



Alaska Department of Environmental Conservation

Reuse & Redevelopment Initiative

**Brownfield Assessment**



## **Property Assessment and Cleanup Plan**

*Old Fire Hall*

Thorne Bay, Alaska

Submitted to:  
Department of Environmental Conservation  
Reuse and Redevelopment Program



By:  
OASIS Environmental Inc.  
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## ACRONYMS AND ABBREVIATIONS

AAC	Alaska Administrative Code
BTEX	Benzene, toluene, ethylbenzene, and xylenes
CESQG	Conditionally Exempt Small Quality Generator
DBA	DEC Brownfields Assessment
DCRA	Alaska Division of Community and Regional Affairs
DEC	Alaska Department of Environmental Conservation
DNR	Department of Natural Resources
DRO	Diesel-range organics
EPA	Environmental Protection Agency
°F	Degrees Fahrenheit
GRO	Gasoline-range organics
mg/kg	Milligrams per kilogram
mg/L	Milligrams per liter
OASIS	OASIS Environmental, Inc.
PACP	Property assessment and cleanup plan
RACM	Regulated asbestos-containing materials
RCRA	Resource, Conservation, and Recovery Act
RRO	Residual-range organics
TCLP	Toxicity Characteristic and Leaching Procedure
WELTS	Well Log Tracking System

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## EXECUTIVE SUMMARY

OASIS Environmental Inc. (OASIS) performed a property assessment at the Old Fire Hall site in Thorne Bay, Alaska in October 2010 under contract to the Alaska Department of Environmental Conservation (DEC) on behalf of DEC and the City of Thorne Bay. The overall project objective was to prepare a property assessment and cleanup plan (PACP) to provide a basis for the landowner, the City of Thorne Bay, to develop definitive plans for property reuse. The City of Thorne Bay would like to use this property to expand the adjacent Pearl Nelson Community Park and construct a band-shell/covered facility. As part of the property assessment, OASIS performed a records review of available information sources, reviewed historical aerial photographs, conducted a site visit, and interviewed knowledgeable individuals.

Based upon the information collected during the property assessment, there are two confirmed sources of contamination: 1) asbestos containing exterior paint; and 2) asbestos containing exterior cement siding. In addition, the following potential sources were identified: a) soil near the location of the former aboveground storage tank could be contaminated with petroleum hydrocarbons; b) soil beneath the first floor sand pile could be contaminated with petroleum hydrocarbons and solvents; and c) paint that could contain lead. Additional characterization and sampling should be performed to assess the potential environmental sources of contamination identified at this site. All exposure pathways at the Old Fire Hall site are considered complete until further characterization determines otherwise.

The Old Fire Hall is centrally located in Thorne Bay. The site is unlocked and open to the community. The most accessible hazard is the friable (material that, when dry, can be crumbled, pulverized, or reduced to powder by hand pressure) asbestos-containing paint that is chipping off extensively throughout the exterior of the building. Prior to the City authorizing demolition of the Old Fire Hall, a certified asbestos abatement contractor should remove the asbestos-containing materials. This would require that the City contact EPA at least 10 working days prior to the commencement of asbestos abatement work or building demolition.

The asbestos-containing materials should be taken to a landfill that is permitted to accept asbestos. The Thorne Bay municipal landfill is not currently permitted to accept asbestos. However, it is a good candidate to receive authorization from DEC for a one-time disposal of up to 250 cubic yards of asbestos-containing waste. The authorization to dispose of this material in a permitted local landfill will decrease the cost of the cleanup activity.

Estimated costs have been developed for recommended characterization, remediation, and cleanup activities at the site. These estimated costs can be used as a guide for the community to plan how long-term goals for reuse of the property may be accomplished. Means of consolidating resources are proposed to achieve savings for the cost of the entire project.

The total cost estimate for the entire characterization and cleanup of this site is \$91,650. This estimate includes testing paint for lead and testing the soil under the sand pile and near the presumed location of the aboveground storage tank for petroleum hydrocarbons and solvents. However, the estimate is based upon the assumptions that lead-based paint and soil contamination are not found. The cost estimate may need to be refined based upon sample results.

In the fall of 2009, the City submitted an application for a USDA Rural Development Communities Facility grant to help fund the Old Fire Hall building deconstruction and abatement as well as construction of a new sand storage facility. The USDA grant may be a viable source of funding for this project.

## 1. INTRODUCTION

The Reuse and Redevelopment program in the Alaska Department of Environmental Conservation (DEC) seeks to foster economic vitality through the reuse and recycling of contaminated properties in Alaska. As part of this effort, DEC conducts several DEC Brownfields Assessments (DBAs) each year using funding from both EPA and the State of Alaska.

On December 31, 2009, the City of Thorne Bay submitted a DBA Request Form to the Department, which is included in this report as Appendix A. The community's objective is to decontaminate and demolish the Thorne Bay Old Fire Hall (hereafter, "the site"). The site is no longer occupied by the firefighting squad and is currently used to store sand for winter road maintenance. The City would like to reuse the site by incorporating it into the adjacent Pearl Nelson Community Park and constructing a band-shell/covered facility. This project is a top community development priority. The City is also seeking funding to build a proper sand storage facility adjacent to the existing municipal operations building. The Thorne Bay Old Fire Hall is owned by the City of Thorne Bay. The site is 0.1333 acres and is located on Block 7 Lot 1 on Freeman Drive in Thorne Bay, Alaska. The location of the site is shown on Figure 1. An aerial photo of the project site from 1982 is found in Figure 2. A site map with 2006 photography is shown in Figure 3.

### 1.1. Purpose

Under Notice-to-Proceed (NTP) 18-4002-11-019, DEC tasked OASIS Environmental, Inc. (OASIS) with the completion of a property assessment and cleanup plan (PACP) for the Thorne Bay Old Fire Hall site in Thorne Bay, Alaska. This PACP summarizes the site's background and activities performed during the site assessment, and provides recommendations for the future beneficial reuse of the site.

### 1.2. Scope of Work

The project's scope of work included researching environmental databases and historical aerial photographs, interviewing community members familiar with the site, and performing a limited site assessment to evaluate potential hazards and environmental conditions. Upon completion of the records review and site assessment, available analytical data were compared against appropriate regulatory criteria and a potential cleanup plan was developed to allow future reuse of the site in alignment with landowner goals.

### 1.3. Objectives

The overall project objective was to prepare a PACP to provide a basis for the City of Thorne Bay to clean up any contamination of the site, demolish the Old Fire Hall building, and construct a band-shell/covered outdoor meeting facility on the site as an extension of the Pearl Nelson Community Park. As part of DEC's Brownfield Program, specific objectives included the following:

- Determining whether an environmental hindrance exists at the site.
- Identifying the nature and extent of contamination and its potential impact on the reuse of the property.
- Proposing recommendations for additional assessment, if necessary.
- Identifying cleanup options and providing an estimate of cleanup costs for the site.

## 2. COMMUNITY OVERVIEW AND INFORMATION

Thorne Bay was once the largest logging camp in North America. It was developed as a result of a long-term timber sales contract between the U.S. Forest Service and the Ketchikan Pulp Company (KPC). In 1960, KPC's main logging camp was in Hollis, with a floating logging camp in Thorne Bay. The main camp was moved to Thorne Bay in 1962. Thorne Bay evolved from a logging camp into an incorporated city in 1982. KPC ceased major operations in Thorne Bay in the late 1990s (DCRA Community Information Summaries 2010). The community saw an immediate 30 percent loss in employment and residency. Over the last four years, the City of Thorne Bay has developed a comprehensive strategy to improve infrastructure and public health in order to foster the growth of the population base.

Current sources of employment in Thorne Bay include small sawmills, the U.S. Forest Service, the Southeast Island School District, commercial fishing, tourism and lodging, and local and state government. To supplement incomes, residents fish for salmon, halibut, shrimp, and crab, and hunt deer. Additional economic activities include automobile and heavy equipment maintenance and repair, vehicle and boat fuel sales, transportation, and limited retail. Thorne Bay is accessed by float plane, by the airport at Klawock, and the inter-island ferry at Hollis. The Thorne Bay Harbor provides slips for over 100 vessels. The seaplane base is state-owned (DCRA Community Information Summaries 2010).

There are no Native Corporations or Councils in Thorne Bay. The closest tribal government is in Kasaan, which is approximately 12 miles away.

### 2.1. Location, Climate, and Geology

According to the Alaska Division of Community and Regional Affairs (DCRA), Community Information Summary, Thorne Bay is located 47 air miles northwest of Ketchikan on the east coast of Prince of Wales Island. Prince of Wales may be accessed by boat or float plane. On the Prince of Wales road system, it lies 60 miles from Hollis and 36 miles east of the Klawock Junction. The community lies at 55.687780° North Latitude and -132.522220° west longitude in Section 12, Township 071S, Range 084E, Copper River Meridian. The community encompasses 25.5 sq. miles of land and 4.8 sq. miles of water.

Prince of Wales Island has a cool, moist, maritime climate. Summer temperatures range from 49°F to 63°F and winter temperatures from 32°F to 42°F. Average annual precipitation is 120 inches, with 40 inches of snow (DCRA Community Information Summaries 2010).

Hydrological studies have not been done for the major rivers of the Thorne Bay area. However, given the size of the Thorne River and the high average annual precipitation, there is a very high potential for major flooding to occur, particularly at the mouth but also upriver beyond the city limits (Thorne Bay Coastal Management Program 1992). The Old Fire Hall is more than 1 mile from the Thorne River. According to Bruce Tower

(Personal communication. September 2010), the Old Fire Hall has never flooded. No news stories about flooding in downtown Thorne Bay or the Old Fire Hall could be found in a search of the Ketchikan Daily News and Southeast Alaska's Island News.

## **2.2. Demographic Information**

Thorne Bay has about 434 residents and is now the third largest city on Prince of Wales Island (Prince of Wales Chamber of Commerce 2010). Ninety-three percent of the population is Caucasian. English is the main language (U.S. Census Bureau 2000).

During the 2000 United States Census, total housing units numbered 327, and vacant housing units numbered 108. Vacant housing units used only seasonally numbered 43. A total of 269 residents were employed. The unemployment rate at that time was 14.6 percent, although 41.14 percent of all adults were not in the work force. The median household income was \$45,625, per capita income was \$20,836, and 7.81 percent of residents were living below the poverty level (DCRA Community Information Summaries 2010).

In 2008, the estimated median household income had risen to \$60,969 with an estimated per capita income of \$27,858. The median house or condominium value was \$174,806.

Information from the 2010 census is not yet available for this area.

The median resident age is 39 years old with 54 percent of the population being male and 46 percent female. For the population over 15 years of age, 67 percent are currently married.

Approximately 89 percent of the population over 25 years of age has a high school degree or higher. Of those, approximately 24 percent have a college degree and 10 percent have a graduate or professional degree (U.S. Census Bureau 2000).

The agriculture, forestry, fishing and hunting, construction, and public administration sectors employ most men (56 percent) in Thorne Bay. Most women (57 percent) are employed by the education, public administration, and agriculture, forestry, and fishing and hunting sector (City-Data.com 2010).

## **2.3. Community Resources and Infrastructure**

The City of Thorne Bay has a public drinking water supply and a sewage treatment system. The drinking water comes from Water Lake. The municipality provides refuse collection services, a regional baler, a recycling facility, and a landfill. It also participates in annual hazardous waste disposal events. The City also provides emergency medical services, fire protection, and an emergency medevac helipad. Electricity is provided by Alaska Power Company. There is one school located in the community, attended by approximately 70 students. The Thorne Bay Health Center is the local clinic. Emergency medical service is provided by the Thorne Bay Volunteer Rescue Squad/EMS and Prince of Wales Island Area EMS (DCRA Community Information Summaries 2010).

### **2.3.1. Public Water Supply**

The public water system for Thorne Bay is a Class A water system consisting of one source intake. Water Lake, north of Thorne Bay, supplies drinking water that is treated and stored before being piped for distribution. The Old Fire Hall and surrounding area are supplied by this public drinking water system.

This surface water drinking water system is Alaska water system number 2120216. There are 115 service connections. The DEC Drinking Water Program lists violations and enforcement actions for drinking water systems. There have been several drinking water violations in 2010. The violations include analytes such as total haloacetic acids (HAAS), trihalomethanes (TTHM), turbidity, and chlorine (DEC Drinking Water Watch 2010). A full list of the violations is included in Appendix B.

The gravity sewage system includes secondary treatment before being discharged into the bay. On the north side of town, all households are connected to the piped systems and are fully plumbed. On the south side, residents use rain catchment, streams, or springs and direct discharge or septic systems (DCRA Community Information Summaries 2010).

### **2.3.2. Landfill**

#### **2.3.2.1. General Information**

The City of Thorne Bay provides refuse collection services, a regional baler, a recycling facility, and a landfill. It also participates in annual hazardous waste disposal events. The municipal landfill is located in Salt Chuck on Prince of Wales Island approximately 7.5 miles west of Thorne Bay. The landfill occupies 20 acres and approximately 3.3 acres is cleared for cover cells. It receives less than 230 cubic yards of refuse per month. It is classified as a Class III facility, which is considered small, rural, and remote. The landfill permit was issued on 10/30/05 and expired on 10/30/10. The City has applied to DEC for a new permit. The anticipated closure date of the municipal landfill is 2024. The facility is approved to accept construction and demolition waste, sludge, septage, and municipal garbage (Thorne Bay Landfill October 2005 permit application).

#### **2.3.2.2. Obtaining Authorization to Accept Asbestos**

The landfill is not permitted to accept regulated asbestos-containing material (RACM), which is defined in Alaska solid waste regulations (18 AAC 60.990) as:

- A. Friable asbestos material;
- B. Category I nonfriable asbestos-containing material that has become friable;
- C. Category I nonfriable asbestos-containing material that will be, or has been, subject to sanding, grinding, cutting, or abrading; and
- D. Category II nonfriable asbestos-containing material that has a high probability of becoming, or has become, crumbled, pulverized, or reduced to powder by the forces expected to act on the material in the course of a demolition or renovation

operation regulated by 40 C.F.R. 61.145, revised as of July 1, 1997, or in the course of a disposal operation regulated under this chapter.

Previous analytical lab results from MACS Lab, Inc. found that the cement board and paint from the Old Fire Hall contained more than one percent asbestos. This material may become friable during demolition of the building and may not be disposed of at the landfill under its current permit.

The municipal landfill may apply to the DEC Solid Waste Program for an authorization for a one-time disposal of up to 250 cubic yards of RACM and non-RACM waste that is generated at the Old Fire Hall site when the building is demolished. (See Appendix C.) The City of Thorne Bay is a candidate for receiving this authorization from DEC because the waste will be generated locally (within 25 miles of the disposal site) from a single project and the landfill is located in a remote area with no reasonable access (at least 25 miles away) to an existing permitted asbestos landfill. Per e-mail communication on September 22, 2010, Sandra Woods from the DEC Solid Waste Program confirmed that Thorne Bay would meet the criterion of not having year-round access to a major road system (a system of connected roads with a total length of 100 miles or more).

The authorization fee would be \$1,000 (18 AAC 60.700 Table I-3.) In the application, the City of Thorne Bay would need to describe how it would prevent surface water, storm water, and ground water from entering the site as well as the distance of the landfill from drinking water sources (may not be closer than 200 feet). The City would also have to include information on the disposal site design and construction, operations, and a closure plan. A copy of the full application may be found at the DEC, Division of Environmental Health, Solid Waste Program website at:

[http://dec.alaska.gov/eh/sw/SW\\_Permits/permitapps.htm](http://dec.alaska.gov/eh/sw/SW_Permits/permitapps.htm).

If the volume of RACM waste would be over 250 cubic yards, then the city could apply for an asbestos solid waste monofill permit. (See Appendix D.)

If the city applies for and DEC grants authorization to dispose of asbestos at the Thorne Bay municipal landfill, the landfill will need to follow all state regulations for asbestos landfills found at 18 AAC 60.450. These regulations include requirements that the landfill shall inspect each load of RACM waste to assure that friable asbestos material is sealed in properly labeled leak-proof bags or containers. At least once per 24 hours while the asbestos disposal is occurring, the operator must cover the waste with at least six (6) inches of non-RACM material. The operator must also maintain records about the asbestos waste that was received. There are also specific requirements about mapping the boundaries of the asbestos waste management area and work plans for excavating or otherwise disturbing any asbestos containing waste that has been deposited and covered.

### **2.3.2.3. Space Available for Land Farming**

OASIS field screening of one sample taken in the location of the former aboveground storage tank indicates that the soil in that location may be contaminated with petroleum hydrocarbons. Additional soil sampling is necessary to confirm that contamination exists.

In addition, the first floor of the Old Fire Hall was covered with sand and could not be field screened. If contaminated soils are found at the site, the Solid Waste Supervisor, Max Blair, indicated that there was space available at the Thorne Bay Landfill for land farming.

### **2.3.3. Current Construction or Infrastructure Projects**

The City may coordinate with other active projects in the area at the time the Old Fire Hall is demolished to see if there are any economies of scale to be achieved by sharing materials or heavy equipment with active or pending construction projects. According to the City of Thorne Bay FY 11 budget, active capital projects include the following:

- Davidson Landing Phase I
- South Thorne Bay Road Improvements
- DEC Village Safe Water Comprehensive Sanitation Plan
- USDA RD Stormwater I & Study

There are numerous planned infrastructure construction projects including:

- Davidson Landing Phase II
- Thorne Bay Road improvements
- Davidson Landing Boat Launch Ramp

(City of Thorne Bay 2010b).

## **2.4. Community Involvement**

The Thorne Bay Old Fire Hall was constructed in the 1970s. A title could not be found for the property and the exact construction date is unknown. The Old Fire Hall was the base of operations for the volunteer fire department. The City constructed the Roth Building in 1991 to house emergency medical services (EMS) and firefighting operations and decommissioned use of the Old Fire Hall. The building is currently used to store sand for road maintenance.

According to the DBA Request Form filled out by the City and the stakeholder meeting, the community would like to demolish the building and build a covered area that would enhance community recreational opportunities. This area would be adjacent to Pearl Nelson Community Park, the community's sole green space. It is a picturesque location with views of the waterfront.

Residential housing exists close to the Old Fire Hall site. There is no lock on the front door or fence around the property. It is easily accessed by the community. Previous laboratory reports have confirmed that the Old Fire Hall contains asbestos in exterior cement siding and paint.

The community is also concerned about other potential environmental hazards that may be present due to the previous storage and maintenance of vehicles and equipment.

The City of Thorne Bay passed a resolution in support of requesting that the DEC Reuse and Redevelopment program complete a brownfields assessment of the Old Thorne Bay

Fire Hall (Appendix E). A copy of the City's successful DBA Request Form to DEC is attached in Appendix A.

#### **2.4.1. Stakeholder Meeting Summary**

A stakeholder meeting was held via teleconference on August 27, 2010. Representatives from the DEC, the City of Thorne Bay, EPA, and OASIS attended the meeting. During the teleconference, the Interim City Administrator, Pete Hallgren, described the community concerns regarding the property and potential plans for the beneficial reuse of the site in the future. The community's main concern about the building is the asbestos-containing paint and cement siding. Mr. Hallgren stated that there are no drums or storage containers of chemicals on the site. There was no underground fuel storage tank on the site. The aboveground fuel storage tank has been removed. Stakeholder meeting minutes are included in Appendix F.

#### **2.4.2. Proposed Community Development and Land Reuse**

The DEC Reuse and Redevelopment Program is intended to identify, assess, and revitalize properties, but its funding is limited to assessment only. Funding for further assessment or site cleanup need to come from other sources.

The City would like to deconstruct the Old Fire Hall. Sampling and laboratory analyses conducted in July 2009 of the cement board, adhesive, nail washers, and paint found that the cement board and paint contains 3 percent to 10 percent of the chrysotile or amosite asbestos fibers (Appendix G). The City of Thorne Bay plans to dispose of any hazardous materials at the appropriate solid waste facility. The City would then like to build a covered meeting area on the site and incorporate the site into the adjacent Pearl Nelson Community Park. The City also plans to construct a proper sand storage facility off-site.

In the fall of 2009, the City submitted a USDA Rural Development Community Facilities grant to gain funding for the Old Fire Hall building deconstruction and abatement and construction of a new sand storage facility. USDA found the City's application to be incomplete and has therefore not finished processing the application. In addition, the FY10 Strategic Plan section 7.4 shows that the City dedicated an additional \$25,000 toward construction of the new sand storage facility (City of Thorne Bay 2010a). No funding sources have been currently identified for the construction of the covered meeting facility that would be located on the Old Fire Hall site.

#### **2.4.3. Interviews and Input**

OASIS staff interviewed people in Thorne Bay who had specific knowledge about the Old Fire Hall prior to and during the site visit. Bruce Tower, Public Works Supervisor, was unavailable during the stakeholder meeting. He was interviewed by telephone on September 2, 2010. Mr. Tower was originally scheduled to do a walkthrough of the site with OASIS on October 5, 2010. However, the OASIS employees were delayed due to weather and conducted the site visit on October 6, 2010. Unfortunately, Mr. Tower was unavailable on that date. The newly appointed City Administrator had not arrived yet in

Thorne Bay and the Fire Chief was also unavailable. OASIS was able to discuss the Old Fire Hall with Emergency Services Coordinator, Cindy Edenfield, who was on the volunteer fire fighting squad when the building was in use. OASIS was also able to confirm with Teri Hammons, City Clerk, that the Old Fire Hall and surrounding area are supplied with city drinking water from Water Lake. OASIS also spoke with the Max Blair, the Solid Waste Supervisor, about the municipal landfill.

Information gathered during the course of the site visit and interviews is included within the applicable sections of this report.

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### 3. PROPERTY OVERVIEW

Thorne Bay is located 47 air miles northwest of Ketchikan on the east coast of Prince of Wales Island. The community lies at approximately 55.687780° North Latitude and -132.522220° West Longitude in Section 12, Township 071S, Range 084E, Copper River Meridian. The property is located on Lot 1 Block 7. The lot is 0.133 acres. It is located at the intersection of Freeman Drive and Rainy Lane and is within a few blocks of the waterfront. The building is located at 55.684997° North Latitude and -132.52255° West Longitude. The property is in an area zoned as Residential – Commercial I.

#### 3.1. Subsurface Conditions

The Old Fire Hall site is level. The topography across the street to the Southwest slopes to the waterfront.

The top inches of soil around the site consists of fine-grained soil with minor gravel. The soil could be categorized as fine-grained with low organic carbon.

#### 3.2. Current Site Use

The site is no longer in use as a fire hall. The front of the Old Fire Hall is open to the environment and is unsecured. It is possible for members of the community to enter the building. The Old Fire Hall is now used to store sand for winter road maintenance. There is a residential property to the northeast of building. North of the property across Freeman Drive, there is a residential property that is boarded up and may no longer be occupied. The Old Fire Hall is northeast (across the street on Rainy Lane) from the Pearl Nelson Community Park. There is a waterfront view from the property. The property is zoned as Residential – Commercial I (Resource Data Inc for the City of Thorne Bay Planning Service 1999).

#### 3.3. Historical Site Use

The Thorne Bay Old Fire Hall was constructed by the Ketchikan Pulp Company in the 1970s prior to the formation of the City of Thorne Bay. It was the base of operations for the volunteer fire department. The City of Thorne Bay was incorporated in 1982 and constructed a new building (the Roth Building) in 1991 to house EMS and firefighting operations. Based upon interviews with two current community members who were volunteer firefighters when the Old Fire Hall was in use, only water was used to put out fires. There were no fire suppressants stored at the site. Vehicles were maintained in the building and there were likely leaks of oil or lubricants. The building was heated using oil. There was an exterior aboveground storage tank used to store the fuel and there were likely leaks of oil around the tank.

#### 3.4. Ownership Information

Mr. Hallgren stated in the stakeholder meeting that the building was constructed by the Ketchikan Pulp Company in the 1970s prior to the City of Thorne Bay's incorporation in

1982. The Ketchikan Pulp Company is a wholly owned subsidiary of the Louisiana – Pacific Corp. headquartered in Portland, Oregon (Business Wire 1996). Mr. Hallgren indicated that the building was now owned by the City of Thorne Bay. OASIS contacted the City to get a copy of the Old Fire Hall's title, deed, or documentation of conveyance of the property. No such documentation could be located.

### **3.5. Records Review**

OASIS reviewed available environmental databases in order to identify any pertinent sites that were close to the Old Fire Hall. The Thorne Bay DuRette Shop (see Section 3.5.1) was located in the DEC Contaminated Sites and Leaking Underground Storage Tanks database. (See Appendix H.)

A review of the DEC Statewide Oil and Hazardous Substance Spills Database did not indicate any spills that had occurred at the Old Fire Hall. There were over 20 entries for the City of Thorne Bay but there were no addresses associated with the entries. Therefore, OASIS was unable to determine if any listed spills may have affected the Old Fire Hall or adjacent property. (See Appendix I.)

OASIS found three entries for Thorne Bay in the DEC UST Storage Tanks Database. The only underground storage tank still in use is located at the City of Thorne Bay School. The school is 0.23 miles west of the Old Fire Hall on Sandy Beach Road. Deconstruction at the Old Fire Hall is not expected to disturb the underground tanks at the school. (See Appendix J.)

OASIS searched the EPA Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) list and found that the Salt Chuck Mine was listed as final on the superfund national priorities list on March 4, 2010. The first clean up action has not yet been initiated. (See Appendix K.) The Salt Chuck Mine is 4.5 miles from the City of Thorne Bay and contamination from the mine should not affect activities at the Old Fire Hall.

No pertinent entries related to the Old Fire Hall were found in the Alaska Department of Natural Resources (DNR) Well Log Tracking System (WELTS) database.

#### **3.5.1. Thorne Bay DuRette Shop**

A review of the DEC Contaminated Sites and Leaking Underground Storage Tanks Database for the City of Thorne Bay located one active site near the Old Fire Hall. The Thorne Bay DuRette Shop is located on Shoreline Drive about 0.2 miles northwest of the Old Fire Hall. Site screening soil samples were taken from excavated soil at the site. Diesel range organics (DRO) were found at concentrations ranging from 120 parts per million (ppm) to 3,700 ppm and residual range organics (RRO) were found in concentrations of 250 ppm to 9,900 ppm. (See Appendix H.)

## 4. SITE RECONNAISSANCE

### 4.1. Deviations

DEC issued a request for proposals (RFP) to conduct a Property Assessment and Cleanup Plan for the Old Fire Hall in Thorne Bay on July 8, 2010. The OASIS response to the RFP on July 26, 2010 included details on how OASIS expected the site visit would be conducted. The response outlined that Lisa Nicholson would conduct the site visit over a period of three days. The October site visit was instead led by Lisa Nicholson and assisted by Denise Koch. These two OASIS employees were able to complete the site visit in one instead of the planned three days. Both of these staff meet DEC requirements for qualified persons.

### 4.2. Methodology

OASIS had planned to conduct the site visit on October 5, 2010. Mr. Bruce Tower is the Public Works Supervisor and was a volunteer firefighter when the Old Fire Hall was in use. Mr. Tower was scheduled to do a walkthrough of the site with OASIS. However, the OASIS staff were delayed on October 5<sup>th</sup> due to a severe wind advisory, which did allow small aircraft to fly to Thorne Bay. OASIS performed the site reconnaissance on October 6, 2010. Unfortunately Mr. Tower was unavailable to accompany OASIS staff that day. The Old Fire Hall building is unsecured and OASIS entered the site with permission of Mr. Tower.

OASIS staff met with Cindy Edenfield, Emergency Services Coordinator for Thorne Bay. Ms. Edenfield stated that no fire suppression chemicals were used or stored in the Old Fire Hall. She provided the general location of where the aboveground storage tank had been located. (The tank was no longer present.) Ms. Edenfield did not know of environmental concerns with the site other than the asbestos-containing siding and paint.

Field notes and photographs were taken to document observations of existing site conditions. Field notes are included in Appendix L, and a photographic log is included in Appendix M. Photoionization detector (PID) field screening was conducted but no samples were collected.

### 4.3. Observations

The Old Fire Hall is currently used to store sand for winter road maintenance and it covers the majority of the first floor. There is a bathroom in the southern corner of the building. It contains standard household chemicals and one chemical, Wavicide, which is a hospital strength disinfectant. The second floor of the building consists of a loft with a desk, file cabinets, papers, and some medical supplies. There were no aboveground or underground storage tanks. No drums or large containers of unidentified chemicals were found in the building or on the property.

The asbestos-containing paint on the exterior was flaking extensively and the exterior cement siding also contains asbestos.

Pertinent photographs are contained within the text. Larger versions of these pictures as well as additional photographs are found in Appendix M.

The scope of work for this project did not include environmental sampling beyond PID screening.

#### 4.3.1. Interior

The first floor of the Old Fire Hall was mostly covered with sand.



There was some area on the first floor below the second floor loft that was accessible and not covered with sand. The area contained mostly scrap wood, pipes, nails, a chair, and an empty metal instrument box. There were four sets of fluorescent light fixtures that were too high to access to check the ballast for a “No PCBs” statement. No drums of any chemicals were stored in the building. The only chemical that was found under the loft was an empty container of motor oil.



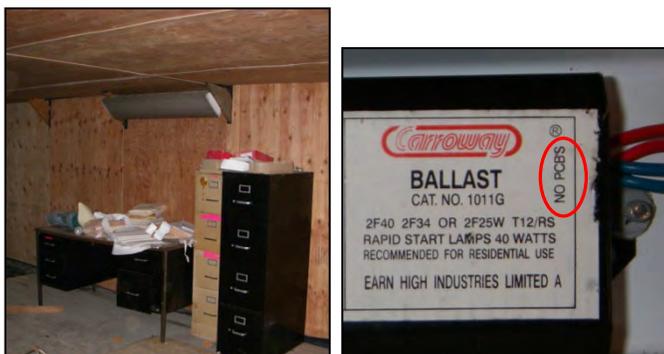
The soil below the second floor loft was not covered with sand and no staining was observed. A soil sample from beneath the loft was screened using a heated headspace screening method and a PID in order to detect the presence of hydrocarbon contamination. The PID result was 8.1 ppm. This level is low enough that petroleum hydrocarbon concentrations in the soil are likely within applicable cleanup levels.

A bathroom is located in the southern corner of the first floor. This is the portion of the building that is connected to the sewer system and no evidence of a leach field was found. The bathroom contained standard bathroom cleaners (e.g. Tilex, Comet) and other household chemicals (e.g. Turtle Wax, Purex laundry detergent). The only unusual cleaning chemical that was discovered was a hospital grade disinfectant called

Wavicide-06. The bottle listed it as a bactericide, viruscidal, tuberculocidal, fungicidal, and pseudomonacidal. The Wavicide-06 is estimated to contain less than 1 cup of fluid.



The building has a second floor loft that was accessible by a staircase. The loft contained a desk, fluorescent light fixtures and bulbs, office supplies, and crutches. The ballast in the light fixtures stated that they did not contain PCBs.



An apparent attic access door was noted in the ceiling away from the second floor loft and, therefore, not accessible to OASIS personnel.



#### 4.3.2. Exterior

On the day of the site visit, the temperature was 48°F and it rained intermittently throughout the day.

The roof of the building is metal. The cement board siding and off-white paint had been confirmed by MACS Lab, Inc. to contain asbestos on July 16, 2009. All cement board

sampled contained 10 percent chrysotile asbestos fibers. The paint samples varied in the type and percent of asbestos fibers that they contained. Four samples contained 3 percent chrysotile, two paint samples contained 5 percent chrysotile, and two paint samples contained 5 percent amosite. (See Appendix G.) This asbestos-containing paint is flaking and chipping off extensively on all sides of the building's exterior.

There are several places where there are holes in the building's exterior and insulation can be seen. The insulation appears to be composed of fiberglass.



Cindy Endenfield, Emergency Services Coordinator and volunteer firefighter when the Old Fire Hall was in operation, described where an aboveground oil storage tank had once been located on the southwestern side of the building. The tank and associated piping had been removed and the exact location of the tank was unknown. There was no visible soil staining on the southwestern side of the building. OASIS staff screened two soil samples that were located approximately eight feet apart in areas where penetrations in the wall suggested that there may have been access holes for feed lines to an oil heater. The first sample (aboveground oil storage tank #1) was taken about 20 feet from the back right (southern) corner of the building along the southwestern wall. The second sample (aboveground oil storage tank #2) was taken about 12 feet from the back right (southern) corner of the building along the southwestern wall. The southwestern wall of the building faces Pearl Nelson Community Park.

The two samples were screened to detect whether hydrocarbons were present in the soil using a heated headspace screening method with a PID. The aboveground oil storage tank #1 sample has a PID result of 16.1 ppm. The aboveground oil storage tank #2 had a PID result of 6.2 ppm. The 6.2 ppm sample is likely within cleanup levels for petroleum hydrocarbons. The 16.1 ppm sample location should be sampled for DRO, gasoline-range organics (GRO), and benzene, toluene, ethylbenzene, and xylenes (BTEX)<sup>1</sup> to determine whether the soil concentrations are above cleanup levels.

An empty half of a steel drum and a garbage can were found underneath a blue tarp on the northeast exterior wall of the building very close to the front of the Old Fire Hall. There was no visible soil staining in the area. The garbage can contained decayed trash

<sup>1</sup> BTEX compounds are some of the volatile organic compounds (VOCs) found in petroleum derivatives.

and some aluminum cans. It is possible that the half barrel may have been used as a burn barrel. A PID sample taken underneath the remaining portion of the barrel had a PID result of 9.0 ppm. This level is low enough that the petroleum hydrocarbon concentrations would likely be within applicable cleanup levels.



#### 4.3.3. Properties Adjacent to the Old Fire Hall

Across Rainy Lane to the southwest of the Old Fire Hall is Pearl Nelson Community Park. This is the community-owned green space that the City of Thorne Bay hopes to enhance by building a sheltered area on the Old Fire Hall property after the building is deconstructed.

A boarded-up, uninhabited residence lies to the north of the Old Fire Hall. An occupied residence is located up the hill to the northeast of the site.



#### 4.3.4. Thorne Bay Landfill

The Thorne Bay municipal landfill is classified by DEC as a Class III facility, which is considered small, rural, and remote. In addition to municipal garbage, the landfill is permitted to receive construction and demolition waste such as scrap lumber, insulation, sheet rock, plumbing, fixtures, etc. (Thorne Bay Landfill October 2005 permit application). It occupies approximately 20 acres. OASIS employees spoke to Max Blair, Solid Waste Supervisor, about the facility and discussed the disposal of the Old Fire Hall demolition waste.

If hydrocarbon contaminated soil were found beneath the sand pile and/or around the former aboveground oil storage tank, Mr. Blair stated that there was space available to

land farm the soil (if allowed by DEC per the landfill's permit). The landfill had impermeable liners that could be used and it was possible to land farm in a location that would reduce the potential for the hydrocarbons from the soil to leach into the creek.

OASIS personnel discussed the potential need for disposal of asbestos-containing material at the landfill. Mr. Blair indicated that, if permitted to accept asbestos waste by DEC, there is plenty of space available for the disposal of the volume of asbestos-containing waste likely to be generated during the deconstruction of the Old Fire Hall. He identified a flat location away from cell 1 and cell 2, which are currently being used to dispose of municipal trash, as a possible disposal site.



