EnviroTest Laboratories Inc.

ANALYTICAL REPORT

Job Number: 420-117640-1

SDG Number: West Nyack, NY

Job Description: Geovation Engineering, P.C.

For:
Geovation Engineering
2016 Route 284
Slate Hill, NY 10973

Attention: Ms. Sheila McGroddy

Meredith Ruthven

Meredith W Ruthven
Customer Service Manager
mruthven@envirotestlaboratories.com
03/16/2017

cc: Robert Zimmer

EnviroTest Laboratories, Inc. Certifications and Approvals: NYSDOH 10142, NJDEP NY015, CTDOPH PH-0554

METHOD SUMMARY

Client: Geovation Engineering

Job Number: 420-117640-1
SDG Number: West Nyack, NY

Description	Lab Location	Method	Preparation Method
Matrix: Water			
Volatile Organic Compounds by GC/MS	EnvTest	SW846 8260C	
Purge and Trap for Aqueous Samples	EnvTest		SW846 5030C
Total Organic Carbon/Persulfate - Ultraviolet Oxidation Method	EnvTest	SM21 SM5310C-00,11	

Lab References:

EnvTest = EnviroTest

Method References:

SM21 = "Standard Methods For The Examination Of Water And Wastewater", 21st Edition

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

METHOD / ANALYST SUMMARY

Client: Geovation Engineering

Job Number: 420-117640-1
SDG Number: West Nyack, NY

Method	Analyst	Analyst ID
SW846 8260C	Andersen, Eric C	ECA
SM21 SM5310C-00,11	Luis, Carlos	CL

SAMPLE SUMMARY

Client: Geovation Engineering

Job Number: 420-117640-1
SDG Number: West Nyack, NY

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
420-117640-1	Grant MW-12	Water	03/02/2017 1715	03/03/2017 1130
420-117640-2	Grant MW-18	Water	03/02/2017 1620	03/03/2017 1130
420-117640-3	Grant MW-19	Water	03/02/2017 1240	03/03/2017 1130
420-117640-4	Grant MW-24	Water	03/02/2017 1445	03/03/2017 1130
420-117640-5	Grant MW-25	Water	03/02/2017 1400	03/03/2017 1130
420-117640-6	Grant MW-28	Water	03/02/2017 1215	03/03/2017 1130

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Job Number: 420-117640-1
Sdg Number: West Nyack, NY

Client Sample ID: **Grant MW-12**
Lab Sample ID: **420-117640-1**

Date Sampled: 03/02/2017 1715
Date Received: 03/03/2017 1130
Client Matrix: Water

Analyte	Result/Qualifier		Unit	RL	RL	Dilution
Method: 8260C			Date Analyzed:		03/07/2017 1423	
Prep Method: 5030C			Date Prepared:		03/07/2017 1423	
Acetone	5.0	U	ug/L	5.0	5.0	1.0
Benzene	1.0	U	ug/L	1.0	1.0	1.0
Carbon disulfide	1.0	U	ug/L	1.0	1.0	1.0
Chloroform	1.0	U	ug/L	1.0	1.0	1.0
cis-1,2-Dichloroethene	1.1		ug/L	1.0	1.0	1.0
Ethylbenzene	1.0	U	ug/L	1.0	1.0	1.0
m-Xylene & p-Xylene	2.0	U	ug/L	2.0	2.0	1.0
o-Xylene	1.0	U	ug/L	1.0	1.0	1.0
Tetrachloroethene	1.0	U	ug/L	1.0	1.0	1.0
Toluene	2.5		ug/L	1.0	1.0	1.0
trans-1,2-Dichloroethene	1.0	U	ug/L	1.0	1.0	1.0
Trichloroethene	1.0	U	ug/L	1.0	1.0	1.0
Vinyl chloride	1.0	U	ug/L	1.0	1.0	1.0
1,1,1-Trichloroethane	1.0	U	ug/L	1.0	1.0	1.0
1,1,2-Trichloroethane	1.0	U	ug/L	1.0	1.0	1.0
1,1-Dichloroethane	1.0	U	ug/L	1.0	1.0	1.0
1,1-Dichloroethene	1.0	U	ug/L	1.0	1.0	1.0
1,2-Dichloroethane	1.0	U	ug/L	1.0	1.0	1.0
2-Butanone (MEK)	1.0	U	ug/L	1.0	1.0	1.0
Surrogate					Acceptance Limits	
Toluene-d8 (Surr)	105		%		74 - 129	
1,2-Dichloroethane-d4 (Surr)	100		%		77 - 117	
4-Bromofluorobenzene	97		%		74 - 119	
Method: SM5310C-00,11			Date Analyzed:		03/07/2017 1818	
Total Organic Carbon	69		mg/L	1.0	1.0	1.0

