



County Environmental Engineering, Inc.

November 14, 2022

Penny Thompson
City of Caribou
25 High Street
Caribou, Maine 04736

Re: Draft Analysis of Brownfields Cleanup Alternatives
Diesel Plant and Outbuildings, 142 Lower Lyndon Street, Caribou, Maine

Dear Penny:

This draft analysis of Brownfields cleanup alternatives (ABCA) was prepared for the diesel plant and outbuildings (Site) located at 142 Lower Lyndon Street in Caribou, Maine. The purpose of this ABCA is to evaluate remedial alternatives for waste oil, hazardous substances, asbestos-containing materials (ACM) and hazardous waste at the Site. Remedial alternatives evaluated for waste oil and hazardous substances include No Action and Removal. Remedial alternatives evaluated for identified ACM and hazardous waste include No Action and Abatement.

Site Location and History

As shown on the attached Location Map (Figure 1), the Site is located on the west bank of the Aroostook River near the Caribou dam. As shown on the attached Site Map (Figure 2), the Site consists of the former Caribou Generating Station diesel plant, diesel pump house, oil tank building, north storage building, oil storage building, pump station, and south storage building. The total building footprint for the Site is approximately 17,300 square feet (0.40 acre). The surrounding area consists of the former hydroelectric plant and filter plant to the north, bulk plant to the west, and steam plant to the south.

The Caribou dam and former hydroelectric plant were constructed in 1889 and operated by the Caribou Water, Light and Power Company through the 1940s. The Site was acquired by Maine Public Service Company (Emera Maine, Versant Power) in 1943 and the diesel plant was constructed in 1949. The Site was acquired by PDI New England (WPS New England, Algonquin Northern Maine Gen Co) in 1999. The diesel plant was deactivated in 2012 and Merlin One LLC acquired the Site in 2013. The Site has been vacant for several years and recently vandalized by trespassers. The Site is currently owned by the City of Caribou through automatic lien foreclosure and the buildings are in poor repair.

Previous Environmental Investigations

A Phase I Environmental Site Assessment (ESA) was completed at the Site on August 5, 2021. Recognized environmental conditions identified in the Phase I ESA include: fossil fuel electric power generation; bulk plant; polychlorinated biphenyls; significant diesel releases; discharge outfalls; underground storage tanks; tanks, drums and oil-filled operational equipment; pesticide release; and railroad tracks. A Phase II ESA was completed at the Site on May 14, 2022. Sixteen soil samples, six groundwater samples and three porewater samples were collected at the Site and surrounding area for the Phase II ESA. Petroleum and hazardous substances were detected in site soils, but below regulatory guidelines.

A hazardous building materials survey was completed at the Site on May 8, 2022, including an inventory of universal and hazardous wastes, lead-based paint screening and asbestos identification survey. As summarized on the tables below, approximately 11,320 gallons of petroleum products and hazardous substances were inventoried at the Site.

Diesel Plant Tanks, Drums and Containers			
Description	Contents	Size	Quantity
Diesel Plant Used Oil Tank	waste oil	275 gal	275 gal
Diesel Plant Unit #2 Day Tank	diesel	320 gal	320 gal
Diesel Plant Unit #3 Day Tank	diesel	320 gal	320 gal
Diesel Plant Unit #4 Day Tank	diesel	230 gal	230 gal
Diesel Plant Unit #5 Day Tank	diesel	320 gal	320 gal
Engine Lube Oil System Unit #2	lube oil	1,375 gal	1,375 gal
Engine Lube Oil System Unit #3	lube oil	1,375 gal	1,375 gal
Engine Lube Oil System Unit #4	lube oil	550 gal	550 gal
Engine Lube Oil System Unit #5	lube oil	550 gal	550 gal
Oil/Water Separator	waste oil	unknown	~100 gal
Dirty Oil Tank	waste oil	1,000 gal	1,000 gal
Clean Oil Tank	waste oil	1,800 gal	1,800 gal
Waste Oil Drums (6) and pails	waste oil	55 gal	~350 gal
Chemical Drums (6)	water treatment	55 gal	~350 gal
Miscellaneous Drums (3)	anti-freeze, lube oil	55 gal	~100 gal
Empty Drums (5)	transformer oil, unknown	55 gal	residual

Oil Storage Building Drums			
Description	Contents	Size	Contents
Waste Oil Drums (19)	waste oil	55 gal	~1,000 gal
Anti-Freeze Drums (18)	anti-freeze	55 gal	~1,000 gal
Miscellaneous Drum (1)	degreaser/solvent	55 gal	55 gal
Empty Drums (31)	unknown	55 gal	residual

Oil Tank Building Tank			
Description	Contents	Size	Quantity
Tank #4, ~6 inches of product	diesel	15,000 gal	~250 gal

As summarized on the tables below, ACM ($\geq 1\%$ asbestos) was identified in roofing, window glaze, floor tile and mastic at the diesel plant, roofing at the diesel pump house, stored material in the south storage building, and window glaze at the north storage building, oil storage building and pump station. All window glaze at the Site is significantly deteriorated and should be considered friable material. Gaskets and electrical wire coating are presumed positive for asbestos.

