ROSS ENVIRONMENTAL ASSOCIATES, INC.

Hydrogeology, Water Quality, GIS Planning,
Contaminant Fate & Transport, Remediation,
& Regulatory Compliance and Permitting

30 June 2008

Mr. John Clegg
729 Corley Road
Wolcott, Vermont 05680

RE: Spill Report – Fuel Oil Spill Clegg Residence – Wolcott, VT
Claim # 403311430

Dear Mr. Clegg:

On 13 May 2008, Ross Environmental Associates, Inc. (***R.E.A.***) was notified of a No. 2 fuel oil spill at your residence located in Wolcott, Vermont (**Figure 1 & 2**, Attachment A). Based on available information, it appears that the fuel spill occurred in January 2008 and is related to an over-fill during a routine product delivery by County Oil of Morrisville, Vermont. At that time, it was estimated that approximately 50 gallons of No. 2 fuel oil may have been released through over-pressurization of fitting on the AST. According to Mr. Cleg, the homeowner, County Oil coordinated an initial cleanup utilizing a Speedy Dry© absorbent floor sweeping compound. Upon inspection of the basement by ***R.E.A.*** personnel on 14 May 2008, obvious olfactory and visual evidence of petroleum staining were noted in the vicinity of the aboveground storage tank system. ***R.E.A.*** personnel also inspected the floor drain, which is reportedly connected to the foundation drain and daylights adjacent to an unnamed tributary of the Lamoille River. Petroleum staining and odors were noted at the outfall of the floor drain system. On 14 May 2008, ***R.E.A.*** personnel installed a temporary carbon air treatment system. Photographs from the initial site visit and remediation activities are included in Attachment B.

Remediation Activities

On 23 May 2008, ***R.E.A.*** personnel were onsite to clean up residual contamination related to the petroleum release on the concrete basement floor. Prior to cleaning, PID readings of the ambient air in the basement ranged from 4.6 to 5.8 ppm. PID readings from within the floor joint "crack" ranged from 132 to 658 ppm The concrete basement floor was washed and brush scrubbed with Grease Magnet© industrial strength degreaser. Residual dirt, dust and absorbent compound were contained and removed with a shop vac. Following the cleaning of the concrete floor a vapor barrier was set up utilizing 6 milliliter poly and sealing the impacted area off from the floor to the ceiling. The temporary carbon air treatment system remained in use.

Petroleum Contaminated Soils

On 23 May 2008, ***R.E.A.*** personnel noted strong petroleum odors in the vicinity of the floor/foundation drain outfall and removed approximately ½ cubic yard of petroleum contaminated soils (PCS). The PCS was excavated by hand and placed into two 55-gallon DOT drums. PID readings on soils directly below the curtain drain outfall ranged from 2.7 to 770 ppm. A summary of the PID readings and approximate sample locations are shown on Table 1.

Soils in the vicinity of the drain outfall were screened for the possible presence of volatile organic compounds (VOCs) with a RAE miniRAE 2000 photo-ionization detector (PID). The PID was calibrated on the day of the UST closure assessment with isobutylene gas to a benzene reference. Soil samples were placed in resealable bags, which were then sealed and agitated. Headspace in the bag was then screened for the possible presence of VOCs with the PID.

(OVER)

Follow-up Inspection

On 9 June 2008, ***R.E.A.*** personnel were onsite to screen the basement and upstairs of the residence. At the time of the inspection all photo-ionization detector (PID) readings were 0.0 parts per million (ppm) throughout the basement and 1st and 2nd floors. Light petroleum odors were noted in the basement only. The carbon air treatment system was removed.

On 17 June 2008, ***R.E.A.*** personnel were onsite to meet with the insurance representative and screened the indoor air of the residence. At the time of the inspection all photo-ionization detector (PID) readings were 0.0 parts per million (ppm) throughout the basement and 1st and 2nd floors. Light petroleum odors were noted in the basement only.

Supply Well Information and Sampling

On 14 May 2008, ***R.E.A.*** personnel collected a supply well sample due to the close proximity of the wellhead to the petroleum release area. No volatile organic compounds were detected in the sample collected from the onsite supply well. The sample was collected from the kitchen sink after allowing the water to run for approximately 10 minutes. The sample was analyzed by ENDYNE, Inc. of Williston, Vermont for the possible presence of volatile organic compounds in accordance with EPA Method 524.2. Copies of the laboratory results are included in Attachment C.