## 5. ENVIRONMENTAL REVIEW AND SUMMARY OF FINDINGS

### 5.1. Historical Environmental Review

OASIS completed a review of several databases from environmental and resource agencies such as DEC, DNR, and EPA. No records of oil or hazardous substance spills, underground storage tanks, wells, or superfund listings were found for the Old Fire Hall.

#### 5.1.1. Mather Environmental LLC Assessment

As of February 2010, the City of Thorne Bay had paid \$2,250.00 to Mather Environmental LLC for the identification and laboratory testing of building materials in the Old Fire Hall to determine whether they contained asbestos. Mather Environmental LLC also performed some project design services. (See Appendix N.) Mather Environmental LLC performed an assessment of the building materials in the Old Fire Hall. Of 30 samples analyzed, 25 samples contained asbestos.

**TABLE 1: SUMMARY OF ANALYSIS OF OLD FIRE HALL BUILDING MATERIALS FOR ASBESTOS**

Material	# of Samples	Asbestos Detected?	Asbestos Fibers Present
Cement Board	17	Yes	10% Chrysotile
Adhesive	4	No	None
Paint	4	Yes	3% Chrysotile
Paint	2	Yes	5% Chrysotile
Paint	2	Yes	5% Amosite
Nail Washers	1	No	None
<b>Total</b>	<b>30</b>		

### 5.2. Potential Source Areas

Based upon existing data and conditions noted during the site visit, the following potential sources have been identified:

- Exterior cement siding contains asbestos. There are several locations where the cement siding is broken or contains holes, likely from previous piping penetrations.
- Exterior paint contains asbestos. Paint flaking and chipping is extensive and is found all around the building. Paint chips are found around the entire perimeter of the building.
- One of the field screening samples in the presumed location of the former aboveground storage tank had a PID result of 16.1 ppm. This location (aboveground storage tank #1) should be sampled to determine the concentration of DRO, GRO, and BTEX.
- Vehicles were maintained in the Old Fire Hall. It is possible that there may be petroleum hydrocarbon or solvent contamination on the first floor of the building. No observations were made of this area during the site visit because the floor is covered by sand.
- Due to the age of the building, the paint may contain lead.

### 5.3. Known or Perceived Data Gaps

Data gaps were determined through review of existing resources, the site visit, and interviews with knowledgeable personnel.

The following data gaps have been identified:

- The soil on the southwestern exterior wall of the building around the presumed location of former aboveground storage tank should be analyzed by a laboratory to determine whether the soil is contaminated with petroleum hydrocarbons.
- The vehicle maintenance area of the Old Fire Hall was covered by sand and has not been assessed for contamination by petroleum hydrocarbons or volatile organic compounds. After the sand is removed from the building and prior to deconstruction, additional assessment activities should be performed by a qualified person.
- It is not known whether the exterior paint or paint in the first floor bathroom contains lead. The paint should be tested using a Toxicity Characteristic Leaching Procedure (TCLP) in accordance with DEC requirements.

### 5.4. Conceptual Site Model

OASIS completed a DEC Human Health Conceptual Site Model (CSM) for the Old Fire Hall building and property. This section contains a summary of the CSM findings. The CSM scoping form and associated graphic are included in Appendix O.

#### 5.4.1. Potential Contaminants of Concern

Potential contaminants of concern at the site include:

- Asbestos: exterior cement siding and paint have been confirmed to contain asbestos.
- Potential petroleum hydrocarbon contamination in the soil around the presumed location of the previous aboveground oil storage tank.
- Petroleum hydrocarbon or solvent contamination associated with vehicle maintenance: contaminants may be present on the dirt floor that is under the sand on the first floor of the Old Fire Hall.
- Lead: paint may contain lead since the building was constructed in the 1970s.

#### 5.4.2. Exposure Pathways Determination

Given the limitations of existing data, all exposure media and pathways are assumed to be complete at this time. Completed pathways do not imply that contamination exists, only that the mechanism for potential impacts to human health cannot be ruled out. A completed pathway indicates the possible combination of a contaminant source, a transport mechanism, and a human receptor. This CSM was filled out with the assumption that petroleum hydrocarbon contamination or solvents may be found once the sand pile is removed from the first floor.

As detailed in the CSM and associated graphics (Appendix O), exposure via the following pathways may occur at the site:

- Incidental soil ingestion
  - Paint chips of peeling paint from the exterior building siding may contain lead. Current and future receptors have/may have access to the soil in this area.
- Dermal absorption of contaminants from soil
  - Potential petroleum hydrocarbon contamination may be present in the soil around the presumed location of the former aboveground storage tank. Potential petroleum and solvent contamination may also be present in the soil below the sand pile in the building. The contamination, if present, may contain compounds that can be absorbed through the skin. Current human receptors can access the soil around the former aboveground storage tank. Human receptors cannot currently access the soil below the sand pile on the interior of the building. However, once the soil is removed, future receptors will be exposed. Lead may be present in the exterior soil around the perimeter of the building but it cannot be absorbed through the skin.
- Ingestion of groundwater
  - Potential petroleum hydrocarbon contamination beneath the sand pile could migrate to groundwater. Although groundwater is not currently used as a drinking water source in Thorne Bay, it cannot be ruled out as a future source of drinking water. The ingestion of groundwater pathway is considered complete but not significant since the City of Thorne Bay is and will likely remain on a plumbed water supply.
- Ingestion of surface water
  - Potential petroleum hydrocarbon contamination around the former aboveground storage tank could affect the surface water of Thorne Bay through surface runoff. In addition, potential contamination at the former aboveground storage tank location and beneath the sand pile could migrate to groundwater and reach Thorne Bay via the groundwater. Thorne Bay is marine water and ingestion is not likely. Therefore, this pathway is considered incomplete.
- Ingestion of wild foods
  - The Old Fire Hall is uphill and approximately 50 feet away from Thorne Bay. The area around the site does not appear to be used for harvesting wild food, but it could be in the future. Potential lead soil contamination could bioaccumulate if the area was used for subsistence harvest in the future. Potential hydrocarbon or solvent contamination could migrate to Thorne Bay via groundwater and the contaminant could contain compounds that bioaccumulate in sea life, which could then be harvested by humans.
- Inhalation of outdoor air

- Potential hydrocarbon contamination near the presumed site of the former aboveground oil storage tank may contain volatile compounds. An occupied residence is located within approximately 30 feet of the site to the northeast. Pearl Nelson Community Park is located approximately 40 feet to the southwest of the site. This pathway is not considered significant because the soil outside the building, if found to be above cleanup levels, is unlikely to have a concentration high enough to affect human health through inhalation.
- Inhalation of indoor air
  - Potential hydrocarbon contamination beneath the sand pile may contain volatile compounds. The Old Fire House is not currently occupied, but it is open to entry. An occupied residence is located within approximately 30 feet of the site to the southeast.

In addition, the asbestos sources (i.e. painted exterior cement siding) must be removed by a certified asbestos removal company prior to demolition of the building in order to prevent the local population and construction workers from being exposed to asbestos fibers.

With acquisition of any additional site specific information (e.g. examination of the soil on the first floor, soil sampling beneath the former aboveground storage tank, and analysis of paint for lead), the CSM should be revised to more accurately depict site environmental risks.

## 5.5. Cleanup Criteria

### 5.5.1. Asbestos Regulatory Cleanup Requirements

Asbestos-containing material with more than one percent asbestos that, when dry, can be crumbled, pulverized, or reduced to powder by hand pressure is federally regulated (40 CFR 61 Subpart M – National Emission Standards for Asbestos) and state regulated (18 AAC 60.450).

DEC defines friable asbestos-containing material as containing more than one percent asbestos and when dry the material *can* be crumbled, pulverized, or reduced to powder by hand pressure (18 AAC 60.990(54)). The exterior paint contains more than one percent of asbestos fibers and is flaking and chipping off and can be removed by hand pressure. It should be considered friable.

DEC defines Category II nonfriable asbestos-containing material as containing more than one percent of asbestos and when dry *cannot* be crumbled, pulverized, or reduced to powder by hand pressure (18 AAC 60.990(25)). The exterior cement board siding should be considered as Category II nonfriable asbestos-containing material.

However, DEC treats both friable asbestos materials and Category II nonfriable asbestos-containing material that has a high probability of becoming crumbled, pulverized, or reduced to powder by the forces expected to act on the material in the course of demolition as RACM (18 AAC 60.990(108)). Therefore, both the exterior paint and cement board siding should be treated as RACM.

The disposal of RACM falls under the jurisdiction of DEC.

A certified contractor must remove the RACM before the rest of the building is demolished. A person performing, directly supervising, or monitoring asbestos abatement work in Alaska must have a certificate issued by the Alaska Department of Labor under 8 AAC 61.720. The Department of Labor does not maintain a list of certified contractors but they are often listed under "Asbestos Removal Service" in the telephone directory. The City of Thorne Bay should request a copy of the contractor's asbestos removal certificate prior to authorizing work.

In addition, federal requirements state that **EPA must be notified in writing at least ten (10) working days in advance of any asbestos removal or building demolition.** The contact found on the EPA regional and state asbestos contacts website (<http://www.epa.gov/asbestos/pubs/regioncontact.html>) on November 15, 2010 is listed below.

EPA Region 10  
1200 Sixth Street  
Seattle, WA 98101

John Pavitt (AK)  
Mail Code: AOO/A  
Phone: 907-271-3688  
FAX: 907-271-3424

### 5.5.2. Lead Regulatory Cleanup Requirements

Paint samples from the exterior siding and from the bathroom should be analyzed for lead and analyzed using a Toxicity Characteristic Leaching Procedure (TCLP). Wastes with a TCLP concentration for lead of less than 5 milligrams per liter (mg/L) may be disposed of in the Thorne Bay municipal landfill since it is permitted to receive construction and demolition waste.

If the TCLP concentration is greater than 5 mg/L, it must be managed as a hazardous waste under the Resources Conservation and Recovery Act (RCRA). If there is less than 200 pounds of waste that must be disposed of per month with a lead concentration above 5 mg/L, it may be disposed of at a Class I or Class II municipal solid waste landfill facility that is permitted as a Conditionally Exempt Small Quantity Generator (CESQG). If there is more than 200 pounds of waste with a concentration of lead above 5 mg/L, the waste must be disposed at an EPA authorized treatment, storage, and disposal facility. (DEC Disposal of Lead Based Paint)

DEC regulations allow Class I or Class II landfills (e.g. Juneau Capital Disposal, Anchorage Regional Landfill, and Fairbanks North Star Borough S. Cushman Landfill) to accept non-residential lead-based paint waste as a CESQG. However, each facility has different criteria for accepting the waste. A representative at the Juneau landfill stated that landfill environmental staff would need to review the results of the sampling and analysis and the concentration of the lead in the paint. However, the representative would not provide a concentration threshold for accepting the waste.

### 5.5.3. Soil/Water Regulatory Cleanup Requirements

Soil contaminant concentrations must meet DEC cleanup criteria. Soil may be evaluated using Method One for petroleum hydrocarbon contaminated soil for a non-Arctic zone as

set out in Table A1 of 18 AAC 75.341. Soils may also be evaluated against the clean up levels for other chemicals, such as solvents, found in Table B1 of 18 AAC 75.341. Alternatively, soil cleanup levels could be developed under method three procedures described in 18 AAC 75.340(e). This method uses site specific soil and groundwater parameters to develop risk-based cleanup criteria without conducting an exhaustive risk assessment.

## 5.6. General Environmental Overview

During the site characterization of the Old Fire Hall, OASIS did not find evidence of aboveground or underground storage tanks. No containers of unidentified chemicals were discovered. One soil sample was taken from behind the sand pile on the first floor interior of the Old Fire Hall. Three soil samples were obtained from the exterior perimeter of the building. The samples were screened for the presence of hydrocarbons using a PID. The concentration of petroleum hydrocarbons ranged from 6.2 ppm to 16.1 ppm. The sample with a 16.1 ppm PID result may or may not be above cleanup levels. The samples with PID results below 10 ppm are likely below cleanup levels. Further assessment of the area around the former aboveground storage tank as well as the soil below the sand pile is warranted for petroleum hydrocarbons and volatile organic compounds.

The exterior paint and paint in the bathroom should be analyzed for TCLP lead and compared to cleanup criteria.

The most significant risk to human health is the asbestos-containing exterior paint and cement siding. This asbestos-containing material must be removed by a certified contractor prior to demolition of the remainder of the building. EPA must be notified in writing of any asbestos removal work or demolition a minimum of 10 business days prior to any work occurring. The asbestos containing material must be disposed of in a landfill that is permitted to receive regulated asbestos containing waste. DEC may authorize the current Thorne Bay municipal landfill to receive a one time disposal of asbestos for this project. (The DEC application that the City of Thorne Bay would need to fill out to obtain this authorization is found at Appendix C.)

All exposure pathways at the Old Fire Hall site are considered complete at this time until further characterization determines otherwise.

## 6. RECOMMENDED ACTIONS AND OPINION

Additional characterization needs to be performed in order to more completely understand the potential environmental impacts at this site. The soil around the location of the former aboveground storage tank should be analyzed by a laboratory to determine the concentration of petroleum hydrocarbons. The sand pile on the first floor should be removed and the soil examined for staining and field screened and potentially analyzed by a laboratory to quantify the levels of petroleum hydrocarbons and solvents in the soil. Paint on the building should be analyzed by a laboratory using the TCLP to determine whether it contains more than 5 mg/L of lead.

Asbestos containing material (e.g. cement siding, exterior paint,) should be removed from the building by a certified asbestos abatement contractor. Federal rules require that EPA must be notified in writing at least ten (10) working days before any asbestos abatement or building demolition.

Once all hazardous materials have been removed, the City can dispose of the remaining small quantity of non-hazardous solid waste on the site (e.g. pipe, nails, household cleaners) at the local landfill, demolish the Old Fire Hall, and proceed with the plans to build a band-shell/covered facility on the property.

### 6.1. Recommended Remedial Actions by Source Area

#### 6.1.1. Asbestos-Containing Material

The asbestos-containing siding and paint should be treated as RACM. In general, the following special precautions should be adhered to:

- EPA requires the owner of the building to provide written notification at least ten working days in advance of any abatement work so they have an opportunity to inspect the job. The notice should be updated when the amount of asbestos affected changes by at least 20 percent.
- Removal must be performed by certified asbestos abatement professionals.
- The RACM must be wet to prevent fiber release.
- The RACM must be sealed in a leak-proof container and marked with the required labels.
- Disposal may only occur at a landfill permitted to accept RACM. The Thorne Bay municipal landfill is not currently permitted to accept RACM. However, the City could apply to DEC for authorization to accept the material. (See section 2.3.2.2 for more information.)
- A waste shipment record must be completed for each load and signed by both the transporter and the receiving party.

Alaska environmental regulations pertaining to asbestos are found in 18 AAC 60 Solid Waste Management (specifically 18 AAC 60.450). Federal environmental regulations

applicable to this site are found in 40 CFR Part 61 Subpart M. Particularly relevant information can be found at 40 CFR 61.145 Standard for demolition and renovation.

OSHA worker protection measures (e.g. exposure assessments, monitoring against permissible exposure limits, safe work practices, etc.) for construction, demolition, and renovation work practices involving asbestos are contained in 29 CFR 1926.1101.

The federal Department of Transportation rules for shipping, marking, labeling, and transporting hazardous waste such as asbestos are found in 49 CFR 172.

### **6.1.2. Petroleum Hydrocarbons and Solvents**

The area around the former aboveground storage tank should be sampled for DRO using method AK 102, GRO using method AK 101, BTEX using EPA Method 8021B, and polycyclic aromatic hydrocarbons (PAHs) using EPA Method 8270C SIM<sup>2</sup>. The area beneath the sand pile in the vehicle maintenance area should be screened and potentially sampled for petroleum hydrocarbons (DRO/GRO/PAHs as above) and volatile organic compounds (including BTEX and chlorinated solvents) using EPA Method 8260C. The assessment and sampling should be performed by a qualified person.

### **6.1.3. Lead-Based Paint**

The federal Consumer Product Safety Commission banned lead paint in 1977 (16 Code of Federal Regulations CFR 1303). Since the Old Fire Hall was constructed in the 1970s, lead-based paint may have been used and therefore is potentially present in the debris. A lead-based paint assessment should be performed by a certified lead professional to characterize the amount of potential lead contamination present in the interior bathroom paint, exterior paint, the surrounding soil, and any other potential lead-based paint sources at the site.

Per DEC requirements, debris, dust, chips, sludge, or soil wastes with a TCLP lead concentration of less than 5 mg/L may be disposed of as non-hazardous waste. Any materials with a TCLP lead concentration of greater than 5 mg/L must be managed as hazardous waste under RCRA. This waste may be disposed of in quantities less than 200 pounds a month at a Class I or Class II landfill that is permitted to accept conditionally exempt small quantity generator waste. If the waste exceeds 200 pounds a month, the waste must be disposed of at an EPA-certified treatment, storage, and disposal facility.

Once the nature and volume of contaminated material has been determined, options for disposal should be more fully explored. Any lead abatement will need to be conducted by an EPA certified abatement firm.

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<sup>2</sup> Per 18 AAC 75.241, the sample should be analyzed for the following PAHs: acenaphthene, acenaphthylene, anthracene, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(g,h,i)pyrene, chrysene, dibenzo(a,h)anthracene, flouranthene, fluorene, indeno(1,2,3-c,d)pyrene, naphthalene, phenanthrene, and pyrene.

A list of EPA certified lead evaluation and abatement firms in Alaska can be found on the following website:

[http://cfpub.epa.gov/flpp/search.cfm?SHOWALL=Yes&DISCIPLINE=&SORT\\_BY=&APPLICANT\\_TYPE=FIRM&STARTROW=1&ZIP\\_CODE=&ABATEMENT=&JURISDICTION=&APPLICANT\\_NAME=&STATE=Alaska&EVAL=&CITY=&DOSEARCH=Yes&COURSE\\_TYPE=&COURSE\\_LANGUAGE.](http://cfpub.epa.gov/flpp/search.cfm?SHOWALL=Yes&DISCIPLINE=&SORT_BY=&APPLICANT_TYPE=FIRM&STARTROW=1&ZIP_CODE=&ABATEMENT=&JURISDICTION=&APPLICANT_NAME=&STATE=Alaska&EVAL=&CITY=&DOSEARCH=Yes&COURSE_TYPE=&COURSE_LANGUAGE.)

The contact information for the EPA Region 10 lead expert who serves as a resource for Alaska is listed below.

Barbara Ross  
[ross.barbara@epa.gov](mailto:ross.barbara@epa.gov)  
U.S. EPA Region 10  
Solid Waste & Toxics Unit  
(WCM-128)  
1200 Sixth Ave.  
Seattle, WA 98101  
(206) 553-1985

## **6.2. General Remediation Strategies or Alternatives**

### **6.2.1. Soil Management Strategies**

If contaminated soil is encountered during site characterization, resulting recommendations for soil management may include natural attenuation, in-situ remediation, or remedial excavation with either on-site or off-site treatment and disposal. Existing site information is inadequate to determine with certainty which soil management strategy or combination of strategies will be appropriate for the site.

In an interview with OASIS, Max Blair, Solid Waste Supervisor, indicated that there was space available to land farm hydrocarbon contaminated soil in the Thorne Bay Landfill.

### **6.2.2. Water Management Strategies**

It is unknown whether there is petroleum hydrocarbon contamination around the presumed location of the former aboveground storage tank or if there is petroleum hydrocarbon or solvent contamination on the first floor of the Old Fire Hall. If such contamination does exist, it can impact groundwater. Groundwater is not used as a drinking water source; this section of Thorne Bay is connected to city water derived from Water Lake. If soil contamination is found at the Old Fire Hall, the contaminant could affect the surface waters of Thorne Bay, either through runoff or through migration to groundwater connected to the bay. The waterfront is about 130 yards downhill of the Old Fire Hall. If hazardous material or contamination is discovered during additional site characterization or remediation, water management strategies should be addressed at that time.

## **6.3. Community Resources**

### **6.3.1. Resource Leveraging Opportunities**

Local workers and equipment will be used to the extent possible in order to minimize the costs for remedial actions and deconstruction/demolition.

### **6.3.1.1. Equipment**

The City has a fleet of heavy equipment including backhoes, loaders, excavators, and dump trucks that can be used for this project. Backhoes and loaders will be useful in removing the large volume of general construction and demolition waste and other non-hazardous solid waste from the site generated during cleanup. Dump trucks will be used to transport materials to the appropriate landfill. If contaminated soils are found on the first floor of the Old Fire Hall or around the presumed location of the former aboveground storage tank, this equipment can be used to excavate and remove material.

### **6.3.1.2. Labor**

Appropriate professional environmental personnel should be on-site during source area characterization and remediation. Certified asbestos abatement professionals will be needed to remove the RACM, and a certified lead-based paint professional will be needed for lead-based paint abatement, if lead-based paint is present at the site.

After certified professionals remove the asbestos and lead-based paint (if present), equipment operators, truck drivers, and laborers will be needed to remove any contaminated soil (if present), demolish the Old Fire Hall and prepare the site for development of the band-shell/covered area. All workers involved in removing any contaminated soil from the site will be required to have 40-hour Hazardous Waste Operations and Emergency Response (HAZWOPER) training. The City employs 10 full time equivalents that can be dedicated to different project components as necessary.

## **6.3.2. Potential Funding Sources**

The Center for Creative Land Recycling (CCLR) in San Francisco ([www.cclr.org](http://www.cclr.org)) is a grantee for the EPA's Technical Assistance to Brownfields (TAB) Communities program. CCLR maintains a list of potential funding sources for projects to revitalize brownfields communities throughout the Western United States. A full list of potential funding sources that CCLR identified is located in Appendix P. Some of the more promising options are discussed in this section.

The City of Thorne Bay may request that the EPA Targeted Brownfields Assessment program conduct a full site assessment through one of EPA's contracted consultants that includes sampling of the soil of the first floor of the Old Fire Hall once the sand is removed, sampling the soil around the presumed location of the former aboveground storage tank, and sampling of paint for lead. More information about this program can be found at the following website:

<http://yosemite.epa.gov/R10/CLEANUP.NSF/brownfields/targeted+brownfields+assessments>.

EPA awards competitive brownfields grants of up to \$200,000 per site that local governments can apply for in order to cleanup petroleum or hazardous-substance contamination. These projects require a 20 percent cost share. The cost share may be in the form of a contribution of money, labor, material, or services. The 2011 grant applications were due October 15, 2010 and will be announced in the spring of 2011.

Although the deadline has passed for the 2011 applications, the schedule and guidelines for the grants process is relatively consistent from year to year. The grants application process is highly competitive. If the City is interested in applying for such a grant, they may choose to review the 2011 cleanup grant guidelines found at: <http://www.epa.gov/oswer/docs/grants/epa-oswer-oblr-10-11.pdf>.

In addition, the City may wish to review the EPA's *Scoring BIG for Brownfields*, a guide that provides insight into what reviewers look for in a successful grant proposal. This guide can be found at: <http://www.epa.gov/region10/pdf/brownfields/scoring-big-for-brownfields-092010.pdf>.

In the fall of 2009, the City submitted an application for a USDA Rural Development Community Facilities grant. The City requested funding for the Old Fire Hall building deconstruction and abatement as well as construction of a new sand storage facility. However, the USDA needs additional information from the City such as 2008 to 2010 financial statements and a three to five year operating budget for the proposed sand storage facility. The USDA requested but has not yet received this important information. The USDA Sitka Office Area Director, Keith Perkins, is very interested in processing a completed Thorne Bay grant application for the City. Mr. Perkins may be contacted at: [Keith.Perkins@ak.usda.gov](mailto:Keith.Perkins@ak.usda.gov) or (907) 747-3506.

The federal Land and Water Conservation Fund Grant Program is administered through the Alaska Department of Natural Resources (DNR) Division of Parks and Outdoor recreation. These grant funds can be used to provide up to 50% matching assistance towards the cost of development of outdoor recreational facilities. Applications were due for the most recent FY09/FY10 funding cycle on April 30, 2010. Unfortunately, the program has been subject to a substantial reduction in funding. Jean Ayers, the contact for the program, was unsure when the next grant cycle would begin. It is likely that FY11/FY12 funds will be pooled for one grant cycle. More information on the grant can be found at the following DNR website: <http://dnr.alaska.gov/parks/grants/lwcf.htm>.

## 6.4. General Outline of Remedial Requirements

Table 2 presents a general listing of potential remedial actions for each source area.

**TABLE 2: POTENTIAL REMEDIAL ACTIONS BY SOURCE AREA**

Source Areas	Potential Remedial Actions
Asbestos – Various locations	<ul style="list-style-type: none"> <li>Have a certified contractor remove all asbestos.</li> <li>Properly package, label, and dispose of asbestos containing material at a landfill that is permitted to accept this waste.</li> </ul>
Petroleum hydrocarbons and Solvents	<ul style="list-style-type: none"> <li>Collect sample(s) from the area around the former aboveground storage tank for DRO, GRO, BTEX, and PAH analysis.</li> <li>Remove sand pile from the first floor of the Old Fire Hall.</li> <li>A qualified person should examine the soil for the presence of staining, and take field screening samples in multiple locations.</li> <li>Analytical samples from the locations with the highest screening levels should be collected for Method AK 101, AK 102, EPA Method 8260B, and EPA Method 8270C SIM.</li> </ul>
Lead-Based Paint	<ul style="list-style-type: none"> <li>Have a certified professional screen and collect paint samples from the interior and exterior of</li> </ul>

	<p>the building, the surrounding soil, and any other potential lead-based paint sources and have samples analyzed at a laboratory by the Toxicity Characteristic and Leaching Procedure method to characterize whether lead is present and in what concentration.</p> <ul style="list-style-type: none"> <li>• Dispose of lead-based paint waste appropriately (if present).</li> </ul>
--	---

### 6.5. General Cost Estimate Information

Total cost estimates for the various phases of site characterization, sampling, remediation, and cleanup are presented in Table 3. Detailed break-downs of the estimate costs are presented in Appendix Q.

The total cost estimate for the entire characterization and cleanup of this site is \$91,650. This estimate includes testing paint for lead and testing of the soil under the sand pile and near the presumed location of the aboveground storage tank for petroleum hydrocarbons and solvents. However, the estimate is based upon the assumptions that lead-based paint and soil contamination are not found. The cost estimate may need to be refined based upon sample results.

**TABLE 3: ESTIMATED COSTS FOR CHARACTERIZATION AND REMEDIAL ACTIONS**

Action	Estimated Cost
Sand and non-hazardous building debris, cleanup and disposal	
Remediation	\$20,670
Asbestos	
Remediation	\$45,240
Petroleum hydrocarbons and solvents	
Characterization	\$20,670
Lead-based paint	
Characterization	\$5,070
<b>Total Project Cost:</b>	<b>\$91,650</b>

The City of Thorne Bay stated in their DBA request that city equipment and personnel were available to assist with this project. These city resources could be used to greatly reduce the cost of the sand and non-hazardous building debris cleanup and disposal costs. If the City could find one environmental professional who was certified and qualified to do the characterizations for asbestos, petroleum hydrocarbons, and lead-based paint, the City would realize substantial travel and per diem cost savings.

## 7. CONCLUSIONS

OASIS performed a property assessment at the Old Fire Hall site in Thorne Bay, Alaska. The overall project objective was to prepare a PACP to provide a basis for the landowner, the City of Thorne Bay, to clean up any contamination of the site, demolish the Old Fire Hall Building, and construct a band-shell/covered outdoor meeting facility on the site as an extension of the Pearl Nelson Community Park.

As part of the property assessment, OASIS performed a records review of available information sources, reviewed historical aerial photographs, and conducted a site visit and interviews with knowledgeable personnel.

Based on the information collected during the property assessment, OASIS identified the following potential source or source areas:

- Exterior cement siding contains asbestos.
- Exterior paint contains asbestos. Paint flaking and chipping is extensive and is found all around the building. Cement board and paint chips are found around the entire perimeter of the building.
- The soil around the presumed location of the former aboveground fuel storage tank on the southwestern side of the building should be sampled and analyzed by a laboratory for the presence of petroleum hydrocarbons.
- Vehicles were maintained in the Old Fire Hall. The soil around the maintenance area in the building has the potential for petroleum hydrocarbon and chlorinated solvent contamination. No observations were made of this area during the site visit because the floor is covered by a sand pile.
- Due to the age of the building, the paint may contain lead.

The verified asbestos sources (i.e. painted exterior cement siding) must be removed by a certified asbestos removal company prior to demolition of the building in order to prevent the local population and construction workers from being exposed to asbestos fibers.

Before remediation of the potential source areas and cleanup of non-hazardous material and debris can proceed, additional characterization should be performed. The soil on the first floor of the Old Fire Hall and around the presumed location of the former aboveground storage tank should be field screened and sampled for petroleum hydrocarbons. The paint and paint debris should be tested for the presence and concentration of lead.

The total cost estimate for the entire characterization and cleanup of this site is \$91,650. This estimate includes testing paint for lead and testing of the soil under the sand pile and near the presumed location of the aboveground storage tank for petroleum hydrocarbons and solvents. However, the estimate is based upon the assumptions that lead-based paint and soil contamination are not found. The cost estimate may need to be refined based upon sample results.

In the fall of 2009, the City submitted an application for a USDA Rural Development Community Facilities grant. The City requested funding for the Old Fire Hall building deconstruction and abatement as well as construction of a new sand storage facility. The USDA grant seems to be a viable source of funding. The USDA encourages Thorne Bay to submit the last necessary pieces of information so that they may process the grant application.

## 8. ADDITIONAL SERVICES

DEC did not issue amendments or require additional tasks to the original request for proposal. Based upon the OASIS PID screening, additional soil sampling of the exterior of the building in the presumed location of the former aboveground oil storage tank is necessary. OASIS was unable to do a PID screen of the floor of the interior of the Old Fire Hall because it was covered with sand. In order to deconstruct the Old Fire Hall, the sand must be removed. It is possible that soil staining may be present on the floor of the building that may require PID screening and/or subsequent sampling for the presence of hydrocarbon and solvent contamination.

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## 9. QUALIFICATIONS OF QUALIFIED PERSONNEL

Denise Koch was the OASIS Project Manager on this project. She participated in the stakeholder scoping and planning meeting, assisted with the site visit and PID screening, interviewed community members, and was the primary author of this document.

Ms. Koch has a bachelor's degree in environmental science from the University of Virginia, a master of science in public health from the University of Washington, and seven years of experience as a DEC program manager in the Division of Water.

Lisa Nicholson led the field site visit and assisted with planning and report development. She is experienced in site characterizations, environmental sampling, data analysis and preparing PACPs to DEC specifications, with 12 years experience in project management, field data collection, data analysis, and reporting. She has been field team lead for numerous assessments events in rural Alaska. Lisa has a bachelor's degree in geology from the University of California at Davis and a Masters degree in economic geology from the University of Alaska Fairbanks.

Both Ms. Koch and Ms. Nicholson meet the Alaska (18 AAC 75.990(100)) definition of qualified person (DEC. 18 AAC 75 Oil and Other Hazardous Substances Pollution Control).

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## 10. LIMITATIONS

Sampling was not performed for this project. With the exception of the asbestos in the exterior cement siding and exterior paint, the contaminants of concern and environmental impacts for each potential source area have not been fully defined or quantified.

Any opinions and/or recommendations presented apply to site conditions existing at the time of performance of services. OASIS is unable to report on or accurately predict events that may impact the site following performance of the described services, whether occurring naturally or caused by external forces. OASIS assumes no responsibility for conditions that OASIS is not authorized to investigate, or conditions generally recognized as environmentally unacceptable at the time services are performed. OASIS is not responsible for changes in applicable environmental standards, practices or regulations following performance of services.

The site investigation activities were conducted in accordance with the ASTM International (formerly known as the American Society for Testing and Materials) Standard E 1527-05 for site assessments with generally accepted practices and procedures. The professional judgment of OASIS to assess the potential for contamination is based on limited data; no other warranty is given or implied by this report.

Estimated costs for additional characterization and cleanup were based on limited data regarding site conditions. Costs are approximations and are intended to be average expected amounts for activities. Actual costs may be more or less and will be dependent on actual conditions at the time activities are performed.

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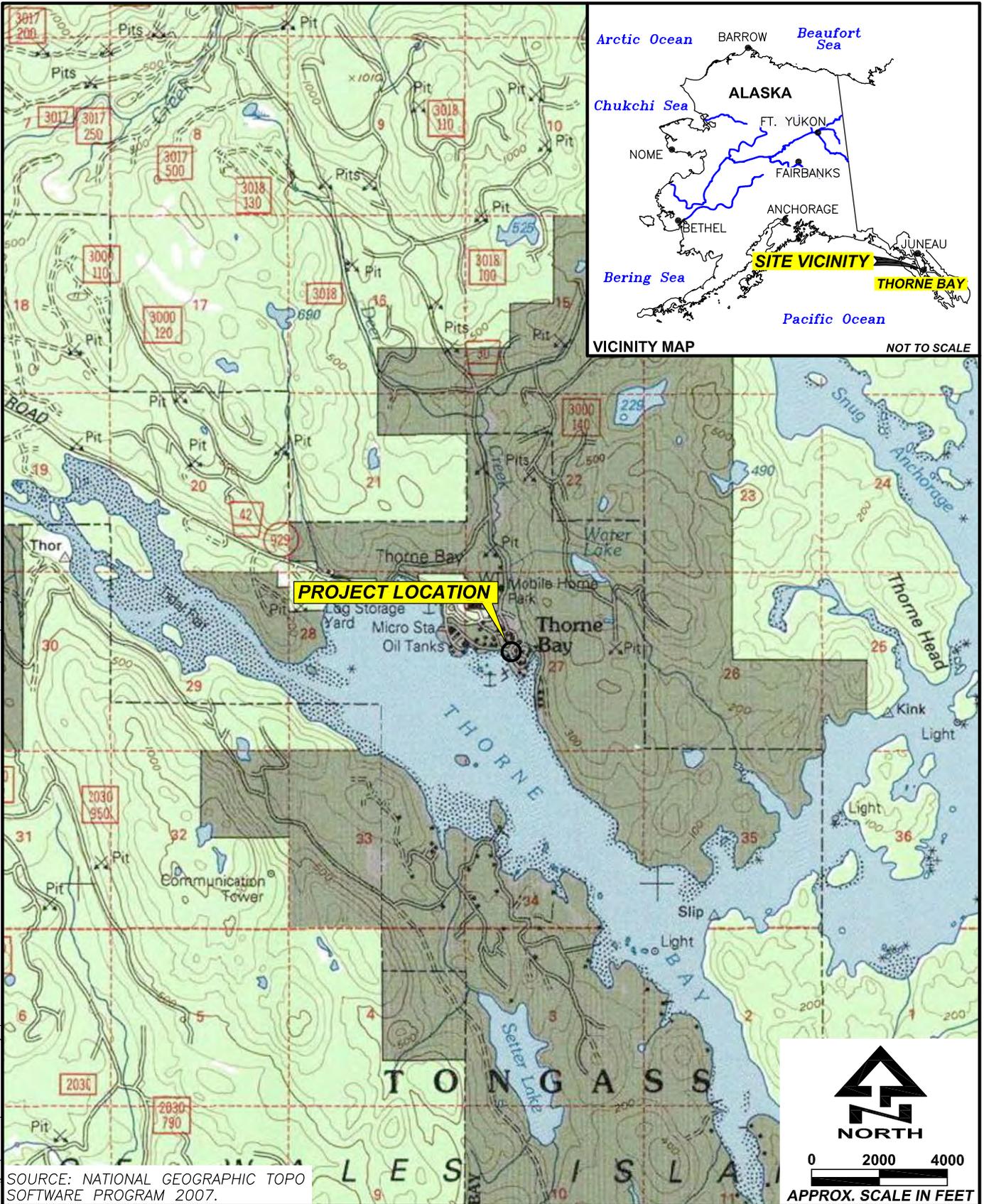
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## FIGURES

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SOURCE: NATIONAL GEOGRAPHIC TOPO SOFTWARE PROGRAM 2007.



