

Phase (check one)	Type (check one)
<input checked="" type="checkbox"/> Initial Site Investigation <input type="checkbox"/> Corrective Action Feasibility Investigation <input type="checkbox"/> Corrective Action Plan <input type="checkbox"/> Corrective Action Summary Report <input type="checkbox"/> Operations & Monitoring Report	<input checked="" type="checkbox"/> Work Scope <input type="checkbox"/> Technical Report <input type="checkbox"/> PCF Reimbursement Request <input type="checkbox"/> General Correspondence

**SITE INVESTIGATION
Former Nichols Residence
Hill Road
Brookline, Vermont**

SMS Site # 98-2393

August 4, 1998

Prepared for:
Ms. Julie Nichols
101 Fairview Avenue
Hartwell, GA 30643

Prepared by:
Corporate Environmental Advisors, Inc.
P.O. Box 1246
White River Junction, VT 05001
Contact: Paul S. Renouf
(802) 295-5222

CEA Ref. No.: V136982





CORPORATE ENVIRONMENTAL ADVISORS, INC.

July 31, 1998

Ms. Julie Nichols
101 Fairview Avenue
Hartwell, GA 30643

RE: Site Investigation
Former Nichols Residence
Brookline, Vermont

SMS Site # 98-2393

Dear Ms. Nichols:

At your request, Corporate Environmental Advisors, Inc. (CEA) is pleased to submit to you this proposal to complete a Site Investigation (SI) at the above-referenced site. CEA submitted an Underground Storage Tank (UST) Permanent Closure Form to the Vermont Department of Environmental Conservation (DEC) on May 11, 1997 regarding the closure of three 500-gallon #2 fuel oil USTs at the above referenced site. Based on the results of the UST removal, DEC requested that a SI be conducted in their letter dated July 15, 1998.

BACKGROUND

During a UST closure conducted on May 5 through 8, 1998, CEA encountered an area of petroleum impacted soil beneath UST #1. Headspace analysis with a photoionization detector (PID) of soil samples collected from beneath the UST revealed a small area with a peak reading of 25 parts per million of total volatile organic compounds (VOCs). An additional excavation of 0.5 to 1 foot beneath the UST revealed PID readings from non-detect to 4 ppm. Evidence of significant fuel oil impacted soil was not noted during the excavation of UST #2 and UST #3.

Neither groundwater nor bedrock were encountered during the UST excavations. The site and surrounding area are rural residential and agricultural. The site and surrounding area are served by on-site drinking water wells. The West River is located approximately 300 feet north of the site.

PROPOSED SCOPE OF WORK

CEA proposes to install at least one soil boring to further define the extent of the potential fuel oil impact. The proposed soil boring will be located in the former tank bed of UST #1. CEA will attempt to intercept groundwater and install a monitoring well. If evidence gathered during the installation of the first monitoring well suggests a potential for impacted groundwater, then two additional soil borings/monitoring wells will be installed. The monitoring wells will be located topographically downgradient of the first monitoring well and between the former location of UST #1 and the site drinking water well and the West River, respectively. A site sketch is attached and the locations of the proposed soil borings/monitoring wells are shown.

If groundwater is not encountered during the advancement of the first soil boring, then CEA will collect two soil samples from the boring for laboratory analysis of Total Petroleum Hydrocarbons (TPH) by EPA Method 8100M. Soil sample #1 will be retrieved from the location of the highest PID reading. Soil sample #2 will be retrieved from the extent of the soil boring.

The exploration program will involve the advancement of soil test borings with a drill rig using a split-spoon sampler and hollow stem auger. Soils encountered will be sampled at appropriate intervals using standard methods and will be visually classified by a CEA representative during this process. Soil samples collected from the borings will be screened in the field for the presence of VOCs using a PID.

Groundwater conditions as well as other pertinent data will also be recorded during the exploration program. The augers will be steam cleaned between borings to reduce the potential for cross contamination between locations.

CEA will attempt to advance the soil test borings a minimum of 5 feet below the apparent groundwater table and 2-inch PVC monitoring wells will be installed. CEA anticipates encountering groundwater at between 25 to 35 feet below ground surface (bgs). Following a stabilization period of approximately one week, the groundwater will be characterized as to the presence or absence of free-phase hydrocarbons. If present, the thickness will be measured and reported. Groundwater level measurements will be made using an electric water level indicator. Sampling will take place utilizing dedicated bailers.

Groundwater samples from the monitoring well(s) will be submitted to a laboratory for analysis of Benzene, Toluene, Ethylbenzene, and Xylenes (BTEX) and TPH by EPA Method 8100M.

CEA will conduct the necessary file review and background research to identify the potential receptors within the immediate vicinity and downgradient of the site. The assessment will include screening ambient airspace within the site building and other area buildings, collecting construction data for the on-site water supply well and other nearby water supply wells, and



identifying potential subsurface migration pathways. Using this data, a preliminary risk assessment will be made.

