



THE STATE
of **ALASKA**
GOVERNOR MIKE DUNLEAVY

**Department of Environmental
Conservation**

DIVISION OF SPILL PREVENTION AND RESPONSE
Contaminated Sites Program

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File: 2542.38.023
Hazard ID: 2895

November 3, 2023

Rena Flint
USACE, Alaska District
PO Box 6898
JBER, AK 99506-0809

Re: Decision Document: Dutch Hbr-Unalaska Vly UST 3675
Cleanup Complete Determination

Dear Ms. Flint,

The Alaska Department of Environmental Conservation, Contaminated Sites Program (DEC) has completed a review of the environmental records associated with the Dutch Hbr-Unalaska Vly UST 3675, located on Overland Drive in Unalaska, 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 information becomes available that indicates residual contaminants may pose an unacceptable risk.

This Cleanup Complete determination is based on the administrative record for the Dutch Hbr-Unalaska Vly UST 3675, which is located in the DEC office in Anchorage, Alaska. This decision letter summarizes the site history, cleanup actions and levels, and standard site closure conditions that apply.

Site Name and Location:

Dutch Hbr-Unalaska Vly UST 3675
Bldg 3675
Overland Drive
Unalaska, AK, 99685

Name and Mailing Address of Contact Party:

Rena Flint
USACE, Alaska District
PO Box 6898
JBER, AK 99506-0809

DEC Site Identifiers:

File No.: 2542.38.023
Hazard ID.: 2895

Regulatory Authority for Determination:

18 AAC 78 and 18 AAC 75

Site Description and Background

Underground Storage Tank (UST) 3675 was a heating oil tank associated with the remnants of a former latrine, Building 3675, located on Overland Drive in Unalaska, Alaska. During a Remedial Investigation (RI) and interim removal actions (IRA) in 1997, the empty single-walled steel 300-gallon UST with

heavy corrosion was located near the former latrine building. Little evidence of the building site remained, and the tank was covered with approximately one foot of soil. Eighty-five gallons of water were removed from the UST and field screening indicated the presence of contaminated soil in the excavation. The UST was excavated in 1997 along with 58 cubic yards (cy) of soil, resulting in a 290 square foot excavation.

Three soil samples were collected from the excavation area and diesel range organics (DRO) exceeded the DEC Method Two Soil Cleanup Level in one sample collected at bedrock at a concentration of 1,500 milligrams per kilogram (mg/kg).

Contaminants of Concern

During the site characterization and cleanup activities at this site, soil and groundwater samples were collected and analyzed for DRO, residual range organics (RRO), benzene, toluene, ethylbenzene, and xylenes (BTEX), and polycyclic aromatic hydrocarbons (PAHs). Based on these analyses, the following contaminant was detected above the default DEC soil cleanup levels and are considered Contaminants of Concern at this site:

- DRO

Cleanup Levels

The applicable cleanup levels at the site are the Method Three site-specific alternative cleanup level (ACL) calculated under 18 AAC 75.340 (e). A site-specific organic carbon content of soil (foc) value of 0.045 grams per gram (g/g) was used in the Petroleum Cleanup Level Calculator, as opposed to the default Method Two foc value of 0.001 g/g.

Table 1 – Approved Cleanup Levels

Contaminant	Soil ¹ (mg/kg)
DRO	8,300

¹ Alternative Cleanup Level based on approved site-specific soil data and the equations set out in the department's *Procedures for Calculating Cleanup Levels*, dated February 1, 2018. The most stringent ACL is the Ingestion Soil Cleanup Level.
mg/kg = milligrams per kilogram

Characterization and Cleanup Activities

In the mid 1990's, the Formerly Used Defense Sites (FUDS) program conducted site inspections (SI) in Unalaska to find and dispose of remaining debris, USTs, and other potential contaminant sources. During the RI and IRA activities in 1997, a single-walled steel 300-gallon UST with heavy corrosion was identified near the former latrine building 3675. In September 1997 the tank was removed from the ground along with 85 gallons of water and 58 cy of soil. Bedrock was encountered at a depth of eight feet below ground surface (bgs) over approximately a 290 square foot excavation.

Three soil samples were collected to characterize the site. All three samples were analyzed for DRO, RRO, and BTEX. One sample was also submitted for PAH analysis. Sample depths ranged from six to eight feet bgs. RRO was detected in two of the three soil samples at concentrations of 63 mg/kg and 31 mg/kg. BTEX constituents were not detected in any of the three samples. PAH compounds were

detected in one sample at low concentrations below DEC Soil Cleanup Levels. DRO was detected above DEC soil cleanup levels in one of the three soil samples, at a concentration of 1,500 mg/kg. Figures 1 and 2 show the site layout and sampling locations.