DATE: SEPT. 2010  
 CHKD: D.K.  
 DRAWN: C.E.H  
 PROJ. No.: 14-190  
 825 W. 8th Ave., Anchorage,  
 AK 99501, (907) 258-4880

**SITE LOCATION MAP**

OLD FIRE HALL  
 SITE INVESTIGATION  
 Thorne Bay, Alaska

FIGURE

1

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**FIRE HALL BUILDING  
PROJECT LOCATION**

**THORNE BAY**

SOURCE: AERIAL PHOTO THORNE9-27-82  
1-2.TIF DATED 1982 PROVIDED BY  
AERO-METRIC ANCHORAGE.



0 15 30

APPROX. SCALE IN FEET



DATE: SEPT. 2010  
CHKD: D.K.  
DRAWN: C.E.H.  
PROJ. No.: 14-190  
825 W. 8th Ave., Anchorage,  
AK 99501, (907) 258-4880

### HISTORIC 1982 PHOTOGRAPHY

OLD FIRE HALL  
SITE INVESTIGATION  
Thorne Bay, Alaska

FIGURE

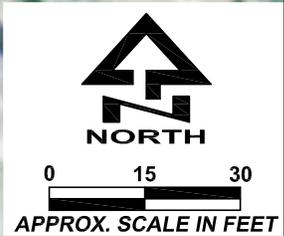
**2**

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SOURCE: AERIAL PHOTO DOQQ TONGESS USDA CRAIG C-2 NE.TIF DATED 2006 PROVIDED BY BY ALASKA MAPPED.



DATE: SEPT. 2010  
CHKD: D.K.  
DRAWN: C.L.H.  
PROJ. No.: 14-190  
825 W. 8th Ave., Anchorage, AK 99501, (907) 258-4880

### SITE MAP WITH 2006 PHOTOGRAPHY

OLD FIRE HALL  
SITE INVESTIGATION  
Thorne Bay, Alaska

FIGURE

3

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## **APPENDIX A**

City of Thorne Bay DEC Brownfields Assessment Request Form - 2010

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# DEC's Reuse and Redevelopment Program

## DEC Brownfields Assessment Request Form – 2010

Please check the appropriate box for each question at the top of this page, and then answer questions 1–7 by inserting text in the blank area under each question, using as much space as you need. Forms with questions left blank will be returned to the applicant.  
The deadline for receipt of requests is February 19, 2010.

Site Name:

### Eligibility Determination—General Questions:

Is the site federally owned?

Yes  No

Has the site or facility received funding for remediation from the Leaking Underground Storage Tank (LUST) Trust Fund?

Yes  No  Unknown

Is the applicant in any way responsible for the potential contamination at the site, or related to those who may be responsible?

Yes  No

***If you answered “yes” to any of the above questions, we recommend that you please call DEC to discuss the specifics of your eligibility determination.***

---

***Telephone conversation with Sonja Benson, Fairbanks-DEC on 12/28/09.***

---

To the best of your knowledge, is the *owner* of the property in question:

Private  City/Public  State  Native Corp  Tribe  Unknown

Known or suspected contaminant(s) (check one):

Hazardous Substances  Petroleum Only  Hazardous Substances and Petroleum

Is this site currently listed on DEC's *Contaminated Sites* database?

Yes  No  Unknown

If yes, please list the project name:

---

### **RANKING CRITERIA**

1. **Project Summary** - Explain in your own words what you are hoping to obtain through this effort (what would you like to see *in place* of the site for which you are requesting assessment, and how will this project help you achieve your goals for the site?):

Thorne Bay's old Fire Hall is contaminated with cement asbestos siding (10% Chrysotile asbestos fibers per EPA Method-600/M4-82-02) on the exterior of the building. Other environmental hazards that may be present include soil contamination at the site due to the previous storage and maintenance of vehicles and equipment. A determination of hazardous criterion at the site would present the City with an opportunity to preserve public health and better utilize the property in question. Adjacent to the site is Pearl Nelson Community Park - Thorne Bay's only community-owned green space. With a full asbestos abatement at the aging facility, the community would move forward with plans for PNCP expansion through construction of a band-shell / covered facility that would increase the aesthetics and recreational opportunities in Thorne Bay. All wood products would be locally-hewn and come directly from Thorne Bay mills and the resources of the surrounding Tongass National Forest.

**2. Applicant/Owner**

- a) **Applicant** - Who is applying for this service? Provide the name and address of the **organization** applying for the DBA, the name of the contact person, email, telephone, and fax numbers.

City of Thorne Bay  
 Justin Sornsin, City Administrator  
 PO Box 19110  
 Thorne Bay, AK 99919  
 (907) 828-3380 phone  
 (907) 828-3374 fax  
 administrator@thornebay-ak.gov

- b) **Property Owner** - The owner of the property must allow DEC access to the site. If the applicant is different from the owner, include *written consent* for access from the owner. (*Note: the applicant must be able to secure access for DEC and its contractors to conduct the assessment.*)

The City of Thorne Bay is the property owner in question.

**If Applicant is IGAP staff, please provide name and contact of EPA Project Officer:**

NA

3. **Project Team** - We request that you form a *project team* (three or more individuals or organizations) to ensure continuity beyond this DBA and coordination for success of the overall project. Attach a letter of support from each team member. (Team members may include: city or village government representatives, tribal council members, environmental managers, elders or other community leaders, local non-profit or community development organizations, and other interested parties.)

Southeast Island School District  
 City Council of Thorne Bay  
 Thorne Bay City Administrator and Public Works Supervisor

**4. Site Information**

- a) **Current Site Condition and Use** - Provide the common name of the site, address, approximate acreage, zoning, and types of buildings. Please attach a site map or aerial photograph showing the site's location in the community and adjacent land use. Identify any areas of known or suspected contamination (for Question 5). Identify approximate property boundaries.

(Old) Thorne Bay Fire Hall  
 Block 7 Lot 1  
 Thorne Bay, AK 99919

Property is ~.133 acres (zoned Residential / Commercial I but would be re-zoned after deconstruction) and is adjacent to residential property (South), commercial property (North) and green space / Pearl Nelson Community Park (West). See the highlighted plat for geospatial property boundaries, site photos, and documentation re: cement asbestos contamination.

- b) **Historical Site Use** - Describe, to the best of your ability, the previous known uses of the site since development, and when the different activities occurred. Summarize any historic or cultural significance of the property. Identify when and how the site became or may have become contaminated, with what substance(s), and where any contamination is likely to be found.

While I am unsure of the exact date of construction of the facility, I believe it was erected in the 1970s for Thorne Bay's volunteer firefighting squad. At that time, environmental hazards, such as the use of cement asbestos siding were unknown and unregulated. The City constructed its newer "Roth Building" in 1991 to house both the EMS and firefighting operations and decommissioned the use of the old fire Hall as a municipal building. Currently, City staff utilizes it to store sand for winter road maintenance activities. The building, unfortunately, provides very little advantage in that regard as well, as the site sits at a 5-way intersection and staff has identified the location as a detriment to public safety due to its exposure to traffic and the level of road maintenance equipment that typically surrounds the building when in use. Not only is the cement asbestos siding an environmental hazard that exposes the public and City staff to contaminated material, the existing use of the facility is hazardous in that it exposes residents to heavy equipment operations (noise, air, etc.). The City is seeking funding to construct a proper sand storage building adjacent to our existing municipal operations building (*USDA RD application available upon request*). Decontamination of the existing building and deconstruction will allow for the City to evaluate the highest and best use of the property. The City's 2010 Strategic Plan lists expansion of PNCP and construction of a covered outdoor meeting facility as a top community development priority.

## 5. Environmental Information

- a) **Prior Environmental Assessments** - Please describe any prior site assessment or cleanup activities at the site and briefly state what you know about the findings of that work. Provide an electronic copy of the report if possible, or the summary or conclusion sections of the reports if available. If reports are not available, provide the consultant, client, approximate date of the study, and any other pertinent information.

Environmental reports and hazardous material documentation are *attached*.

- b) **Reason for Concern** - What is the reason for concern? Please discuss community concerns in general, and identify any specific problems if possible.

**"Exposure to asbestos increases your risk of developing lung disease. That risk is made worse by smoking. In general, the greater the exposure to asbestos, the greater the chance of developing harmful health effects. Disease symptoms may take several years to develop following exposure.**

**Exposure to airborne friable asbestos may result in a potential health risk because persons breathing the air may breathe in asbestos fibers. Continued exposure can increase the amount of fibers that remain in the lung. Fibers embedded in lung tissue over time may cause serious lung diseases including asbestosis, lung cancer, or mesothelioma.**

**Three of the major health effects associated with asbestos exposure include:**

- **Asbestosis -- Asbestosis is a serious, progressive, long-term non-cancer disease of the lungs. It is caused by inhaling asbestos fibers that irritate lung tissues and cause the tissues to scar. The scarring makes it hard for oxygen to get into the blood. Symptoms of asbestosis include shortness of breath and a dry, crackling sound in the lungs while inhaling. There is no effective treatment for asbestosis.**
- **Lung Cancer -- Lung cancer causes the largest number of deaths related to asbestos exposure. People who work in the mining, milling, manufacturing of asbestos, and those who use asbestos and its products are more likely to develop lung cancer than the general population. The most common symptoms of lung cancer are coughing and a change in breathing. Other symptoms include shortness of breath, persistent chest pains, hoarseness, and anemia.**
- **Mesothelioma -- Mesothelioma is a rare form of cancer that is found in the thin lining (membrane) of the lung, chest, abdomen, and heart and almost all cases are linked to exposure to asbestos. This disease may not show up until many years after asbestos exposure. This is why great efforts are being made to prevent school children from being exposed."**

**Taken verbatim <http://www.epa.gov/asbestos/pubs/help.html>**

**Exposing residents and staff to asbestos containing material is a concern of the City and failure to act upon recognition of that exposure is unacceptable.**

- c) *Project Need*** - Describe to the best of your ability what your project team believes are the needed environmental assessment activities, and what result you would like to see from this project. Indicate any constraints as to when this work must be completed (e.g., to meet construction timeline, property transaction pending, etc.).

Contractual abatement of the cement asbestos siding in accordance with established EPA methods and transshipment to an approved RAC facility by a contractor. To date, the City has spent \$2,250.00 to Mather Environmental LLC for identification of the asbestos-containing material, lab work and project design services. Ideally, full mitigation funding would be available prior to construction season 2010 with notification of funds ASAP so conceptual post-mitigation design and engineering of a new facility can begin.

## 6. Community Planning and Reuse

- a) **Reuse or Redevelopment Plans** - Does the community have well defined plans for reuse of this site if it were not for the environmental problems? Is this site affecting the use of adjacent properties, subsistence habitat, or other resources? Do reuse plans include the incorporation of greenspace or sustainable, green building practices? If so, please describe.

The FY10 Strategic Plan outlines the opportunities for site development consistent with community goals. Any project can not be successful in the area unless the environmental hazards of the existing facility are mitigated. While sustainable, "green building" practices are not forthright mentioned on strategic initiatives for community development, City staff continually engage local, state and federal resources to ensure Best Management Practices (BMPs) are incorporated into all new municipal construction projects.

- b) **Other Community Plans or Projects** - It is helpful to know if other state or federal agencies are planning work in your community. List any community *plans* that may exist or are in development, such as: economic development plans, hazard mitigation plans, or erosion studies. Describe any other community *projects* that may be scheduled or pending, such as: water and sewer upgrades, a new landfill, road or airport construction, a new school or addition, fuel-storage tank farms, new housing, or other facilities.

- FY10 Comprehensive Sanitation Plan - AK DEC / Village Safe Water
- FY10 Stormwater I&I Study - USDA Rural Development
- Davidson Landing Harbor Construction Phase I / II - Denali Commission / State of Alaska / SOA ADOT&PF / City of Thorne Bay

FY10 Strategic Plan list the entire prioritized list of economic and community development projects (tentatively) planned for the community. [www.thornebay-ak.gov](http://www.thornebay-ak.gov) is continually updated regarding projects under development.

## 7. Public Involvement

- a) **Public Benefit** - Briefly discuss how your proposed reuse or redevelopment plans for the property will provide a benefit to the public. Why is this important to your community? (Things to consider: creation of jobs, preservation of historically or culturally significant property, preservation of subsistence habitat, reuse or recycling of materials or infrastructure, cost savings to the community, or increased property values.)

Thorne Bay was historically the largest logging camp in North America. Ketchikan Pulp Company (KPC), ceased major operations in Thorne Bay in the late '90s and our community saw a dramatic (upwards of 30%) loss of employment and residency overnight. We have been struggling socially and economically ever since. Over the past four years, the City has developed a comprehensive strategy to improve utility infrastructure (water, sewer and solid waste) to improve public health; increase, expand and improve our municipal harbor operations to increase recreational, subsistence and commercial fishing operations; and are actively pursuing economic development projects to increase the population base. Community development projects such as this go hand-in-hand with the overall development success of Thorne Bay. Public health is paramount to a strong economy, and community meeting / recreational space is paramount to providing for the social needs of existing businesses and residents and the future expansion of our population base.

- b) **Community Support and Resources** - Is the community strongly *supportive* of this project? Have resolutions been approved by city or tribal councils in support of it? Our assessment often requires local assistance with site visits, lodging, excavation equipment, and local transportation. Describe local *resources* that are available to assist with this project. (It is helpful to include copies of resolutions or community letters of support, as well as cost-sheets for equipment and labor that may be needed.)

#### Resolution of Support

Local resources are available including the City's fleet of heavy equipment (backhoe / loaders, excavators, dump trucks, etc.), local transportation and subsidized housing options for program staff while on site. Additionally, the City employs 10 FTEs that can be dedicated to different project components as necessary. All labor, equipment, fuel, etc. required in conjunction with this project will be donated as an in-kind contribution. After remediation of the cement asbestos siding, City staff will demolish the facility, remove the materials, and prepare the site for development.

- c) **Community Resources for Other Phases of the Revitalization Project** - Does the community have financial or other resources for other phases of the project, such as equipment, labor, in-kind services, or funding for cleanup or new construction? Can this DBA be used to leverage

other funding or services for the project?

The City submitted a USDA Rural Development - Community Facilities grant in the Fall of 2009 (*available upon request*) that outlines the need for hazardous material mitigation at the facility and construction of a proper sand storage facility off-site. Total project cost was ~\$87,500 (with contractual environmental clean-up quoted from Mather Environmental LLC - Cert #10303861 - at \$28,940.42 plus freight to an RAC-approved disposal facility. We have an additional \$25,000 dedicated towards the construction of the new sand storage facility on our FY10 budget. DBA funding would be critical to leveraging additional agency funding for project completion. Additionally, Thorne Bay supports the local wood products industry (6 small mills are located within our municipal boundaries) and would like any new construction to be locally-hewn lumber from the Tongass. This not only provides cost-effective solutions vs. manufactured lumber from down South, but helps facilitate local support of project goals and provides for economic growth in our community. Lastly, the City works cooperatively with Southeast Island School District on various community improvement projects throughout the year. Cooperative partnerships would be established among the USDA Forest Service, SISD and other participating organizations to promote synergy in the community and provide a holistic benefit to the assets of all agencies involved.

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*The selection of a site for a DBA in no way implies that DEC is accepting liability for any contamination that may exist at the site, nor is DEC responsible for any necessary cleanup of hazardous substances that may be found at the site. Liability for contamination on a property is specifically addressed in Alaska Statute (AS) 46.03.822, which outlines those who are liable for the release of a hazardous substance. The general liability categories include: (1) those with an ownership interest in the property; (2) those in control of the substance at the time of the release; or (3) those who arrange for disposal or transport of the substance.*

**Submit Completed Forms by February 19, 2010, to:**

By email: [Sonja.Benson@alaska.gov](mailto:Sonja.Benson@alaska.gov) or  
By fax: (907) 451-2155 c/o Sonja Benson

Or by regular mail:

**DEC Brownfield Assessments**  
c/o Sonja Benson  
Department of Environmental Conservation  
610 University Avenue  
Fairbanks, Alaska 99709

If you have questions, call Sonja Benson at (907) 451-2156, Deborah Williams at (907) 451-5174, or John Carnahan at (907) 451-2166.

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## **APPENDIX B**

DEC Drinking Water Watch List of Violations for City of Thorne Bay

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Division of Environmental Health

# Drinking Water Program



**You are here:**

[Water System Search](#) >> [Water Systems](#) >> [Water System Details](#) >> [Violations/Enforcement Actions](#)

### Water System

Water System No.:	AK2120216	Federal Type	C
Water System Name:	THORNE BAY	State Type:	C
Principal County Served:	PRINCE OF WALES-OUTER KETCHIKA	Primary Source:	SW
Status:	A	Activity Date:	1997-01-01 00:00:00.0

Please Note: some of these violations may have been resolved and/or returned to compliance. Please click on the violation to view more information on its compliance status.

### Group Violations

Violation No.	Status	Violation Type	Violation Name	Analyte Group Code	Analyte Group Name	Water System Facility State Asgn ID	Water System Facility Name
<a href="#">2008-5950</a>	V	R3	RAD MONITORING - STATE VIO	<a href="#">RAD2</a>	RAD, GA, & URANIUM	TP001	TP FOR WATER LAKE
<a href="#">2008-5951</a>	V	R3	RAD MONITORING - STATE VIO	<a href="#">RAD2</a>	RAD, GA, & URANIUM	TP001	TP FOR WATER LAKE
<a href="#">2008-5952</a>	V	R3	RAD MONITORING - STATE VIO	<a href="#">RAD2</a>	RAD, GA, & URANIUM	TP001	TP FOR WATER LAKE
<a href="#">2008-5953</a>	V	R3	RAD MONITORING - STATE VIO	<a href="#">RAD2</a>	RAD, GA, & URANIUM	TP001	TP FOR WATER LAKE
<a href="#">2006-3891</a>	V	27	MONITORING, ROUTINE (DBP), MAJOR	<a href="#">TTHM</a>	TTHM	DS001	DS WATER LAKE
<a href="#">2006-3903</a>	V	27	MONITORING, ROUTINE (DBP), MAJOR	<a href="#">HAA5</a>	HAA5	DS001	DS WATER LAKE

Total Number of Records Fetched = 6

### Individual Violations

Violation No.	Status	Violation Type	Violation Name	Analyte Code	Analyte Name	Water System Facility State Asgn ID	Water System Facility Name
<a href="#">2010-1144264</a>	V	02	MCL, AVERAGE	2456	TOTAL HALOACETIC ACIDS (HAA5)	DS001	DS WATER LAKE
<a href="#">2010-1144265</a>	V	02	MCL, AVERAGE	2950	TTHM	DS001	DS WATER LAKE
<a href="#">2010-1144266</a>	V	38	MONITORING, ROUTINE (IESWTR/LT1), MINOR	0100	TURBIDITY	TP001	TP FOR WATER LAKE
<a href="#">2010-1144267</a>	V	41	RES DISINFECT CONCENTRATION (SWTR)	0999	CHLORINE	TP001	TP FOR WATER LAKE
<a href="#">2010-1144263</a>	V	38	MONITORING, ROUTINE (IESWTR/LT1), MINOR	0100	TURBIDITY	TP001	TP FOR WATER LAKE
<a href="#">2010-1144262</a>	V	38	MONITORING, ROUTINE (IESWTR/LT1), MINOR	0100	TURBIDITY	TP001	TP FOR WATER LAKE
<a href="#">2010-1144261</a>	V	38	MONITORING, ROUTINE (IESWTR/LT1), MINOR	0100	TURBIDITY	TP001	TP FOR WATER LAKE
<a href="#">2010-</a>					TOTAL HALOACETIC		

1144259	V	02	MCL, AVERAGE	2456	ACIDS (HAA5)	DS001	DS WATER LAKE
2010-1144260	V	02	MCL, AVERAGE	2950	TTHM	DS001	DS WATER LAKE
2009-1144249	V	02	MCL, AVERAGE	2456	TOTAL HALOACETIC ACIDS (HAA5)	DS001	DS WATER LAKE
2009-1144250	V	02	MCL, AVERAGE	2950	TTHM	DS001	DS WATER LAKE
2009-1144246	V	02	MCL, AVERAGE	2456	TOTAL HALOACETIC ACIDS (HAA5)	DS001	DS WATER LAKE
2009-1144247	V	02	MCL, AVERAGE	2950	TTHM	DS001	DS WATER LAKE
2009-1144248	V	38	MONITORING, ROUTINE (IESWTR/LT1), MINOR	0100	TURBIDITY	TP001	TP FOR WATER LAKE
2009-1144239	V	43	SINGLE COMB FLTR EFFLUENT (IESWTR/LT1)	0100	TURBIDITY	null	null
2009-1144240	V	43	SINGLE COMB FLTR EFFLUENT (IESWTR/LT1)	0100	TURBIDITY	null	null
2009-1144219	V	02	MCL, AVERAGE	2456	TOTAL HALOACETIC ACIDS (HAA5)	DS001	DS WATER LAKE
2009-1144225	V	02	MCL, AVERAGE	2456	TOTAL HALOACETIC ACIDS (HAA5)	DS001	DS WATER LAKE
2009-1144230	V	02	MCL, AVERAGE	2950	TTHM	DS001	DS WATER LAKE
2009-1144214	V	38	MONITORING, ROUTINE (IESWTR/LT1), MAJOR	0100	TURBIDITY	TP001	TP FOR WATER LAKE
2009-1144009	V	43	SINGLE COMB FLTR EFFLUENT (IESWTR/LT1)	0100	TURBIDITY	TP001	TP FOR WATER LAKE
2009-1144209	V	02	MCL, AVERAGE	2456	TOTAL HALOACETIC ACIDS (HAA5)	DS001	DS WATER LAKE
2009-1143909	V	02	MCL, AVERAGE	2950	TTHM	DS001	DS WATER LAKE
2008-1143008	V	38	MONITORING, ROUTINE (IESWTR/LT1), MINOR	0100	TURBIDITY	TP001	TP FOR WATER LAKE
2008-1143308	V	02	MCL, AVERAGE	2456	TOTAL HALOACETIC ACIDS (HAA5)	DS001	DS WATER LAKE
2008-1143608	V	02	MCL, AVERAGE	2950	TTHM	DS001	DS WATER LAKE
2008-1140308	V	01	MCL, SINGLE SAMPLE	2456	TOTAL HALOACETIC ACIDS (HAA5)	DS001	DS WATER LAKE
2008-1140608	V	01	MCL, SINGLE SAMPLE	2950	TTHM	DS001	DS WATER LAKE
2008-1140708	V	02	MCL, AVERAGE	2456	TOTAL HALOACETIC ACIDS (HAA5)	DS001	DS WATER LAKE
2008-1140808	V	02	MCL, AVERAGE	2950	TTHM	DS001	DS WATER LAKE
2008-1140908	V	02	MCL, AVERAGE	2950	TTHM	DS001	DS WATER LAKE
2008-1141008	V	02	MCL, AVERAGE	2456	TOTAL HALOACETIC ACIDS (HAA5)	DS001	DS WATER LAKE
2008-1141108	V	38	MONITORING, ROUTINE (IESWTR/LT1), MINOR	0100	TURBIDITY	TP001	TP FOR WATER LAKE
2008-1141208	V	38	MONITORING, ROUTINE (IESWTR/LT1), MINOR	0100	TURBIDITY	TP001	TP FOR WATER LAKE
2008-1141308	V	44	MONTHLY COMB FLTR EFFLUENT (IESWTR/LT1)	0100	TURBIDITY	TP001	TP FOR WATER LAKE
2008-1138808	V	02	MCL, AVERAGE	2456	TOTAL HALOACETIC ACIDS (HAA5)	null	null
2008-1138908	V	02	MCL, AVERAGE	2950	TTHM	null	null
2008-1139208	V	02	MCL, AVERAGE	2950	TTHM	null	null
2008-1139308	V	02	MCL, AVERAGE	2456	TOTAL HALOACETIC ACIDS (HAA5)	null	null

2008-1139408	V	41	RES DISINFECT CONCENTRATION (SWTR)	0999	CHLORINE	null	null
2008-1139508	V	02	MCL, AVERAGE	2456	TOTAL HALOACETIC ACIDS (HAA5)	null	null
2008-1139608	V	02	MCL, AVERAGE	2950	TTHM	null	null
2008-1139708	V	02	MCL, AVERAGE	2456	TOTAL HALOACETIC ACIDS (HAA5)	null	null
2008-1139808	V	02	MCL, AVERAGE	2950	TTHM	null	null
2007-1138107	V	02	MCL, AVERAGE	2950	TTHM	DS001	DS WATER LAKE
2007-1138207	V	02	MCL, AVERAGE	2950	TTHM	DS001	DS WATER LAKE
2007-1138007	V	38	MONITORING, ROUTINE (IESWTR/LT1), MINOR	0100	TURBIDITY	TP001	TP FOR WATER LAKE
2007-1137407	V	38	MONITORING, ROUTINE (IESWTR/LT1), MAJOR	0100	TURBIDITY	TP001	TP FOR WATER LAKE
2007-1137507	V	38	MONITORING, ROUTINE (IESWTR/LT1), MAJOR	0100	TURBIDITY	TP001	TP FOR WATER LAKE
2007-1137307	V	43	SINGLE COMB FLTR EFFLUENT (IESWTR/LT1)	0100	TURBIDITY	TP001	TP FOR WATER LAKE
2007-1137007	V	44	MONTHLY COMB FLTR EFFLUENT (IESWTR/LT1)	0100	TURBIDITY	TP001	TP FOR WATER LAKE
2007-1136607	V	02	MCL, AVERAGE	2950	TTHM	DS001	DS WATER LAKE
2007-1136707	V	02	MCL, AVERAGE	2456	TOTAL HALOACETIC ACIDS (HAA5)	DS001	DS WATER LAKE
2007-1136807	V	02	MCL, AVERAGE	2950	TTHM	DS001	DS WATER LAKE
2007-1136907	V	02	MCL, AVERAGE	2456	TOTAL HALOACETIC ACIDS (HAA5)	DS001	DS WATER LAKE
2007-1136407	V	01	MCL, SINGLE SAMPLE	2950	TTHM	DS001	DS WATER LAKE
2007-1136507	V	01	MCL, SINGLE SAMPLE	2456	TOTAL HALOACETIC ACIDS (HAA5)	DS001	DS WATER LAKE
2006-1134906	V	02	MCL, AVERAGE	2950	TTHM	DS001	DS WATER LAKE
2006-1135206	V	02	MCL, AVERAGE	2950	TTHM	DS001	DS WATER LAKE
2006-1135306	V	02	MCL, AVERAGE	2950	TTHM	DS001	DS WATER LAKE
2006-1135606	V	02	MCL, AVERAGE	2456	TOTAL HALOACETIC ACIDS (HAA5)	DS001	DS WATER LAKE
2006-1135706	V	02	MCL, AVERAGE	2456	TOTAL HALOACETIC ACIDS (HAA5)	DS001	DS WATER LAKE
2006-1135806	V	02	MCL, AVERAGE	2456	TOTAL HALOACETIC ACIDS (HAA5)	DS001	DS WATER LAKE
2006-1136006	V	02	MCL, AVERAGE	2456	TOTAL HALOACETIC ACIDS (HAA5)	DS001	DS WATER LAKE
2006-1134406	V	38	MONITORING, ROUTINE (IESWTR/LT1), MINOR	0100	TURBIDITY	TP001	TP FOR WATER LAKE
2005-1133705	V	38	MONITORING, ROUTINE (IESWTR/LT1), MINOR	0100	TURBIDITY	TP001	TP FOR WATER LAKE
2005-1133805	V	38	MONITORING, ROUTINE (IESWTR/LT1), MINOR	0100	TURBIDITY	TP001	TP FOR WATER LAKE
2005-1133605	V	38	MONITORING, ROUTINE (IESWTR/LT1), MINOR	0100	TURBIDITY	null	null
2005-1133405	V	52	FOLLOW-UP OR ROUTINE TAP M/R (LCR)	5000	LEAD & COPPER RULE	null	null
2004-1133204	V	41	MONTHLY COMB. FILTER EFFLUENT (SWTR)	0100	TURBIDITY	null	null
1998-1133098	V	PB	PB EXCEEDANCE FOR PB/CU RULE - STATE VIO	5000	LEAD & COPPER RULE	null	null

<a href="#">1997-1028697</a>	V	PB	PB EXCEEDANCE FOR PB/CU RULE - STATE VIO	5000	LEAD & COPPER RULE	null	null
<a href="#">1997-1028797</a>	V	CU	CU EXCEEDANCE FOR PB/CU RULE - STATE VIO	5000	LEAD & COPPER RULE	null	null
<a href="#">1996-1099196</a>	V	03	MONITORING, ROUTINE MAJOR	1085	THALLIUM, TOTAL	null	null
<a href="#">1996-1099296</a>	V	03	MONITORING, ROUTINE MAJOR	1036	NICKEL	null	null
<a href="#">1996-1099396</a>	V	03	MONITORING, ROUTINE MAJOR	1024	CYANIDE	null	null
<a href="#">1996-1099496</a>	V	03	MONITORING, ROUTINE MAJOR	1075	BERYLLIUM, TOTAL	null	null
<a href="#">1996-1099596</a>	V	03	MONITORING, ROUTINE MAJOR	1074	ANTIMONY, TOTAL	null	null
<a href="#">1995-1013695</a>	V	PB	PB EXCEEDANCE FOR PB/CU RULE - STATE VIO	5000	LEAD & COPPER RULE	null	null

Total Number of Records Fetched = 79

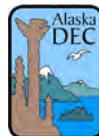
[State of Alaska](#) [myAlaska](#) [DEC Staff Directory](#) [Webmaster](#) [EH Home](#) [DW Home](#)

## **APPENDIX C**

DEC Application for Authorization for One-Time Disposal of Asbestos

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# Application for Authorization For One-Time Disposal of Asbestos



Alaska Department of  
Environmental Conservation  
Division of Environmental Health  
Solid Waste Program

## Instructions

- This packet contains instructions and application forms for authorization to conduct a one-time disposal of up to 250 cubic yards of regulated and non-regulated asbestos containing material (RACM).
- Authorizations will be issued under Alaska Statute (AS) 46.03.100(d).
- Authorization fees are assessed in accordance with 18 Alaska Administrative Code (AAC) 60.700.
- Penalties for non-compliance with the authorization will be assessed in accordance with AS 46.03.760.
- This authorization will only be issued under the following conditions:
  - Waste must be generated locally (within 25 miles of the disposal site);
  - Waste must consist solely of RACM, non-regulated asbestos containing material (non-RACM), associated packaging, and incidental debris;
  - Waste must be generated from a single project;
  - Total volume of waste may not exceed **250 cubic yards**;
  - The landfill must be located in a remote area with no year-round ground access to a major road system (a system of connected roads with a total length of 100 miles or more);
  - The landfill must be in a location where there is no reasonable access to an existing permitted asbestos landfill. "No reasonable access" means that all permitted landfills are more than 25 road miles away or have refused, in writing, to accept the waste; and
  - Active disposal and final closure of the site may not exceed one year in duration.
- If the applicant is not able to meet these criteria, then the applicant should apply for an Asbestos Monofill Permit or take waste to a landfill permitted to accept asbestos waste.
- **Each** item must be completed and included in your application in order for the Alaska Department of Environmental Conservation (DEC) to process your authorization application. Please address each item. Additional information should be provided as necessary or applicable.
- Please fill out the form, and where required, attach the appropriate documentation.
- Maps must have notations about sources of information, including a complete citation.
- If the required information is not applicable, please explain why.
- Check off each item as you complete it, and submit the entire packet, required information, and required application fee.
- Please submit the completed application and any questions to your nearest DEC Solid Waste Program office, listed below.

### DEC Contact Information

The Alaska Department of Environmental Conservation  
Division of Environmental Health  
Solid Waste Program  
<http://www.dec.state.ak.us/eh/sw>

#### Anchorage

555 Cordova Street  
Anchorage, AK 99501  
(907) 269-7802  
FAX (907) 269-7655

#### Fairbanks

610 University Avenue  
Fairbanks, AK 99709  
(907) 451-2108  
FAX (907) 451-2188

#### Juneau

410 Willoughby Avenue, Suite 303  
Juneau, AK 99801-1795  
(907) 465-5318  
FAX (907) 465-5362

# Application for Authorization For One-Time Disposal of Asbestos



Alaska Department of  
Environmental Conservation  
Division of Environmental Health  
Solid Waste Program

✓	#	<b>Part One: Fees</b> A check or money order for the appropriate fees must be submitted with the authorization application. If the required fees are not included, the application will be returned to the applicant. [18 AAC 60.210(b)(8); 18 AAC 60.700]
	1	Submit a check or money order to cover the fee as listed in 18 AAC 60.700 Table I-3.