Conclusions and Recommendations

The thorough cleaning of the basement floor combined with the carbon air treatment system has reduced the immediate threat to the indoor environment. Based on available information, petroleum contamination appears to be limited to the immediate vicinity of the floor/foundation drain outfall. Due to the possible presence of free product in groundwater beneath the concrete floor, ***R.E.A.*** recommends the following:

- An Initial Site Investigation (ISI) should be completed to characterize site conditions and determine if petroleum has impacted the groundwater beneath the site. The ISI should include the installation of soil borings along the building foundation with the possible installation of monitoring wells, appropriate sampling, and further evaluation of possible impacts to nearby sensitive receptors.
- Additional petroleum contaminated soil (PCS) in the immediate vicinity of the floor/foundation drain outfall should be excavated and transported off-site for disposal by thermal destruction.
- An assessment of possible impacts to the unnamed tributary of the Lamoille River including the collection of sediment and/or surface water samples for laboratory analysis should be completed as part of the ISI.
- Following the application of the soil boring program, installation of a soil vapor extraction system utilizing the existing floor/foundation drain infrastructure should be evaluated along with soil excavation around the foundation of the building.
- Application of a solvent based concrete sealer to the basement floor

Please call me if you have any questions or concerns regarding the findings or recommendations.

Sincerely,

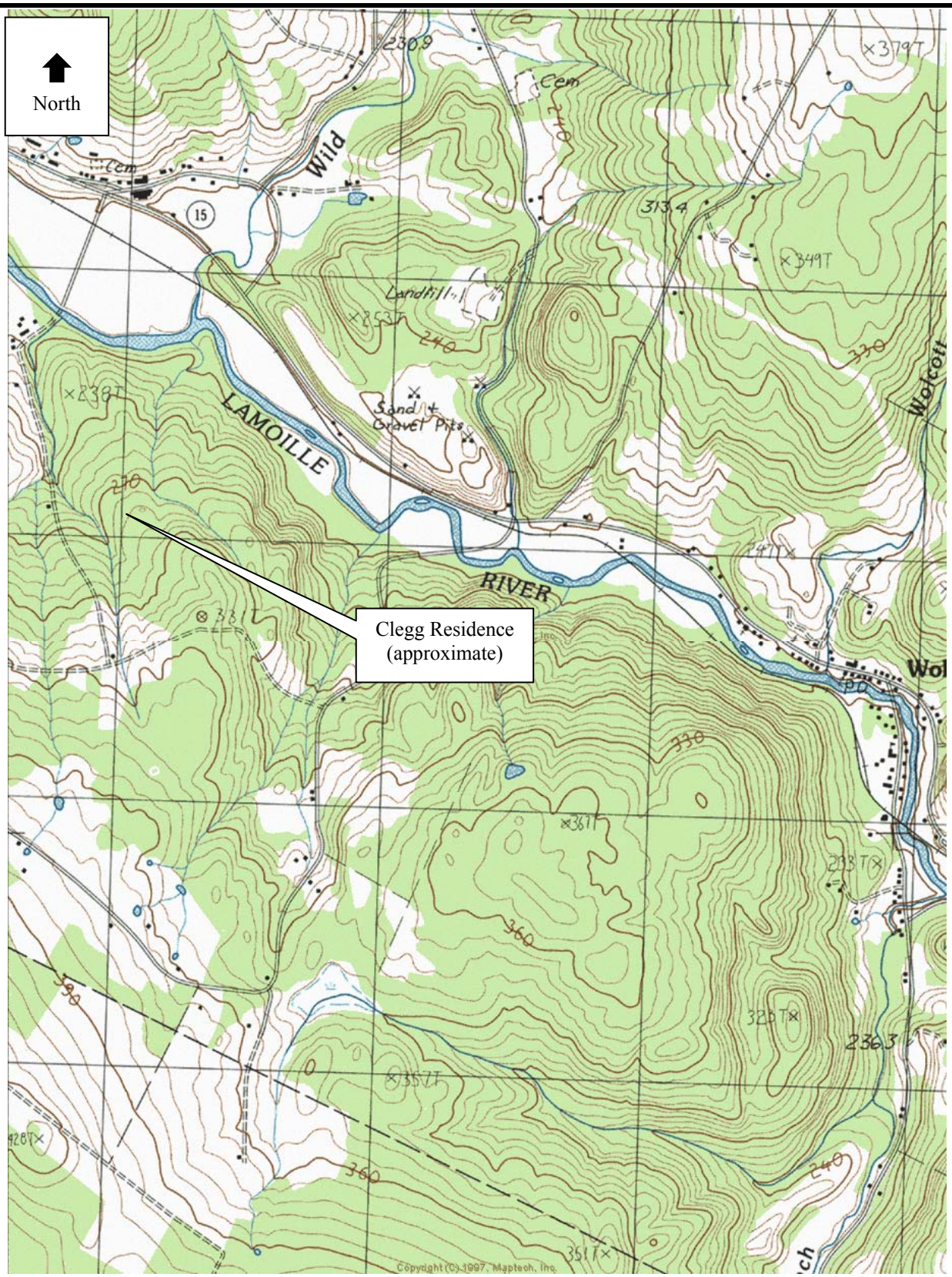
Ross Environmental Associates, Inc.

