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: 1510.38.002

December 23, 2014

Mr. Keith Walker
Whitestone Logging Company
88058 Leeward Drive
Florence, OR 97439

RE: Decision Document; L Kane Hoonah Tank Farm
Cleanup Complete Determination with Institutional Controls

Dear Keith,

The Alaska Department of Environmental Conservation, Contaminated Sites Program (DEC) has reviewed the environmental records for the referenced site. This decision letter explains the site history, cleanup activity and specific conditions required to effectively manage any remaining contamination. No additional remedial action is required as long as compliance with these conditions is maintained.

**Site Name and Location**
L Kane Hoonah Tank Farm
First Street
Hoonah, Alaska
USS 2577 Parcel #1

**Address of Contact Party**
Whitestone Logging Company
88058 Leeward Drive
Florence, OR 97439

**DEC Site Identifiers**
Hazard ID: 2693
File: 1510.38.002
Reckey: 1197110117101

**Regulatory Authority for Determination**
Title 18 Alaska Administrative Code 75

**Site Description and Background**

In 1997, Agra Earth Environmental Inc. (AEA) performed a Phase I Environmental Site Assessment for the L Kane Store Properties. The store spanned seven lots that together comprise two parcels and 3.5 acres of land in the center of Hoonah. Five of the lots form an irregular-shaped, contiguous block of land that extends eastward from First Street a distance of 800 feet. Lots 3 and 4 form a trapezoidal-shaped property of about 4,000 square feet located across Hill Street and north of the other lots (see Attachment D: Plat Map).

Development of these properties included a bulk fuel tank farm, retail store, post office, bank building, warehouse and 2 residences. Except for the warehouse, all structures were built before 1979. In the 1940s, most of downtown Hoonah was destroyed by fire and rebuilt; thus this is likely when most of these structures were built. The store was established in 1893 and use of the property likely extends from that time. The tank farm is in Parcel #1 of U.S. Survey No. 2577. The smaller parcel of land, Parcel #2 includes Lots 3 and 4 of Block 13. Lot 3 is occupied by a two-story building that includes a bank facility on the main floor and a private residence on the upper floor. Lot 4 is vacant and unpaved.

The western one-third of the tank farm property is relatively flat with an average elevation of perhaps 20 feet above mean sea level. In the eastern two-thirds of the property, the ground slopes upward reaching a maximum elevation of about 100 feet at the eastern property line. Surface water runoff on the property flows into one of several small drainages that discharge to the nearest water body, Port Frederick, located across First Street from the Site. AEA found that published documents on hydrology of the area are not available. From a limited number of soil borings, AEA determined that subsurface soil had a high silt content suggesting a relatively low permeability for the soil on the property. In contrast, the permeability of the underlying slate bedrock is increased by the high degree of fracturing. Therefore, AEA concluded that any water that does infiltrate through the silt-soil is unlikely to stop at the bedrock interface. Groundwater at the site is limited in vertical extent and discontinuous throughout the site vicinity. The City of Hoonah provides potable water to the site and the area.

In 1998, Smith Bayliss LeResche Inc. (SBL) performed a Phase II Environmental Site Assessment of the tank farm property. SBL discovered the five 20,000-gallon above ground fuel storage tanks (ASTs) on the tank farm property had reportedly been in-use for over fifty years storing diesel, gasoline, kerosene and possibly bunker oil, a minimally refined heavy oil. SBL excavated 18 test pits on the tank farm property to find the extent of gasoline (GRO) and diesel (DRO) range organic hydrocarbon contamination in soil downhill from the ASTs.

Ten of the eighteen test pit samples contained DRO levels above the pre-1999 regulatory cleanup level of 200 milligrams per kilogram (mg/kg) and two pits had GRO levels above the pre-1999 level of 100 mg/kg (comparable to what is currently referred to as Method 1 cleanup levels under 18 AAC 75). The depth of soil contamination below the ground surface (BGS) in the test pits ranged between 24 to 32 inches. The extent of soil contamination began around the ASTs and extended approximately 30 feet downhill on the southwest side. The volume of this area of contamination was estimated to be at least 270 cubic yards or more. Groundwater was not found in any of the test pits.

