



February 26, 1998

FEB 27 9 55 AM '98

Mr. John Hovey  
President  
North Bennington Industrial Building  
400 Pathway Manor  
Wyckoff, New Jersey 07484-0784

Re: Summary Report of Confirmatory Ground Water Quality Sampling - Northern Lights Cable Facility, North Bennington, Vermont

Dear Mr. Hovey:

Lincoln Applied Geology, Inc. (LAG) recently completed the confirmatory ground water quality sampling at the Northern Lights Cable, Inc. facility (NLC) in North Bennington, Vermont. This work was recommended by LAG and supported by the Vermont Department of Environmental Conservation (VDEC) due to the detection of elevated levels of phthalates and priority pollutant total metals (PPTMs) in ground water sampled in October 1997.

Ground water quality samples collected in January 1998 from the 7 on-site monitoring wells were analyzed for phthalates, and both PPTMs and priority pollutant dissolved metals (PPDMs). The January analytical data indicates that there were no phthalates or PPDMs detected in any of the wells, and only very low levels of total copper, lead, and zinc from 3 of the 7 wells. These data suggest that the elevated levels of phthalates (plasticizers) in October 1997 may have been caused by on-site or regional use of plastics, drilling and PVC well installation activities, or laboratory contamination. The source of the total metals detected may be from particulate metals inadvertently ground off or broken off drilling augers and associated equipment as a result of the intense drilling activities required to penetrate subsurface boulders and gravels while installing monitoring wells.

As a result of these findings and those previously presented in the LAG's September 18, 1997 Environmental Site Assessment (Phase I) report and December 30, 1997 Phase II report, we note that there is no basis for listing NLC property as a hazardous waste site by the VDEC Sites Management Section (SMS). Further, we recommend that no additional investigation, sampling, or monitoring be performed.

Enclosed for your information and use while reviewing this summary report are the following tables, figures, and appendices:

- Table 1** Ground Water Level Data;
- Table 2** Well Headspace w PID Assays;

<b>Table 3</b>	Semi-Volatile Organic Compounds in Ground Water;
<b>Table 4</b>	Pesticides and PCBs in Ground Water;
<b>Table 5</b>	Priority Pollutant Total Metals in Ground Water;
<b>Table 6</b>	Priority Pollutant Dissolved Metals in Ground Water;
<b>Figure 1</b>	General Location Map;
<b>Figure 2</b>	Surrounding Land Use;
<b>Figure 3</b>	Detailed Site Map;
<b>Figure 4</b>	Ground Water Contour Map for January 13, 1998; and
<b>Appendix A</b>	Ground Water Quality Laboratory Reports for January 13, 1998.

### Site Description and Facility Operations

The Northern Lights Cable, Inc. (NLC) site is located within the Paran Creek valley, approximately 1/4 mile south of the center of downtown North Bennington, as shown on **Figure 1**. The site and surrounding land uses are shown on **Figure 2**. The NLC commercial facility building occupies the northern portion of the approximately 10 acre property and lies at an elevation of approximately 580 feet above mean sea level on the west side of Paran Creek and Route 67A (Water Street). A second building referred to as the "metal building" is located immediately west of the southwest corner of the NLC building. Containing about 8,100 square feet, the metal building is occupied by a tenant who operates the PRO-FAB machine shop. Access to this building has not been granted by the tenant. **Figure 3** is a detailed site map showing the two buildings, locations of soil borings, storm sewers, and ground water monitoring wells.

The property was initially designed and developed to operate as a furniture finishing facility and has been reconstructed to operate as a fiber optic cable (NLC) and plastics manufacturing facility (Furon). The facility has not operated as a working furniture finishing plant since approximately 1977, when the facility was sold by Green Mountain Furniture (formerly H.T. Cushman Company) to Bennington County Industrial Company (BCIC). The property is currently used for manufacturing fiber optic cable (NLC) and high performance insulation products (Furon).

### Ground Water Levels and Well Headspace Assays

A complete ground water level and photoionization detector (PID) monitoring event was conducted on January 13, 1998. Depth to ground water in each of the 7 wells was measured relative to its top of casing (TOC), and the well headspace vapor level was assayed by PID. Ground water elevation data is included along with previous data in **Table 1**. The January 13th data shows that ground water levels rose in all wells, with ranges from 1.72 feet to greater than 4.30 feet in MW-7 and MW-4,



respectively, as compared to the November 1997 data.

The January data was used to generate the ground water contour map presented as **Figure 4** which shows that the overall ground water flow direction is toward the east-southeast, from higher site elevations along the west side of the NLC property toward Paran Creek on the east side of Route 67A. The ground water gradient between MW-4 (upgradient) and MW-7 (downgradient) is 0.031 feet/foot, an increase from 0.017 feet/foot in November 1997.

The NLC site, located on the Paran Creek Valley bottom and surrounded by elevated lands to the east and west, is in a local and regional ground water discharge zone. Ground water associated with the bedrock aquifer discharges upward into the overlying unconsolidated shallow sand and gravel aquifer. Ground water in the shallow aquifer flows toward and discharges into Paran Creek as shown in **Figure 5**. This regional ground water discharge hydrogeologic setting should naturally prevent contaminants present in the shallow aquifer from entering the underlying bedrock aquifer.

Well headspace PID data included as **Table 2** shows that PID levels remained at background (BG) in all wells except MW-1, which assayed 0.2 parts per million (ppm). Only MW-1, adjacent to the former No. 6 fuel oil UST, has consistently contained low detectable PID levels ranging from 0.2 to 18.2 ppm. The lack of detectable PID readings from downgradient well MW-6 indicates that the low level residual fuel oil related soil and vapor phase contamination is limited to the former UST area, and has not migrated toward the east since prior to 1990.

### Water Quality Sampling

Water quality samples were collected from all seven monitoring wells on January 13, 1998. These wells were properly purged with a peristaltic pump and dedicated tubing, resulting in complete dewatering and the removal of a minimum of 3 well volumes. After the wells were allowed to recover, samples were collected using dedicated disposable polyethylene bailers.

All water samples were analyzed by the Endyne, Inc. laboratory of Williston, Vermont. Samples from MW-1 through 7, trip blank, dedicated tubing blank, and the disposable bailer blank were analyzed for phthalates and other semi-VOCs [including organic pesticides and polychlorinated biphenyls (PCBs)] via EPA Method 8270. Samples from MW-1 through 7 were also analyzed for PPTMs and PPDMs via EPA Methods 200.7 and 245.1, and SM Method 3113B. The laboratory reports are included as **Appendix A**. Summaries of the ground water quality data are provided in **Tables 3, 4, 5, and 6**.



The water quality results were compared to five regulatory standards which include: the March 1996 Vermont Health Advisory Reference Guide containing Vermont Health Advisories (VHAs) and the EPA's Maximum Contaminant Levels (MCLs); the November 15, 1998 Vermont Ground Water Protection Rule and Strategy containing Primary Ground Water Quality Standards (GWQS) and Preventive Action Levels (PALs); and the EPA Region III Risk-Based Screening (RBSL) for Tap Water (TW). All these regulatory levels are presented in **Tables 3,4,5, and 6** in concentrations of parts per billion (ppb). The concentrations of compounds or elements detected at the NLC site are compared to the most stringent of these five regulatory standards.

### Semi-Volatile Organic Compounds

Water quality results from the October 14 and 15, 1997 (semi-VOC) base neutral acid (BNA) extractable compounds analyses are summarized and presented in **Table 3**, pages 1 and 2. Wells MW-1 through 7 and the unused septic tank were sampled. A total of 4 compounds (out of 56 compounds analyzed for) were detected in the water samples. No polynuclear aromatic hydrocarbons (PAHs) were detected, but one acid extractable compound (phenol) and 3 base neutral compounds [1,4-dichlorobenzene, di-n-butylphthalate, and bis(2-ethylhexyl)phthalate] were detected. There were exceedences of two TW RBSLs and one PAL.

Water quality results from the January 13, 1998 semi-VOC BNA analyses are summarized and presented in **Table 3**, pages 3 and 4. Only wells MW-1 through 7 were sampled. There were no detections of any acid extractable compounds, base neutral compounds, or PAHs in these wells, the trip blank, and the tubing and bailer blanks.

These data suggest that the source of the bis(2-ethylhexyl)phthalate detected in MW-1, 3, 5, 6, 7 and the unused septic tank in October 1997 may be the result of : contamination from plastics use on-site by NLC or Furon; contamination from plastics use at other manufacturing facilities in the Paran Creek Valley; cross-contamination from plastics use in the Envirotech Research (ER) laboratory; or residual contaminants from plastic PVC monitoring wells and associated well installation equipment. The absence of detectable phthalates in the tubing blank and bailer blank in January 1998 indicate that the phthalates are not associated with the sampling equipment. Phthalate absence in ground water from MW-1 through 7 in January 1998 may be caused by: flushing of residual phthalates from the PVC wells over time due to purging and/or natural ground water flow; or its overall absence within the shallow ground water aquifer (sample contamination by laboratory phthalates during October 1997).



#### Pesticides and PCBs in Ground Water

Water quality results for pesticides and PCBs during October 1997 are summarized and presented in **Table 4**, page 1, and during January 1998 in **Table 4**, page 2. The October 1997 data indicated that two pesticide compounds (out of 18 compounds analyzed for) were detected in all the water samples. The pesticides 4,4'-DDE and 4,4'-DDT were detected (at extremely low levels) in MW-7 at 0.02 ppb and 0.06 ppb, respectively. These levels are significantly lower than the TW RBSLs of 200 ppb.

The January 1998 sampling event did not detect any pesticide compounds. Both the October 1997 and January 1998 sampling events did not detect any PCBs. Since only very low levels of two pesticides were present and there were no detections of PCBs during the October event, LAG did not request pesticides and PCBs analyses for the January event. However, the EPA Method 8270 semi-VOCs analyses included pesticides and PCBs. The two data sets indicate that pesticides and PCBs are not a contaminant concern at the NLC property.

#### Priority Pollutant Total Metals in Ground Water

The October 1997 and January 1998 water quality summary for priority pollutant total metals (PPTMs) are presented in **Table 5**, pages 1 and 2, respectively. The 13 PPTMs analyzed for include antimony, arsenic, beryllium, cadmium, chromium, copper, lead, mercury, nickel, selenium, silver, thallium, and zinc. October 1997 water quality data did not detect antimony, selenium, silver, and thallium in any of the samples. Arsenic, beryllium, cadmium, chromium, copper, lead, mercury, nickel, and zinc were detected at varying concentrations. There were exceedences of the TW RBSLs, VHA, GWQS, and PALs for 5 of the detected metals, and no exceedences for 7 of the detected metals.

The January 1998 water quality data indicates that the PPTMs antimony, arsenic, beryllium, cadmium, chromium, mercury, nickel, selenium, silver, and thallium were not detected. Only low levels of copper (MW-1 and 2), lead (MW-7), and zinc (MW-1) were detected. However, of these three metal detections there were no exceedences of the TW RBSLs, VHAs, GWQS, or PALs.

#### Priority Pollutant Dissolved Metals in Ground Water

The January 1998 water quality summary for priority pollutant dissolved metals (PPDMs) are presented in **Table 6**. The 13 PPDMs analyzed for include antimony, arsenic, beryllium, cadmium, chromium, copper, lead, mercury, nickel, selenium, silver, thallium, and zinc. There were no detections of any of the PPDMs in the 7 ground



water monitoring wells. This data indicates that the source of the total metals detected in January 1998 are particulates and not dissolved.

#### Source of Metals in Ground Water

As stated in LAG's December 1997 Phase II Summary Report, the source of the PPTMs in ground water was not known. We suggested that they could be naturally occurring elements within the unconsolidated fluvial and glacial sediments, soils, underlying bedrock, and shallow and bedrock aquifers in the region. Since the recent water quality data showed a significant reduction in the PPTMs detected and their concentrations, we reevaluated data collected from the site to possibly determine their source.

The data reevaluation indicates that the most plausible explanation for the widespread presence of PPTMs in October 1997 and their relative absence in January 1998 is that the PPTMs in ground water originated as particulate metals that were physically ground down or broken off the steel hollow stem augers, carbide auger teeth, split spoon samplers, ODEX casing, rotary drill bits, and air hammer during the well drilling processes. Subsurface geologic materials encountered on-site are dominantly quartz-rich gravel and cobbles with some boulders. Very difficult drilling conditions were encountered at MW-3, 4, 5, 6, and 7. Many auger teeth were ground off or broken, and the auger cutting heads and flights sustained considerable damage. Several air hammer carbide diamond "buttons" were also ground down or broken.

After the borehole was advanced to the desired (or "refusal") depth, the PVC ground water monitoring wells were installed in the borehole, the sand pack and bentonite seal placed, and then the wells were properly developed to remove particulates using a peristaltic pump. Ground water in MW-1, 2, 3, 4, and 7 developed until it was clear, and in MW-5 and 6 it remained silty. The initial sampling event occurred on October 14th for MW-2, 3, 4, and 5, and on October 15th for MW-1, 6, and 7. This allowed a ground water equilibration period of 13 days between when MW-1, 2, 3, 4, and 5 were drilled, installed and developed, and when they were purged and sampled. MW-6 and 7 were drilled, installed, and developed on the same day that they were sampled. MW-6 and 7 were not allowed to equilibrate for a two week period prior to sampling due to the immediate urgency with which ENVIRON required the ground water quality data.

LAG believes that the intense and difficult drilling activities caused release of particulate metals from the drilling equipment into the borehole, thereby "contaminating" the surrounding ground water with elevated levels of PPTMs. A combination of the amount of metals released during drilling, the limited volume of ground water removed during well development, and the short ground water



equilibration periods prior to sampling resulted in the highly variable PPTMs levels in ground water across the site in October 1997.

The January 1998 sampling event was conducted following a longer (3 month) ground water equilibration period, natural fluctuations of ground water levels, and sufficient ground water flow to remove the limited amount of PPTMs surrounding the monitoring wells. As a result, the January PPTM results and PPDM results indicated that there were essentially no detectable levels of PPTMs and no detectable levels of PPDMs. Had the ground water in October 1997 been analyzed for PPDMs, it is likely that there would have been low to no detectable levels since the metals source was probably the drilling equipment.

### Conclusions

Based upon the findings of this Confirmatory Ground Water Quality Sampling Summary Report, including LAG's September 1997 Phase I and December 1997 Phase II Reports, the following conclusions are presented.

- 1) Elevated levels of phthalates in ground water detected in October 1997 may have been caused by the use of plastic materials in the manufacturing processes in NLC and Furon, from earlier plastic uses on-site, drilling and PVC well installation activities, laboratory cross-contamination, or are part of a more regional phthalate presence in the Paran Creek valley. The January 1998 ground water sampling revealed that no phthalates were detected.
- 2) Although ground water from MW-7 contained very low levels of 4,4'-DDE and 4,4'-DDT in October 1997, no pesticides were detected in ground water from the January 1998 sampling event. PCBs were not detected in ground water at the NLC site during October 1997 and January 1998.
- 3) PPTMs detected in ground water in October 1997 exceeded regulatory standards for arsenic, beryllium, chromium, lead, and nickel in some or all of the wells and the unused septic tank. January 1998 resampling for PPTMs indicated that only very low levels of copper, lead, and zinc were detected in 3 of the 7 wells, and there were no regulatory exceedences. Also, no PPDMs were detected in ground water sampled in January. Although the source of the PPTMs is not known, LAG believes that the data indicates that as a result of the difficult drilling conditions, pieces of drilling bits, augers, and other steel equipment was ground off or broken off in the boreholes, resulting in the varied but generally elevated levels of PPTMs detected in October 1997. Subsequently, ground water level fluctuations and flow through the wells and boreholes during the next 3 months removed the residual PPTMs, resulting in



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the significant PPTM decline observed in January 1998.

### Recommendations

Based upon previous recommendations and the above mentioned conclusions, the following recommendations are made:

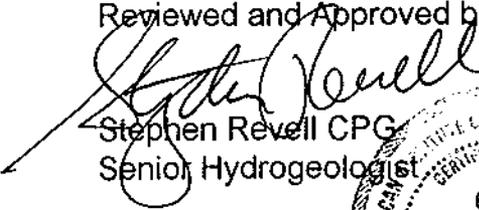
- 1) Excavate and remove the unused septic tank, properly dispose of it, and fill the excavation hole with backfill to grade. The tank contents should be pumped out and properly disposed.
- 2) There is no basis for listing the NLC property as a VDEC Active Hazardous Waste Site. Both the extensive soil and ground water quality data collected since October 1997 do not support this site designation.
- 3) No further soil and ground water sampling investigations are warranted.

It has been a pleasure to work with NLC, Inc. and conduct on their behalf this confirmatory ground water quality sampling and reporting. If you have any questions or comments regarding this report, please call me or Steve Revell, Senior Hydrogeologist.

Sincerely,  
Lincoln Applied Geology, Inc.