James A. Rose
Environmental Scientist

cc. Mr. Emile Willett - Hickok & Boardman of Stowe, Inc.
Ms. Emily Harris - Peerless Insurance
Mr. Marc Roy - VT DEC
Ms. Jill Crosbie - Redhawk Environmental
Mr. John Diego - Leggette, Brashears & Graham, Inc.

Rjr/ref28050R01

ATTACHMENT A



Approximate Scale: 1 inch = 1,200 feet

Site Coordinates: 44° 33' 17.55" N, 72° 29' 80.60" W

Source: USGS 1986. Wolcott Quadrangle, VT.
Topographic map (7.5 minute series).
Provisional Edition 1986. Maptech, Inc. 1998.
R.E.A. Project No. 28-050

Figure 1
Site Location Map
Clegg Residence
Wolcott, Vermont

0 500 1,000 2,000 Feet

1 inch equals 1,000 feet

Site Coordinates: 44º 33' 17.55" N 72 º 29' 80.60" W

Aerial Photo: NAIP 2003

Figure 2
Aerial Photo
Clegg Residence
Wolcott, Vermont

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ATTACHMENT B

Photograph #1 – Site Overview - View to North

Photograph #2 – View of Portion of Spill Area by AST, Initial Response - View to North

Photograph #3 – View of sandy soils below concrete, after removal - view to south

Photograph #4 – View of concrete stockpile, after removal – view to west

Photograph #5 – View of piping trenches prior to stone backfill - view to south

Photograph #6 – View of SVE piping, trenches and sumps - view to north

Photograph #7 – View of fuel oil and groundwater in trench and sump

Photograph #8 – View of piping and sumps after stone backfill, prior to concrete finish - view to south

Photograph #9 – View of piping and sumps after stone backfill, prior to concrete finish - view to north

Photograph #10 – View of poured concrete Floor – view to south

Photograph #11 -- View of poured concrete floor – view to north

Photograph #12 – View of SVE piping attached to horizontal trench piping stickup – view to northwest