This Work Scope is based on screening ambient air within the on-site structure for VOCs and collecting a drinking water sample for BTEX and TPH analyses using the same methods described above. If PID screening indicates that the ambient air has been impacted, then a confirmatory sample will be collected and submitted for analysis using EPA Method TO-2. The cost of the analysis is \$200 per sample and will be included as an add-on.

Data obtained from this investigation will be evaluated with regards to the potential impact to the soil and groundwater at the site. This evaluation will be presented to you in the form of a report that will also include the details of the characterization. The report will include the information outlined in DEC's *Site Investigation Guidance* (August 1996) and requested in DEC's July 15, 1998 correspondence regarding this site. Depending on the outcome of the characterization, it may be necessary to complete a Corrective Action Plan.

ESTIMATED BUDGET

Our estimated budget for completing the scope of work is outlined on the attached spreadsheet. The actual costs of our services will be on a time and expense basis in accordance with the attached Terms and Conditions.

We trust that you will find this proposal consistent with your anticipated needs and expectations. Following your authorization to proceed, we would expect to complete the scope of work outlined above within 90 days. You may formally enter into an agreement with us to accomplish the scope of work outlined by signing the enclosed Authorization and returning it to CEA.

We thank you for allowing us this opportunity to offer our services and look forward to working with you on this project. Should you have any questions or require further assistance, please do not hesitate to contact our office.

Sincerely,
Corporate Environmental Advisors, Inc.


Paul S. Renouf
Operations Manager

enc.

cc: Mr. Robert Butler, VTDEC





VERMONT SITES MANAGEMENT SECTION

PETROLEUM CLEANUP FUND - WORK SCOPE & BUDGET ESTIMATE

SMS Site #: 98-2393
 Facility Name: Former Nichols Residence
 Town: Brookline
 Proposed Budget: \$5,545.50
 Date Prepared: 07/31/98

Phase: Site Investigation
 Fund Applicant: CEA
 Work Scope Author: Corporate Environ. Advisors
 Owner: Julie Nichols

Task	Contractor	Description	Class Code	Overall Breakdown				Breakdown By Class			
				Units	Type	Rate	Cost	Eng./Hydro. Services	Lab. Services	Subsurface Expl.	Other
1.0 Prep. of Work Scope	Corp. Environ. Advisors	Project Manager	E	3.0	Hrs.	\$65.00	\$195.00	\$195.00			
			Task Total				\$195.00	\$195.00	\$0.00	\$0.00	\$0.00
2.0 Monitoring Well Install., Soil Screening and Soil Sampling	Corp. Environ. Advisors	Project Geologist Expenses (PID, travel)	E	10.0	Hrs.	\$65.00	\$650.00	\$650.00			
			E	1.0	Ea.	\$100.00	\$100.00	\$100.00			
			T&K Drilling	Rig/Crew	X	9.0	Day	\$110.00	\$990.00		\$990.00
	Spectrum Analytical, Inc.	TPH 8100M	PVC Wells	X	120.0	V Ft.	\$8.00	\$960.00		\$960.00	
			Mob/Demob/Steam	X	1.0	LS	\$100.00	\$100.00		\$100.00	
			Task Total				\$2,921.00	\$750.00	\$121.00	\$2,050.00	\$0.00
3.0 Groundwater Sampling, Drinking Water Sampling and Site Survey	Corp. Environ. Advisors	Environmental Tech. Expenses	E	5.0	Hrs.	\$45.00	\$225.00	\$225.00			
			E	5.0	Hrs.	\$45.00	\$225.00	\$225.00			
			E	1.0	Ea.	\$150.00	\$150.00	\$150.00			
	Spectrum Analytical, Inc.	Method 8020	L	4.0	Ea.	\$70.00	\$280.00		\$280.00		
			L	4.0	Ea.	\$60.50	\$242.00		\$242.00		
Task Total				\$1,122.00	\$600.00	\$522.00	\$0.00	\$0.00			
4.0 Record Review and Sensitive Receptor Survey	Corp. Environ. Advisors	Project Geologist	E	5.0	Hrs.	\$65.00	\$325.00	\$325.00			
			Task Total				\$325.00	\$325.00	\$0.00	\$0.00	\$0.00
5.0 Site Investigation Report	Corp. Environ. Advisors	Project Manager	E	1.0	Hrs.	\$75.00	\$75.00	\$75.00			
			E	10.0	Hrs.	\$65.00	\$650.00	\$650.00			
			E	3.5	Hrs.	\$45.00	\$157.50	\$157.50			
			E	1.0	Ea.	\$100.00	\$100.00	\$100.00			
Task Total				\$982.50	\$982.50	\$0.00	\$0.00	\$0.00			
TOTAL							\$5,545.50	\$2,852.50	\$643.00	\$2,050.00	\$0.00