  
William D. Norland  
Hydrogeologist

Reviewed and Approved by:

  
Stephen Revell CPG  
Senior Hydrogeologist



cc: Marshall Witten, Esq.  
John Schmeltzer, VDEC

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Lincoln Applied Geology, Inc.  
Environmental Consultants

Revell Drive • Lincoln, Vermont 05443 • (802) 453-4384 • FAX (802) 453-5399

Ground Water Elevation (feet)

Data Point	TOC	10/01/97	10/15/97	11/12/97	01/13/98			
MW-1	100.00	87.48	91.42	91.75	96.05			
MW-2	96.68	90.42	90.38	90.88	92.48			
MW-3	101.99	90.38	90.35	90.84	92.37			
MW-4	97.96	93.33	92.81	93.66	97.96			
MW-5	101.91	90.40	90.43	90.86	92.61			
MW-6	100.13		89.90	90.41	94.01			
MW-7	102.11			90.96	92.68			

Notes:  
1 - Elevation datum assumed  
2 - Reference elevation is elevation of top of PVC well casing  
Light Grey Cell = DRY  
Dark Grey Cell = Inaccessible

**Photoionization Results (PID - ppm)**

Data Point	10/01/97	10/15/97	11/12/97	01/13/98				
MW-1	7.2	18.2	1.4	0.2				
MW-2	BG	2.6	BG	BG				
MW-3	BG	0.8	BG	BG				
MW-4	BG	0.4	BG	BG				
MW-5	24	2.0	BG	BG				
MW-6		BG	BG	BG				
MW-7			BG	BG				

Notes:  
BG - Background  
SL - Saturated Lamp

Project: Northern Lights Cable, Inc.  
 Location: N. Bennington, VT

Semi-Volatile Organic  
 Compounds in Ground Water

Semi-Volatile Organics (ug/L = ppb)

Parameter	EPA Region III RBSL Tap Water (ug/L) ppb	VHA (ppb)	MCL (ppb)	Vermont		LAG I.D.	MW-1	MW-2	MW-3	MW-4	MW-5	MW-6	MW-7	Unused Septic Tank									
				Primary GWQ Standards (ppb)	Prev. Action Limit (ppb)										ENVIRON I.D.	MW01	MW02	MW03	MW04	MW05	MW06	MW07	ST01
																GW01							
						Date	10/15/97	10/14/97	10/14/97	10/14/97	10/14/97	10/15/97	10/15/97	10/14/97									
Phenol	22,000			4,000	2,000		<1.1	<1.1	<1.1	<1.1	<1.2	<1.1	<1.1	49									
2-Chlorophenol	180						<2.1	<2.1	<2.2	<2.2	<2.3	<2.2	<2.1	<12									
2-Nitrophenol	NL						<3.1	<3.1	<3.1	<3.1	<3.3	<3.2	<3.1	<17									
2,4-Dimethylphenol	730						<2.8	<2.8	<2.8	<2.8	<3.0	<2.8	<2.8	<16									
2,4-Dichlorophenol	110						<2.9	<2.9	<3.0	<3.0	<3.2	<3.0	<2.9	<17									
4-Chloro-3-methylphenol	NL						<2.8	<2.8	<2.9	<2.9	<3.0	<2.9	<2.8	<16									
2,4,6-Trichlorophenol	6.1						<3.0	<3.0	<3.1	<3.1	<3.2	<3.1	<3.0	<17									
2,4-Dinitrophenol	73						<5.7	<5.7	<5.8	<5.8	<6.1	<5.0	<5.7	<32									
4-Nitrophenol	2,300						<1.2	<1.2	<1.2	<1.2	<1.3	<1.2	<1.2	<6.7									
4,6-Dinitro-2-methylphenol							<4.0	<4.0	<4.1	<4.1	<4.3	<4.2	<4.0	<23									
Pentachlorophenol	0.56	0.3	1	1	0.3		<2.5	<2.5	<2.6	<2.6	<2.7	<2.6	<2.5	<14									
N-Nitrosodimethylamine	0.0013						<0.7	<0.7	<0.7	<0.7	<0.8	<0.7	<0.7	<4.0									
Bis(2-Chloroethyl)ether	0.0092						<1.2	<1.2	<1.2	<1.2	<1.3	<1.2	<1.2	<6.9									
1,3-Dichlorobenzene	540	600	---	600	300		<3.4	<3.4	<3.5	<3.5	<3.7	<3.5	<3.4	<19									
1,4-Dichlorobenzene	0.44	---	75	75	37.5		<3.5	<3.5	<3.6	<3.6	<3.7	<3.6	<3.5	56									
1,2-Dichlorobenzene	270	---	600	600	300		<3.4	<3.4	<3.4	<3.4	<3.6	<3.5	<3.4	<19									
Bis(2-Chloroisopropyl)ether	0.26	300	---				<1.4	<1.4	<1.4	<1.4	<1.5	<1.4	<1.4	<7.8									
N-Nitroso-di-n-propylamine	0.0096						<1.5	<1.5	<1.5	<1.5	<1.6	<1.5	<1.5	<8.4									
Hexachloroethane	0.75						<2.4	<2.4	<2.4	<2.4	<2.6	<2.5	<2.4	<14									
Nitrobenzene	3.4						<1.5	<1.5	<1.5	<1.5	<1.6	<1.5	<1.5	<8.4									
Isophorone	71	100	---	100	50		<1.7	<1.7	<1.7	<1.7	<1.8	<1.7	<1.7	<9.5									
Bis(2-chloroethoxy)methane							<1.6	<1.6	<1.7	<1.7	<1.8	<1.7	<1.6	<9.3									
1,2,4-Trichlorobenzene	190	---	70	70	35		<3.7	<3.7	<3.8	<3.8	<4.0	<3.8	<3.7	<21									
Naphthalene	1,500	20	---	20	10		<2.5	<2.5	<2.6	<2.6	<2.7	<2.6	<2.5	<14									
Hexachlorobutadiene	0.14	1	---	1	0.5		<2.1	<2.1	<2.2	<2.2	<2.3	<2.2	<2.1	<12									
Hexachlorocyclopentadiene	0.15	---	50	50	25		<1.6	<1.6	<1.6	<1.6	<1.7	<1.7	<1.6	<9.2									
2-Chloronaphthalene	2,900						<3.1	<3.1	<3.2	<3.2	<3.4	<3.2	<3.1	<18									
Dimethyl phthalate	370,000						<1.3	<1.3	<1.3	<1.3	<1.4	<1.3	<1.3	<7.2									
Acenaphthylene							<2.0	<2.0	<2.1	<2.1	<2.2	<2.1	<2.0	<11									
2,6-Dinitrotoluene	37						<1.5	<1.5	<1.5	<1.5	<1.6	<1.5	<1.5	<8.4									

NOTES:  
 Light Grey Cell = Exceedence of Most Stringent RBSL, VHA, MCL, GWQS, or PAL  
 Bold = Contaminant Detection

Project: Northern Lights Cable, Inc.  
 Location: N. Bennington, VT

Semi-Volatile Organic  
 Compounds in Ground Water

Semi-Volatile Organics (ug/L = ppb)

Parameter	EPA Region III RBSL Tap Water (ug/L) ppb	VHA (ppb)	MCL (ppb)	Vermont		LAG I.D.	MW-1	MW-2	MW-3	MW-4	MW-5	MW-6	MW-7	Unused Septic Tank									
				Primary GWQ Standards (ppb)	Prev. Action Limit (ppb)										EMIRON I.D.	MW01	MW02	MW03	MW04	MW05	MW06	MW07	ST01
																GW01							
						Date	10/15/97	10/14/97	10/14/97	10/14/97	10/14/97	10/15/97	10/15/97	10/14/97									
Acenaphthylene	2,200						<2.8	<2.8	<2.8	<2.8	<3.0	<2.8	<2.8	<16									
2,4-Dinitrotoluene	73						<1.5	<1.5	<1.5	<1.5	<1.6	<1.5	<1.5	<8.4									
Diethyl phthalate	29,000						<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<6.6									
4-Chlorophenyl phenyl ether							<2.8	<2.8	<2.9	<2.9	<3.0	<2.9	<2.8	<16									
Fluorene	1,500			280	140		<1.9	<1.9	<2.0	<2.0	<2.1	<2.0	<1.9	<11									
N-Nitrosodiphenylamine	14						<1.1	<1.1	<1.1	<1.1	<1.2	<1.1	<1.1	<6.2									
4-Bromophenyl phenyl ether	2,100						<2.0	<2.0	<2.0	<2.0	<2.1	<2.0	<2.0	<11									
Hexachlorobenzene	0.0066	0.22	1	1	0.22		<1.2	<1.2	<1.3	<1.3	<1.3	<1.3	<1.2	<7.0									
Phenanthrene							<1.0	<1.0	<1.1	<1.1	<1.1	<1.1	<1.0	<5.9									
Anthracene	11,000	2,100	---	2,100	1,150		<1.1	<1.1	<1.1	<1.1	<1.2	<1.1	<1.1	<6.2									
Di-n-butylphthalate	3,700						<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.1	<5.4									
Fluoranthene	1,500	280	---	280	140		<1.1	<1.1	<1.1	<1.1	<1.2	<1.1	<1.1	<6.2									
Pyrene	1,100						<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<3.4									
Benzidine	29,000						<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.8									
Butyl benzyl phthalate	7,300						<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	<3.8									
3,3'-Dichlorobenzidine	0.15						<1.4	<1.4	<1.5	<1.5	<1.5	<1.5	<1.4	<8.2									
Benzo(a)anthracene	0.092						<0.8	<0.8	<0.9	<0.9	<0.9	<0.9	<0.8	<4.8									
Chrysene	9.2						<0.9	<0.9	<0.9	<0.9	<0.9	<0.9	<0.9	<4.9									
Bis(2-Ethylhexyl)phthalate	4.8						4.8	<1.1	1.2	<1.1	5.8	2.8	35	17									
Di-n-octylphthalate	730						<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.6									
Benzo(b)fluoranthene	0.092						<0.7	<0.7	<0.8	<0.8	<0.8	<0.8	<0.7	<4.2									
Benzo(k)fluoranthene	0.92						<0.9	<0.9	<0.9	<0.9	<1.0	<0.9	<0.9	<5.2									
Benzo(a)pyrene	0.0092	0.1	0.2	0.2	0.1		<0.8	<0.8	<0.8	<0.8	<0.9	<0.8	<0.8	<4.5									
Indeno(1,2,3-cd)pyrene	0.092						<0.7	<0.7	<0.7	<0.7	<0.8	<0.7	<0.7	<4.0									
Dibenz(a,h)anthracene	0.0092						<0.8	<0.8	<0.9	<0.9	<0.9	<0.9	<0.8	<4.8									
Benzo(ghi)perylene							<0.7	<0.7	<0.8	<0.8	<0.8	<0.8	<0.7	<4.7									
Temporarily Identified Compounds							0	0	0	0	1	0	18	21									

NOTES:  
 Light Grey Cell = Exceedence of Most Stringent RBSL, VHA, MCL, GWQS, or PAL  
 Bold = Contaminant Detection

Project: Northern Lights Cable, Inc.  
 Location: N. Bennington, VT

Semi-Volatile Organic  
 Compounds in Ground Water

Semi-Volatile Organics (ug/L = ppb)

Parameter	EPA Region III RBSL Tap Water (ug/L) ppb	VHA (ppb)	MCL (ppb)	Vermont		LAG I.D.	EMRON I.D.	Date	MW-1	MW-2	MW-3	MW-4	MW-5	MW-6	MW-7
				Primary GWQ Standards (ppb)	Prev. Action Limit (ppb)				01/13/98	01/13/98	01/13/98	01/13/98	01/13/98	01/13/98	01/13/98
Phenol	22,000			4,000	2,000			<5	<5	<5	<5	<5	<5	<5	<5
2-Chlorophenol	180							<5	<5	<5	<5	<5	<5	<5	<5
2-Nitrophenol	NL							<10	<10	<10	<10	<10	<10	<10	<10
2,4-Dimethylphenol	730							<5	<5	<5	<5	<5	<5	<5	<5
2,4-Dichlorophenol	110							<5	<5	<5	<5	<5	<5	<5	<5
4-Chloro-3-methylphenol	NL							<10	<10	<10	<10	<10	<10	<10	<10
2,4,6-Trichlorophenol	6.1							<10	<10	<10	<10	<10	<10	<10	<10
2,4-Dinitrophenol	73							<10	<10	<10	<10	<10	<10	<10	<10
4-Nitrophenol	2,300							<10	<10	<10	<10	<10	<10	<10	<10
4,6-Dinitro-2-methylphenol								<50	<50	<50	<50	<50	<50	<50	<50
Pentachlorophenol	0.56	0.3	1	1	0.3			<50	<50	<50	<50	<50	<10	<10	<10
N-Nitrosodimethylamine	0.0013							<10	<10	<10	<10	<10	<10	<10	<10
Bis(2-Chloroethyl)ether	0.0092							<5	<5	<5	<5	<5	<5	<5	<5
1,3-Dichlorobenzene	540	600		600	300			<2	<2	<2	<2	<2	<2	<2	<2
1,4-Dichlorobenzene	0.44		75	75	37.5			<2	<2	<2	<2	<2	<2	<2	<2
1,2-Dichlorobenzene	270		600	600	300			<2	<2	<2	<2	<2	<2	<2	<2
Bis(2-Chloroisopropyl)ether	0.26	300						<10	<10	<10	<10	<10	<10	<10	<10
N-Nitroso-di-n-propylamine	0.0096							<5	<5	<5	<5	<5	<5	<5	<5
Hexachloroethane	0.75							<5	<5	<5	<5	<5	<5	<5	<5
Nitrobenzene	3.4							<5	<5	<5	<5	<5	<5	<5	<5
Isophorone	71	100		100	50			<2	<2	<2	<2	<2	<2	<2	<2
Bis(2-chloroethoxy)methane								<5	<5	<5	<5	<5	<5	<5	<5
1,2,4-Trichlorobenzene	190		70	70	35			<2	<2	<2	<2	<2	<2	<2	<2
Naphthalene	1,500	20		20	10			<2	<2	<2	<2	<2	<2	<2	<2
Hexachlorobutadiene	0.14	1		1	0.5			<5	<5	<5	<5	<5	<5	<5	<5
Hexachlorocyclopentadiene	0.15		50	50	25			<20	<20	<20	<20	<20	<20	<20	<20
2-Chloronaphthalene	2,900							<2	<2	<2	<2	<2	<2	<2	<2
Dimethyl phthalate	370,000							<4	<4	<4	<4	<4	<4	<4	<4
Acenaphthylene								<2	<2	<2	<2	<2	<2	<2	<2
2,6-Dinitrotoluene	37							<5	<5	<5	<5	<5	<5	<5	<5

NOTES:  
 Light Grey Cell = Exceedance of Most Stringent RBSL, VHA, MCL, GWQS, or PAL  
 Bold = Contaminant Detection

Project: Northern Lights Cable, Inc.  
 Location: N. Bennington, VT

Semi-Volatile Organic  
 Compounds in Ground Water

Semi-Volatile Organics (ug/L = ppb)

Parameter	EPA Region III RBSL Tap Water (ug/L) ppb	VHA (ppb)	MCL (ppb)	Vermont		LAG I.D.	MW-1	MW-2	MW-3	MW-4	MW-5	MW-6	MW-7	
				Primary GWQ Standards (ppb)	Prev. Action Limit (ppb)									ENVIRON I.D.
Acenaphthylene	2,200						<2	<2	<2	<2	<2	<2	<2	
2,4-Dinitrotoluene	73						<5	<5	<5	<5	<5	<5	<5	
Diethyl phthalate	29,000						<4	<4	<4	<4	<4	<4	<4	
4-Chlorophenyl phenyl ether							<2	<2	<2	<2	<2	<2	<2	
Fluorene	1,500			280	140		<2	<2	<2	<2	<2	<2	<2	
N-Nitrosodiphenylamine	14						<5	<5	<5	<5	<5	<5	<5	
4-Bromophenyl phenyl ether	2,100						<2	<2	<2	<2	<2	<2	<2	
Hexachlorobenzene	0.0066	0.22	1	1	0.22		<5	<5	<5	<5	<5	<5	<5	
Phenanthrene							<2	<2	<2	<2	<2	<2	<2	
Anthracene	11,000	2,100	—	2,100	1,150		<2	<2	<2	<2	<2	<2	<2	
Di-n-butylphthalate	3,700						<4	<4	<4	<4	<4	<4	<4	
Fluoranthene	1,500	280	—	280	140		<2	<2	<2	<2	<2	<2	<2	
Pyrene	1,100						<2	<2	<2	<2	<2	<2	<2	
Benzidine	29,000						<10	<10	<10	<10	<10	<10	<10	
Butyl benzyl phthalate	7,300						<4	<4	<4	<4	<4	<4	<4	
3,3'-Dichlorobenzidine	0.15						<5	<5	<5	<5	<5	<5	<5	
Benzo(a)anthracene	0.092						<2	<2	<2	<2	<2	<2	<2	
Chrysene	9.2						<2	<2	<2	<2	<2	<2	<2	
Bis(2-Ethylhexyl)phthalate	4.8						<4	<4	<4	<4	<4	<4	<4	
Di-n-octylphthalate	730						<4	<4	<4	<4	<4	<4	<4	
Benzo(b)fluoranthene	0.092						<2	<2	<2	<2	<2	<2	<2	
Benzo(k)fluoranthene	0.92						<2	<2	<2	<2	<2	<2	<2	
Benzo(a)pyrene	0.0092	0.1	0.2	0.2	0.1		<2	<2	<2	<2	<2	<2	<2	
Indeno(1,2,3-cd)pyrene	0.092						<2	<2	<2	<2	<2	<2	<2	
Dibenz(a,h)anthracene	0.0092						<2	<2	<2	<2	<2	<2	<2	
Benzo(ghi)perylene							<2	<2	<2	<2	<2	<2	<2	
Temporarily Identified Compounds														

NOTES:  
 Light Grey Cell = Exceedence of Most Stringent RBSL, VHA, MCL, GWQS, or PAL  
 Bold = Contaminant Detection

Project: Northern Lights Cable, Inc.  
 Location: N. Bennington, VT

Organic Pesticides  
 and  
 Polychlorinated Biphenyls In Ground Water

GC Organics Pesticides/PCB's (ug/L = ppb)

