



THE STATE  
of **ALASKA**

GOVERNOR SEAN PARNELL

**Department of Environmental  
Conservation**

DIVISION OF SPILL PREVENTION & RESPONSE  
Contaminated Sites Program

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File No: 1521.38.005

September 20, 2012

Via regular and electronic mail

Mr. James B. Beckham  
Harbor Enterprises Inc Petro Marine Services  
P.O. Box 389, 234 4<sup>th</sup> Avenue  
Seward, Alaska 99664

Mr. J. Mark Inglis  
Chevron Environmental Management Company  
6101 Bollinger Canyon Road, Fifth Floor  
San Ramon, CA 94583-5186

Re: Decision Document; Petersburg AFS Tank Farm  
Cleanup Complete Determination

Dear Sir(s),

The Alaska Department of Environmental Conservation, Contaminated Sites Program (DEC) has completed a review of the environmental records associated with Petersburg AFS Tank Farm located at 703 Nordic Drive, Petersburg. Based on the information provided to date, the DEC has determined that the contaminant levels remaining on site do not pose an unacceptable risk to human health or the environment, and this site will be closed.

This decision is based on the Petersburg AFS Tank Farm Contaminated Site administrative record, which is located in the offices of the Alaska Department of Environmental Conservation (DEC) in Juneau, Alaska. This letter summarizes the decision process used to determine the environmental status of this site and provides a summary of the regulatory issues considered in the Corrective Action or Cleanup Complete Determination.

**Site Name and Location**

Petersburg AFS Tank Farm  
703 Nordic Drive  
Petersburg, Alaska 99833  
Block 206, Lots 1, 2, 3, 4, 5, 6 & 7

**Address of Contact Party**

Mr. James B. Beckham  
Harbor Enterprises Inc Petro Marine Services  
P.O. Box 389, 234 4<sup>th</sup> Avenue  
Seward, Alaska 99664

**DEC Site Identifiers**

DEC Reckey: 1994120136401  
File: 1521.38.005  
Hazard ID: 1988

**Regulatory Authority for Determination**

Chapter 18 Alaska Administrative Code 75

**BACKGROUND**

*Site Features*

The site is currently a non-operating bulk fuel plant facility located on the corner of South Nordic Drive and Tango Street in Petersburg, Alaska. The property spans 0.4 acres on a north-facing moderate slope uphill from South Nordic Drive. Numerous subsurface investigations on the property have consistently encountered an underlying hard blue clay and silt layer at the same elevation throughout the site, appearing at differing depths below the surface depending on the location on the facility grade. The silty clay layer confines the vertical migration of groundwater. Above this layer is a layer of organic peat up to five feet thick which is also found consistently throughout the property. The peat layer is overlain with several feet of organic soil and/or imported gravel to ground surface.

Groundwater investigation has determined that tidal influence from marine waters has infused shallow groundwater on the property with high levels of sodium and chloride rendering it non-potable. The temporary sampling wells used for investigation are no longer productive and no drinking water wells are present on the property or in the immediate area. Potable water is supplied to the property and the area by the Petersburg Public Works Department.

In the 1996 Bulk Plant Remediation and Site Characterization Report (GEO1996), GeoEngineers stated that the facility was constructed on the property by Union Oil Company of California (UNOCAL) in 1945 and in the mid-1990s underwent a major upgrade. Site features in 1993, just prior to the upgrade consisted of an office, warehouse, and a tank farm with nine ASTs positioned in an eight-foot tall wall concrete lined containment area in the southwest corner of the property adjacent to Tango Street. In 1995, a new containment area of similar material and dimensions was built in the southeast corner at the back of the property and a new oil/water separator was added to remove floating oils from excess water before it was released. Only the two largest of the nine ASTs were moved onto the new site, the remaining tanks were decommissioned. Five new tanks were added to arrive at the current configuration; the volume of the ASTs range from 40,000 gallons to 189,000 gallons.