Following the 1997 field activities, the 2000 Comprehensive Remedial Investigation summarized the site conditions and was recommended no further action at the site based on the following:

- The primary (i.e., 300-gallon storage tank) and secondary sources (approximately 58 cy of soil) of contamination have been removed.
- There are no recorded history of spills associated with the site and any spills would not be of significant volume based on the small size of the storage tank (300 gallons).
- Soils were excavated to bedrock so successful excavation of additional contaminated soil would not be feasible.
- Based on field notes, field screening results (visual observation and photoionization detection (PID) readings, and analytical data, residual contamination is isolated to a small area indicating that contaminant contribution through fractured bedrock to groundwater would be minimal.

In 2009, because one historical sample result was above DEC Method Two migration to groundwater DRO cleanup level, a Method Three alternative cleanup level of 8,300 mg/kg was calculated and approved. All sample results are below the alternative cleanup level and no further action at this site was recommended. The Method Three Alternative Cleanup Level calculations are shown in Figure 3.

Cumulative Risk Evaluation

Pursuant to 18 AAC 78.600(d), 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, DEC 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 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 2.

Table 2 – Exposure Pathway Evaluation

Pathway	Result	Explanation
Surface Soil Contact	Pathway Incomplete	Contamination is not present in surface soil (0-2 ft bgs)
Sub-Surface Soil Contact	De Minimis Exposure	Contamination remains in the sub-surface (>2 ft bgs) but is below the ingestion cleanup level.
Inhalation – Outdoor Air	Pathway Incomplete	Contaminants in soil are not volatile.

Inhalation – Indoor Air (vapor intrusion)	Pathway Incomplete	Residual contaminants in soil are not volatile. There are no occupied buildings at the site.
Groundwater Ingestion	De Minimis Exposure	Residual contaminants in soil are below the site-specific calculated migration to groundwater cleanup levels. Site is underlaid by bedrock and groundwater was not encountered during excavation activities. Groundwater in the vicinity of the site is not currently used as a drinking water source.
Surface Water Ingestion	De Minimis Exposure	Contaminants in soil are below the site-specific method Three Migration to Groundwater cleanup levels for the site. Groundwater has not been impacted and residual contamination is not expected to impact surface water. A small stream is located 150 feet southeast 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	Contaminants are not present in surface soil and are not expected to impact surface water.

Notes to Table 2: “De Minimis Exposure” means that in DEC’s judgment receptors are unlikely to be adversely affected by the minimal volume or concentration of remaining contamination. “Pathway Incomplete” means that in DEC’s judgment contamination has no potential to contact receptors.

DEC Decision

Soil contamination at the site have been cleaned up to concentrations below the approved cleanup levels 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 78.600(h). A “site” [as defined by 18 AAC 78.995(134)] 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.)
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 78.276(f) and does not preclude DEC from requiring additional assessment and/or cleanup action if information indicates that contaminants at this site may pose an unacceptable risk to human health, safety, or welfare or to the environment.

Informal Reviews and Adjudicatory Hearings

A person authorized under a provision of 18 AAC 15 may request an informal review of a contested decision by the Division Director in accordance with 18 AAC 15.185 and/or an adjudicatory hearing in accordance with 18 AAC 15.195 – 18 AAC 15.340. See DEC's "Appeal a DEC Decision" web page <https://dec.alaska.gov/commish/review-guidance/> for access to the required forms and guidance on the appeal process. Please provide a courtesy copy of the adjudicatory hearing request in an electronic format to the parties required to be served under 18 AAC 15.200. Requests must be submitted no later than the deadline specified in 18 AAC 15.