**Contaminants of Concern**

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

- Gasoline Range Hydrocarbons (GRO)
- Diesel Range Hydrocarbons (DRO)
- Benzene

## Cleanup Levels

Title 18 Alaska Administrative Code (AAC) 75.340 authorizes DEC to set soil cleanup levels for this site. GRO and DRO 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 pathway cleanup level for GRO and DRO soil are applicable in this situation because of the need to control contaminant migration through soil into groundwater and, although a hydrological connection is not established for the site, possibly to off-site surface water.

**Table 1 – Approved Cleanup Levels**

| Chemical | Soil (mg/kg) | Groundwater (mg/L) | Surface Water (mg/L) |
|---|---|---|---|
| GRO | 260 | 2.2 | N/A |
| DRO | 230 | 1.5 | N/A |
| Benzene | 0.025 | 0.005 | 0.010 |

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

## Site Characterization and Cleanup Activities

Site Investigation and Cleanup activities conducted under the regulatory authority of the Contaminated Sites Program began in November 1998, when DEC approved a Corrective Action Plan submitted by Whitestone Logging Company (Whitestone) to implement a contaminated soil removal action. In June 2001, Whitestone dismantled the tank farm and excavated soil underneath the ASTs. SBL directed the removal action using field screen sampling. Contaminated soil was transported to a material site (rock pit) near the Hoonah Airport. The volume of soil placed in a lined, covered storage cell in the rock pit was estimated at 2,000 cubic yards. DEC approved remediation of this soil by incorporation into asphalt for a road paving project in Hoonah.

The Final Cleanup Report submitted by SBL for Whitestone states that the depth of the contaminated material at the west end of the excavation area exceeded the mechanical limit of fifteen feet. As a result, Whitestone was unable to remove all contaminated soil from the former tank farm site during the removal action. Excavation depth continued several feet into a saturated soil layer but was abandoned when the limits were not observed. The SBL Report described remaining contamination as a narrowing lens of contaminated soil extending from the foot print of the tank farm following the soil/water interface in direction of Port Frederick (west). As the thickness of the lens of contamination narrowed and the clean soil overburden covering it widened to 16 feet in thickness, further excavation was halted. The vertical and horizontal limits of soil contamination had been reached and only the thin layer in the saturated zone remained. The distance from the toe of the slope, measured across properties on both east and west sides of Front Street, to Port Frederick is estimated between one eighth and one quarter mile.

After conferring directly with DEC for approval of the next steps in the cleanup, SBL added 1,000 pounds of soil amendment fertilizer to the bottom of the excavation to enhance the natural process of microbial remediation of residual petroleum contamination. Whitestone installed five injection points at the upslope side of the excavation for additional nutrient addition to subsurface soil and four wells at the bottom of the slope into the saturated soil zone to collect water samples to monitor the natural attenuation approved cleanup remedy for soil contamination remaining at the site.

*Soil*

In the Final Report SBL states that contamination started at about one foot below the ground surface around the tanks and continued to the subsurface water level at about 14 feet below the ground surface directly beneath the tanks. Heading west towards Port Frederick, the contaminated lens tapered off to a "smear zone of petroleum contamination transported by the rise and fall of the subsurface water level. The depth of confirmation sample collection ranged from 14 to 16 feet below the ground surface (BGS) near the water table interface.

SBL collected 36 confirmation soil samples and two field duplicates from remaining soil in the sidewall and bottom limits of the excavation. Concentrations of DRO were above laboratory reporting limits in 29 out of the 36 samples collected ranging from 540 mg/kg to 22,000 mg/kg. Concentrations of GRO were above laboratory reporting limits in 9 out of the 36 samples collected ranging from 410 mg/kg to 3,500 mg/kg. In one sample location the concentration of benzene reached 0.16 mg/kg, exceeding the cleanup level of 0.025 mg/kg. Concentrations of benzene, toluene, ethylbenzene and total xylene compounds in the remaining samples were below cleanup levels. SBL recommended eliminating benzene, toluene, ethylbenzene and total xylene compounds as contaminants of concern with only DRO and GRO remaining.

Table 1 displays the highest levels of the COCs detected in soil remaining at the site in 2001, the depth below the surface that each sample was taken, and the Method Two Migration to Groundwater (M2 MTG) and Direct Contact/Ingestion soil cleanup levels listed in 18 AAC 75.341 Table B1 and Table B2 that are applicable to this site. Levels above the M2 MTG cleanup levels are in bold and represent contaminants of concern (COCs) for the site.

