



Draper Aden Associates

Engineering • Surveying • Environmental Services

2206 South Main Street
Blacksburg, Virginia 24060
(540) 552-0444 • Fax (540) 552-0291
www.daa.com

April 30, 2012

Mr. Frank Bolick
180 Ridge Point Dr.
Boone, North Carolina 28607

**Re: Private Well Sampling
Closed Watauga County Landfill
Draper Aden Associates Job No. 6520-39**

Dear Mr. Bolick:

Thank you for participating in the private well sampling event completed in March 2012 as part of the closed Watauga County Landfill's groundwater monitoring program. Please find enclosed the analytical results obtained from the water sample Draper Aden Associates collected from the private well located behind the rental residence at 2347 Hwy 421 South on March 8, 2012. The sample was analyzed for 59 volatile organic constituents via the EPA Drinking Water Analytical Method 524.2.

Two constituents were detected in the sample collected at the residential well including 1,1-dichloroethane, and cis-1,2-dichloroethene. Five additional constituents were detected at very low concentrations (estimated results) including chloroethane, 1,4-dichlorobenzene, dichlorodifluoromethane, 1,1-dichloroethene, and trichloroethene. All constituents detected have either a published Environmental Protection Agency (EPA) maximum contaminant limit (MCL) drinking water standard or North Carolina Groundwater Quality Standard (GQS), or both. With the exception of 1,1-dichloroethane, all concentrations of constituents detected in the well sample were below the EPA MCL and/or respective North Carolina GQS. Since the residence has been connected to the public water system, no immediate action is planned at this time as a result of these results.

Draper Aden Associates and Watauga County appreciate your cooperation. Watauga County will continue sampling your well on a semiannual basis as part of the overall landfill monitoring program.

Mr. Frank Bolick
April 30, 2012
Page 2 of 2

Please feel free to contact us if you have any questions regarding these results.

Sincerely,
DRAPER ADEN ASSOCIATES



Karen Weber, P.G.
Project Geologist

Enclosure: Analytical Results

cc: Ms. Elizabeth Werner, NCDENR (w/ enclosure)
Mr. Lawrence Caviness, NCADHD (w/ enclosure)
Mr. Deron Geouque, Watauga County Manager (w/ enclosure)
Mr. Srikanth Nathella, P.E., Draper Aden Associates

Sample Description: RES-2 Grab Water Sample
March 2012 Semiannual Assess. Monitoring Event
Watauga County, NC

LLI Sample # PW 6573138
LLI Group # 1294344
Account # 11200

Project Name: Watauga County, NC

Collected: 03/08/2012 11:30 by DS

Draper Aden Associates, Inc.
2206 South Main Street
Blacksburg VA 24060

Submitted: 03/09/2012 09:20

Reported: 03/21/2012 18:40

WATR2 SDG#: WAT15-06

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	EPA 524.2	ug/l	ug/l	ug/l	
03648	Benzene	71-43-2	N.D.	0.1	0.5	1
03648	Bromobenzene	108-86-1	N.D.	0.1	0.5	1
03648	Bromochloromethane	74-97-5	N.D.	0.1	0.5	1
03648	Bromodichloromethane	75-27-4	N.D.	0.1	0.5	1
03648	Bromoform	75-25-2	N.D.	0.2	0.5	1
03648	Bromomethane	74-83-9	N.D.	0.1	0.5	1
03648	n-Butylbenzene	104-51-8	N.D.	0.2	0.5	1
03648	sec-Butylbenzene	135-98-8	N.D.	0.1	0.5	1
03648	tert-Butylbenzene	98-06-6	N.D.	0.1	0.5	1
03648	Carbon Tetrachloride	56-23-5	N.D.	0.1	0.5	1
03648	Chlorobenzene	108-90-7	N.D.	0.1	0.5	1
03648	Chloroethane	75-00-3	0.4 J	0.2	0.5	1
03648	Chloroform	67-66-3	N.D.	0.1	0.5	1
03648	Chloromethane	74-87-3	N.D.	0.2	0.5	1
03648	2-Chlorotoluene	95-49-8	N.D.	0.1	0.5	1
03648	4-Chlorotoluene	106-43-4	N.D.	0.2	0.5	1
03648	1,2-Dibromo-3-chloropropane	96-12-8	N.D.	0.4	0.5	1
03648	Dibromochloromethane	124-48-1	N.D.	0.1	0.5	1
03648	1,2-Dibromoethane	106-93-4	N.D.	0.1	0.5	1
03648	Dibromomethane	74-95-3	N.D.	0.1	0.5	1
03648	1,2-Dichlorobenzene	95-50-1	N.D.	0.1	0.5	1
03648	1,3-Dichlorobenzene	541-73-1	N.D.	0.1	0.5	1
03648	1,4-Dichlorobenzene	106-46-7	0.1 J	0.1	0.5	1
03648	Dichlorodifluoromethane	75-71-8	0.2 J	0.2	0.5	1
03648	1,1-Dichloroethane	75-34-3	6.7	0.1	0.5	1
03648	1,2-Dichloroethane	107-06-2	N.D.	0.1	0.5	1
03648	1,1-Dichloroethene	75-35-4	0.2 J	0.1	0.5	1
03648	cis-1,2-Dichloroethene	156-59-2	0.6	0.1	0.5	1
03648	trans-1,2-Dichloroethene	156-60-5	N.D.	0.1	0.5	1
03648	1,2-Dichloropropane	78-87-5	N.D.	0.1	0.5	1
03648	1,3-Dichloropropane	142-28-9	N.D.	0.1	0.5	1
03648	2,2-Dichloropropane	594-20-7	N.D.	0.2	0.5	1
03648	1,1-Dichloropropene	563-58-6	N.D.	0.1	0.5	1
03648	cis-1,3-Dichloropropene	10061-01-5	N.D.	0.1	0.5	1
03648	trans-1,3-Dichloropropene	10061-02-6	N.D.	0.1	0.5	1
03648	Ethylbenzene	100-41-4	N.D.	0.1	0.5	1
03648	Hexachlorobutadiene	87-68-3	N.D.	0.2	0.5	1
03648	Isopropylbenzene	98-82-8	N.D.	0.1	0.5	1
03648	p-Isopropyltoluene	99-87-6	N.D.	0.1	0.5	1
03648	Methylene Chloride	75-09-2	N.D.	0.3	0.5	1
03648	Naphthalene	91-20-3	N.D.	0.2	0.5	1
03648	n-Propylbenzene	103-65-1	N.D.	0.1	0.5	1
03648	Styrene	100-42-5	N.D.	0.1	0.5	1
03648	1,1,1,2-Tetrachloroethane	630-20-6	N.D.	0.1	0.5	1
03648	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	0.1	0.5	1
03648	Tetrachloroethene	127-18-4	N.D.	0.1	0.5	1
03648	Toluene	108-88-3	N.D.	0.1	0.5	1
03648	1,2,3-Trichlorobenzene	87-61-6	N.D.	0.2	0.5	1
03648	1,2,4-Trichlorobenzene	120-82-1	N.D.	0.2	0.5	1
03648	1,1,1-Trichloroethane	71-55-6	N.D.	0.1	0.5	1