Parameter	EPA Region III RBSL Tap Water (ug/L) ppb	VHA (ppb)	MCL (ppb)	Vermont		EMIRON I.D. Date	LAG I.D.	MW-1	MW-2	MW-3	MW-4	MW-5	MW-6	MW-7	Unused Septic Tank								
				Primary GWQ Standards (ppb)	Prev. Action Limit (ppb)											MW01 GW01	MW02 GW01	MW03 GW01	MW04 GW01	MW05 GW01	MW06 GW01	MW07 GW01	ST01 TW01
																10/15/97	10/14/97	10/14/97	10/14/97	10/14/97	10/15/97	10/15/97	10/14/97
Aldrin	4	0.05		0.05	0.05			<0.03	<0.03	<0.03	<0.03		<0.03	<0.03	<0.03								
alpha-BHC								<0.02	<0.02	<0.02	<0.02		<0.02	<0.02	<0.02								
beta-BHC								<0.02	<0.02	<0.02	<0.02		<0.02	<0.02	<0.02								
delta-BHC								<0.02	<0.02	<0.02	<0.02		<0.02	<0.02	<0.02								
gamma-BHC (Lindane)	52		0.2	0.2	0.1			<0.02	<0.02	<0.02	<0.02		<0.02	<0.02	<0.02								
Chlordane	52	0.44	2	2	0.44			<0.3	<0.3	<0.3	<0.3		<0.3	<0.3	<0.3								
4,4'-DDD	280.0							<0.06	<0.06	<0.06	<0.06		<0.06	<0.06	<0.06								
4,4'-DDE	200							<0.02	<0.02	<0.02	<0.02		<0.02	0.02	<0.02								
4,4'-DDT	200							<0.03	<0.03	<0.03	<0.03		<0.03	0.06	<0.03								
Dieldrin	0.0042	0.02		0.02	0.02			<0.02	<0.02	<0.02	<0.02		<0.02	<0.02	<0.02								
Endosulfan I	220							<0.02	<0.02	<0.02	<0.02		<0.02	<0.02	<0.02								
Endosulfan II								<0.02	<0.02	<0.02	<0.02		<0.02	<0.02	<0.02								
Endosulfan sulfate								<0.02	<0.02	<0.02	<0.02		<0.02	<0.02	<0.02								
Endrin	11		2	2	1			<0.02	<0.02	<0.02	<0.02		<0.02	<0.02	<0.02								
Endrin aldehyde								<0.03	<0.03	<0.03	<0.03		<0.03	<0.03	<0.03								
Heptachlor	0.0023	0.088	0.4	0.4	0.088			<0.03	<0.03	<0.03	<0.03		<0.03	<0.03	<0.03								
Heptachlor epoxide	0.0012	0.06	0.2	0.2	0.06			<0.02	<0.02	<0.02	<0.02		<0.02	<0.02	<0.02								
Toxaphene	61	2.2	3	3	2.2			<0.5	<0.5	<0.5	<0.5		<0.5	<0.5	<0.5								
(PCB) Aroclor-1016	2.6	0.25	0.5	0.5	0.25			<0.2	<0.2	<0.2	<0.2		<0.2	<0.2	<0.2								
(PCB) Aroclor-1221	0.0335	0.25	0.5	0.5	0.25			<0.4	<0.4	<0.4	<0.4		<0.4	<0.4	<0.4								
(PCB) Aroclor-1232	0.0335	0.25	0.5	0.5	0.25			<0.1	<0.1	<0.1	<0.1		<0.1	<0.1	<0.1								
(PCB) Aroclor-1242	0.0335	0.25	0.5	0.5	0.25			<0.4	<0.4	<0.4	<0.4		<0.4	<0.4	<0.4								
(PCB) Aroclor-1248	0.0335	0.25	0.5	0.5	0.25			<0.3	<0.3	<0.3	<0.3		<0.3	<0.3	<0.3								
(PCB) Aroclor-1254	0.73	0.25	0.5	0.5	0.25			<0.4	<0.4	<0.4	<0.4		<0.4	<0.4	<0.4								
(PCB) Aroclor-1260	0.0335	0.25	0.5	0.5	0.25			<0.1	<0.1	<0.1	<0.1		<0.1	<0.1	<0.1								

NOTES:  
 Dark Cell = NOT Analyzed  
 Light Grey Cell = Exceedence of Most Stringent RBSL, VHA, MCL, GWQS, or PAL  
 Bold = Contaminant Detection

Organic Pesticides  
 and  
 Polychlorinated Biphenyls in Ground Water

GC Organics Pesticides/PCB's (ug/L = ppb)

Parameter	EPA Region III RBSL Tap Water (ug/L) ppb	VHA (ppb)	MCL (ppb)	Vermont		LAG I.D.	EMIRON I.D.	Date	MW-1	MW-2	MW-3	MW-4	MW-5	MW-6	MW-7
				Primary GWQ Standards (ppb)	Prev. Action Limit (ppb)										
Aldrin	4	0.05		0.05	0.05			01/13/98	<10	<10	<10	<10	<10	<10	<10
alpha-BHC									<10	<10	<10	<10	<10	<10	<10
beta-BHC									<10	<10	<10	<10	<10	<10	<10
delta-BHC									<10	<10	<10	<10	<10	<10	<10
gamma-BHC (Lindane)	52		0.2	0.2	0.1				<10	<10	<10	<10	<10	<10	<10
Chlordane	52	0.44	2	2	0.44				<30	<30	<30	<30	<30	<30	<30
4,4'-DDD	280.0								<20	<20	<20	<20	<20	<20	<20
4,4'-DDE	200								<20	<20	<20	<20	<20	<20	<20
4,4'-DDT	200								<20	<20	<20	<20	<20	<20	<20
Dieldrin	0.0042	0.02		0.02	0.02				<10	<10	<10	<10	<10	<10	<10
Endosulfan I	220								<20	<20	<20	<20	<20	<20	<20
Endosulfan II									<20	<20	<20	<20	<20	<20	<20
Endosulfan sulfate									<20	<20	<20	<20	<20	<20	<20
Endrin	11		2	2	1				<20	<20	<20	<20	<20	<20	<20
Endrin aldehyde									<20	<20	<20	<20	<20	<20	<20
Heptachlor	0.0023	0.088	0.4	0.4	0.088				<10	<10	<10	<10	<10	<10	<10
Heptachlor epoxide	0.0012	0.06	0.2	0.2	0.06				<20	<20	<20	<20	<20	<20	<20
Toxaphene	61	2.2	3	3	2.2				<30	<30	<30	<30	<30	<30	<30
(PCB) Aroclor-1016	2.6	0.25	0.5	0.5	0.25				<30	<30	<30	<30	<30	<30	<30
(PCB) Aroclor-1221	0.0335	0.25	0.5	0.5	0.25				<30	<30	<30	<30	<30	<30	<30
(PCB) Aroclor-1232	0.0335	0.25	0.5	0.5	0.25				<30	<30	<30	<30	<30	<30	<30
(PCB) Aroclor-1242	0.0335	0.25	0.5	0.5	0.25				<30	<30	<30	<30	<30	<30	<30
(PCB) Aroclor-1248	0.0335	0.25	0.5	0.5	0.25				<30	<30	<30	<30	<30	<30	<30
(PCB) Aroclor-1254	0.73	0.25	0.5	0.5	0.25				<30	<30	<30	<30	<30	<30	<30
(PCB) Aroclor-1260	0.0335	0.25	0.5	0.5	0.25				<30	<30	<30	<30	<30	<30	<30

NOTES:  
 Dark Cell = NOT Analyzed  
 Light Grey Cell = Exceedence of Most Stringent RBSL, VHA, MCL, GWQS, or PAL  
 Bold = Contaminant Detection

Project: Northern Lights Cable, Inc.  
 Location: N. Bennington, VT

Priority Pollutant  
 Total Metals in Ground Water

Total Metals (ug/L = ppb)

Parameter	EPA Region III RBSL Tap Water (ug/L = ppb)	Vermont Health Advisory (ppb)	Vermont		LAG I.D.	MW-1	MW-2	MW-3	MW-4	MW-5	MW-6	MW-7	Unused Septic Tank
			Primary GWQ Standards (ppb)	Prev. Action Limit (ppb)	ENVIRON I.D.	MW01 GW01	MW02 GW01	MW03 GW01	MW04 GW01	MW05 GW01	MW06 GW01	MW07 GW01	ST01 TW01
			Date	10/15/97	10/14/97	10/14/97	10/14/97	10/14/97	10/14/97	10/15/97	10/15/97	10/14/97	
Antimony	15		6	3		<5.3	<5.3	<10.6	<5.3		<5.3	<10.6	<5.3
Arsenic <i>x</i>	11		50	5		<b>18</b>	<b>63.6</b>	<b>104</b>	<b>49.9</b>		<b>48</b>	<b>110</b>	<3.4
Beryllium <i>x</i>	0.016		4	1		<b>1.1</b>	<b>2.1</b>	<b>2.7</b>	<b>2.9</b>		<b>2.1</b>	<b>4.4</b>	<0.3
Cadmium	18		5	2.5		<0.4	<0.4	<0.8	<b>4.3</b>		<0.4	<0.8	0.78
Chromium <i>x</i>	180		100	50		<b>29</b>	<b>54.8</b>	<b>81</b>	<b>59</b>		<b>46.8</b>	<b>121</b>	8.2
Copper	1,500	1,000	1,300	650		<b>50.7</b>	<b>189</b>	<b>302</b>	<b>128</b>		<b>124</b>	<b>334</b>	<b>623</b>
Lead <i>x</i>		15	15	5		<b>23.2</b>	<b>74.1</b>	<b>122</b>	<b>59</b>		<b>58.8</b>	<b>160</b>	<b>35.9</b>
Mercury	11		2	1		<0.1	<b>0.25</b>	<b>0.32</b>	<b>0.12</b>		<b>0.18</b>	<b>0.47</b>	0.57
Nickel <i>x</i>	730		100	50		<b>47.9</b>	<b>123</b>	<b>185</b>	<b>119</b>		<b>95.2</b>	<b>224</b>	20.5
Selenium	180		50	25		<4.8	<4.8	<9.6	<4.8		<4.8	<9.6	<4.8
Silver	180	100	1,000	50		<1.2	<1.2	<2.4	<1.2		<1.2	<2.4	<1.2
Thallium	0		2	1		<3.8	<3.8	<7.6	<3.8		<3.8	<7.6	<3.8
Zinc	11,000	5,000	5,000	2,500		<b>151</b>	<b>313</b>	<b>445</b>	<b>347</b>		<b>277</b>	<b>626</b>	<b>527</b>

NOTES:  
 Light Grey Cell = Exceedence of Most Stringent RBSL, VHA, MCL, GWQS, or PAL  
 Bold = Contaminant Detection

Total Metals (ug/L = ppb)

Parameter	EPA Region III RBSL Tap Water (ug/L = ppb)	Vermont			LAG I.D.	MW-1	MW-2	MW-3	MW-4	MW-5	MW-6	MW-7
		Vermont Health Advisory (ppb)	Primary GWQ Standards (ppb)	Prev. Action Limit (ppb)	ENVIRON I.D.							
					Date							
Antimony	15		6	3		<3	<3	<3	<3	<3	<3	<3
Arsenic	11		50	5		<5	<5	<5	<5	<5	<5	<5
Beryllium	0.016		4	1		<2	<2	<2	<2	<2	<2	<2
Cadmium	18		5	2.5		<2	<2	<2	<2	<2	<2	<2
Chromium	180		100	50		<10	<10	<10	<10	<10	<10	<10
Copper	1,500	1,000	1,300	650		14	14	<10	<10	<10	<10	<10
Lead		15	15	5		<2	<2	<2	<2	<2	<2	4
Mercury	11		2	1		<1	<1	<1	<1	<1	<1	<1
Nickel	730		100	50		<20	<20	<20	<20	<20	<20	<20
Selenium	180		50	25		<10	<10	<10	<10	<10	<10	<10
Silver	180	100	1,000	50		<10	<10	<10	<10	<10	<10	<10
Thallium	0		2	1		<2	<2	<2	<2	<2	<2	<2
Zinc	11,000	5,000	5,000	2,500		11	22	<10	<10	<10	20	<10

NOTES:  
 Light Grey Cell = Exceedence of Most Stringent RBSL, VHA, MCL, GWQS, or PAL  
 Bold = Contaminant Detection

Project: Northern Lights Cable, Inc.  
 Location: N. Bennington, VT

Priority Pollutant  
 Dissolved Metals in Ground Water

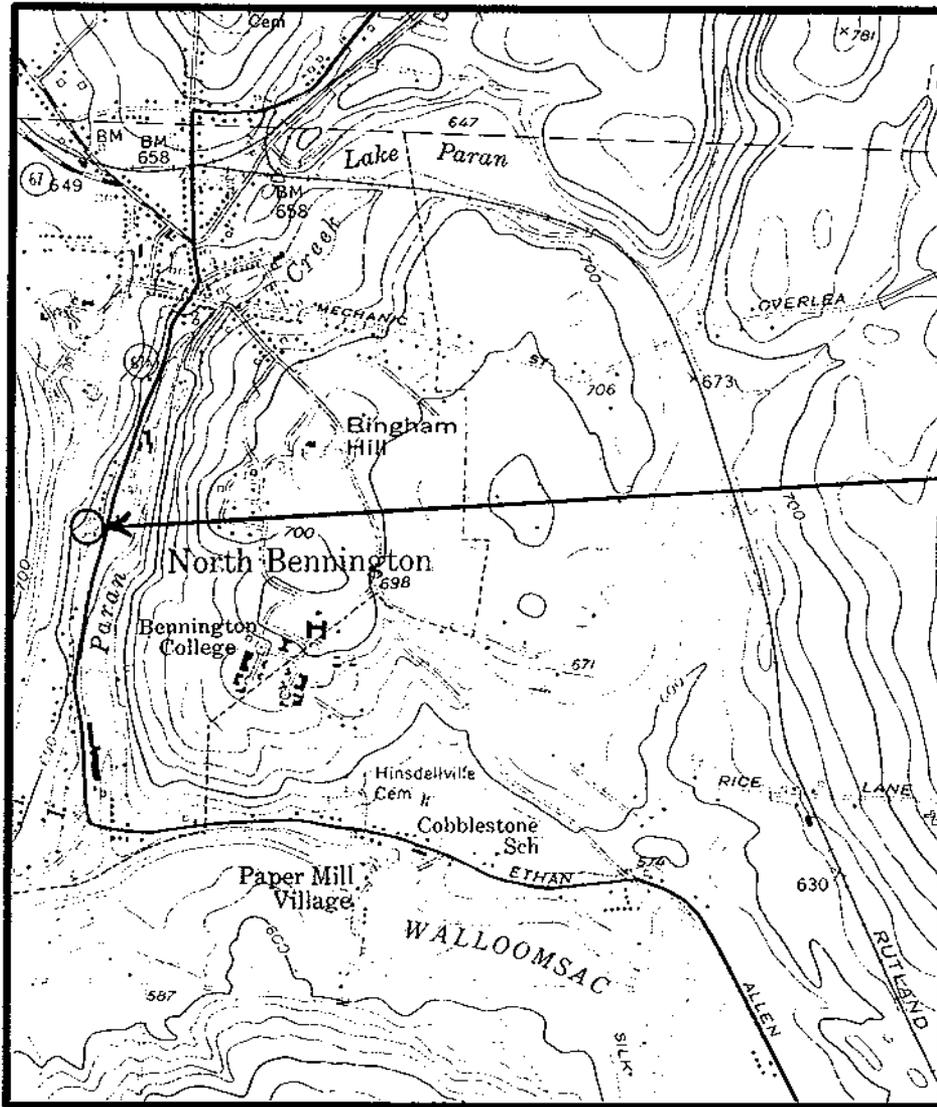
Dissolved Metals (ug/L = ppb)

Parameter	EPA Region III RBSL Tap Water (ug/L = ppb)	Vermont			LAG I.D.	MW-1	MW-2	MW-3	MW-4	MW-5	MW-6	MW-7
		Vermont Health Advisory (ppb)	Primary GWQ Standards (ppb)	Prev. Action Limit (ppb)	ENVIRON I.D.							
					Date	01/13/98	01/13/98	01/13/98	01/13/98	01/13/98	01/13/98	01/13/98
Antimony	15		6	3		<3	<3	<3	<3	<3	<3	<3
Arsenic	11		50	5		<5	<5	<5	<5	<5	<5	<5
Beryllium	0.016		4	1		<2	<2	<2	<2	<2	<2	<2
Cadmium	18		5	2.5		<2	<2	<2	<2	<2	<2	<2
Chromium	180		100	50		<10	<10	<10	<10	<10	<10	<10
Copper	1,500	1,000	1,300	650		<10	<10	<10	<10	<10	<10	<10
Lead		15	15	5		<2	<2	<2	<2	<2	<2	<2
Mercury	11		2	1		<1	<1	<1	<1	<1	<1	<1
Nickel	730		100	50		<20	<20	<20	<20	<20	<20	<20
Selenium	180		50	25		<10	<10	<10	<10	<10	<10	<10
Silver	180	100	1,000	50		<10	<10	<10	<10	<10	<10	<10
Thallium	0		2	1		<2	<2	<2	<2	<2	<2	<2
Zinc	11,000	5,000	5,000	2,500		<10	<10	<10	<10	<10	<10	<10

NOTES:  
 Light Grey Cell = Exceedence of Most Stringent RBSL, VHA, MCL, GWQS, or PAL  
 Bold = Contaminant Detection

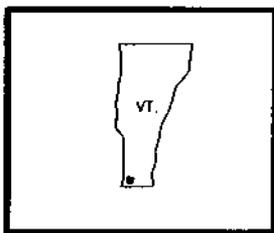
Figure 1

Environmental Site Assessment  
Northern Lights Cable, Inc.  
Water Street (Rte 67A)  
North Bennington, Vermont  
**GENERAL LOCATION MAP**



Site Location

Source: USGS. 7.5 Min. x 15 Topographic Quadrangle of Bennington, VT. Quad Scale: 1" = 2,000'



Quadrangle Location







Appendix A

Ground Water Quality Laboratory  
Reports for January 13, 1998



Laboratory Services

32 James Brown Drive  
Williston, Vermont 05495  
(802) 879-4333  
FAX 879-7103

REPORT OF LABORATORY ANALYSIS

CLIENT: Lincoln Applied Geology  
PROJECT NAME: Northern Lights Cable, Inc.  
DATE REPORTED: January 22, 1998  
DATE SAMPLED: January 13, 1998  
REVISED REPORT: February 3, 1998

PROJECT CODE: LANL1020  
REF. #: 115,602 - 115,611

Enclosed please find the results of the analyses performed for the samples referenced on the attached chain of custody record.

Chain of custody did not indicate sample preservation.

All samples were prepared and analyzed by requirements outlined in the referenced methods and within the specified holding times.

All instrumentation was calibrated with the appropriate frequency and verified by the requirements outlined in the referenced methods.

Blank contamination was not observed at levels affecting the analytical results.

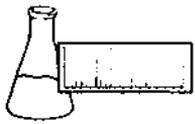
Analytical method precision and accuracy were monitored by laboratory control standards which included matrix spike, duplicate and quality control analyses. These standards were determined to be within established laboratory method acceptance limits.

Individual sample performance was monitored by the addition of surrogate analytes to each sample. All surrogate data was determined to be within Laboratory QA/QC guidelines unless otherwise noted.

