1516-38-017

STATE OF ALASKA

FRANK H. MURKOWSKI, GOVERNOR

DEPT. OF ENVIRONMENTAL CONSERVATION
DIVISION OF SPILL PREVENTION AND RESPONSE
CONTAMINATED SITES PROGRAM

410 Willoughby Ave., Suite 303
Juneau, AK 99801-1795
PHONE: (907) 465-5208
FAX: (907) 465-5262
http://www.state.ak.us/dec/

File No. 1516.38.017

July 23, 2004

Mr. Brien Salazar
Alaska Rainforest Sanctuary, LLC
PO Box 8495
Ketchikan, AK 99901

Re: No Further Remedial Action Determination
Herring Bay Lumber Company Company
Database ID No. 2003110108401

The Alaska Department of Environmental Conservation (DEC) has reviewed the April 13, 2004 cleanup report and the May 12, 2004 supplemental report for the referenced site. This letter presents DEC's findings.

Background

The former Herring Bay Lumber Company Company site, located on the South Tongass Highway several miles south of Ketchikan, operated from 1954 until 2001. Heavy equipment, lubricants, wood treatment fluids, diesel and gasoline, and used oil have historically been used and stored at the site.

The site was added to DEC's contaminated sites database in November 1994 for 50-60 improperly maintained, leaking oil drums. In 1997, a 75- to 100-gallon used oil tank was damaged by a fork lift and the contents spread to saltwater. Sorbent pads and saw dust were applied to the spill and treated in the mill's incinerator.burner unit. Petroleum sheen was observed in Herring Bay. No other cleanup appears to have been conducted.

DEC staff visited the site in September 2000, noting poorly stored fluid containers and petroleum stains throughout the property. DEC sent a letter to the property owner in early 2001 recommending a number of "best management practices" actions. To DEC's knowledge, these were never implemented.

In the fall of 2003 you began negotiations to purchase the property. In the late fall you hired Noll Environmental to conduct a site assessment to document both clean and contaminated areas.

Printed on recycled paper

The goal was to subdivide and obtain DEC concurrence that the clean portion of the property could be redeveloped for tourism.

Site Characterization Findings

In December 2003, fourteen samples were collected from nine test pits at depths ranging from 0.5 to 5 feet below ground surface. Samples were analyzed for gasoline range organics (GRO); diesel range organic (DRO); residual range organics (RRO); benzene, toluene, ethylbenzene, and total xylenes (BTEX); polycyclic aromatic hydrocarbons (PAHs); polychlorinated byphenyls (PCBs); and eight Resource Conservation and Recovery Act metals (arsenic, barium, cadmium, chromium, lead, mercury, selenium, and silver).

Detected contaminants in the various test pits included GRO, DRO, RRO, BTEX constituents, PAHs, and various metals.

Preliminary Cleanup Levels

Preliminary cleanup levels, approved by DEC on March 2, 2004, were the most conservative of 18 AAC 75.341 method 2 for the three pathways (ingestion, inhalation, and migration to groundwater). Preliminary cleanup levels are summarized below for detected contaminants:

Table 1

Contaminant	Cleanup Level (mg/kg)
Benzene	0.02
Toluene	4.8
Ethylbenzene	5
Total Xylenes	69
Gasoline Range Organics (GRO)	260
Diesel Range Organics (DRO)	230
Residual Range Organics RRO)	9700
PAHs	
Naphthalene	19
1-Methylnaphthalene	43[1]
2-Methylnaphthalene	60.9
Acenaphthene	190
Fluorene	240
Phenanthrene	4300
Fluoranthene	1900
Pyrene	1400
Benzo(a)anthracene	5.5

[1] 1-Methylnaphthalene, 2-Methylnaphthalene, Phenanthrene, and Benzo(g,h,i)perylene cleanup levels are not listed in tabular format in regulation, but were calculated according to DEC's *Cleanup Level Guidance.*

Chrysene	550
Benzo(g,h,i)perylene	1400
Arsenic	1.8
Barium	982
Cadmium	4.5
Chromium	23
Lead	400
Mercury	1.24
Selenium	3
Silver	19

Of these contaminants, GRO, DRO, arsenic, selenium and various BTEX constituents exceeded their respective cleanup levels on Lot 96 B only. On February 11, 2004, DEC determined that additional investigation and cleanup were not required on Lot 96 A. Alaska Rainforest Sanctuary began construction of a new facility on Lot 96 A shortly thereafter.

Revised Cleanup Levels

On March 12, 2004, Noll Environmental collected additional samples during site cleanup. In addition to petroleum constituents and metals, 12 samples were analyzed for total organic carbon. Using a site-wide average total organic carbon percentage of 1.77%, Noll Environmental subsequently proposed that several preliminary cleanup levels be modified under method 3. These alternative cleanup levels, hereby approved under 18 AAC 75.340, are as follows:

Table 2

Contaminant	Alternative Cleanup Level (mg/kg)
Benzene	0.07
Toluene	41
Ethylbenzene	55.5
Total Xylenes	791
Gasoline Range Organics (GRO)	1400
Diesel Range Organics (DRO)	3970
Residual Range Organics RRO)	8300
Arsenic	1.85
Selenium	3.1

Cleanup Summary

Approximately 86 tons of petroleum-contaminated soil were excavated in March 2004 and shipped in supersacks to a thermal treatment facility in Lakewood, Washington.