An aboveground piping system extended from the AST containment down across the property, under South Nordic Drive into a valve house on the other side. The piping run continued from the valve house on an extended causeway built over the intertidal shoreline of Tongass Narrows to a dock where the piping terminated at the marine head fuel dispenser.

Besides the marine header at the dock, aboveground piping from the AST containment transferred fuel to the land-based dispenser station called the truck loading rack. Piping at the truck rack terminated overhead allowing the fuel trucks to be filled through hatches on top of the vehicle. During transfers the truck was positioned on a concrete pad built on a grade to direct excess fluids to a system of floor drains around the pad. The drains were piped to an oil/water separator that removed floating fuel before excess water was released. The oil/water separator, truck rack and piping run features were later removed from the site in conjunction with the interim removal of contaminated soil from the property.

*Owner/Operators*

Historical records indicate that Union Oil of Company of California (UNOCAL) was the primary owner and operator of the bulk fuel facility until 1992 when Alaska Fuel Service (AFS) took over operations. UNOCAL retained responsibility for contamination and initiated site investigation in conjunction with geotechnical assessment for plans to rebuild the aging bulk fuel facility. In 1997, TOSCO purchased the facility and assigned it the name TOSCO Bulk Plant No. 0581. In 2001, ConocoPhillips merged with TOSCO and assigned it the name ConocoPhillips Site No. 0923. In 1998, ConocoPhillips/TOSCO reportedly sold the facility and property to AFS but retained site cleanup responsibility. In 1999, Petro Marine Services purchased the property from AFS. Petro Marine is the current owner of the property and since it's dismantling is a former operator of the bulk fuel facility.

## **SITE CHARACTERIZATION AND CLEANUP ACTIVITY**

Historical and current site characterization activities included the collection of soil and water samples that were delivered under custody to a DEC approved laboratory and were analyzed using DEC approved methods for benzene, toluene, ethylbenzene and total xylenes (BTEX) volatile organic compounds and gasoline (GRO), diesel (DRO) and residual (RRO) range petroleum hydrocarbons.

*Historical Site Activity*

Environmental site activities began in the 1990's with GeoEngineers investigating subsurface soil and groundwater for contamination from petroleum products and recommending site remediation in conjunction with proposed facility upgrades. Later, in 1999, Smith, Bayliss LeResche performed additional soil sampling, and throughout the following decade SECOR was involved in numerous site activities during the dismantling of many of the facility features. The investigations identified diesel range hydrocarbons (DRO) as the primary contaminant of concern for historical soil and groundwater at the site. During site activities in May 1994 and in June 1995, GeoEngineers collected a series of soil samples from the site for total organic carbon analysis and based on the results proposed alternative cleanup levels (ACLs) for soil. In June 1995 DEC approved the following alternative cleanup levels (ACLs) for soil remaining at the site: DRO (1,000 mg/kg), GRO (100 mg/kg), benzene (0.5 mg/kg) and total BTEX (15.0 mg/kg).

In May 1993, GeoEngineers began site activities at the back of the property with four test pits on the perimeter of the existing tank farm containment area and three hand-auger borings in the existing AST containment area in the southwest corner of the property. In order to investigate groundwater for contamination, wells were installed at the lower end of the property along the frontage road South Nordic Drive. Subsurface soil sample collection depths ranged from 3.5 feet below ground surface (BGS) on the north end of the property adjacent to South Nordic Drive to 12 feet BGS where the grade rises at the back of the property.

In March 1994, geotechnical borings and test pits were advanced to subsurface soils in the southeast corner at the rear of the property to evaluate the setting for construction of a new containment area and a new position for the bulk fuel storage tanks and piping system. The investigations estimated that a volume of 700 cubic yards of contaminated soil was present above the blue clay layer on the property; field evidence indicated that the underlying clay layer is impermeable. GeoEngineers recommended that contaminated peat be excavated above the blue clay layer and new fill be added to form a clean solid base for the new AST site.