**Table 2.** Greatest concentration of each analyte remaining in soil at the site.

| Hydrocarbon range and compounds | Greatest level in soil mg/kg | Sample name and depth below the surface | M2 MTG Cleanup Levels mg/kg | M2 Direct Contact/Ingestion Cleanup Levels mg/kg |
|---|---|---|---|---|
| GRO | **3,500** | UP09 at 18 feet | 260 | 1400 |
| DRO | **22,000** | UP01 at 19 feet | 230 | 8250 |
| Benzene | **0.160** | UP09 at 18 feet | 0.025 | 120 |
| Toluene | 0.840 | UP10 at 18 feet | 6.5 | 6600 |
| Ethylbenzene | 1.40 | UP09 at 18 feet | 6.9 | 8300 |
| Total Xylenes | 5.10 | UP09 at 18 feet | 63 | 16,600 |

mg/kg = milligrams per kilogram
COCs are in bold print

*Groundwater and Surface Water*

The bulk of the source mass has been removed to the extent feasible and practicable. Groundwater is not of a quantity or quality to be sampled at the site. Although a smear zone influenced by infiltrating surface water (rainfall) is present, the geology and soil substrate between the remaining contamination and Frederick Sound has low permeability for migration of contamination. No discreet point discharge for sampling is present and no sheen along the intertidal has been observed or reported.

As a result, residual soil contamination is unlikely to migrate in groundwater at levels that will affect the quality of off-site surface water. Although water wells were installed to the depth of saturated soil, when SBL drained the wells in the normal process of collecting samples to characterize groundwater, the wells did not recharge in a manner consistent with a groundwater aquifer. The wells remained dry and subsequent attempts returned the same result and the effort was abandoned. No information is available about nutrient additions to the injection points installed by Whitestone on upslope side of the excavation behind the former AST farm.

Groundwater may be present in the deep subsurface at the site and in the area during periods of steady rainfall, but is likely hydrologically connected to and tidally influenced by marine waters. Because it is not of sufficient quantity and quality to provide potable drinking water, the receptor of greatest concern is the receiving waters of Port Frederick. However, the hydrologic connection between the intermittent groundwater and fluctuating surface water is limited and disperse, due to the low permeability of the geology at the site. No discrete point discharge for sampling for water quality criteria in the waterfront area is present, and no sheens have been observed or reported.

**Cumulative Health Risk Calculation**

Pursuant to 18 AAC 75.325 (g), when detectable contamination remains on-site following a cleanup, a cumulative risk determination must be calculated. Cumulative risk from petroleum contamination of environmental media at the site is addressed using the BTEX and PAH analyte concentration data. Based on a review of the environmental record, ADEC has determined that residual contaminant concentrations do not pose a cumulative human health risk.

**Pathway Evaluation**

Following investigation and cleanup at the site, exposure to the remaining contaminants was evaluated using DEC'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 3 as Attachment A to this letter.

**DEC Decision**

Petroleum contamination remains on-site in soil above approved cleanup levels in a subsurface layer saturated with water. Removal of the contamination below the 15 foot depth via excavation is technically unfeasible. Nevertheless, DRO and GRO levels exceed human health exposure limits in this deep layer of soil and shall be documented and maintained to limit exposure to these concentrations. Attempts to characterize groundwater contamination in this subsurface lens found insufficient supply of water to collect samples. Based on information currently available, DEC finds that groundwater at the site lacks sufficient productivity to be source of drinking water or to transmit contamination to surface water. DEC concludes, in concurrence with recommendations in the environmental consultant's final report, that 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 DEC may require additional remediation and revised conditions. Therefore the Whitestone Logging Company shall report to DEC every five years to document land use, or report as soon as Whitestone becomes aware of any change in land ownership and/or use, if earlier. The report can be sent to the local DEC office or electronically to DEC.ICUnit@alaska.gov.
2. Soil contamination is located in a thin layer of contaminated clay at depths of 16 feet and greater and intermittently saturated with water influenced by tidal waters from Port Frederick in Hoonah. The contamination is located more than fifty feet from any occupied structure, as indicated in Attachments C: Site Figure and Attachment D: Plat Map. Any proposal to excavate soil in the area of identified contamination must receive approval from the DEC and a work plan describing how the soil will be tested and how it will be managed for remediation must be submitted for review and approval prior to excavation.
3. Installation of groundwater wells requires coordinated with DEC for approval before any proposed work begins.
4. Groundwater monitoring wells and injection ports must be decommissioned in accordance with DEC guidance by June 30, 2015. Submit well and port decommissioning documentation to DEC within 30 days of removal.
5. Any proposal to transport soil or groundwater off-site requires DEC approval in accordance with 18 AAC 7.325(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: Site Figure)
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 DEC 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(d)(2) and does not preclude DEC 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 75.195 -18 AAC 75.340 or an informal review by the Division Director in accordance with 18 AAC 75.185. 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 75.185. If a hearing is not requested within 30 days, the right to appeal is waived.