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Job Number: 420-117640-1
Sdg Number: West Nyack, NY

Client Sample ID: **Grant MW-18**
Lab Sample ID: **420-117640-2**

Date Sampled: 03/02/2017 1620
Date Received: 03/03/2017 1130
Client Matrix: Water

Analyte	Result/Qualifier		Unit	RL	RL	Dilution
Method: 8260C			Date Analyzed:		03/07/2017 1534	
Prep Method: 5030C			Date Prepared:		03/07/2017 1534	
Acetone	5.0	U	ug/L	5.0	5.0	1.0
Benzene	1.0	U	ug/L	1.0	1.0	1.0
Carbon disulfide	1.0	U	ug/L	1.0	1.0	1.0
Chloroform	1.0	U	ug/L	1.0	1.0	1.0
Ethylbenzene	1.0	U	ug/L	1.0	1.0	1.0
m-Xylene & p-Xylene	2.0	U	ug/L	2.0	2.0	1.0
o-Xylene	1.2		ug/L	1.0	1.0	1.0
Tetrachloroethene	1.0	U	ug/L	1.0	1.0	1.0
Toluene	1.0	U	ug/L	1.0	1.0	1.0
trans-1,2-Dichloroethene	29		ug/L	1.0	1.0	1.0
1,1,1-Trichloroethane	1.0	U	ug/L	1.0	1.0	1.0
1,1,2-Trichloroethane	2.3		ug/L	1.0	1.0	1.0
1,1-Dichloroethane	13		ug/L	1.0	1.0	1.0
1,1-Dichloroethene	8.1		ug/L	1.0	1.0	1.0
1,2-Dichloroethane	2.4		ug/L	1.0	1.0	1.0
2-Butanone (MEK)	1.0	U	ug/L	1.0	1.0	1.0
Surrogate					Acceptance Limits	
Toluene-d8 (Surr)	107		%		74 - 129	
1,2-Dichloroethane-d4 (Surr)	88		%		77 - 117	
4-Bromofluorobenzene	97		%		74 - 119	
Method: 8260C Run Type: DL			Date Analyzed:		03/07/2017 1611	
Prep Method: 5030C			Date Prepared:		03/07/2017 1611	
Trichloroethene	300	D	ug/L	50	50	50
Vinyl chloride	3400	D	ug/L	50	50	50
Method: 8260C Run Type: DL2			Date Analyzed:		03/07/2017 2134	
Prep Method: 5030C			Date Prepared:		03/07/2017 2134	
cis-1,2-Dichloroethene	5400	D	ug/L	100	100	100
Method: SM5310C-00,11			Date Analyzed:		03/07/2017 1818	
Total Organic Carbon	28		mg/L	1.0	1.0	1.0

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Job Number: 420-117640-1
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Client Sample ID: **Grant MW-19**
Lab Sample ID: **420-117640-3**

Date Sampled: 03/02/2017 1240
Date Received: 03/03/2017 1130
Client Matrix: Water