The 1996 Bulk Plant Remediation and Site Characterization Report (GEO1996) report combined results of the two sampling events, stating that the highest levels of DRO and GRO detected in the subsurface soil investigation were in samples collected three feet below the surface in the old AST containment area midway across the back of the property. GRO levels in soil sample HB2-3.0 reached 13,500 mg/kg and DRO levels in soil sample HB1-3.0 reached 410,000 mg/kg. Benzene was not detected in any of the soil samples. Ethylbenzene levels reached 17.5 mg/kg in sample HB. Toluene levels in sample HB1-5.0 reached 1.3 mg/kg and total xylenes in sample HB1-3.0 reached 88.3mg/kg. GRO, DRO and ethylbenzene levels are higher than the respective screening levels in 18 AAC 75.341 Table B1 and B2. Analysis of historical groundwater well samples detected DRO at levels below 18 AAC 75.345 Table C regulatory screening levels; BTEX compounds and lead were not detected in the groundwater samples.

In June 1994, GeoEngineers supervised the excavation of an estimated volume of 2,000 cubic yards of petroleum-contaminated soil from the southeast corner of the property. With DEC approval the contaminated soil was transported off-site to a material site owned by Gloria Ohmer of Petersburg for treatment to reduce petroleum levels. In September 1996, with DEC approval, the soil was transferred to the Petersburg landfill for use as cover material over domestic refuse.

The southeast corner of the property was backfilled with clean material and the new containment area was constructed. By the end of 1995 the two largest ASTs were repositioned from the old containment to the new one. The unused ASTs were removed and the old containment area was demolished allowing GeoEngineers access to advance nine test pits (TP-1 through TP-9) in the former tank farm area. The test pits were excavated to depths ranging from 7 to 9 feet below grade and soil samples were collected at depths ranging from 1 to 9 feet below grade. Ten soil samples contained DRO at levels ranging from 1,900 to 30,000 mg/kg and one soil sample contained a total BTEX level of 17.88 mg/kg.

Following the facility upgrade activity, contaminated soil at the former containment area in the southwest corner of the property along Tango Street was excavated to depths ranging from 5 to 7.5 feet below grade. Twelve confirmation soil samples (BPC-1 through BPC-12) were collected from the excavation. None of the soils samples contained DRO above the ACL of 1,000 mg/kg.

After backfilling the excavation in September 1996, GeoEngineers constructed a mound system over the former containment area with a forced air ventilated piping system to accelerate bacterial breakdown of petroleum in the on-site contaminated soil stockpile. The volume of the treatment cell was estimated at 900 cubic yards. Also, GeoEngineers installed six Geoprobe groundwater monitoring wells (GP-1 through GP-6) along both sides of South Nordic Drive north of the AST containment area. Depth to groundwater in the wells ranged from 8.7 to 9.3 feet below grade. Samples collected from all wells except GP-5 (insufficient sample volume) were analyzed for GRO and BTEX. The sample from GP-6 contained 5.7 parts per billion (ppb) of benzene. All other results were below the laboratory method detection limit or below the DEC cleanup levels.

In December 1996, GeoEngineers collected four soil samples from the treatment cell at depths ranging from 0.5 to 1 foot. One soil sample contained a DRO level of 1,200 mg/kg. All other analytical results for DRO, GRO and BTEX were below the DEC ACLs.

In May 1998, GeoEngineers personnel collected 16 soil samples from the treatment cell at depths ranging from 1.5 to 5 feet below grade. Ten samples with the highest field screening results were

analyzed for DRO. Two samples were also tested for GRO and BTEX. Four samples containing DRO levels (ranging from 1,050 to 2780 mg/kg) exceeded the DEC alternative cleanup level (ACL) of 1,000 mg/kg. All other results were below the laboratory method detection limits or the approved ACLs. GeoEngineers collected a groundwater sample from GP-1 in May 1998 (all other wells were dry), and the sample was analyzed for BTEX, sodium and chloride. BTEX compounds were not detected in the water sample. Sodium and chloride were detected in the water sample at 90.1 milligrams per liter (mg/L) and 60.8 mg/L respectively.

