

# STATE OF ALASKA

**SEAN PARNELL, GOVERNOR**

## DEPT. OF ENVIRONMENTAL CONSERVATION

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### DIVISION OF SPILL PREVENTION AND RESPONSE CONTAMINATED SITES PROGRAM

File: 1516.26.008

August 2, 2011

Ms. Kara Jurczak P.E.  
City of Ketchikan  
Public Works & Engineering  
2930 Tongass Avenue  
Ketchikan, Alaska 99901

Re: Decision Document; Ketchikan Police Station Contaminated Site  
Corrective Action Cleanup Complete Determination

Dear Ms. Jurczak:

The Alaska Department of Environmental Conservation, Contaminated Sites Program (DEC) has completed a review of the environmental records associated with Ketchikan Police Station located at 361 Main Street in Ketchikan, Alaska. Based on the information provided to date, the DEC has determined that the contaminant concentrations 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 Ketchikan Police Station 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 Complete Determination.

#### **Introduction**

Site Name and Location:

Ketchikan Police Station  
361 Main Street  
Ketchikan, Alaska 99901  
US Survey 437 Block 14 Lot 2A  
Parcel Number 011431010900

Name and Mailing Address of Contact Party:

Ms. Kara Jurczak  
City of Ketchikan  
2930 Tongass Avenue  
Ketchikan, Alaska 99901

Database Record Key/File Number:

DEC Reckey: 1996130021801  
File: 1516.26.008  
Hazard ID: 24601  
Source Area 77571

Regulatory Authority for Determination:

Title 18 Alaska Administrative Code  
Chapter 78



## **Background**

The downtown Ketchikan location of the Police Station is primarily a commercial district with few residential occupants. The concrete building foundations rest on the shallow bedrock; the presence of groundwater is intermittent. Drinking water, sewer and electrical power in the area is supplied by the City of Ketchikan Public Works Department (City). Groundwater in this area is not used as a drinking water source and no water wells are identified.

In August, 1996, the City notified the DEC that a fuel leak was discovered in the return line to a regulated diesel underground storage tank (UST) at the Police Station. The City repaired the piping leak and began recovery of the fuel around the tank. The tank still contained fuel and a spill estimate was not submitted. On the advice of environmental consultant Randy Rice, the City continued use of the tank and actively recovered fuel that appeared around the tank using sorbent pads. In November, 1996, the DEC requested the City submit a work plan to begin cleanup of diesel contamination caused by the leaking fuel line.

The work plan developed by the City was submitted to DEC in December, 1996, and DEC approved the plan in January, 1997. The plan proposed removing the UST and piping and conducting a release investigation of subsurface petroleum contamination of soil and groundwater. A fan system would be installed to remove vapors from the building foundation space. Since the alley behind the building is a utility corridor, if any fuel contamination reached this area it would not be accessible for removal and may require treatment in-place. All vaults, catch basins and manholes in the area would be checked for fuel. Contaminated material removed from the UST pit would be transported immediately and stored between liners at the Solid Waste and Recycling and Handling Facility at the Deer Mountain Landfill (Landfill); none would be stored on-site. The contaminated material could later be screened of oversize material then incorporated into asphalt underlayment on City paving projects. R&M Engineering Ketchikan Inc. (R&M) would collect samples of environmental media at the UST spill cleanup site and at the contaminated material stockpile at the Landfill.

Police Station building maintenance staff monitored indoor air for petroleum and continued operation of the foundation space fan system until normal conditions were indicated by instrument results. Visible monitoring of the viaduct across the street from City Hall offices for off-site migration to surface water was also conducted. No emerging groundwater seeps were found to collect samples.

On January 23, 1997, the City of Ketchikan Public Works Director notified DEC that the UST and all accessible contaminated soil in the UST pit were removed from the site and transported to the Landfill. The UST was cleaned and cut up and the soil was placed between liners for storage. The UST pit consisted of a basin carved in bedrock to install the tank. Water and free product in the basin were collected and treated and disposed at the Landfill according to the approved work plan.

## **Characterization Activities**

DEC received two letter/reports dated March, 1998, and April, 1998, both completed by R&M Engineering-Ketchikan Inc for the City. The March letter/report documents the closure by removal of a regulated UST at the Police Station and related groundwater monitoring well sampling. The April letter/report documents sampling of the contaminated soil stockpile stored at the Landfill. Soil and water samples at the site have been analyzed for benzene, ethylbenzene, toluene, total xylenes (BTEX) volatile organic compounds as well as diesel (DRO) and residual (RRO) petroleum hydrocarbon fractions.

The collection of fuel and the soil cleanup at the UST pit continued until after a site visit by DEC in March 1997. At that time, soil samples were collected where available from the bedrock UST pit and utility corridor for laboratory analysis and the DEC advised the City that it was acceptable to backfill the pit with clean material.