## Part Two: Contact Information

### APPLICANT

Name \_\_\_\_\_

Contact name \_\_\_\_\_

Mailing Address \_\_\_\_\_

City/State/Zip \_\_\_\_\_

Telephone Number \_\_\_\_\_

FAX Number \_\_\_\_\_

Email Address \_\_\_\_\_

Type of entity      Individual       Partnership

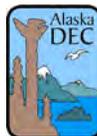
Corporation       Other \_\_\_\_\_

State of incorporation or registration \_\_\_\_\_

Alaska business license number \_\_\_\_\_

IRS tax identification number \_\_\_\_\_

# Application for Authorization For One-Time Disposal of Asbestos



Alaska Department of  
Environmental Conservation  
Division of Environmental Health  
Solid Waste Program

## Part Two: Contact Information

### FACILITY OWNER

Name \_\_\_\_\_

Mailing Address \_\_\_\_\_

City/State/Zip \_\_\_\_\_

Telephone Number \_\_\_\_\_

FAX Number \_\_\_\_\_

Email Address \_\_\_\_\_

### LANDOWNER

Name \_\_\_\_\_

Mailing Address \_\_\_\_\_

City/State/Zip \_\_\_\_\_

Telephone Number \_\_\_\_\_

FAX Number \_\_\_\_\_

Email Address \_\_\_\_\_

### OPERATOR

Name \_\_\_\_\_

Mailing Address \_\_\_\_\_

City/State/Zip \_\_\_\_\_

Telephone Number \_\_\_\_\_

FAX Number \_\_\_\_\_

Email Address \_\_\_\_\_



# Application for Authorization For One-Time Disposal of Asbestos



Alaska Department of  
Environmental Conservation  
Division of Environmental Health  
Solid Waste Program

✓	#	<b>Part Four – Location Information</b>
	1	Property ownership and location information must include the following:
	(a)	Fill in a legal description of property, with meridian, range, township and section. _____ _____ _____ _____
	(b)	Fill in the latitude and longitude of the property. Latitude: _____ Longitude: _____
	(c)	Fill in an informal location description such as mileposts, landmarks, distance and direction from nearest community. _____ _____ _____
	(d)	<b>Attach</b> a copy of the deed or another legal document that identifies the landowner.
	(e)	If the applicant is not the landowner, <b>attach</b> a written and notarized statement signed by the landowner showing that the landowner consents to the disposal site, or a copy of any lease agreement that is relevant to the proposed activity.
	2	Surface water information must include:
	(a)	<b>Attach</b> a map and/or aerial photo that shows the location of surface water bodies and streams within 200 feet of the disposal site boundary.
	(b)	Describe how you will prevent surface water and/or storm water from entering the site from upgradient areas: _____ _____ _____
	3	<b>Other</b> required information:
	(a)	What is the highest measured level of groundwater under the disposal site area (bottom of disposal site must be at least 4 feet above groundwater)? _____ feet below ground surface

# Application for Authorization For One-Time Disposal of Asbestos



Alaska Department of  
Environmental Conservation  
Division of Environmental Health  
Solid Waste Program

✓	#	<b>Part Four – Location Information</b>
	(b)	<p>What is the distance to the nearest source of drinking water, including wells or surface water sources (may not be closer than 200 feet)?</p> <p>_____ feet/miles</p>
	(c)	<p><b>Attach</b> a map and/or aerial photo that shows the location of all nearby drinking water wells or sources.</p>

✓	#	<b>Part Five – Disposal Site Design and Construction</b>
	1	<b>Attach</b> site map(s) which show site conditions including:
	(a)	The location of the disposal site property boundaries.
	(b)	All planned disposal areas (must be located at least 50 feet from property boundary).
	(c)	Any planned excavations before waste cell construction.
	(d)	All roads, ditches, trenches, fences, berms, structures, or other features on the disposal site.
	2	<b>Attach</b> closure drawings that show:
	(a)	Projected final site grades after the disposal site reaches capacity.
	(b)	Final cover details.

✓	#	<b>Part Six – Operations Information</b>
	1	RACM Acceptance & Handling
	(a)	<p>Describe how you will ensure that all RACM waste is correctly contained and labeled.</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p>
	(b)	<p>Describe how you will ensure that all RACM waste is accompanied by a complete and accurate shipment record.</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p>

# Application for Authorization For One-Time Disposal of Asbestos



Alaska Department of  
Environmental Conservation  
Division of Environmental Health  
Solid Waste Program

✓	#	<b>Part Six – Operations Information</b>
	(c)	<p>Describe how RACM waste will be handled and placed in the disposal site to prevent release of asbestos fibers.</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p>
	2	Access Control Plan
	(a)	<p>Warning signs in compliance with 40 CFR 61.154(b) must be posted at the facility. Describe the number and location of signs that will be posted:</p> <p>_____</p> <p>_____</p> <p>_____</p>
	(b)	<p>How will you ensure that public access to the facility is restricted?</p> <p><input type="checkbox"/> Facility will be fenced.</p> <p><input type="checkbox"/> Facility will be surrounded by a berm or natural barrier.</p> <p><input type="checkbox"/> The public has no road access to the site (site is remote from any village or settlement).</p> <p><input type="checkbox"/> Other (describe): _____</p> <p>_____</p> <p>_____</p> <p>_____</p>
	3	Daily Cover Plan
		<p>A minimum of six inches of cover must be applied at the end of each working day.</p>
	(a)	<p>Where/how will cover material be obtained?</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p>

# Application for Authorization For One-Time Disposal of Asbestos

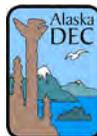


Alaska Department of  
Environmental Conservation  
Division of Environmental Health  
Solid Waste Program

✓	#	<b>Part Six – Operations Information</b>																		
	(b)	<p>How will cover material be applied to ensure that asbestos containers are not damaged, and asbestos fibers are not released?</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p>																		
	4	<p>Operating record</p> <p>For each of the following records, list the individual responsible for maintaining the record and the location where each of the records will be kept until closure is completed.</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center;">Item</th> <th style="text-align: center;">Record Keeper</th> <th style="text-align: center;">Record Location</th> </tr> </thead> <tbody> <tr> <td>Completed application.</td> <td></td> <td></td> </tr> <tr> <td>Copy of authorization.</td> <td></td> <td></td> </tr> <tr> <td>Visual monitoring records.</td> <td></td> <td></td> </tr> <tr> <td>Waste shipment records for all RACM waste received.</td> <td></td> <td></td> </tr> <tr> <td>A map or diagram showing the boundaries of the asbestos waste area, depth, and the quantity of RACM located there.</td> <td></td> <td></td> </tr> </tbody> </table>	Item	Record Keeper	Record Location	Completed application.			Copy of authorization.			Visual monitoring records.			Waste shipment records for all RACM waste received.			A map or diagram showing the boundaries of the asbestos waste area, depth, and the quantity of RACM located there.		
Item	Record Keeper	Record Location																		
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Copy of authorization.																				
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A map or diagram showing the boundaries of the asbestos waste area, depth, and the quantity of RACM located there.																				

✓	#	<b>Part Seven - Closure Plan</b>
	1	Description of the closure process
	(a)	<p><b>Attach</b> a description of the of the steps necessary to close the disposal site, including a description of the methods and procedures for:</p> <ul style="list-style-type: none"> <li>▪ application of at least two feet of non-asbestos-containing soil cover</li> <li>▪ application of at least six inches of soil that will promote successful revegetation</li> <li>▪ grading and contouring to promote surface water runoff without erosion or ponding, and to minimize the amount of water entering the waste cell</li> <li>▪ installing a minimum of four survey monuments or permanent markers to define the location of the disposal cells</li> <li>▪ seeding or otherwise revegetating the closed site</li> </ul>
	(b)	<p>Anticipated date for completing closure and reporting to DEC.</p> <p>_____</p>

# Application for Authorization For One-Time Disposal of Asbestos



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✓	#	<b>Part Seven - Closure Plan</b>
	(c)	<p>List the plant species that will be used for revegetation of the site, as recommended by the Alaska Plant Material Center (907) 745-4469:</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p>
	(d)	<p>Describe how you will ensure that revegetation is successful within the first growing season after closure:</p> <p>_____</p> <p>_____</p> <p>_____</p>

# Application for Authorization For One-Time Disposal of Asbestos



Alaska Department of  
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Initial	#	<b>Part Eight – Acknowledgement &amp; Agreements</b> Please initial each statement, and sign the document at the bottom. The signed original must be submitted with the application.
	1	We will inspect waste prior to disposal to ensure that only RACM, non-RACM, associated packaging, or incidental debris will be disposed at this site. Other types of solid waste are prohibited at this site.
	2	We will ensure that no more than 250 cubic yards of waste is disposed at this site, including all asbestos waste and packaging.
	3	We will immediately clean up any improper or unauthorized waste disposal.
	4	We will immediately repair any damage to the facility or structures.
	5	We will immediately address any violations of regulations or authorization conditions.
	6	Active disposal at the site will not exceed one year in duration. Anticipated start date of active operations: _____ Anticipated date of completing waste disposal (must be within 12 months of start date): _____
	7	We are aware of all local zoning ordinances and requirements, and where appropriate, the Alaska Coastal Zone Management Program Requirements in 11 AAC 110.
	8	We will close this facility and apply final cover within <b>90 days</b> after the last waste is deposited.
	9	Upon closure, we will install a minimum of four permanent survey markers at the site.
	10	We will submit a closure report to DEC for approval within <b>180 days</b> of final waste placement. The report will include: <ul style="list-style-type: none"> <li>- An updated site map showing the boundaries of the asbestos waste management area</li> <li>- Documentation of the depth and volume of waste deposited</li> <li>- Evidence that the required notation has been made to the property deed</li> <li>- Photographic documentation showing the integrity of the final cover</li> </ul>
	11	We will correct and restore the cover of this disposal site at any time after facility closure is approved, if DEC determines that there is a threat to human health or the environment.

# Application for Authorization For One-Time Disposal of Asbestos



Alaska Department of  
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## Part Nine – Signatures Please sign the document as indicated. The signed original must be submitted with the application. 18 AAC 15.030

I, \_\_\_\_\_ (print) \_\_\_\_\_, certify under penalty of perjury, that all of the above listed requirements will be completed as required and agreed to. I further certify that all information and exhibits in the application and associated documents are true, accurate, and complete.

\_\_\_\_\_  
Applicant's Signature

\_\_\_\_\_  
Month

\_\_\_\_\_  
Day

\_\_\_\_\_  
Year

\_\_\_\_\_  
Applicant's Title

### Information about signatures

All applications must be signed as follows, per 18 AAC 15.030:

- **Corporations:** A principal executive officer, an officer that is no lower than the level of vice president, or a duly authorized representative who is responsible for the overall management of the project or operation.
- **Partnerships:** A general partner.
- **Sole proprietorship:** The proprietor.
- **Municipal, state, federal, or other public entity:** A principal executive officer, ranking elected official, or duly authorized employee.

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## **APPENDIX D**

DEC Asbestos Monofill Solid Waste Permit Application

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# Asbestos Monofill Solid Waste Permit Application



Alaska Department of  
Environmental Conservation  
Division of Environmental Health  
Solid Waste Program

## Instructions

- This packet contains instructions and forms to complete a permit application for an asbestos monofill. This application is valid for new permits or for renewing existing permits.
- Each item must be completed and included in your application in order for the Alaska Department of Environmental Conservation (DEC) to process your permit application. Please address each item. The requested information in this form represents the minimum that is required; additional information should be provided as necessary or applicable.
- If the required information is not applicable, please explain why.
- If the required information is included in a previous application, AND the information has not changed since it was submitted, you must provide a specific reference or citation explaining where the information can be found.
- Check off each item as you complete it. Submit the entire packet, the required information, and the required application fee.
- For new facilities and lateral expansions, please prepare a draft application, develop a list of questions, and then schedule a pre-application meeting with the DEC office that will be reviewing your application materials.
- Please submit the completed application and any questions to the nearest DEC Solid Waste Program office, listed below.

### DEC Contact Information

The Alaska Department of Environmental Conservation  
Division of Environmental Health  
Solid Waste Program  
<http://www.dec.state.ak.us/eh/sw>

#### Anchorage

555 Cordova Street  
Anchorage, AK 99501  
(907) 269-7802  
FAX (907) 269-7600

#### Fairbanks

610 University Avenue  
Fairbanks, AK 99709  
(907) 451-2108  
FAX (907) 451-2188

#### Juneau

410 Willoughby Avenue  
Juneau, AK 99801-1795  
(907) 465-5318  
FAX (907) 465-5362

# Asbestos Monofill Solid Waste Permit Application



Alaska Department of  
Environmental Conservation  
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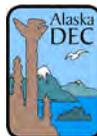
## Part One: Fees

A check or money order for the appropriate fees must be submitted with the permit application. If the required fees are not included, the permit application will be returned to the applicant.

✓	#	Requirement:	Regulatory Citation
	1	Submit a check or money order to cover the permit application review fee, as listed in 18 AAC 60.700 Table I-3, if required. <i>The permit application review fee is not required to be submitted with an application for permit renewal.</i>	18 AAC 60.210(b)(8) 18 AAC 60.700
	2	Submit a check or money order to cover waiver request fees, if applicable, as listed in 18 AAC 60.700 Table I-3.	



# Asbestos Monofill Solid Waste Permit Application



Alaska Department of  
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## Part Three: Contact Information

✓	#	Requirement:	Regulatory Citation
	1	Fill out the form completely and submit as part of the application.	18 AAC 60.210(b)

**APPLICANT**

Name \_\_\_\_\_

Contact name \_\_\_\_\_

Mailing address \_\_\_\_\_

City/State/Zip \_\_\_\_\_

Telephone Number \_\_\_\_\_

FAX Number \_\_\_\_\_

Email Address \_\_\_\_\_

Type of entity      Individual       Partnership

                                 Corporation       Other \_\_\_\_\_

State of incorporation or registration \_\_\_\_\_

Alaska business license number \_\_\_\_\_

IRS tax identification number \_\_\_\_\_

**FACILITY OWNER**

Name \_\_\_\_\_

Mailing address \_\_\_\_\_

City/State/Zip \_\_\_\_\_

Telephone Number \_\_\_\_\_

FAX Number \_\_\_\_\_

Email Address \_\_\_\_\_

# Asbestos Monofill Solid Waste Permit Application



Alaska Department of  
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Division of Environmental Health  
Solid Waste Program

## Part Three: Contact Information (continued)

### LANDOWNER

Name \_\_\_\_\_

Mailing address \_\_\_\_\_

City/State/Zip \_\_\_\_\_

Telephone Number \_\_\_\_\_

FAX Number \_\_\_\_\_

Email Address \_\_\_\_\_

### OPERATOR

Name \_\_\_\_\_

Mailing address \_\_\_\_\_

City/State/Zip \_\_\_\_\_

Telephone Number \_\_\_\_\_

FAX Number \_\_\_\_\_

Email Address \_\_\_\_\_

### AGENT

Name \_\_\_\_\_

Mailing address \_\_\_\_\_

City/State/Zip \_\_\_\_\_

Telephone Number \_\_\_\_\_

FAX Number \_\_\_\_\_

Email Address \_\_\_\_\_

# Asbestos Monofill Solid Waste Permit Application



Alaska Department of  
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Division of Environmental Health  
Solid Waste Program

## Part Four: Waste Handling and Processing Information

✓	#	Requirement:	Regulatory Citation
	1	Fill out the form completely and submit as part of the application.	18 AAC 60.210(b)(2) 18 AAC 60.210(b)(3)(B) 18 AAC 60.210(b)(4)

**1 List the amounts of the various wastes you expect to receive at the site each year:**

**Quantity**  
(Tons/Year)

**Waste Type**

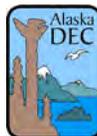
\_\_\_\_\_

Regulated Asbestos Containing Material (RACM)

\_\_\_\_\_

Non-Regulated Asbestos Containing Material (non-RACM)

# Asbestos Monofill Solid Waste Permit Application



Alaska Department of  
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Solid Waste Program

## Part Five – Location Information

Please fill out the form where required, attach the appropriate documentation, and submit as part of the application. You may submit maps that show more than one of the required items. For example, one map can show property boundaries, nearest airport, wetland and surface water locations, etc. Please ensure that all the requested information is included in the completed application.

**NOTE:** Maps must have notations about sources of information, including a complete citation.

✓	#	Requirement:	Regulatory Citation
	1	<b>Property ownership and location</b> information must include the following:	18 AAC 60.210(b)(3)(A) 18 AAC 60.210(b)(7)
	(a)	Fill in a legal description of the property, with meridian, range, township and section, as well as latitude and longitude.  _____ _____ _____ _____ _____ _____ _____	
	(b)	Fill in an informal location description such as mileposts, landmarks, distance and direction from nearest community.  _____ _____ _____ _____ _____ _____	
	(c)	Attach a copy of the deed or another legal document that identifies the landowner.	
	(d)	If the applicant is not the landowner, attach a written and notarized statement signed by the landowner showing that the landowner consents to the landfill, or a copy of any lease agreement that is relevant to the proposed activity.	
	(e)	Attach a map or aerial photo that shows the location of the landfill property boundaries.	

# Asbestos Monofill Solid Waste Permit Application



Alaska Department of  
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Division of Environmental Health  
Solid Waste Program

## Part Five – Location Information (continued)

✓	#	Requirement:	Regulatory Citation
	2	<b>Surface water</b> information must include:	18 AAC 60.210(b)(3)(B) 18 AAC 60.210(b)(3)(D) 18 AAC 60.225
	(a)	Fill in information about any potential for surface water to enter the site from upgradient areas.  _____ _____ _____ _____ _____ _____ _____ _____	
	(b)	Attach a map or aerial photo that shows the location of surface water bodies and streams within 200 feet of the landfill boundary.	
	3	<b>Permafrost</b> information must include:	18 AAC 60.210(b)(3)(B) 18 AAC 60.227
	(a)	If the landfill is located on permafrost, fill in information to explain why there is no practical alternative to the site chosen.  _____ _____ _____ _____ _____ _____ _____ _____	
	(b)	If the landfill is in an area of discontinuous permafrost, attach a map or aerial photo that shows the location of the boundary of any permafrost within 200 feet of the landfill boundary.	

# Asbestos Monofill Solid Waste Permit Application

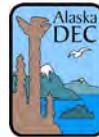


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## Part Five – Location Information (continued)

✓	#	Requirement:	Regulatory Citation
	4	<b>Other</b> required information:	18 AAC 60.040
	(a)	Attach information showing the highest measured level of groundwater under the landfill area.  NOTE: new cells or cell expansions may not be located closer than 10 feet above groundwater.	18 AAC 60.210(a) 18 AAC 60.217 18 AAC 60.410 18 AAC 60.450(b) 18 AAC 60.820(a)(1)
	(b)	Attach a completed Coastal Project Questionnaire if the proposed operation is in, or might affect, the Coastal Zone of Alaska.	11 AAC 110.205
	(c)	Attach a map and/or aerial photo that shows the location of all nearby drinking water wells; there should be no wells within 500 feet of the waste area.	
	(d)	Attach a map and/or aerial photo that shows the location of the boundary of any 100-year floodplain in the area.  NOTE: If the landfill is located in a 100-year floodplain, attach documentation to demonstrate that the landfill will not restrict the flow of the 100-year flood, reduce the temporary storage capacity of the floodplain, or result in washout of solid waste.	

# Asbestos Monofill Solid Waste Permit Application



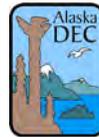
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## Part Six – Facility Design

A complete set of design drawings must be submitted showing all the information in the following table, with drawings included for both the design and closure of the landfill, as appropriate. Landfill drawings should be organized as shown below, with design drawings placed in the first part of the drawing set and closure drawings included at the end of the drawing set. It is understood that landfill closure design drawings will be conceptual only. NOTE: Supporting calculations and data for both the design and closure of the landfill must be attached to the permit application and include the information shown in the following table.

✓	#	Requirement – engineering drawings must include, at a minimum:	Regulatory Citation
<b>LANDFILL DESIGN DRAWINGS:</b>			18 AAC 60.210(b)(3) 18 AAC 60.220 18 AAC 60.233
	1	<b>Site map(s)</b> which show site conditions including:	
	(a)	All previous, existing, and planned disposal areas; the drawing should demonstrate that waste will be at least 50 feet from property boundary.	
	(b)	Fences, gates, berms, and other access control devices around the facility.	
	(c)	Access roads to and within the facility.	
	2	<b>Plan view drawings</b> with contour lines <u>and</u> cross sections including:	18 AAC 60.210(b)(3) 18 AAC 60.210(b)(4) 18 AAC 60.410(b)(2) 18 AAC 60.410(c)
	(a)	Any planned excavations before waste cell construction.	
	(b)	All roads, ditches, trenches, and berms associated with the landfill.	
	3	<b>Construction detail drawings</b> and cross sections including:	18 AAC 60.210(b)(3)(B) 18 AAC 60.225 18 AAC 60.410(b)(2) 18 AAC 60.410(c)
	(a)	Storm water drainage structures, culverts, and other surface water control devices.	
<b>LANDFILL CLOSURE DRAWINGS:</b>			18 AAC 60.210(b)(3)(E)
	4	<b>Conceptual drawings</b> of the facility after closure is completed.	
<b>DESIGN CALCULATIONS, DATA, AND DOCUMENTATION:</b>			18 AAC 60.210(b)(3) 18 AAC 60.210(b)(4) 18 AAC 60.210(c) 18 AAC 60.227(b) 18 AAC 60.410(c) 18 AAC 60.450(b)
	5	<b>Design calculations, data, and documentation</b> must include:	
	(a)	Information and/or calculations showing how the facility will be protected from any reasonably anticipated natural event such as aufeis, floods, earthquakes, thawing of unstable permafrost, and the effects of freezing and thawing.	
	(b)	If located on permafrost, documentation showing that the permafrost will remain frozen to the greatest extent practical.	
	(c)	Information and calculations that substantiate the size and expected usable life of the facility.	
	(d)	Printouts of inputs, assumptions, and outputs from any computer model used to support the facility design.	
	(e)	An estimate (including calculations) of the maximum inventory of asbestos waste that will be disposed of onsite over the life of the facility.	
	6	For landfills accepting more than 5 tons per day of waste, all design documents must be stamped and sealed by a registered engineer.	18 AAC 60.210(c)

# Asbestos Monofill Solid Waste Permit Application



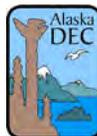
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## Part Seven – Operations Plan

The operations plan should provide sufficient detail and information that a landfill operator could use to perform all required tasks for day-to-day operation of the landfill. The operations plan is a flexible document that should be reviewed annually and updated/modified, as necessary. The following table represents the minimum requirements to be included in an operations plan. Additional information should be added, as needed, to ensure the facility operates in compliance with the State Solid Waste Regulations. A copy of the operations plan should be kept at the landfill facility.

✓	#	Requirement - operations plan must include:	Regulatory Citation
	1	<b>Access control</b> - must include a description of how:	18 AAC 60.210(b)(3)(C) 18 AAC 60.220
	(a)	access to the facility will be controlled, including gates, fences, berms, or other means of preventing access, hours of operation, signage, and other control measures.	40 CFR 61.154
	(b)	prohibited activities such as target practice or off road vehicle use will be prevented.	
	(c)	access and onsite roads will be kept passable and safe for vehicles year round.	
	(d)	warning signs meeting the requirements of 40 CFR 61.154(b) will be placed at the facility.	
	2	<b>Waste acceptance and handling policy</b> must include a description of:	18 AAC 60.210(b)(3)(C) 18 AAC 60.240(a) 18 AAC 60.240(b) 18 AAC 60.420(b) 18 AAC 60.450(c)
	(a)	waste screening procedures to ensure no prohibited or unacceptable wastes are disposed in the facility.	
	(b)	any signage placed at the facility entrance.	
	(c)	waste inspection procedures to ensure: <ul style="list-style-type: none"> <li>○ proper containment in leak-proof bags;</li> <li>○ bags are properly labeled; and</li> <li>○ all bags are accompanied by complete and accurate shipping records.</li> </ul>	29 CFR 1910.1001 40 CFR 61.154(b)
	(d)	waste handling procedures to prevent breaking of bags or release of asbestos fibers.	
	3	<b>Waste placement plan</b> must include a description of:	18 AAC 60.210(b)(3)(B) 18 AAC 60.210(b)(3)(C) 18 AAC 60.225(a)
	(a)	waste placement methods.	
	(b)	planned progression of the working face, including landfill development over the life of the facility (diagrams are acceptable).	
	(c)	how unstable slopes will be avoided.	
	4	<b>Cover plan</b> must include information about:	18 AAC 60.210(b)(3)(B) 18 AAC 60.210(b)(3)(C) 18 AAC 60.450(d)
	(a)	The type of cover material(s) that will be used, describe: <ul style="list-style-type: none"> <li>○ where the cover material will be obtained and stored;</li> <li>○ the frequency with which the cover will be applied (must be within 24 hours of waste placement); and</li> <li>○ the depth of cover that will be applied (minimum of 6 inches).</li> </ul>	

# Asbestos Monofill Solid Waste Permit Application

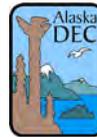


Alaska Department of  
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## Part Seven: Operations Plan (continued)

✓	#	Requirement - operations plan must include:	Regulatory Citation
	5	<b>Litter, vector, and nuisance control plan</b> must include:	18 AAC 60.210(b)(3)(C) 18 AAC 60.210(b)(3)(D)
	(a)	procedures to ensure wildlife and domestic animals do not endanger the public or landfill staff, are not harmed by contact with the waste, and do not become a nuisance.	18 AAC 60.230(a) 18 AAC 60.233(2) 18 AAC 60.420(a)
	(b)	procedures to control dust, odor, noise, traffic, litter, disease vectors, and other effects from facility operations so they do not become a nuisance or hazard outside of the facility boundary.	AS 46.06.080
	6	<b>Corrective action plan</b> must include procedures for immediately:	18 AAC 60.210(b)(3)(C) 18 AAC 60.210(b)(3)(D) 18 AAC 60.815(a)
	(a)	<ul style="list-style-type: none"> <li>○ cleaning up any improper or unauthorized waste disposal;</li> <li>○ repairing any damage to the facility or structures; and</li> <li>○ addressing any violations of regulations or permit conditions.</li> </ul>	
	7	<p><b>Operating record</b> – Please state where the operating record for the facility will be kept.</p> <p>NOTE: The operating record must contain all documentation listed in 18 AAC 60.235 and 18 AAC 60.450(f), and be retained in a location readily accessible to DEC and facility employees.</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p>	18 AAC 60.235 18 AAC 60.450(f)

# Asbestos Monofill Solid Waste Permit Application



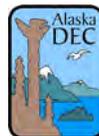
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## Part Eight – Monitoring Plan

The monitoring plan must include sufficient detail to adequately perform all tasks.

✓	#	Requirement - monitoring plan must include:	Regulatory Citation
	1	<b>Visual monitoring plan.</b> Must include:	18 AAC 60.210(b)(3)(D) 18 AAC 60.800(a)
	(a)	A description of the procedures for visual monitoring of the landfill.	
	(b)	A checklist or visual monitoring form including all items in 18 AAC 60.800(a).	

# Asbestos Monofill Solid Waste Permit Application



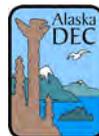
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Environmental Conservation  
Division of Environmental Health  
Solid Waste Program

## Part Nine - Closure Plan and Cost Estimate

It is understood that the closure plan submitted with the permit application is conceptual, and may change throughout the active life of the facility. If the landfill is within 5 years of closure, a detailed closure plan must be submitted and approved by DEC.

✓	#	Requirement - closure plan must include:	Regulatory Citation
	1	<b>A description of the closure process</b> for the facility must include:	18 AAC 60.210(b)(3)(E) 18 AAC 60.210(b)(6) 18 AAC 60.245 18 AAC 60.270 18 AAC 60.450(i) 18 AAC 60.490
	(a)	A description of the final cover and appearance of the facility meeting the standards of 18 AAC 60.450(i).	
	(b)	A description of the methods and procedures for final cover installation.	
	(c)	A timeline or schedule for all activities needed to complete closure.	
	(d)	A description of the anticipated post closure (future) use of the property.	
	(e)	A description and map of proposed survey monuments or permanent markers.	
	(f)	A statement of how DEC will be notified that the requirements of 18 AAC 60.270 and 18 AAC 60.490 have been met.	
	2	<b>Financial information</b> (if required by DEC) must include:	18 AAC 60.210(b)(5) 18 AAC 60.210(b)(3)(F) 18 AAC 60.265
	(a)	The total present-day equivalent cost estimates for closing the facility.	
	(b)	The total present-day equivalent cost estimates for post-closure care of the facility.	
	(c)	Detailed proof of financial responsibility to cover the cost of closing the landfill and post closure care.	

# Asbestos Monofill Solid Waste Permit Application



Alaska Department of  
Environmental Conservation  
Division of Environmental Health  
Solid Waste Program

## Part Ten - Waiver Requests and Justification

NOTE: 18 AAC 60.900 allows DEC to grant an exemption from any regulation not required by federal law.

✓	#	Requirement - waiver requests must include:	Regulatory Citation
	1	A list of each regulation you are requesting a waiver from, and a detailed justification for each, as described in 18 AAC 60.900.	18 AAC 60.210(b)(1)(D) 18 AAC 60.900
	2	Note - Each waiver request increases the permit application fee by the amount listed on Table I-3 of 18 AAC 60.700.	18 AAC 60.700

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## **APPENDIX E**

City of Thorne Bay Resolution 10-01-05-03

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RESOLUTION 10-01-05-03  
CITY OF THORNE BAY

A RESOLUTION OF THE CITY COUNCIL FOR THE CITY OF THORNE BAY, ALASKA; SUPPORTS THE REQUEST TO DEC'S REUSE AND REDEVELOPMENT PROGRAM FOR A BROWNFIELDS ASSESSMENT OF THE OLD THORNE BAY FIRE HALL

WHEREAS, the City Council is the governing body for the City of Thorne Bay, Alaska; and

WHEREAS, the DEC's Reuse and Redevelopment Program is accepting requests from communities for this program; and

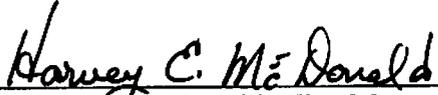
WHEREAS; Thorne Bay's old Fire Hall is contaminated with cement asbestos siding on the exterior of the building and exposing residents and staff to asbestos containing material and is a concern of the City; and

WHEREAS, a determination of hazardous criterion at the site would present the City with an opportunity to preserve public health and better utilize the property in question; and

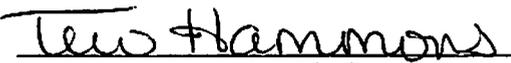
WHEREAS, with a full asbestos abatement at the aging facility, the community would move forward with plans for Pearl Nelson City Park expansion through construction of a band-shell / covered facility that would increase the aesthetics and recreational opportunities in Thorne Bay; and

NOW, THEREFORE BE IT RESOLVED, by the City Council for the City of Thorne Bay, Alaska; supports the request to DEC's Reuse and Redevelopment Program for a Brownfields Assessment of the old Thorne Bay Fire Hall.

PASSED AND APPROVED January 5, 2010

  
Harvey McDonald, Vice Mayor

ATTEST:

  
Teri Hammons, City Clerk

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## **APPENDIX F**

Stakeholder Meeting Minutes

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August 30, 2010

Dave Allen  
ADEC Spill Prevention and Response Division  
Response Fund Administration Program Contract Management Section  
555 Cordova Street  
Anchorage, AK 99501

**Subject: Thorne Bay Old Fire Hall PACP Stakeholder Meeting Minutes**

Dear Mr. Allen:

This letter report summarizes meeting minutes for a teleconference on August 27, 2010, with the stakeholders of the City of Thorne Bay Old Fire Hall. The meeting served as the project kick-off for a property assessment and cleanup plan (PACP) that OASIS is performing for the Alaska Department of Environmental Conservation (DEC) on behalf of the City of Thorne Bay through DEC's Brownfield Assessment program. The meeting began at 2:00 and concluded at approximately 3:00.

## Participants

John Carnahan, DEC, Brownfield Coordinator  
Deborah Williams, DEC, Brownfield Project Manager  
Sonja Benson, DEC Brownfield Environmental Program Specialist  
Mary Goolie, EPA Project Officer for DEC  
Pete Hallgren, Interim City Administrator of Thorne Bay  
Denise Koch, OASIS Environmental, Project Manager

## Minutes

The following provides a bulleted summary of discussions.

- Participants introduce themselves.
- John Carnahan described the Brownfield program. It is funded by EPA and intended to identify, assess, and revitalize properties. The DEC can only fund a few projects a year. The Brownfield program helps communities identify and prevent the blight of contaminated property with the end goal of recycling the property. Mr. Carnahan indicates that he thinks the property assessment and cleanup plan for this property will be relatively straightforward for this site.
- The DEC Brownfield Assessment Request Form was submitted by Justin Sornsins on behalf of the property owner, the City of Thorne Bay. Mr. Sornsins was formerly the City Administrator for the

City of Thorne Bay. Pete Hallgren is acting as the Interim City Administrator until September 24, 2010. The City expects to hire a permanent City Administrator during the last week of September. However, it is unclear when the selected candidate may arrive in Thorne Bay and he or she may not be available during the OASIS site visit. Bruce Tower, the Public Works Supervisor, will act as the stable point of contact for the City of Thorne Bay. Mr. Tower was unable to attend the meeting but Mr. Hallgren provided his contact information.

- There are no Native Corporations or Councils in Thorne Bay. The closest tribal government is in Kasaan approximately 12 miles away.
- Mr. Hallgren stated that the Old Fire Hall is currently being used for sand storage for winter street maintenance.
- Ms. Koch inquired if Mr. Hallgren could hone down the date when the building was constructed. Mr. Hallgren indicated that somebody told him the exact construction date but that he can't remember it. The building was constructed by the logging company (Ketchikan Pulp Company) since the city wasn't incorporated until 1982.
- The Old Fire Hall is visible from City Hall and is adjacent to the Pearl Nelson Community Park. The park is a community asset with lots of young children playing there at the time of the meeting. The City would like to deconstruct the Old Fire Hall and use the site to expand the park. The City is looking for money to build a covered band shelter or gazebo type structure where barbeques or other assets may be placed to enhance the citizen's use of the park during the rainy season. Thorne Bay receives over 100 inches of rain per year.
- Mr. Hallgren states that there is asbestos siding on the exterior of the building. This has been confirmed by testing and summarized in a report conducted by Mather Environmental.
- Ms. Koch asks about the landfill facilities historically and currently in use. Mr. Hallgren states that the old landfill in Thorne Bay was closed according to all regulations and requirements before the Ketchikan Pulp Company left Thorne Bay in about the early 2000s.
- Mr. Hallgren informs the group that currently garbage goes to the Thorne Bay Landfill located about 7 miles from town off the main highway and a half mile down a gravel road to the south of town. The landfill is fully permitted and is currently applying for permit renewal. The City estimates that there are about 30 years of service left in the landfill. The landfill is not currently licensed to receive asbestos. The landfill receives garbage from the other communities on Prince of Wales Island and City staff researched whether to try to get the landfill licensed to receive asbestos. However, it did not make economic sense to do so. Another option may be to get a permit for the one time disposal of asbestos on the site. There is room in the landfill for asbestos disposal if permitted to receive it.
- The commercial port is only about 1 mile from the Old Fire Hall. Shipping materials such as asbestos out of town is also a possibility. Northwind Marine is the container company that ships from the port closest to Thorne Bay. Mr. Hallgren did not have a contact at Northwind Marine but believed that Mr. Tower might.
- Ms. Koch asks Mr. Hallgren whether there are any drums or storage containers in the Old Fire Hall or on the property. She also inquires about any other environmental concerns that the community has about the building. Mr. Hallgren responds that there are no drums or containers in the building or on the surrounding property. There appears to have been a heater in the building as evidenced by a propane line. The building doesn't appear to have an underground

storage tank. The fuel storage tank was above ground and has been removed. The entire first floor of the Old Fire Hall is under sand.

- Ms. Koch asks Mr. Hallgren if he is aware of any lead paint on the building. Mr. Hallgren was not sure if there is lead paint but he indicated that the paint was confirmed to contain asbestos.
- Mr. Carnahan asks if there are any books with historical photos of the property. Mr. Hallgren is not sure if there are any such photos. However, he doubts that these sorts of photos would help. Mr. Hallgren believes that the Old Fire Hall hasn't changed much since it was in use. Mr. Carnahan mentions that you can sometimes see drums or other such storage evidence in old photographs.
- Mr. Carnahan stressed the importance of identifying reasonable, cost effective clean up options that the community could possibly afford. People sometimes overestimate the risk associated with asbestos and its removal. The clean up options should address real and not just perceived risk.
- At the conclusion of the meeting, there was some discussion of travel and lodging logistics in Thorne Bay.

