THE STATE of ALASKA
GOVERNOR MICHAEL J. DUNLEAVY

Department of Environmental Conservation

DIVISION OF SPILL PREVENTION AND RESPONSE
Contaminated Site Program

P.O. Box 111800
Juneau, Alaska 99811-1800
Main: 907.465.5250
Fax: 907.465.5245

File: 1538.38.011

December 20, 2018

Via electronic delivery
Charlie Moline or Jeff Fanning
Lemon Creek Holdings LLC
2917 Jackson Road
Juneau, AK 99801

Re: Decision Document: Residence-110 F. Street
Cleanup Complete Determination

Dear Mr. Moline and Mr. Fanning:

The Alaska Department of Environmental Conservation, Contaminated Sites Program (ADEC) has completed a review of the environmental records associated with the site known as Residence-110 F. Street, located in Douglas, Alaska. 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 new information becomes available that indicates residual contaminants may pose an unacceptable risk.

This Cleanup Complete determination is based on the administrative record for the 110 F. Street, which is located in the ADEC office in Juneau, Alaska. This decision letter summarizes the site history, cleanup actions and levels, and standard site closure conditions that apply.

Site Name and Location:
110 F. Street
Douglas, Alaska 99824

Name and Mailing Address of Contact Party:
Charlie Moline or Jeff Fanning
Lemon Creek Holdings
2917 Jackson Road
Juneau, AK 99801

DEC Site Identifiers:
File No.: 1538.38.011
Hazard ID.: 26415

Regulatory Authority for Determination:
18 AAC 75

Site Description and Background
In November 2013, ADEC's Prevention, Preparedness, and Response Program (PPRP) was notified of a diesel odor in the vicinity of a drainage ditch adjacent to First Street in Douglas, Alaska. The

ADEC PPRP traced the diesel odor from the drainage ditch to the adjacent steep slope. Investigation indicated that the source of the diesel smell was a originating from a 675 gallon underground heating oil tank located in the house of the garage located at 110 F. Street. Laboratory analysis of soil samples collected at the site indicated diesel range organics (DRO) were present at the site in concentrations of 13,300 milligrams per kilogram (mg/Kg) and contaminants had migrated down an unstable sandy slope to two (2) lots adjacent to First Street owned by Gerald and Susan Kuelbs.

On June 11, 2015, the ADEC PPRP transferred the case to the Contamination Sites program for additional evaluation.

Contaminants of Concern
During the site characterization and cleanup activities at this site, samples were collected from soil and analyzed for diesel range organics (DRO), gasoline range organics (GRO), benzene, toluene, ethylbenzene, xylenes, and polycyclic aromatic hydrocarbons (PAHs)

Based on these analyses, the following contaminants were detected above the applicable cleanup levels and are considered Contaminants of Concern at this site:

- Diesel Range Organics (DRO)
- Napthalene

Cleanup Levels
Diesel range organics (DRO) and Napthalene were detected in soil above the approved Method Two migration to groundwater (MTG) cleanup levels for the over 40-inch precipitation zone, established in 18 AAC 75.341(c), Table B1, and 18 AAC 75.341 (d), Table B2.

Table 1 – Approved Cleanup Levels

Contaminant	Human Health (mg/kg)	Soil - MTG (mg/kg)
DRO	10,250	250
Napthalene	29	0.038

mg/kg = milligrams per kilogram

Characterization and Cleanup Activities
Characterization and cleanup activities conducted under the regulatory authority of the Contaminated Sites Program began in 2017. These activities are described below.

Site characterization was conducted under 18 AAC 75.335 in 2017 and 2018 and included and installation of eight soil borings to depths of 5.0 feet below ground surface on the eastern and western edges of the property. DRO was detected in soil samples at concentrations up to 5,540 mg/Kg. Surface soils were not impacted by the release, impacted soils are generally found 3.0 feet bgs.

A 675 gallon underground heating oil tank (HOT) was closed in place. The HOT was located under the poured concrete floor of the garage. The UST was cleaned to the extent practicable and filled

with clean sand from an off-site source. Three feet of clean soil was placed between the on-grade concrete slab and impacted soils, and new concrete was poured in order to patch the garage floor. However, it's anticipated that additional contaminated soil may be present in the immediate vicinity of the tank.

In 2017-2018, because excavation of the unstable slope was not possible approximately 2,640 gallons of a 5% RegenOx solution were applied to site soils (Figure 1). The treatment decreased the maximum concentration of DRO within impacted soils near the property line from 13,300 mg/Kg to 767 mg/Kg and impacted soils near the source area from 5,540 mg/Kg prior to treatment to 2,380 mg/Kg after treatment (Figure 3).