WAT15 0021

Sample Description: RES-2 Grab Water Sample
 March 2012 Semiannual Assess. Monitoring Event
 Watauga County, NC

LLI Sample # PW 6573138
 LLI Group # 1294344
 Account # 11200

Project Name: Watauga County, NC

Collected: 03/08/2012 11:30 by DS

Draper Aden Associates, Inc.
 2206 South Main Street
 Blacksburg VA 24060

Submitted: 03/09/2012 09:20

Reported: 03/21/2012 18:40

WATR2 SDG#: WAT15-06

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	EPA 524.2	ug/l	ug/l	ug/l	
03648	1,1,2-Trichloroethane	79-00-5	N.D.	0.1	0.5	1
03648	Trichloroethene	79-01-6	0.1 J	0.1	0.5	1
03648	Trichlorofluoromethane	75-69-4	N.D.	0.2	0.5	1
03648	1,2,3-Trichloropropane	96-18-4	N.D.	0.2	0.5	1
03648	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.1	0.5	1
03648	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.1	0.5	1
03648	Vinyl Chloride	75-01-4	N.D.	0.1	0.5	1
03648	m+p-Xylene	179601-23-1	N.D.	0.2	0.5	1
03648	o-Xylene	95-47-6	N.D.	0.1	0.5	1
03648	Xylene (Total)	1330-20-7	N.D.	0.2	0.5	1

General Sample Comments

The laboratory is NC DHHS certified for all SDWA regulated compounds reported (Lab ID 42705). North Carolina Department of Health and Human Services does not offer certification for unregulated compounds.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
03648	EPA 524.2 Master	EPA 524.2	1	S120761AA	03/16/2012 14:28	Anita M Dale	1

WAT15 0622

Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

RL	Reporting Limit	BMQL	Below Minimum Quantitation Level
N.D.	none detected	MPN	Most Probable Number
TNTC	Too Numerous To Count	CP Units	cobalt-chloroplatinate units
IU	International Units	NTU	nephelometric turbidity units
umhos/cm	micromhos/cm	ng	nanogram(s)
C	degrees Celsius	F	degrees Fahrenheit
meq	milliequivalents	lb.	pound(s)
g	gram(s)	kg	kilogram(s)
µg	microgram(s)	mg	milligram(s)
mL	milliliter(s)	L	liter(s)
m³	cubic meter(s)	µL	microliter(s)
		pg/L	picogram/liter
<	less than - The number following the sign is the <u>limit of quantitation</u> , the smallest amount of analyte which can be reliably determined using this specific test.		
>	greater than		
J	estimated value – The result is ≥ the Method Detection Limit (MDL) and < the Limit of Quantitation (LOQ).		
ppm	parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg), or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter of gas per liter of gas.		
ppb	parts per billion		
Dry weight basis	Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.		

U.S. EPA CLP Data Qualifiers:

Organic Qualifiers		Inorganic Qualifiers	
A	TIC is a possible aldol-condensation product	B	Value is <CRDL, but ≥IDL
B	Analyte was also detected in the blank	E	Estimated due to interference
C	Pesticide result confirmed by GC/MS	M	Duplicate injection precision not met
D	Compound quantitated on a diluted sample	N	Spike sample not within control limits
E	Concentration exceeds the calibration range of the instrument	S	Method of standard additions (MSA) used for calculation
N	Presumptive evidence of a compound (TICs only)	U	Compound was not detected
P	Concentration difference between primary and confirmation columns >25%	W	Post digestion spike out of control limits
U	Compound was not detected	*	Duplicate analysis not within control limits
X,Y,Z	Defined in case narrative	+	Correlation coefficient for MSA <0.995

Analytical test results meet all requirements of NELAC unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff. This report shall not be reproduced except in full, without the written approval of the laboratory.

Times are local to the area of activity. Parameters listed in the 40 CFR part 136 Table II as “analyze immediately” are not performed within 15 minutes.

WARRANTY AND LIMITS OF LIABILITY - In accepting analytical work, we warrant the accuracy of test results for the sample as submitted. THE FOREGOING EXPRESS WARRANTY IS EXCLUSIVE AND IS GIVEN IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED. WE DISCLAIM ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING A WARRANTY OF FITNESS FOR PARTICULAR PURPOSE AND WARRANTY OF MERCHANTABILITY. IN NO EVENT SHALL LANCASTER LABORATORIES BE LIABLE FOR INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR LOSS OF PROFIT OR GOODWILL REGARDLESS OF (A) THE NEGLIGENCE (EITHER SOLE OR CONCURRENT) OF LANCASTER LABORATORIES AND (B) WHETHER LANCASTER LABORATORIES HAS BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. We accept no legal responsibility for the purposes for which the client uses the test results. No purchase order or other order for work shall be accepted by Lancaster Laboratories which includes any conditions that vary from the Standard Terms and Conditions, and Lancaster hereby objects to any conflicting terms contained in any acceptance or order submitted by client.



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Blacksburg, Virginia 24060
(540) 552-0444 • Fax (540) 552-0291
www.daa.com

April 30, 2012

Ms. Linda Johnson
Trustee of Bolick Estate
156 Sunslope Lane
Boone, North Carolina 28607

**Re: Private Well Sampling
Closed Watauga County Landfill
Draper Aden Associates Job No. 6520-39**

Dear Ms. Johnson:

Thank you for participating in the private well sampling event completed in March 2012 as part of the closed Watauga County Landfill's groundwater monitoring program. Please find enclosed the analytical results obtained from the water sample Draper Aden Associates collected from the residential well located at 2239 Hwy 421S on March 8, 2012.

The sample was analyzed for 59 volatile organic constituents via the Environmental Protection Agency (EPA) Drinking Water Analytical Method 524.2. None of the 59 chemical constituents were detected.

Draper Aden Associates and Watauga County appreciate your cooperation. Watauga County will continue sampling your well on a semiannual basis as part of the overall landfill monitoring program. Please feel free to contact us if you have any questions regarding these results.