Residual Contamination

Post-cleanup confirmation sampling on Lot 96 B after the March 2004 removal documented the presence of benzene above the calculated method 3 migration to groundwater cleanup level, but below human health risk-based ingestion and inhalation levels. Located in Area 1 at 2.5 feet below ground surface, the maximum benzene concentration detected was 2.1 mg/kg. Noll Environmental estimated 3 to 5 cubic yards of benzene-contaminated soil remains in Area 1. Groundwater was not encountered in the excavation to 5 feet below ground surface.

Confirmation sampling on Lot 96 B also documented the presence of arsenic and selenium above cleanup levels in Area 2, and arsenic above cleanup levels in Areas 1 and 3. During operation of the mill facility incinerator, waste oil stored at Area 2 was discharged to the incinerator (Area 3) through a pipeline via gravity. The oil-stained soils noted at Areas 2 and 3 were therefore likely from a common source; however, the arsenic and selenium concentrations found at Area 2 were significantly higher than those found at Area 3 (Table 3).

Table 3

	Arsenic Range (mg/kg)	Selenium Range (mg/kg)
Area 2	10-150	5-31
Area 3	15-18	Non-detect

Noll Environmental concluded that the elevated arsenic and selenium concentrations found at Area 2 were a result of naturally occurring metals in what appeared to be imported fill material. The surface soil (1 to 2 feet bgs) at Area 2 was darker than the surface soil found at Area 1 and Area 3, and contained small pieces of dark gray shale. Also, the low levels of arsenic (5.8 to 18 mg/kg) found in the soil samples collected from Area 1 and Area 3 were similar to the naturally occurring background level for the Ketchikan area (about 8 mg/kg). Selenium was not detected in either Areas 1 or 3.

Approximately 3 feet of clean material was placed over the residual benzene, arsenic, and selenium contamination following cleanup.

Institutional Controls

The conditions specified in the following determination will be noted on DEC's contaminated sites database. These conditions are accessible to the public through the on-line database search engine.

Determination

DEC recognizes that benzene, arsenic and selenium may exceed the approved cleanup levels in some areas of the site. However, the extent of contamination is limited and poses minimal risk to human health and the environment. DEC has determined that no further cleanup action is required because:

1. residual contaminants are unlikely to migrate to nearby marine waters due to the low remaining concentrations, small volume, distance to surface water, and apparent absence of groundwater that may serve as a transport mechanism at the depths where contamination was found;

2. benzene and selenium concentrations are below risk-based human health levels;

3. a cap of clean cover material will be maintained at Area 2 where arsenic concentrations exceed risk-based human health levels.

This determination is subject to the following conditions.

1. If the soil above the established cleanup levels becomes accessible in the future (for example through excavation or soil drilling), or if new information indicates the contamination poses a risk to human health or the environment, then additional investigative or cleanup action may be required.

2. Residual contaminated soil locations must be precisely determined by survey or GPS readings. This information must be provided to DEC within 60 days of receipt of this letter.

3. DEC's Contaminated Sites Program must be notified prior to any future excavation in these areas. A DEC approved work plan may be required depending on the nature of the proposed work.

4. Off-site contaminated soil transport requires prior DEC approval in accordance with 18 AAC 75.325 (i)(1) and (2).

5. Contaminated soil will be capped with a minimum of 2 feet of clean soil, gravel, or asphalt. The cap will be maintained and inspected annually. A brief letter describing the status of the cap and any maintenance actions taken will be filed with DEC's Contaminated Sites Program by December 31 of each year.

The investigation and cleanup of the former Herring Bay Lumber Company Company site meets all requirements specified in 18 Alaska Administrative Code (AAC) 75 Article 3 - Discharge, Reporting, Cleanup, and Disposal of Oil and Other Hazardous Substances. No further remedial action is required. This decision will be noted on DEC's contaminated sites database following expiration of the right to an adjudicatory hearing as set forth herein.

In accordance with 18 AAC 75.380(d)(1), additional investigation and cleanup may be required if new information is discovered which leads DEC to make a determination that the cleanup described in this decision is not protective of human health, safety, and welfare or the environment. If the conditions in this decision are not met, additional requirements may be imposed and/or enforcement action initiated by DEC.

Any person who disagrees with this decision may request an adjudicatory hearing in accordance with 18 AAC 15.195-15.340 and 18 AAC 75.385 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 of the decision date. 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 of the decision date. The right to appeal is waived if a hearing is not requested within 30 days.

Sincerely,

William Janes
Project Manager