**Please sign and return *Attachment B* to DEC within 30 days of receipt of this letter.** If you have questions about this closure decision, please contact the DEC project manager, Bruce Wanstall at (907) 465-5210.

Sincerely,

Bruce Wanstall

Bruce Wanstall
Remedial Project Manager
State & Private Contaminated Sites Program

Attachment A: Table 3 – Exposure Pathway Evaluation
Attachment B: Cleanup Complete-ICs Agreement and Signature Page
Attachment C: Site Figure
Attachment D: Plat Map

cc: Sally Schlichting, DEC Unit Manager, State & Private Program, via email
DEC SPAR Cost Recovery, via email at dec.spar.cr@alaska.gov

***Attachment A: Exposure Pathway Evaluation***

**Table 3 – Exposure Pathway Evaluation**

| Pathway | Result | Explanation |
|---|---|---|
| Surface Soil Contact | Pathway Incomplete | Surface soil contamination has been removed and remediated off-site. There is no soil contamination remaining at the surface on the site above the direct contact cleanup levels. |
| Sub-Surface Soil Contact | De-minimis exposure | Soil contamination remains not accessible in the subsurface at levels between Method Two Table B2 Migration to Groundwater and human health ingestion levels and future excavation is not planned. |
| Inhalation – Outdoor Air | Pathway Incomplete | Contamination remains in the subsurface, but no volatile compounds are present at levels above outdoor inhalation screening levels |
| Inhalation – Indoor Air (vapor intrusion) | Pathway Incomplete | Buildings are present beyond 30 feet and volatile petroleum compound levels in remaining soil are below the inhalation screening levels. |
| Groundwater Ingestion | De Minimis Exposure | Groundwater is influenced by marine waters and no wells are present at the site or in the area to serve as a current or future drinking water source. Groundwater was not investigated for contamination The. City of Hoonah provides potable water to the site and area. |
| Surface Water Ingestion | Pathway Incomplete | Surface water hydraulically connected to the site is not of sufficient quality or quantity for a potable water source. |
| Wild Foods Ingestion | Pathway Incomplete | The site and the urban area are not a wild foods harvest area and none of the contaminants have potential to bioaccumulate in flora or fauna. |
| Exposure to Ecological Receptors | Pathway Incomplete | Ecological receptors are present in off-site water bodies but the levels of volatile indicator compounds in soil at the site are predominantly below the applicable Method Two Table B1 MTG levels. |

Notes to Table 1: "De-minimis exposure" means that in DEC's judgment receptors are unlikely to be affected by the minimal volume of remaining contamination. "Pathway incomplete" means that in DEC'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.

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

As landowner and responsible party, **Keith Walker (Whitestone Logging)** agrees to the terms and conditions of this Corrective Action Complete Determination, as stated in decision letter for the **L Kane Tank Farm**, dated **December 23, 2014.** Failure to comply with the terms and conditions of the determination may result in DEC reopening this site and requiring further remedial action in accordance with18 AAC 18 AAC 75.380(d)(2).