TABLE 1

Summary of PID Readings

Cleg Residence
729 Corley Road
Wolcott, Vermont

Monitoring Date: 23 May 2008

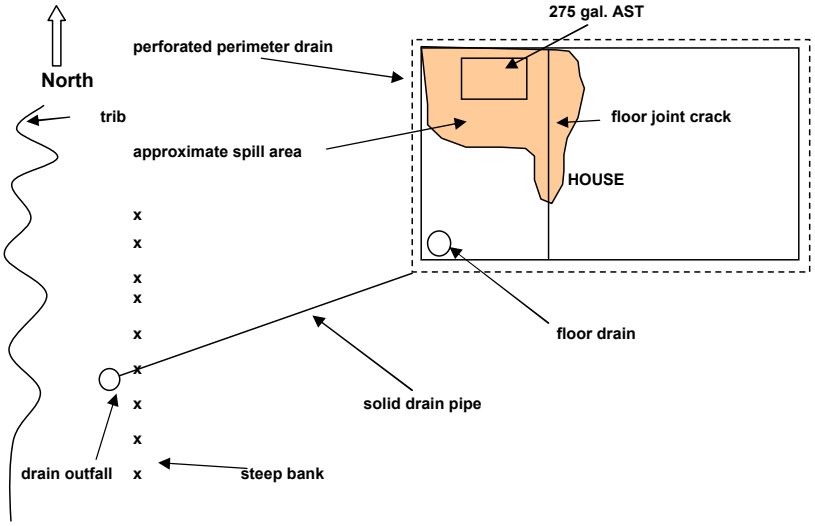
Sample ID	Depth (Feet,bg)	PID Reading (ppmv)	Location/comments
S-1	1.0	260.0	3.0' below daylight
S-2	1.0	4.4	5.0' below daylight
S-3	1.0	347.0	2.0' below daylight
S-4	1.5	47.2	3.0' below daylight
S-5	1.0	295.0	3.0' below daylight
S-6	0.5	770.0	side of south bank
S-7	1.0	8.0	side of south bank
S-8	2.0	257.0	side of south bank
S-9	2.5	2.7	side of south bank
AVERAGE		**221.3**	

Indoor air PID Readings

Location	Date	PID Reading (ppmv)	comments
1st floor	5/14/2008	0.9	before floor cleaning
basement	5/14/2008	3.2	before floor cleaning
floor crack	5/14/2008	28-62	before floor cleaning
1st floor	5/21/2008	2.2	before floor cleaning
2nd floor	5/21/2008	2.2	before floor cleaning
basment	5/21/2008	2.5	before floor cleaning
1st floor	5/23/2008	2.7	before floor cleaning
2nd floor	5/23/2008	3.4	before floor cleaning
basment	5/23/2008	5.8	before floor cleaning
floor crack N.	5/23/2008	658-717	before floor cleaning
floor crack S.	5/23/2008	132.0	after floor cleaning
1st floor	6/9/2008	0.0	after floor cleaning
2nd floor	6/9/2008	0.0	after floor cleaning
basment	6/9/2008	0.0	lite odors, after floor cleaning
floor crack N.	6/9/2008	492.0	after floor cleaning
floor crack S.	6/9/2008	0.0	after floor cleaning
1st floor	6/17/2008	0.0	after floor cleaning
2nd floor	6/17/2008	0.0	after floor cleaning
basment	6/17/2008	0.0	lite odors, after floor cleaning
floor crack N.	6/17/2008	43.8-304	after floor cleaning
floor crack S.	6/17/2008	1.4	after floor cleaning

PID = photoionization detector, Phochek

ppmv = parts per million volume, bg = below grade



Not to Scale. All locations Approximate.

ATTACHMENT C

ENDYNE Inc.
Environmental Laboratories

Laboratory Report

Ross Environmental Associates	090219
PO Box 1533	
Stowe, VT 05672	
Atten: Bob Ross	

PROJECT: CIEG
WORK ORDER: **0805-06616**
DATE RECEIVED: May 16, 2008
DATE REPORTED: May 21, 2008
SAMPLER: JR

Enclosed please find the results of the analyses performed for the samples referenced on the attached chain of custody located at the end of this report.

The column labeled Lab/Tech in the accompanying report denotes the laboratory facility where the testing was performed and the technician who conducted the assay. A "W" designates the Williston, VT lab under NELAC certification ELAP 11263; "R" designates the Randolph, VT facility under certification NH 2037 and "N" the Plattsburgh, NY lab under certification ELAP 11892. "Sub" indicates the testing was performed by a subcontracted laboratory. The accreditation status of the subcontracted lab is referenced in the corresponding NELAC and Qual fields.

This NELAC column also denotes the accreditation status of each laboratory for each reported parameter. "A" indicates the referenced laboratory is NELAC accredited for the parameter reported. "N" indicates the laboratory is not accredited. "U" indicates that NELAC does not offer accreditation for that parameter in that specific matrix. Test results denoted with an "A" meet all National Environmental Laboratory Accreditation Program requirements except where denoted by pertinent data qualifiers. Test results are representative of the samples as they were received at the laboratory.

Endyne, Inc. warrants, to the best of its knowledge and belief, the accuracy of the analytical test results contained in this report, but makes no other warranty, expressed or implied, especially no warranties of merchantability or fitness for a particular purpose.