During the May 1998 sampling event, GeoEngineers also collected eight soil samples (SS-1 through SS-8) at depths ranging from 1.0 to 2.5 feet below grade to characterize surface soil conditions near the truck loading rack. The soil samples consisted of brown organic silts, sandy silts and gravels and were analyzed for DRO, GRO and BTEX. DRO levels ranged from 8.13 mg/kg in sample SS-2 to 18,600 mg/kg in sample SS-6. /GRO concentrations were detected in SS-4 at 6.26 mg/kg.

In October 1998, Noll Environmental Inc. (Noll) collected groundwater samples from site wells GP-1 through GP-4 and GP-6 (GP-5 was dry) and 17 soil samples (BPS-1 through BPS-17) from the on-site contaminated soil treatment cell. Soil samples were collected from the treatment cell at depths of between 1.5 and 3.5 feet below the surface. Due to the high level of influence of tidal fluctuation and low productivity, the wells were sampled without prior purging, and the samples were analyzed for BTEX by EPA Method 8021B. Groundwater samples collected from wells GP-1 through GP-3 were also tested for total dissolved solids by EPA Method 160.1 and salinity by Standard Method 2520. BTEX results were below the laboratory method detection limits and the DEC cleanup levels. Ten soil samples with the highest field screening results were analyzed for BTEX, GRO and DRO. Four samples contained DRO levels ranging from 1,040 to 1,830 mg/kg exceeding the DEC approved alternative soil cleanup level. All other results were below the laboratory method detection limits and the DEC ACLs.

During a subsurface soil investigation in January 1999, Smith Bayliss LeResche Inc (SBL) advanced seventeen soil borings on the property. SBL collected soil samples in the peat layer three feet below ground surface. Laboratory analysis for GRO, DRO and total BTEX in soil found predominantly DRO contamination in an estimated 2,500 square-foot area between the warehouse to the east, the AST containment to the south, the truck rack to the west and South Nordic Drive to the north. The highest levels of petroleum were detected in sample TB09 near the old oil/water separator. DRO levels in TB09 were 7,800 milligrams per kilogram (mg/kg), GRO levels reached 180 mg/kg, benzene levels were below instrument detection, toluene levels were 1.0 mg/kg, ethylbenzene levels were 0.22 mg/kg and total xylenes were 3.8 mg/kg (GRO in this sample was 36 mg/kg).

In July 1999, Noll collected 10 soil samples (BPS-1, BPS-3, BPS-5, BPS-7, BPS-8, BPS-10, BPS-12, and BPS-15 through BPS-17) from the treatment cell. The six groundwater monitoring wells (GP-1 through GP-6) were examined and were found to be dry. As a result groundwater samples were not collected. The soil samples were collected at depths of 1.8 to 2 feet below the surface with a hand auger at previously sample locations on the treatment cell. Results of analysis for GRO and DRO determined that five soil samples had DRO above the ACLs with levels ranging from 1,100 to 3,570 mg/kg. All other results were below the laboratory method detection limits or the DEC ACLs for the site.

In July 2000, Noll Environmental collected groundwater samples from wells GP-1 through GP-4 and GP-6 (well GP-5 was dry). Samples were collected without purging and were slightly gray with no petroleum odor observed. Although the levels of BTEX compounds in the several samples were above

instrument detection, the results were below the DEC cleanup levels. Samples with detectable levels are located near the fuel pipeline for the marine dock and GP-6 was located near the former top loading rack. Samples from each of the other wells had BTEX results below instrument detection. The levels of sodium and chlorides detected in the groundwater samples indicate salt water in the groundwater at the wells north of South Nordic Avenue. Noll also collected soil samples in July 2000 in five locations on the treatment cell where previous analytical results had indicated elevated levels. Samples were collected depths of 2 to 2.5 feet below the surface using a hand auger. Four samples contained DRO levels above the DEC ACLs ranging from 1,240 to 3,340 mg/kg.

