

STATE OF ALASKA

SEAN PARNELL, GOVERNOR

DEPT. OF ENVIRONMENTAL CONSERVATION

DIVISION OF SPILL PREVENTION AND RESPONSE CONTAMINATED SITES PROGRAM

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File: 1516.26.033
1516.38.014

December 15, 2011

Via electronic and regular mail

Mr. Karl R. Amylon, Manager
City of Ketchikan
334 Front Street
Ketchikan, Alaska 99901

Re: Decision Document
Ketchikan Spruce Mill Cleanup Complete
Ketchikan Spruce Mill Abandoned USTs Corrective Action Complete Determination

Dear Mr. Amylon:

The Alaska Department of Environmental Conservation, Contaminated Sites Program (DEC) has completed a review of the environmental records associated with the property at 70 Bawden Street in Ketchikan that coincides with the location of the new fire station. Based on the information provided to date, the DEC has determined that the contaminant concentrations remaining on the property do not pose an unacceptable risk to human health or the environment, and these two sites will be closed.

This decision is based on the administrative records for the Ketchikan Spruce Mill and the Ketchikan Spruce Mill Abandoned USTs Contaminated Site administrative records, which are located in the DEC offices in Juneau, Alaska. This letter summarizes the decision process used to determine the environmental status for these two sites and provides a summary of the regulatory issues considered in the Cleanup Complete Determination for the Ketchikan Spruce Mill site and the Corrective Action Complete Determination for the regulated tank release at the Ketchikan Spruce Mill Abandoned USTs site.

Introduction

Site Names and Location:

Ketchikan Spruce Mill
Ketchikan Spruce Mill Abandoned USTs
70 Bawden Street
Ketchikan, Alaska 99901
Lot 10A1 United States Survey 437

Name and Mailing Address of Contact Party:

Mr. Karl R. Amylon, City Manager
City of Ketchikan
334 Front Street
Ketchikan, Alaska 99901

Database Record and File Number:
File: 1516.38.014 Hazard ID 2000
File: 1516.26.033 Hazard ID 25633

Regulatory authority for each of the cleanups:
Chapter 18 Alaska Administrative Code 75
Chapter 18 Alaska Administrative Code 78

Background

As a result of planned new construction on the Ketchikan Spruce Mill site property, the Contaminated Sites Program re-opened the database record in 2008 in order to keep track of new activities at the site. Subsurface soil was known to contain pockets of petroleum contaminated soil that was not practicable to remove during the 1994 cleanup. Project manager Dawson Construction (Dawson) worked with the DEC and Jeff Updike with Alaska Commercial Diving to collect samples and field screen excavated soil for petroleum contamination. As subsurface work proceeded toward the east side of the property, excavation encountered two underground storage tanks (USTs). Since the former use of the USTs could not be determined they were considered abandoned regulated tanks. The closure-by-removal and site investigation of regulated USTs are managed under different departmental regulations. As a result, Dawson made arrangements with both DEC UST Program Certified Tank Workers and Alaska Resources and Environmental Services (ARES) LLC to perform site characterization procedures on the tanks contents and also on the soil remaining in the removal excavation.

Historical Characterization and Cleanup Activities

In 1994, the City of Ketchikan and the DEC agreed upon a Remedial Action Plan by AGI Technologies (AGI) to excavate soil from an area on Lot 10A1 that was previously occupied by a vehicle repair shop. During the site investigation and cleanup, a volume of approximately 2,075 cubic yards was excavated and screened for petroleum. A volume estimated at 1,075 cubic yards of contaminated soil was segregated from clean soil and stockpiled between liners on-site. Soil confirmation samples were collected from the contaminated soil stockpile and in-place soil for laboratory analysis for total petroleum hydrocarbons (TPH), volatile organic compounds (VOCs), and polychlorinated biphenyl (PCB) compounds. VOCs and PCBs were detected at concentrations low enough to be eliminated as contaminants of concern for the site cleanup.

Most soil left in place after the excavation was complete had low levels of petroleum hydrocarbons, primarily in the motor oil (or residual) range. High concentrations of petroleum hydrocarbons, primarily motor oil range, were detected from one bottom and one western sidewall sample in the excavation, where further excavation was not practicable. High concentrations of residual range hydrocarbons were also detected in the soil stockpile. No concentrations of hydrocarbons were detected below a depth of approximately 14 feet below ground surface in the excavation. Although the historical laboratory results are not from currently-approved test methods, the maximum concentrations of petroleum in soil remaining at the site after the 1994 cleanup are as follows:

EPA Test Method TPH 8015M	Concentration in milligrams per kilogram (mg/kg)
Gasoline	8,300
Diesel	58,000
Motor Oil	110,000

AGI recommended that the excavated contaminated material be remediated by incorporation into asphalt. In January 1997, the City of Ketchikan informed the DEC by letter that contaminated soils from the former Spruce Mill property were incorporated into asphalt and used in paving projects both on the site and also at the Cambria subdivision in Ketchikan.