Reviewed by:

Harry B. Locker, Ph.D.
Laboratory Director

Laboratory Report

CLIENT: Ross Environmental Associates
PROJECT: CIEG
REPORT DATE: 5/21/2008

WORK ORDER: **0805-06616**
DATE RECEIVED: 05/16/2008

TEST METHOD: EPA 524.2

001 Site: Clg Supply Date Sampled: 5/14/08 15:50 Analysis Date: 5/19/08 W DAW

Parameter	Result	Unit	Nelac	Qual	Parameter	Result	Unit	Nelac	Qual
VOC Potable Water					Dichlorodifluoromethane	< 0.5	ug/L	A	
Chloromethane	< 0.5	ug/L	A		Vinyl chloride	< 0.5	ug/L	A	
Bromomethane	< 0.5	ug/L	A		Chloroethane	< 0.5	ug/L	A	
Trichlorofluoromethane	< 0.5	ug/L	A		1,1-Dichloroethene	< 0.5	ug/L	A	
Methylene chloride	< 1.0	ug/L	A		Methyl-t-butyl ether (MTBE)	< 0.5	ug/L	A	
trans-1,2-Dichloroethene	< 0.5	ug/L	A		1,1-Dichloroethane	< 0.5	ug/L	A	
2,2-Dichloropropane	< 0.5	ug/L	A		cis-1,2-Dichloroethene	< 0.5	ug/L	A	
Bromochloromethane	< 0.5	ug/L	A		Chloroform	< 0.5	ug/L	A	
1,1,1-Trichloroethane	< 0.5	ug/L	A		Carbon tetrachloride	< 0.5	ug/L	A	
1,1-Dichloropropene	< 0.5	ug/L	A		Benzene	< 0.5	ug/L	A	
1,2-Dichloroethane	< 0.5	ug/L	A		Trichloroethene	< 0.5	ug/L	A	
1,2-Dichloropropane	< 0.5	ug/L	A		Dibromomethane	< 0.5	ug/L	A	
Bromodichloromethane	< 0.5	ug/L	A		cis-1,3-Dichloropropene	< 0.5	ug/L	A	
Toluene	< 0.5	ug/L	A		trans-1,3-Dichloropropene	< 0.5	ug/L	A	
1,1,2-Trichloroethane	< 0.5	ug/L	A		Tetrachloroethene	< 0.5	ug/L	A	
1,3-Dichloropropane	< 0.5	ug/L	A		Dibromochloromethane	< 0.5	ug/L	A	
Chlorobenzene	< 0.5	ug/L	A		Ethylbenzene	< 0.5	ug/L	A	
1,1,1,2-Tetrachloroethane	< 0.5	ug/L	A		Xylenes, Total	< 1.0	ug/L	A	
Styrene	< 0.5	ug/L	A		Bromoform	< 0.5	ug/L	A	
Isopropylbenzene	< 0.5	ug/L	A		1,1,2,2-Tetrachloroethane	< 0.5	ug/L	A	
Bromobenzene	< 0.5	ug/L	A		n-Propylbenzene	< 0.5	ug/L	A	
1,2,3-Trichloropropane	< 0.5	ug/L	A		2-Chlorotoluene	< 0.5	ug/L	A	
1,3,5-Trimethylbenzene	< 0.5	ug/L	A		4-Chlorotoluene	< 0.5	ug/L	A	
t-Butylbenzene	< 0.5	ug/L	A		1,2,4-Trimethylbenzene	< 0.5	ug/L	A	
s-Butylbenzene	< 0.5	ug/L	A		4-Isopropyltoluene	< 0.5	ug/L	A	
1,3-Dichlorobenzene	< 0.5	ug/L	A		1,4-Dichlorobenzene	< 0.5	ug/L	A	
n-Butylbenzene	< 0.5	ug/L	A		1,2-Dichlorobenzene	< 0.5	ug/L	A	
1,2,4-Trichlorobenzene	< 0.5	ug/L	A		Hexachlorobutadiene	< 0.5	ug/L	A	
Naphthalene	< 0.5	ug/L	U		1,2,3-Trichlorobenzene	< 0.5	ug/L	A	
Surr. 1 (4-Bromofluorobenzene)	120	%	A		Surr. 2 (1,2-Dichlorobenzene d4)	113	%	A	