

Wagner, Heindel, and Noyes, Inc.

- Consulting Hydrogeologists
- Engineers
- Environmental Scientists

P.O. Box 1629 Burlington, Vermont 05402-1629

802-658-0820
FAX: 802-860-1014

December 12, 1994

Mr. Richard Spiese, Acting Supervisor
Sites Management Section
Hazardous Materials Management Division
103 South Main Street
Waterbury, VT 05671-0404

Re: Remediation of Diesel Fuel Contaminated Soils
Vermont Castings
Beanville Road - Randolph, Vermont
Facility ID #7283151

Dear Richard:

On October 17, 1994, a 10,000-gallon diesel fuel tank was removed from the ground adjacent to the foundry building for the Vermont Castings plant on Beanville Road in Randolph, Vermont. The single-walled tank was approximately 12 years old, and was found to be in good condition by representatives of Griffin International, who oversaw the tank pull. However, diesel fuel-contaminated soils were encountered adjacent to the fill pipe, and beside and below the tank. Two soil samples were collected from the base of the excavation at a depth of about 13 feet below ground surface, and PID levels (H-Nu Model PI-101) were 34 ppm and 22 ppm in these samples. Approximately 25 gallons of fuel are believed to have been lost from thermal expansion of the fuel after the tank was topped up for a tightness test, performed about two years ago.

Soils surrounding the tank consist of deltaic medium sands, with a depth to water table in excess of 30 feet. The nearest sensitive receptors are two domestic wells providing process water to the foundry. Both wells are approximately 300 feet deep, but one is a gravel well, while the other is screened in bedrock. The bedrock well serves as the primary water source for the plant, while the gravel well (which experiences high iron and manganese levels) is used as a backup. These wells are about 400 feet east of the UST excavation, likely in a downgradient direction from the former tank site.

This letter provides a proposed work plan for remediation of these diesel fuel contaminated soils. We propose to hire an OSHA-certified contractor to excavate all contaminated soils with PID signatures greater than 1.0 ppm. During excavation of these soils, we are faced with the additional task of providing bracing for a utility pole that supports electrical transmission lines providing power to the plant. (This pole passed within six inches of the underground storage tank, according to the Griffin tank closure inspection.) The local electric utility, CVPS will be enlisted to provide temporary support of this pole during soil excavation.

All contaminated soils excavated from the ground will be mixed with approximately 30% (by volume) manure, using either an excavator or front loader.

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Mr. Richard Spiese
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This admixture of contaminated soils and manure will then be stockpiled in a previously prepared, bermed site. The location of this site, provided on a sketch attached with this letter, was selected as an area well away from surface water or stormwater conveyances. The bermed area will be 30 feet wide by an as yet unknown length with berms at least 2 feet in height surrounding the entire area to prevent the entry of surface water. The bermed area will then be lined with 6-mil black plastic. Soils will be carefully stockpiled on this bermed area, while attempting to minimize the crossing of the 6-mil plastic liner with excavation vehicles. Once all stockpiled soils are in place, we will cover the pile with 6-mil black plastic, and add necessary ballast materials to ensure that the plastic is not dislocated by winds.

② Consistent with Agency guidelines for handling petroleum contaminated soil, we will collect 2 composite samples (if less than 50 yards of soils are stockpiled) or 3 composite samples (if 50-100 cubic yards are stockpiled), which will be tested for total petroleum hydrocarbons (TPH) using modified EPA Method 8100. The TPH levels in these samples will provide target levels for the reduction of TPH concentrations during the composting. Composite sampling will continue during the middle of the next growing season (July 1995) and at the end of the growing season (October 1995) to evaluate the rate of biodegradation of the diesel fuel. If the treatment goal is not achieved by the end of the 1996 growing season, we will dismantle the pile and admix additional manure to the soil to promote further anaerobic biodegradation of the diesel fuel. The cost estimate attached to this letter assumes that we will achieve the target level of 90% reduction of TPH levels by the end of the 1996 growing season. If we do not achieve this goal by October 1996, we will submit a revised proposal and cost estimate for further remediative work.

We have also included a task for installation of passive vent wells in the soil pile, to promote the release of CO₂ and methane during breakdown of the fuel and manure, and to permit monitoring of CO₂, CH₄, and O₂ levels to evaluate the status of composting.

We will await written approval and authorization by the HMMD of this work plan and cost estimate before we begin its implementation. We intend to implement this plan as weather and frost conditions permit in the spring of 1995.

Please do not hesitate to contact me if you have any questions about this work plan and cost estimate.