## Action Items

- Ms. Koch and the OASIS PACP technical expert, Lisa Nicholson, are tentatively planning on being in Thorne Bay from the afternoon of October 5<sup>th</sup> through the afternoon of October 8<sup>th</sup> to conduct the site visit.
- Ms. Koch will contact Mr. Tower to discuss the Old Fire Hall PACP project and to confirm his availability during the site visit.

OASIS appreciates the opportunity to assist DEC, and the City of Thorne Bay with this project. Please contact me at 907-723-5291, or email at [d.koch@oasisenviro.com](mailto:d.koch@oasisenviro.com), if you have any questions regarding the submission of these meeting minutes.

Sincerely,

**OASIS Environmental, Inc.**



Denise Koch  
Project Manager

cc:

John Carnahan, DEC Brownfields Coordinator  
Deborah Williams, DEC Project Manager

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## **APPENDIX G**

MACS Lab, Inc. Bulk Asbestos Analysis

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**Report**

510-786-9751

Lab Sample Number	Client Sample Number and Description	Asbestos detected?	Fibers present	Remarks
L192138-7 Cement Board	7	<b>Yes</b>	10% Chrysotile* 10% Cellulose	Cement board. Balance of sample is unspecified non-fibrous material.
L192138-8 Cement Board	8	<b>Yes</b>	10% Chrysotile* 10% Cellulose	Cement board. Balance of sample is unspecified non-fibrous material.
L192138-9 Cement Board	9	<b>Yes</b>	10% Chrysotile* 10% Cellulose	Cement board. Balance of sample is unspecified non-fibrous material.
L192138-10 Cement Board	10	<b>Yes</b>	10% Chrysotile* 10% Cellulose	Cement board. Balance of sample is unspecified non-fibrous material.
L192138-11 Cement Board	11	<b>Yes</b>	10% Chrysotile* 10% Cellulose	Cement board. Balance of sample is unspecified non-fibrous material.
L192138-12 Cement Board	12	<b>Yes</b>	10% Chrysotile* 10% Cellulose	Cement board. Balance of sample is unspecified non-fibrous material.
L192138-13 Cement Board	13	<b>Yes</b>	10% Chrysotile* 10% Cellulose	Cement board. Balance of sample is unspecified non-fibrous material.
L192138-14 Cement Board	14	<b>Yes</b>	10% Chrysotile* 10% Cellulose	Cement board. Balance of sample is unspecified non-fibrous material.
L192138-15 Cement Board	15	<b>Yes</b>	10% Chrysotile* 10% Cellulose	Cement board. Balance of sample is unspecified non-fibrous material.

\* Chrysotile, Amosite, Crocidolite, Tremolite, Actinolite, and Anthophyllite are asbestos fibers. N.D.=None Detected PC =Point Counted

This report shall not be reproduced except in full without written approval of MACS Lab, Inc. This report relates only to the items tested. Samples will be destroyed after one month. Test per 40 Code of Federal Reg. Chap I (1-1-87) Part 763, Subpart F, Appendix A or current EPA method. Percentages are approximate. MACS Lab is an accredited laboratory of the National Voluntary Laboratory Accreditation Program (NVLAP) and is Lab Code 101948-0. No product endorsement by NVLAP or any agency of the U.S. Government may be claimed as a result of this analysis. Calif Dept of Health ELAP #2027. This method is not reliable for analysis of tile or other materials when fiber size is less than 10µ. TEM analysis should be used. Method Detection limit for asbestos is 1% per CA law. See QC page attached to this page for blank and retest data .



**Report**

510-786-9751

Lab Sample Number	Client Sample Number and Description	Asbestos detected?	Fibers present	Remarks
L192138-16 Cement Board	16	<b>Yes</b>	10% Chrysotile* 10% Cellulose	Cement board. Balance of sample is unspecified non-fibrous material.
L192138-17 Cement Board	17	<b>Yes</b>	10% Chrysotile* 10% Cellulose	Cement board. Balance of sample is unspecified non-fibrous material.
L192138-18 Adhesive	18	<b>N.D</b>	< 1% Cellulose	Off-white adhesive. Balance of sample is unspecified non-fibrous material.
L192138-19 Adhesive	19	<b>N.D</b>	< 1% Cellulose	Off-white adhesive. Balance of sample is unspecified non-fibrous material.
L192138-20 Adhesive	20	<b>N.D</b>	< 1% Cellulose	Off-white adhesive. Balance of sample is unspecified non-fibrous material.
L192138-21 Nail Washer	21	<b>N.D</b>	No Fibers	Silver washer. Balance of sample is unspecified non-fibrous material.
L192138-22 Adhesive	22	<b>N.D</b>	< 1% Cellulose	Off-white adhesive. Balance of sample is unspecified non-fibrous material.
L192138-23 Paint	23	<b>Yes</b>	3% Chrysotile* 3% Cellulose	Off-white paint. Balance of sample is unspecified non-fibrous material.
L192138-24 Paint	24	<b>Yes</b>	3% Chrysotile* 3% Cellulose	Off-white paint. Balance of sample is unspecified non-fibrous material.

\* Chrysotile, Amosite, Crocidolite, Tremolite, Actinolite, and Anthophyllite are asbestos fibers. N.D.=None Detected PC =Point Counted

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510-786-9751

**Report**

Lab Sample Number	Client Sample Number and Description	Asbestos detected?	Fibers present	Remarks
L192138-25 Paint	25	<b>Yes</b>	3% Chrysotile* 3% Cellulose	Off-white paint. Balance of sample is unspecified non-fibrous material.
L192138-26 Paint	26	<b>Yes</b>	5% Amosite* 90% Fiberglass < 1% Cellulose	Off-white paint. Balance of sample is unspecified non-fibrous material.
L192138-27 Paint	27	<b>Yes</b>	5% Chrysotile* 5% Cellulose	Off-white paint. Balance of sample is unspecified non-fibrous material.
L192138-28 Paint	28	<b>Yes</b>	3% Chrysotile* 3% Cellulose	Off-white paint. Balance of sample is unspecified non-fibrous material.
L192138-29 Paint	29	<b>Yes</b>	5% Chrysotile* 5% Cellulose	Off-white paint. Balance of sample is unspecified non-fibrous material.
L192138-30 Paint	30	<b>Yes</b>	5% Amosite* 90% Fiberglass < 1% Cellulose	Off-white paint. Balance of sample is unspecified non-fibrous material.

\* Chrysotile, Amosite, Crocidolite, Tremolite, Actinolite, and Anthophyllite are asbestos fibers. N.D.=None Detected PC =Point Counted

This report shall not be reproduced except in full without written approval of MACS Lab, Inc. This report relates only to the items tested. Samples will be destroyed after one month. Test per 40 Code of Federal Reg. Chap I (1-1-87) Part 763, Subpart F, Appendix A or current EPA method. Percentages are approximate. MACS Lab is an accredited laboratory of the National Voluntary Laboratory Accreditation Program (NVLAP) and is Lab Code 101948-0. No product endorsement by NVLAP or any agency of the U.S. Government may be claimed as a result of this analysis. Calif Dept of Health ELAP #2027. This method is not reliable for analysis of tile or other materials when fiber size is less than 10µ. TEM analysis should be used. Method Detection limit for asbestos is 1% per CA law. See QC page attached to this page for blank and retest data .



Mather Environmental  
 2112 First Ave.  
  
 Ketchikan AK 99901

Laboratory manager: \_\_\_\_\_  
 (signature)

Lab Sample Number	Client Sample Number and Description	Asbestos detected?	Fibers present	Remarks
Blank sample		N.D. PC*	No fibers	
L192138-19 Adhesive	19	N.D	< 1% Cellulose	Adhesive. Balance of sample is organic binders and unspecified non-fibrous material.
L192138-27 Paint	27	Yes	5% Chrysotile* 5% Cellulose	Paint. Balance of sample is unspecified non-fibrous material.

End of report.

\* Chrysotile, Amosite, Crocidolite, Tremolite, Actinolite, and Anthophyllite are asbestos fibers. N.D.=None Detected PC =Point Counted

This report shall not be reproduced except in full without written approval of MACS Lab, Inc. This report relates only to the items tested. Samples will be destroyed after one month. Test per 40 Code of Federal Reg. Chap 1 (1-1-87) Part 763, Subpart F, Appendix A or current EPA method. Percentages are approximate. MACS Lab is an accredited laboratory of the National Voluntary Laboratory Accreditation Program (NVLAP) and is Lab Code 101948-0. No product endorsement by NVLAP or any agency of the U.S. Government may be claimed as a result of this analysis. Calif Dept of Health ELAP #2027. This method is not reliable for analysis of tile or other materials when fiber size is less than 10µ. TEM analysis should be used. Method Detection limit for asbestos is 1% per CA law. See QC page attached to this page for blank and retest data .





Material Analysis and Characterization Service

L192138

Analytical and Environmental Services

# Chain of Custody Record

To Be Used For All Types Of Analysis

Macs Lab #

Customer Code **ATRE MATEN**

BILLED TO		PROJECT INFORMATION					ANALYSIS REQUIRED							Required Turn Around Time								
Name: Mather Environmental		Sampled By: <i>George Mather</i>		Date: N/A			PCB (Air) - NIOSH 7400	PLM (Bulk) - 40 CFR - Chap. 1, Part 763	Lead (Wipes, Air, Paint, Soil)	TEM (Air, Bulk) - AHERA/Asbestos Lead	Drinking Water Asbestos*/Lead	Mold (Non Viable, Viable - Air/Bulk)	Metals (TCLP, CAM17, STLC)	4 Hour	8 Hour	24 Hour	2 Days/48 Hour	3 Days/72 Hour	5 Days/120 Hour			
Address: 2112 First Ave.		Project Name: <i>Thome Bay</i>		Job #: 99919										<input type="checkbox"/> Customer								
City: Ketchikan		Site Address: N/A												<input checked="" type="checkbox"/> MACS								
State: AK Zip: 99901		City, State, Zip: <i>Thome Bay Alaska, 99901</i>												<input type="checkbox"/> OTHER (Explain)								
Phone No: (907)225-3842		Site Contact: <i>George Mather</i>												Comments / Area Social Security #								
Fax No: (907)247-		Phone No: (907)617-1983		Fax No: N/A																		
Cell No: (907)617-1983		Comments:																				
Email: <i>matherenvironmental@hotmail.com</i>		Samples Preserved: Yes / No		Received Cold: Yes / No																		
SAMPLE NO.	SAMPLE DESCRIPTION	TYPE OF WORK	TIME ON	TIME OFF	TOTAL TIME	FLOW RATES START								STOP	PCB (Air) - NIOSH 7400	PLM (Bulk) - 40 CFR - Chap. 1, Part 763	Lead (Wipes, Air, Paint, Soil)	TEM (Air, Bulk) - AHERA/Asbestos Lead	Drinking Water Asbestos*/Lead	Mold (Non Viable, Viable - Air/Bulk)	Metals (TCLP, CAM17, STLC)	Comments / Area Social Security #
1-10			na	na	na	na								na	XXX							
1	<i>Cement Board</i>							✓														
2	<i>"</i>	<i>"</i>						✓														
3	<i>"</i>	<i>"</i>						✓														
4	<i>"</i>	<i>"</i>						✓														
5	<i>"</i>	<i>"</i>						✓														
6	<i>"</i>	<i>"</i>						✓														
7	<i>"</i>	<i>"</i>						✓														
8	<i>"</i>	<i>"</i>						✓														
9	<i>"</i>	<i>"</i>						✓														
10	<i>"</i>	<i>"</i>						✓														
Relinquished By: <i>George Mather</i>		Date: <i>7-9-09</i>		Time: <i>3 PM</i>		Accepted By: <i>D. K. [Signature]</i>		Date: <i>07/15/09</i>		Time: <i>11:30</i>												
Credit Card #		Check #		<i>\$ 210.00</i>		Net 30 Days																

\* TEM asbestos in water analysis requires 2 one-liter bottles shipped @ 4°C in dark containers for each sample. LEAD USEPA 7420, Air NIOSH 7082, Soil EPA 7000/7420, Wipes NIOSH UNITS Water - 1 ug/l = 1 ppb Water AIHA (method 3113B EPA 200.9) Paint - 1% = 10,000 ppm

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Material Analysis and Characterization Service

L192138

Analytical and Environmental Services

# Chain of Custody Record

To Be Used For All Types Of Analysis

Mac's Lab # \_\_\_\_\_

Customer Code **ATRE**

**MATEN**

BILLED TO			PROJECT INFORMATION				ANALYSIS REQUIRED							Required Turn Around Time	
Name: Mather Environmental			Sampled By: <i>George Mather</i>		Date: N/A		FCM (Air) - NIOSH 7400	PLM (Bulk) - 40 CFR - Chap. 1, Part 763	Lead (Wipes, Air, Paint, Soil)	TEM (Air, Bulk) - AIHRA/Veritas Level	Drinking Water Asbestos/Lead	Mold (Non Viable, Viable - Air/Bulk)	Metals (TCLP, CAM17, STLC)	4 Hour	
Address: 2112 First Ave.			Project Name: <i>Thorne Bay</i>		Job #: 99919									8 Hour	
City: Ketchikan			Site Address: N/A											24 Hour	
State: AK Zip: 99901			City, State, Zip: <i>Thorne Bay Alaska, 99901</i>											2 Days/48 Hour	
Phone No: (907)225-3842			Site Contact: <i>George Mather</i>											3 Days/72 Hour	
Fax No: (907)247-			Phone No: (907)617-1983		Fax No: N/A									5 Days/120 Hour	
Cell No: (907)617-1983			Comments:												
Email: <i>matherenvironmental@thorned.com</i>			Samples Preserved: Yes / No		Received Cold: Yes / No										
SAMPLE NO.	SAMPLE DESCRIPTION	TYPE OF WORK	TIME ON	TIME OFF	TOTAL TIME	FLOW RATE START	FLOW RATE STOP	FCM (Air) - NIOSH 7400	PLM (Bulk) - 40 CFR - Chap. 1, Part 763	Lead (Wipes, Air, Paint, Soil)	TEM (Air, Bulk) - AIHRA/Veritas Level	Drinking Water Asbestos/Lead	Mold (Non Viable, Viable - Air/Bulk)	Metals (TCLP, CAM17, STLC)	Comments / Area Social Security #
11	<i>CEMENT BOARD</i>		na	na	na	na	na	✓							
12	<i>"</i>	<i>"</i>						✓							
13	<i>"</i>	<i>"</i>						✓							
14	<i>"</i>	<i>"</i>						✓							
15	<i>"</i>	<i>"</i>						✓							
16	<i>"</i>	<i>"</i>						✓							
17	<i>"</i>	<i>"</i>						✓							
18	<i>ADHESIVE</i>							✓							
19	<i>"</i>							✓							
20	<i>"</i>							✓							
Relinquished By: <i>George Mather</i>			Date: <i>7-9-09</i>	Time: <i>3 PM</i>	Accepted By: <i>D. K...</i>			Date: <i>07/15/09</i>	Time: <i>11:30</i>						
Credit Card #			Check #			<i>210</i>			Net 30 Days						

\* TEM asbestos in water analysis requires 2 one-liter bottles shipped @ 4°C in dark containers for each sample.

LEAD USEPA 7420, Air NIOSH 7082, Soil EPA 7000/7420, Wipes NIOSH UNITS Water - 1 ug/l = 1 ppb Water AIHA (method 3113B EPA 200.9) Paint - 1% = 10,000 ppm

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Material Analysis and Characterization Service

L192138

Analytical and Environmental Services

# Chain of Custody Record

To Be Used For All Types Of Analysis

Mac's Lab # \_\_\_\_\_

Customer Code ~~ATRE~~ **MATEJ**

BILLED TO			PROJECT INFORMATION					ANALYSIS REQUIRED							Required Turn Around Time		
Name: Mather Environmental			Sampled By: <i>George Mather</i>		Date: N/A			PCM (Air) - NIOSH 7400	PLM (Bulk) - 40 CFR - App. 1, Part 763	Lead (Wipes, Air, Paint, Soil)	TEM (Air, Bulk) - AMBIENT/Variable Level	Drinking Water Asbestos*/Lead	Mold (Non Viable, Viable - Air/Bulk)	Metals (TCLP, CAM17, STLC)	4 Hour		
Address: 2112 First Ave.			Project Name: <i>Thorne Bay</i>		Job #: 99919										8 Hour		
City: Ketchikan			Site Address: N/A												24 Hour		
State: AK Zip: 99901			City, State, Zip: <i>Thorne Bay Alaska, 99901</i>												2 Days/48 Hour		
Phone No: (907)225-3842			Site Contact: <i>George Mather</i>												3 Days/72 Hour		
Fax No: (907)247-			Phone No: (907)617-1983		Fax No: N/A										5 Days/120 Hour		
Cell No: (907)617-1983			Comments:												DISPOSAL		
Email: <i>matherenvironmental@hotmail.com</i>			Samples Preserved: Yes / No		Received Cold: Yes / No										<input type="checkbox"/> Customer <input checked="" type="checkbox"/> MACS <input type="checkbox"/> OTHER (Explain)		
SAMPLE NO.	SAMPLE DESCRIPTION	TYPE OF WORK	TIME ON	TIME OFF	TOTAL TIME	FLOW RATE	START								STOP	Comments / Area Social Security #	
1-A			NA	NA	NA	NA	NA								NA	X	
21	<i>Nail Washer</i>								/								
22	<i>Adhesive</i>								/								
23	<i>Paint</i>								/								
24	<i>"</i>								/								
25	<i>"</i>								/								
26	<i>"</i>								/								
27	<i>"</i>								/								
28	<i>"</i>								/								
29	<i>"</i>								/								
30	<i>"</i>								/								
Relinquished By: <i>George Mather</i>			Date: <i>7-9-09</i>		Time: <i>4:30 PM</i>		Accepted By: <i>[Signature]</i>			Date: <i>07/15/09</i>		Time: <i>11:30</i>					
Credit Card #							Check #					Net 30 Days					

\* TEM asbestos in water analysis requires 2 one-liter bottles shipped @ 4°C in dark containers for each sample. LEAD USEPA 7420, Air NIOSH 7082, Soil EPA 7000/7420, Wipes NIOSH UNITS Water - 1 ug/l = 1 ppb Water AIHA (method 3113B EPA 200.9) Paint - 1% = 10,000 ppm

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## **APPENDIX H**

DEC Statewide Contaminated Sites Database – Pertinent Entries

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[New Database Search](#) [Printer Friendly Version](#)

## Alaska Department of Environmental Conservation

## Contaminated Sites Database

Cleanup Chronology Report for  
Thorne Bay DuRette Shop

File Number	1528.38.001	Hazard ID	3298
SiteName	Thorne Bay DuRette Shop	Staff	Bruce Wanstall - 9074655210
Address 1	Shoreline Drive	Status	Active
Address 2		Landowner	
City/State/Zip	Thorne Bay, AK 99919		
Latitude	55.685909	Meridian	Copper River
Longitude	-132.528122	Range	084
Section	27	Township	071
Institutional Controls Report	No ICs exist for this site.	Location	<a href="#">View site on map</a>

## Problem/Comments

Site Investigation excavations at shop entrance trying to locate a historical waste oil sump reportedly plumbed from an off-site source resulted in a stockpile of contaminated soil. DRO from 120ppm to 3700ppm and RRO from 250ppm to 9900ppm were found in site screening soil samples collected from the excavations. Soil analysis also detected elevated levels of arsenic and chromium that are below applicable soil cleanup levels. The underlying soils are influenced by tides, and the fill material included hog fuel and large logs that hindered excavation of the site. No groundwater was encountered during the excavation. Contamination is reported to be less in soils under tidal influence, "close to original content without tidal influence".

Glossary/Acronyms

Action Date	Action	Description	DEC Staff
02/09/2001	Site Added to Database	Petroleum contamination confirmed.	Wanstall, Bruce
02/12/2001	Site Ranked Using the AHRM	Preliminary ranking.	Wanstall, Bruce
02/13/2001	Update or Other Action	VCP invitation letter sent to responsible party. Letter also discussed possible contamination at site by KPC Thorne Bay Shop located next door.	Wanstall, Bruce
06/12/2001	Update or Other Action	Second letter sent to RP regarding contamination on site. More definitive evidence needed before we can make a case to ask KPC to become involved. See G:/Spar-Contaminated Sites/SITES/DuRetteConstruction.doc.	Janes, Bill
03/04/2002	Update or Other Action	Project tickler update - No action at this time. Need to think more about next steps. Does not appear RP has taken any action since last June.	Janes, Bill
04/29/2002	Update or Other Action	Project tickler update - Letter sent to Butch DuRette asking to meet at the site on August 7 during the Prince of Wales visit. In site file on G drive.	Janes, Bill

Contaminated Sites Database Report

08/08/2002	Meeting or Teleconference Held	Met with Butch DuRette. Told him I would look into applying ACLs from KPCs shop next door. Cleanup needs may be very limited.	Janes, Bill
01/24/2006	GIS Position Updated	Lat long data posted for the maintenance shop; metadata includes use of the DEC facility locator GIS module with personal knowledge of the site projected on aerial photographs of the facility. Scale is 1:12,176 feet, elevation data not available, estimate less than one hundred feet above sea level. Accuracy of Lat Long coordinates is estimated at medium, within 150 meters.	Wanstall, Bruce
02/26/2008	Exposure Tracking Model Ranking	Initial ranking with ETM completed.	Janes, Bill

[New Database Search](#) [Printer Friendly Version](#)

## Alaska Department of Environmental Conservation

## Contaminated Sites Database

Cleanup Chronology Report for  
Thorne Bay Old Fire Hall

File Number	1528.57.001	Hazard ID	25509
SiteName	Thorne Bay Old Fire Hall	Staff	Deborah Williams - 9074515174
Address 1	Old Fire Hall	Status	Informational
Address 2		Landowner	City of Thorne Bay
City/State/Zip	Thorne Bay, AK 99919		
Latitude	55.684928	Meridian	Copper River
Longitude	-132.522440	Range	84
Section	27	Township	71
Institutional Controls Report	No ICs exist for this site.	Location	<a href="#">View site on map</a>

## Problem/Comments

The City of Thorne Bay submitted a request for a DEC Brownfield Assessment during the 2010 request period. Thorne Bay's Old Fire Hall is contaminated with cement asbestos siding on the exterior of the building. Other environmental hazards that may be present include soil contamination at the site due to the previous storage and maintenance of vehicles and equipment. The Old Fire Hall was erected in the 1970s for the Thorne Bay's volunteer firefighting squad. The City constructed its newer "Roth Building" in 1991 to house both the EMS and firefighting operations and decommissioned the use of the old fire hall as a municipal building. Currently, City staff utilizes it to store sand for winter road maintenance activities.

Glossary/Acronyms

Action Date	Action	Description	DEC Staff
04/27/2010	Site Added to Database	A new site has been added to the database	Williams, Deborah
04/27/2010	Brownfield Inventory	DEC received a DEC Brownfield Assessment Request for the 2010.	Williams, Deborah
07/09/2010	Update or Other Action	DEC received a response from the Alaska State Historic Preservation Office (SHPO) for the assessment work planned for FY2011 that there is "No Historic Properties Affected."	Williams, Deborah
07/30/2010	Brownfield Confirmed	Notice to proceed was awarded to Oasis through SPAR term contract. Project managed under Reuse and Redevelopment Program.	Williams, Deborah

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## **APPENDIX I**

DEC Statewide Oil and Hazardous Substances Spills Database

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## Spills Database Online Query

[Home](#)

### Facility Search Results

[New Search](#)

Click row for more info. Click column heading to sort.

Facility Name	Address
HORNE BAY CITY, 2030-95 RD.	no address
Control Lake Turnoff	no address
DAVIDSON DOCK, THORNE BAY, POW	no address
Etolin Island	no address
KPC SORT YARD	no address
KPC Yard, Thorne Bay	no address
Ratz Harbor, Clarence Strait	no address
RUSH FAST TIMER SALE, THORNE BAY	no address
SORT YARD	no address
THORNE BAY	no address
THORNE BAY CITY	no address
THORNE BAY CITY, 200' from Thorne Bay.	no address
THORNE BAY CITY, 3018470 ROAD	no address
THORNE BAY CITY, GOOSE CREEK ROAD	no address
THORNE BAY CITY, GRAVELLY CREEK RD (#3017100)	no address
THORNE BAY CITY, KPC	no address
THORNE BAY CITY, LOGGING CAMP	no address
THORNE BAY CITY, PRINCE OF WALES ISLAND	no address
THORNE BAY CITY, PWI	no address
THORNE BAY CITY,GOOSE CREEK	no address
THORNE BAY CITY,PWI	no address
Thorne Bay Harbor, City of Thorne Bay, Prince of W	no address
THORNE BAY HARBOR, POW	no address
THORNE BAY, Land fill	no address

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## **APPENDIX J**

DEC Underground Storage Tank Database – Pertinent Entries

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[New UST Search](#)
[Contaminated Sites Database](#)

## Alaska Underground Storage Tank Facility Summary Report

Facility: 1855 USFS Thorne Bay

### Facility Information

Facility ID	1855
Facility Name	USFS Thorne Bay
Location Address	Tongass National Forest Thorne Bay Ranger District, Thorne Bay, AK 99919

### Owner Information

Owner ID	1386
Owner Name	<a href="#">USDA Forest Service</a>  For more information
Mailing Address	Tongass National Forest Thorne Bay Ranger District Thorne Bay, AK 99919

Number of Tanks for this Facility: 1

### Tank Information - Tank # 1

### Next Inspection Due:

DEC Tank ID	1	Regulated Tank?	No
Owner Tank ID	1	Compliance Tag #	
Status	Permanently Out of Use	Installed	4/29/1983
Closure Status		Age	27.5
Product	Heating Oil	Capacity	1000 gallons
Tank Material Construction	Asphalt Coated or Bare Steel	Secondary Containment Option (Tank)	None
Pipe Material Construction	Galvanized Steel	Secondary Containment Option (Piping)	None
Piping Type	Not Listed	Piping Release Detection	Not Listed
Overfill Prevention Met	No	LD Other Methods	
Spill Prevention Met	No		
Cathodic Protection Met	No		

End of Report on 11/10/2010

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[New UST Search](#)
[Contaminated Sites Database](#)

## Alaska Underground Storage Tank Facility Summary Report

Facility: 88 J.C.'s

### Facility Information

Facility ID **88**  
 Facility Name **J.C.'s**  
 Location Address **Address Unknown,  
 Thorne Bay, AK 99919**

### Owner Information

Owner ID **2008**  
 Owner Name [Taqun Airlines](#)  For more information  
 Mailing Address **Db a J.C.'s  
 Thorne Bay, AK 99919**

Number of Tanks for this Facility: 1

### Tank Information - Tank # 1

### Next Inspection Due:

DEC Tank ID	1	Regulated Tank?	Yes
Owner Tank ID	1	Compliance Tag #	
Status	Permanently Out of Use	Installed	5/5/1976
Closure Status	Tank removed from ground	Age	14.9
Product	Gasoline	Capacity	2000 gallons
Tank Material Construction	Asphalt Coated or Bare Steel	Secondary Containment Option (Tank)	None
Pipe Material Construction	Galvanized Steel	Secondary Containment Option (Piping)	None
Piping Type	Not Listed	Piping Release Detection	Not Listed
Overfill Prevention Met	No	LD Other Methods	
Spill Prevention Met	No		
Cathodic Protection Met	No		

End of Report on 11/10/2010

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[New UST Search](#)
[Contaminated Sites Database](#)

## Alaska Underground Storage Tank Facility Summary Report

 Facility: [2434 Thorne Bay School](#)

### Facility Information

Facility ID **2434**  
 Facility Name **Thorne Bay School**  
 Location Address **110 Sandy Beach RD,  
Thorne Bay, AK 99919**

### Owner Information

Owner ID **1601**  
 Owner Name [Southeast Island School District](#)  For more information  
 Mailing Address **P.O. Box 8340  
Ketchikan, AK 99901**

Number of Tanks for this Facility: 1

### Tank Information - Tank # 1

### Next Inspection Due:

DEC Tank ID **1**  
 Owner Tank ID **1**  
 Status **Currently in Use**  
 Closure Status

Regulated Tank? **No**  
 Compliance Tag #  
 Installed **8/1/1987**  
 Age **23.3**

Product **Heating Oil**  
 Tank Material **Cathodically Protected Steel**  
 Construction  
 Pipe Material **Copper**  
 Construction  
 Piping Type **U.S. Suction**

Capacity **2000 gallons**  
 Secondary Containment Option **None**  
 (Tank)  
 Secondary Containment Option **Cathodically Protected**  
 (Piping)  
 Piping Release Detection **Auto Line LD**  
 LD Other Methods

Overfill Prevention Met **No**  
 Spill Prevention Met **No**  
 Cathodic Protection **Yes**  
 Met

End of Report on 11/10/2010

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## **APPENDIX K**

EPA Comprehensive Environmental Response, Compensation, and  
Liability Information System (CERCLIS) List

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# Superfund Information Systems

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Superfund Site Information

Site Documents

Data Element Dictionary (DED)

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## Superfund Site Progress Profile

### SALT CHUCK MINE (EPA ID: AK0001897602)

This profile provides you with information on EPA's cleanup progress at this Superfund site. This information includes: [Site Location](#), [Cleanup Progress Summary](#), [Cleanup Impact Summary](#), [Contamination](#), and [Cleanup Progress](#). Please use the links and the "More Details..." box to find more details on this site.

The data and content on this page were last updated on Wednesday, November 10, 2010.

More Details...

[Site Contacts](#) (EPA Cleanup Managers, etc.)  
[Other Names for this Site](#) (Aliases)  
[View GPRA Measures at this Site](#) ([see glossary](#))

#### Site Location

[Get an interactive map](#)

[EPA Region 10](#) >  
Serving Alaska, Idaho, Oregon, Washington and tribes

Site Address: 4 MI SW CY, T72S R84E S17, COPPER RIVER THORNE BAY, Alaska 99919

County: OUTER KETCHIKAN

U.S. Congressional District: 01

Population within one mile: 0-100

#### Cleanup Progress Summary



##### Study Not Begun

Physical cleanup activities have not started.

[view detailed list of cleanup activities at this site >>](#)

The National Priorities List (NPL) is the list of the most hazardous sites across the U.S. and its territories.

This site is on the NPL and is known as a Final NPL site ([see glossary](#)).

Superfund law requires that EPA give communities information about site progress and plans so that they can be actively involved in site cleanup decisions. [Learn more about community involvement at this site >>](#)

#### Cleanup Impact Summary

At each site, EPA assesses the risk to humans and the environment and determines the best approach to address the risk. During initial site studies and cleanup, EPA determines if current human exposures to contaminants are under control and takes actions to control any possible human exposures until cleanup has been completed. Once complete, cleanup provides long-term human health and environmental protection at the site.



Current human exposures are not yet under control. EPA continues working to control exposures

[see glossary definition for "Human Exposure Environmental Indicator Measure." >>](#)

At each site with known ground water contamination, EPA documents whether ground water contamination is below protective risk-based levels or, if not, whether the migration of contaminated ground water is stabilized.



There is insufficient data to determine migration control status"

[see glossary definition for "Contaminated Ground Water Migration Environmental Indicator Measure." >>](#)

#### Contamination

Contaminants (i.e., hazardous substances, pollutants or contaminants) can be found in several different types of materials on the site including soil and other solid-based media and water or another liquid-based medium ([see glossary](#)).

EPA classifies contaminants found into groups or types.

The extent and types of contamination at this site have not yet been extensively investigated. Limited contaminated media and type of contamination information can be found in the Site Narrative provided at the time of site listing on the NPL.

[see glossary definition for "types of contaminants" >>](#)

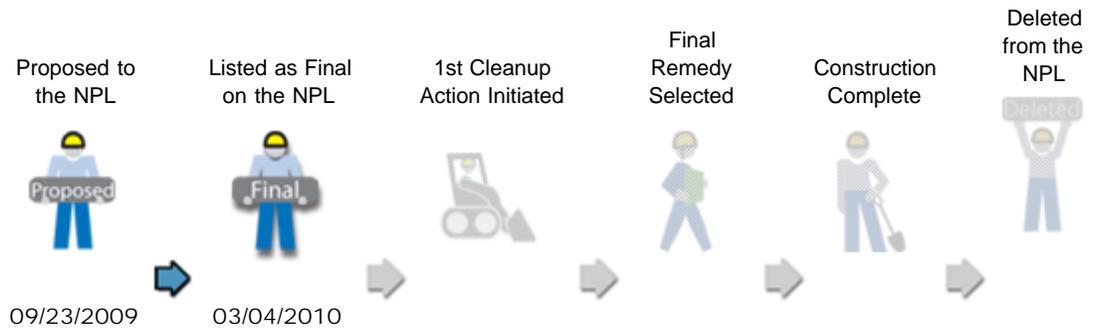
[ATSDR ToxFacts information on contaminants](#) [EXIT disclaimer >](#)

[^ back to top](#) | [view glossary >>](#)

## Cleanup Progress

### Major Site Cleanup Milestones

[see glossary definitions for major site cleanup milestones >>](#)



### Cleanup Activities At This Site

[see glossary definitions for cleanup activities >>](#)

There are many stages of cleanup, including site study, remedy selection, remedy design, remedy construction, and post-construction. Activities undertaken early in the cleanup process focus on understanding problems at the site while those taken later in the cleanup process focus on physically addressing those problems identified.

Many NPL sites are large and complicated. These sites are often broken up into smaller areas to make cleanup easier and more manageable. These areas are called "Operable Units" or OUs ([see glossary](#)).

The chart below shows the different types of activities that are underway or complete at each of the cleanup areas (operable units) at the site. Some activities apply to the entire site; EPA assigns these activities to the site-wide operable unit (designated as OU 0).

Cleanup Areas (Operable Units)	Removal *	Study and Remedy Selection	Remedy Design	Remedy Construction	Post-Construction
OU 1					
OU 0					

Complete Underway

[view activities details >>](#) [view OU details >>](#)  
[more in-depth site details](#) (EPA Regional Content)

\* At many sites an action, called a "Removal Action" ([see glossary](#)), must be taken to eliminate immediate and near-term threats to human health and the environment. Removal actions do not occur at all sites.

## Community Involvement

The goals of the Superfund community involvement (CI) program are to: 1) keep communities affected by sites informed throughout the cleanup process, 2) provide opportunities for communities to comment and offer their input about site cleanup plans, and 3) facilitate the resolution of community issues tied to a site. EPA accomplishes these goals by providing communities different tools and resources to support their site involvement. These resources include independent technical assistance so community members can understand the technical aspects of a site, a public forum for community members to present and discuss their needs and concerns related to the Superfund decision making process, and a job training program to encourage employment of local workers. These are just some of the CI program's resources; to learn more, go to <http://www.epa.gov/superfund/community/>.

To find out more about community involvement activities at this Superfund site and how you can become involved in site cleanup/reuse decisions, [view a list of contacts for this site >>](#).

## Land Reuse

EPA places a high priority on land revitalization as an integral part of its Superfund response program mission, so EPA tries to select cleanup options that encourage and support future use of a site. Sites made ready for use are deemed "Site-wide Ready for Anticipated Use" ([see glossary](#)), which means, in part, that all cleanup goals have been achieved for both current and reasonably anticipated future land use.

This site currently does not meet the criteria for Site-wide Ready for Anticipated Use, however parts of the site may be suitable for reuse.