Sincerely,

DRAPER ADEN ASSOCIATES

Karen Weber, P.G.
Project Geologist

Enclosure: Analytical Results

cc: Ms. Elizabeth Werner, NCDENR (w/ enclosure)
Mr. Lawrence Caviness, NCADHD (w/ enclosure)
Mr. Deron Geouque, Watauga County Manager (w/ enclosure)
Mr. Srikanth Nathella, P.E., Draper Aden Associates

Sample Description: RES-1 Grab Water Sample
March 2012 Semiannual Assess. Monitoring Event
Watauga County, NC

LLI Sample # PW 6573133
LLI Group # 1294344
Account # 11200

Project Name: Watauga County, NC

Collected: 03/08/2012 11:50 by DS

Draper Aden Associates, Inc.
2206 South Main Street
Blacksburg VA 24060

Submitted: 03/09/2012 09:20

Reported: 03/21/2012 18:40

WATR1 SDG#: WAT15-01

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	EPA 524.2	ug/l	ug/l	ug/l	
03648	Benzene	71-43-2	N.D.	0.1	0.5	1
03648	Bromobenzene	108-86-1	N.D.	0.1	0.5	1
03648	Bromochloromethane	74-97-5	N.D.	0.1	0.5	1
03648	Bromodichloromethane	75-27-4	N.D.	0.1	0.5	1
03648	Bromoform	75-25-2	N.D.	0.2	0.5	1
03648	Bromomethane	74-83-9	N.D.	0.1	0.5	1
03648	n-Butylbenzene	104-51-8	N.D.	0.2	0.5	1
03648	sec-Butylbenzene	135-98-8	N.D.	0.1	0.5	1
03648	tert-Butylbenzene	98-06-6	N.D.	0.1	0.5	1
03648	Carbon Tetrachloride	56-23-5	N.D.	0.1	0.5	1
03648	Chlorobenzene	108-90-7	N.D.	0.1	0.5	1
03648	Chloroethane	75-00-3	N.D.	0.2	0.5	1
03648	Chloroform	67-66-3	N.D.	0.1	0.5	1
03648	Chloromethane	74-87-3	N.D.	0.2	0.5	1
03648	2-Chlorotoluene	95-49-8	N.D.	0.1	0.5	1
03648	4-Chlorotoluene	106-43-4	N.D.	0.2	0.5	1
03648	1,2-Dibromo-3-chloropropane	96-12-8	N.D.	0.4	0.5	1
03648	Dibromochloromethane	124-48-1	N.D.	0.1	0.5	1
03648	1,2-Dibromoethane	106-93-4	N.D.	0.1	0.5	1
03648	Dibromomethane	74-95-3	N.D.	0.1	0.5	1
03648	1,2-Dichlorobenzene	95-50-1	N.D.	0.1	0.5	1
03648	1,3-Dichlorobenzene	541-73-1	N.D.	0.1	0.5	1
03648	1,4-Dichlorobenzene	106-46-7	N.D.	0.1	0.5	1
03648	Dichlorodifluoromethane	75-71-8	N.D.	0.2	0.5	1
03648	1,1-Dichloroethane	75-34-3	N.D.	0.1	0.5	1
03648	1,2-Dichloroethane	107-06-2	N.D.	0.1	0.5	1
03648	1,1-Dichloroethene	75-35-4	N.D.	0.1	0.5	1
03648	cis-1,2-Dichloroethene	156-59-2	N.D.	0.1	0.5	1
03648	trans-1,2-Dichloroethene	156-60-5	N.D.	0.1	0.5	1
03648	1,2-Dichloropropane	78-87-5	N.D.	0.1	0.5	1
03648	1,3-Dichloropropane	142-28-9	N.D.	0.1	0.5	1
03648	2,2-Dichloropropane	594-20-7	N.D.	0.2	0.5	1
03648	1,1-Dichloropropene	563-58-6	N.D.	0.1	0.5	1
03648	cis-1,3-Dichloropropene	10061-01-5	N.D.	0.1	0.5	1
03648	trans-1,3-Dichloropropene	10061-02-6	N.D.	0.1	0.5	1
03648	Ethylbenzene	100-41-4	N.D.	0.1	0.5	1
03648	Hexachlorobutadiene	87-68-3	N.D.	0.2	0.5	1
03648	Isopropylbenzene	98-82-8	N.D.	0.1	0.5	1
03648	p-Isopropyltoluene	99-87-6	N.D.	0.1	0.5	1
03648	Methylene Chloride	75-09-2	N.D.	0.3	0.5	1
03648	Naphthalene	91-20-3	N.D.	0.2	0.5	1
03648	n-Propylbenzene	103-65-1	N.D.	0.1	0.5	1
03648	Styrene	100-42-5	N.D.	0.1	0.5	1
03648	1,1,1,2-Tetrachloroethane	630-20-6	N.D.	0.1	0.5	1
03648	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	0.1	0.5	1
03648	Tetrachloroethene	127-18-4	N.D.	0.1	0.5	1
03648	Toluene	108-88-3	N.D.	0.1	0.5	1
03648	1,2,3-Trichlorobenzene	87-61-6	N.D.	0.2	0.5	1
03648	1,2,4-Trichlorobenzene	120-82-1	N.D.	0.2	0.5	1
03648	1,1,1-Trichloroethane	71-55-6	N.D.	0.1	0.5	1

WAT15 0311

Sample Description: RES-1 Grab Water Sample
 March 2012 Semiannual Assess. Monitoring Event
 Watauga County, NC

LLI Sample # PW 6573133
 LLI Group # 1294344
 Account # 11200

Project Name: Watauga County, NC

Collected: 03/08/2012 11:50 by DS

Draper Aden Associates, Inc.
 2206 South Main Street
 Blacksburg VA 24060

Submitted: 03/09/2012 09:20

Reported: 03/21/2012 18:40

WATR1 SDG#: WAT15-01

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
GC/MS Volatiles EPA 524.2						
03648	1,1,2-Trichloroethane	79-00-5	N.D.	ug/l 0.1	ug/l 0.5	1
03648	Trichloroethene	79-01-6	N.D.	0.1	0.5	1
03648	Trichlorofluoromethane	75-69-4	N.D.	0.2	0.5	1
03648	1,2,3-Trichloropropane	96-18-4	N.D.	0.2	0.5	1
03648	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.1	0.5	1
03648	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.1	0.5	1
03648	Vinyl Chloride	75-01-4	N.D.	0.1	0.5	1
03648	m+p-Xylene	179601-23-1	N.D.	0.2	0.5	1
03648	o-Xylene	95-47-6	N.D.	0.1	0.5	1
03648	Xylene (Total)	1330-20-7	N.D.	0.2	0.5	1

General Sample Comments

The laboratory is NC DHHS certified for all SDWA regulated compounds reported (Lab ID 42705). North Carolina Department of Health and Human Services does not offer certification for unregulated compounds.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
03648	EPA 524.2 Master	EPA 524.2	1	S120761AA	03/16/2012 12:15	Anita M Dale	1

WAT15 0012

Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

RL	Reporting Limit	BMQL	Below Minimum Quantitation Level
N.D.	none detected	MPN	Most Probable Number
TNTC	Too Numerous To Count	CP Units	cobalt-chloroplatinate units
IU	International Units	NTU	nephelometric turbidity units
umhos/cm	micromhos/cm	ng	nanogram(s)
C	degrees Celsius	F	degrees Fahrenheit
meq	milliequivalents	lb.	pound(s)
g	gram(s)	kg	kilogram(s)
µg	microgram(s)	mg	milligram(s)
mL	milliliter(s)	L	liter(s)
m³	cubic meter(s)	µL	microliter(s)
		pg/L	picogram/liter
<	less than - The number following the sign is the <u>limit of quantitation</u> , the smallest amount of analyte which can be reliably determined using this specific test.		
>	greater than		
J	estimated value – The result is ≥ the Method Detection Limit (MDL) and < the Limit of Quantitation (LOQ).		
ppm	parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg), or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter of gas per liter of gas.		
ppb	parts per billion		
Dry weight basis	Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.		

