Office as an institutional control (IC) that identifies the nature and extent of contamination at the property and the conditions that the owners and operators are subject to in accordance with this decision document. These conditions are as follows:

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 RP/landowner shall report to ADEC every 5 years to document land use, or report as soon as RP/landowner 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 is located near the north and east side of the garage. When contaminated soil becomes accessible or when construction is planned over the contaminated area, contact ADEC to determine if a workplan is needed.

4. 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. (See attached site figure.)

5. 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 ADEC 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 4 and 5 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) 451-2127.

Sincerely,

Janice Wiegers
Environmental Program Specialist

cc: Ray Brasier, ReMax Associates of Fairbanks

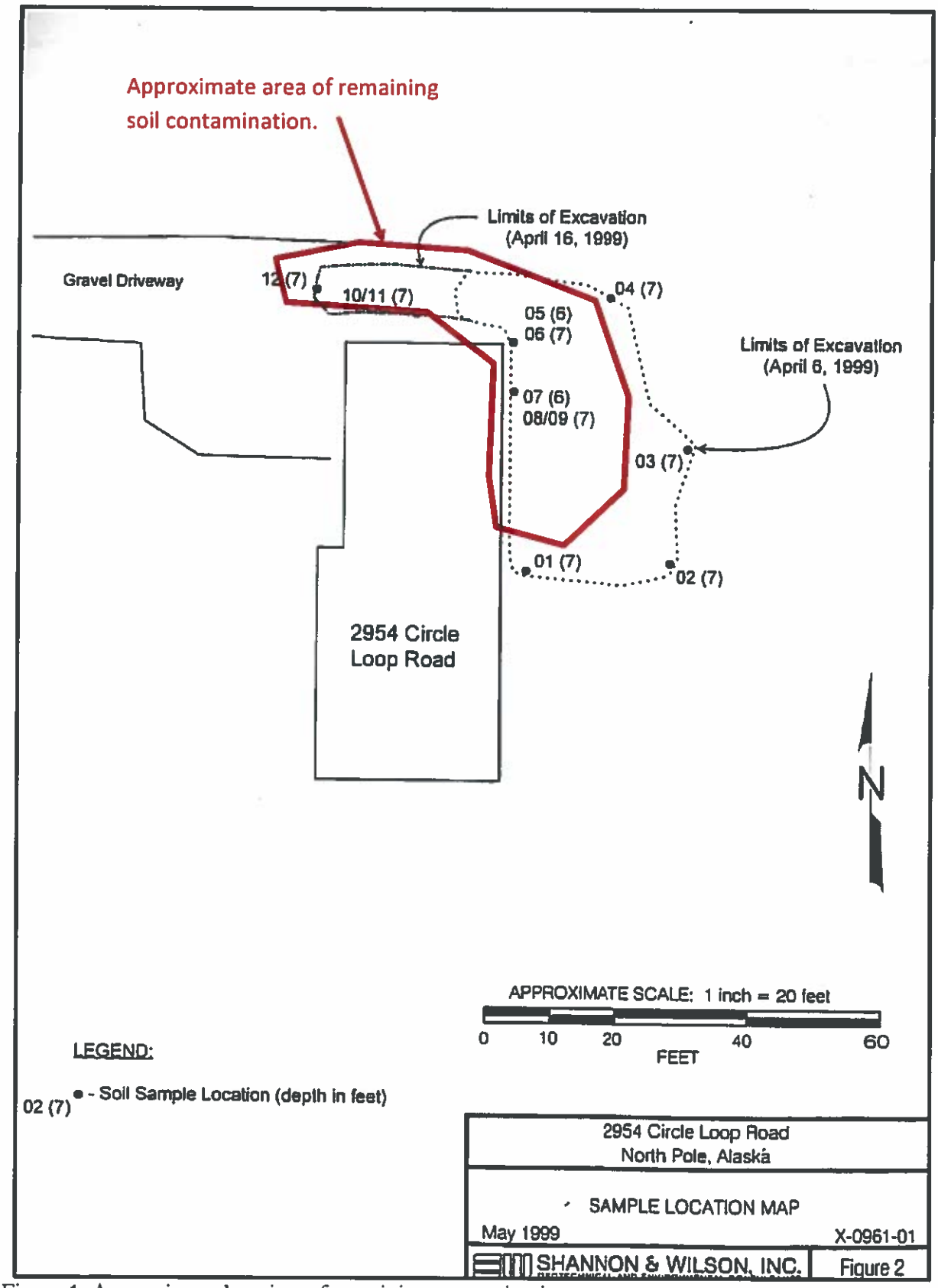

Figure 1: Approximate location of remaining contamination.

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

Landowenr agrees to the terms and conditions of this Corrective Action Complete Determination, as stated in decision letter for the Residence – 2954 Circle Loop Road, dated October 25, 2015. Failure to comply with the terms and conditions of the determination may result in ADEC reopening this site and requiring further remedial action in accordance with18 AAC 18 AAC 78.276(f).

_____ _____

Signature of Authorized Representative, Title Date
Landowner

_____

Printed Name of Authorized Representative, Title
Landowner

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.