



# Wrangell Institute

## History and Status

APRIL 2007

The Alaska Department of Environmental Conservation (DEC) is currently working with several entities on an agreement involving the cleanup of historic contamination at the Wrangell Institute. The entities involved include the U.S. Department of Justice, the City of Wrangell and Cook Inlet Regional, Inc. The final version of the consent decree is being reviewed for approval by all parties. Cleanup is scheduled to begin in Summer 2007 and is contingent upon the signing of the consent decree by all parties.

### Site History

The Wrangell Institute was built in 1932 by the U.S. Bureau of Indian Affairs and used as a boarding school for Native children until the 1970s. Located approximately five miles south of downtown Wrangell, the facility was also used during World War II as a relocation camp for Aleut people when the Aleutian Islands were under attack. In 1978, the facility was transferred to the Cook Inlet Regional, Inc. and was used for several years as housing by the U.S. Forest Service for the Young Adult Conservation Corps and as private rental units. In 1995, the property was transferred to the City of Wrangell.

Contamination at the site is the result of leaks and spills of heating fuel along the transfer and delivery systems and at the tanks. Two 20,000-gallon fuel tanks stored heating oil on-site for the school. The fuel was pumped uphill through a pipeline from tankers to the tanks and then dispersed to the fuel tanks at each building by another pipeline. There were also 12 small tanks on the property.

### Early cleanup efforts

In 1999, the City removed all of the tanks, and excavated and stockpiled 750 cubic yards of contaminated soil. In 2001, the City performed a site assessment of the property, demolished

all of the buildings, excavated and stockpiled additional contaminated soil, and collected samples to determine levels of contamination remaining on-site. In fall 2002, DEC contacted the potentially responsible parties to discuss future cleanup actions. In October 2003, DEC's contractor, SLR, Inc., performed a thorough site characterization, installing monitoring wells and collecting soil, sediment, groundwater, and surface water samples. Approximately 6000-8000 cubic yards of petroleum-contaminated soil remains on site. Groundwater on site was also found to be contaminated with diesel-range organics and polycyclic aromatic hydrocarbons.

### Soil removal

In March 2007, DEC contracted with SLR, Inc. to develop workplans for soil removal and water monitoring. In April, SLR will collect soil samples to conduct leaching tests in order to determine soil disposal options.

During summer 2007, DEC will excavate all the soil with concentrations of petroleum above the DEC's cleanup levels for unrestricted use. The soil will be divided into two groups:

- 1) lightly contaminated, and
- 2) highly contaminated.

The highly contaminated soil will be placed in containers and sent to a disposal facility in

Washington or Oregon. The lightly contaminated soil will be mixed with fertilizer (to promote natural breakdown of the petroleum), stockpiled on site, and covered with a liner. When soil is needed for the Wrangell Landfill closure project, the City of Wrangell will use this soil as landfill cover.

The excavation holes will be sampled to make sure that all of the contamination has been removed. Then, they will be backfilled with clean material. DEC expects the cleanup to take 60-80 days.

### Long-term monitoring

In order to determine if the groundwater and surface water contaminant levels are decreasing, samples will be collected once-a-year until the cleanup levels are met. A location will remain in the monitoring program until analytical results are below the cleanup levels for at least 2 successive sampling events.

The first sampling event (Year 1) will likely be conducted in Spring 2008 and will include all those wells and surface water locations where petroleum was detected, even if the detection was below the cleanup levels. The second sampling event (Year 2) will only include those locations where the sample results are above the cleanup levels.

The length of time the monitoring program lasts will depend on the analytical results. We anticipate that the monitoring program will only last a few years, due to the relatively low levels of contaminants found originally and the anticipated removal of all of the contaminated soil to very low cleanup levels. All monitoring wells will be removed at the end of the program. The monitoring program will be implemented by the City of Wrangell with costs reimbursed by the Settlement Agreement; implementation is contingent upon the signing of the Settlement Agreement by all parties.

### Cleanup Levels

DEC has several methods for determining soil and groundwater cleanup levels. We look at the types of contaminants on the site and how they might affect people, animals (terrestrial and aquatic), and plants; these are called "receptors." We then evaluate what receptors are now present and the likelihood of future receptors. Current and future land use plays a role in the cleanup levels.

**The soil at the Wrangell Institute will be cleaned up to DEC's most protective cleanup levels, which will allow for unrestricted future use of the property, per the City of Wrangell's request.**

Soil cleanup levels are as follows: diesel-range organics 230 mg/kg.

Groundwater cleanup levels are based on DEC's drinking water standards. Even though there is municipal water provided to the property, the City of Wrangell requested that DEC use the lowest (strictest) groundwater cleanup levels in order to allow for unrestricted use of the groundwater in the future.

Surface water cleanup levels are set by the Alaska Water Quality Standards and are based on protection of the waters for the "growth and propagation of fish, shellfish, other aquatic life, and wildlife." These standards are used for both Institute Creek and Shoemaker Bay.

### Site Closure

Site closure will occur when all of the soil has been removed and disposed of appropriately either at the Wrangell Landfill or the Washington (or Oregon) facility, and the long-term monitoring program for groundwater and surface water has ended. Once the soil removal is complete, DEC would likely allow reutilization of the property so long as the groundwater monitoring wells were not damaged or removed.