U.S. EPA CLP Data Qualifiers:

Organic Qualifiers		Inorganic Qualifiers	
A	TIC is a possible aldol-condensation product	B	Value is <CRDL, but ≥IDL
B	Analyte was also detected in the blank	E	Estimated due to interference
C	Pesticide result confirmed by GC/MS	M	Duplicate injection precision not met
D	Compound quantitated on a diluted sample	N	Spike sample not within control limits
E	Concentration exceeds the calibration range of the instrument	S	Method of standard additions (MSA) used for calculation
N	Presumptive evidence of a compound (TICs only)	U	Compound was not detected
P	Concentration difference between primary and confirmation columns >25%	W	Post digestion spike out of control limits
U	Compound was not detected	*	Duplicate analysis not within control limits
X,Y,Z	Defined in case narrative	+	Correlation coefficient for MSA <0.995

Analytical test results meet all requirements of NELAC unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff. This report shall not be reproduced except in full, without the written approval of the laboratory.

Times are local to the area of activity. Parameters listed in the 40 CFR part 136 Table II as "analyze immediately" are not performed within 15 minutes.

WARRANTY AND LIMITS OF LIABILITY - In accepting analytical work, we warrant the accuracy of test results for the sample as submitted. THE FOREGOING EXPRESS WARRANTY IS EXCLUSIVE AND IS GIVEN IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED. WE DISCLAIM ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING A WARRANTY OF FITNESS FOR PARTICULAR PURPOSE AND WARRANTY OF MERCHANTABILITY. IN NO EVENT SHALL LANCASTER LABORATORIES BE LIABLE FOR INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR LOSS OF PROFIT OR GOODWILL REGARDLESS OF (A) THE NEGLIGENCE (EITHER SOLE OR CONCURRENT) OF LANCASTER LABORATORIES AND (B) WHETHER LANCASTER LABORATORIES HAS BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. We accept no legal responsibility for the purposes for which the client uses the test results. No purchase order or other order for work shall be accepted by Lancaster Laboratories which includes any conditions that vary from the Standard Terms and Conditions, and Lancaster hereby objects to any conflicting terms contained in any acceptance or order submitted by client.



2206 South Main Street
Blacksburg, Virginia 24060
(540) 552-0444 • Fax (540) 552-0291
www.daa.com

April 30, 2012



Mr. Keith Honeycutt
Hollar and Greene Produce
230 Cabbage Row
Boone, North Carolina 28607

**Re: Private Well Sampling
Closed Watauga County Landfill
Draper Aden Associates Job No. 6520-39**

Dear Mr. Honeycutt:

We wish to thank Hollar and Greene Produce for participating in the potable well sampling event completed in March 2012 as part of the closed Watauga County Landfill's groundwater monitoring program. Please find enclosed the analytical results obtained from the water sample Draper Aden Associates collected from the Hollar and Greene Produce well on March 8, 2012.

The sample was analyzed for 59 volatile organic constituents via the Environmental Protection Agency (EPA) Drinking Water Analytical Method 524.2. Two constituents (1,1-dichloroethane and tetrachloroethene) were detected at a very low concentration, estimated at 0.1 $\mu\text{g/l}$ for both constituents. These concentrations are less than the Environmental Protection Agency (EPA) Maximum Contaminant Limit (MCL) drinking water standards for tetrachloroethene of 5 $\mu\text{g/l}$ and the NC groundwater standards of 0.7 $\mu\text{g/l}$ for tetrachloroethene and 6 $\mu\text{g/l}$ for 1,1-dichloroethane. A MCL has not been established for 1,1-dichloroethane.

Draper Aden Associates and Watauga County appreciate your cooperation. Watauga County will continue sampling your well on a semiannual basis as part of the overall landfill monitoring program. Please feel free to contact us if you have any questions regarding these results.

Sincerely,
DRAPER ADEN ASSOCIATES

A handwritten signature in blue ink that reads "Karen Weber".

Karen Weber, P.G.
Project Geologist

Enclosure: Analytical Results

cc: Ms. Elizabeth Werner, NCDENR (w/ enclosure)
Mr. Lawrence Caviness, NC Appalachian District HD (w/ enclosure)
Mr. Deron Geouque, Watauga County Manager (w/ enclosure)
Mr. Srikanth Nathella, P.E., Draper Aden Associates

Sample Description: H&G Produce Grab Water Sample
March 2012 Semiannual Assess. Monitoring Event
Watauga County, NC

LLI Sample # PW 6573134
LLI Group # 1294344
Account # 11200

Project Name: Watauga County, NC

Collected: 03/08/2012 12:35 by DS

Draper Aden Associates, Inc.
2206 South Main Street
Blacksburg VA 24060

Submitted: 03/09/2012 09:20

Reported: 03/21/2012 18:40

WATHG SDG#: WAT15-02

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	EPA 524.2	ug/l	ug/l	ug/l	
03648	Benzene	71-43-2	N.D.	0.1	0.5	1
03648	Bromobenzene	108-86-1	N.D.	0.1	0.5	1
03648	Bromochloromethane	74-97-5	N.D.	0.1	0.5	1
03648	Bromodichloromethane	75-27-4	N.D.	0.1	0.5	1
03648	Bromoform	75-25-2	N.D.	0.2	0.5	1
03648	Bromomethane	74-83-9	N.D.	0.1	0.5	1
03648	n-Butylbenzene	104-51-8	N.D.	0.2	0.5	1
03648	sec-Butylbenzene	135-98-8	N.D.	0.1	0.5	1
03648	tert-Butylbenzene	98-06-6	N.D.	0.1	0.5	1
03648	Carbon Tetrachloride	56-23-5	N.D.	0.1	0.5	1
03648	Chlorobenzene	108-90-7	N.D.	0.1	0.5	1
03648	Chloroethane	75-00-3	N.D.	0.2	0.5	1
03648	Chloroform	67-66-3	N.D.	0.1	0.5	1
03648	Chloromethane	74-87-3	N.D.	0.2	0.5	1
03648	2-Chlorotoluene	95-49-8	N.D.	0.1	0.5	1
03648	4-Chlorotoluene	106-43-4	N.D.	0.2	0.5	1
03648	1,2-Dibromo-3-chloropropane	96-12-8	N.D.	0.4	0.5	1
03648	Dibromochloromethane	124-48-1	N.D.	0.1	0.5	1
03648	1,2-Dibromoethane	106-93-4	N.D.	0.1	0.5	1
03648	Dibromomethane	74-95-3	N.D.	0.1	0.5	1
03648	1,2-Dichlorobenzene	95-50-1	N.D.	0.1	0.5	1
03648	1,3-Dichlorobenzene	541-73-1	N.D.	0.1	0.5	1
03648	1,4-Dichlorobenzene	106-46-7	N.D.	0.1	0.5	1
03648	Dichlorodifluoromethane	75-71-8	N.D.	0.2	0.5	1
03648	1,1-Dichloroethane	75-34-3	0.1 J	0.1	0.5	1
03648	1,2-Dichloroethane	107-06-2	N.D.	0.1	0.5	1
03648	1,1-Dichloroethene	75-35-4	N.D.	0.1	0.5	1
03648	cis-1,2-Dichloroethene	156-59-2	N.D.	0.1	0.5	1
03648	trans-1,2-Dichloroethene	156-60-5	N.D.	0.1	0.5	1
03648	1,2-Dichloropropane	78-87-5	N.D.	0.1	0.5	1
03648	1,3-Dichloropropane	142-28-9	N.D.	0.1	0.5	1
03648	2,2-Dichloropropane	594-20-7	N.D.	0.2	0.5	1
03648	1,1-Dichloropropene	563-58-6	N.D.	0.1	0.5	1
03648	cis-1,3-Dichloropropene	10061-01-5	N.D.	0.1	0.5	1
03648	trans-1,3-Dichloropropene	10061-02-6	N.D.	0.1	0.5	1
03648	Ethylbenzene	100-41-4	N.D.	0.1	0.5	1
03648	Hexachlorobutadiene	87-68-3	N.D.	0.2	0.5	1
03648	Isopropylbenzene	98-82-8	N.D.	0.1	0.5	1
03648	p-Isopropyltoluene	99-87-6	N.D.	0.1	0.5	1
03648	Methylene Chloride	75-09-2	N.D.	0.3	0.5	1
03648	Naphthalene	91-20-3	N.D.	0.2	0.5	1
03648	n-Propylbenzene	103-65-1	N.D.	0.1	0.5	1
03648	Styrene	100-42-5	N.D.	0.1	0.5	1
03648	1,1,1,2-Tetrachloroethane	630-20-6	N.D.	0.1	0.5	1
03648	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	0.1	0.5	1
03648	Tetrachloroethene	127-18-4	0.1 J	0.1	0.5	1
03648	Toluene	108-88-3	N.D.	0.1	0.5	1
03648	1,2,3-Trichlorobenzene	87-61-6	N.D.	0.2	0.5	1
03648	1,2,4-Trichlorobenzene	120-82-1	N.D.	0.2	0.5	1
03648	1,1,1-Trichloroethane	71-55-6	N.D.	0.1	0.5	1