Signature of Authorized Representative, Title
Keith Walker (Whitestone Logging)

Date 12-30-14

Printed Name of Authorized Representative, Title

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 DEC may require additional remediation and revised conditions. Therefore the Whitestone Logging Company shall report to DEC every five years to document land use, or report as soon as Whitestone becomes aware of any change in land ownership and/or use, if earlier. The report can be sent to the local DEC office or electronically to DEC.ICUnit@alaska.gov.
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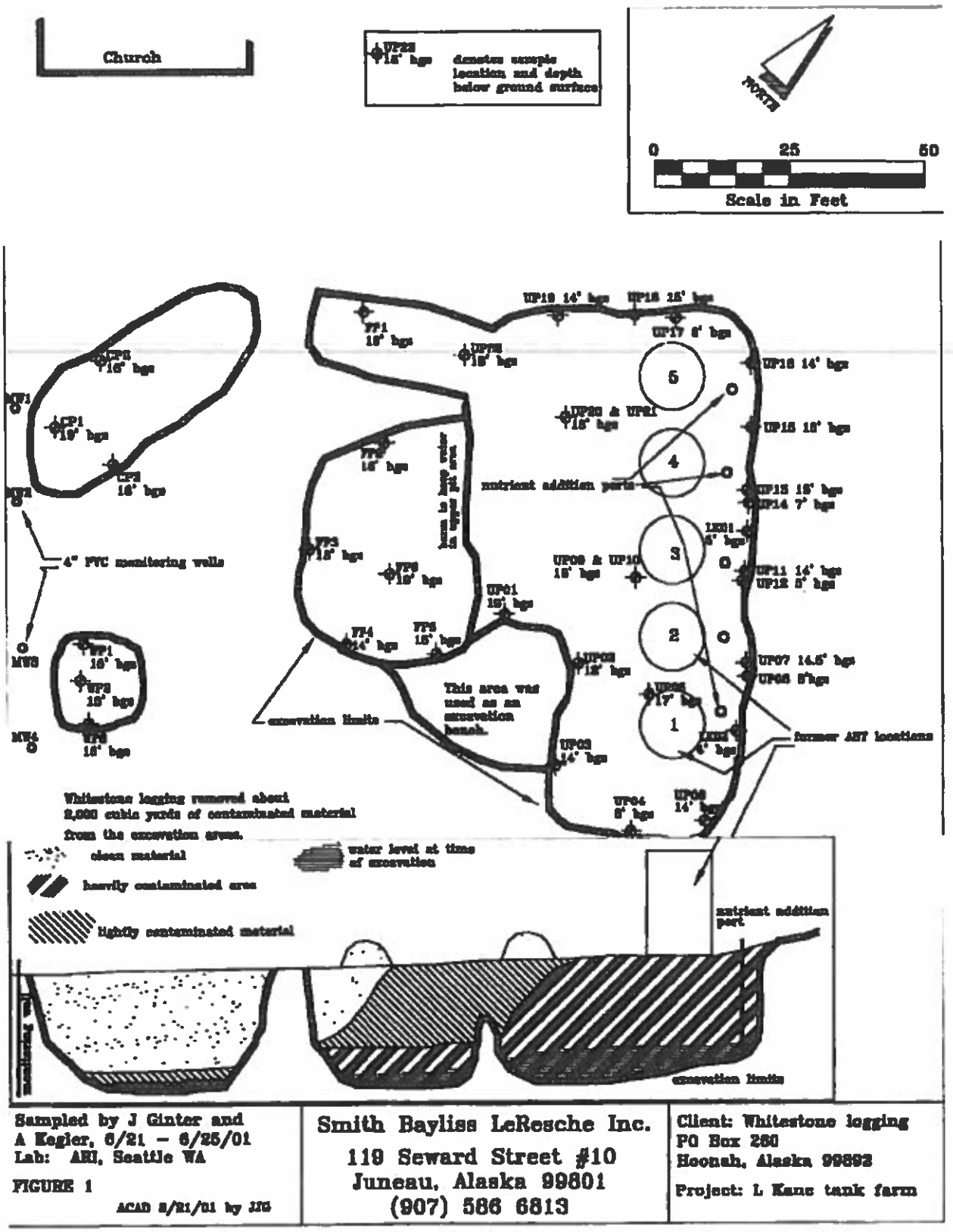
6. Movement or use of contaminated material in a manner that results in a violation of 18 AAC 70 water quality standards is prohibited.

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.**

*Attachment C: Site Figure*



***Attachment D: Plat Map***