The greatest concentration of DRO in the UST pit soil samples during fuel recovery and before the removal action was 12,000 mg/kg. The greatest concentration of DRO detected in soil in the UST pit bedrock basin before it was finally closed was 2,000 mg/kg. The stockpile was sampled in 1998 and the greatest concentration of DRO was 3,200 mg/kg with a good pattern match for diesel.

Three groundwater monitoring wells were installed in locations agreed upon by the City and DEC. Well #1 is located in the UST pit, Well #2 was located next to the First Bank storage building and the third was in the alley between the Police Station and City office buildings. The three monitoring wells were observed and sampled monthly from March 1997 through February 1998. Wells #2 and #3 were consistently dry or did not contain enough groundwater to allow sample collection. Water samples were collected from Well #1 in nine of the twelve months of the one year period and the nine samples were successfully analyzed for diesel range hydrocarbons (DRO). The highest detected result was 6.8 mg/L on June 16, 1997. The result for the last month sample in 1998 was 5.0 mg/L DRO.

In January 2011,, the DEC requested that the City evaluate the status of Well #1 and if possible collect samples to assess groundwater contamination. The City agreed to collect samples but found that the well was consistently non-productive (dry) through the winter and spring months when peak rainfall takes place indicating no groundwater contamination. With no groundwater to investigate, the City concluded that soil and groundwater contamination at the site were deminimis and requested a corrective action complete determination from DEC.

### **Corrective Action**

The contaminated material stored at the Landfill was screened to under 1.5-inch and used as asphalt aggregate layer under asphalt on-site. The larger material was discarded.

### **Greatest Contaminated Media Summary**

Sample Location & Media	Analyte	Concentration
UST pit soil	DRO	2,000 mg/kg
Stockpile soil	DRO	3,800 mg/kg
Well #1 groundwater	DRO	6.8 mg/L

### **Contaminants of Concern**

During the investigations at this site, soil and groundwater samples were analyzed for diesel (DRO) and residual (RRO) hydrocarbon fractions and benzene, toluene, ethylbenzene, and xylenes (BTEX) compounds.

- Diesel hydrocarbon fractions (DRO)

### Cleanup Levels

The default soil cleanup levels for this site are established in 18 AAC 75.341, Method Two, Tables B1 and B2, Migration to Groundwater.

<u>Contaminant</u>	<u>Site Cleanup Level (mg/kg)</u>
DRO	230

The default groundwater cleanup levels for this site are established in 18 AAC 75.345 Table C Groundwater Cleanup Levels.

<u>Contaminant</u>	<u>Site Cleanup Level (mg/L)</u>
DRO	1.5

### 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 as an Attachment in Table 1.

### 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 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 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 Corrective Action Complete determination has 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.

In accordance with 18 AAC 78, 615(b), the City of Ketchikan must now decommission the groundwater monitoring wells at the facility. The DEC Monitoring Well Guidance document, dated January 2009 document is available for download from the department website at:

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[http://dec.alaska.gov/spar/csp/guidance/mw\\_guidance.pdf](http://dec.alaska.gov/spar/csp/guidance/mw_guidance.pdf) under the Site Characterization and Cleanup headliner in the Spill Prevention and Response (SPAR) guidance documents.

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 Spill Prevention and Response (SPAR) Division Director in accordance with 18 AAC 15.185. Informal review requests must be delivered to the SPAR 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,



Sally Schlichting  
Environmental Manager

Recommended By



Bruce Wanstall  
Bruce Wanstall  
Environmental Program Specialist

Attachment: Table 1

cc: Larry Brinkerhoff, UST Program Manager, via email

**Table 1 – Exposure Pathway Evaluation**

<b>Pathway</b>	<b>Result</b>	<b>Explanation</b>
Surface Soil Contact	Pathway Incomplete	The soil stockpile has been transported to a local landfill and treated there by incorporation into asphalt.
Sub-Surface Soil Contact	De-minimis exposure	Deminimis contamination remains in the subsurface in concentration below ingestion and direct contact regulatory cleanup levels.
Inhalation – Outdoor Air	Pathway Incomplete	No volatile petroleum compounds are in sufficient concentration in subsurface soil to exceed inhalation levels.
Inhalation – Indoor Air (vapor intrusion)	Pathway Incomplete	There are buildings at the site but no volatile hydrocarbon compounds are present above soil migration to groundwater cleanup levels.
Groundwater Ingestion	De-minimis exposure	Deminimis subsurface soil contamination exceeds migration to groundwater levels but groundwater is deminimis.
Surface Water Ingestion	Pathway Incomplete	No surface water bodies that might serve as drinking water sources are present at the site or in the area of the UST release in downtown Ketchikan.
Wild Foods Ingestion	Pathway Incomplete	The soil stockpile has been transported off-site and treated and there is no surface soil contamination. No wild foods harvest opportunities are present.
Exposure to Ecological Receptors	Pathway Incomplete	The soil stockpile has been transported off-site and treated and there is no surface soil contamination. Ecological (aquatic) receptors are present off-site but monitoring determined that no off-site migration has occurred.

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.