Reviewed by,

Harry B. Locker, Ph.D.  
Laboratory Director

enclosures



32 James Brown Drive  
Williston, Vermont 05495  
(802) 879-4333  
FAX 879-7103

### LABORATORY REPORT

### EPA METHOD 8270 (LIQUID) -- GC/MS BASE/NEUTRALS AND ACIDS

CLIENT: Lincoln Applied Geology  
PROJECT NAME: Northern Lights Cable, Inc.  
REPORT DATE: January 22, 1998  
DATE SAMPLED: January 13, 1998  
DATE RECEIVED: January 15, 1998  
DATE EXTRACTED: January 20, 1998  
REVISED REPORT: February 3, 1998

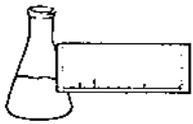
PROJECT CODE: LANL1020  
ANALYSIS DATE: January 22, 1998  
STATION: MW-1  
REF. #: 115,611  
TIME SAMPLED: 16:20  
SAMPLER: Jason Barnard

<u>Parameter</u>	<u>Quantitation Limit (ug/L)</u>	<u>Concentration (ug/L)</u>
<b>BASE/NEUTRAL EXTRACTABLES:</b>		
Acenaphthene	2	ND <sup>1</sup>
Acenaphthylene	2	ND
Aldrin	10	ND
Aniline	10	ND
Anthracene	2	ND
Azobenzene	5	ND
Benzidine	10	ND
Benzo(a)anthracene	2	ND
Benzo(b&k)fluoranthene	2	ND
Benzo(a)pyrene	2	ND
Benzo(ghi)perylene	2	ND
alpha-BHC	10	ND
beta-BHC	10	ND
gamma-BHC	10	ND
delta-BHC	10	ND
Bis(2-chloroethyl)ether	5	ND
Bis(2-chloroethoxy)methane	5	ND
Bis(2-ethylhexyl)phthalate	4	ND
Bis(2-chloroisopropyl)ether	10	ND
4-Bromophenyl phenyl ether	2	ND
Butyl benzyl phthalate	4	ND
Carbazole	10	ND
4-Chloroaniline	5	ND
Chlordane	30	ND
1-Chloronaphthalene	2	ND
2-Chloronaphthalene	2	ND
4-Chlorophenyl phenyl ether	2	ND
Chrysene	2	ND
4,4'-DDD	20	ND
4,4'-DDE	20	ND
4,4'-DDT	20	ND
Dibenzofuran	2	ND

EPA METHOD 8270 (continued)

REF. #: 115,611

<u>Parameter</u>	<u>Quantitation Limit (ug/L)</u>	<u>Concentration (ug/L)</u>
Dibenzo(a,h)anthracene	2	ND
Di-n-butylphthalate	4	ND
1,3-Dichlorobenzene	2	ND
1,2-Dichlorobenzene	2	ND
1,4-Dichlorobenzene	2	ND
3,3'-Dichlorobenzidine	5	ND
Dieldrin	10	ND
Diethyl phthalate	4	ND
Dimethyl phthalate	4	ND
2,4-Dinitrotoluene	5	ND
2,6-Dinitrotoluene	5	ND
Di-n-octylphthalate	4	ND
Endosulfan I	20	ND
Endosulfan II	20	ND
Endosulfan sulfate	20	ND
Endrin	20	ND
Endrin aldehyde	20	ND
Fluoranthene	2	ND
Fluorene	2	ND
Heptachlor	10	ND
Heptachlor epoxide	20	ND
Hexachlorobenzene	5	ND
Hexachlorobutadiene	5	ND
Hexachlorocyclopentadiene	20	ND
Hexachloroethane	5	ND
Indeno(1,2,3-cd)pyrene	2	ND
Isophorone	2	ND
Methoxychlor	5	ND
1-Methylnaphthalene	2	ND
2-Methylnaphthalene	2	ND
Naphthalene	2	ND
1-Naphthylamine	10	ND
2-Naphthylamine	10	ND
2-Nitroaniline	20	ND
3-Nitroaniline	20	ND
4-Nitroaniline	20	ND
Nitrobenzene	5	ND
N-Nitroso-di-n-butylamine	5	ND
N-Nitrosodiphenylamine	5	ND
N-Nitrosodimethylamine	10	ND
N-Nitrosodipropylamine	10	ND
N-Nitrosopiperidine	10	ND



EPA METHOD 8270 (continued)

REF. #: 115,611

<u>Parameter</u>	<u>Quantitation Limit (ug/L)</u>	<u>Concentration (ug/L)</u>
PCB-1016	30	ND
PCB-1221	30	ND
PCB-1232	30	ND
PCB-1242	30	ND
PCB-1248	30	ND
PCB-1254	30	ND
PCB-1260	30	ND
Phenanthrene	2	ND
Pyrene	2	ND
Pyridine	10	ND
Toxaphene	30	ND
1,2,4-Trichlorobenzene	2	ND

**ACID EXTRACTABLES:**

Benzyl alcohol	10	ND
4-Chloro-3-methylphenol	10	ND
2-Chlorophenol	5	ND
2,4-Dichlorophenol	5	ND
2,6-Dichlorophenol	5	ND
2,4-Dimethylphenol	5	ND
4,6-Dinitro-2-methylphenol	50	ND
2,4-Dinitrophenol	10	ND
2-Methylphenol (o-cresol)	5	ND
3&4-Methylphenol (m&p-cresol)	5	ND
2-Nitrophenol	10	ND
4-Nitrophenol	10	ND
Pentachlorophenol	50	ND
Phenol	5	ND
2,4,5-Trichlorophenol	10	ND
2,4,6-Trichlorophenol	10	ND

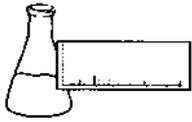
NUMBER OF UNIDENTIFIED PEAKS: >10

**SURROGATE RECOVERY:**

2-Fluorophenol:	18.%	2-Fluorobiphenyl:	94.%
Phenol-d5:	9.%	2,4,6-Tribromophenol:	85.%
Nitrobenzene-d5:	93.%	Terphenyl-d14:	88.%

NOTES:

1 None detected



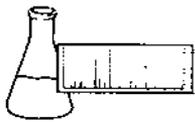
LABORATORY REPORT

EPA METHOD 8270 (LIQUID) -- GC/MS BASE/NEUTRALS AND ACIDS

CLIENT: Lincoln Applied Geology  
PROJECT NAME: Northern Lights Cable, Inc.  
REPORT DATE: January 22, 1998  
DATE SAMPLED: January 13, 1998  
DATE RECEIVED: January 15, 1998  
DATE EXTRACTED: January 20, 1998  
REVISED REPORT: February 3, 1998

PROJECT CODE: LANL1020  
ANALYSIS DATE: January 22, 1998  
STATION: MW-2  
REF. #: 115,608  
TIME SAMPLED: 14:45  
SAMPLER: Jason Barnard

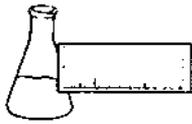
<u>Parameter</u>	<u>Quantitation Limit (ug/L)</u>	<u>Concentration (ug/L)</u>
<b>BASE/NEUTRAL EXTRACTABLES:</b>		
Acenaphthene	2	ND <sup>1</sup>
Acenaphthylene	2	ND
Aldrin	10	ND
Aniline	10	ND
Anthracene	2	ND
Azobenzene	5	ND
Benzidine	10	ND
Benzo(a)anthracene	2	ND
Benzo(b&k)fluoranthene	2	ND
Benzo(a)pyrene	2	ND
Benzo(ghi)perylene	2	ND
alpha-BHC	10	ND
beta-BHC	10	ND
gamma-BHC	10	ND
delta-BHC	10	ND
Bis(2-chloroethyl)ether	5	ND
Bis(2-chloroethoxy)methane	5	ND
Bis(2-ethylhexyl)phthalate	4	ND
Bis(2-chloroisopropyl)ether	10	ND
4-Bromophenyl phenyl ether	2	ND
Butyl benzyl phthalate	4	ND
Carbazole	10	ND
4-Chloroaniline	5	ND
Chlordane	30	ND
1-Chloronaphthalene	2	ND
2-Chloronaphthalene	2	ND
4-Chlorophenyl phenyl ether	2	ND
Chrysene	2	ND
4,4'-DDD	20	ND
4,4'-DDE	20	ND
4,4'-DDT	20	ND
Dibenzofuran	2	ND



EPA METHOD 8270 (continued)

REF. #: 115,608

<u>Parameter</u>	<u>Quantitation Limit (ug/L)</u>	<u>Concentration (ug/L)</u>
Dibenzo(a,h)anthracene	2	ND
Di-n-butylphthalate	4	ND
1,3-Dichlorobenzene	2	ND
1,2-Dichlorobenzene	2	ND
1,4-Dichlorobenzene	2	ND
3,3'-Dichlorobenzidine	5	ND
Dieldrin	10	ND
Diethyl phthalate	4	ND
Dimethyl phthalate	4	ND
2,4-Dinitrotoluene	5	ND
2,6-Dinitrotoluene	5	ND
Di-n-octylphthalate	4	ND
Endosulfan I	20	ND
Endosulfan II	20	ND
Endosulfan sulfate	20	ND
Endrin	20	ND
Endrin aldehyde	20	ND
Fluoranthene	2	ND
Fluorene	2	ND
Heptachlor	10	ND
Heptachlor epoxide	20	ND
Hexachlorobenzene	5	ND
Hexachlorobutadiene	5	ND
Hexachlorocyclopentadiene	20	ND
Hexachloroethane	5	ND
Indeno(1,2,3-cd)pyrene	2	ND
Isophorone	2	ND
Methoxychlor	5	ND
1-Methylnaphthalene	2	ND
2-Methylnaphthalene	2	ND
Naphthalene	2	ND
1-Naphthylamine	10	ND
2-Naphthylamine	10	ND
2-Nitroaniline	20	ND
3-Nitroaniline	20	ND
4-Nitroaniline	20	ND
Nitrobenzene	5	ND
N-Nitroso-di-n-butylamine	5	ND
N-Nitrosodiphenylamine	5	ND
N-Nitrosodimethylamine	10	ND
N-Nitrosodipropylamine	10	ND
N-Nitrosopiperidine	10	ND



EPA METHOD 8270 (continued)

REF. #: 115,608

<u>Parameter</u>	<u>Quantitation Limit (ug/L)</u>	<u>Concentration (ug/L)</u>
PCB-1016	30	ND
PCB-1221	30	ND
PCB-1232	30	ND
PCB-1242	30	ND
PCB-1248	30	ND
PCB-1254	30	ND
PCB-1260	30	ND
Phenanthrene	2	ND
Pyrene	2	ND
Pyridine	10	ND
Toxaphene	30	ND
1,2,4-Trichlorobenzene	2	ND

**ACID EXTRACTABLES:**

Benzyl alcohol	10	ND
4-Chloro-3-methylphenol	10	ND
2-Chlorophenol	5	ND
2,4-Dichlorophenol	5	ND
2,6-Dichlorophenol	5	ND
2,4-Dimethylphenol	5	ND
4,6-Dinitro-2-methylphenol	50	ND
2,4-Dinitrophenol	10	ND
2-Methylphenol (o-cresol)	5	ND
3&4-Methylphenol (m&p-cresol)	5	ND
2-Nitrophenol	10	ND
4-Nitrophenol	10	ND
Pentachlorophenol	50	ND
Phenol	5	ND
2,4,5-Trichlorophenol	10	ND
2,4,6-Trichlorophenol	10	ND

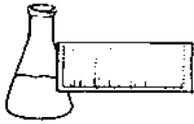
NUMBER OF UNIDENTIFIED PEAKS: 0

SURROGATE RECOVERY:

2-Fluorophenol:	23.%	2-Fluorobiphenyl:	80.%
Phenol-d5:	11.%	2,4,6-Tribromophenol:	76.%
Nitrobenzene-d5:	75.%	Terphenyl-d14:	84.%

NOTES:

1 None detected



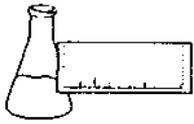
LABORATORY REPORT

EPA METHOD 8270 (LIQUID) -- GC/MS BASE/NEUTRALS AND ACIDS

CLIENT: Lincoln Applied Geology  
PROJECT NAME: Northern Lights Cable, Inc.  
REPORT DATE: January 22, 1998  
DATE SAMPLED: January 13, 1998  
DATE RECEIVED: January 15, 1998  
DATE EXTRACTED: January 20, 1998  
REVISED REPORT: February 3, 1998

PROJECT CODE: LANL1020  
ANALYSIS DATE: January 22, 1998  
STATION: MW-3  
REF. #: 115,606  
TIME SAMPLED: 13:15  
SAMPLER: Jason Barnard

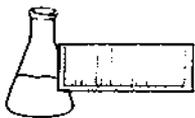
<u>Parameter</u>	<u>Quantitation Limit (ug/L)</u>	<u>Concentration (ug/L)</u>
<b>BASE/NEUTRAL EXTRACTABLES:</b>		
Acenaphthene	2	ND <sup>1</sup>
Acenaphthylene	2	ND
Aldrin	10	ND
Aniline	10	ND
Anthracene	2	ND
Azobenzene	5	ND
Benzidine	10	ND
Benzo(a)anthracene	2	ND
Benzo(b&k)fluoranthene	2	ND
Benzo(a)pyrene	2	ND
Benzo(ghi)perylene	2	ND
alpha-BHC	10	ND
beta-BHC	10	ND
gamma-BHC	10	ND
delta-BHC	10	ND
Bis(2-chloroethyl)ether	5	ND
Bis(2-chloroethoxy)methane	5	ND
Bis(2-ethylhexyl)phthalate	4	ND
Bis(2-chloroisopropyl)ether	10	ND
4-Bromophenyl phenyl ether	2	ND
Butyl benzyl phthalate	4	ND
Carbazole	10	ND
4-Chloroaniline	5	ND
Chlordane	30	ND
1-Chloronaphthalene	2	ND
2-Chloronaphthalene	2	ND
4-Chlorophenyl phenyl ether	2	ND
Chrysene	2	ND
4,4'-DDD	20	ND
4,4'-DDE	20	ND
4,4'-DDT	20	ND
Dibenzofuran	2	ND



EPA METHOD 8270 (continued)

REF. #: 115,606

<u>Parameter</u>	<u>Quantitation Limit (ug/L)</u>	<u>Concentration (ug/L)</u>
Dibenzo(a,h)anthracene	2	ND
Di-n-butylphthalate	4	ND
1,3-Dichlorobenzene	2	ND
1,2-Dichlorobenzene	2	ND
1,4-Dichlorobenzene	2	ND
3,3'-Dichlorobenzidine	5	ND
Dieldrin	10	ND
Diethyl phthalate	4	ND
Dimethyl phthalate	4	ND
2,4-Dinitrotoluene	5	ND
2,6-Dinitrotoluene	5	ND
Di-n-octylphthalate	4	ND
Endosulfan I	20	ND
Endosulfan II	20	ND
Endosulfan sulfate	20	ND
Endrin	20	ND
Endrin aldehyde	20	ND
Fluoranthene	2	ND
Fluorene	2	ND
Heptachlor	10	ND
Heptachlor epoxide	20	ND
Hexachlorobenzene	5	ND
Hexachlorobutadiene	5	ND
Hexachlorocyclopentadiene	20	ND
Hexachloroethane	5	ND
Indeno(1,2,3-cd)pyrene	2	ND
Isophorone	2	ND
Methoxychlor	5	ND
1-Methylnaphthalene	2	ND
2-Methylnaphthalene	2	ND
Naphthalene	2	ND
1-Naphthylamine	10	ND
2-Naphthylamine	10	ND
2-Nitroaniline	20	ND
3-Nitroaniline	20	ND
4-Nitroaniline	20	ND
Nitrobenzene	5	ND
N-Nitroso-di-n-butylamine	5	ND
N-Nitrosodiphenylamine	5	ND
N-Nitrosodimethylamine	10	ND
N-Nitrosodipropylamine	10	ND
N-Nitrosopiperidine	10	ND



EPA METHOD 8270 (continued)

REF. #: 115,606

<u>Parameter</u>	<u>Quantitation Limit (ug/L)</u>	<u>Concentration (ug/L)</u>
PCB-1016	30	ND
PCB-1221	30	ND
PCB-1232	30	ND
PCB-1242	30	ND
PCB-1248	30	ND
PCB-1254	30	ND
PCB-1260	30	ND
Phenanthrene	2	ND
Pyrene	2	ND
Pyridine	10	ND
Toxaphene	30	ND
1,2,4-Trichlorobenzene	2	ND

**ACID EXTRACTABLES:**

Benzyl alcohol	10	ND
4-Chloro-3-methylphenol	10	ND
2-Chlorophenol	5	ND
2,4-Dichlorophenol	5	ND
2,6-Dichlorophenol	5	ND
2,4-Dimethylphenol	5	ND
4,6-Dinitro-2-methylphenol	50	ND
2,4-Dinitrophenol	10	ND
2-Methylphenol (o-cresol)	5	ND
3&4-Methylphenol (m&p-cresol)	5	ND
2-Nitrophenol	10	ND
4-Nitrophenol	10	ND
Pentachlorophenol	50	ND
Phenol	5	ND
2,4,5-Trichlorophenol	10	ND
2,4,6-Trichlorophenol	10	ND

NUMBER OF UNIDENTIFIED PEAKS: 0

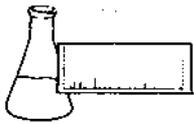
**SURROGATE RECOVERY:**

2-Fluorophenol:	27.%	2-Fluorobiphenyl:	80.%
Phenol-d5:	16.%	2,4,6-Tribromophenol:	64.%
Nitrobenzene-d5:	67.%	Terphenyl-d14:	92.%

NOTES:

1 None detected





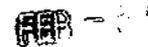
### LABORATORY REPORT

### EPA METHOD 8270 (LIQUID) -- GC/MS BASE/NEUTRALS AND ACIDS

CLIENT: Lincoln Applied Geology  
PROJECT NAME: Northern Lights Cable, Inc.  
REPORT DATE: January 22, 1998  
DATE SAMPLED: January 13, 1998  
DATE RECEIVED: January 15, 1998  
DATE EXTRACTED: January 20, 1998  
REVISED REPORT: February 3, 1998

PROJECT CODE: LANL1020  
ANALYSIS DATE: January 22, 1998  
STATION: MW-4  
REF. #: 115,605  
TIME SAMPLED: 11:40  
SAMPLER: Jason Barnard

<u>Parameter</u>	<u>Quantitation Limit (ug/L)</u>	<u>Concentration (ug/L)</u>
<b>BASE/NEUTRAL EXTRACTABLES:</b>		
Acenaphthene	2	ND <sup>1</sup>
Acenaphthylene	2	ND
Aldrin	10	ND
Aniline	10	ND
Anthracene	2	ND
Azobenzene	5	ND
Benzidine	10	ND
Benzo(a)anthracene	2	ND
Benzo(b&k)fluoranthene	2	ND
Benzo(a)pyrene	2	ND
Benzo(ghi)perylene	2	ND
alpha-BHC	10	ND
beta-BHC	10	ND
gamma-BHC	10	ND
delta-BHC	10	ND
Bis(2-chloroethyl)ether	5	ND
Bis(2-chloroethoxy)methane	5	ND
Bis(2-ethylhexyl)phthalate	4	ND
Bis(2-chloroisopropyl)ether	10	ND
4-Bromophenyl phenyl ether	2	ND
Butyl benzyl phthalate	4	ND
Carbazole	10	ND
4-Chloroaniline	5	ND
Chlordane	30	ND
1-Chloronaphthalene	2	ND
2-Chloronaphthalene	2	ND
4-Chlorophenyl phenyl ether	2	ND
Chrysene	2	ND
4,4'-DDD	20	ND
4,4'-DDE	20	ND
4,4'-DDT	20	ND
Dibenzofuran	2	ND