Current Cleanup Activities

Former Vehicle Repair Shop Site

In March 2011, Dawson Construction began to excavate subsurface soil on Lot 10A1 to install foundation piling for a new fire station. The planned depth was to bedrock and the location was at the former shop adjacent to Bawden Street, in the area where contaminated soil was excavated in 1994 and confirmation sampling reported the results in the table above (See enclosed site drawing showing the overlay of the 1994 excavation boundaries with those of the 2011 foundation work). Since field screening conducted during the effort indicated low levels of petroleum contamination, DEC requested sampling be conducted on the contaminated soil stockpile before approval could be granted for unrestricted off-site disposal. In April 2011, Carson Dorn Inc (CDI) and DEC agreed upon a sampling plan to characterize the stockpiled soil. In accordance with the approved plan, CDI collected three soil samples and a field duplicate for laboratory analysis. Two of the soil samples were analyzed for diesel (DRO) and residual (RRO) hydrocarbon fractions by Alaska Methods 102 and 103, volatile organic compounds (VOCs) by USEPA Method 8260, polycyclic aromatic hydrocarbons (PAHs) by USEPA Method 8270, and polychlorinated biphenyl (PCB) compounds by EPA Method 8082. The two remaining samples were analyzed for DRO and RRO only. All detected constituents were in concentrations below the most conservative Method Two migration to groundwater soil cleanup levels listed in 18 AAC 75.341 Table B1 and B2. As a result, DEC approved unrestricted off-site disposal of the soil stockpile but stated a preference that the soil be used as fill in an undeveloped property or for cover material at the local landfill. The maximum concentrations detected in the stockpile samples are listed in the following table:

Analyte	Concentration in mg/kg
DRO hydrocarbon fractions	89
RRO hydrocarbon fractions	430
Phenanthrene (PAH)	0.043
Fluoranthene (PAH)	0.057
Pyrene (PAH)	0.063
Benzo(a)Anthracene (PAH)	0.030
Benzo(b)fluoranthene (PAH)	0.035
Aroclor 1260 (PCB)	0.011

Based on these results, DEC has determined that the levels of hydrocarbons detected in the 1994 confirmatory sampling were representative of a de minimis quantity of contamination and likely removed in the 2011 foundation work.

Abandoned Underground Storage Tanks

On the north side of Lot10A1, separate from the shop excavation, above-ground vent and fill pipes were observed extending from the ground indicating the possibility of underground storage tanks (USTs). Further examination found that one of the USTs contained fuel and the other did not. The empty UST was excavated and transported for storage off-site. The second UST contained a mixture of fuel and water so it was drained into storage containers and then lifted from the excavation and placed between liners on-site. Dawson contacted DEC to observe soil sampling and field screening for petroleum in the excavation, then Dawson lined and backfilled the excavation and contacted a certified tank worker to oversee site investigation of the abandoned USTs.

In accordance with 18 AAC 78.090, ARES performed a site investigation of the two USTs at the construction site on Lot 10A1. All backfilled soils were removed up to the liner and ARES gathered eight samples for field screening by UST Procedure Manual procedures. The highest field screen results were 0.0 parts per million and ARES observed no petroleum stained soil in the excavation around the footprint of the USTs. The excavation area was 144 square feet by six feet deep resulting in an estimated volume of 100 cubic yards. The four soil confirmation samples including a field duplicate collected from the floor of the excavation were analyzed for GRO and DRO by Alaska Methods and BTEX compounds by EPA Method 8021B. The greatest petroleum concentrations detected in confirmation samples from the UST removal excavation Site Assessment are GRO of 15.6 milligrams per kilogram (mg/kg) and DRO of 97.6 mg/kg.

Petroleum Hydrocarbon Range	Soil Concentration in mg/kg	Soil Cleanup Level
GRO	15.6	260
DRO	97.6	230

UST Tank Sludge

The one sample collected from the 75-gallon volume of 1,000-gallon diesel UST-generated tank sludge was analyzed for GRO, DRO & BTEX and Toxicity Characteristic Leaching Procedure (TCLP) Resource Conservation and Recovery Act (RCRA) metals by EPA Method 6010B. The sludge sample was found to be below DEC cleanup levels for all analytes. The greatest petroleum concentrations detected in the tank sludge solids was GRO of 6.43 mg/kg, DRO of 722 mg/kg and the greatest metals concentrations detected in the tank sludge were arsenic of 3.03 mg/kg, barium of 123 mg/kg, chromium of 16.9 mg/kg, and lead of 22.2 mg/kg. The tank sludge contaminated soil was shipped by Dawson Construction for off-site remediation to the Regional Disposal Company in Seattle, WA.