Additional characterization was conducted in 2018 to characterize and delineate impacted soils that migrated to the two downgradient lots. DRO impacted soils are present adjacent to the western portion of the foundation and along the unstable sandy slope in concentrations up to 977 mg/Kg (Figure 2).

Additional sampling was conducted in 2018 to determine if contamination had migrated to groundwater, which is anticipated to be located approximately 12-14 feet bgs. Soil borings were advanced into glacial till confining layer at ~4-5 feet bgs. Soil borings were not advanced through the confining layer to prevent creating a preferential pathway. Soil sample results from within the confining layer did not contain contaminants above the migration to groundwater cleanup levels (Figure 3).

Table 2 – Maximum Concentrations Remaining

Contaminant	Human Health (mg/kg)	Soil - MTG (mg/kg)	Maximum Remaining Concentration (mg/Kg)
DRO	10,250	250	**2,380 mg/Kg**
Napthalene	29	0.038	**0.0889 mg/Kg**

mg/kg = milligrams per kilogram

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 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 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	De-Minimis Exposure	Contamination is present at 2 feet bgs, but is below direct contact and human health cleanup levels.
Sub-Surface Soil Contact	De-Minimis Exposure	Contamination remains in the sub-surface, but is below direct contact and human health cleanup levels.
Inhalation – Outdoor Air	De-Minimis Exposure	Contamination remains in the sub-surface, but is below inhalation and human health cleanup levels.
Inhalation – Indoor Air (vapor intrusion)	De-Minimis Exposure	The HOT was closed in place. In accordance with ADEC Vapor Intrusion Guidance three to four feet of clean fill is located between the ground surface and impacted soils mitigating exposure via this pathway.
Groundwater Ingestion	Pathway Incomplete	Soil samples collected within the confining layer are below migration to groundwater cleanup levels, indicating the contamination has not migrated through the confining layer to groundwater.
Surface Water Ingestion	Pathway Incomplete	Surface water is not used as a drinking water source in the vicinity of the site. There is no evidence of sheen in drainage ditch.
Wild and Farmed Foods Ingestion	Pathway Incomplete	There are no edible foods on the sandy slope. Contaminants of concern do not have the potential to bioaccumulate in plants or animals.
Exposure to Ecological Receptors	Pathway Incomplete	There is no exposure to ecological receptors at the site

Notes to Table 2: "De-Minimis Exposure" means that in ADEC's judgment receptors are unlikely to be adversely 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 institutional control in place limiting land or groundwater use and there may be a physical barrier in place that prevents contact with residual contamination.

ADEC Decision

ADEC has determined there is no unacceptable risk to human health or the environment. Soil contamination at the site have been cleaned up to concentrations below ADEC Method Two cleanup levels for Human Health. The approved cleanup levels are suitable for residential land use. This site will receive a "Cleanup Complete" designation on the Contaminated Sites Database, subject to the following standard conditions.

Standard Conditions

1. Any proposal to transport soil or groundwater from a site that is subject to the site cleanup rules or for which a written determination from the department has been made under 18

   AAC 75.380(d)(1) that allows contamination to remain at the site above method two soil cleanup levels or groundwater cleanup levels listed in Table C requires DEC approval in

   accordance with [18 AAC 75.325(i) or 18 AAC 78.600(h)]. 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 1.)

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

3. 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. In the event that groundwater from this site is to be used for other purposes in the future, such as aquaculture, additional testing and treatment may be required to ensure the water is suitable for its intended use.

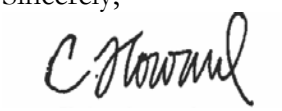
This determination is in accordance with 18 AAC 75.380 and does not preclude ADEC from requiring additional assessment and/or cleanup action if future information indicates that contaminants at this site may pose an unacceptable risk to human health, safety, or welfare or to the environment.

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, 555 Cordova Street,
Anchorage, Alaska 99501-2617, 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.