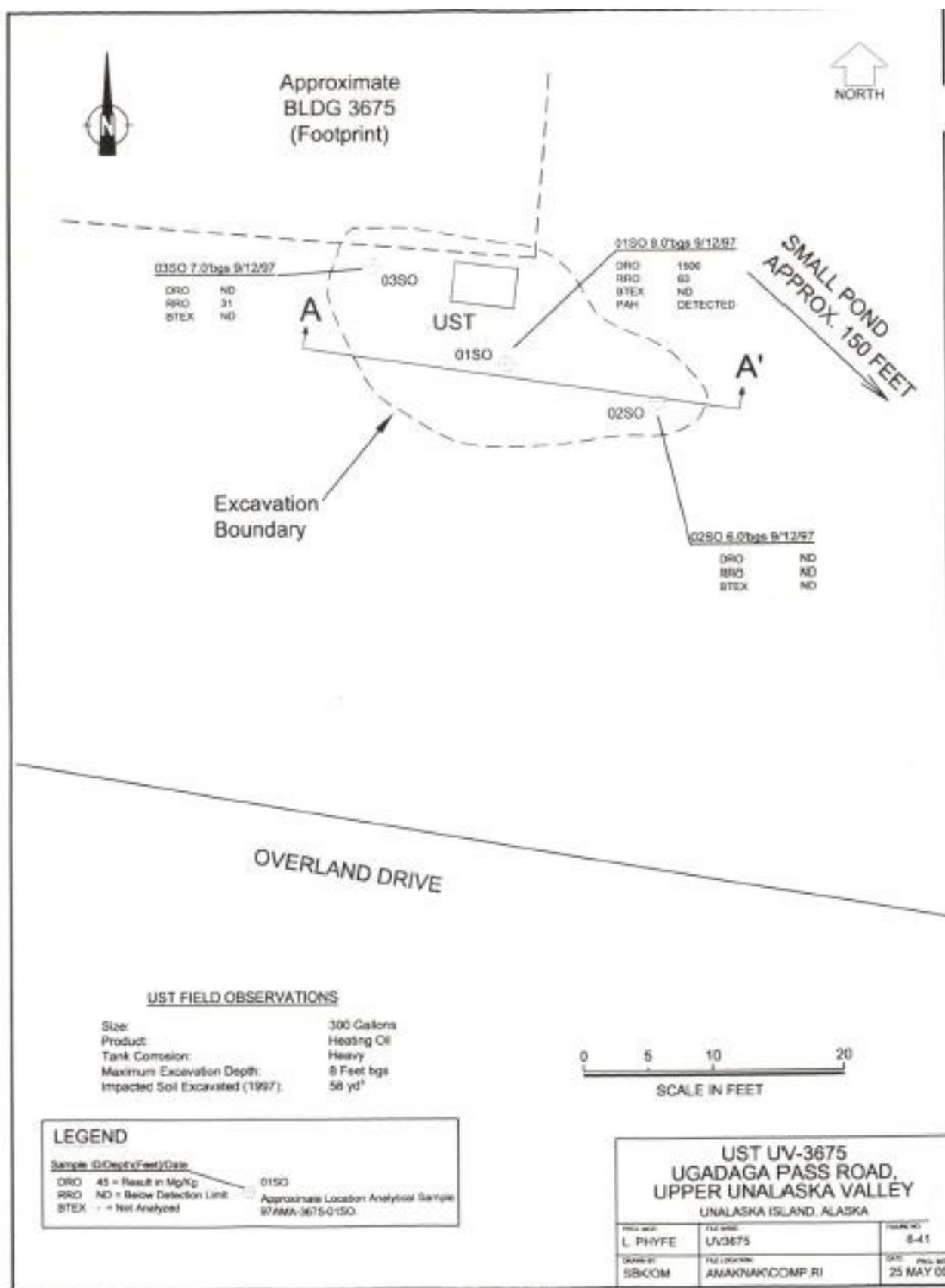
If you have questions about this closure decision, please feel free to contact me at (907) 451-2181, or email at cascade.galasso-irish@alaska.gov.