## Post-Construction

Post-Construction ([see glossary](#)) is the stage following completion of the remedy construction. It includes, among other things, activities such as operating the remedy to address the contamination (e.g., ground water pump and treat); implementing, monitoring, and enforcing institutional controls; and a review of the implemented remedies at least every five years to ensure they continue to protect human health and the environment.

Institutional controls ([see glossary](#)) such as administrative or legal restrictions may also be components of remedies at a site that remain in place post-construction completion.

Sites or portions of sites may be deleted ([see glossary](#)) from the National Priorities List when all cleanup goals have been achieved.

This site has not been deleted from the National Priorities List

[^ back to top](#) | [view glossary >>](#)

DISCLAIMER: Be advised that the data contained in these profiles are intended solely for informational purposes use by employees of the U.S. Environmental Protection Agency for management of the Superfund program. They are not intended for use in calculating Cost Recovery Statutes of Limitations and cannot be relied upon to create any rights, substantive or procedural, enforceable by any party in litigation with the United States. EPA reserves the right to change these data at any time without public notice.

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## **APPENDIX L**

Field Notes

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Thorne Bay Old Fire  
Hall Property Assessment  
and Cleanup Plan



*"Rite in the Rain"*

ALL-WEATHER

**FIELD**

No. 351

14-190



14-190

10/5/2010

DK

6:30am Lisa Nicholson arrives at Anchorage Airport.

DK

8:00am Lisa departs Anchorage, AK on flight 62.

DK

10:00am Lisa N. arrives in Juneau, AK.

DK

10:22am Denise Koch joins Lisa N. on Alaska Air flt. 62 and departs Juneau airport.

DK

12:15 p.m. Denise K and Lisa N arrive in Ketchikan on Alaska Air flt. 62

DK

12:30 p.m. Attendant at Promech Arr inform us that flights to Thorne Bay have been cancelled due to a high wind advisory.

DK

12:45 p.m. Denise K makes adjustments

DK

14-190

10/5/2010

12:45 p.m. (cont.) to travel arrangements. Due to weather delays, we must now leave Thorne Bay on Thursday morning instead of Wednesday afternoon.

DK

1:30 pm Ferry from Ketchikan airport to Ketchikan.

DK

1:45 pm Take taxi from airport ferry parking lot to Inter Island Ferry Authority terminal.

DK

2:30 p.m. Board M/V Striking in Ketchikan bound for Hollis

DK

3:00 p.m. Ferry departs Ketchikan

DK

6:30 p.m. Ferry arrives in Hollis.

DK

→

14-190

10/5/2010

6:40 p.m. Pick up luggage at  
Hollis Ferry terminal,  
Met by Tim Lindseth,  
owner of Welcome Inn.  
Tim drives us to Thorne  
Bay. DK

7:30 p.m. Arrive at Welcome  
Inn in Thorne Bay.

Denise

14-190

10/6/2015

8:00 a.m. Lisa Nicholson and Denise  
Koch arrive at City Hall (Thorne  
Bay). City Hall was closed.  
It opens at 9:00 am

8:15 a.m. Lisa and Denise arrive  
at Old Fire Hall. Begin taking  
photographs of interior and  
building exterior. Building  
is unlocked and 1 side is  
fully open. Building first floor  
covered in road sand. Loft  
contained desk, lights, office  
supplies and crutches.  
Tim Lindseth stated that  
loft was used for EMS  
meetings.

8:30 a.m. Lisa and Denise take  
GPS coordinates.

FRR FRR FRR

55° 41' 05.99 N

132° 31' 21.18 W

BAR

55° 41' 05.44 N

132° 31' 21.93 W

Front  
Right  
building

Back Right  
building

14-190

10/6/2010

BAL Back Left Corner Bldg

55° 41' 05.30" N

132° 31' 21.62" W

FRL Front Left corner Bldg.

55° 41' 05.98" N

132° 31' 20.86" W

8:50 am. Safety Meeting w/  
Lisa and Denise9:25 am Terri shows Lisa and I  
maps of Thorne Bay at  
City Hall. Terri confirmed  
that downtown Thorne Bay  
has city utilities and gets  
water from water lake.9:35 am Edenfield  
Cindy said no fire suppression  
chemicals used. Only water.  
Fuel tank outside right  
side of building. Cindy was  
on volunteer fire department  
when Old Fire Hall was used.10:00 am PIP (MiniRae 2000) calibrated  
in fresh air = 0.0 ppm  
span cal isobutylene gas  
reading = 100 ppm

14-190

10/6/2010 7

10:28 1<sup>st</sup> floor bathroom  
has standard bathroom  
cleaners (e.g. <sup>files</sup> 409) +  
Purex laundry detergent  
+ waveide 0-6(bactericide, virucidal,  
tuberculocidal, fungicidal,  
pseudomonacidal). Waveide  
almost empty (~1 cup  
fluid)

photos of bathroom

10:35 Walked (Lisa & Denise)  
to rear of 1<sup>st</sup> floor behind  
sand pile. No chemicals  
found. Examined floor  
for staining. Did not see  
staining. No drums or  
chemical containers. Just  
wood, pipes, nails, chair,  
empty instrument box10:38 Found empty motor oil  
container  
Four sets of fluorescent  
light fixtures. They are →

14-190

10/6/2010

too high to unscrew and look at ballast to determine if there are PCBs. However, Lisa unscrewed bulbs from two different light sets in loft and both ballast said no PCBs.

10:45 am. Noted that there appears to be attic. However, the loft looks like it used to extend to where you could access it. It is no longer accessible. Just see entry to it in ceiling.

10:46 am Denise takes exterior photos of building and view facing away from each side of building.

10:48 am Denise takes photos of exterior paint, which is chipping off on all sides.

11:03 am. PID soil sample on right side of building where Cindy said above ground storage  
(Lisa samples)

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10/6/2010

11:05 (cont.)

tank had been located. Tank has been removed. Exact location of tank unknown. Therefore 2 PID samples taken about 7 feet apart in area where holes on side of wall where pipes may have been.

AST #1 20 feet from back right corner  
AST #2 12 feet " "

11:23 am PID sample taken approx. 2 feet in on left side of building where in soil <sup>underneath</sup> ~~inside~~ half barrel that may have served as burn barrel. (Lisa samples)

11:31 am. Lisa samples hard soil on interior of building behind the sand pile.

12:25 p.m. Lisa analyzes Interior 1st floor soil sample 81 ppm

11:45 a.m. Brought samples into City Hall for warm up.

12:05 p.m. Checked soil samples. Not warm yet. Placed in different location in building.

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10/6/2010

12:30<sup>p.m.</sup> Denise checks w/PID  
 AST # 1 = ~~14.7~~ 16.1 ppm  
 AST # 2 = 6.2 ppm  
 Barrel ~~cont~~ = 9.0 ppm

12:55 Travis drives us to landfill.

1:10 p.m. Landfill is ~20 acres.  
 Open TR, Friday, alt. Sat.  
 Spoke to Max, Supervisor  
 Where to put? Max said they  
 have liners that are impermeable.  
 Would want to put in location  
 that didn't leach into creeks.

1:25 p.m. Lisa takes picture of  
 area on landfill where  
 Max would likely put  
 asbestos.

away from cell 1 & cell 2  
 where garbage is stored.  
 Plenty of space for small amount  
 of exterior siding from building.

1:50 p.m. Travis drove us from  
 landfill to Thorne Bay  
 Promech Air. We spoke to  
 Lisa (Promech) who said last

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10/6/2010

1:50 p.m. (cont.) flight out was leaving  
 in ~10 minutes. The 4:10 p.m.  
 Promech flight was canceled.  
 We had to leave now. Lisa Nicholson  
 runs to get bags.

1:55 p.m. Denise Koch takes video  
 of Old Fire Hall interior  
 and exterior.

2:00 p.m. Denise and Lisa depart to  
 float dock.

2:20 p.m. Denise and Lisa depart  
 on Promech Air from Thorne Bay.

3:00 p.m. Denise and Lisa arrive at  
 Ketchikan airport.

4:30 p.m. Denise and Lisa board Alaska  
 Air flt. 67.

5:10 p.m. Flight Departs Ketchikan

7:20 p.m. Denise departs the plane  
 in Juneau.

9:40 p.m. Lisa departs in Anchorage

Denise Koch

14-190

10/7/2010

Photo Log

- Thorne Bay 001.jpg Interior view of <sup>looking into</sup> sand piled up to loft <sup>bdg</sup>
- 002 Same as above
- 003 Photo of Back portion of first floor. Only area on 1<sup>st</sup> floor not covered in sand
- 004 Bathroom on 1<sup>st</sup> floor back right of building
- 005 Loft - Photo of fluorescent light fixtures
- 006 View from Loft looking out of building
- 007 Blurry photo of ballast <sup>in Loft</sup>
- 008 " " "
- 009 " " "
- 010 Clear photo of fluorescent light ballast
- 011 Blurry photo of second set of fluorescent light fixture in loft
- 012 Electrical meter?
- 013 Loft - Office equipment

14-190

10/7/2010

Photo Log

- 014 Crutches in corner of Loft
- 015 Oct 2000 Calendar in Loft
- 016 Same as above (close up)
- 017 View of sand piled on 1<sup>st</sup> floor from 2<sup>nd</sup> floor Loft
- 018 View of ceiling and apparent attic entry from Loft
- 019 Interior view of sand piled up to Loft. Looking from front of building to the back. Similar vantage point as photos 001 and 002.
- 020 View from 1<sup>st</sup> floor looking up to Loft and apparent attic entry in ceiling
- 021 Water front from Downtown Thorne Bay

Photo Log

- 022 Wavicide-06 found in bathroom
- 023 Close-up of Wavicide-06
- 024 Cleaning supplies found in bathroom
- 025 Laundry detergent and cleaning chemicals found in bathroom
- 026 Comet cleanser found on bathroom sink
- 027 Picture of lockers and bathroom
- 028 Hard packed dirt on 1<sup>st</sup> floor of Old Fire Hall behind the sand pile and under the Loft
- 029 Photo of Denise Koch examining floor (same as listed above) for soil staining
- 030 Denise Koch taking field notes behind sand pile. Taken for scale,

Photo Log

- 031 Black luggage like container found in back of 1<sup>st</sup> floor, under Loft.
- 032 Motor oil container found on 1<sup>st</sup> floor, under Loft
- 033 Garbage can with Purex Laundry detergent and bleach. Garbage can on 1<sup>st</sup> floor, under Loft
- 034 Exterior of building. Siding is generally intact but the paint is chipping.
- 035 Zoomed out view of exterior seen in Photo 034. Paint chipping is heavier in some siding versus others.
- 036 Zoom in on chipped paint on exterior of building.
037. Photo ~~from~~ looking away from Exterior right side of building. Pearl Nelson Park
- 038 North corner of building.
- 039 Back (exterior) of building.

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10/7/2010

Photo Log

- 040 From left side of building exterior. View of adjacent uphill property.
- 041 View of wooded area on left side (from perspective of looking at front door) of building
- 042 Photo of wires protruding from back of building.
- 043 Wires protruding from back of building (exterior)
- 044 Lisa Nicholson outside right side of building
- 045 Lisa Nicholson standing in front of Old Fire Hall.
- 046 View of property across the street from the front door of the Old Fire Hall.
- 047 Blue tarps ~~so~~ found at front left side of building
- 048 Wood leaning on left side of building
- 049 View of adjacent uphill property from left of building.

14-190

10/7/2010 23

Photo Log

- 050 Rusting half of barrel found on left side of building
- 051 Garbage can found under blue tarp on left side of building
- 052 Close-up of garbage (mostly aluminum cans) can contents
- 053 Appears to be fiberglass insulation exposed on front of building where cement siding was broken off
- 054 Front view of Old Fire Hall. Blue tarps visible on left side of building
- 055 Closer view of items in 054,
- 056 Shovel indicating location where PID<sup>501</sup> sample named "Barrel" was obtained beneath barrel
- 057 View of Thorne Bay landfill. Area behind soil mounds might be potential site for →

14-190

10/7/10

Photo log  
057 (cont.)

asbestos siding  
disposal according to  
landfill supervisor, Max,  
once proper permit obtained  
from DEC.

058

Area where Thorne Bay  
landfill supervisor, Max,  
might bury asbestos  
siding once permitted by  
DEC.

059

Conveyor belt with trash  
going to baler at landfill

060

View from Promech floatplane  
ride from Thorne Bay to  
Ketchikan

061

View from float plane

062

Front of building and Pearl  
Nelson community park  
across the street

063

View of front door from  
exterior

064

Exterior - Right side of building

065

Exterior - Back of building

Denise

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## **APPENDIX M**

Photographic Log

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**NOTE: PHOTOGRAPH NUMBERS CORRESPOND TO THOSE DESCRIBED IN THE FIELD NOTES.  
CERTAIN PHOTOGRAPHS WERE EXCLUDED FROM THIS PHOTOGRAPH LOG DUE TO LOW  
QUALITY OR DUPLICATION.**



**PHOTOGRAPH 1: INTERIOR VIEW OF SAND PILED UP TO LOFT, LOOKING INTO BUILDING.**



**PHOTOGRAPH 3: BACK PORTION OF FIRST FLOOR; ONLY AREA ON FIRST FLOOR NOT COVERED  
IN SAND.**



**PHOTOGRAPH 4: BATHROOM ON FIRST FLOOR, BACK RIGHT OF BUILDING.**



**PHOTOGRAPH 5: FLUORESCENT LIGHT FIXTURES IN LOFT.**



PHOTOGRAPH 6: VIEW FROM LOFT LOOKING OUT OF BUILDING.



PHOTOGRAPH 10: FLUORESCENT LIGHT BALLAST IN LOFT.



PHOTOGRAPH 12: ELECTRICAL METER.



PHOTOGRAPH 13: OFFICE EQUIPMENT IN LOFT.



PHOTOGRAPH 14: CRUTCHES IN CORNER OF LOFT.



PHOTOGRAPH 15: OCTOBER 2000 CALENDAR IN LOFT.



PHOTOGRAPH 16: OCTOBER 2000 CALENDAR IN LOFT.



PHOTOGRAPH 18: VIEW OF CEILING AND APPARENT ATTIC ENTRY FROM LOFT.



**PHOTOGRAPH 19: INTERIOR VIEW OF SAND PILED UP TO LOFT, LOOKING FROM FRONT OF BUILDING TO THE BACK. SIMILAR VANTAGE POINT AS PHOTOGRAPHS 1 AND 2.**



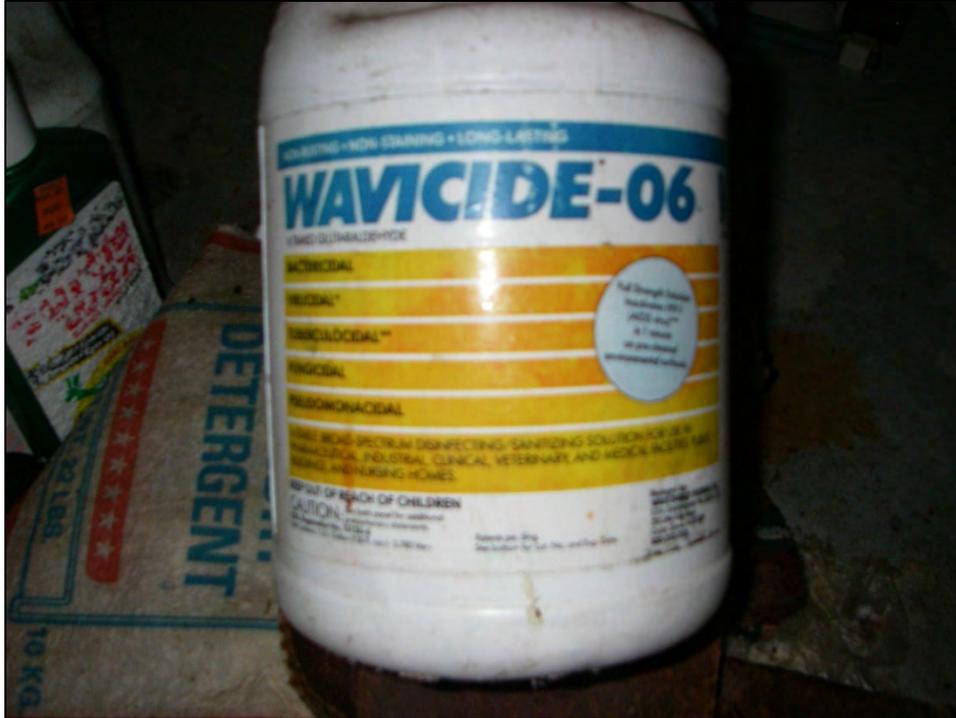
**PHOTOGRAPH 20: VIEW FROM FIRST FLOOR LOOKING UP TO LOFT AND APPARENT ATTIC ENTRY IN CEILING.**



PHOTOGRAPH 21: WATERFRONT FROM DOWNTOWN THORNE BAY.



PHOTOGRAPH 22: WAVICIDE-06 FOUND IN BATHROOM.



PHOTOGRAPH 23: CLOSEUP OF WAVICIDE-06.



PHOTOGRAPH 24: CLEANING SUPPLIES FOUND BATHROOM.



PHOTOGRAPH 25: LAUNDRY DETERGENT AND CLEANING CHEMICALS FOUND IN BATHROOM.



PHOTOGRAPH 26: COMET CLEANSER FOUND ON BATHROOM SINK.



**PHOTOGRAPH 27: LOCKERS AND BATHROOM.**



**PHOTOGRAPH 28: HARD-PACKED DIRT ON FIRST FLOOR OF OLD FIRE HALL BEHIND THE SAND PILE AND UNDER THE LOFT.**



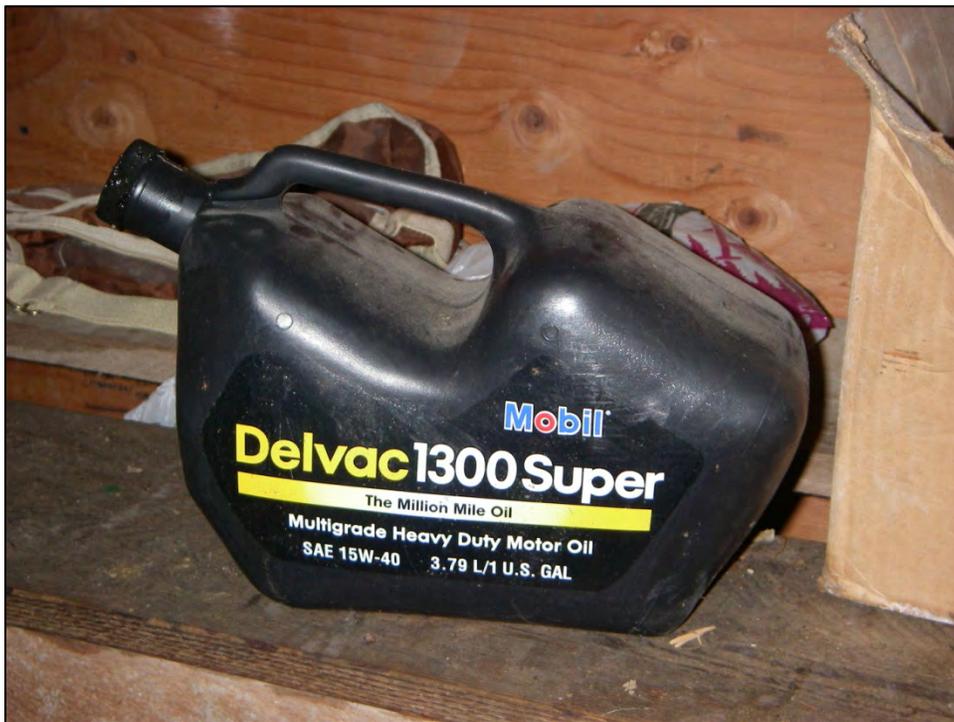
**PHOTOGRAPH 29: DENISE KOCH EXAMINING FLOOR FOR SOIL STAINING.**



**PHOTOGRAPH 30: DENISE KOCH TAKING FIELD NOTES BEHIND SAND PILE; TAKEN FOR SCALE.**



**PHOTOGRAPH 31: BLACK LUGGAGE-LIKE CONTAINER FOUND IN BACK OF FIRST FLOOR, UNDER LOFT.**



**PHOTOGRAPH 32: MOTOR OIL CONTAINER FOUND ON FIRST FLOOR, UNDER LOFT.**



**PHOTOGRAPH 33: GARBAGE CAN WITH PUREX LAUNDRY DETERGENT AND BLEACH, ON FIRST FLOOR UNDER LOFT.**



**PHOTOGRAPH 34: EXTERIOR OF BUILDING; SIDING IS GENERALLY INTACT, BUT THE PAINT IS CHIPPING.**



**PHOTOGRAPH 35: ZOOMED-OUT VIEW OF EXTERIOR SEEN IN PHOTOGRAPH 34; PAINT CHIPPING IS HEAVIER IN SOME SIDING VERSUS OTHERS.**



**PHOTOGRAPH 36: ZOOMED-IN ON CHIPPED PAINT ON EXTERIOR OF BUILDING.**



**PHOTOGRAPH 37: LOOKING AWAY FROM EXTERIOR RIGHT SIDE OF BUILDING; PEARL NELSON PARK.**



**PHOTOGRAPH 38: NORTH CORNER OF BUILDING.**



**PHOTOGRAPH 39: BACK (EXTERIOR) OF BUILDING.**



**PHOTOGRAPH 40: FROM LEFT SIDE OF BUILDING; EXTERIOR VIEW OF ADJACENT UPHILL PROPERTY.**



**PHOTOGRAPH 41: VIEW OF WOODED AREA ON LEFT SIDE OF BUILDING (FROM PERSPECTIVE OF LOOKING AT THE BACK).**



**PHOTOGRAPH 42: WIRES PROTRUDING FROM BACK OF BUILDING.**



**PHOTOGRAPH 43: WIRES PROTRUDING FROM BACK OF BUILDING (EXTERIOR).**



**PHOTOGRAPH 44: LISA NICHOLSON OUTSIDE RIGHT SIDE OF BUILDING.**



PHOTOGRAPH 45: LISA NICHOLSON STANDING IN FRONT OF OLD FIRE HALL.



PHOTOGRAPH 46: VIEW OF PROPERTY ACROSS THE STREET FROM THE FRONT DOOR OF THE OLD FIRE HALL.



**PHOTOGRAPH 47: BLUE TARPS FOUND AT LEFT SIDE OF BUILDING.**



**PHOTOGRAPH 48: WOOD LEANING ON LEFT SIDE OF BUILDING.**



**PHOTOGRAPH 49: VIEW OF ADJACENT UPHILL PROPERTY FROM LEFT OF BUILDING.**



**PHOTOGRAPH 50: RUSTING HALF OF BARREL ROUND ON LEFT SIDE OF BUILDING.**



**PHOTOGRAPH 51: GARBAGE CAN FOUND UNDER BLUE TARP ON LEFT SIDE OF BUILDING.**



**PHOTOGRAPH 52: CLOSEUP OF GARBAGE CAN CONTENTS (MOSTLY ALUMINUM CANS).**



**PHOTOGRAPH 53: APPEARS TO BE FIBERGLASS INSULATION EXPOSED ON FRONT OF BUILDING WHERE CEMENT SIDING HAS BROKEN OFF.**



**PHOTOGRAPH 54: FRONT VIEW OF OLD FIRE HALL; BLUE TARPS VISIBLE ON LEFT SIDE OF BUILDING.**



**PHOTOGRAPH 55: CLOSER VIEW OF ITEMS IN PHOTOGRAPH 54.**



**PHOTOGRAPH 56: SHOVEL INDICATING LOCATION WHERE PID SOIL SAMPLE NAMED "BARREL" WAS OBTAINED BENEATH BARREL.**



**PHOTOGRAPH 57: VIEW OF THORNE BAY LANDFILL; AREA BEHIND SOIL MOUNDS MIGHT BE POTENTIAL SITE FOR ASBESTOS SIDING DISPOSAL ONCE PROPER PERMIT OBTAINED FROM DEC, ACCORDING TO LANDFILL SUPERVISOR, MAX BLAIR.**



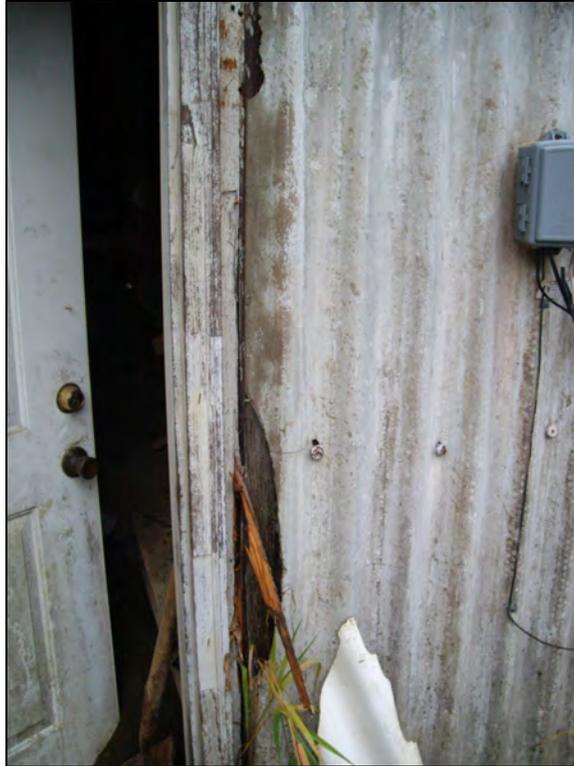
**PHOTOGRAPH 58: AREA WHERE THORNE BAY LANDFILL SUPERVISOR, MAX BLAIR, MIGHT BURY ASBESTOS SIDING ONCE PERMITTED BY DEC.**



PHOTOGRAPH 59: CONVEYOR BELT WITH TRASH GOING TO BALER AT LANDFILL.



PHOTOGRAPH 62: FRONT OF BUILDING AND PEARL NELSON COMMUNITY PARK ACROSS THE STREET.



PHOTOGRAPH 63: VIEW OF FRONT DOOR FROM EXTERIOR.



PHOTOGRAPH 64: EXTERIOR RIGHT SIDE OF BUILDING.



**PHOTOGRAPH 65: EXTERIOR BACK OF BUILDING.**

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## **APPENDIX N**

Mather Environmental LLC Communications with City of Thorne Bay

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**Justin Sornsin**

---

**From:** "Dana Allison" <reception@thornebay-ak.gov>  
**To:** <utilitymanager@thornebay-ak.gov>  
**Sent:** Thursday, July 16, 2009 11:57 AM  
**Attach:** 192138.pdf; ATT00001.htm; 192138COC.pdf; ATT00003.htm  
**Subject:** Fw: Lab Report

Dana  
City of Thorne Bay  
907-828-3380  
----- Original Message -----

**From:** George Mather  
**To:** Dana Allison  
**Sent:** Thursday, July 16, 2009 11:49 AM  
**Subject:** FW: Lab Report

City of Thorne Bay

MACS LAB Report 7/16/2009

This report came out better than I thought.  
Being non-friable makes shipping easier.

I am going to start on the project design for travel from Washington to Thorne Bay and back  
and complete removal of Asbestos siding.  
I'll have to get the Ferry schedule for abatement supplies.

Mather Environmental  
Project Designer  
Cert. Num: 10303902  
Expires: 2/12/2010

There is a \$500.00 fee for the design and I will be intouch ASAP.

Mather Environmental / Lisenced - Bonded - Insured  
All my workers are covered under workers comp.  
Alaska State Cert.

Thank You;  
George Mather  
Cell # 617-1983

---

**From:** danielle@kellcomacs.com  
**To:** matherenvironmental@hotmail.com  
**Subject:** Lab Report  
**Date:** Thu, 16 Jul 2009 11:30:17 -0700

Thank you for choosing Kellco-MACS for your sample analysis. Please find attached the results for your submission. If you have any questions regarding your  
your results, please refer to our website at [www.macs-lab.com](http://www.macs-lab.com), select "Client Services" on the left side of the page, then select "Frequently Asked  
Questions". If you have any further questions please call us at (800) 622-7522.

Thank You,

7/31/2009

Customer Service

---

Insert movie times and more without leaving Hotmail®. [See how.](#)

---

No virus found in this incoming message.

Checked by AVG - [www.avg.com](http://www.avg.com)

Version: 8.5.375 / Virus Database: 270.13.15/2239 - Release Date: 07/15/09 06:07:00

---

No virus found in this incoming message.

Checked by AVG - [www.avg.com](http://www.avg.com)

Version: 8.5.375 / Virus Database: 270.13.16/2241 - Release Date: 07/16/09 05:58:00



**Report**

510-786-9751

Lab Sample Number	Client Sample Number and Description	Asbestos detected?	Fibers present	Remarks
L192138-7 Cement Board	7	<b>Yes</b>	10% Chrysotile* 10% Cellulose	Cement board. Balance of sample is unspecified non-fibrous material.
L192138-8 Cement Board	8	<b>Yes</b>	10% Chrysotile* 10% Cellulose	Cement board. Balance of sample is unspecified non-fibrous material.
L192138-9 Cement Board	9	<b>Yes</b>	10% Chrysotile* 10% Cellulose	Cement board. Balance of sample is unspecified non-fibrous material.
L192138-10 Cement Board	10	<b>Yes</b>	10% Chrysotile* 10% Cellulose	Cement board. Balance of sample is unspecified non-fibrous material.
L192138-11 Cement Board	11	<b>Yes</b>	10% Chrysotile* 10% Cellulose	Cement board. Balance of sample is unspecified non-fibrous material.
L192138-12 Cement Board	12	<b>Yes</b>	10% Chrysotile* 10% Cellulose	Cement board. Balance of sample is unspecified non-fibrous material.
L192138-13 Cement Board	13	<b>Yes</b>	10% Chrysotile* 10% Cellulose	Cement board. Balance of sample is unspecified non-fibrous material.
L192138-14 Cement Board	14	<b>Yes</b>	10% Chrysotile* 10% Cellulose	Cement board. Balance of sample is unspecified non-fibrous material.
L192138-15 Cement Board	15	<b>Yes</b>	10% Chrysotile* 10% Cellulose	Cement board. Balance of sample is unspecified non-fibrous material.

\* Chrysotile, Amosite, Crocidolite, Tremolite, Actinolite, and Anthophyllite are asbestos fibers. N.D.=None Detected PC =Point Counted

This report shall not be reproduced except in full without written approval of MACS Lab, Inc. This report relates only to the items tested. Samples will be destroyed after one month. Test per 40 Code of Federal Reg. Chap I (1-1-87) Part 763, Subpart F, Appendix A or current EPA method. Percentages are approximate. MACS Lab is an accredited laboratory of the National Voluntary Laboratory Accreditation Program (NVLAP) and is Lab Code 101948-0. No product endorsement by NVLAP or any agency of the U.S. Government may be claimed as a result of this analysis. Calif Dept of Health ELAP #2027. This method is not reliable for analysis of tile or other materials when fiber size is less than 10µ. TEM analysis should be used. Method Detection limit for asbestos is 1% per CA law. See QC page attached to this page for blank and retest data .



**Report**

510-786-9751

Lab Sample Number	Client Sample Number and Description	Asbestos detected?	Fibers present	Remarks
L192138-16 Cement Board	16	<b>Yes</b>	10% Chrysotile* 10% Cellulose	Cement board. Balance of sample is unspecified non-fibrous material.
L192138-17 Cement Board	17	<b>Yes</b>	10% Chrysotile* 10% Cellulose	Cement board. Balance of sample is unspecified non-fibrous material.
L192138-18 Adhesive	18	<b>N.D</b>	< 1% Cellulose	Off-white adhesive. Balance of sample is unspecified non-fibrous material.
L192138-19 Adhesive	19	<b>N.D</b>	< 1% Cellulose	Off-white adhesive. Balance of sample is unspecified non-fibrous material.
L192138-20 Adhesive	20	<b>N.D</b>	< 1% Cellulose	Off-white adhesive. Balance of sample is unspecified non-fibrous material.
L192138-21 Nail Washer	21	<b>N.D</b>	No Fibers	Silver washer. Balance of sample is unspecified non-fibrous material.
L192138-22 Adhesive	22	<b>N.D</b>	< 1% Cellulose	Off-white adhesive. Balance of sample is unspecified non-fibrous material.
L192138-23 Paint	23	<b>Yes</b>	3% Chrysotile* 3% Cellulose	Off-white paint. Balance of sample is unspecified non-fibrous material.
L192138-24 Paint	24	<b>Yes</b>	3% Chrysotile* 3% Cellulose	Off-white paint. Balance of sample is unspecified non-fibrous material.

\* Chrysotile, Amosite, Crocidolite, Tremolite, Actinolite, and Anthophyllite are asbestos fibers. N.D.=None Detected PC =Point Counted

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510-786-9751

**Report**

Lab Sample Number	Client Sample Number and Description	Asbestos detected?	Fibers present	Remarks
L192138-25 Paint	25	<b>Yes</b>	3% Chrysotile* 3% Cellulose	Off-white paint. Balance of sample is unspecified non-fibrous material.
L192138-26 Paint	26	<b>Yes</b>	5% Amosite* 90% Fiberglass < 1% Cellulose	Off-white paint. Balance of sample is unspecified non-fibrous material.
L192138-27 Paint	27	<b>Yes</b>	5% Chrysotile* 5% Cellulose	Off-white paint. Balance of sample is unspecified non-fibrous material.
L192138-28 Paint	28	<b>Yes</b>	3% Chrysotile* 3% Cellulose	Off-white paint. Balance of sample is unspecified non-fibrous material.
L192138-29 Paint	29	<b>Yes</b>	5% Chrysotile* 5% Cellulose	Off-white paint. Balance of sample is unspecified non-fibrous material.
L192138-30 Paint	30	<b>Yes</b>	5% Amosite* 90% Fiberglass < 1% Cellulose	Off-white paint. Balance of sample is unspecified non-fibrous material.

\* Chrysotile, Amosite, Crocidolite, Tremolite, Actinolite, and Anthophyllite are asbestos fibers. N.D.=None Detected PC =Point Counted

This report shall not be reproduced except in full without written approval of MACS Lab, Inc. This report relates only to the items tested. Samples will be destroyed after one month. Test per 40 Code of Federal Reg. Chap I (1-1-87) Part 763, Subpart F, Appendix A or current EPA method. Percentages are approximate. MACS Lab is an accredited laboratory of the National Voluntary Laboratory Accreditation Program (NVLAP) and is Lab Code 101948-0. No product endorsement by NVLAP or any agency of the U.S. Government may be claimed as a result of this analysis. Calif Dept of Health ELAP #2027. This method is not reliable for analysis of tile or other materials when fiber size is less than 10µ. TEM analysis should be used. Method Detection limit for asbestos is 1% per CA law. See QC page attached to this page for blank and retest data .



Mather Environmental  
 2112 First Ave.  
  
 Ketchikan AK 99901

Laboratory manager: \_\_\_\_\_  
 (signature)

Lab Sample Number	Client Sample Number and Description	Asbestos detected?	Fibers present	Remarks
Blank sample		N.D. PC*	No fibers	
L192138-19 Adhesive	19	N.D	< 1% Cellulose	Adhesive. Balance of sample is organic binders and unspecified non-fibrous material.
L192138-27 Paint	27	Yes	5% Chrysotile* 5% Cellulose	Paint. Balance of sample is unspecified non-fibrous material.