Early in 2006, Petro Marine was not operating the bulk plant facility and planned to dismantle piping and other structures at the site. In March 2006, ConocoPhillips retained SECOR to characterize soil in the existing treatment cell and in the subsurface near the former truck rack concrete pad and oil water separator in the lower half of the property. In approving the work plan, DEC determined that the approved ACLs applied to only soil from the south end of the property, including soil in the treatment cell. Contaminated soil in-place on the lower portion of the property currently being investigated would have to meet Method Two Migration to Groundwater levels in 18 AAC 75.341 Tables B1 and B2.

In April 2006, SECOR conducted a site investigation to further assess impacted soils on the lower half of the property near the former loading rack and the treatment cell located on the upper half. Subsurface soil samples were collected in six test pits (TP-1 through TP-6) excavated to depths up to 8.5 feet below ground surface (bgs) near the former loading rack and the oil water separator. Hand auger borings (SHA-1 through SHA-30) were advanced to depths of 5 feet below the surface of the treatment cell. The soil sample collected from TP-1 at a depth of 4 feet bgs contained 6,130 mg/kg DRO. None of the other subsurface soil samples contained DRO above regulatory levels, with the exception of samples taken from the treatment cell, which contained DRO level that exceeded the 1,000 mg/kg ACL. The volume of the treatment cell was estimated at 950 cubic yards.

Table 1 displays the highest levels detected in soil remaining at the site from the SECOR site investigation in April 2006, the depth below the surface that the sample was taken, and the Method Two Migration to Groundwater (M2 MTG) soil cleanup levels in 18 AAC 75.341 Table B1 and Table B2 that are applicable to this site. Those levels in bold are above the applicable cleanup levels and represent the contaminant(s) of concern for the site. Silica gel cleanup (SGC) is a sample pre-treatment to reduce biogenic interference eluting in the diesel range analysis.

Table 1 highest levels detected in remaining soil: SECOR investigation April 2006

Hydrocarbon range and compounds of concern	Greatest level in soil mg/kg with SGC	Sample name and depth below the surface	M2 MTG Cleanup Levels mg/kg
GRO	11	TP-1 at 4 feet	260
DRO	<b>6130</b>	TP-1 at 4 feet	230
Benzene	0.519	TP-1 at 4 feet	0.025

Toluene	0.127	TP-2 at 4 feet	6.5
Ethylbenzene	0.118	TP-1 at 4 feet	6.9
Total Xylenes	0.279	TP-1 at 4 feet	63

SECOR returned to the site in August 2006 to have a consultant (Dan McNair) conduct additional treatment of contaminated soil in the treatment cell with enhanced microbes and nutrient addition. In September 2006 McNair and SECOR collected samples from the treatment cell and from subsurface soil on the lower portion of the property for petroleum and total organic carbon analysis to support a proposed a Method Three alternative cleanup level. The results of the sample analysis were sufficient for DEC to determine that the remaining mildly contaminated soil could stay on the property but restriction against moving any of the soil off-site would be necessary. SECOR discussed the proposal with the current landowner and Petro Marine found the proposal unacceptable and requested that all contaminated soil be removed from the site and remediated at an off-site treatment facility. Based on the understanding that the principal goal of the remedial action is to allow unrestricted future use of the property, a removal action was deemed necessary.

In May 2007, Noll Environmental submitted a work plan for DEC approval to excavate all contaminated material both in-situ and ex-situ at the site and load it into shipping containers for transport off-site to a remediation facility. DEC approved the work plan and in June 2007 an estimated 1,337 cubic yards (2,061 tons) of subsurface contaminated soil above regulatory cleanup levels was excavated and loaded into 105 shipping containers. The containers were transported to an off-site facility for remedial treatment. Structures removed in the process included the oil water separator and associated piping from the truck rack and tank farm containment area and the truck rack concrete slab.