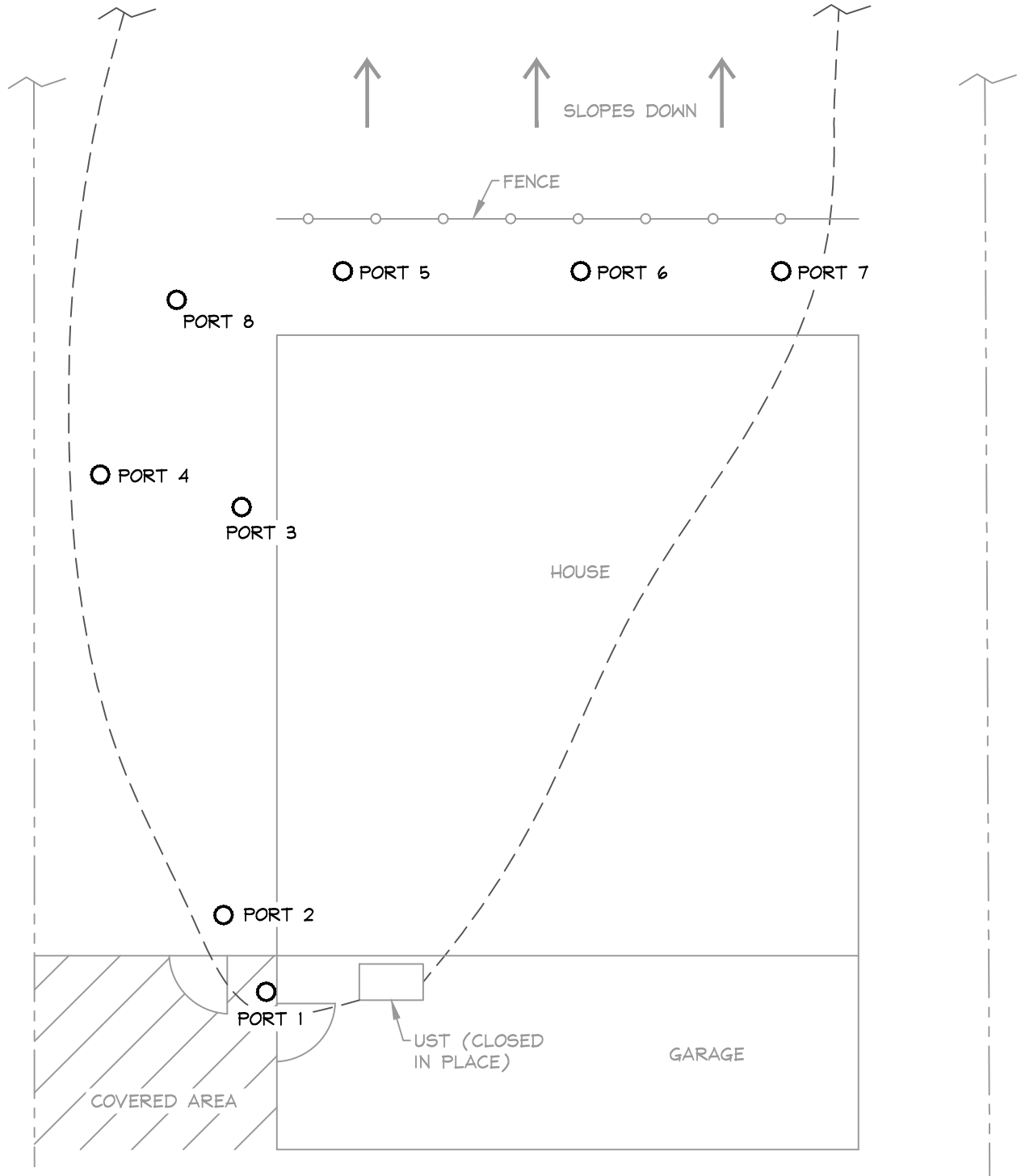
If you have questions about this closure decision, please feel free to contact me at (907) 465-5206 or email at christy.howard@alaska.gov.

Sincerely,



Christy Howard
Project Manager

cc: Spill Prevention and Response, Cost Recovery Unit
Jennifer Stoutamore, NORTECH