End of report.

\* Chrysotile, Amosite, Crocidolite, Tremolite, Actinolite, and Anthophyllite are asbestos fibers. N.D.=None Detected PC =Point Counted

This report shall not be reproduced except in full without written approval of MACS Lab, Inc. This report relates only to the items tested. Samples will be destroyed after one month. Test per 40 Code of Federal Reg. Chap 1 (1-1-87) Part 763, Subpart F, Appendix A or current EPA method. Percentages are approximate. MACS Lab is an accredited laboratory of the National Voluntary Laboratory Accreditation Program (NVLAP) and is Lab Code 101948-0. No product endorsement by NVLAP or any agency of the U.S. Government may be claimed as a result of this analysis. Calif Dept of Health ELAP #2027. This method is not reliable for analysis of tile or other materials when fiber size is less than 10µ. TEM analysis should be used. Method Detection limit for asbestos is 1% per CA law. See QC page attached to this page for blank and retest data .





Material Analysis and Characterization Service

L192138

Analytical and Environmental Services

# Chain of Custody Record

To Be Used For All Types Of Analysis

Macs Lab #

Customer Code **ATRE MATEN**

BILLED TO		PROJECT INFORMATION					ANALYSIS REQUIRED							Required Turn Around Time								
Name: Mather Environmental		Sampled By: <i>George Mather</i>		Date: N/A			PCB (Air) - NIOSH 7400	PLM (Bulk) - 40 CFR - Chap. 1, Part 763	Lead (Wipes, Air, Paint, Soil)	TEM (Air, Bulk) - AHERA/Asbestos Lead	Drinking Water Asbestos*/Lead	Mold (Non Viable, Viable - Air/Bulk)	Metals (TCLP, CAM17, STLC)	4 Hour	8 Hour	24 Hour	2 Days/48 Hour	3 Days/72 Hour	5 Days/120 Hour			
Address: 2112 First Ave.		Project Name: <i>Thome Bay</i>		Job #: 99919										<input type="checkbox"/> Customer								
City: Ketchikan		Site Address: N/A												<input checked="" type="checkbox"/> MACS								
State: AK Zip: 99901		City, State, Zip: <i>Thome Bay Alaska, 99901</i>												<input type="checkbox"/> OTHER (Explain)								
Phone No: (907)225-3842		Site Contact: <i>George Mather</i>												Comments / Area Social Security #								
Fax No: (907)247-		Phone No: (907)617-1983		Fax No: N/A																		
Cell No: (907)617-1983		Comments:																				
Email: <i>matherenvironmental@hotmail.com</i>		Samples Preserved: Yes / No		Received Cold: Yes / No																		
SAMPLE NO.	SAMPLE DESCRIPTION	TYPE OF WORK	TIME ON	TIME OFF	TOTAL TIME	FLOW RATES START								STOP	PCB (Air) - NIOSH 7400	PLM (Bulk) - 40 CFR - Chap. 1, Part 763	Lead (Wipes, Air, Paint, Soil)	TEM (Air, Bulk) - AHERA/Asbestos Lead	Drinking Water Asbestos*/Lead	Mold (Non Viable, Viable - Air/Bulk)	Metals (TCLP, CAM17, STLC)	Comments / Area Social Security #
1-10			na	na	na	na								na	XXX							
1	<i>Cement Board</i>							✓														
2	<i>"</i>	<i>"</i>						✓														
3	<i>"</i>	<i>"</i>						✓														
4	<i>"</i>	<i>"</i>						✓														
5	<i>"</i>	<i>"</i>						✓														
6	<i>"</i>	<i>"</i>						✓														
7	<i>"</i>	<i>"</i>						✓														
8	<i>"</i>	<i>"</i>						✓														
9	<i>"</i>	<i>"</i>						✓														
10	<i>"</i>	<i>"</i>						✓														
Relinquished By: <i>George Mather</i>		Date: <i>7-9-09</i>		Time: <i>3 PM</i>		Accepted By: <i>D. K. [Signature]</i>		Date: <i>07/15/09</i>		Time: <i>11:30</i>												
Credit Card #		Check #		<i>\$ 210.00</i>		Net 30 Days																

\* TEM asbestos in water analysis requires 2 one-liter bottles shipped @ 4°C in dark containers for each sample. LEAD USEPA 7420, Air NIOSH 7082, Soil EPA 7000/7420, Wipes NIOSH UNITS Water - 1 ug/l = 1 ppb Water AIHA (method 3113B EPA 200.9) Paint - 1% = 10,000 ppm

3137 Diablo Avenue \* Hayward, California 94545 \* (800) MACS-LAB \* www.macs-lab.com



Material Analysis and Characterization Service

L192138

Analytical and Environmental Services

# Chain of Custody Record

To Be Used For All Types Of Analysis

Mac's Lab # \_\_\_\_\_

Customer Code **ATRE**

**MATEN**

BILLED TO			PROJECT INFORMATION				ANALYSIS REQUIRED							Required Turn Around Time		
Name: Mather Environmental			Sampled By: <i>George Mather</i>		Date: N/A		FCM (Air) - NIOSH 7400	PLM (Bulk) - 40 CFR - Chap. 1, Part 763	Lead (Wipes, Air, Paint, Soil)	TEM (Air, Bulk) - AIHRA/Veritas Level	Drinking Water Asbestos/Lead	Mold (Non Viable, Viable - Air/Bulk)	Metals (TCLP, CAM17, STLC)	4 Hour		
Address: 2112 First Ave.			Project Name: <i>Thorne Bay</i>		Job #: 99919									8 Hour		
City: Ketchikan			Site Address: N/A											24 Hour		
State: AK Zip: 99901			City, State, Zip: <i>Thorne Bay Alaska, 99901</i>											2 Days/48 Hour		
Phone No: (907)225-3842			Site Contact: <i>George Mather</i>											3 Days/72 Hour		
Fax No: (907)247-			Phone No: (907)617-1983		Fax No: N/A									5 Days/120 Hour		
Cell No: (907)617-1983			Comments:													
Email: <i>matherenvironmental@thorned.com</i>			Samples Preserved: Yes / No		Received Cold: Yes / No											
SAMPLE NO.	SAMPLE DESCRIPTION	TYPE OF WORK	TIME ON	TIME OFF	TOTAL TIME	FLOW RATE START	FLOW RATE STOP	FCM (Air) - NIOSH 7400	PLM (Bulk) - 40 CFR - Chap. 1, Part 763	Lead (Wipes, Air, Paint, Soil)	TEM (Air, Bulk) - AIHRA/Veritas Level	Drinking Water Asbestos/Lead	Mold (Non Viable, Viable - Air/Bulk)	Metals (TCLP, CAM17, STLC)	Comments / Area Social Security #	
11	<i>CEMENT BOARD</i>		na	na	na	na	na	✓								
12	<i>"</i>	<i>"</i>						✓								
13	<i>"</i>	<i>"</i>						✓								
14	<i>"</i>	<i>"</i>						✓								
15	<i>"</i>	<i>"</i>						✓								
16	<i>"</i>	<i>"</i>						✓								
17	<i>"</i>	<i>"</i>						✓								
18	<i>ADHESIVE</i>							✓								
19	<i>"</i>							✓								
20	<i>"</i>							✓								
Relinquished By: <i>George Mather</i>			Date: <i>7-9-09</i>	Time: <i>3 PM</i>	Accepted By: <i>D. K...</i>			Date: <i>07/15/09</i>	Time: <i>11:30</i>							
Credit Card #			Check #			<i>210</i>			Net 30 Days.							

\* TEM asbestos in water analysis requires 2 one-liter bottles shipped @ 4°C in dark containers for each sample.

LEAD USEPA 7420, Air NIOSH 7082, Soil EPA 7000/7420, Wipes NIOSH UNITS Water - 1 ug/l = 1 ppb Water AIHA (method 3113B EPA 200.9) Paint - 1% = 10,000 ppm

3137 Diablo Avenue • Hayward, California 94545 • (800) MACS-LAB • www.macs-lab.com



INVOICE NO.  
8613

**Mather Environmental**  
**PROJECT DESIGN**

**Project Designer; George Mather Cert. # 10303902**

**Location : Thorne Bay Alaska 99919**  
**City State ZIP**

**City of Thorne Bay Mather Environmental**

**CUSTOMER ORDER Sold By**

**U.S.S. N/A Block N/A Lot N/A**

**Street Address N/A**

**ACM – Abatement – Shipping – Travel**

**Shipping – NORTHLAND SERVICES – RT – WA. – AK.**

**N/S ; Rate Quote RT - \$2,033.31**

**RABANCO Container Non Friable CDL \$1,250.00 Min.**

**Over 15 ton will be \$100.00 per ton**

**\$15.00 per day WA. – KTKN. – TB – RT = \$315.00**

**Shipping \$3,598.31 ( By; City of Thorne Bay )**

**Travel \$3,822.80**

**Abatement Supplies \$4,253.12**

**Abatement \$19,600.00**

**TOTAL COST \$32,539.23**

**PROJECT DESIGN**

**Amount Due;**

**\$500.00**

July 17, 2009

Mathers Environmental  
Subject: Non Friable CDL

Regional Disposal Company (RDC) is pleased to offer the following disposal of friable asbestos.

**BID SPECIFICATIONS.**

Location: Alaska

Material type: Non-friable CDL

**PRICING**

Disposal of Non friable Asbestos 20-foot containers (47 cubic yards) provided by RDC would be charged at \$1250.00 minimum charge based on 15 tons of material per container. Should you exceed 15 tons each additional ton will be charged at \$100.00 per ton. Container load limit is 27 tons.

There will be a \$15.00 a day charge for rental for containers.

**EXPIRATION DATE**

This quote is valid thru September 2009.

**APPLICABLE TAXES**

This quote does not include Washington State 3.6% refuse tax.

**(does not apply to soil)**

**PAYMENT TERMS**

Net 30-day basis.

**TERMS AND CONDITIONS**

Material loading: Customer is responsible for safely loading all material into RDC's containers. Damage to chassis or containers or both occurring during loading shall be customer's responsibility. In addition, customer shall be responsible to load all containers within legal weight limits for over the road transport.

**Customer will be responsible for all manifesting including Canadian Transit and Canadian waste manifest**

**SPECIAL MATERIAL ACCEPTABILITY**

Material must meet Washington State Department of Ecology regulations for "Non-Dangerous" Wastes in order to be approved.

**DOCUMENTATION**

Prior to delivery of material, RDC requires that an authorized individual execute all documentation on behalf of the client. Documentation shall include a Rabanco Waste shipment record, Canadian Manifest and Canadian Transit Notices.

Thank you for the opportunity to submit this quote. If we can provide any additional information or assistance, please contact us at (206) 332-7711.

Sincerely,  
REGIONAL DISPOSAL COMPANY

Leslie Whiteman

P. 01/01

FAX NO.

JUL-17-2009 FRI 01:02 PM

**Rate Quote**



Quote# SS0717901

PAGE 1 of 1

DATE: 7/17/2009		PHONE: (807) 617-1983		ORIGIN: Dock Seattle, WA		DESTINATION: Dock Thorne Bay, AK					
REQUESTED BY: Mather Environmental		FAX / E-MAIL: (807) 247-1983		SHIP DATE:		BID DATE:					
COMPANY NAME:		PREPARED BY: Jim Shoemaker		PREPARED PHONE: 907-254-1224		PREPARED E-MAIL: JShoemaker@NorthlandServices.com					
ADDRESS:		PROJECT DESCRIPTION / CONSIGNEE: Waste, Haz, per EPA standards									
CITY, STATE, ZIP:											
COMMODITY / SPECIFICATION											
QTY	ITEM NO.	DESCRIPTION	Length (FT)	Width (FT)	Height (FT)	WEIGHT (EA)	BASIS	RATE	MON	ESTIMATE	TTL WEIGHT
1	1760.001	Waste, Haz, per EPA standards					EA	\$1,773.60		\$1,773.60	0
1	1000.	Mainland Trucking Fuel Loads					EA	\$50.00		\$50.00	0
• Fuel Surcharge; subject to the rate in effect at the time of shipment.								11.5%		\$209.71	
<ul style="list-style-type: none"> <li>• Please make a Booking with Customer Service and reference quote number to ensure proper rating.</li> <li>• Rates herein are valid for 30 days from the date shown above.</li> <li>• Estimate is based on current rates. Actual freight charges shall be subject to increases and surcharges in effect at the time of shipment.</li> <li>• Rates and charges stated herein are estimates based on the description provided and shall not be construed as a tariff. Freight charges shall be assessed based on the actual weight and dimensions verified when cargo is received.</li> <li>• Carrier's liability shall be limited as outlined in Northland's STB NOLS RULES TARIFF 100 (available online at www.northlandservices.com) and subject to a maximum limitation of \$75,000 per shipping package.</li> <li>• CREDIT: Until you have been approved for credit with Northland Services/Aloha Cargo Transport, you will be required to pay your freight charges in full before release of your cargo at the destination port.</li> </ul>											
Total Estimated Charges:										\$2,033.31	0
MAILING ADDRESS: P.O. BOX 24527 SEATTLE, WA 98124				SEATTLE TERMINAL 115 6700 W MARGINAL WAY SW SEATTLE, WA 98108				PHONE: 208-783-3000 TOLL FREE: 800-426-3113 PRICING DEPT. FAX: 208-284-4830			

# **Mather Environmental**

**Asbestos Abatement – DEMO – Dry Wall**

**Licensed – Insured – Bonded**

**2112 First Ave**

**Ketchikan, Alaska 99901**

**Phone 907-225-3842**

**Fax 907-247-1983 cell # 617-1983**

**City of Thorne Bay**

**P.O. Box 19110**

**Thorne Bay 99919**

**Asbestos Abatement Fire Department storage building**

**Non-Fibrous material.**

**Ranging from 3% up to 10%**

**Amosite , Chrysotile .**

**DEMOLITION: Means the wrecking or taking out of any load supporting structural member and any related razing, removing, or stripping of ASBESTOS products. Where feasible, ASBESTOS containing materials shall be removed all structures prior to the commencement of any DEMOLITION activity as per WAC 296 – 155 – 775 (9).**

**Class II ASBESTOS WORK ;**

**Means activity involving the removal of ASBESTOS containing material which is not thermal system insulation or surfacing material.**

**This includes, but is not limited to, the removal of asbestos – containing wallboard, floor tile and sheeting, roofing and siding shingles, and construction mastic.**

**Asbestos Abatement Project;**

**Means an asbestos project involving three square feet or three linear feet, or more, of ASBESTOS containing material.**

**Accredited Inspector;**

**Means any person meeting the accreditation requirements of the Federal Toxic Substance Control Act, Sections 206(a)(1)and(3). 15 U.S.C. 2646(a)(1) and (3).**

**George Mather ;**

**Cert. Number 10303861**

**Expires : 2/11/2010**

**Complies with ;**

**TSCA Title 11 / 40 CFR 763 ( AHERA ).**

**Project Designer ;**

**Means a person who has successfully completed the training requirements for an ABATEMENT Project Designer established by 40 U.S.C. 763.90(g).**

**George Mather ;**

**Cert. Number 10303902**

**Expires : 2/12/2010**

**Complies with;**

**TSCA Title 11/40 CFR 763 (AHERA).**

**20' container from RABANCO land fill  
Seattle Washington waste land fill**

**See attached papers marked  
July 17, 2009  
Mather Environmental  
Subject: Non Friable CDL**

**Shipping – Water  
NORTHLAND Services Inc.  
Seattle to Ketchikan  
Ketchikan to Thorne Bay  
R/T  
Thorne Bay to Ketchikan  
Ketchikan to Seattle**

**Trucking from RABANCO to  
NORTHLAND Services Seattle WA.  
R/T  
NORTHLAND Services Seattle WA. to  
RABANCO Land fill  
From Thorne Bay Barge Line to job site  
R/T job site to Thorne Bay Barge Line**

**Estimated container time from RABANCO to Alaska  
and back 3 weeks.**

**Work Order  
Asbestos Abatement  
Thorne Bay**

**1 Asbestos worker Supervisor  
@ \$150.00 per hr.**

**2 Asbestos workers  
@ \$100.00 per hr. each  
=\$200.00 per hr.**

**Estimated removal 40 hrs.**

**16 hrs travel total 56 hrs.**

**56 X \$350.00 = \$19,600.00**

**RABANCO Container \$ 1,250.00**

**Trucking Seattle R/T \$ 300.00**

**Container \$15.00**

**Per day 21 x 15 = \$ 315.00**

**Travel \$ 3,822.80**

**Abatement Supplies \$ 4,253.12**

**Northland Services  
Seattle to Alaska R/T**

**N/A yet**

**Start time ;**

**To be determined by  
City of Thorne Bay**

**We can be their to set up**

**Any time. Consider**

**Travel and ordering of  
Abatement Equipment**

**Total;     \$28,940.92**

**Plus Northland services R/T**

**Deposit ; Travel, \$3,822.80**  
**Abatement equipment \$4,253.12**  
**Workers comp.**  
**and pay roll \$9,000.00**

**To start                      \$17,075.92**

**\$10,000.00 on completion**

**City of Thorn Bay to pay shipping**  
**Seattle / Alaska R/T**

**Thank you;**  
**Mather Environmental**  
**George Mather**  
**Cell # 617-1983**

## **Travel**

**Ports Tackle Shop**

**Kitchen**

**2 Rooms x 7 = \$1,400**

**Ferry K/H RT**

**20' \$110.00 x 4 = \$440.00**

**Adult K/H RT \$40.70**

**X 4 = \$162.80**

**Air fare K/T \$110.00 x 12 = \$1,320.00**

**Equipment**

**Trucks, 20' pump jack staging,**

**Tools, Gas \$500.00**

**\$3,822.80**

1. 6 Mill clear plastic 20x100 ( 10 )  
\$145.75 =  
\$1,457.50
2. 3M spray Glue \$12.69 Each ( 3 )  
cases 12 per case = \$456.84
3. 3M Scotch Duct Tape \$ 11.99 x  
50 = \$ 59.95
4. TYVEK DUPTY1205 \$ 13.67 x  
60 = \$820.20
5. 3M Half Face Piece Respirator  
6000 series 9x \$27.99  
\$251.91
6. 6 mill Asbestos Bags yellow  
location 3 cases \$168.89  
\$506.67
7. Gloves BEG8005 8 mill N-DEX  
PLUS 2 cases \$ 18.99 \$ 37.98
8. Disinfecting Wipes 17.7 cm x  
20.3 cm \$6.35 (10)  
\$63.50

- 9. lath bundle \$13.76 (2)  
\$ 27.52
- 10. Disposable Water supply \$175.89  
\$ 175.89
- 11. Disposable safety goggles ANSI  
Z87.1 (9) \$14.35  
\$129.15
- 12. Disposable VLOVEH BELT (3)  
\$88.67  
\$266.01

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\$4,253.12

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## **APPENDIX O**

Conceptual Site Model

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# HUMAN HEALTH CONCEPTUAL SITE MODEL GRAPHIC FORM

Site: Old Fire Hall  
Thorne Bay, Alaska

Completed By: Denise Koch  
 Date Completed: 11/23/10

**Instructions:** Follow the numbered directions below. Do not consider contaminant concentrations or engineering/land use controls when describing pathways.

(1) Check the media that could be directly affected by the release.	(2) For each medium identified in (1), follow the top arrow and check possible transport mechanisms. Check additional media under (1) if the media acts as a secondary source.
Media	Transport Mechanisms
<input checked="" type="checkbox"/> Surface Soil (0-2 ft bgs)	<input checked="" type="checkbox"/> Direct release to surface soil <i>check soil</i> <input checked="" type="checkbox"/> Migration to subsurface <i>check soil</i> <input checked="" type="checkbox"/> Migration to groundwater <i>check groundwater</i> <input checked="" type="checkbox"/> Volatilization <i>check air</i> <input checked="" type="checkbox"/> Runoff or erosion <i>check surface water</i> <input checked="" type="checkbox"/> Uptake by plants or animals <i>check biota</i> <input type="checkbox"/> Other (list): _____
<input checked="" type="checkbox"/> Subsurface Soil (2-15 ft bgs)	<input checked="" type="checkbox"/> Direct release to subsurface soil <i>check soil</i> <input checked="" type="checkbox"/> Migration to groundwater <i>check groundwater</i> <input checked="" type="checkbox"/> Volatilization <i>check air</i> <input checked="" type="checkbox"/> Uptake by plants or animals <i>check biota</i> <input type="checkbox"/> Other (list): _____
<input checked="" type="checkbox"/> Ground-water	<input checked="" type="checkbox"/> Direct release to groundwater <i>check groundwater</i> <input type="checkbox"/> Volatilization <i>check air</i> <input checked="" type="checkbox"/> Flow to surface water body <i>check surface water</i> <input type="checkbox"/> Flow to sediment <i>check sediment</i> <input checked="" type="checkbox"/> Uptake by plants or animals <i>check biota</i> <input type="checkbox"/> Other (list): _____
<input checked="" type="checkbox"/> Surface Water	<input checked="" type="checkbox"/> Direct release to surface water <i>check surface water</i> <input type="checkbox"/> Volatilization <i>check air</i> <input type="checkbox"/> Sedimentation <i>check sediment</i> <input checked="" type="checkbox"/> Uptake by plants or animals <i>check biota</i> <input type="checkbox"/> Other (list): _____
<input type="checkbox"/> Sediment	<input type="checkbox"/> Direct release to sediment <i>check sediment</i> <input type="checkbox"/> Resuspension, runoff, or erosion <i>check surface water</i> <input type="checkbox"/> Uptake by plants or animals <i>check biota</i> <input type="checkbox"/> Other (list): _____

(3) Check all exposure media identified in (2).	(4) Check all pathways that could be complete. The pathways identified in this column must agree with Sections 2 and 3 of the Human Health CSM Scoping Form.	(5) Identify the receptors potentially affected by each exposure pathway: Enter "C" for current receptors, "F" for future receptors, "C/F" for both current and future receptors, or "I" for insignificant exposure.						
Exposure Media	Exposure Pathway/Route	Current & Future Receptors						
		Residents (adults or children)	Commercial or Industrial workers	Site visitors, trespassers, or recreational users	Construction workers	Farmers or subsistence harvesters	Subsistence consumers	Other
<input checked="" type="checkbox"/> soil	<input checked="" type="checkbox"/> Incidental Soil Ingestion <input checked="" type="checkbox"/> Dermal Absorption of Contaminants from Soil <input type="checkbox"/> Inhalation of Fugitive Dust	C/F	C/F	F	C/F	C/F		
<input checked="" type="checkbox"/> groundwater	<input checked="" type="checkbox"/> Ingestion of Groundwater <input type="checkbox"/> Dermal Absorption of Contaminants in Groundwater <input type="checkbox"/> Inhalation of Volatile Compounds in Tap Water		F	F				
<input checked="" type="checkbox"/> air	<input checked="" type="checkbox"/> Inhalation of Outdoor Air <input checked="" type="checkbox"/> Inhalation of Indoor Air <input type="checkbox"/> Inhalation of Fugitive Dust	C/F	C/F	F				
<input checked="" type="checkbox"/> surface water	<input type="checkbox"/> Ingestion of Surface Water <input checked="" type="checkbox"/> Dermal Absorption of Contaminants in Surface Water <input type="checkbox"/> Inhalation of Volatile Compounds in Tap Water	C/F	C/F		C/F	C/F		
<input type="checkbox"/> sediment	<input type="checkbox"/> Direct Contact with Sediment							
<input checked="" type="checkbox"/> biota	<input type="checkbox"/> Ingestion of Wild or Farmed Foods	C/F	C/F		C/F	C/F		

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## Human Health Conceptual Site Model Scoping Form

**Site Name:**

**File Number:**

**Completed by:**

### Introduction

The form should be used to reach agreement with the Alaska Department of Environmental Conservation (DEC) about which exposure pathways should be further investigated during site characterization. From this information, summary text about the CSM and a graphic depicting exposure pathways should be submitted with the site characterization work plan and updated as needed in later reports.

**General Instructions:** *Follow the italicized instructions in each section below.*

### 1. General Information:

**Sources** (*check potential sources at the site*)

- |  |  |
|--|--|
| <input type="checkbox"/> USTs                          | <input checked="" type="checkbox"/> Vehicles   |
| <input checked="" type="checkbox"/> ASTs               | <input type="checkbox"/> Landfills   |
| <input type="checkbox"/> Dispensers/fuel loading racks | <input type="checkbox"/> Transformers  |
| <input type="checkbox"/> Drums                         | <input checked="" type="checkbox"/> Other: <input type="text" value="Exterior - confirmed asbestos; Interior - potential petroleum hydrocarbons"/> |

**Release Mechanisms** (*check potential release mechanisms at the site*)

- |  |  |
|--|--|
| <input checked="" type="checkbox"/> Spills | <input type="checkbox"/> Direct discharge  |
| <input checked="" type="checkbox"/> Leaks  | <input type="checkbox"/> Burning   |
|  | <input checked="" type="checkbox"/> Other: <input type="text" value="Asbestos in paint and siding"/> |

**Impacted Media** (*check potentially-impacted media at the site*)

- |   |  |
|---|--|
| <input checked="" type="checkbox"/> Surface soil (0-2 feet bgs*)  | <input checked="" type="checkbox"/> Groundwater      |
| <input checked="" type="checkbox"/> Subsurface soil (>2 feet bgs) | <input checked="" type="checkbox"/> Surface water    |
| <input checked="" type="checkbox"/> Air                           | <input checked="" type="checkbox"/> Biota            |
| <input type="checkbox"/> Sediment                                 | <input type="checkbox"/> Other: <input type="text"/> |

**Receptors** (*check receptors that could be affected by contamination at the site*)

- |   |   |
|---|---|
| <input checked="" type="checkbox"/> Residents (adult or child)                      | <input checked="" type="checkbox"/> Site visitor      |
| <input type="checkbox"/> Commercial or industrial worker                            | <input checked="" type="checkbox"/> Trespasser        |
| <input checked="" type="checkbox"/> Construction worker                             | <input checked="" type="checkbox"/> Recreational user |
| <input checked="" type="checkbox"/> Subsistence harvester (i.e. gathers wild foods) | <input type="checkbox"/> Farmer                       |
| <input checked="" type="checkbox"/> Subsistence consumer (i.e. eats wild foods)     | <input type="checkbox"/> Other: <input type="text"/>  |

\* bgs - below ground surface

**2. Exposure Pathways:** *(The answers to the following questions will identify complete exposure pathways at the site. Check each box where the answer to the question is "yes".)*

a) Direct Contact -

1. Incidental Soil Ingestion

Are contaminants present or potentially present in surface soil between 0 and 15 feet below the ground surface? (Contamination at deeper depths may require evaluation on a site-specific basis.)

*If the box is checked, label this pathway complete:*

Complete

Comments:

Paint chips of peeling paint from the exterior building siding may contain lead. Current and future receptors have/may have access to the soil in this area.

2. Dermal Absorption of Contaminants from Soil

Are contaminants present or potentially present in surface soil between 0 and 15 feet below the ground surface? (Contamination at deeper depths may require evaluation on a site specific basis.)

Can the soil contaminants permeate the skin (see Appendix B in the guidance document)?

*If both boxes are checked, label this pathway complete:*

Complete

Comments:

If petroleum hydrocarbons were spilled to surface soil around the former AST or in the interior of the building where vehicles were maintained, contaminants could migrate down to subsurface soil. The contamination, if present, may contain compounds that are absorbed through the skin.

b) Ingestion -

1. Ingestion of Groundwater

Have contaminants been detected or are they expected to be detected in the groundwater, or are contaminants expected to migrate to groundwater in the future?

Could the potentially affected groundwater be used as a current or future drinking water source? Please note, only leave the box unchecked if DEC has determined the groundwater is not a currently or reasonably expected future source of drinking water according to 18 AAC 75.350.

*If both boxes are checked, label this pathway complete:*

Complete

Comments:

Groundwater is likely shallow near the bay here. Potential surface soil impacts (petroleum hydrocarbons) could migrate downward to groundwater. Groundwater is not currently used as a drinking water source but cannot be ruled out as a future drinking water source.

## 2. Ingestion of Surface Water

Have contaminants been detected or are they expected to be detected in surface water, or are contaminants expected to migrate to surface water in the future?

Could potentially affected surface water bodies be used, currently or in the future, as a drinking water source? Consider both public water systems and private use (i.e., during residential, recreational or subsistence activities).

*If both boxes are checked, label this pathway complete:*

Incomplete

Comments:

One PID screening sample (AST #1) obtained in the area where the now removed AST may have been located indicated a level of 16.1 ppm. This sample location should be sampled for diesel-range organics (DRO), gasoline-range organics (GRO), benzene, toluene, ethylbenzene, and xylenes (BTEX), and polycyclic aromatic hydrocarbons (PAHs) to determine whether the soil concentrations are above

## 3. Ingestion of Wild and Farmed Foods

Is the site in an area that is used or reasonably could be used for hunting, fishing, or harvesting of wild or farmed foods?

Do the site contaminants have the potential to bioaccumulate (see Appendix C in the guidance document)?

Are site contaminants located where they would have the potential to be taken up into biota? (i.e. soil within the root zone for plants or burrowing depth for animals, in groundwater that could be connected to surface water, etc.)

*If all of the boxes are checked, label this pathway complete:*

Complete

Comments:

The Old Fire Hall is uphill and within a few blocks of the Boat Harbor and the waterfront to Thorne Bay where citizens might fish. If the exterior paint is found to contain lead or if soil contains PAHs, these contaminants have the potential to bioaccumulate. Any lead contamination also has the potential to bioaccumulate.

### c) Inhalation-

#### 1. Inhalation of Outdoor Air

Are contaminants present or potentially present in surface soil between 0 and 15 feet below the ground surface? (Contamination at deeper depths may require evaluation on a site specific basis.)

Are the contaminants in soil volatile (see Appendix D in the guidance document)?

*If both boxes are checked, label this pathway complete:*

Complete

Comments:

Exterior soil samples that were screened using a heated head space with photionization detector (PID) method were found to contain a maximum of 16.1 ppm. Further sampling is required to determine whether DRO, GRO, BTEX, or PAHs are present. This pathway is not considered significant because the soil outside the building, if found to be above cleanup levels, is unlikely to have a concentration high

## 2. Inhalation of Indoor Air

Are occupied buildings on the site or reasonably expected to be occupied or placed on the site in an area that could be affected by contaminant vapors? (within 30 horizontal or vertical feet of petroleum contaminated soil or groundwater; within 100 feet of non-petroleum contaminated soil or groundwater; or subject to "preferential pathways," which promote easy airflow like utility conduits or rock fractures)



Are volatile compounds present in soil or groundwater (see Appendix D in the guidance document)?



*If both boxes are checked, label this pathway complete:*

Complete

### Comments:

Potential hydrocarbon contamination below the sand pile may contain volatile compounds. The Old Fire Hall is no longer occupied, but it is possible to access the building. In addition, an occupied residence is present within approximately 30 feet of the site on Freeman Drive.

**3. Additional Exposure Pathways:** *(Although there are no definitive questions provided in this section, these exposure pathways should also be considered at each site. Use the guidelines provided below to determine if further evaluation of each pathway is warranted.)*

**Dermal Exposure to Contaminants in Groundwater and Surface Water**

Dermal exposure to contaminants in groundwater and surface water may be a complete pathway if:

- Climate permits recreational use of waters for swimming.
- Climate permits exposure to groundwater during activities, such as construction.
- Groundwater or surface water is used for household purposes, such as bathing or cleaning.

Generally, DEC groundwater cleanup levels in 18 AAC 75, Table C, are assumed to be protective of this pathway.

*Check the box if further evaluation of this pathway is needed:*



Comments:

**Inhalation of Volatile Compounds in Tap Water**

Inhalation of volatile compounds in tap water may be a complete pathway if:

- The contaminated water is used for indoor household purposes such as showering, laundering, and dish washing.
- The contaminants of concern are volatile (common volatile contaminants are listed in Appendix D in the guidance document.)

Generally, DEC groundwater cleanup levels in 18 AAC 75, Table C, are assumed to be protective of this pathway.

*Check the box if further evaluation of this pathway is needed:*



Comments:

## Inhalation of Fugitive Dust

Inhalation of fugitive dust may be a complete pathway if:

- Nonvolatile compounds are found in the top 2 centimeters of soil. The top 2 centimeters of soil are likely to be dispersed in the wind as dust particles.
- Dust particles are less than 10 micrometers (Particulate Matter - PM<sub>10</sub>). Particles of this size are called respirable particles and can reach the pulmonary parts of the lungs when inhaled.
- Chromium is present in soil that can be dispersed as dust particles of any size.

Generally, DEC direct contact soil cleanup levels in Table B1 of 18 AAC 75 are protective of this pathway because it is assumed most dust particles are incidentally ingested instead of inhaled to the lower lungs. The inhalation pathway only needs to be evaluated when very small dust particles are present (e.g., along a dirt roadway or where dusts are a nuisance). This is not true in the case of chromium. Site specific cleanup levels will need to be calculated in the event that inhalation of dust containing chromium is a complete pathway at a site.

*Check the box if further evaluation of this pathway is needed:*



Comments:

## Direct Contact with Sediment

This pathway involves people's hands being exposed to sediment, such as during some recreational, subsistence, or industrial activity. People then incidentally ingest sediment from normal hand-to-mouth activities. In addition, dermal absorption of contaminants may be of concern if the the contaminants are able to permeate the skin (see Appendix B in the guidance document). This type of exposure should be investigated if:

- Climate permits recreational activities around sediment.
- The community has identified subsistence or recreational activities that would result in exposure to the sediment, such as clam digging.

Generally, DEC direct contact soil cleanup levels in 18 AAC 75, Table B1, are assumed to be protective of direct contact with sediment.

*Check the box if further evaluation of this pathway is needed:*



Comments:

**4. Other Comments** *(Provide other comments as necessary to support the information provided in this form.)*

This form has been filled out conservatively. It assumes that once the sand on the first floor of the Old Fire Hall is removed that the dirt floor will be found to contain petroleum hydrocarbons. It also assumes that the exterior paint may contain lead.

The exterior siding and paint of the Old Fire Hall are laboratory confirmed to contain asbestos. Asbestos containing materials may only be removed by a certified contractor in order to prevent construction workers and the public from being exposed to asbestos during the demolition of the building. Asbestos containing materials must be taken to a landfill that is permitted to accept such material. In addition, EPA must be notified a minimum of 10 working days prior to asbestos abatement or demolition at the site.

## APPENDIX A

### BIOACCUMULATIVE COMPOUNDS OF POTENTIAL CONCERN

Organic compounds are identified as bioaccumulative if they have a BCF equal to or greater than 1,000 or a log  $K_{ow}$  greater than 3.5. Inorganic compounds are identified as bioaccumulative if they are listed as such by EPA (2000). Those compounds in Table B-1 of 18 AAC 75.341 that are bioaccumulative, based on the definition above, are listed below.