WAT15 0313

Sample Description: H&G Produce Grab Water Sample
March 2012 Semiannual Assess. Monitoring Event
Watauga County, NC

LLI Sample # PW 6573134
LLI Group # 1294344
Account # 11200

Project Name: Watauga County, NC

Collected: 03/08/2012 12:35 by DS

Draper Aden Associates, Inc.
2206 South Main Street
Blacksburg VA 24060

Submitted: 03/09/2012 09:20

Reported: 03/21/2012 18:40

WATHG SDG#: WAT15-02

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
GC/MS Volatiles EPA 524.2			ug/l	ug/l	ug/l	
03648	1,1,2-Trichloroethane	79-00-5	N.D.	0.1	0.5	1
03648	Trichloroethene	79-01-6	N.D.	0.1	0.5	1
03648	Trichlorofluoromethane	75-69-4	N.D.	0.2	0.5	1
03648	1,2,3-Trichloropropane	96-18-4	N.D.	0.2	0.5	1
03648	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.1	0.5	1
03648	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.1	0.5	1
03648	Vinyl Chloride	75-01-4	N.D.	0.1	0.5	1
03648	m+p-Xylene	179601-23-1	N.D.	0.2	0.5	1
03648	o-Xylene	95-47-6	N.D.	0.1	0.5	1
03648	Xylene (Total)	1330-20-7	N.D.	0.2	0.5	1

General Sample Comments

The laboratory is NC DHHS certified for all SDWA regulated compounds reported (Lab ID 42705). North Carolina Department of Health and Human Services does not offer certification for unregulated compounds.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
03648	EPA 524.2 Master	EPA 524.2	1	S120761AA	03/16/2012 12:42	Anita M Dale	1

WAT15 0614

Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

RL	Reporting Limit	BMQL	Below Minimum Quantitation Level
N.D.	none detected	MPN	Most Probable Number
TNTC	Too Numerous To Count	CP Units	cobalt-chloroplatinate units
IU	International Units	NTU	nephelometric turbidity units
umhos/cm	micromhos/cm	ng	nanogram(s)
C	degrees Celsius	F	degrees Fahrenheit
meq	milliequivalents	lb.	pound(s)
g	gram(s)	kg	kilogram(s)
µg	microgram(s)	mg	milligram(s)
mL	milliliter(s)	L	liter(s)
m3	cubic meter(s)	µL	microliter(s)
		pg/L	picogram/liter
<	less than - The number following the sign is the <u>limit of quantitation</u> , the smallest amount of analyte which can be reliably determined using this specific test.		
>	greater than		
J	estimated value – The result is \geq the Method Detection Limit (MDL) and $<$ the Limit of Quantitation (LOQ).		
ppm	parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg), or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter of gas per liter of gas.		
ppb	parts per billion		
Dry weight basis	Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.		

U.S. EPA CLP Data Qualifiers:

Organic Qualifiers		Inorganic Qualifiers	
A	TIC is a possible aldol-condensation product	B	Value is $<$ CRDL, but \geq IDL
B	Analyte was also detected in the blank	E	Estimated due to interference
C	Pesticide result confirmed by GC/MS	M	Duplicate injection precision not met
D	Compound quantitated on a diluted sample	N	Spike sample not within control limits
E	Concentration exceeds the calibration range of the instrument	S	Method of standard additions (MSA) used for calculation
N	Presumptive evidence of a compound (TICs only)	U	Compound was not detected
P	Concentration difference between primary and confirmation columns $>$ 25%	W	Post digestion spike out of control limits
U	Compound was not detected	*	Duplicate analysis not within control limits
X,Y,Z	Defined in case narrative	+	Correlation coefficient for MSA $<$ 0.995

Analytical test results meet all requirements of NELAC unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff. This report shall not be reproduced except in full, without the written approval of the laboratory.

Times are local to the area of activity. Parameters listed in the 40 CFR part 136 Table II as "analyze immediately" are not performed within 15 minutes.

WARRANTY AND LIMITS OF LIABILITY - In accepting analytical work, we warrant the accuracy of test results for the sample as submitted. THE FOREGOING EXPRESS WARRANTY IS EXCLUSIVE AND IS GIVEN IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED. WE DISCLAIM ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING A WARRANTY OF FITNESS FOR PARTICULAR PURPOSE AND WARRANTY OF MERCHANTABILITY. IN NO EVENT SHALL LANCASTER LABORATORIES BE LIABLE FOR INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR LOSS OF PROFIT OR GOODWILL REGARDLESS OF (A) THE NEGLIGENCE (EITHER SOLE OR CONCURRENT) OF LANCASTER LABORATORIES AND (B) WHETHER LANCASTER LABORATORIES HAS BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. We accept no legal responsibility for the purposes for which the client uses the test results. No purchase order or other order for work shall be accepted by Lancaster Laboratories which includes any conditions that vary from the Standard Terms and Conditions, and Lancaster hereby objects to any conflicting terms contained in any acceptance or order submitted by client.



