

# STATE OF ALASKA

## DEPARTMENT OF ENVIRONMENTAL CONSERVATION DIVISION OF SPILL PREVENTION AND RESPONSE CONTAMINATED SITES PROGRAM

**SEAN PARNELL, GOVERNOR**

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File: 100.38.125  
100.57.002

March 31, 2010

Tami Sheehan  
Fairbanks North Star Borough  
Department of Land Management  
809 Pioneer Road  
P. O. Box 71263  
Fairbanks, AK 99707

Re: Decision Document: Former Universal Recycling - Fairbanks  
Cleanup Complete Determination

Dear Ms. Sheehan:

The Alaska Department of Environmental Conservation (DEC), Contaminated Sites Program has completed a review of the environmental records associated with the former Universal Recycling – Fairbanks (Universal) located at 400 Sanduri Street, Fairbanks, Alaska. Based on the information provided to date, DEC has determined that the contaminant concentrations remaining on site do not pose an unacceptable risk to human health or the environment and this site will be closed.

This decision is based on the administrative record for Universal which is located in the offices of DEC in Fairbanks, Alaska. This letter summarizes the decision process used to determine the environmental status of this site and provides a summary of the regulatory issues considered in the cleanup complete determination.

### **Introduction**

#### Site Name and Location:

Former Universal Recycling  
400 Sanduri Street  
Fairbanks, Alaska 99701

#### Name and Mailing Address of Contact Party:

Tami Sheehan  
Fairbanks North Star Borough  
Department of Land Management  
809 Pioneer Road  
P. O. Box 71263  
Fairbanks, AK 99707

Database Record Key and File Number:

DEC Reckey: 1993310912601

File: 100.38.125/100.57.002

Hazard ID: 1922

Regulatory authority under which the site is being cleaned up:

18 AAC 75

**Background**

The former Universal site property is triangular in shape and is approximately 3.4 acres, bounded by Sanduri Street on the south, Easy Street to the east, and a curving railroad spur on the north/west. Development of the site began in 1986 as a waste-to-energy treatment facility. In 1996, a fire destroyed much of the facility which resulted in the company filing bankruptcy. The Fairbanks North Star Borough (FNSB) foreclosed on the property in 2003. Another fire that occurred after the foreclosure resulted in a large pile of mixed debris/waste across the southern portion of the site requiring segregation of more than 50 drums, five tons of lead-acid batteries, and other potentially hazardous wastes.

**Characterization Activities**

At the request of the FNSB, a limited site assessment was completed in 2004 by a DEC contractor, Weston Solutions, Inc., as part of DEC's Reuse and Redevelopment Program. This effort identified numerous locations with surface and potential subsurface contamination that was primarily petroleum-related. This characterization focused on areas where there was a greater probability of impact that were easily accessible, particularly areas with stains and/or near drums and other containers. A total of 18 soil borings were advanced and 21 laboratory samples, including field duplicates, were collected and submitted for laboratory analyses. Other areas were also screened for petroleum and chlorinated compounds. The report concluded that portions of the surface of the site were impacted by petroleum and chlorinated compounds.

The FNSB obtained Environmental Protection Agency (EPA) Brownfield grant funding in 2005 to complete the site assessment and additional funding in 2006 to begin the cleanup activities.

Three primary surface drum and debris removal efforts were completed at the site to allow for access to the entire site. During debris and drum removal, there were no obvious signs of staining, odors, or other potential concerns noted.

Nortech Environmental Engineering Health & Safety (Nortech) utilized field screening methods to evaluate surface and subsurface soil conditions. Soil borings were installed down to 20 feet below ground surface in order to evaluate the subsurface soil. Samples were collected from the soil borings at 5-foot intervals. The primary field screening method used at the site was the photoionization detector (PID) for volatile organic compounds (VOCs). A field gas chromatograph (GC) was also used as a field screening tool for soils that indicated potential contamination using the PID. Initial soil assessment activities at the site included multiple surface inspections and field screening of stained areas, advancement of 63 soil borings and a total of 36 soil samples for laboratory analysis.

Localized areas of surface contamination with primarily petroleum contaminants were observed, but large-scale surface contamination was not observed.

Approximately 1,600 linear feet of ground penetrating radar (GPR) transects were completed at the site. Surface fill containing coal ash from either UAF or Aurora Energy power plants was identified across the site. The GPR did not identify potential large scale excavations, large scale debris burial, buried piping, buried tanks or injection well structures in the suspected floor drain locations. Possible buried metal objects were investigated using soil borings and only one soil boring, SB-17, had a significant buried metal object. No contaminants were identified adjacent to this object which was in the railroad right-of-way.

