



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: 1521.26.011

July 2, 2015

Mr. Karl Hagerman, Director
Public Works, Petersburg Borough
P.O. Box 329
Petersburg, AK 99833

RE: Decision Document; Mitkof Sales & Service
Corrective Action Complete Determination – Institutional Controls

Dear Karl,

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

Mitkof Sales & Service
Sing Lee Alley
Petersburg, Alaska 99827
Lots 12, 13, and 14 Block 26 Petersburg

Address of Contact Party

Mr. Karl Hagerman, Director
Public Works, Petersburg Borough
P.O. Box 329
Petersburg, Alaska 99827

DEC Site Identifiers

Hazard ID: 25177
File: 1521.26.011
UST Facility ID# 2962

Regulatory Authority for Determination

Title 18 Alaska Administrative Code 78

Site Description and Background

The Site was formerly used by Mitkof Sales & Service to operate a retail filling station and vehicle repair shop with access to one side of the property from Nordic Drive and the other side from Sing Lee Alley. The property is situated between the Alaska State Courthouse and the Petersburg Municipal Building in the downtown commercial district. The Site is located approximately one

eighth mile from marine waters in Hammer Slough and Petersburg Harbor. When the business failed and the property abandoned with taxes unpaid, the Borough of Petersburg (Borough) took possession of the property to investigate two registered 1,000-gallon regulated underground gasoline storage tanks (USTs) and the associated dispensing system for the presence of contamination.

Properties in the nearby area are former intertidal lands that have undergone glacial rebound raising the elevation beyond the reach of tidal waters. To prepare this property for development, between one and two feet of crushed rock fill material of unknown origin was spread over the native material to obtain a level operating grade. Soils on the property are made up of glacial till deposits and sediments with the characteristic of elevated concentrations of arsenic common to the mineralized geology of Southeastern Alaska. According to Petersburg Public Works (PPW), the referenced facility has no record of using or storing products containing high levels of arsenic.

Observation of site investigation test pits have documented the character of native material below the imported fill material as layer of dense grey clay that does not transmit water vertically. Material above the clay layer is periodically moist from rainfall infiltrating at the surface and material below the clay layer is periodically moist from the ebb and flow of nearby marine waters. Neither of these meet the definition of groundwater as it pertains to DEC human health exposure pathways. PPW provides potable water and sewer to the site and the area.

Contaminants of Concern

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

- Gasoline Range Hydrocarbons (GRO)
- Benzene

Cleanup Levels

Title 18 Alaska Administrative Code (AAC) 75.340 authorizes DEC to set soil cleanup levels for this site. GRO and benzene were detected in soil above the approved Method Two 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 benzene in 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
Benzene	0.025	0.005	0.010

mg/kg = milligrams per kilogram

mg/L = milligrams per liter

Release Investigation and Corrective Action

Release investigation and corrective action activities conducted under the regulatory authority of the Contaminated Sites Program began in 2007.

In September, 2007, Carson Dorn Inc. (CDI) performed a site investigation for a release of gasoline contamination from a regulated underground storage tank (UST) system on the Site. The UST system consisted of two 1,000-gallon gasoline USTs and piping to the above-ground fuel dispensers situated on a concrete island. During the investigation, CDI found three additional tanks. Two of the 500-gallon buried tanks stored gasoline and, although regulation requires registration, these were not registered. The third tank held heating oil (diesel), which does not require registration.

Investigation of subsurface soil by CDI was constrained by a utility corridor on the west side of the property and a concrete driveway. Analytical samples from four test holes, advanced in accessible locations, documented hydrocarbon soil contamination in the gasoline range (GRO) hydrocarbons and benzene, toluene, ethylbenzene and total xylene (BTEX) hydrocarbon compounds above DEC Method Two migration to groundwater soil cleanup levels. The CDI Report stated that groundwater was not encountered during any of the excavations, although soil appeared saturated at a depth of four feet below the ground surface (bgs).