LEGEND

O PORT #	PORT LOCATION AND ID
— — — —	ESTIMATED EXTENT OF CONTAMINATION
— - - —	PROPERTY BOUNDARY

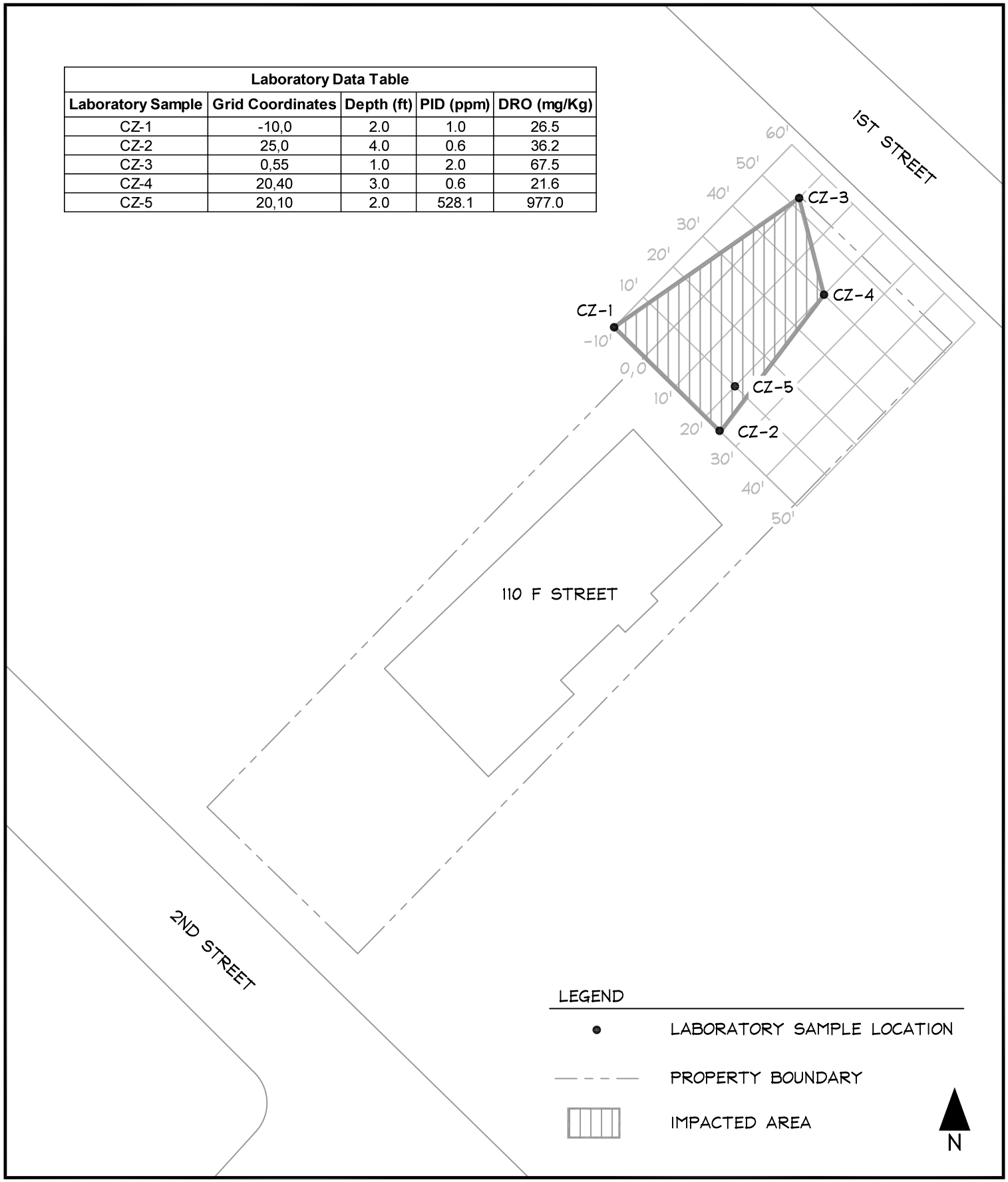
N

NORTECH
ENVIRONMENT, ENERGY, HEALTH & SAFETY CONSULTANTS
2400 College Road, Fairbanks, AK. 99709, 907-452-5688
3105 Lakeshore Dr., Anchorage, AK. 99517 907-222-2445
5438 Shaune Dr., Juneau, Alaska 99801 907-586-6813

Contamination Plume - June 2017
110 F Street Corrective Action Plan
Juneau, Alaska

SCALE: 1" = 8'	FIGURE: 3
DESIGN: HEM	
DRAWN: KAT	
PROJECT NO: 17-1033	
DWG: 171033a(03)	
DATE: 8/3/2018	

Laboratory Data Table				
Laboratory Sample	**Grid Coordinates**	**Depth (ft)**	**PID (ppm)**	**DRO (mg/Kg)**
CZ-1	-10,0	2.0	1.0	26.5
CZ-2	25,0	4.0	0.6	36.2
CZ-3	0,55	1.0	2.0	67.5
CZ-4	20,40	3.0	0.6	21.6
CZ-5	20,10	2.0	528.1	977.0