Laboratory Services

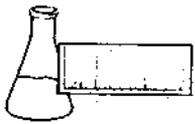
32 James Brown Drive  
Williston, Vermont 05495  
(802) 879-4333  
FAX 879-7103

EPA METHOD 8270 (continued)

REF. #: 115,605

<u>Parameter</u>	<u>Quantitation Limit (ug/L)</u>	<u>Concentration (ug/L)</u>
Dibenzo(a,h)anthracene	2	ND
Di-n-butylphthalate	4	ND
1,3-Dichlorobenzene	2	ND
1,2-Dichlorobenzene	2	ND
1,4-Dichlorobenzene	2	ND
3,3'-Dichlorobenzidine	5	ND
Dieldrin	10	ND
Diethyl phthalate	4	ND
Dimethyl phthalate	4	ND
2,4-Dinitrotoluene	5	ND
2,6-Dinitrotoluene	5	ND
Di-n-octylphthalate	4	ND
Endosulfan I	20	ND
Endosulfan II	20	ND
Endosulfan sulfate	20	ND
Endrin	20	ND
Endrin aldehyde	20	ND
Fluoranthene	2	ND
Fluorene	2	ND
Heptachlor	10	ND
Heptachlor epoxide	20	ND
Hexachlorobenzene	5	ND
Hexachlorobutadiene	5	ND
Hexachlorocyclopentadiene	20	ND
Hexachloroethane	5	ND
Indeno(1,2,3-cd)pyrene	2	ND
Isophorone	2	ND
Methoxychlor	5	ND
1-Methylnaphthalene	2	ND
2-Methylnaphthalene	2	ND
Naphthalene	2	ND
1-Naphthylamine	10	ND
2-Naphthylamine	10	ND
2-Nitroaniline	20	ND
3-Nitroaniline	20	ND
4-Nitroaniline	20	ND
Nitrobenzene	5	ND
N-Nitroso-di-n-butylamine	5	ND
N-Nitrosodiphenylamine	5	ND
N-Nitrosodimethylamine	10	ND
N-Nitrosodipropylamine	10	ND
N-Nitrosopiperidine	10	ND





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EPA METHOD 8270 (continued)

REF. #: 115,605

<u>Parameter</u>	<u>Quantitation Limit (ug/L)</u>	<u>Concentration (ug/L)</u>
PCB-1016	30	ND
PCB-1221	30	ND
PCB-1232	30	ND
PCB-1242	30	ND
PCB-1248	30	ND
PCB-1254	30	ND
PCB-1260	30	ND
Phenanthrene	2	ND
Pyrene	2	ND
Pyridine	10	ND
Toxaphene	30	ND
1,2,4-Trichlorobenzene	2	ND

**ACID EXTRACTABLES:**

Benzyl alcohol	10	ND
4-Chloro-3-methylphenol	10	ND
2-Chlorophenol	5	ND
2,4-Dichlorophenol	5	ND
2,6-Dichlorophenol	5	ND
2,4-Dimethylphenol	5	ND
4,6-Dinitro-2-methylphenol	50	ND
2,4-Dinitrophenol	10	ND
2-Methylphenol (o-cresol)	5	ND
3&4-Methylphenol (m&p-cresol)	5	ND
2-Nitrophenol	10	ND
4-Nitrophenol	10	ND
Pentachlorophenol	50	ND
Phenol	5	ND
2,4,5-Trichlorophenol	10	ND
2,4,6-Trichlorophenol	10	ND

NUMBER OF UNIDENTIFIED PEAKS: 0

SURROGATE RECOVERY:

2-Fluorophenol:	53.%	2-Fluorobiphenyl:	86.%
Phenol-d5:	36.%	2,4,6-Tribromophenol:	77.%
Nitrobenzene-d5:	83.%	Terphenyl-d14:	87.%

NOTES:

1 None detected



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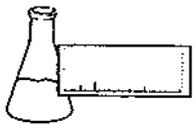
LABORATORY REPORT

EPA METHOD 8270 (LIQUID) -- GC/MS BASE/NEUTRALS AND ACIDS

CLIENT: Lincoln Applied Geology  
PROJECT NAME: Northern Lights Cable, Inc.  
REPORT DATE: January 22, 1998  
DATE SAMPLED: January 13, 1998  
DATE RECEIVED: January 15, 1998  
DATE EXTRACTED: January 20, 1998  
REVISED REPORT: February 3, 1998

PROJECT CODE: LANL1020  
ANALYSIS DATE: January 22, 1998  
STATION: MW-5  
REF. #: 115,609  
TIME SAMPLED: 15:20  
SAMPLER: Jason Barnard

<u>Parameter</u>	<u>Quantitation Limit (ug/L)</u>	<u>Concentration (ug/L)</u>
<b>BASE/NEUTRAL EXTRACTABLES:</b>		
Acenaphthene	2	ND <sup>1</sup>
Acenaphthylene	2	ND
Aldrin	10	ND
Aniline	10	ND
Anthracene	2	ND
Azobenzene	5	ND
Benzidine	10	ND
Benzo(a)anthracene	2	ND
Benzo(b&k)fluoranthene	2	ND
Benzo(a)pyrene	2	ND
Benzo(ghi)perylene	2	ND
alpha-BHC	10	ND
beta-BHC	10	ND
gamma-BHC	10	ND
delta-BHC	10	ND
Bis(2-chloroethyl)ether	5	ND
Bis(2-chloroethoxy)methane	5	ND
Bis(2-ethylhexyl)phthalate	4	ND
Bis(2-chloroisopropyl)ether	10	ND
4-Bromophenyl phenyl ether	2	ND
Butyl benzyl phthalate	4	ND
Carbazole	10	ND
4-Chloroaniline	5	ND
Chlordane	30	ND
1-Chloronaphthalene	2	ND
2-Chloronaphthalene	2	ND
4-Chlorophenyl phenyl ether	2	ND
Chrysene	2	ND
4,4'-DDD	20	ND
4,4'-DDE	20	ND
4,4'-DDT	20	ND
Dibenzofuran	2	ND

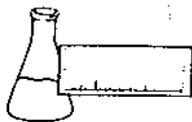


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(802) 879-4333  
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EPA METHOD 8270 (continued)

REF. #: 115,609

<u>Parameter</u>	<u>Quantitation Limit (ug/L)</u>	<u>Concentration (ug/L)</u>
Dibenzo(a,h)anthracene	2	ND
Di-n-butylphthalate	4	ND
1,3-Dichlorobenzene	2	ND
1,2-Dichlorobenzene	2	ND
1,4-Dichlorobenzene	2	ND
3,3'-Dichlorobenzidine	5	ND
Dieldrin	10	ND
Diethyl phthalate	4	ND
Dimethyl phthalate	4	ND
2,4-Dinitrotoluene	5	ND
2,6-Dinitrotoluene	5	ND
Di-n-octylphthalate	4	ND
Endosulfan I	20	ND
Endosulfan II	20	ND
Endosulfan sulfate	20	ND
Endrin	20	ND
Endrin aldehyde	20	ND
Fluoranthene	2	ND
Fluorene	2	ND
Heptachlor	10	ND
Heptachlor epoxide	20	ND
Hexachlorobenzene	5	ND
Hexachlorobutadiene	5	ND
Hexachlorocyclopentadiene	20	ND
Hexachloroethane	5	ND
Indeno(1,2,3-cd)pyrene	2	ND
Isophorone	2	ND
Methoxychlor	5	ND
1-Methylnaphthalene	2	ND
2-Methylnaphthalene	2	ND
Naphthalene	2	ND
1-Naphthylamine	10	ND
2-Naphthylamine	10	ND
2-Nitroaniline	20	ND
3-Nitroaniline	20	ND
4-Nitroaniline	20	ND
Nitrobenzene	5	ND
N-Nitroso-di-n-butylamine	5	ND
N-Nitrosodiphenylamine	5	ND
N-Nitrosodimethylamine	10	ND
N-Nitrosodipropylamine	10	ND
N-Nitrosopiperidine	10	ND



EPA METHOD 8270 (continued)

REF. #: 115,609

<u>Parameter</u>	<u>Quantitation Limit (ug/L)</u>	<u>Concentration (ug/L)</u>
PCB-1016	30	ND
PCB-1221	30	ND
PCB-1232	30	ND
PCB-1242	30	ND
PCB-1248	30	ND
PCB-1254	30	ND
PCB-1260	30	ND
Phenanthrene	2	ND
Pyrene	2	ND
Pyridine	10	ND
Toxaphene	30	ND
1,2,4-Trichlorobenzene	2	ND

### ACID EXTRACTABLES:

Benzyl alcohol	10	ND
4-Chloro-3-methylphenol	10	ND
2-Chlorophenol	5	ND
2,4-Dichlorophenol	5	ND
2,6-Dichlorophenol	5	ND
2,4-Dimethylphenol	5	ND
4,6-Dinitro-2-methylphenol	50	ND
2,4-Dinitrophenol	10	ND
2-Methylphenol (o-cresol)	5	ND
3&4-Methylphenol (m&p-cresol)	5	ND
2-Nitrophenol	10	ND
4-Nitrophenol	10	ND
Pentachlorophenol	50	ND
Phenol	5	ND
2,4,5-Trichlorophenol	10	ND
2,4,6-Trichlorophenol	10	ND

NUMBER OF UNIDENTIFIED PEAKS: 0

### SURROGATE RECOVERY:

2-Fluorophenol:	32.%	2-Fluorobiphenyl:	79.%
Phenol-d5:	18.%	2,4,6-Tribromophenol:	72.%
Nitrobenzene-d5:	74.%	Terphenyl-d14:	82.%

### NOTES:

1 None detected



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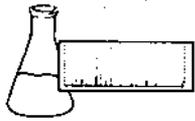
LABORATORY REPORT

EPA METHOD 8270 (LIQUID) -- GC/MS BASE/NEUTRALS AND ACIDS

CLIENT: Lincoln Applied Geology  
PROJECT NAME: Northern Lights Cable, Inc.  
REPORT DATE: January 22, 1998  
DATE SAMPLED: January 13, 1998  
DATE RECEIVED: January 15, 1998  
DATE EXTRACTED: January 20, 1998  
REVISED REPORT: February 3, 1998

PROJECT CODE: LANL1020  
ANALYSIS DATE: January 22, 1998  
STATION: MW-6  
REF. #: 115,607  
TIME SAMPLED: 14:00  
SAMPLER: Jason Barnard

<u>Parameter</u>	<u>Quantitation Limit (ug/L)</u>	<u>Concentration (ug/L)</u>
<b>BASE/NEUTRAL EXTRACTABLES:</b>		
Acenaphthene	2	ND <sup>1</sup>
Acenaphthylene	2	ND
Aldrin	10	ND
Aniline	10	ND
Anthracene	2	ND
Azobenzene	5	ND
Benzidine	10	ND
Benzo(a)anthracene	2	ND
Benzo(b&k)fluoranthene	2	ND
Benzo(a)pyrene	2	ND
Benzo(ghi)perylene	2	ND
alpha-BHC	10	ND
beta-BHC	10	ND
gamma-BHC	10	ND
delta-BHC	10	ND
Bis(2-chloroethyl)ether	5	ND
Bis(2-chloroethoxy)methane	5	ND
Bis(2-ethylhexyl)phthalate	4	ND
Bis(2-chloroisopropyl)ether	10	ND
4-Bromophenyl phenyl ether	2	ND
Butyl benzyl phthalate	4	ND
Carbazole	10	ND
4-Chloroaniline	5	ND
Chlordane	30	ND
1-Chloronaphthalene	2	ND
2-Chloronaphthalene	2	ND
4-Chlorophenyl phenyl ether	2	ND
Chrysene	2	ND
4,4'-DDD	20	ND
4,4'-DDE	20	ND
4,4'-DDT	20	ND
Dibenzofuran	2	ND



**ENDYNE, INC.**

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EPA METHOD 8270 (continued)

REF. #: 115,607

<u>Parameter</u>	<u>Quantitation Limit (ug/L)</u>	<u>Concentration (ug/L)</u>
Dibenzo(a,h)anthracene	2	ND
Di-n-butylphthalate	4	ND
1,3-Dichlorobenzene	2	ND
1,2-Dichlorobenzene	2	ND
1,4-Dichlorobenzene	2	ND
3,3'-Dichlorobenzidine	5	ND
Dieldrin	10	ND
Diethyl phthalate	4	ND
Dimethyl phthalate	4	ND
2,4-Dinitrotoluene	5	ND
2,6-Dinitrotoluene	5	ND
Di-n-octylphthalate	4	ND
Endosulfan I	20	ND
Endosulfan II	20	ND
Endosulfan sulfate	20	ND
Endrin	20	ND
Endrin aldehyde	20	ND
Fluoranthene	2	ND
Fluorene	2	ND
Heptachlor	10	ND
Heptachlor epoxide	20	ND
Hexachlorobenzene	5	ND
Hexachlorobutadiene	5	ND
Hexachlorocyclopentadiene	20	ND
Hexachloroethane	5	ND
Indeno(1,2,3-cd)pyrene	2	ND
Isophorone	2	ND
Methoxychlor	5	ND
1-Methylnaphthalene	2	ND
2-Methylnaphthalene	2	ND
Naphthalene	2	ND
1-Naphthylamine	10	ND
2-Naphthylamine	10	ND
2-Nitroaniline	20	ND
3-Nitroaniline	20	ND
4-Nitroaniline	20	ND
Nitrobenzene	5	ND
N-Nitroso-di-n-butylamine	5	ND
N-Nitrosodiphenylamine	5	ND
N-Nitrosodimethylamine	10	ND
N-Nitrosodipropylamine	10	ND
N-Nitrosopiperidine	10	ND

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EPA METHOD 8270 (continued)

REF. #: 115,607

<u>Parameter</u>	<u>Quantitation Limit (ug/L)</u>	<u>Concentration (ug/L)</u>
PCB-1016	30	ND
PCB-1221	30	ND
PCB-1232	30	ND
PCB-1242	30	ND
PCB-1248	30	ND
PCB-1254	30	ND
PCB-1260	30	ND
Phenanthrene	2	ND
Pyrene	2	ND
Pyridine	10	ND
Toxaphene	30	ND
1,2,4-Trichlorobenzene	2	ND

**ACID EXTRACTABLES:**

Benzyl alcohol	10	ND
4-Chloro-3-methylphenol	10	ND
2-Chlorophenol	5	ND
2,4-Dichlorophenol	5	ND
2,6-Dichlorophenol	5	ND
2,4-Dimethylphenol	5	ND
4,6-Dinitro-2-methylphenol	50	ND
2,4-Dinitrophenol	10	ND
2-Methylphenol (o-cresol)	5	ND
3&4-Methylphenol (m&p-cresol)	5	ND
2-Nitrophenol	10	ND
4-Nitrophenol	10	ND
Pentachlorophenol	50	ND
Phenol	5	ND
2,4,5-Trichlorophenol	10	ND
2,4,6-Trichlorophenol	10	ND

NUMBER OF UNIDENTIFIED PEAKS: 0

**SURROGATE RECOVERY:**

2-Fluorophenol:	26.0%	2-Fluorobiphenyl:	80.0%
Phenol-d5:	15.0%	2,4,6-Tribromophenol:	66.0%
Nitrobenzene-d5:	74.0%	Terphenyl-d14:	86.0%

NOTES:

1 None detected

**LABORATORY REPORT****EPA METHOD 8270 (LIQUID) -- GC/MS BASE/NEUTRALS AND ACIDS**CLIENT: Lincoln Applied Geology  
PROJECT NAME: Northern Lights Cable, Inc.  
REPORT DATE: January 22, 1998  
DATE SAMPLED: January 13, 1998  
DATE RECEIVED: January 15, 1998  
DATE EXTRACTED: January 20, 1998  
REVISED REPORT: February 3, 1998PROJECT CODE: LANL1020  
ANALYSIS DATE: January 22, 1998  
STATION: MW-7  
REF. #: 115,610  
TIME SAMPLED: 15:40  
SAMPLER: Jason Barnard

<u>Parameter</u>	<u>Quantitation Limit (ug/L)</u>	<u>Concentration (ug/L)</u>
<b>BASE/NEUTRAL EXTRACTABLES:</b>		
Acenaphthene	2	ND <sup>1</sup>
Acenaphthylene	2	ND
Aldrin	10	ND
Aniline	10	ND
Anthracene	2	ND
Azobenzene	5	ND
Benzidine	10	ND
Benzo(a)anthracene	2	ND
Benzo(b&k)fluoranthene	2	ND
Benzo(a)pyrene	2	ND
Benzo(ghi)perylene	2	ND
alpha-BHC	10	ND
beta-BHC	10	ND
gamma-BHC	10	ND
delta-BHC	10	ND
Bis(2-chloroethyl)ether	5	ND
Bis(2-chloroethoxy)methane	5	ND
Bis(2-ethylhexyl)phthalate	4	ND
Bis(2-chloroisopropyl)ether	10	ND
4-Bromophenyl phenyl ether	2	ND
Butyl benzyl phthalate	4	ND
Carbazole	10	ND
4-Chloroaniline	5	ND
Chlordane	30	ND
1-Chloronaphthalene	2	ND
2-Chloronaphthalene	2	ND
4-Chlorophenyl phenyl ether	2	ND
Chrysene	2	ND
4,4'-DDD	20	ND
4,4'-DDE	20	ND
4,4'-DDT	20	ND
Dibenzofuran	2	ND



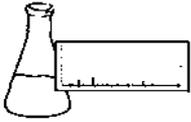
Laboratory Services

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Williston, Vermont 05495  
(802) 879-4333  
FAX 879-7103

EPA METHOD 8270 (continued)