Sincerely,



Cas Galasso
Project Manager

cc: Spill Prevention and Response, Cost Recovery Unit



6-244

Figure 1 - Site figure of UST 3675 sampling locations and results

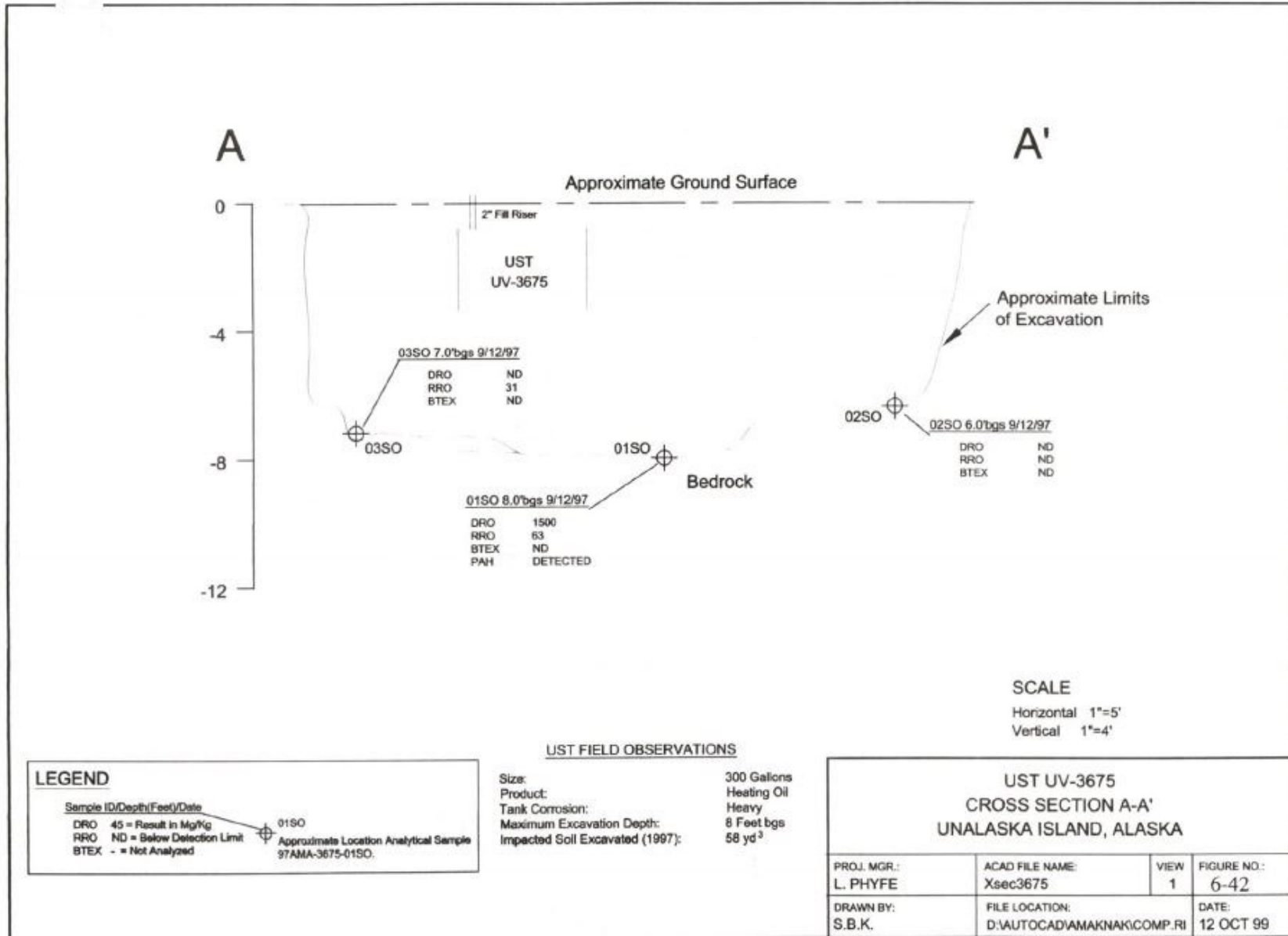


Figure 2 - Site figure of UST 3675 sampling locations and results – cross section

Division of Spill Prevention and Response

Contaminated Sites Program

State of Alaska > DEC > SPAR > Contaminated Sites Program > Method Three & Cumulative Risk Calculator > Step Four

Method Three & Cumulative Risk Calculator

Site Name: UST 3675

(For viewing on printout.)

Site zone and exposure scenario: Over 40-inch Zone - Residential Exposures

Cleanup Level Calculations

8/12/2009

Chemical	CAS	Type	Calculations
DRO (Total)		Organic Non-Carcinogenic Petroleum	Ingestion Cleanup Level: 8300 mg/kg
			Inhalation Cleanup Level: 98500 mg/kg
			Groundwater Cleanup Level: 1.5 mg/L
			Migration to Groundwater: 9800 mg/kg

Please Note

Chemical	Notes
DRO (Total)	The Maximum Allowable DRO concentration is 12500 mg/kg

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The parameters used to calculate the above cleanup levels and the parameters' default values are as follows:

Volatilization Pathway Parameters

Symbol	Description	Value	Default	Units
ρ_b	Dry soil bulk density	1.5	1.5	g/cm ³
n	Total soil porosity	0.434	0.434	L _{pore} /L _{soil}
Θ_w	Water-filled soil porosity	0.15	0.15	L _{water} /L _{soil}
Θ_a	Air-filled soil porosity	0.284	0.284	L _{air} /L _{soil}
w	Average soil moisture content	0.1	0.1	g _{water} /g _{soil}
f_{oc}	Organic carbon content of soil	0.045	0.001	g/g

Groundwater Pathway Parameters

Figure 3 - UST 3675 Method 3 ACL calculations