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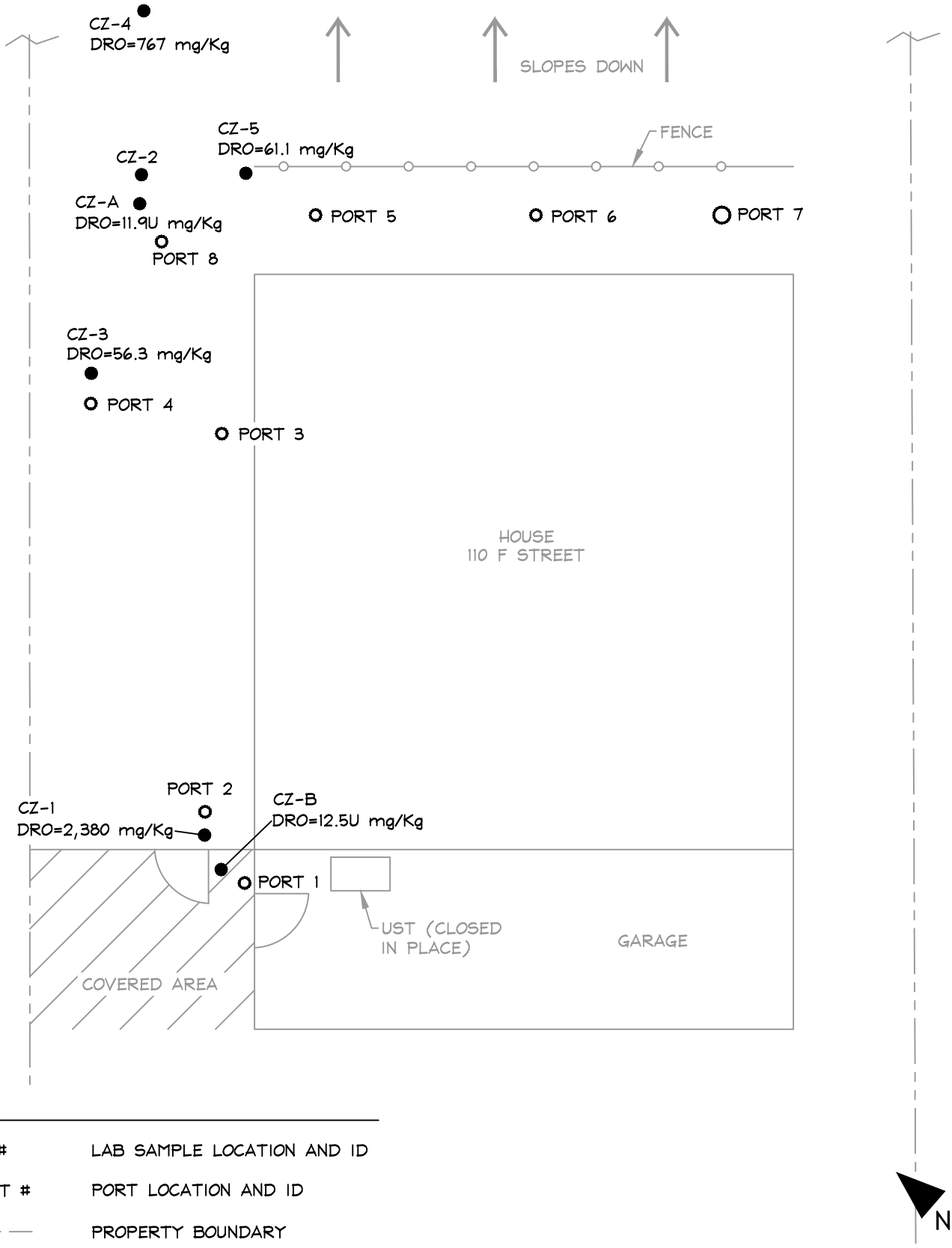
Laboratory Sample Locations
110 F Street Corrective Action Plan
Juneau, Alaska

SCALE: 1" = 30'	FIGURE: 4
DESIGN: JLS	
DRAWN: KAO	
PROJECT NO: 17-1033	
DWG: 171033d(04)	
DATE: 10/15/2018	



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5438 Shaune Dr., Juneau, Alaska 99801 907-586-6813

On-Property Soil Sampling
110 F Street Corrective Action Plan
Juneau, Alaska

SCALE: 1" = 8'	FIGURE: 6
DESIGN: JLS	
DRAWN: KAO	
PROJECT NO: 17-1033	
DWG: 171033e(06)	
DATE: 12/10/2018	