Draper Aden Associates

Engineering • Surveying • Environmental Services

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Blacksburg, Virginia 24060
(540) 552-0444 • Fax (540) 552-0291
www.daa.com

April 30, 2012

Jerry and Pamela Williamson
2737 Hwy 421 South
Boone, NC 28607

**Re: Private Well Sampling
Closed Watauga County Landfill
Draper Aden Associates Job No. 6520-39**

Dear Mr. and Mrs. Williamson:

Thank you for participating in the private well sampling event completed in March 2012 as part of the closed Watauga County Landfill's groundwater monitoring program. Please find enclosed with this letter the analytical results obtained from the water sample Draper Aden Associates collected from your non-potable use well on March 8, 2012. The water sample was analyzed for 59 volatile organic constituents via the EPA Drinking Water Analytical Method 524.2.

Two constituents (cis-1,2-dichloroethene and tetrachloroethene) were detected at very low concentrations, estimated at 0.1 µg/l for both constituents. These concentrations are less than the Environmental Protection Agency (EPA) Maximum Contaminant Limit (MCL) drinking water standards for cis-1,2-dichloroethene and tetrachloroethene of 70 µg/l and 5.0 µg/l, respectively, and the NC groundwater standards of 70 µg/l and 0.7 µg/l, respectively.

Draper Aden Associates and Watauga County appreciate your cooperation. Watauga County will continue sampling your well on a semiannual basis as part of the overall landfill monitoring program. Please feel free to contact us if you have any questions regarding these results.

Sincerely,
DRAPER ADEN ASSOCIATES

Karen Weber, P.G.
Senior Project Geologist

Enclosure: Analytical Results

cc: Ms. Elizabeth Werner, NCDENR (w/ enclosure)
Mr. Lawrence Caviness, NC Appalachian District HD (w/ enclosure)
Mr. Deron Geouque, Watauga County Manager (w/ enclosure)
Mr. Srikanth Nathella, P.E., Draper Aden Associates

Blacksburg, Virginia • Charlottesville, Virginia • Hampton Roads, Virginia • Richmond, Virginia

Sample Description: RES-16 Grab Water Sample
March 2012 Semiannual Assess. Monitoring Event
Watauga County, NC

LLI Sample # PW 6573136
LLI Group # 1294344
Account # 11200

Project Name: Watauga County, NC

Collected: 03/08/2012 12:10 by DS

Draper Aden Associates, Inc.
2206 South Main Street
Blacksburg VA 24060

Submitted: 03/09/2012 09:20

Reported: 03/21/2012 18:40

WAT16 SDG#: WAT15-04

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	EPA 524.2	ug/l	ug/l	ug/l	
03648	Benzene	71-43-2	N.D.	0.1	0.5	1
03648	Bromobenzene	108-86-1	N.D.	0.1	0.5	1
03648	Bromochloromethane	74-97-5	N.D.	0.1	0.5	1
03648	Bromodichloromethane	75-27-4	N.D.	0.1	0.5	1
03648	Bromoform	75-25-2	N.D.	0.2	0.5	1
03648	Bromomethane	74-83-9	N.D.	0.1	0.5	1
03648	n-Butylbenzene	104-51-8	N.D.	0.2	0.5	1
03648	sec-Butylbenzene	135-98-8	N.D.	0.1	0.5	1
03648	tert-Butylbenzene	98-06-6	N.D.	0.1	0.5	1
03648	Carbon Tetrachloride	56-23-5	N.D.	0.1	0.5	1
03648	Chlorobenzene	108-90-7	N.D.	0.1	0.5	1
03648	Chloroethane	75-00-3	N.D.	0.2	0.5	1
03648	Chloroform	67-66-3	N.D.	0.1	0.5	1
03648	Chloromethane	74-87-3	N.D.	0.2	0.5	1
03648	2-Chlorotoluene	95-49-8	N.D.	0.1	0.5	1
03648	4-Chlorotoluene	106-43-4	N.D.	0.2	0.5	1
03648	1,2-Dibromo-3-chloropropane	96-12-8	N.D.	0.4	0.5	1
03648	Dibromochloromethane	124-48-1	N.D.	0.1	0.5	1
03648	1,2-Dibromoethane	106-93-4	N.D.	0.1	0.5	1
03648	Dibromomethane	74-95-3	N.D.	0.1	0.5	1
03648	1,2-Dichlorobenzene	95-50-1	N.D.	0.1	0.5	1
03648	1,3-Dichlorobenzene	541-73-1	N.D.	0.1	0.5	1
03648	1,4-Dichlorobenzene	106-46-7	N.D.	0.1	0.5	1
03648	Dichlorodifluoromethane	75-71-8	N.D.	0.2	0.5	1
03648	1,1-Dichloroethane	75-34-3	N.D.	0.1	0.5	1
03648	1,2-Dichloroethane	107-06-2	N.D.	0.1	0.5	1
03648	1,1-Dichloroethene	75-35-4	N.D.	0.1	0.5	1
03648	cis-1,2-Dichloroethene	156-59-2	0.1 J	0.1	0.5	1
03648	trans-1,2-Dichloroethene	156-60-5	N.D.	0.1	0.5	1
03648	1,2-Dichloropropane	78-87-5	N.D.	0.1	0.5	1
03648	1,3-Dichloropropane	142-28-9	N.D.	0.1	0.5	1
03648	2,2-Dichloropropane	594-20-7	N.D.	0.2	0.5	1
03648	1,1-Dichloropropene	563-58-6	N.D.	0.1	0.5	1
03648	cis-1,3-Dichloropropene	10061-01-5	N.D.	0.1	0.5	1
03648	trans-1,3-Dichloropropene	10061-02-6	N.D.	0.1	0.5	1
03648	Ethylbenzene	100-41-4	N.D.	0.1	0.5	1
03648	Hexachlorobutadiene	87-68-3	N.D.	0.2	0.5	1
03648	Isopropylbenzene	98-82-8	N.D.	0.1	0.5	1
03648	p-Isopropyltoluene	99-87-6	N.D.	0.1	0.5	1
03648	Methylene Chloride	75-09-2	N.D.	0.3	0.5	1
03648	Naphthalene	91-20-3	N.D.	0.2	0.5	1
03648	n-Propylbenzene	103-65-1	N.D.	0.1	0.5	1
03648	Styrene	100-42-5	N.D.	0.1	0.5	1
03648	1,1,1,2-Tetrachloroethane	630-20-6	N.D.	0.1	0.5	1
03648	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	0.1	0.5	1
03648	Tetrachloroethene	127-18-4	0.1 J	0.1	0.5	1
03648	Toluene	108-88-3	N.D.	0.1	0.5	1
03648	1,2,3-Trichlorobenzene	87-61-6	N.D.	0.2	0.5	1
03648	1,2,4-Trichlorobenzene	120-82-1	N.D.	0.2	0.5	1
03648	1,1,1-Trichloroethane	71-55-6	N.D.	0.1	0.5	1