Sincerely,

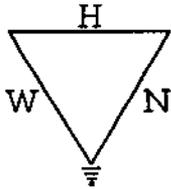


Dean A. Grover, P.E.
Chief Engineer, Environmental Division

DAG/ew

Attachments

[J:\DAGROVER\VTCASTINGS.CE1]



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VERMONT CASTINGS Beanville Road Randolph, Vermont	
REMEDATION OF DIESEL FUEL CONTAMINATED SOILS	
SCOPE OF SERVICES and COST ESTIMATE	
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Task #1: Project Coordination and Preparation of Health and Safety Plan	
Prepare Health and Safety Plan. Make all necessary arrangements with the excavation contracting company and with the local utility to temporarily brace the power pole and mobilize for excavation of soils and preparation of soil stockpile area.	
WH&N Labor	OK
<ul style="list-style-type: none"> • Environmental Engineer, P.E.: 8 hrs. x \$50/hr. • Principal: 2 hrs. x \$65/hr. 	\$400.00 <u>130.00</u> \$530.00
Task #2: Site Preparation for Soil Excavation	
Mobilize equipment. Prepare an approximately 30-foot x 80-foot flat bermed area to receive stockpiled soils. Line this area with 6 mil black plastic. Provide temporary bracing for utility pole prior to excavation of diesel contaminated soils.	} no } yes
<ul style="list-style-type: none"> • Excavation, mobilization/demobilization: • Preparation of bermed stockpiling area • Utility pole bracing 	\$ 500.00 500.00 2,000.00 <u>- 4,000.00</u> \$3,000.00 - \$5,000.00

VERMONT CASTINGS

Beanville Road
Randolph, Vermont

REMEDIATION OF DIESEL FUEL CONTAMINATED SOILS

SCOPE OF SERVICES and COST ESTIMATE

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Task #3: Soil Excavation

Excavate all diesel contaminated soils, segregating those soils with PID signatures less than 1.0 ppm from soils with PIDs greater than 10 ppm. Admix all contaminated soils (greater than 10 ppm) with 30% fresh cow manure and stockpile on black plastic. This estimate assumes two 14 yard loads of manure. Restore original grades with clean fill, estimated at 100 c.u. yards.

WH&N Oversight:

- Environmental Engineer, P.E.: 10 hrs. x \$50/hr.
- PID rental:
- Travel expenses
- Excavator expenses: 10 hrs. x \$75/hr.
- Manure:
- 40' x 100' x 6 mil black plastic sheeting (for bottom and top of stockpile)
- Clean fill: 100 yds. x \$7.00/yard

	\$ 500.00
	55.00
	60.00
	750.00
NO!	200.00
	150.00
	<u>700.00</u>
	\$2,415.00

Task #4: Sample Collection

Collect 2-3 composite soil samples (depending on amount of soils stockpiled) and evaluate for total petroleum hydrocarbons (EPA Method 418.1). This cost estimate assumes more than 50 cubic yards will be excavated.

- EPA Method 8015 analyses: 3 x \$50/analysis

	\$ 150.00
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Task #5: Passive Soil Pile Vents

Hand install 6 to 8 2" diameter passive soil vents one to two weeks after soil pile preparation to promote gas exchange and permit monitoring of CO₂, CH₄, and O₂.

- Staff: 6 hrs. x \$35/hr.
- Well materials (hand-slotted PVC):
- CO₂, CH₄, and O₂ equipment rental:

NO!	\$210.00
	50.00
	<u>65.00</u>
	\$325.00

VERMONT CASTINGS
 Beanville Road
 Randolph, Vermont

REMEDATION OF DIESEL FUEL CONTAMINATED SOILS

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Task #6: Summary Report

Provide a summary report describing results of diesel contaminated soil remediation and soil stockpiling.

\$ 500.00

Task #7: Ongoing Monitoring and Reporting

Collect three composite soil samples and evaluate for TPH (using modified EPA Method 8100) according to the following schedule: July 1995; October 1995; July 1996; October 1996. Measure CO₂, CH₄, and O₂ in all vents during each sampling round.

- WH&N Labor: 4 trips x 5 hrs./trip x \$35/hr.
- Equipment rental: 4 trips x \$65/trip
- EPA Method 18.1 TP analyses: 12 \$5 /analyses
- Progress Reports: 4 x \$100/report

\$ 700.00
 260.00
 600.00
 400.00
 \$1,960.00

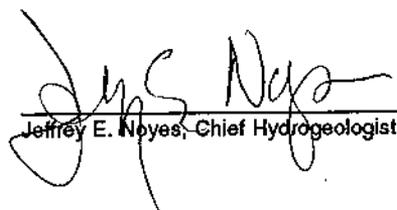
TOTAL ESTIMATED COSTS

\$8,880.00
 - \$10,880.00

STANDARD TERMS AND CONDITIONS:

1. This estimate is based on standard field conditions. Extreme weather conditions may result in increased costs.
2. Meetings and phone consultations outside this scope of services will be billed on a time-and-materials basis.
3. Final report released upon payment of all invoices.