View south from Sing Lee Drive



View west from Main Street



In April, 2010, under the supervision of certified UST worker Gene Cheeseman, PPW closed the twin 1000-gallon UST and dispenser system by removal. Nortech Environmental Inc. (Nortech) performed the site assessment as defined in DEC UST Program regulation and methodology in the UST Procedures Manual. Nortech found one of the twin USTs had significant leaks and, during excavation around the USTs and piping, directed the identification of contaminated soil by field screening using a photoionization detector. Excavation to remove the twin USTs reached a depth of eight feet bgs and Nortech identified an estimated volume of 70 cubic yards of heavily contaminated soil. PPW transferred the contaminated soil directly into containers and, with DEC approval, transported the soil to the Rabanco facility in Washington for remediation.

Nortech field screened soil samples collected throughout the excavation to close the 500-gallon heating oil tank by removal. Soil screen samples with the highest photoionization detector readings were prepared as confirmation samples and shipped for laboratory analysis.

Nortech collected a total of 19 confirmation samples and two field duplicates from the UST and dispenser island piping excavations. The samples were analyzed for GRO, diesel (DRO) and residual range (RRO) hydrocarbons, and BTEX compounds. The depth bgs of excavation ranged between five and eight feet and the depth that analytical samples were collected from ranged from three to eight feet. Samples EX1-1 through EX1-9 were collected at the twin USTs, samples DIX1-1 through DIX1-8 were collected under the dispenser piping, and HOT1 through HOT4 were collected at the heating oil tank. Groundwater was not encountered in the UST release investigation, but soil saturated with water began to appear at a depth of four feet bgs. Figure 3 from the Nortech Site Assessment Report is included in the decision document as Attachment C.

Soil

All but four of the 21 confirmation samples collected by Nortech had benzene concentrations above the Method Two soil cleanup level and the mean concentration was 0.264 milligrams per kilogram (mg/kg). Each of the other analytes, GRO, DRO, and RRO petroleum ranges and toluene, ethylbenzene, and total xylene compounds were below laboratory reporting limits or Method Two cleanup levels.

The following table displays the highest levels detected in release investigation confirmation samples of remaining soil, the depth below the surface that each sample was taken, and the Method Two cleanup levels that apply to remaining soil at this site. The sample concentrations in bold print are above the soil cleanup levels.

Table 2 highest level of petroleum analytes detected in remaining soil

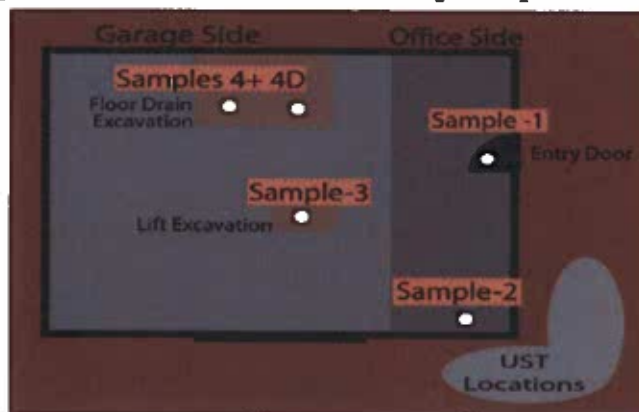
Hydrocarbon range and compounds of concern	Greatest level in soil mg/kg	Sample name and depth below the surface	M2 MTG Cleanup Levels mg/kg	M2 Direct Contact/Ingestion Cleanup Levels mg/kg
GRO	8.38	Sample EX1-8 at 3 feet	260	1400
DRO	101	Sample EX1-3 at 4 feet	230	8250
RRO	356	Sample EX1-3 at 4 feet	9700	8300
Benzene	1.42	Sample EZ1-7 at 5 feet	0.025	120
Toluene	2.72	Sample DIX1-5 at 6 feet	6.5	6600
Ethylbenzene	0.262	Sample EX1-1 at 7 feet	6.9	8300
Total Xylenes	1.92	Sample DIX1-5 at 6 feet	63	16,600

In 2014, based on previous environmental recommendations, PPW contracted Chilkat Environmental Inc. (Chilkat) to investigate groundwater for benzene contamination from the USTs and the vehicle repair shop hydraulic lift and floor drains for the release of petroleum and other hazardous liquids (POLs). Based on information in previous site investigations and an evaluation of exposure pathways, Chilkat submitted a work plan to investigate soil in the shop for POL release.