During the 2007 assessment several specific localized areas of concern were identified. The first was a cutout area in the concrete slab in the southeastern portion of the site. The top interval contained a mixture of debris, gravel, and coal ash. Both diesel range organics (DRO) and dioxin levels were slightly above the respective cleanup levels. A more detailed assessment of this area was completed in 2008 and found out the cutout was a trench drain with concrete walls and bottom. Approximately 13 cubic yards of mixed burned debris and ash with a petroleum odor was removed from the trench drain and the drain pipe. One sample collected from the excavation from beneath the southern end of the structure indicated low levels of dioxin remaining in the area. In 2009, Nortech removed an additional three supersacks of contaminated soil from this area. One sample was collected after the 2009 excavation and the results indicated that the dioxin levels were below DEC cleanup levels.

A second area of concern identified during the 2007 assessment was the presence of surface ash that may be related to burn barrels and/or an incinerator. The larger location was located on the east side of the site (approximately 450 square feet). Soil results indicated levels of cadmium, chromium, lead and selenium above DEC cleanup levels and Fairbanks background levels. The dioxin TEQ also exceeded the DEC cleanup levels. In 2008, approximately 35 cubic yards of surface ash mixed with coal ash were excavated from the area. Sampling of the excavation indicated low levels of dioxin and metals still remained at the location. In 2009, approximately six supersacks of contaminated soil were excavated. One primary sample and a field duplicate were collected from the limits of the excavation. The sample results had metals and dioxin concentrations below DEC cleanup levels.

A total of 54 cubic yards of contaminated soil was excavated from the surface ash area and the cutout trench. The soil was contaminated with dioxin, petroleum, and heavy metals. Based on Nortech's discussion with DEC and the EPA, the presence of dioxins in the soil/ash did not require disposal of the material as a Resource Conservation and Recovery Act (RCRA)-hazardous waste for dioxin because the specific source of the dioxin was not regulated by RCRA, so the material was shipped out of the state by Emerald Alaska, Inc. as non-regulated petroleum contaminated soil.

Two groundwater sampling events have been completed at the site: one in 2004; and one in 2007. The 2004 data are not considered representative of the groundwater because the measured depth to water in one of the remaining wells indicated the screened interval was located three feet above the water table. The groundwater was encountered at approximately 12.5 feet below the surface.

In 2007, groundwater was sampled at five locations and no contaminants of concern were observed above DEC cleanup levels. There appears the presence of a fine silt/clay aquitard at approximately eight feet below the lower slab surface which also supports that the risk of contaminant migration to groundwater is low.

The only site-wide environmental concern noted by the consultant, Nortech, at the site are heavy metals in the soil as a result of the coal ash fill. Sample results from coal ash collected in 2004 and 2007 at various locations throughout the site had elevated barium (up to 3,480 milligrams per kilogram (mg/kg) in 2007) and chromium levels (up to 57 mg/kg in 2004 and 41.2 mg/kg in 2007). The most stringent DEC cleanup levels pertain to the migration to groundwater pathway, and are 1,100 mg/Kg for barium, and 25 mg/Kg for chromium (total). The remaining soil and ash at the site meet DEC's health-based cleanup levels. In 2007, five groundwater samples were collected from around the site. Three of the five groundwater samples were analyzed for the eight RCRA metals and all of the results were below DEC Table-C cleanup levels. These results indicate that although there are levels of barium and chromium above migration to groundwater cleanup levels, the heavy metals do not appear to have migrated to the groundwater table. Coal ash has been used as fill in many areas around Fairbanks including the Fairbanks Railroad Industrial Area. Because of the elevated levels of barium and chromium in the coal ash, future excavation and movement of soil should not be to an environmentally sensitive area or result in a violation of the 18 AAC 70 water quality standards.

Elevated arsenic levels (up to 18.5 mg/kg in 2007) were also found throughout the site but not specifically with the coal ash samples. Fairbanks has naturally occurring elevated arsenic levels in the soil which exceed DEC cleanup levels. A background study that was conducted at Fort Wainwright indicated levels of arsenic in the soil up to 11.47 mg/kg. In the same study, background levels of chromium were also detected at levels up to 25.72 mg/kg. The most stringent DEC cleanup level for arsenic is the migration to groundwater level which is 3.6 mg/kg.

### **Contaminants of Concern**

During the investigations at this site, soil samples were analyzed for: DRO; gasoline range organics (GRO); residual range organics (RRO); benzene, toluene, ethylbenzene, and xylenes (BTEX); VOCs; polycyclic aromatic hydrocarbons (PAHs); dioxins; polychlorinated biphenyls (PCBs); and the eight RCRA metals that include arsenic, barium, cadmium, chromium, lead, mercury, selenium and silver. Based on the analyses and knowledge of the source area, the following contaminants of concern were identified:

- DRO
- Benzene
- Dioxins
- Arsenic
- Barium
- Cadmium
- Chromium

### Cleanup Levels

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

<u>Contaminant</u>	<u>Site Cleanup Level (mg/kg)</u>
DRO	250
Benzene	0.025
Dioxins	0.000047
Arsenic	3.9
Barium	1,100
Cadmium	5
Chromium	25

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

<u>Contaminant</u>	<u>Site Cleanup Level (mg/L)</u>
DRO	1.5
Benzene	0.005
Arsenic	0.01
Barium	2
Cadmium	0.005
Chromium	0.1

### Pathway Evaluation

Following investigation and cleanup at the site, exposure to the remaining contaminants was evaluated using DEC's Exposure Tracking Model (ETM). Exposure pathways are the conduits by which contamination may reach human or ecological receptors. ETM results show all pathways to be one of the following: De Minimis Exposure or Pathway Incomplete. A summary of this pathway evaluation is included in Table 1.