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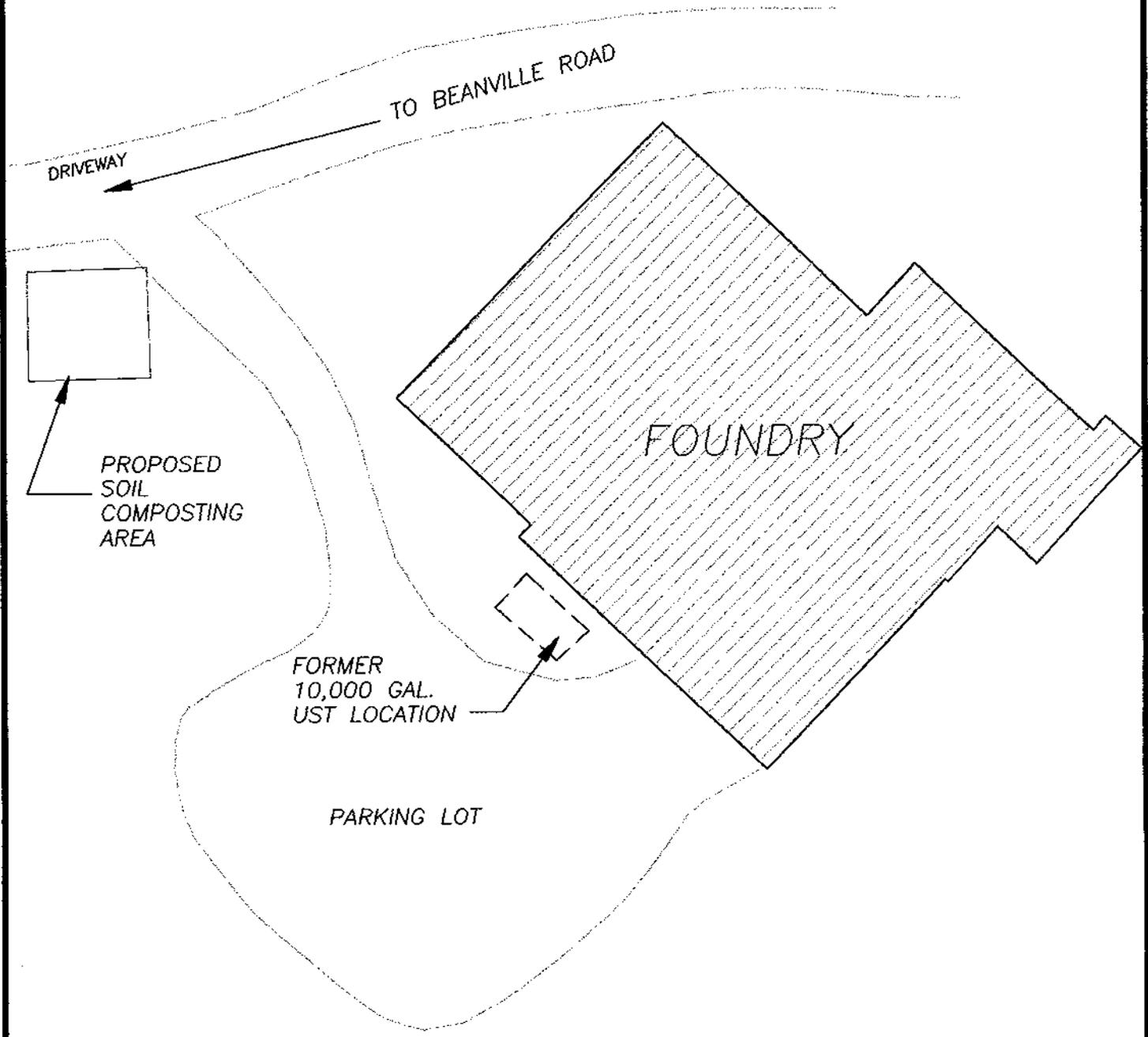


Jeffrey E. Noyes, Chief Hydrogeologist

Date 12.13.94

Signature

Date



VERMONT CASTINGS INC. -- FOUNDRY
 RANDOLPH, VERMONT

SOIL COMPOSTING AREA LOCATION MAP

SCALE: NOT TO SCALE **DATE:** DECEMBER 12, 1994

FILE: C:\CASTING\COMPOST **PROJECT NO.** 93297

DRAWN BY: M. Luman **APPROVED:** B. Dwyer

Wagner, Heindel, and Noyes, Inc.
 CONSULTING SCIENTISTS AND ENGINEERS

- Hydrogeology • Ecology •
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