REF. #: 115,610

<u>Parameter</u>	<u>Quantitation Limit (ug/L)</u>	<u>Concentration (ug/L)</u>
Dibenzo(a,h)anthracene	2	ND
Di-n-butylphthalate	4	ND
1,3-Dichlorobenzene	2	ND
1,2-Dichlorobenzene	2	ND
1,4-Dichlorobenzene	2	ND
3,3'-Dichlorobenzidine	5	ND
Dieldrin	10	ND
Diethyl phthalate	4	ND
Dimethyl phthalate	4	ND
2,4-Dinitrotoluene	5	ND
2,6-Dinitrotoluene	5	ND
Di-n-octylphthalate	4	ND
Endosulfan I	20	ND
Endosulfan II	20	ND
Endosulfan sulfate	20	ND
Endrin	20	ND
Endrin aldehyde	20	ND
Fluoranthene	2	ND
Fluorene	2	ND
Heptachlor	10	ND
Heptachlor epoxide	20	ND
Hexachlorobenzene	5	ND
Hexachlorobutadiene	5	ND
Hexachlorocyclopentadiene	20	ND
Hexachloroethane	5	ND
Indeno(1,2,3-cd)pyrene	2	ND
Isophorone	2	ND
Methoxychlor	5	ND
1-Methylnaphthalene	2	ND
2-Methylnaphthalene	2	ND
Naphthalene	2	ND
1-Naphthylamine	10	ND
2-Naphthylamine	10	ND
2-Nitroaniline	20	ND
3-Nitroaniline	20	ND
4-Nitroaniline	20	ND
Nitrobenzene	5	ND
N-Nitroso-di-n-butylamine	5	ND
N-Nitrosodiphenylamine	5	ND
N-Nitrosodimethylamine	10	ND
N-Nitrosodipropylamine	10	ND
N-Nitrosopiperidine	10	ND



EPA METHOD 8270 (continued)

REF. #: 115,610

<u>Parameter</u>	<u>Quantitation Limit (ug/L)</u>	<u>Concentration (ug/L)</u>
PCB-1016	30	ND
PCB-1221	30	ND
PCB-1232	30	ND
PCB-1242	30	ND
PCB-1248	30	ND
PCB-1254	30	ND
PCB-1260	30	ND
Phenanthrene	2	ND
Pyrene	2	ND
Pyridine	10	ND
Toxaphene	30	ND
1,2,4-Trichlorobenzene	2	ND

**ACID EXTRACTABLES:**

Benzyl alcohol	10	ND
4-Chloro-3-methylphenol	10	ND
2-Chlorophenol	5	ND
2,4-Dichlorophenol	5	ND
2,6-Dichlorophenol	5	ND
2,4-Dimethylphenol	5	ND
4,6-Dinitro-2-methylphenol	50	ND
2,4-Dinitrophenol	10	ND
2-Methylphenol (o-cresol)	5	ND
3&4-Methylphenol (m&p-cresol)	5	ND
2-Nitrophenol	10	ND
4-Nitrophenol	10	ND
Pentachlorophenol	50	ND
Phenol	5	ND
2,4,5-Trichlorophenol	10	ND
2,4,6-Trichlorophenol	10	ND

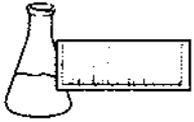
NUMBER OF UNIDENTIFIED PEAKS: >10

**SURROGATE RECOVERY:**

2-Fluorophenol:	16.%	2-Fluorobiphenyl:	69.%
Phenol-d5:	8.%	2,4,6-Tribromophenol:	62.%
Nitrobenzene-d5:	61.%	Terphenyl-d14:	76.%

NOTES:

1 None detected



LABORATORY REPORT

EPA METHOD 8270 (LIQUID) -- GC/MS BASE/NEUTRALS AND ACIDS

CLIENT: Lincoln Applied Geology  
PROJECT NAME: Northern Lights Cable, Inc.  
REPORT DATE: January 22, 1998  
DATE SAMPLED: January 13, 1998  
DATE RECEIVED: January 15, 1998  
DATE EXTRACTED: January 20, 1998  
REVISED REPORT: February 3, 1998

PROJECT CODE: LANL1020  
ANALYSIS DATE: January 21, 1998  
STATION: Trip Blank  
REF. #: 115,602  
TIME SAMPLED: 6:00  
SAMPLER: Jason Barnard

<u>Parameter</u>	<u>Quantitation Limit (ug/L)</u>	<u>Concentration (ug/L)</u>
<b>BASE/NEUTRAL EXTRACTABLES:</b>		
Acenaphthene	2	ND <sup>1</sup>
Acenaphthylene	2	ND
Aldrin	10	ND
Aniline	10	ND
Anthracene	2	ND
Azobenzene	5	ND
Benzidine	10	ND
Benzo(a)anthracene	2	ND
Benzo(b&k)fluoranthene	2	ND
Benzo(a)pyrene	2	ND
Benzo(ghi)perylene	2	ND
alpha-BHC	10	ND
beta-BHC	10	ND
gamma-BHC	10	ND
delta-BHC	10	ND
Bis(2-chloroethyl)ether	5	ND
Bis(2-chloroethoxy)methane	5	ND
Bis(2-ethylhexyl)phthalate	4	ND
Bis(2-chloroisopropyl)ether	10	ND
4-Bromophenyl phenyl ether	2	ND
Butyl benzyl phthalate	4	ND
Carbazole	10	ND
4-Chloroaniline	5	ND
Chlordane	30	ND
1-Chloronaphthalene	2	ND
2-Chloronaphthalene	2	ND
4-Chlorophenyl phenyl ether	2	ND
Chrysene	2	ND
4,4'-DDD	20	ND
4,4'-DDE	20	ND
4,4'-DDT	20	ND
Dibenzofuran	2	ND

115602 1998



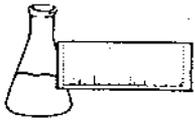
Laboratory Services

32 James Brown Drive  
Williston, Vermont 05495  
(802) 879-4333  
FAX 879-7103

EPA METHOD 8270 (continued)

REF. #: 115,602

<u>Parameter</u>	<u>Quantitation Limit (ug/L)</u>	<u>Concentration (ug/L)</u>
Dibenzo(a,h)anthracene	2	ND
Di-n-butylphthalate	4	ND
1,3-Dichlorobenzene	2	ND
1,2-Dichlorobenzene	2	ND
1,4-Dichlorobenzene	2	ND
3,3'-Dichlorobenzidine	5	ND
Dieldrin	10	ND
Diethyl phthalate	4	ND
Dimethyl phthalate	4	ND
2,4-Dinitrotoluene	5	ND
2,6-Dinitrotoluene	5	ND
Di-n-octylphthalate	4	ND
Endosulfan I	20	ND
Endosulfan II	20	ND
Endosulfan sulfate	20	ND
Endrin	20	ND
Endrin aldehyde	20	ND
Fluoranthene	2	ND
Fluorene	2	ND
Heptachlor	10	ND
Heptachlor epoxide	20	ND
Hexachlorobenzene	5	ND
Hexachlorobutadiene	5	ND
Hexachlorocyclopentadiene	20	ND
Hexachloroethane	5	ND
Indeno(1,2,3-cd)pyrene	2	ND
Isophorone	2	ND
Methoxychlor	5	ND
1-Methylnaphthalene	2	ND
2-Methylnaphthalene	2	ND
Naphthalene	2	ND
1-Naphthylamine	10	ND
2-Naphthylamine	10	ND
2-Nitroaniline	20	ND
3-Nitroaniline	20	ND
4-Nitroaniline	20	ND
Nitrobenzene	5	ND
N-Nitroso-di-n-butylamine	5	ND
N-Nitrosodiphenylamine	5	ND
N-Nitrosodimethylamine	10	ND
N-Nitrosodipropylamine	10	ND
N-Nitrosopiperidine	10	ND



EPA METHOD 8270 (continued)

REF. #: 115,602

<u>Parameter</u>	<u>Quantitation Limit (ug/L)</u>	<u>Concentration (ug/L)</u>
PCB-1016	30	ND
PCB-1221	30	ND
PCB-1232	30	ND
PCB-1242	30	ND
PCB-1248	30	ND
PCB-1254	30	ND
PCB-1260	30	ND
Phenanthrene	2	ND
Pyrene	2	ND
Pyridine	10	ND
Toxaphene	30	ND
1,2,4-Trichlorobenzene	2	ND

**ACID EXTRACTABLES:**

Benzyl alcohol	10	ND
4-Chloro-3-methylphenol	10	ND
2-Chlorophenol	5	ND
2,4-Dichlorophenol	5	ND
2,6-Dichlorophenol	5	ND
2,4-Dimethylphenol	5	ND
4,6-Dinitro-2-methylphenol	50	ND
2,4-Dinitrophenol	10	ND
2-Methylphenol (o-cresol)	5	ND
3&4-Methylphenol (m&p-cresol)	5	ND
2-Nitrophenol	10	ND
4-Nitrophenol	10	ND
Pentachlorophenol	50	ND
Phenol	5	ND
2,4,5-Trichlorophenol	10	ND
2,4,6-Trichlorophenol	10	ND

NUMBER OF UNIDENTIFIED PEAKS: 0

**SURROGATE RECOVERY:**

2-Fluorophenol:	38.%	2-Fluorobiphenyl:	79.%
Phenol-d5:	29.%	2,4,6-Tribromophenol:	67.%
Nitrobenzene-d5:	80.%	Terphenyl-d14:	81.%

NOTES:

1 None detected

FEB - 01



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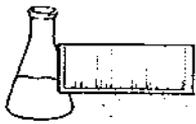
LABORATORY REPORT

EPA METHOD 8270 (LIQUID) -- GC/MS BASE/NEUTRALS AND ACIDS

CLIENT: Lincoln Applied Geology  
PROJECT NAME: Northern Lights Cable, Inc.  
REPORT DATE: January 22, 1998  
DATE SAMPLED: January 13, 1998  
DATE RECEIVED: January 15, 1998  
DATE EXTRACTED: January 20, 1998  
REVISED REPORT: February 3, 1998

PROJECT CODE: LANL1020  
ANALYSIS DATE: January 21, 1998  
STATION: Tubing Blank  
REF. #: 115,603  
TIME SAMPLED: 10:30  
SAMPLER: Jason Barnard

<u>Parameter</u>	<u>Quantitation Limit (ug/L)</u>	<u>Concentration (ug/L)</u>
<b>BASE/NEUTRAL EXTRACTABLES:</b>		
Acenaphthene	2	ND <sup>1</sup>
Acenaphthylene	2	ND
Aldrin	10	ND
Aniline	10	ND
Anthracene	2	ND
Azobenzene	5	ND
Benzidine	10	ND
Benzo(a)anthracene	2	ND
Benzo(b&k)fluoranthene	2	ND
Benzo(a)pyrene	2	ND
Benzo(ghi)perylene	2	ND
alpha-BHC	10	ND
beta-BHC	10	ND
gamma-BHC	10	ND
delta-BHC	10	ND
Bis(2-chloroethyl)ether	5	ND
Bis(2-chloroethoxy)methane	5	ND
Bis(2-ethylhexyl)phthalate	4	ND
Bis(2-chloroisopropyl)ether	10	ND
4-Bromophenyl phenyl ether	2	ND
Butyl benzyl phthalate	4	ND
Carbazole	10	ND
4-Chloroaniline	5	ND
Chlordane	30	ND
1-Chloronaphthalene	2	ND
2-Chloronaphthalene	2	ND
4-Chlorophenyl phenyl ether	2	ND
Chrysene	2	ND
4,4'-DDD	20	ND
4,4'-DDE	20	ND
4,4'-DDT	20	ND
Dibenzofuran	2	ND



EPA METHOD 8270 (continued)

REF. #: 115,603

<u>Parameter</u>	<u>Quantitation Limit (ug/L)</u>	<u>Concentration (ug/L)</u>
Dibenzo(a,h)anthracene	2	ND
Di-n-butylphthalate	4	ND
1,3-Dichlorobenzene	2	ND
1,2-Dichlorobenzene	2	ND
1,4-Dichlorobenzene	2	ND
3,3'-Dichlorobenzidine	5	ND
Dieldrin	10	ND
Diethyl phthalate	4	ND
Dimethyl phthalate	4	ND
2,4-Dinitrotoluene	5	ND
2,6-Dinitrotoluene	5	ND
Di-n-octylphthalate	4	ND
Endosulfan I	20	ND
Endosulfan II	20	ND
Endosulfan sulfate	20	ND
Endrin	20	ND
Endrin aldehyde	20	ND
Fluoranthene	2	ND
Fluorene	2	ND
Heptachlor	10	ND
Heptachlor epoxide	20	ND
Hexachlorobenzene	5	ND
Hexachlorobutadiene	5	ND
Hexachlorocyclopentadiene	20	ND
Hexachloroethane	5	ND
Indeno(1,2,3-cd)pyrene	2	ND
Isophorone	2	ND
Methoxychlor	5	ND
1-Methylnaphthalene	2	ND
2-Methylnaphthalene	2	ND
Naphthalene	2	ND
1-Naphthylamine	10	ND
2-Naphthylamine	10	ND
2-Nitroaniline	20	ND
3-Nitroaniline	20	ND
4-Nitroaniline	20	ND
Nitrobenzene	5	ND
N-Nitroso-di-n-butylamine	5	ND
N-Nitrosodiphenylamine	5	ND
N-Nitrosodimethylamine	10	ND
N-Nitrosodipropylamine	10	ND
N-Nitrosopiperidine	10	ND



EPA METHOD 8270 (continued)

REF. #: 115,603

<u>Parameter</u>	<u>Quantitation Limit (ug/L)</u>	<u>Concentration (ug/L)</u>
PCB-1016	30	ND
PCB-1221	30	ND
PCB-1232	30	ND
PCB-1242	30	ND
PCB-1248	30	ND
PCB-1254	30	ND
PCB-1260	30	ND
Phenanthrene	2	ND
Pyrene	2	ND
Pyridine	10	ND
Toxaphene	30	ND
1,2,4-Trichlorobenzene	2	ND

**ACID EXTRACTABLES:**

Benzyl alcohol	10	ND
4-Chloro-3-methylphenol	10	ND
2-Chlorophenol	5	ND
2,4-Dichlorophenol	5	ND
2,6-Dichlorophenol	5	ND
2,4-Dimethylphenol	5	ND
4,6-Dinitro-2-methylphenol	50	ND
2,4-Dinitrophenol	10	ND
2-Methylphenol (o-cresol)	5	ND
3&4-Methylphenol (m&p-cresol)	5	ND
2-Nitrophenol	10	ND
4-Nitrophenol	10	ND
Pentachlorophenol	50	ND
Phenol	5	ND
2,4,5-Trichlorophenol	10	ND
2,4,6-Trichlorophenol	10	ND

NUMBER OF UNIDENTIFIED PEAKS: 0

**SURROGATE RECOVERY:**

2-Fluorophenol:	43.%	2-Fluorobiphenyl:	69.%
Phenol-d5:	31.%	2,4,6-Tribromophenol:	72.%
Nitrobenzene-d5:	70.%	Terphenyl-d14:	67.%

NOTES:

1 None detected



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LABORATORY REPORT

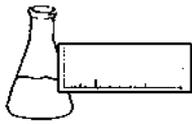
EPA METHOD 8270 (LIQUID) -- GC/MS BASE/NEUTRALS AND ACIDS

CLIENT: Lincoln Applied Geology  
PROJECT NAME: Northern Lights Cable, Inc.  
REPORT DATE: January 22, 1998  
DATE SAMPLED: January 13, 1998  
DATE RECEIVED: January 15, 1998  
DATE EXTRACTED: January 20, 1998  
REVISED REPORT: February 3, 1998

PROJECT CODE: LANL1020  
ANALYSIS DATE: January 21, 1998  
STATION: Bailer Blank  
REF. #: 115,604  
TIME SAMPLED: 10:40  
SAMPLER: Jason Barnard

<u>Parameter</u>	<u>Quantitation Limit (ug/L)</u>	<u>Concentration (ug/L)</u>
<b>BASE/NEUTRAL EXTRACTABLES:</b>		
Acenaphthene	2	ND <sup>1</sup>
Acenaphthylene	2	ND
Aldrin	10	ND
Aniline	10	ND
Anthracene	2	ND
Azobenzene	5	ND
Benzidine	10	ND
Benzo(a)anthracene	2	ND
Benzo(b&k)fluoranthene	2	ND
Benzo(a)pyrene	2	ND
Benzo(ghi)perylene	2	ND
alpha-BHC	10	ND
beta-BHC	10	ND
gamma-BHC	10	ND
delta-BHC	10	ND
Bis(2-chloroethyl)ether	5	ND
Bis(2-chloroethoxy)methane	5	ND
Bis(2-ethylhexyl)phthalate	4	ND
Bis(2-chloroisopropyl)ether	10	ND
4-Bromophenyl phenyl ether	2	ND
Butyl benzyl phthalate	4	ND
Carbazole	10	ND
4-Chloroaniline	5	ND
Chlordane	30	ND
1-Chloronaphthalene	2	ND
2-Chloronaphthalene	2	ND
4-Chlorophenyl phenyl ether	2	ND
Chrysene	2	ND
4,4'-DDD	20	ND
4,4'-DDE	20	ND
4,4'-DDT	20	ND
Dibenzofuran	2	ND

FEB 1998

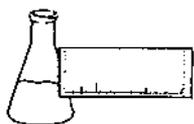


EPA METHOD 8270 (continued)

REF. #: 115,604

<u>Parameter</u>	<u>Quantitation Limit (ug/L)</u>	<u>Concentration (ug/L)</u>
Dibenzo(a,h)anthracene	2	ND
Di-n-butylphthalate	4	ND
1,3-Dichlorobenzene	2	ND
1,2-Dichlorobenzene	2	ND
1,4-Dichlorobenzene	2	ND
3,3'-Dichlorobenzidine	5	ND
Dieldrin	10	ND
Diethyl phthalate	4	ND
Dimethyl phthalate	4	ND
2,4-Dinitrotoluene	5	ND
2,6-Dinitrotoluene	5	ND
Di-n-octylphthalate	4	ND
Endosulfan I	20	ND
Endosulfan II	20	ND
Endosulfan sulfate	20	ND
Endrin	20	ND
Endrin aldehyde	20	ND
Fluoranthene	2	ND
Fluorene	2	ND
Heptachlor	10	ND
Heptachlor epoxide	20	ND
Hexachlorobenzene	5	ND
Hexachlorobutadiene	5	ND
Hexachlorocyclopentadiene	20	ND
Hexachloroethane	5	ND
Indeno(1,2,3-cd)pyrene	2	ND
Isophorone	2	ND
Methoxychlor	5	ND
1-Methylnaphthalene	2	ND
2-Methylnaphthalene	2	ND
Naphthalene	2	ND
1-Naphthylamine	10	ND
2-Naphthylamine	10	ND
2-Nitroaniline	20	ND
3-Nitroaniline	20	ND
4-Nitroaniline	20	ND
Nitrobenzene	5	ND
N-Nitroso-di-n-butylamine	5	ND
N-Nitrosodiphenylamine	5	ND
N-Nitrosodimethylamine	10	ND
N-Nitrosodipropylamine	10	ND
N-Nitrosopiperidine	10	ND

FEB - 5



EPA METHOD 8270 (continued)

REF. #: 115,604

<u>Parameter</u>	<u>Quantitation Limit (ug/L)</u>	<u>Concentration (ug/L)</u>
PCB-1016	30	ND
PCB-1221	30	ND
PCB-1232	30	ND
PCB-1242	30	ND
PCB-1248	30	ND
PCB-1254	30	ND
PCB-1260	30	ND
Phenanthrene	2	ND
Pyrene	2	ND
Pyridine	10	ND
Toxaphene	30	ND
1,2,4-Trichlorobenzene	2	ND

**ACID EXTRACTABLES:**

Benzyl alcohol	10	ND
4-Chloro-3-methylphenol	10	ND
2-Chlorophenol	5	ND
2,4-Dichlorophenol	5	ND
2,6-Dichlorophenol	5	ND
2,4-Dimethylphenol	5	ND
4,6-Dinitro-2-methylphenol	50	ND
2,4-Dinitrophenol	10	ND
2-Methylphenol (o-cresol)	5	ND
3&4-Methylphenol (m&p-cresol)	5	ND
2-Nitrophenol	10	ND
4-Nitrophenol	10	ND
Pentachlorophenol	50	ND
Phenol	5	ND
2,4,5-Trichlorophenol	10	ND
2,4,6-Trichlorophenol	10	ND

NUMBER OF UNIDENTIFIED PEAKS: 0

**SURROGATE RECOVERY:**

2-Fluorophenol:	66.%	2-Fluorobiphenyl:	109.%
Phenol-d5:	55.%	2,4,6-Tribromophenol:	94.%
Nitrobenzene-d5:	110.%	Terphenyl-d14:	113.%

NOTES:

1 None detected

PCB



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## REPORT OF LABORATORY ANALYSIS

CLIENT: Lincoln Applied Geology  
PROJECT NAME: Northern Lights Cable, Inc.  
REPORT DATE: February 5, 1998  
DATE SAMPLED: January 13, 1998

PROJECT CODE: LANL3021  
REF.#: 115,612 - 115,618

Enclosed please find the results of the analyses performed for the samples referenced on the attached chain of custody.