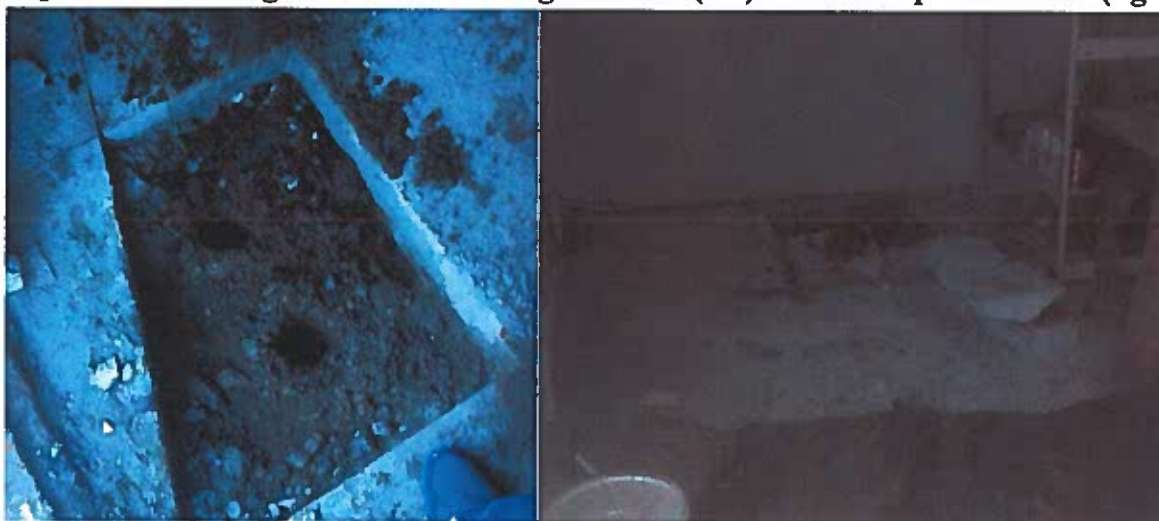
Based on observations of soil density and porosity, Chilkat concluded groundwater was not present in sufficient quantity to investigate for migration to surface water and recommended not installing

sampling wells. The proposed analytes to investigate soil included volatile organic compounds (VOCs), (which include BTEX), Resource Conservation and Recovery Act total metals (8) and the GRO, DRO, and RRO petroleum range hydrocarbons. The proposed locations for sample boring sampling under the concrete floor were the hydraulic lift, the floor drain system and two locations inside the shop that align with the former USTs and dispenser islands outside the building. DEC concurred with the Chilkat work plan conclusion that groundwater is not present to investigate and approved the work plan soil sampling locations and confirmation sample analytes.

Figure 1. Vehicle Maintenance Shop Sample Locations



Shop floor soil borings nearest the leaking UST Site (left) and the dispenser island (right)



During installation of the hydraulic lift, the clay soil layer was removed, resulting in a collection point for water infiltrating surface soil on the property. Samples 1, 2 & 3 were collected from the clay layer two feet bgs and samples 4 and 4D were collected at the soil/water interface less than one foot bgs. The results for analytical soil confirmation samples found that concentrations of VOC compounds (including BTEX), GRO, DRO and RRO were all below laboratory the reporting limits and the soil cleanup levels. Although these samples were not collected from the same deeper depths below ground surface where the UST removal excavation confirmation soil samples were collected, the only analyte concentration above soil cleanup levels is arsenic. The highest arsenic concentration of 1.53 mg/kg in Sample 4 is attributable to natural occurring soil conditions in the Petersburg area.

Chilkat concluded that soil beneath the building was not an environmental concern. Subsurface contamination from the UST did not appear to have migrated the short distance from the former UST site to the shop. The shop is located south of the former UST site which is the most direct path of migration to marine waters of Hammer Slough. The planned future land use by the Petersburg Borough as a paved parking lot is an excellent institutional control measure for any remaining contamination.

Groundwater and Surface Water

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 Hammer Slough. 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 dense soil substrate between the remaining contamination and Hammer Slough 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.