Aldrin	DDT	Lead
Arsenic	Dibenzo(a,h)anthracene	Mercury
Benzo(a)anthracene	Dieldrin	Methoxychlor
Benzo(a)pyrene	Dioxin	Nickel
Benzo(b)fluoranthene	Endrin	PCBs
Benzo(k)fluoranthene	Fluoranthene	
Cadmium	Heptachlor	Pyrene
Chlordane	Heptachlor epoxide	Selenium
Chrysene	Hexachlorobenzene	Silver
Copper	Hexachlorocyclopentadiene	Toxaphene
DDD	Indeno(1,2,3-c,d)pyrene	Zinc
DDE		

Because BCF values can relatively easily be measured or estimated, the BCF is frequently used to determine the potential for a chemical to bioaccumulate. A compound with a BCF greater than 1,000 is considered to bioaccumulate in tissue (EPA 2004b).

For inorganic compounds, the BCF approach has not been shown to be effective in estimating the compound's ability to bioaccumulate. Information available, either through scientific literature or site-specific data, regarding the bioaccumulative potential of an inorganic site contaminant should be used to determine if the pathway is complete.

The list was developed by including organic compounds that either have a BCF equal to or greater than 1,000 or a log  $K_{ow}$  greater than 3.5 and inorganic compounds that are listed by the United States Environmental Protection Agency (EPA) as being bioaccumulative (EPA 2000).

The list was developed by including organic compounds that either have a BCF equal to or greater than 1,000 or a log  $K_{ow}$  greater than 3.5 and inorganic compounds that are listed by the United States Environmental Protection Agency (EPA) as being bioaccumulative (EPA 2000). The BCF can also be estimated from a chemical's physical and chemical properties. A chemical's octanol-water partitioning coefficient ( $K_{ow}$ ) along with defined regression equations can be used to estimate the BCF. EPA's Persistent, Bioaccumulative, and Toxic (PBT) Profiler (EPA 2004) can be used to estimate the BCF using the  $K_{ow}$  and linear regressions presented by Meylan et al. (1996). The PBT Profiler is located at <http://www.pbtprofiler.net/>. For compounds not found in the PBT Profiler, DEC recommends using a log  $K_{ow}$  greater than 3.5 to determine if a compound is bioaccumulative.

## APPENDIX B

### VOLATILE COMPOUNDS OF POTENTIAL CONCERN

A chemical is identified here as sufficiently volatile and toxic for further evaluation if the Henry's Law constant is  $1 \times 10^{-5}$  atm-m<sup>3</sup>/mol or greater, the molecular weight is less than 200 g/mole (EPA 2004a), and the vapor concentration of the pure component posed an incremental lifetime cancer risk greater than  $10^{-6}$  or a non-cancer hazard quotient of 0.1, or other available scientific data indicates the chemical should be considered a volatile. Chemicals that are solid at typical soil temperatures and do not sublime are generally not considered volatile.

Acetone	Mercury (elemental)
<b>Benzene</b>	Methyl bromide (Bromomethane)
Bis(2-chloroethyl)ether	Methyl chloride (Chloromethane)
Bromodichloromethane	Methyl ethyl ketone (MEK)
Bromoform	Methyl isobutyl ketone (MIBK)
<b>n-Butylbenzene</b>	Methylene bromide
<b>sec-Butylbenzene</b>	Methylene chloride
<b>tert-Butylbenzene</b>	<b>1-Methylnaphthalene</b>
Carbon disulfide	<b>2-Methylnaphthalene</b>
Carbon tetrachloride	Methyl <i>tert</i> -butyl ether (MTBE)
Chlorobenzene	<b>Naphthalene</b>
Chlorodibromomethane (Dibromochloromethane)	Nitrobenzene
Chloroethane	n-Nitrosodimethylamine
Chloroform	<b>n-Propylbenzene</b>
2-Chlorophenol	<b>Styrene</b>
1,2-Dichlorobenzene	1,1,2,2-Tetrachlorethane
1,3-Dichlorobenzene	Tetrachloroethylene (PCE)
1,4-Dichlorobenzene	<b>Toluene</b>

Dichlorodifluoromethane	1,2,4-Trichlorobenzene
1,1-Dichloroethane	1,1,1-Trichloroethane
1,2-Dichloroethane	1,1,2-Trichloroethane
1,1-Dichloroethylene	Trichloroethane
<i>cis</i> -1,2-Dichloroethylene	2,4,6-Trichlorophenol
<i>trans</i> -1,2-Dichloroethylene	1,2,3-Trichloropropane
1,2-Dichloropropane	1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)
1,3-Dichloropropane	Trichlorofluoromethane (Freon-11)
<b>Ethylbenzene</b>	<b>1,2,4-Trimethylbenzene</b>
Ethylene dibromide (1,2-Dibromoethane)	<b>1,3,5-Trimethylbenzene</b>
Hexachlorobenzene	Vinyl acetate
Hexachloro-1,3-butadiene	Vinyl chloride (Chloroethene)
Hexachlorocyclopentadiene	<b>Xylenes (total)</b>
Hexachloroethane	GRO (see note 3 below)
Hydrazine	DRO (see note 3 below)
<b>Isopropylbenzene (Cumene)</b>	RRO (see note 3 below)

Notes:

1. Bolded chemicals should be investigated as volatile compounds when petroleum is present. If fuel containing additives (e.g., 1,2-dichloroethane, ethylene dibromide, methyl *tert*-butyl ether) were spilled, these chemicals should also be investigated.
2. If a chemical is not on this list, and not in Tables B of 18 AAC 75.345, the chemical has not been evaluated for volatility. Contact the ADEC risk assessor to determine if the chemical is volatile.
3. At this time, ADEC does not require evaluation of petroleum ranges GRO, DRO, or RRO for the indoor air inhalation (vapor intrusion) pathway.

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## **APPENDIX P**

Funding Programs Chart – Alaska 2010

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## Funding for Brownfield Redevelopment Projects

Alaska

Program Name	Grant/Loan	Who is Eligible	Site Eligibility	Eligible Costs	Typical Amount Per Site	Deadline	Contact
<b>US Environmental Protection Agency (EPA):</b>							
Assessment	Grant	State & Local Government, Tribes	Petroleum or Hazardous & Site-Specific or Community-wide	Site assessment, community outreach	\$200K for Petroleum; \$200K for Hazardous; or \$350K for single site with EPA waiver \$1M for coalitions of 3 eligible entities	Fall 2010	Mary Goolie goolie.mary@epa.gov 907.271.3414 Susan Morales morales.susan@epa.gov 206.553.7299 <a href="http://yosemite.epa.gov/R10/cleanup.nsf/sites/bf">http://yosemite.epa.gov/R10/cleanup.nsf/sites/bf</a>
Cleanup	Grant	Nonprofits, State & Local Government. Eligible party must own site	Petroleum or Hazardous	Cleanup	\$200K/site, up to 3 sites (requires 20% cost share)	Fall 2010	same as above
Revolving Loan Fund (RLF)	Grant	State & Local Government	Petroleum or Hazardous	Cleanup	\$1M/entity (requires 20% cost share) May subgrant 40% of award to nonprofits & municipalities with site ownership	Fall 2010	same as above
Targeted Brownfield Assessments (TBAs)	In-kind Service	Local Governments, Public Agencies	Any brownfield	Site assessment	Site assessment services	Ongoing	Joanne LaBaw labaw.joanne@epa.gov 206.553.2594
<b>US Department of Housing &amp; Urban Development (HUD):</b>							
Community Development Block Grant (CDBG)	Grant or loan	State, urban county, or entitlement city who decides use of funds & to whom funds will be made available	Anything that passes HUD's Environmental Review	Site assessment, cleanup, rehabilitation, site improvements, limited construction	Depends on needs/size of community (average project award ranges from \$200K - \$1M)	Ongoing	Colleen Bickford colleen.bickford@hud.gov 907.677-9800
Section 108	Loan	same as CDBG	same as CDBG	same as CDBG	Up to five times the annual allocation less any outstanding loan amounts	Ongoing	same as above
Brownfields Economic Development Initiative (BEDI)	Grant	same as CDBG	same as CDBG	same as CDBG	Up to \$2M; may not exceed 1:1 ratio with Section 108 loan	Spring 2010 (Tentative)	Same as above
Alaska Office of Native American Programs (ONAP)	Grant	Native Alaskan communities	same as CDBG	same as CDBG	Contact staff	Contact staff	Carma Reed carma.reed@hud.gov 907.677.9800 <a href="http://www.hud.gov/offices/pih/ih/codetalk/onap/akonap/">http://www.hud.gov/offices/pih/ih/codetalk/onap/akonap/</a>

## Funding for Brownfield Redevelopment Projects

Alaska

Program Name	Grant/Loan	Who is Eligible	Site Eligibility	Eligible Costs	Typical Amount Per Site	Deadline	Contact
Indian Community Development Block Grant (ICDBG)	Grant	Any Indian tribe, band, group, or nation (including Alaska Indians, Aleut, and Eskimos) or Alaska Native village which has established a relationship to the Federal government as defined in the program regulations. In certain instances, tribal organizations may be eligible to apply.	same as CDBG	Housing - Rehabilitation, land acquisition, and under limited circumstances, new housing construction. Community Facilities - Infrastructure, e.g., roads, water and sewer facilities; and, single or multipurpose community buildings. Economic Development - Commercial, industrial, agricultural projects which may be recipient-owned and operated or which may be owned and/or operated by a third party.	Contact staff	Contact Staff	Deb Alston deb.alston@hud.gov 907.677.9863 <a href="http://www.nls.gov/offices/pih/ih/grants/icdbg.cfm">http://www.nls.gov/offices/pih/ih/grants/icdbg.cfm</a>
<b>US Department of Commerce, Economic Development Administration (EDA):</b>							
Public Works	Grant	States & political subdivisions of states; tribes, nonprofits, higher education institutions; BRAC impacted communities	Sites in areas with one or more of the following: high unemployment, low per capita income, or special needs; must be part of a Comprehensive Economic Development Strategy	Construction or rehab of public infrastructure & facilities that generate or retain private sector jobs & capital investment	No more than 50-80% of the total project cost (with exceptions); (average project award \$1.4M)	Ongoing	Shirley Kelly skelly@eda.doc.gov 907-677.9800 <a href="http://www.eda.gov/InvestmentsGrants/Investments.xml">http://www.eda.gov/InvestmentsGrants/Investments.xml</a>
Economic Adjustment	Grant	States & political subdivisions of states; tribes, nonprofits, higher education institutions; BRAC impacted communities	Sites in areas with one or more of the following: high unemployment, low per capita income, or special needs; must be part of a Comprehensive Economic Development Strategy	Strategy development, infrastructure construction, & revolving loan fund capitalization in communities & regions experiencing adverse economic changes	No more than 50-80% of the total project cost (with exceptions); (average project award \$570K)	Ongoing	same as above
Local Technical Assistance	Grant	States & political subdivisions of states; tribes, nonprofits, higher education institutions	Sites in areas of economic distress	Technical assistance (project planning, economic analyses, feasibility studies, etc.)	No more than 50-80% of the total project cost (with exceptions)	Ongoing	same as above

## Funding for Brownfield Redevelopment Projects

Alaska

Program Name	Grant/Loan	Who is Eligible	Site Eligibility	Eligible Costs	Typical Amount Per Site	Deadline	Contact
Partnership Planning	Grant	States & political subdivisions of states; tribes, nonprofits, higher education institutions	Sites in areas of economic distress	Economic development planning assistance	No more than 50-80% of the total project cost (with exceptions)	Ongoing	same as above
<b>US Department of Agriculture (USDA):</b>							
Community Facilities	Grant or Loan	Political subdivisions of the State, Non-Profits, and federally recognized Alaska Native Tribes	In a rural community	Costs for essential facilities, usually construction costs, for essential community services that are typically provided by local government or a community based organization for the benefit of the community	Contact staff	Ongoing	Regional contacts: Bethel - Gene Kane Gene.Kane@ak.usda.gov 907.543.3858 Dillingham - Spud Williams William.C.William@ak.usda.gov 907.842.3921 Fairbanks / Nome - James Polhlman James.Pohlman@ak.usda.gov 907.479.6767.4 Kenai - Michelle Hoffman Michelle.Hoffman@ak.usda.gov 907.283.6640.4 Sitka - Keith Perkins Keith.Perkins@ak.usda.gov 907.747.3506 <a href="http://www.rurdev.usda.gov/ak/Community.htm">http://www.rurdev.usda.gov/ak/Community.htm</a>
Rural Development - Renewable Energy and Energy Efficiency; Housing; Community Facilities; Business; Cooperatives; Electric; Telecommunication; Utility; Water and Environment; Community Development	Grant, Loan or technical assistance	Varies - depends on program	Varies	Loans, loan guarantees, downpayment assistance, construction	Contact staff	Ongoing	Same as above <a href="http://www.usda.gov/rus/">http://www.usda.gov/rus/</a>

## Funding for Brownfield Redevelopment Projects

Alaska

Program Name	Grant/Loan	Who is Eligible	Site Eligibility	Eligible Costs	Typical Amount Per Site	Deadline	Contact
Rural Housing	Grant or Loan	Varies - depends on program	Varies	Loans, loan guarantees, downpayment assistance, construction	Contact staff	Ongoing	Same as above <a href="http://www.rurdev.usda.gov/ak/Housing.htm">http://www.rurdev.usda.gov/ak/Housing.htm</a>
<b>US Army Corps of Engineers (USACE):</b>							
Planning Assistance to States	Matching grant - / in-kind services	State, local government, Native Alaskan communities	Sites affected by coastal areas and waterways	Technical services provided by USACE	Maximum of \$200,000 per year per state	Ongoing	Valerie Hansen valerie.a.hansen@usace.army.mil 907.753.2521 <a href="http://www.poa.usace.army.mil/en/cw/cap/brochures/Planning%20Asst.%20to%20States.pdf">http://www.poa.usace.army.mil/en/cw/cap/brochures/Planning%20Asst.%20to%20States.pdf</a>
<b>Alaska Department of Environmental Conservation (DEC):</b>							
DEC Brownfields Assessments (DBAs)	In-kind Service	Public and nonprofits	Any brownfield site owned by a local government or for which they are potentially responsible.	Site assessment	Varies	Applications accepted until February 2010	Sonja Benson Sonja.Benson@alaska.gov 907.451.2156 <a href="http://www.dec.state.ak.us/spar/csp/brownfields.htm#assess">http://www.dec.state.ak.us/spar/csp/brownfields.htm#assess</a>
Brownfields Redevelopment Fund	Loan/Grants	Nonprofits, Local Government, Public, Private	Any Brownfield, project must be associated with redevelopment	Site Assessments, Cleanup	Primarily a loan program; grants awarded on a case-by-case basis	Ongoing	same as above
<b>Alaska Energy Authority (AEA):</b>							
Various alternative energy projects	Grant/Loan and technical assistance	States & political subdivisions of states; tribes, nonprofits, energy generators	Various requirements	Technical assistance, system upgrade, training	Varies	Different deadlines	Shauna Howell showell@aidea.org 907.771.3000 <a href="http://www.aidea.org/AEA/programs.html">http://www.aidea.org/AEA/programs.html</a>
<b>Alaska Industrial Development and Export Authority (AIDEA):</b>							
Revenue Bond Program	Loans	Business enterprises	Location of business enterprise	Financing for capital expenses	Varies	Ongoing	Chris Anderson canderson@aidea.org 907.771.3030 <a href="http://www.aidea.org/programscrb.html">http://www.aidea.org/programscrb.html</a>
<b>Alaska Department of Natural Resources:</b>							
Alaska Trails Initiative	Grants	Non-profit organizations and local, state, federal and tribal entities	Proposed trail	Planning, permitting, design, construction, reconstruction, equipment purchase, education and interpretation of trails and trail related facilities.	Average of \$500,000	Applications usually due in March.	Bill Luck <a href="http://dnr.alaska.gov/shared/emailcontact.cfm?send=bill.luck">http://dnr.alaska.gov/shared/emailcontact.cfm?send=bill.luck</a> 907.269.8699 <a href="http://www.dnr.alaska.gov/parks/grants/aktrailinit.htm">http://www.dnr.alaska.gov/parks/grants/aktrailinit.htm</a>

## Funding for Brownfield Redevelopment Projects

Alaska

Program Name	Grant/Loan	Who is Eligible	Site Eligibility	Eligible Costs	Typical Amount Per Site	Deadline	Contact
Recreational Trails Program - Recreational trails and Snowmobiles	Matching grants	For recreational trails - non-profit organizations and public agencies. For snowmobile trails - all organizations, clubs, public agencies, or businesses	Proposed or existing trail	Reimbursable, matching funds to develop and maintain recreational trails and trail-related facilities for both non-motorized and motorized recreational trail uses.	Subject to program requirements	Applications usually due in November.	Bill Luck <a href="http://dnr.alaska.gov/shared/emailcontact.cfm?send=bill.luck">http://dnr.alaska.gov/shared/emailcontact.cfm?send=bill.luck</a> 907.269.8699 <a href="http://www.dnr.alaska.gov/parks/grants/aktrailinit.htm">http://www.dnr.alaska.gov/parks/grants/aktrailinit.htm</a>
Land and Water Conservation Fund Grant Program	Partial grants	State, regional or local governments with authority to provide outdoor recreation services	Public lands	Acquisition of outdoor recreation lands and/or development of outdoor recreation facilities	\$100,000 - \$500,000	Applications are due on April 30, 2010	Kristy Gray <a href="http://dnr.alaska.gov/shared/emailcontact.cfm?send=kristy.gray">http://dnr.alaska.gov/shared/emailcontact.cfm?send=kristy.gray</a> 907.269.8694 <a href="http://www.dnr.alaska.gov/parks/grants/lwcf.htm">http://www.dnr.alaska.gov/parks/grants/lwcf.htm</a>
National Coastal Wetlands Conservation Grant Program	Grants	Public agencies and land trusts	Coastal areas	Acquisition, restoration, management or enhancement of coastal wetlands	Varies, subject to availability of state matching funds	Contact Staff	Steve Neel <a href="http://dnr.alaska.gov/shared/emailcontact.cfm?send=steve.neel">http://dnr.alaska.gov/shared/emailcontact.cfm?send=steve.neel</a> 907.269.8709 <a href="http://www.dnr.alaska.gov/parks/grants/ncwc.htm">http://www.dnr.alaska.gov/parks/grants/ncwc.htm</a>
Division of Forestry - Green Infrastructure Planning Grants	Grants	Local government	Publicly owned land	Green infrastructure planning	\$20,000-\$80,000	Applications are usually due in January	Patricia Joyner <a href="mailto:patricia.joyner@alaska.gov">patricia.joyner@alaska.gov</a> 907.269.8465 <a href="http://forestry.alaska.gov/community/grants.htm">http://forestry.alaska.gov/community/grants.htm</a>
<b>Alaska Department of Commerce:</b>							
Alaska CDBG	Grants	Municipalities	Publicly-owned sites	Community development, planning and Special Economic Development	Maximum of \$850,000 per community	Applications are usually due in December	Jill Davis <a href="mailto:Jill.Davis@alaska.gov">Jill.Davis@alaska.gov</a> 907.451.2717 <a href="http://www.commerce.state.ak.us/dca/grt/blockgrants.htm">http://www.commerce.state.ak.us/dca/grt/blockgrants.htm</a>
<b>Alaska Housing Finance Corporation (AHFC):</b>							
Beneficiary and Special Needs Housing Grant Program (SNHG)	Grant	Nonprofit service providers and housing developers for construction of housing for the Alaskan special needs populations, primarily the beneficiaries of the Alaska Mental Health Trust	A housing site	Planning and construction activities for congregate, supportive and transitional housing types	Based on fund availability	Typically in January	Daniel Delfino <a href="mailto:ddelfino@ahfc.state.ak.us">ddelfino@ahfc.state.ak.us</a> 907.330.8273 <a href="http://www.ahfc.state.ak.us/grants/beneficiary_snhg.cfm">http://www.ahfc.state.ak.us/grants/beneficiary_snhg.cfm</a>

## Funding for Brownfield Redevelopment Projects

Alaska

Program Name	Grant/Loan	Who is Eligible	Site Eligibility	Eligible Costs	Typical Amount Per Site	Deadline	Contact
Elder Housing Program (Denali Commission)	Grant	Housing Authorities, local governments, nonprofits	A housing site	Grants to plan, construct and rehabilitate housing in rural locations	Based on fund availability. Predevelopment funds only for 2011	Typically in January and February	Diana Faude dfaud@ahfc.state.ak.us 907.330.8277 <a href="http://www.ahfc.state.ak.us/grants/elder_housing.cfm">http://www.ahfc.state.ak.us/grants/elder_housing.cfm</a>
Matching Grants Program	Grant	Nonprofits providing supportive housing services	A housing site	Supportive Housing Program (SHP) activities	Based on fund availability. Contact staff	Contact Staff	Diana Faude dfaud@ahfc.state.ak.us 907.330.8277 <a href="http://www.ahfc.state.ak.us/grants/matching_grants.cfm">http://www.ahfc.state.ak.us/grants/matching_grants.cfm</a>
Elder Housing Program (Denali Commission)	Grant	Housing Authorities, local governments, nonprofits	A housing site	Plan, construct and rehabilitate housing in rural locations.	Contact Staff	Contact Staff	Diana Faude dfaud@ahfc.state.ak.us 907.330.8277 <a href="http://www.ahfc.state.ak.us/grants/elder_housing.cfm">http://www.ahfc.state.ak.us/grants/elder_housing.cfm</a>
Matching Grants Program	Grant	Nonprofits	A housing site	Funds to meet the federal and state match requirements for grants awarded to non-profit organizations.	Contact Staff	Contact Staff	Diana Faude dfaud@ahfc.state.ak.us 907.330.8277 <a href="http://www.ahfc.state.ak.us/grants/matching_grants.cfm">http://www.ahfc.state.ak.us/grants/matching_grants.cfm</a>
Homeownership Development Program (HDP)	Grant	Participants in the USDA's 523 self-help homeownership program, Community Land Trusts and Habitat for Humanity organizations	A housing site	Real property acquisition and site improvements for new construction of permanent, single family housing.	Contact Staff	Contact Staff	Colette Slover cslover@ahfc.state.ak.us 907.330.8275 <a href="http://www.ahfc.state.ak.us/grants/hdp.cfm">http://www.ahfc.state.ak.us/grants/hdp.cfm</a>
Teacher, Health Professional and Public Safety Housing Program (AHFC/Denali Commission)	Grant	School districts, local governments, housing authorities and non-profit health organizations	A housing site	New construction, rehabilitation or acquisition of rental or lease/purchase housing to develop housing in rural Alaska for teachers, public safety officials and health professionals	Contact Staff	Contact Staff	James Wiedle jwiedle@ahfc.state.ak.us 907.330.8235 <a href="http://www.ahfc.state.ak.us/grants/teacher_health_safety_housing.cfm">http://www.ahfc.state.ak.us/grants/teacher_health_safety_housing.cfm</a>

## Funding for Brownfield Redevelopment Projects

Alaska

Program Name	Grant/Loan	Who is Eligible	Site Eligibility	Eligible Costs	Typical Amount Per Site	Deadline	Contact
<b>Rasmuson Foundation:</b>							
Pre-Development	Grants	Nonprofit organizations, municipal government and tribal communities	Contact staff	Contact staff	Varies	Ongoing	rasmusonfdn@rasmuson.org 907.297.2700 <a href="http://www.rasmuson.org/index.php?switch=viewpage&amp;pageid=141">http://www.rasmuson.org/index.php?switch=viewpage&amp;pageid=141</a> <a href="http://www.forakergroup.org/index.cfm?section=Shared-Services&amp;page=Pre-Development">http://www.forakergroup.org/index.cfm?section=Shared-Services&amp;page=Pre-Development</a>
Program-related investments	Loans, equity investments, linked deposits or loan guarantees	Nonprofit organizations	Contact staff	Program-related investments for housing, economic development, historic preservation	Varies	Ongoing	Chris Perez cperez@rasmuson.org 907.334.0522 <a href="http://www.rasmuson.org/index.php?switch=viewpage&amp;pageid=159">http://www.rasmuson.org/index.php?switch=viewpage&amp;pageid=159</a>
Capital projects - Tier 1	Grant	Nonprofit organizations	Contact staff	Capital projects i.e., community centers, playgrounds	Average \$25,000	Ongoing	Aleesha Towns-Bain atowns-bain@rasmuson.org 907.297.2875 <a href="http://www.rasmuson.org/index.php?switch=viewpage&amp;pageid=32">http://www.rasmuson.org/index.php?switch=viewpage&amp;pageid=32</a>
Strategic projects - Tier 2	Grant	Nonprofit organizations	Contact staff	Strategic projects and the expansion or start-up of innovative programs by established organizations.	Average \$25,000	Ongoing	Same as above <a href="http://www.rasmuson.org/index.php?switch=viewpage&amp;pageid=33">http://www.rasmuson.org/index.php?switch=viewpage&amp;pageid=33</a>
<b>RurAL CAP:</b>							
Self Help housing	Grant	Contact staff	Contact staff	Self Help housing	Varies	Contact Staff	Mitzi Barker 907.865.7370 <a href="http://www.ruralcap.com/index.php?option=com_content&amp;view=article&amp;id=174&amp;Itemid=225">http://www.ruralcap.com/index.php?option=com_content&amp;view=article&amp;id=174&amp;Itemid=225</a>
Community planning	Grant	Contact staff	Contact staff	Community Planning Activities	Varies	Contact Staff	Mitzi Barker 907.865.7370 <a href="http://www.ruralcap.com/index.php?option=com_content&amp;view=article&amp;id=89&amp;Itemid=87">http://www.ruralcap.com/index.php?option=com_content&amp;view=article&amp;id=89&amp;Itemid=87</a>
Waste management	Grant	Contact staff	Contact staff	improving solid waste management, with an emphasis on protecting local water supplies from contamination	Varies	Contact Staff	Ellen Kazary 907.865.7358 <a href="http://www.rasmuson.org/index.php?switch=viewpage&amp;pageid=32">http://www.rasmuson.org/index.php?switch=viewpage&amp;pageid=32</a>

## Funding for Brownfield Redevelopment Projects

Alaska

Program Name	Grant/Loan	Who is Eligible	Site Eligibility	Eligible Costs	Typical Amount Per Site	Deadline	Contact
<b>Alaska Community Foundation:</b>							
Pebble Fund and other grant programs	Grant	Nonprofit organizations, municipal government and tribal communities	Contact staff	Donor fund grant requirements including renewable resources/fish, energy, education and community and economic development	Varies	Contact Staff	Iris Matthews imatthews@alaskacf.org 907.274.6707 <a href="http://www.alaskacf.org/GrantOpportunities/TypesofGrants/tabid/177/Default.aspx">http://www.alaskacf.org/GrantOpportunities/TypesofGrants/tabid/177/Default.aspx</a>
<b>University of Alaska:</b>							
Office of University Partnerships	Technical assistance / partnerships	Contact staff	Contact staff	Various - contact staff	Varies	Contact Staff	Andrew Parkerson-Gray fyosp@uaf.edu 907.474.6000
<b>BP:</b>							
Community Giving	Grant, technical assistance or in-kind services	Contact staff	Contact staff	Various - contact staff	Varies	Contact Staff	ancextaff@BP.com 907.564.5640 <a href="http://www.bp.com/sectiongenericarticle.do?categoryId=9030185&amp;contentId=7055672">http://www.bp.com/sectiongenericarticle.do?categoryId=9030185&amp;contentId=7055672</a>
<b>Conoco:</b>							
Community Giving	Grant, technical assistance or in-kind services	Contact staff	Contact staff	Various - contact staff	Varies	Apply between June 1 - August 1	<a href="http://www.conocophillips.com/EN/usdev/communities/pages/contributions.aspx">http://www.conocophillips.com/EN/usdev/communities/pages/contributions.aspx</a>

## **APPENDIX Q**

Cost Estimate Tables

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**TABLE Q-1. GENERAL COST ESTIMATE  
 SAND AND NON-HAZARDOUS DEBRIS REMOVAL AND DISPOSAL  
 THORNE BAY PROPERTY ASSESSMENT AND CLEANUP PLAN**

Description	Est. Quantity	Unit	Est. Unit Price	Total Price
<b>REMEDIATION</b>				
<i>Equipment</i>				
Loader backhoe	1	week	\$2,000.00	\$2,000.00
<i>Labor</i>				
Backhoe operator	1	week	\$5,000.00	\$5,000.00
Laborer	2	week	\$4,000.00	\$8,000.00
<i>Transportation</i>				
Move sand to alternate storage location (includes dump truck, fuel, driver time)	2	RT	\$200.00	\$400.00
Transport non-hazardous debris to Thorne Bay landfill (includes dump truck, fuel, driver time)	1	RT	\$200.00	\$200.00
<i>Disposal</i>				
Landfill tipping fee	2	ton	\$150.00	\$300.00
<b>Remediation Total</b>				<b>\$15,900.00</b>
<b>Project Management (30% of total)</b>				<b>\$4,770.00</b>
<b>TOTAL ESTIMATED COST</b>				<b>\$20,670.00</b>

**Assumptions:**

8-hour work days  
 18 cy dump truck  
 All debris included in this section is non-hazardous.

**Notes:**

The City indicated in its DBA application that it could use city equipment and labor for this project. This would substantially reduce the costs in this section.

**TABLE Q-2. GENERAL COST ESTIMATE  
ASBESTOS-CONTAINING MATERIAL  
THORNE BAY PROPERTY ASSESSMENT AND CLEANUP PLAN**

Description	Est. Quantity	Unit	Est. Unit Price	Total Price
<b>REMEDIATION</b>				
<i>Equipment</i>				
Abatement supplies (e.g., asbestos bags and safety gear)	1	week	\$5,000.00	\$5,000.00
<i>Labor</i>				
Certified asbestos worker	2	week	\$4,000.00	\$8,000.00
Certified asbestos supervisor	1	week	\$6,000.00	\$6,000.00
<i>Transportation</i>				
Roundtrip worker travel time from Anchorage (16 hours)	2	RT	\$1,600.00	\$3,200.00
Roundtrip supervisor travel time from Anchorage (16 hours)	1	RT	\$2,400.00	\$2,400.00
Roundtrip airfare from Anchorage	3	RT	\$800.00	\$2,400.00
Per diem, lodging (3 people)	6	days	\$600.00	\$3,600.00
Vehicle rental	6	days	\$100.00	\$600.00
<i>Mobilization/Demobilization/Transportation</i>				
Transport asbestos waste to Thorne Bay Landfill (includes dump truck, fuel, driver time)	3	RT	\$1,000.00	\$3,000.00
Landfill tipping fee for asbestos waste at permitted Thorne Bay landfill	2	ton	\$300.00	\$600.00
<b>Remediation Subtotal</b>				<b>\$34,800.00</b>
<b>Project Management (30% of total)</b>				<b>\$10,440.00</b>
<b>TOTAL ESTIMATED COST</b>				<b>\$45,240.00</b>

**Assumptions:**

It is assumed that the Thorne Bay landfill applies for and receives authorization from DEC to accept asbestos-containing material. If the landfill does not get authorization to accept this waste, it will need to be shipped to Washington for disposal. This will greatly increase the costs.

8-hour work days  
18 cy dump truck

**Notes:**

In order to estimate conservatively, the asbestos company is assumed to be traveling from Anchorage. It may be possible to hire certified asbestos professionals from closer communities (e.g., Ketchikan or Juneau) that would reduce travel costs.

**TABLE Q-3. GENERAL COST ESTIMATE  
PETROLEUM HYDROCARBONS AND SOLVENTS  
THORNE BAY PROPERTY ASSESSMENT AND CLEANUP PLAN**

Description	Est. Quantity	Unit	Est. Unit Price	Total Price
<b>CHARACTERIZATION</b>				
<b>Labor</b>				
Environmental Professional	1	day	\$800.00	\$800.00
<b>Sampling</b>				
Field Screening with PID + isobutylene calibration gas	1	day	\$400.00	\$400.00
Sampling, shipping, and laboratory analysis of soil for petroleum hydrocarbons and solvents	15	samples	\$900.00	\$13,500.00
<b>Mobilization/Demobilization/Transportation</b>				
Per diem, lodging (1 person)	2	day	\$200.00	\$400.00
Transportation from Anchorage	1	est	\$800.00	\$800.00
<b>Characterization Subtotal</b>				<b>\$15,900.00</b>
<b>Project Management (30% of Total)</b>				<b>\$4,770.00</b>
<b>TOTAL ESTIMATED COST</b>				<b>\$20,670.00</b>

**Assumptions:**

8 hour work days

**Notes:**

In order to estimate conservatively, the environmental professional is assumed to be traveling from Anchorage. It may be possible to hire environmental professionals from closer communities (e.g. Ketchikan or Juneau) that would reduce travel costs.

If field screening results indicate low levels of petroleum hydrocarbons, then soil sampling may not be necessary on the first floor of the Old Fire Hall. Sampling in the location of the former aboveground storage tank is still recommended.

**The cost of any remediation is dependent upon whether petroleum hydrocarbon contamination is found, the concentration of the contamination, and the volume of soil that would need to be remediated.**

**TABLE Q-4. GENERAL COST ESTIMATE  
LEAD-BASED PAINT  
THORNE BAY PROPERTY ASSESSMENT AND CLEANUP PLAN**

Description	Est. Quantity	Unit	Est. Unit Price	Total Price
<b>CHARACTERIZATION</b>				
<i>Labor</i>				
Certified Lead Evaluation Professional	1	day	\$800.00	\$800.00
<i>Sampling</i>				
X-ray fluorescence (XRF) Screening	1	day	\$400.00	\$400.00
Total Lead Samples	10	sample	\$150.00	\$1,500.00
<i>Mobilization/Demobilization/Transportation</i>				
Per diem, lodging (1 person)	2	day	\$200.00	\$400.00
Transportation from Anchorage	1	est.	\$800.00	\$800.00
<b>Characterization Subtotal</b>				<b>\$3,900.00</b>
<b>Project Management (30% of Total)</b>				<b>\$1,170.00</b>
<b>TOTAL ESTIMATED COST</b>				<b>\$5,070.00</b>

**Assumptions:**

8 hour work days

**Notes:**

In order to estimate conservatively, the lead paint professional is assumed to be traveling from Anchorage. It may be possible to hire lead professionals from closer communities (e.g., Ketchikan or Juneau) that would reduce travel costs.

An XRF is a portable x-ray machine that is frequently used by lead inspectors to determine if lead paint is beneath other materials or paints.

The total lead samples should be analyzed using a Toxicity Characteristic Leaching Procedure as required by DEC.

A list of professionals who are certified by EPA to evaluate and abate lead in Alaska can be found at:

[http://cfpub.epa.gov/flpp/search.cfm?SHOWALL=Yes&DISCIPLINE=&SORT\\_BY=&APPLICANT\\_TYPE=FIRM&STARTROW=1&ZIP\\_CODE=&ABATEMENT=&JURISDICTION=&APPLICANT\\_NAME=&STATE=Alaska&EVAL=&CITY=&DOSEARCH=Yes&COURSE\\_TYPE=&COURSE\\_LANGUAGE=](http://cfpub.epa.gov/flpp/search.cfm?SHOWALL=Yes&DISCIPLINE=&SORT_BY=&APPLICANT_TYPE=FIRM&STARTROW=1&ZIP_CODE=&ABATEMENT=&JURISDICTION=&APPLICANT_NAME=&STATE=Alaska&EVAL=&CITY=&DOSEARCH=Yes&COURSE_TYPE=&COURSE_LANGUAGE=)

**The cost of any remediation is dependent upon whether lead-based paint is found and its concentration.**