Chain of custody indicated metals preservation in the field with  $\text{HNO}_3$ .

All samples were prepared and analyzed by requirements outlined in the referenced methods and within the specified holding times.

All instrumentation was calibrated with the appropriate frequency and verified by the requirements outlined in the referenced methods.

Blank contamination was not observed at levels affecting the analytical results.

Analytical method precision and accuracy was monitored by laboratory control standards which included matrix spike, duplicate and quality control analyses. These standards were determined to be within established laboratory method acceptance limits.

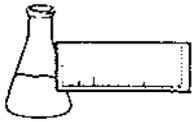
Reviewed by,

A handwritten signature in black ink, appearing to read "H. Locker", is written over the "Reviewed by," text.

Harry B. Locker, Ph.D.  
Laboratory Director

enclosures

FEB 17 1998



**ENDYNE, INC.**

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LABORATORY REPORT

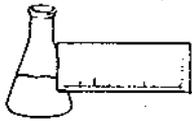
CLIENT: Lincoln Applied Geology      PROJECT CODE: LANL3021  
PROJECT NAME: Northern Lights Cable, Inc. REF. #: 115,618  
REPORT DATE: February 5, 1998      STATION: MW-1  
DATE SAMPLED: January 13, 1998      TIME SAMPLED: 16:10  
DATE RECEIVED: January 15, 1998      SAMPLER: Jason Barnard

Digestion was performed by EPA Method 3010/3020.

<u>Parameter</u>	<u>Concentration</u> (mg/L, ppm)	<u>Reporting Limit</u> (mg/L, ppm)	<u>Analytical Method</u>	<u>Analysis Date</u>
Total Antimony	ND <sup>1</sup>	0.003	SM 3113B	1/21/98
Total Arsenic	ND	0.005	SM 3113B	1/22/98
Total Beryllium	ND	0.002	EPA 200.7	1/22/98
Total Cadmium	ND	0.002	EPA 200.7	1/22/98
Total Chromium	ND	0.010	EPA 200.7	1/22/98
Total Copper	0.014	0.010	EPA 200.7	1/22/98
Total Lead	ND	0.002	SM 3113B	1/22/98
Total Mercury	ND	0.001	EPA 245.1	1/29/98
Total Nickel	ND	0.020	EPA 200.7	1/22/98
Total Selenium	ND	0.010	SM 3113B	1/21/98
Total Silver	ND	0.010	EPA 200.7	1/22/98
Total Thallium	ND	0.002	SM 3113B	1/21/98
Total Zinc	0.011	0.010	EPA 200.7	1/22/98

NOTES:

1 None Detected



**ENDYNE, INC.**

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**LABORATORY REPORT**

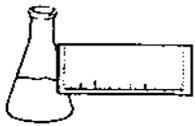
CLIENT: Lincoln Applied Geology      PROJECT CODE: LANL3021  
PROJECT NAME: Northern Lights Cable, Inc. REF. #: 115,615  
REPORT DATE: February 5, 1998      STATION: MW-2  
DATE SAMPLED: January 13, 1998      TIME SAMPLED: 14:30  
DATE RECEIVED: January 15, 1998      SAMPLER: Jason Barnard

Digestion was performed by EPA Method 3010/3020.

<u>Parameter</u>	<u>Concentration</u> (mg/L, ppm)	<u>Reporting Limit</u> (mg/L, ppm)	<u>Analytical Method</u>	<u>Analysis Date</u>
Total Antimony	ND <sup>1</sup>	0.003	SM 3113B	1/21/98
Total Arsenic	ND	0.005	SM 3113B	1/22/98
Total Beryllium	ND	0.002	EPA 200.7	1/22/98
Total Cadmium	ND	0.002	EPA 200.7	1/22/98
Total Chromium	ND	0.010	EPA 200.7	1/22/98
Total Copper	0.014	0.010	EPA 200.7	1/22/98
Total Lead	ND	0.002	SM 3113B	1/22/98
Total Mercury	ND	0.001	EPA 245.1	1/29/98
Total Nickel	ND	0.020	EPA 200.7	1/22/98
Total Selenium	ND	0.010	SM 3113B	1/21/98
Total Silver	ND	0.010	EPA 200.7	1/22/98
Total Thallium	ND	0.002	SM 3113B	1/21/98
Total Zinc	0.022	0.010	EPA 200.7	1/22/98

NOTES:

1 None Detected



**ENDYNE, INC.**

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LABORATORY REPORT

CLIENT: Lincoln Applied Geology      PROJECT CODE: LANL3021  
PROJECT NAME: Northern Lights Cable, Inc. REF. #: 115,613  
REPORT DATE: February 5, 1998      STATION: MW-3  
DATE SAMPLED: January 13, 1998      TIME SAMPLED: 13:00  
DATE RECEIVED: January 15, 1998      SAMPLER: Jason Barnard

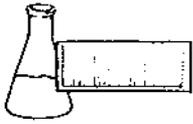
Digestion was performed by EPA Method 3010/3020.

<u>Parameter</u>	<u>Concentration</u> (mg/L, ppm)	<u>Reporting Limit</u> (mg/L, ppm)	<u>Analytical Method</u>	<u>Analysis Date</u>
Total Antimony	ND <sup>1</sup>	0.003	SM 3113B	1/21/98
Total Arsenic	ND	0.005	SM 3113B	1/22/98
Total Beryllium	ND	0.002	EPA 200.7	1/22/98
Total Cadmium	ND	0.002	EPA 200.7	1/22/98
Total Chromium	ND	0.010	EPA 200.7	1/22/98
Total Copper	ND	0.010	EPA 200.7	1/22/98
Total Lead	ND	0.002	SM 3113B	1/22/98
Total Mercury	ND	0.001	EPA 245.1	1/29/98
Total Nickel	ND	0.020	EPA 200.7	1/22/98
Total Selenium	ND	0.010	SM 3113B	1/21/98
Total Silver	ND	0.010	EPA 200.7	1/22/98
Total Thallium	ND	0.002	SM 3113B	1/21/98
Total Zinc	ND	0.010	EPA 200.7	1/22/98

NOTES:

1 None Detected

FEB - 7 1998



**ENDYNE, INC.**

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**LABORATORY REPORT**

CLIENT: Lincoln Applied Geology      PROJECT CODE: LANL3021  
PROJECT NAME: Northern Lights Cable, Inc. REF. #: 115,612  
REPORT DATE: February 5, 1998      STATION: MW-4  
DATE SAMPLED: January 13, 1998      TIME SAMPLED: 11:10  
DATE RECEIVED: January 15, 1998      SAMPLER: Jason Barnard

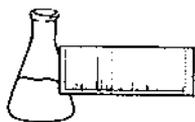
Digestion was performed by EPA Method 3010/3020.

<u>Parameter</u>	<u>Concentration</u> <u>(mg/L, ppm)</u>	<u>Reporting Limit</u> <u>(mg/L, ppm)</u>	<u>Analytical Method</u>	<u>Analysis Date</u>
Total Antimony	ND <sup>1</sup>	0.003	SM 3113B	1/21/98
Total Arsenic	ND	0.005	SM 3113B	1/22/98
Total Beryllium	ND	0.002	EPA 200.7	1/22/98
Total Cadmium	ND	0.002	EPA 200.7	1/22/98
Total Chromium	ND	0.010	EPA 200.7	1/22/98
Total Copper	ND	0.010	EPA 200.7	1/22/98
Total Lead	ND	0.002	SM 3113B	1/22/98
Total Mercury	ND	0.001	EPA 245.1	1/29/98
Total Nickel	ND	0.020	EPA 200.7	1/22/98
Total Selenium	ND	0.010	SM 3113B	1/21/98
Total Silver	ND	0.010	EPA 200.7	1/22/98
Total Thallium	ND	0.002	SM 3113B	1/21/98
Total Zinc	ND	0.010	EPA 200.7	1/22/98

NOTES:

1 None Detected

FEB - 7 - 1998



**ENDYNE, INC.**

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**LABORATORY REPORT**

CLIENT: Lincoln Applied Geology      PROJECT CODE: LANL3021  
PROJECT NAME: Northern Lights Cable, Inc. REF. #: 115,616  
REPORT DATE: February 5, 1998      STATION: MW-5  
DATE SAMPLED: January 13, 1998      TIME SAMPLED: 15:00  
DATE RECEIVED: January 15, 1998      SAMPLER: Jason Barnard

Digestion was performed by EPA Method 3010/3020.

<u>Parameter</u>	<u>Concentration</u> (mg/L, ppm)	<u>Reporting Limit</u> (mg/L, ppm)	<u>Analytical Method</u>	<u>Analysis Date</u>
Total Antimony	ND <sup>1</sup>	0.003	SM 3113B	1/21/98
Total Arsenic	ND	0.005	SM 3113B	1/22/98
Total Beryllium	ND	0.002	EPA 200.7	1/22/98
Total Cadmium	ND	0.002	EPA 200.7	1/22/98
Total Chromium	ND	0.010	EPA 200.7	1/22/98
Total Copper	ND	0.010	EPA 200.7	1/22/98
Total Lead	ND	0.002	SM 3113B	1/22/98
Total Mercury	ND	0.001	EPA 245.1	1/29/98
Total Nickel	ND	0.020	EPA 200.7	1/22/98
Total Selenium	ND	0.010	SM 3113B	1/21/98
Total Silver	ND	0.010	EPA 200.7	1/22/98
Total Thallium	ND	0.002	SM 3113B	1/21/98
Total Zinc	ND	0.010	EPA 200.7	1/22/98

NOTES:

1 None Detected



**ENDYNE, INC.**

Laboratory Services

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LABORATORY REPORT

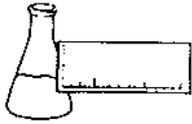
CLIENT: Lincoln Applied Geology      PROJECT CODE: LANL3021  
PROJECT NAME: Northern Lights Cable, Inc. REF. #: 115,614  
REPORT DATE: February 5, 1998      STATION: MW-6  
DATE SAMPLED: January 13, 1998      TIME SAMPLED: 13:45  
DATE RECEIVED: January 15, 1998      SAMPLER: Jason Barnard

Digestion was performed by EPA Method 3010/3020.

<u>Parameter</u>	<u>Concentration</u> (mg/L, ppm)	<u>Reporting Limit</u> (mg/L, ppm)	<u>Analytical Method</u>	<u>Analysis Date</u>
Total Antimony	ND <sup>1</sup>	0.003	SM 3113B	1/21/98
Total Arsenic	ND	0.005	SM 3113B	1/22/98
Total Beryllium	ND	0.002	EPA 200.7	1/22/98
Total Cadmium	ND	0.002	EPA 200.7	1/22/98
Total Chromium	ND	0.010	EPA 200.7	1/22/98
Total Copper	ND	0.010	EPA 200.7	1/22/98
Total Lead	ND	0.002	SM 3113B	1/22/98
Total Mercury	ND	0.001	EPA 245.1	1/29/98
Total Nickel	ND	0.020	EPA 200.7	1/22/98
Total Selenium	ND	0.010	SM 3113B	1/21/98
Total Silver	ND	0.010	EPA 200.7	1/22/98
Total Thallium	ND	0.002	SM 3113B	1/21/98
Total Zinc	0.020	0.010	EPA 200.7	1/22/98

NOTES:

1 None Detected



**ENDYNE, INC.**

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**LABORATORY REPORT**

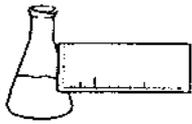
CLIENT: Lincoln Applied Geology      PROJECT CODE: LANL3021  
PROJECT NAME: Northern Lights Cable, Inc. REF. #: 115,617  
REPORT DATE: February 5, 1998      STATION: MW-7  
DATE SAMPLED: January 13, 1998      TIME SAMPLED: 15:30  
DATE RECEIVED: January 15, 1998      SAMPLER: Jason Barnard

Digestion was performed by EPA Method 3010/3020.

<u>Parameter</u>	<u>Concentration</u> (mg/L, ppm)	<u>Reporting Limit</u> (mg/L, ppm)	<u>Analytical Method</u>	<u>Analysis Date</u>
Total Antimony	ND <sup>1</sup>	0.003	SM 3113B	1/21/98
Total Arsenic	ND	0.005	SM 3113B	1/22/98
Total Beryllium	ND	0.002	EPA 200.7	1/22/98
Total Cadmium	ND	0.002	EPA 200.7	1/22/98
Total Chromium	ND	0.010	EPA 200.7	1/22/98
Total Copper	ND	0.010	EPA 200.7	1/22/98
Total Lead	0.004	0.002	SM 3113B	1/22/98
Total Mercury	ND	0.001	EPA 245.1	1/29/98
Total Nickel	ND	0.020	EPA 200.7	1/22/98
Total Selenium	ND	0.010	SM 3113B	1/21/98
Total Silver	ND	0.010	EPA 200.7	1/22/98
Total Thallium	ND	0.002	SM 3113B	1/21/98
Total Zinc	ND	0.010	EPA 200.7	1/22/98

NOTES:

1 None Detected



**ENDYNE, INC.**

**LABORATORY REPORT**

**Laboratory Services**

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CLIENT: Lincoln Applied Geology  
PROJECT NAME: Northern Lights Cable, Inc.  
REPORT DATE: February 5, 1998  
DATE SAMPLED: January 13, 1998  
DATE RECEIVED: January 15, 1998

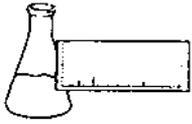
PROJECT CODE: LANL3021  
REF. #: 115,618  
STATION: MW-1  
TIME SAMPLED: 16:10  
SAMPLER: Jason Barnard

<u>Parameter</u>	<u>Concentration</u> (mg/L, ppm)	<u>Reporting Limit</u> (mg/L, ppm)	<u>Analytical Method</u>	<u>Analysis Date</u>
Dissolved Antimony	ND <sup>1</sup>	0.003	SM 3113B	1/26/98
Dissolved Arsenic	ND	0.005	SM 3113B	1/28/98
Dissolved Beryllium	ND	0.002	EPA 200.7	1/22/98
Dissolved Cadmium	ND	0.002	EPA 200.7	1/22/98
Dissolved Chromium	ND	0.010	EPA 200.7	1/22/98
Dissolved Copper	ND	0.010	EPA 200.7	1/22/98
Dissolved Lead	ND	0.002	SM 3113B	1/27/98
Dissolved Mercury	ND	0.001	EPA 245.1	1/29/98
Dissolved Nickel	ND	0.020	EPA 200.7	1/22/98
Dissolved Selenium	ND	0.010	SM 3113B	1/28/98
Dissolved Silver	ND	0.010	EPA 200.7	1/22/98
Dissolved Thallium	ND	0.002	SM 3113B	1/27/97
Dissolved Zinc	ND	0.010	EPA 200.7	1/22/98

**NOTES:**

1 None Detected

FEB - 7 1998



**ENDYNE, INC.**

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**LABORATORY REPORT**

CLIENT: Lincoln Applied Geology  
PROJECT NAME: Northern Lights Cable, Inc.  
REPORT DATE: February 5, 1998  
DATE SAMPLED: January 13, 1998  
DATE RECEIVED: January 15, 1998

PROJECT CODE: LANL3021  
REF. #: 115,615  
STATION: MW-2  
TIME SAMPLED: 14:30  
SAMPLER: Jason Barnard

<u>Parameter</u>	<u>Concentration</u> (mg/L, ppm)	<u>Reporting Limit</u> (mg/L, ppm)	<u>Analytical Method</u>	<u>Analysis Date</u>
Dissolved Antimony	ND <sup>1</sup>	0.003	SM 3113B	1/26/98
Dissolved Arsenic	ND	0.005	SM 3113B	1/28/98
Dissolved Beryllium	ND	0.002	EPA 200.7	1/22/98
Dissolved Cadmium	ND	0.002	EPA 200.7	1/22/98
Dissolved Chromium	ND	0.010	EPA 200.7	1/22/98
Dissolved Copper	ND	0.010	EPA 200.7	1/22/98
Dissolved Lead	ND	0.002	SM 3113B	1/27/98
Dissolved Mercury	ND	0.001	EPA 245.1	1/29/98
Dissolved Nickel	ND	0.020	EPA 200.7	1/22/98
Dissolved Selenium	ND	0.010	SM 3113B	1/28/98
Dissolved Silver	ND	0.010	EPA 200.7	1/22/98
Dissolved Thallium	ND	0.002	SM 3113B	1/27/98
Dissolved Zinc	ND	0.010	EPA 200.7	1/22/98