WAT15 0017

Sample Description: RES-16 Grab Water Sample
March 2012 Semiannual Assess. Monitoring Event
Watauga County, NC

LLI Sample # PW 6573136
LLI Group # 1294344
Account # 11200

Project Name: Watauga County, NC

Collected: 03/08/2012 12:10 by DS

Draper Aden Associates, Inc.
2206 South Main Street
Blacksburg VA 24060

Submitted: 03/09/2012 09:20

Reported: 03/21/2012 18:40

WAT16 SDG#: WAT15-04

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	EPA 524.2	ug/l	ug/l	ug/l	
03648	1,1,2-Trichloroethane	79-00-5	N.D.	0.1	0.5	1
03648	Trichloroethene	79-01-6	N.D.	0.1	0.5	1
03648	Trichlorofluoromethane	75-69-4	N.D.	0.2	0.5	1
03648	1,2,3-Trichloropropane	96-18-4	N.D.	0.2	0.5	1
03648	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.1	0.5	1
03648	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.1	0.5	1
03648	Vinyl Chloride	75-01-4	N.D.	0.1	0.5	1
03648	m+p-Xylene	179601-23-1	N.D.	0.2	0.5	1
03648	o-Xylene	95-47-6	N.D.	0.1	0.5	1
03648	Xylene (Total)	1330-20-7	N.D.	0.2	0.5	1

General Sample Comments

The laboratory is NC DHHS certified for all SDWA regulated compounds reported (Lab ID 42705). North Carolina Department of Health and Human Services does not offer certification for unregulated compounds.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
03648	EPA 524.2 Master	EPA 524.2	1	S120761AA	03/16/2012 13:35	Anita M Dale	1

WAT15 0010

Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

RL	Reporting Limit	BMQL	Below Minimum Quantitation Level
N.D.	none detected	MPN	Most Probable Number
TNTC	Too Numerous To Count	CP Units	cobalt-chloroplatinate units
IU	International Units	NTU	nephelometric turbidity units
umhos/cm	micromhos/cm	ng	nanogram(s)
C	degrees Celsius	F	degrees Fahrenheit
meq	milliequivalents	lb.	pound(s)
g	gram(s)	kg	kilogram(s)
µg	microgram(s)	mg	milligram(s)
mL	milliliter(s)	L	liter(s)
m³	cubic meter(s)	µL	microliter(s)
		pg/L	picogram/liter
<	less than - The number following the sign is the <u>limit of quantitation</u> , the smallest amount of analyte which can be reliably determined using this specific test.		
>	greater than		
J	estimated value – The result is ≥ the Method Detection Limit (MDL) and < the Limit of Quantitation (LOQ).		
ppm	parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg), or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter of gas per liter of gas.		
ppb	parts per billion		
Dry weight basis	Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.		

U.S. EPA CLP Data Qualifiers:

Organic Qualifiers		Inorganic Qualifiers	
A	TIC is a possible aldol-condensation product	B	Value is <CRDL, but ≥IDL
B	Analyte was also detected in the blank	E	Estimated due to interference
C	Pesticide result confirmed by GC/MS	M	Duplicate injection precision not met
D	Compound quantitated on a diluted sample	N	Spike sample not within control limits
E	Concentration exceeds the calibration range of the instrument	S	Method of standard additions (MSA) used for calculation
N	Presumptive evidence of a compound (TICs only)	U	Compound was not detected
P	Concentration difference between primary and confirmation columns >25%	W	Post digestion spike out of control limits
U	Compound was not detected	*	Duplicate analysis not within control limits
X,Y,Z	Defined in case narrative	+	Correlation coefficient for MSA <0.995

Analytical test results meet all requirements of NELAC unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff. This report shall not be reproduced except in full, without the written approval of the laboratory.

Times are local to the area of activity. Parameters listed in the 40 CFR part 136 Table II as "analyze immediately" are not performed within 15 minutes.

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2206 South Main Street
Blacksburg, Virginia 24060
(540) 552-0444 • Fax (540) 552-0291
www.daa.com

April 30, 2012



Mr. David Greer
2711 Hwy 421 South
Boone, North Carolina 28607

**Re: Private Well Sampling
Closed Watauga County Landfill
Draper Aden Associates Job No. 6520-39**

Dear Mr. Greer:

Thank you for participating in the potable well sampling event completed in March 2012 as part of the closed Watauga County Landfill's groundwater monitoring program. Please find enclosed the analytical results obtained from the water sample Draper Aden Associates collected from your well on March 8, 2012. The water sample was analyzed for 59 volatile organic constituents via the EPA Drinking Water Analytical Method 524.2.

Two constituents (cis-1,2-dichloroethene and tetrachloroethene) were detected at a very low concentrations, estimated at 0.1 µg/l and 0.2 µg/l, respectively. These concentrations are less than the Environmental Protection Agency (EPA) Maximum Contaminant Limit (MCL) drinking water standards for cis-1,2-dichloroethene and tetrachloroethene of 70 µg/l and 5.0 µg/l, respectively, and the NC groundwater standards of 70 µg/l and 0.7 µg/l, respectively.

Draper Aden Associates and Watauga County appreciate your cooperation. Watauga County will continue sampling your well on a semiannual basis as part of the overall landfill monitoring program. Please feel free to contact us if you have any questions regarding these results.

Sincerely,
DRAPER ADEN ASSOCIATES

Karen Weber, P.G.
Senior Project Geologist

Enclosure: Analytical Results

cc: Ms. Elizabeth Werner, NCDENR (w/ enclosure)
Mr. Lawrence Caviness, NC Appalachian District HD (w/ enclosure)
Mr. Deron Geouque, Watauga County Manager (w/ enclosure)
Mr. Srikanth Nathella, P.E., Draper Aden Associates

Sample Description: RES-15 Grab Water Sample
March 2012 Semiannual Assess. Monitoring Event
Watauga County, NC

LLI Sample # PW 6573135
LLI Group # 1294344
Account # 11200

Project Name: Watauga County, NC

Collected: 03/08/2012 12:20 by DS

Draper Aden Associates, Inc.