Contaminants of Concern

Soil samples at the site have been analyzed for volatile organic (VOC) hydrocarbon compounds including benzene, ethylbenzene, toluene and total xylenes; polycyclic aromatic (PAH) semi-volatile hydrocarbon compounds; gasoline (GRO), diesel (DRO) and residual (RRO) petroleum hydrocarbon fractions; polychlorinated biphenyl hydrocarbon compounds (PCBs) and TCLP RCRA total metals silver, arsenic, barium, cadmium, chromium, mercury, lead and selenium. As a result of the new site investigations in 2011, none of the soil cleanup levels in 18 AAC 75.341, Method Two, Tables B1 and B2, Migration to Groundwater were exceeded in samples from soils remaining on either the

former shop site or the former UST site on the property. As a result, no contaminants of concern are identified for these sites on this property.

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 the pathway evaluation is included in Table 1 as an attachment.

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. A chemical that is detected at one-tenth or more of the Table B1 inhalation or ingestion values set out in 18 AAC 75.341(c) or the Table B2 values set out in 18 AAC 75.341(d) must be included when calculating cumulative risk under 18 AAC 75.325(g). Cumulative risk from petroleum contamination of environmental media at the site is addressed using the BTEX and PAH analyte concentration data. With data currently available, the DEC has determined that petroleum compounds remaining at the referenced site following cleanup are in concentrations that do not present a cumulative risk to human health.

DEC Decision

The investigation and cleanup actions to date have served to excavate and adequately remove contaminated materials from the sites on the property. 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 these sites associated with the referenced property will be designated as closed on the Department's database.

Although Cleanup Complete and Corrective Action Complete determinations have been granted, DEC approval is required for off-site soil disposal in accordance with 18 AAC 78.600(h). 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 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

Mr. Karl Amylon
RE: Ketchikan Spruce Mill (former shop)
Ketchikan Spruce Mill Abandoned USTs

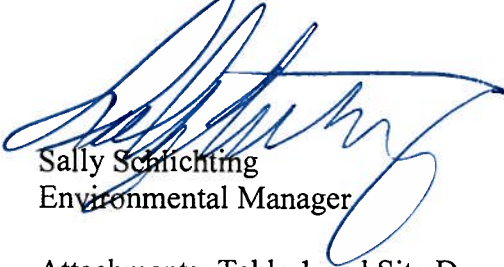
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within 30 days after the Department issues a final decision under 18 AAC 15.185. If a hearing is not requested within 30 days, the right to appeal is waived.


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

Approved By,



Sally Schlichting
Environmental Manager

Recommended By



Bruce Wanstall
Environmental Program Specialist

Attachments: Table 1 and Site Drawing

cc: Larry Brinkerhoff, Manager, DEC Underground Storage Tank Program, via email
Jim Quick, Dawson Construction, via email
Jolene Cox, Carson Dorn Inc, via email

Table 1 – Exposure Pathway Evaluation

Pathway	Result	Explanation
Surface Soil Contact	De minimis Exposure	There is no soil contamination remaining at the site in concentrations above the direct contact cleanup levels.
Sub-Surface Soil Contact	De-minimis exposure	Contamination remains in the subsurface, but is de-minimis in volume and is in concentrations below direct contact (Table B1) and ingestion (Table B2) and migration to groundwater screening levels.
Inhalation – Outdoor Air	Pathway Incomplete	Contamination remains in the subsurface, but is in concentrations below outdoor inhalation and migration to groundwater screening levels.
Inhalation – Indoor Air (vapor intrusion)	Pathway Incomplete	Buildings are present but Table B1 volatile compounds have not been detected in soil. Any remaining volatile petroleum concentrations are below the inhalation and migration to groundwater screening levels.
Groundwater Ingestion	Pathway Incomplete	Groundwater was not encountered during the site investigations. Any remaining contamination is de minimis in volume and is in concentrations below migration to groundwater soil screening levels.
Surface Water Ingestion	Pathway Incomplete	There is no surface water influenced by the site hydrology being currently used as or with any potential to become a future drinking water source.
Wild Foods Ingestion	Pathway Incomplete	The site is located in an area with no wild foods harvest opportunities and any remaining petroleum concentrations in soil are below the migration to groundwater screening levels.
Exposure to Ecological Receptors	Pathway Incomplete	There is no surface water influenced by the site, the soil stockpile has been transported off-site and there is no soil contamination above migration to groundwater cleanup levels remaining 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.