NOTES:

1 None Detected

FEB - 1



**ENDYNE, INC.**

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**LABORATORY REPORT**

CLIENT: Lincoln Applied Geology      PROJECT CODE: LANL3021  
PROJECT NAME: Northern Lights Cable, Inc. REF. #: 115,613  
REPORT DATE: February 5, 1998      STATION: MW-3  
DATE SAMPLED: January 13, 1998      TIME SAMPLED: 13:00  
DATE RECEIVED: January 15, 1998      SAMPLER: Jason Barnard

<u>Parameter</u>	<u>Concentration</u> (mg/L, ppm)	<u>Reporting Limit</u> (mg/L, ppm)	<u>Analytical Method</u>	<u>Analysis Date</u>
Dissolved Antimony	ND <sup>1</sup>	0.003	SM 3113B	1/26/98
Dissolved Arsenic	ND	0.005	SM 3113B	1/28/98
Dissolved Beryllium	ND	0.002	EPA 200.7	1/22/98
Dissolved Cadmium	ND	0.002	EPA 200.7	1/22/98
Dissolved Chromium	ND	0.010	EPA 200.7	1/22/98
Dissolved Copper	ND	0.010	EPA 200.7	1/22/98
Dissolved Lead	ND	0.002	SM 3113B	1/27/98
Dissolved Mercury	ND	0.001	EPA 245.1	1/29/98
Dissolved Nickel	ND	0.020	EPA 200.7	1/22/98
Dissolved Selenium	ND	0.010	SM 3113B	1/28/98
Dissolved Silver	ND	0.010	EPA 200.7	1/22/98
Dissolved Thallium	ND	0.002	SM 3113B	1/27/98
Dissolved Zinc	ND	0.010	EPA 200.7	1/22/98

NOTES:

1 None Detected

1/28/98



**ENDYNE, INC.**

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**LABORATORY REPORT**

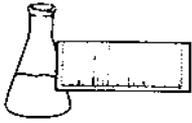
CLIENT: Lincoln Applied Geology      PROJECT CODE: LANL3021  
PROJECT NAME: Northern Lights Cable, Inc. REF. #: 115,612  
REPORT DATE: February 5, 1998      STATION: MW-4  
DATE SAMPLED: January 13, 1998      TIME SAMPLED: 11:10  
DATE RECEIVED: January 15, 1998      SAMPLER: Jason Barnard

<u>Parameter</u>	<u>Concentration</u> (mg/L, ppm)	<u>Reporting Limit</u> (mg/L, ppm)	<u>Analytical Method</u>	<u>Analysis Date</u>
Dissolved Antimony	ND <sup>1</sup>	0.003	SM 3113B	1/26/98
Dissolved Arsenic	ND	0.005	SM 3113B	1/28/98
Dissolved Beryllium	ND	0.002	EPA 200.7	1/22/98
Dissolved Cadmium	ND	0.002	EPA 200.7	1/22/98
Dissolved Chromium	ND	0.010	EPA 200.7	1/22/98
Dissolved Copper	ND	0.010	EPA 200.7	1/22/98
Dissolved Lead	ND	0.002	SM 3113B	1/27/98
Dissolved Mercury	ND	0.001	EPA 245.1	1/29/98
Dissolved Nickel	ND	0.020	EPA 200.7	1/22/98
Dissolved Selenium	ND	0.010	SM 3113B	1/28/98
Dissolved Silver	ND	0.010	EPA 200.7	1/22/98
Dissolved Thallium	ND	0.002	SM 3113B	1/27/98
Dissolved Zinc	ND	0.010	EPA 200.7	1/22/98

**NOTES:**

1 None Detected

FEB - 7 98



**ENDYNE, INC.**

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**LABORATORY REPORT**

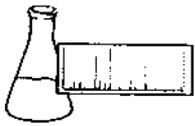
CLIENT: Lincoln Applied Geology      PROJECT CODE: LANL3021  
PROJECT NAME: Northern Lights Cable, Inc. REF. #: 115,616  
REPORT DATE: February 5, 1998      STATION: MW-5  
DATE SAMPLED: January 13, 1998      TIME SAMPLED: 15:00  
DATE RECEIVED: January 15, 1998      SAMPLER: Jason Barnard

<u>Parameter</u>	<u>Concentration</u> <u>(mg/L, ppm)</u>	<u>Reporting Limit</u> <u>(mg/L, ppm)</u>	<u>Analytical Method</u>	<u>Analysis Date</u>
Dissolved Antimony	ND <sup>1</sup>	0.003	SM 3113B	1/26/98
Dissolved Arsenic	ND	0.005	SM 3113B	1/28/98
Dissolved Beryllium	ND	0.002	EPA 200.7	1/22/98
Dissolved Cadmium	ND	0.002	EPA 200.7	1/22/98
Dissolved Chromium	ND	0.010	EPA 200.7	1/22/98
Dissolved Copper	ND	0.010	EPA 200.7	1/22/98
Dissolved Lead	ND	0.002	SM 3113B	1/27/98
Dissolved Mercury	ND	0.001	EPA 245.1	1/29/98
Dissolved Nickel	ND	0.020	EPA 200.7	1/22/98
Dissolved Selenium	ND	0.010	SM 3113B	1/28/98
Dissolved Silver	ND	0.010	EPA 200.7	1/22/98
Dissolved Thallium	ND	0.002	SM 3113B	1/27/98
Dissolved Zinc	ND	0.010	EPA 200.7	1/22/98

NOTES:

1 None Detected

FEB - 7 1998



**ENDYNE, INC.**

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LABORATORY REPORT

CLIENT: Lincoln Applied Geology  
PROJECT NAME: Northern Lights Cable, Inc.  
REPORT DATE: February 5, 1998  
DATE SAMPLED: January 13, 1998  
DATE RECEIVED: January 15, 1998

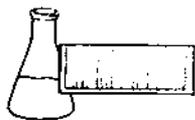
PROJECT CODE: LANL3021  
REF. #: 115,614  
STATION: MW-6  
TIME SAMPLED: 13:45  
SAMPLER: Jason Barnard

<u>Parameter</u>	<u>Concentration</u> (mg/L, ppm)	<u>Reporting Limit</u> (mg/L, ppm)	<u>Analytical Method</u>	<u>Analysis Date</u>
Dissolved Antimony	ND <sup>1</sup>	0.003	SM 3113B	1/26/98
Dissolved Arsenic	ND	0.005	SM 3113B	1/28/98
Dissolved Beryllium	ND	0.002	EPA 200.7	1/22/98
Dissolved Cadmium	ND	0.002	EPA 200.7	1/22/98
Dissolved Chromium	ND	0.010	EPA 200.7	1/22/98
Dissolved Copper	ND	0.010	EPA 200.7	1/22/98
Dissolved Lead	ND	0.002	SM 3113B	1/27/98
Dissolved Mercury	ND	0.001	EPA 245.1	1/29/98
Dissolved Nickel	ND	0.020	EPA 200.7	1/22/98
Dissolved Selenium	ND	0.010	SM 3113B	1/28/98
Dissolved Silver	ND	0.010	EPA 200.7	1/22/98
Dissolved Thallium	ND	0.002	SM 3113B	1/27/98
Dissolved Zinc	ND	0.010	EPA 200.7	1/22/98

NOTES:

1 None Detected

FEB - 7 1998



**ENDYNE, INC.**

**LABORATORY REPORT**

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CLIENT: Lincoln Applied Geology  
PROJECT NAME: Northern Lights Cable, Inc.  
REPORT DATE: February 5, 1998  
DATE SAMPLED: January 13, 1998  
DATE RECEIVED: January 15, 1998

PROJECT CODE: LANL3021  
REF. #: 115,617  
STATION: MW-7  
TIME SAMPLED: 15:30  
SAMPLER: Jason Barnard

<u>Parameter</u>	<u>Concentration</u> (mg/L, ppm)	<u>Reporting Limit</u> (mg/L, ppm)	<u>Analytical Method</u>	<u>Analysis Date</u>
Dissolved Antimony	ND <sup>1</sup>	0.003	SM 3113B	1/26/98
Dissolved Arsenic	ND	0.005	SM 3113B	1/28/98
Dissolved Beryllium	ND	0.002	EPA 200.7	1/22/98
Dissolved Cadmium	ND	0.002	EPA 200.7	1/22/98
Dissolved Chromium	ND	0.010	EPA 200.7	1/22/98
Dissolved Copper	ND	0.010	EPA 200.7	1/22/98
Dissolved Lead	ND	0.002	SM 3113B	1/27/98
Dissolved Mercury	ND	0.001	EPA 245.1	1/29/98
Dissolved Nickel	ND	0.020	EPA 200.7	1/22/98
Dissolved Selenium	ND	0.010	SM 3113B	1/28/98
Dissolved Silver	ND	0.010	EPA 200.7	1/22/98
Dissolved Thallium	ND	0.002	SM 3113B	1/27/98
Dissolved Zinc	ND	0.010	EPA 200.7	1/22/98

NOTES:

1 None Detected

FEB - 7 '98



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LABORATORY REPORT

DUPLICATE CONTROL DATA

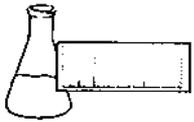
CLIENT: Lincoln Applied Geology      PROJECT CODE: LANL3021  
PROJECT NAME: Northern Lights Cable, Inc.      REF. #: 115,612  
REPORT DATE: February 5, 1998      STATION: MW-4  
DATE SAMPLED: January 13, 1998      TIME SAMPLED: 11:10  
DATE RECEIVED: January 15, 1998      SAMPLER: Jason Barnard

<u>Parameter</u>	Dup 1 <u>(mg/L)</u>	Dup 2 <u>(mg/L)</u>	<u>Rel. % Diff.</u>
Total Antimony	ND <sup>1</sup>	ND	ND
Total Arsenic	ND	ND	ND
Total Beryllium	ND	ND	ND
Total Cadmium	ND	ND	ND
Total Chromium	ND	ND	ND
Total Copper	ND	ND	ND
Total Lead	ND	ND	ND
Total Mercury	ND	ND	ND
Total Nickel	ND	ND	ND
Total Selenium	ND	ND	ND
Total Silver	ND	ND	ND
Total Thallium	ND	ND	ND
Total Zinc	ND	ND	ND

NOTES:

1 None Detected

FEB - 7 1998



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**METALS LABORATORY REPORT**

**SPIKE CONTROL DATA**

CLIENT: Lincoln Applied Geology  
PROJECT NAME: Northern Lights Cable, Inc.  
REPORT DATE: February 5, 1998  
DATE SAMPLED: January 13, 1998  
DATE RECEIVED: January 15, 1998

PROJECT CODE: LANL3021  
REF. #: 115,613  
STATION: MW-3  
TIME SAMPLED: 13:00  
SAMPLER: Jason Barnard

<u>Parameter</u>	<u>Concentration</u> (mg/L)	<u>Target</u> (mg/L)	<u>Spike Result</u> (mg/L)	<u>% Rec.</u>
Total Antimony	ND <sup>1</sup>	0.020	0.017	85.
Total Arsenic	ND	0.010	0.010	96.
Total Beryllium	ND	0.200	0.183	91.
Total Cadmium	ND	0.200	0.176	88.
Total Chromium	ND	0.400	0.366	91.
Total Copper	ND	0.400	0.383	94.
Total Nickel	ND	0.800	0.738	92.
Total Selenium	ND	0.020	0.021	104.
Total Silver	ND	0.200	0.166	84.
Total Thallium	ND	0.020	0.015	74.
Total Zinc	ND	0.400	0.380	93.

NOTES:

1 None Detected

FEB - 7 1998

CHAIN-OF-CUSTODY RECORD

24795

Project Name: Northern Lights Cable Jct. Site Location: North Bennington VT	Reporting Address: Lincoln Applied Geology Box 710 Bristol VT 05443	Billing Address: Same
Endyne Project Number: LANL3001	Company: Lincoln Applied Geology Contact Name/Phone #: Bill Nerland (802) 453-4387	Sampler Name: Jason Bernard Phone #: Same

Lab #	Sample Location	Matrix	G R A B	C O M P	Date/Time	Sample Containers		Field Results/Remarks	Analysis Required	Sample Preservation	Rush
						No.	Type/Size				
	Trip Blank	H <sub>2</sub> O	X		1/13/98 6:00	1	1 liter Amber		26 EPA 8270	None	
	Tubing Blank	H <sub>2</sub> O	X		1/13/98 10:30	1	1 liter Amber		26 EPA 8270	None	
	Bottle Blank	H <sub>2</sub> O	X		1/13/98 10:40	1	2 liter Amber		26 EPA 8270	None	
115, 6/2	MW-4	H <sub>2</sub> O	X		1/13/98 11:10	1	1002 Plastic	Field Filtered	30 PPTM	HNO <sub>3</sub>	
	MW-4	H <sub>2</sub> O	X		1/13/98 11:30	1	1002 Plastic		16 PPTM	HNO <sub>3</sub>	
	MW-4	H <sub>2</sub> O	X		1/13/98 11:40	1	4 liter amber		EPA 8270	None	
115, 6/3	MW-3				1300	1	10 gal. Plastic	Field Filtered	30 PPTM	HNO <sub>3</sub>	
	MW-3				1310	1	10 gal. Plastic		16 PPTM	HNO <sub>3</sub>	
	MW-3				1315	1	1 liter Amber		EPA 8270	None	
115, 6/4	MW-6				1345	1	10 gal. Plastic	Field Filtered	30 PPTM	HNO <sub>3</sub>	
	MW-6				1355	1	10 gal. Plastic		16 PPTM	HNO <sub>3</sub>	
	MW-6				1400	1	1 liter Amber		EPA 8270	None	

Relinquished by: Signature <i>[Signature]</i> 1/15/98 13:22	Received by: Signature <i>[Signature]</i>	Date/Time 1/15/98 13:22
Relinquished by: Signature <i>[Signature]</i>	Received by: Signature <i>[Signature]</i>	Date/Time 1/15/98 3:45

New York State Project: Yes  No

Requested Analyses

1	pH	6	TKN	11	Total Solids	16	Metals (Specify)	21	EPA 624	26	EPA 8270 B/N or Acid Phosphates
2	Chloride	7	Total P	12	TSS	17	Coliform (Specify)	22	EPA 625 B/N or A	27	EPA 8010/8020
3	Ammonia N	8	Total Diss. P	13	TDS	18	COD	23	EPA 418.1	28	EPA 8080 Pest/PCB
4	Nitrite N	9	BOD <sub>5</sub>	14	Turbidity	19	BTEX	24	EPA 608 Pest/PCB		
5	Nitrate N	10	Alkalinity	15	Conductivity	20	EPA 601/602	25	EPA 8240		
29	TCLP (Specify: volatiles, semi-volatiles, metals, pesticides, herbicides)										

30 Other (Specify): Priority Follow-up Dissolved Metals (PPDM) 16 Priority Follow-up Pesticides (PPTM)

Sh/A/S/Be/Ca/Cr/Mn/Pb/Hg/As/Se/In/Tl/...

CHAIN-OF-CUSTODY RECORD

24794

Project Name: <u>Northern Lights Cable Inc.</u>	Reporting Address: <u>Lincoln Applied Geology</u>	Billing Address: <u>Same</u>
Site Location: <u>North Bennington VT.</u>	<u>Box 710 Bristol VT 05343</u>	
Endyne Project Number: <u>LANL3021</u>	Company: <u>Lincoln Applied Geology (LAG)</u>	Sampler Name: <u>Jesse Bernard</u>
	Contact Name/Phone #: <u>Bill Wakand (802) 453-4354</u>	Phone #: <u>Same</u>

Lab #	Sample Location	Matrix	G R A B	C O M P	Date/Time	Sample Containers		Field Results/Remarks	Analysis Required	Sample Preservation	Rush
						No.	Type/Size				
115,615	MW-2	H <sub>2</sub> O	X		11/13/98 1430	1	1/2 Gallon Plastic	Field Filtered	30 PPDM	HNO <sub>3</sub>	
	MW-2				1440		1/2 Gallon Plastic		16 PPTM	HNO <sub>3</sub>	
	MW-2				1445		2 liter Amber		20 EPA 8270 B/N	None	
115,616	MW-5				1500		1/2 Gallon Plastic	Field Filtered	30 PPDM	HNO <sub>3</sub>	
	MW-5				1515		1/2 Gallon Plastic		16 PPTM	HNO <sub>3</sub>	
	MW-5				1520		2 liter Amber		20 EPA 8270 B/N	None	
115,617	MW-7				1530		1/2 Gallon Plastic	Field Filtered	30 PPDM	HNO <sub>3</sub>	
	MW-7				1535		1/2 Gallon Plastic		16 PPTM	HNO <sub>3</sub>	
	MW-7				1540		2 liter Amber		20 EPA 8270 B/N	None	
115,618	MW-1				1610		1/2 Gallon Plastic	Field Filtered	30 PPDM	HNO <sub>3</sub>	
	MW-1				1615		1/2 Gallon Plastic		16 PPTM	HNO <sub>3</sub>	
	MW-1				1620		2 liter Amber		20 EPA 8270 B/N	None	

Relinquished by: Signature <u>[Signature]</u> 11/15/98 13:22	Received by: Signature <u>[Signature]</u>	Date/Time <u>11/15/98 13:22</u>
Relinquished by: Signature <u>[Signature]</u>	Received by: Signature <u>[Signature]</u>	Date/Time <u>11/15/98 3:45</u>

New York State Project: Yes  No

Requested Analyses

1	pH	6	TKN	11	Total Solids	16	Metals (Specify) ;	21	EPA 624	26	EPA 8270 B/N or Acid
2	Chloride	7	Total P	12	TSS	17	Coliform (Specify)	22	EPA 625 B/N or A	27	EPA 8010/8020
3	Ammonia N	8	Total Diss. P	13	TDS	18	COD	23	EPA 418.1	28	EPA 8080 Pest/PCB
4	Nitrite N	9	BOD <sub>5</sub>	14	Turbidity	19	BTEX	24	EPA 608 Pest/PCB		
5	Nitrate N	10	Alkalinity	15	Conductivity	20	EPA 601/602	25	EPA 8240		
29	TCLP (Specify: volatiles, semi-volatiles, metals, pesticides, herbicides)										
30	Other (Specify): <u>Priority Pollutant Dissolved Metals (PPDM) / 16 Priority Pollutant Total Metals (PPTM)</u>										

Sb/As/Ba/Cd/Cr/Cu/Pb/Hg/Mn/Ni/Se/Pg/Tl/Zn