Exported soil consisted of the treated soil stockpile (192 cubic yard volume), and soil removed from Excavation 1 (458 cubic yard volume) and Excavation 2 (727 cubic yard volume). The excavation work was guided by previous site assessment results, field screening, and laboratory analytical results. Soils at Excavation 1 on the lower portion of the property adjacent to South Nordic Drive with DRO levels exceeding the DEC Method Two cleanup level protective of groundwater (230 mg/kg) were over-excavated, where possible, and the final extent of the excavation was sampled from sidewalls at depths between four and five feet below the ground surface (bgs) and the floor of the excavation between six and seven feet bgs. In Excavation 2 in the southeast corner on the upper portion of the property, soil with DRO levels above the alternative cleanup level established in June 1995 (1,000 mg/kg) were over-excavated, and the final extent was sampled at depths between four and one half and six feet bgs.

Soil confirmation samples collected from Excavation 1 and 2 in 2007 were analyzed for GRO, DRO and RRO range hydrocarbons. Only samples from Excavation 1 were analyzed for BTEX compounds. The highest levels of each analyte detected in remaining soil are displayed in the following tables. Results are in bold print if the cleanup level is exceeded. In Table 3 the applicable 1995 ACLs are *italicized*.

Table 2 *Excavation 1 highest remaining soil levels*

Hydrocarbon range & volatile compounds analyzed	Greatest level in soil mg/kg	Sample name and depth below the surface	M2 MTG Cleanup Levels mg/kg
GRO	<21	EXC1-51 at 0.5 feet	260
DRO	<b>6,500</b>	EXC1-51 at 0.5 feet	230
RRO	370	EXC1-52 at 0.5 feet	9700
Benzene	<0.052	EXC1-51 at 0.5 feet	0.025
Toluene	<0.11	EXC1-51 at 0.5 feet	6.5
Ethylbenzene	<0.11	EXC1-51 at 0.5 feet	6.9
Total Xylenes	0.57	EXC1-51 at 0.5 feet	63

Table 3 *Excavation 2 highest remaining soil levels*

Hydrocarbon range & volatile compounds analyzed	Greatest level in soil in mg/kg	Sample name and depth below the surface	M2 MTG and ACLs in mg/kg
GRO	55	EXC2 at 5 feet	100
DRO	<b>1,600</b>	EXC2 at 5 feet	1000
RRO	760	EXC2 at 5 feet	9700

Also in 2007, SECOR collected soil samples using a hand auger near the southwest corner of the office building on June 25, 2007 to assess subsurface soil previously sampled by SBL in January 1999 with a DRO level of 280 mg/kg. Sample HA-1 and a duplicate were collected four feet bgs. The samples were analyzed for GRO, DRO, RRO, and BTEX compounds and none were detected above laboratory reporting limits and Method Two Migration to Groundwater Table B1 and B2 soil cleanup levels.

***Current Site Activity***

In April 2011 DEC met with Petro Marine Inc. personnel Jim Beckham and Bob Volk at the site to explain what is needed to bring the site cleanup to closure status. DEC and Petro Marine visited the site and examined the locations where elevated levels of DRO were found in remaining soil after the



excavation by SECOR in 2007. The scope of the necessary environmental work was agreed upon between DEC and Petro Marine. In November 2011, R&M Engineering Ketchikan Inc. (R&M) submitted a work plan to DEC for additional soil sampling along the north property line adjacent to the sidewalk on South Nordic Drive. By the end of November DEC approved the work plan to analyze the soil samples for DRO and RRO only. In early April 2012 R&M conducted the sampling and in late April submitted a report to DEC. Based on the laboratory results R&M recommended closing the site.