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# Site History of the Wrangell Institute

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**1932** – BIA builds the Wrangell Institute (Alaska Indian Service School) based upon recommendation from the ANB/ANS. Buildings constructed from 1931-1971.

**1940s** – Dept of Navy uses it as a temporary staging area for 881 Aleuts going to internment camps.

**1955** – School medical facility operated by US Public Health Service.

**1975** – BIA ceases operation of the Wrangell Institute as a school.

**1978** – April: BLM takes ownership.  
– November: CIRI takes ownership.

**1977-1980** – USFS operates it to house the Young Adult Conservation Corps.

**1994** – CIRI conducts asbestos abatement and lead-based paint removal and demolition of 3 buildings. 10 gallon fuel spill at Building 301 during demolition.

**1995** – City of Wrangell takes ownership of the Wrangell Institute property.

**1995** – The City hires Alcan Environmental to conduct asbestos assessment, lead-based paint, DRO field-screening and sampling.

**1999** – The City of Wrangell hires RA/Tellus to remove 11 heating oil tanks and 1 gasoline tank. Petroleum contamination found at 9 out of 12 locations. Excavation of approx. 750 cubic yards of soil. Cleanup achieved at 3 tank locations.

**2001** – The City of Wrangell hires Carson Dorn Inc. to conduct asbestos abatement,

building demolition, site assessment, pipeline and soil removal. Approx. 1500 cubic yards of soil excavated, creating a 2<sup>nd</sup> stockpile on adjacent property.

## Finding the Responsible Parties

**2002** November – February 2003, DEC sends out letters of interest to CIRI, BIA, BLM, USFS.

**2003** – May: DEC undertakes its own Site Investigation and initiates cost recovery from the PRPs.  
– July: DEC hires SLR for Site Assessment.  
– October: site characterization fieldwork conducted.

## Site characterization

**2004** – February: site characterization report.  
– April: First PRP meeting held.  
– December: PRP meeting with: State, CIRI, City, DOI, DOJ.

**2005** – March: DEC develops cost estimate for cleanup and provides to all parties.  
– May 2005: DEC, City, and CIRI gives settlement documentation to DOJ.

**2006** – February: DOJ's first settlement offer.  
– March: DEC updates cleanup cost estimate.  
– April: DEC responds with a second settlement proposal.  
– September: DOJ's second offer.

## Cleanup workplan

**2007** – March: DEC contracts with SLR to develop Corrective Action and Long-Term Monitoring Workplans.  
– March: Final Settlement Agreement in review for signature by all parties.

# Timeline for Cleanup

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## Winter/Spring 2007

1. DEC contracts with consultant to write workplans for
  - 1) soil excavation and disposal and
  - 2) long-term monitoring.
2. DEC consultant travels to Wrangell and collects soil samples from 2 existing stockpiles and in-situ soil.
3. Soil samples are analyzed for DRO/BTEX/PAH\*. Laboratory also runs leaching test to determine soil concentrations that will not leach petroleum in order to use as a limit for soil used as landfill cover.
4. DEC consultant will draft a report on the contaminant samples and associated leaching test results for DEC-Contaminated Sites and the City of Wrangell.
5. DEC consultant forwards report to DEC-Solid Waste on behalf of City.
6. DEC-Solid Waste approves report and sets a DRO/BTEX/PAH soil concentration limit for the soil to be used as landfill cover (aka "lightly contaminated").
7. DEC consultant completes workplans for soil excavation/disposal and long-term monitoring, sends to DEC-Contaminated Sites and the City.

## June 2007

DEC contracts for cleanup work, dependent on signing of consent decree.

## July 2007

1. DEC awards contract. Field work should start mid-July and last 6-8 weeks.
2. DEC consultant excavates contaminated soil, separates into lightly- and heavily-contaminated piles.

3. "Lightly-contaminated" soil is stockpiled on-site in accordance with requirements (10-mil bottom liner, 6-mil top liner). Fertilizer added to enhance natural breakdown of contamination. (Estimated 2000-3000 cubic yards of soil.)
4. "Heavily-contaminated" soil (contamination exceeds Solid Waste limits for landfill cover use) placed directly into containers for disposal out-of-state.
5. DEC staff will travel to Wrangell 1-2 times during field work for oversight.

## Fall 2007/Winter 2008

1. City moves lightly-contaminated soil from on-site stockpile to other stockpile location for staging or directly to landfill for use as cover material by 2008.
2. City moves soil from 2 previously-established stockpiles to landfill for use as cover material by 2008.

## May 2008: Long-Term Monitoring

1. City contracts with consultant to collect groundwater samples for Year 1 of long-term monitoring.

Consultant drafts report and sends to City to forward to DEC for approval.

DEC approves report and outlines what wells will need to be included in the Year 2 monitoring event.

City requests reimbursement for long-term monitoring costs from Department of Law.

2. Long-term monitoring will continue each May for each well where contamination exceeded cleanup levels until results from two (2) sampling events are below the cleanup level. Monitoring is not anticipated to last longer than 10 years.

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\* Petroleum is composed of different compounds that have different characteristics and toxicities, so are looked at separately. These include diesel range organics (DRO), benzene-toluene-ethylbenzene-xylene (BTEX), and polycyclic aromatic hydrocarbons (PAHs).