2206 South Main Street

Blacksburg VA 24060

Submitted: 03/09/2012 09:20

Reported: 03/21/2012 18:40

WAT15 SDG#: WAT15-03

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	EPA 524.2	ug/l	ug/l	ug/l	
03648	Benzene	71-43-2	N.D.	0.1	0.5	1
03648	Bromobenzene	108-86-1	N.D.	0.1	0.5	1
03648	Bromochloromethane	74-97-5	N.D.	0.1	0.5	1
03648	Bromodichloromethane	75-27-4	N.D.	0.1	0.5	1
03648	Bromoform	75-25-2	N.D.	0.2	0.5	1
03648	Bromomethane	74-83-9	N.D.	0.1	0.5	1
03648	n-Butylbenzene	104-51-8	N.D.	0.2	0.5	1
03648	sec-Butylbenzene	135-98-8	N.D.	0.1	0.5	1
03648	tert-Butylbenzene	98-06-6	N.D.	0.1	0.5	1
03648	Carbon Tetrachloride	56-23-5	N.D.	0.1	0.5	1
03648	Chlorobenzene	108-90-7	N.D.	0.1	0.5	1
03648	Chloroethane	75-00-3	N.D.	0.2	0.5	1
03648	Chloroform	67-66-3	N.D.	0.1	0.5	1
03648	Chloromethane	74-87-3	N.D.	0.2	0.5	1
03648	2-Chlorotoluene	95-49-8	N.D.	0.1	0.5	1
03648	4-Chlorotoluene	106-43-4	N.D.	0.2	0.5	1
03648	1,2-Dibromo-3-chloropropane	96-12-8	N.D.	0.4	0.5	1
03648	Dibromochloromethane	124-48-1	N.D.	0.1	0.5	1
03648	1,2-Dibromoethane	106-93-4	N.D.	0.1	0.5	1
03648	Dibromomethane	74-95-3	N.D.	0.1	0.5	1
03648	1,2-Dichlorobenzene	95-50-1	N.D.	0.1	0.5	1
03648	1,3-Dichlorobenzene	541-73-1	N.D.	0.1	0.5	1
03648	1,4-Dichlorobenzene	106-46-7	N.D.	0.1	0.5	1
03648	Dichlorodifluoromethane	75-71-8	N.D.	0.2	0.5	1
03648	1,1-Dichloroethane	75-34-3	N.D.	0.1	0.5	1
03648	1,2-Dichloroethane	107-06-2	N.D.	0.1	0.5	1
03648	1,1-Dichloroethene	75-35-4	N.D.	0.1	0.5	1
03648	cis-1,2-Dichloroethene	156-59-2	0.1 J	0.1	0.5	1
03648	trans-1,2-Dichloroethene	156-60-5	N.D.	0.1	0.5	1
03648	1,2-Dichloropropane	78-87-5	N.D.	0.1	0.5	1
03648	1,3-Dichloropropane	142-28-9	N.D.	0.1	0.5	1
03648	2,2-Dichloropropane	594-20-7	N.D.	0.2	0.5	1
03648	1,1-Dichloropropene	563-58-6	N.D.	0.1	0.5	1
03648	cis-1,3-Dichloropropene	10061-01-5	N.D.	0.1	0.5	1
03648	trans-1,3-Dichloropropene	10061-02-6	N.D.	0.1	0.5	1
03648	Ethylbenzene	100-41-4	N.D.	0.1	0.5	1
03648	Hexachlorobutadiene	87-68-3	N.D.	0.2	0.5	1
03648	Isopropylbenzene	98-82-8	N.D.	0.1	0.5	1
03648	p-Isopropyltoluene	99-87-6	N.D.	0.1	0.5	1
03648	Methylene Chloride	75-09-2	N.D.	0.3	0.5	1
03648	Naphthalene	91-20-3	N.D.	0.2	0.5	1
03648	n-Propylbenzene	103-65-1	N.D.	0.1	0.5	1
03648	Styrene	100-42-5	N.D.	0.1	0.5	1
03648	1,1,1,2-Tetrachloroethane	630-20-6	N.D.	0.1	0.5	1
03648	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	0.1	0.5	1
03648	Tetrachloroethene	127-18-4	0.2 J	0.1	0.5	1
03648	Toluene	108-88-3	N.D.	0.1	0.5	1
03648	1,2,3-Trichlorobenzene	87-61-6	N.D.	0.2	0.5	1
03648	1,2,4-Trichlorobenzene	120-82-1	N.D.	0.2	0.5	1
03648	1,1,1-Trichloroethane	71-55-6	N.D.	0.1	0.5	1

WAT15 8815

Sample Description: RES-15 Grab Water Sample
 March 2012 Semiannual Assess. Monitoring Event
 Watauga County, NC

LLI Sample # PW 6573135
 LLI Group # 1294344
 Account # 11200

Project Name: Watauga County, NC

Collected: 03/08/2012 12:20 by DS

Draper Aden Associates, Inc.
 2206 South Main Street
 Blacksburg VA 24060

Submitted: 03/09/2012 09:20

Reported: 03/21/2012 18:40

WAT15 SDG#: WAT15-03

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	EPA 524.2	ug/l	ug/l	ug/l	
03648	1,1,2-Trichloroethane	79-00-5	N.D.	0.1	0.5	1
03648	Trichloroethene	79-01-6	N.D.	0.1	0.5	1
03648	Trichlorofluoromethane	75-69-4	N.D.	0.2	0.5	1
03648	1,2,3-Trichloropropane	96-18-4	N.D.	0.2	0.5	1
03648	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.1	0.5	1
03648	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.1	0.5	1
03648	Vinyl Chloride	75-01-4	N.D.	0.1	0.5	1
03648	m+p-Xylene	179601-23-1	N.D.	0.2	0.5	1
03648	o-Xylene	95-47-6	N.D.	0.1	0.5	1
03648	Xylene (Total)	1330-20-7	N.D.	0.2	0.5	1

General Sample Comments

The laboratory is NC DHHS certified for all SDWA regulated compounds reported (Lab ID 42705). North Carolina Department of Health and Human Services does not offer certification for unregulated compounds.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
03648	EPA 524.2 Master	EPA 524.2	1	S120761AA	03/16/2012 13:08	Anita M Dale	1

WAT15 8816

Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

RL	Reporting Limit	BMQL	Below Minimum Quantitation Level
N.D.	none detected	MPN	Most Probable Number
TNTC	Too Numerous To Count	CP Units	cobalt-chloroplatinate units
IU	International Units	NTU	nephelometric turbidity units
umhos/cm	micromhos/cm	ng	nanogram(s)
C	degrees Celsius	F	degrees Fahrenheit
meq	milliequivalents	lb.	pound(s)
g	gram(s)	kg	kilogram(s)
µg	microgram(s)	mg	milligram(s)
mL	milliliter(s)	L	liter(s)
m3	cubic meter(s)	µL	microliter(s)
		pg/L	picogram/liter
<	less than - The number following the sign is the <u>limit of quantitation</u> , the smallest amount of analyte which can be reliably determined using this specific test.		
>	greater than		
J	estimated value – The result is \geq the Method Detection Limit (MDL) and $<$ the Limit of Quantitation (LOQ).		
ppm	parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg), or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter of gas per liter of gas.		
ppb	parts per billion		
Dry weight basis	Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.		

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Organic Qualifiers		Inorganic Qualifiers	
A	TIC is a possible aldol-condensation product	B	Value is $<$ CRDL, but \geq IDL
B	Analyte was also detected in the blank	E	Estimated due to interference
C	Pesticide result confirmed by GC/MS	M	Duplicate injection precision not met
D	Compound quantitated on a diluted sample	N	Spike sample not within control limits
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N	Presumptive evidence of a compound (TICs only)	U	Compound was not detected
P	Concentration difference between primary and confirmation columns $>$ 25%	W	Post digestion spike out of control limits
U	Compound was not detected	*	Duplicate analysis not within control limits
X,Y,Z	Defined in case narrative	+	Correlation coefficient for MSA $<$ 0.995

Analytical test results meet all requirements of NELAC unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

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