Soil samples and a field duplicate were collected two feet below the surface at three locations in the northwest corner of the property similar to where soil samples EXC1-51 and EXC1-52 were collected by SECOR in 2007. The results of analysis were either below the laboratory reporting limit or were at levels below the applicable Method Two Migration to Groundwater soil cleanup levels. Table 4 displays the highest levels detected for each analyte tested, the sample identification, the depth bgs the sample was collected and the DEC approved contaminants of concern and cleanup levels for the site.

Table 4 highest levels detected in remaining soil among the 2012 samples

Hydrocarbon range & volatile compounds analyzed	Greatest level in soil in mg/kg	Sample name and depth below the surface	M2 MTG and ACLs in mg/kg
DRO	72	BAFS at 2 feet	230
RRO	93	1AFS at 2 feet	9700

### 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.

### 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. With data currently available, the DEC has determined that petroleum compounds remaining at the referenced site following cleanup are at levels that do not present a cumulative risk to human health.

### DEC Decision

The cleanup actions to date have served to excavate and adequately remove contaminated soil from the site. Based on the information available, DEC has determined no further assessment or cleanup action is required. There is no longer a risk to human health or the environment, and this site will be designated as closed on the Department's database.

Although a Cleanup Complete determination has been granted, DEC approval is required for off-site soil disposal in accordance with 18 AAC 75.321(j). However, since this site has met the most conservative

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soil cleanup levels, this letter will serve as your approval for future off-site movement and disposal of soil associated with this release. It should be noted that movement or use of potentially contaminated soil in a manner that results in a violation of 18 AAC 70 water quality standards is unlawful.

This determination is in accordance with 18 AAC 75.380 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 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.

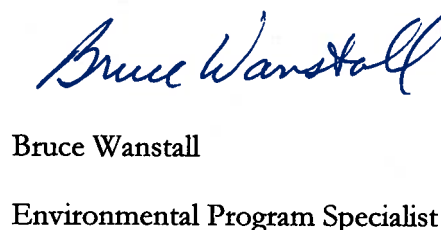
If you have questions about this closure decision, please contact the DEC project manager, Bruce Wanstall at (907) 465-5210.

Approved By,

Recommended By



Sally Schlichting  
Environmental Manager



Bruce Wanstall  
Environmental Program Specialist

Attachment A: Table 5 – Exposure Pathway Evaluation

CC: Brett Hiatt, R&M Engineering Ketchikan Inc, via email

**Attachment A: Exposure Pathway Evaluation**

**Table 5 – Exposure Pathway Evaluation**

<b>Pathway</b>	<b>Result</b>	<b>Explanation</b>
Surface Soil Contact	Pathway Incomplete	There is no contamination remaining above the migration to groundwater, direct contact (B1) or ingestion (B2) cleanup levels.
Sub-Surface Soil Contact	De-minimis exposure	DRO contamination remains in the subsurface, in de minimis volume, at levels between the migration to groundwater and ingestion or direct contact cleanup levels.
Inhalation – Outdoor Air	Pathway Incomplete	DRO contamination remains soil but no volatile petroleum compounds are present above migration to groundwater levels.
Inhalation – Indoor Air (vapor intrusion)	Pathway Incomplete	Buildings are present but any remaining volatile petroleum compounds are below Table B1 migration to groundwater levels.
Groundwater Ingestion	De minimis Exposure	Groundwater is not potable due to tidal influence and any remaining petroleum contamination is below Table C levels.
Surface Water Ingestion	Pathway Incomplete	Surface water hydraulically connected to the site is not of sufficient quality or quantity for a potable water source and any remaining petroleum contamination is below Table C levels.
Wild Foods Ingestion	Pathway Incomplete	None of the contaminants have potential to bioaccumulate in flora or fauna.
Exposure to Ecological Receptors	Pathway Incomplete	Highly valued ecological receptors are not present on the site or in the area.

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.