Diesel Plant Asbestos-Containing Building Materials			
Description	Est. Quantity	Location	Sample ID
ACM black roof material	12,200 square feet	Roof perimeter and penetrations	TGR29, TGR30
ACM window glazing	1,400 square feet	Exterior windows	WG26
ACM 9x9 black floor tile with adhered ACM black mastic	600 square feet	Second floor lab, file room and hallway	FT24A
ACM gaskets	not quantified	Piping connections, stored material	presume positive
ACM electrical wire coating	not quantified	Electrical wiring	presume positive

Diesel Pump House Asbestos-Containing Building Materials			
Description	Est. Quantity	Location	Sample ID
ACM black roof material	270 square feet	Roof perimeter	TGR19B

South Storage Building Asbestos-Containing Materials			
Description	Est. Quantity	Location	Sample ID
ACM white board insulation	not quantified	Stored material	WBI16

Pump Station, Oil Storage Building and North Storage Building Asbestos-Containing Building Materials			
Description	Est. Quantity	Location	Sample ID
ACM window glazing*	200 square feet	Exterior windows	WG21A

*Trace asbestos (<1% asbestos) was detected in window caulk at the pump station.

Lead-based paint was identified at the diesel plant, oil storage building and north storage building. Potential lead-containing glass block windows are located at the diesel plant (500 square feet) and diesel pump house (75 square feet). Light fixtures with potential PCB-containing ballasts and several mercury-containing fixtures and components were noted throughout the facility, including mercury switches on equipment, temperature-control switches and fluorescent light bulbs. Approximately seventy-five (75) batteries were inventoried at the diesel plant. Several paint cans, aerosol cans, retail-sized containers of miscellaneous products, and e-waste (e.g., computer monitors) were observed at the facility.

Evaluation of Remedial Alternatives for Waste Oil and Hazardous Substances

The cleanup goal for the Site in regards to waste oil and hazardous substances is to eliminate the risk of a release to the environment. For this ABCA, waste oil refers to diesel, lube oil, waste oil, waste oil-contaminated water and sludge. The primary routes of contaminant migration include surface flow and floor drains in the diesel plant with discharge outfalls at the Aroostook River. Potential exposure routes include dermal contact and inhalation of vapors. Potential receptors include future site workers and the Aroostook River.

No Action Alternative

The Site would remain unchanged with the No Action alternative. The No Action alternative is not protective of human health or the environment. The potential for a release to the environment would continue to exist at the Site. The No Action alternative is not consistent with the cleanup goal for waste oil and hazardous substances at the Site.

Removal Alternative

All waste oil and hazardous substances at the Site would be removed for off-site disposal by a Maine licensed Hazardous Waste Transporter under the Removal alternative. The Removal alternative provides adequate protection of human health and the environment. The Removal alternative would meet the cleanup goal for waste oil and hazardous substances at the Site. The cost for the Removal alternative is \$200,000.00.

Evaluation of Remedial Alternatives for Asbestos-Containing Materials and Hazardous Waste

The cleanup goal for the Site in regards to identified ACM and hazardous waste is to eliminate the risk of human contact to asbestos, mercury, lead, PCBs and other hazardous materials. The primary route of contaminant migration is release into the air, buildings or environment by disturbance of ACM and hazardous waste. Potential exposure routes include direct contact, ingestion and inhalation of vapors and asbestos fibers. Potential receptors include future site workers and the Aroostook River.

No Action Alternative

The Site would remain unchanged with the No Action alternative. The No Action alternative is not protective of human health or the environment. The potential for exposure to asbestos and hazardous waste would continue to exist at the Site. The No Action alternative is not consistent with the cleanup goal for identified ACM and hazardous waste at the Site.

Abatement Alternative

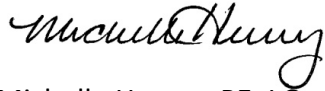
All identified ACM and hazardous waste at the Site would be removed for off-site disposal by a Maine licensed Asbestos Abatement Contractor under the Abatement alternative. Removal of ACM roofing at the diesel plant and diesel pump house would include demolition of the building. The Abatement alternative provides adequate protection of human health and the environment. The Abatement alternative would meet the cleanup goal for identified ACM and hazardous waste at the Site. The cost for the Abatement alternative is \$400,000.00.

Conclusion and Recommendations

Remedial alternatives evaluated for waste oil and hazardous substances at the Site include No Action and Removal. The Removal alternative would address the current risk of a release to the environment. The No Action alternative does not meet the cleanup goal for the Site in regards to waste oil and hazardous substances. We recommend the Removal alternative for waste oil and hazardous substances at the Site.

Remedial alternatives evaluated for identified ACM and hazardous waste at the Site include No Action and Abatement. The Abatement alternative would address the current risk of exposure to asbestos and hazardous waste. The No Action alternative does not meet the cleanup goal for the Site in regards to identified ACM and hazardous waste. We recommend the Abatement alternative for identified ACM and hazardous waste at the Site.

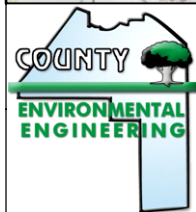
Respectfully Submitted,
County Environmental Engineering, Inc.

A handwritten signature in black ink, appearing to read "Michelle Hersey". The signature is written in a cursive, flowing style.

Michelle Hersey, PE, LG
President



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Location Map

Analysis of Brownfields Cleanup Alternatives
 Diesel Plant and Outbuildings
 142 Lower Lyndon Street, Caribou
 Aroostook County, Maine

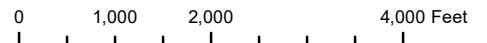


Figure 1



Scale: 1:24,000

Project: 227-07

Drawn By: MDH
 Date: 11/01/2022





	Site Map		
	Analysis of Brownfields Cleanup Alternatives Diesel Plant and Outbuildings 142 Lower Lyndon Street, Caribou Aroostook County, Maine	Figure 2 Scale: 1:1,000	Project: 227-07 Drawn By: MDH Date: 11/01/2022