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. The risk from hazardous substances at this Site does not exceed a cumulative non-carcinogenic risk standard of one across all exposure pathways, however, the risk from hazardous substances at this Site has a cumulative carcinogenic risk index of 2 in 100,000 across all exposure pathways. That is twice that of the risk standard of 1 in 100,000 across all exposure pathways for allowable future land use without restrictive control measures. Based on a review of the environmental record, DEC has determined that residual contaminant concentrations pose a cumulative human health risk and control measures with institutional controls are necessary to mitigate exposure.

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 1 as Attachment A to this letter.

DEC Decision

Benzene contamination remains in soil above approved cleanup levels in locations described in this decision document and is shown to not be migrating in subsurface water to surface water and in soil to outdoor air. Structures on the property will be removed and the surface covered with an asphalt cap. DEC has determined there is no unacceptable risk to human health or the environment as long as the planned control measures are implemented and the contamination is properly managed.

The control measures (1-4) and standard conditions (5-6) are as follows:

1. The shop building will be removed from the property.
2. The property will be covered by asphalt cap to limit exposure routes. The cap will be installed within 15 months of receipt of this letter (by October 3, 2016). When implemented, the Borough of Petersburg shall submit an Initial Cap Maintenance (ICM) Report with photographs documenting the condition of the asphalt cap. Every five years after the Initial Report is submitted, the Borough of Petersburg will submit new ICM report to the DEC. Reports may be sent the Juneau DEC office by regular mail or electronic mail to DEC.ICUnit@alaska.gov.
3. 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 Borough of Petersburg shall report to DEC every five years to document land use, or report as soon as the Borough of Petersburg becomes aware of any change in land ownership and/or use, if earlier. The report can be sent to the Juneau DEC office or electronically to DEC.ICUnit@alaska.gov.
4. Soil contamination is present in subsurface soil surrounding the former twin UST and fuel dispenser locations located west of the center of the property as shown in Figure 3, included with this agreement as an attachment. If disturbance is planned in the areas of the property described in this letter as having residual contamination, a work plan must be submitted for DEC approval prior to any such site activity begins.
5. Any proposal to transport soil or groundwater off-site requires DEC approval in accordance with 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.
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 78.276(f) 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 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

July 2, 2015

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 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
Remedial Project Manager
Contaminated Sites Program

Attachment A: Table 3 – Exposure Pathway Evaluation
Attachment B: Corrective Action Complete-ICs Agreement and Signature Page*
Attachment C: Figure 3 Sampling Locations
Attachment D: Area Map with Latitude and Longitude Coordinates

cc: Elijah Donat, Chilkat Environmental Inc., via email
Sally Schlichting, DEC Unit Manager, Contaminated Sites 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	De-minimis exposure	Contamination remains in the subsurface; benzene concentrations are not present at levels above outdoor inhalation screening levels
Inhalation – Indoor Air (vapor intrusion)	Pathway Incomplete	Buildings not present, an asphalt cap over the surface controls migration of remaining benzene in soil from reaching the surface.
Groundwater Ingestion	Pathway Incomplete	Groundwater was not investigated. Petersburg Public Works supplies potable water to the site and the general 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.
Exposure to Ecological Receptors	Pathway Incomplete	Ecological receptors are not present at the site.

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: Corrective Action Complete-ICs Agreement and Signature Page*

The Borough of Petersburg agrees to the terms and conditions of this Corrective Action Complete Determination, as stated in decision letter for the Mitkof Sales & Service Site, dated (July 2, 2015). 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 with 18 AAC 18 AAC 78.276(f).

Signature of Authorized Representative, Title
Borough of Petersburg

Date

Printed Name of Authorized Representative, Title
Borough of Petersburg

The control measures (1-4) and standard conditions (5-6) are as follows:

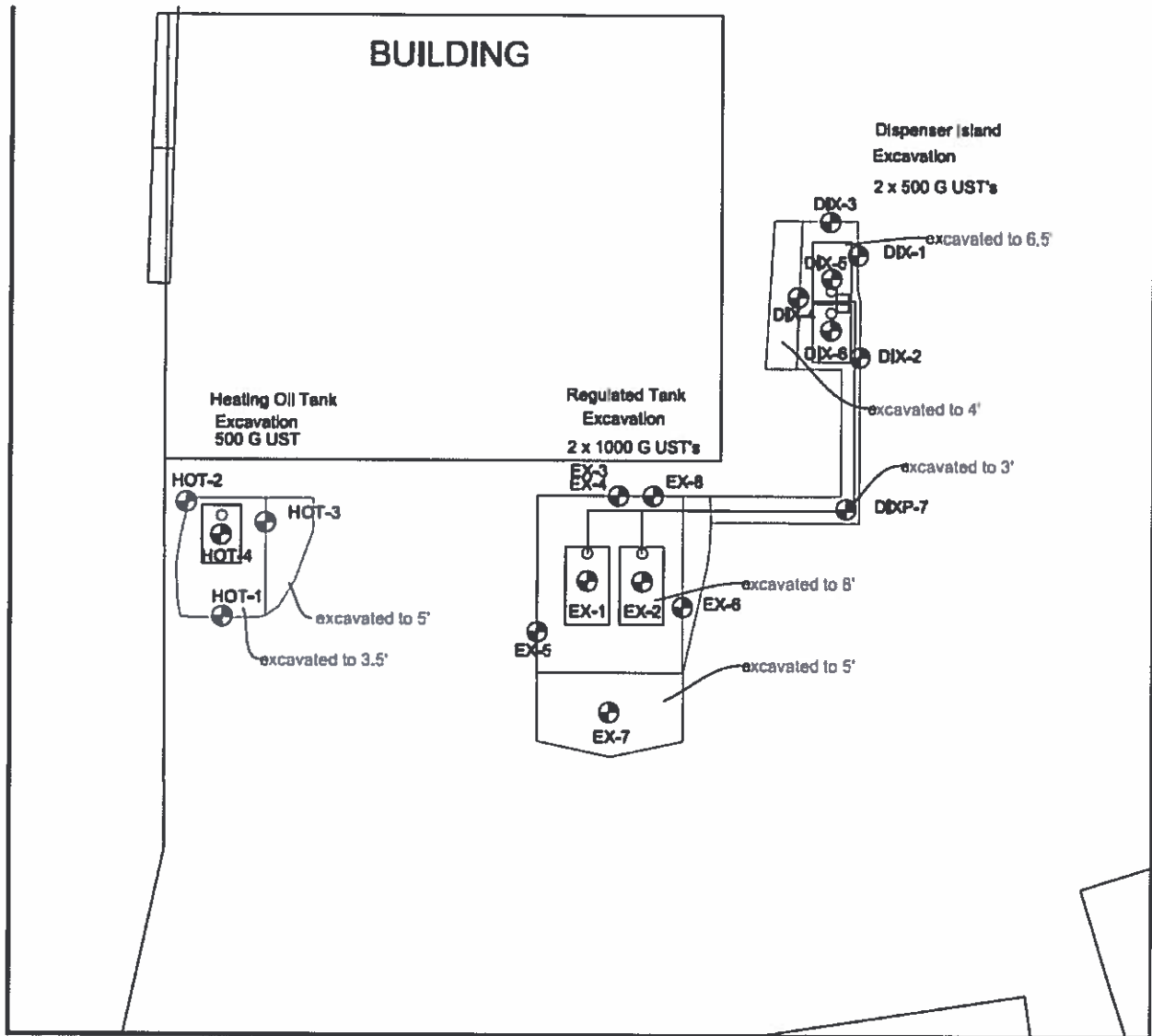
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6. Movement or use of contaminated material in a manner that results in a violation of 18 AAC 70 water quality standards is prohibited.

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: Figure 3 Sampling Locations

Figure 3. Sample Locations and UST Removals



 ENVIRONMENTAL ENGINEERING HEALTH & SAFETY 2400 College Road, Fairbanks, Alaska 99709 Ph: 907-452-5688 3125 Lakeshore Dr. Anch, Alaska 99517, Ph: 907-222-2445 114 Seward St. #10, Juneau, Alaska 99801 Ph: 907-586-6813	Site Map Sample Locations and UST Removal April 28, 2010 Petersburg, Alaska		SCALE: 1" = 15' DESIGN: BPC DRAWN: BPC PROJECT NO: 09-10FB DWG: 0910FBX(01) DATE: 05/26/2010	FIGURE: 3
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Attachment D: Area Map with Latitude Longitude Coordinates

Area Map with Latitude and Longitude Coordinates