**Table 1 – Exposure Pathway Evaluation**

<b>Pathway</b>	<b>Result</b>	<b>Explanation</b>
Surface Soil Contact	De Minimis Exposure	All the contaminated soil has been excavated and the confirmation soil samples from the excavation show all contaminants meet the most stringent DEC cleanup levels and there is no cumulative risk issue.
Sub-Surface Soil Contact	De-Minimis exposure	All the contaminated soil has been excavated and the confirmation soil samples from the excavation show all contaminants meet the most stringent DEC cleanup levels and there is no cumulative risk issue.
Inhalation – Outdoor Air	De-Minimis exposure	All the contaminated soil has been excavated and the confirmation soil samples from the excavation show all contaminants meet the most stringent DEC cleanup levels and there is no cumulative risk issue.
Inhalation – Indoor Air (vapor intrusion)	De-Minimis exposure	Groundwater samples collected from the site were below DEC cleanup levels. Remaining soil contamination is below migration to groundwater cleanup levels.
Groundwater Ingestion	Pathway Incomplete	Groundwater samples collected from the site were below DEC Table-C cleanup levels. Remaining soil contamination is below migration to groundwater cleanup levels. Drinking water for the site and the surrounding areas is provided by Golden Heart Utilities public water systems.
Surface Water Ingestion	Pathway Incomplete	There is no surface water located on the site. The closest surface water body is approximately 1200 feet from the property but no groundwater is impacted on site.
Wild Foods Ingestion	Pathway Incomplete	There is no surface or subsurface contamination remaining above migration to groundwater (MTG) levels.
Exposure to Ecological Receptors	Pathway Incomplete	There is no surface or subsurface contamination remaining above MTG levels.

Notes to Table 1: “De-Minimis exposure” means that in DEC’s judgment receptors are unlikely to be affected by the minimal volume of remaining contamination. “Pathway incomplete” means that in DEC’s judgment contamination has no potential to contact receptors.

**DEC Decision**

The cleanup actions to date have served to excavate and adequately remove contaminated soil from the site. Based on the information available, DEC has determined no further assessment or cleanup

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action is required and there is no significant risk to human health or the environment. This site will be designated as *cleanup complete* on DEC's database.

Although a cleanup complete determination has been granted, DEC approval is required for off-site soil disposal in accordance with 18 AAC 15.325(i). However, since this site has met the most conservative soil cleanup levels, this letter will serve as your approval for future off-site movement and disposal of soil associated with this release. It should be noted that movement or use of potentially contaminated soil in a manner that results in a violation of 18 AAC 70 water quality standards is unlawful.

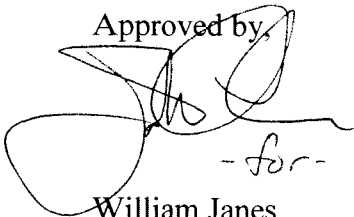
This determination is in accordance with 18 AAC 75.380(d) and does not preclude DEC from requiring additional assessment and/or cleanup action if future information indicates that this site may pose an unacceptable risk to human health or the environment.

### Appeal

Any person who disagrees with this decision may request an adjudicatory hearing in accordance with 18 AAC 15.195 -18 AAC 15.340 or an informal review by the Division Director in accordance with 18 AAC 15.185. Informal review requests must be delivered to the Division Director, 410 Willoughby Avenue, Suite 303, Juneau, Alaska 99801, within 15 days after receiving the department's decision reviewable under this section. Adjudicatory hearing requests must be delivered to the Commissioner of the Department of Environmental Conservation, 410 Willoughby Avenue, Suite 303, Juneau, Alaska 99801, within 30 days after the date of issuance of this letter, or within 30 days after the department issues a final decision under 18 AAC 15.185. If a hearing is not requested within 30 days, the right to appeal is waived.

If you have questions about this closure decision, please contact the DEC project manager, John Carnahan at (907) 451-2166.

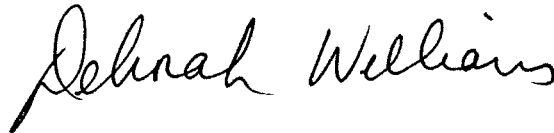
Approved by,



- for -

William Janes  
Environmental Program Manager

Recommended by,



Deborah Williams  
Environmental Program Specialist

cc: Susan Morales, EPA Brownfield Program