Analyte	Result/Qualifier		Unit	RL	RL	Dilution
Method: 8260C			Date Analyzed:		03/07/2017 1647	
Prep Method: 5030C			Date Prepared:		03/07/2017 1647	
Acetone	5.0	U	ug/L	5.0	5.0	1.0
Benzene	1.0	U	ug/L	1.0	1.0	1.0
Carbon disulfide	1.0	U	ug/L	1.0	1.0	1.0
Chloroform	1.0	U	ug/L	1.0	1.0	1.0
cis-1,2-Dichloroethene	2.5		ug/L	1.0	1.0	1.0
Ethylbenzene	1.0	U	ug/L	1.0	1.0	1.0
m-Xylene & p-Xylene	2.0	U	ug/L	2.0	2.0	1.0
o-Xylene	1.0	U	ug/L	1.0	1.0	1.0
Tetrachloroethene	1.5		ug/L	1.0	1.0	1.0
Toluene	1.0	U	ug/L	1.0	1.0	1.0
trans-1,2-Dichloroethene	1.0	U	ug/L	1.0	1.0	1.0
Trichloroethene	3.8		ug/L	1.0	1.0	1.0
Vinyl chloride	1.0		ug/L	1.0	1.0	1.0
1,1,1-Trichloroethane	1.0	U	ug/L	1.0	1.0	1.0
1,1,2-Trichloroethane	1.0	U	ug/L	1.0	1.0	1.0
1,1-Dichloroethane	1.0	U	ug/L	1.0	1.0	1.0
1,1-Dichloroethene	1.0	U	ug/L	1.0	1.0	1.0
1,2-Dichloroethane	1.0	U	ug/L	1.0	1.0	1.0
2-Butanone (MEK)	1.0	U	ug/L	1.0	1.0	1.0
Surrogate					Acceptance Limits	
Toluene-d8 (Surr)	105		%		74 - 129	
1,2-Dichloroethane-d4 (Surr)	100		%		77 - 117	
4-Bromofluorobenzene	102		%		74 - 119	
Method: SM5310C-00,11			Date Analyzed:		03/07/2017 1818	
Total Organic Carbon	3.3		mg/L	1.0	1.0	1.0

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Job Number: 420-117640-1
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Client Sample ID: **Grant MW-24**
Lab Sample ID: **420-117640-4**

Date Sampled: 03/02/2017 1445
Date Received: 03/03/2017 1130
Client Matrix: Water

Analyte	Result/Qualifier		Unit	RL	RL	Dilution
Method: 8260C			Date Analyzed:	03/07/2017 1759		
Prep Method: 5030C			Date Prepared:	03/07/2017 1759		
Acetone	250	U	ug/L	250	250	50
Benzene	50	U	ug/L	50	50	50
Carbon disulfide	50	U	ug/L	50	50	50
Chloroform	50	U	ug/L	50	50	50
Ethylbenzene	50	U	ug/L	50	50	50
m-Xylene & p-Xylene	100	U	ug/L	100	100	50
o-Xylene	50	U	ug/L	50	50	50
Tetrachloroethene	140		ug/L	50	50	50
Toluene	50	U	ug/L	50	50	50
trans-1,2-Dichloroethene	50	U	ug/L	50	50	50
Vinyl chloride	270		ug/L	50	50	50
1,1,1-Trichloroethane	50	U	ug/L	50	50	50
1,1,2-Trichloroethane	50	U	ug/L	50	50	50
1,1-Dichloroethane	50	U	ug/L	50	50	50
1,1-Dichloroethene	50	U	ug/L	50	50	50
1,2-Dichloroethane	50	U	ug/L	50	50	50
2-Butanone (MEK)	50	U	ug/L	50	50	50
Surrogate					Acceptance Limits	
Toluene-d8 (Surr)	105		%		74 - 129	
1,2-Dichloroethane-d4 (Surr)	99		%		77 - 117	
4-Bromofluorobenzene	101		%		74 - 119	
Method: 8260C Run Type: DL			Date Analyzed:	03/07/2017 1835		
Prep Method: 5030C			Date Prepared:	03/07/2017 1835		
cis-1,2-Dichloroethene	7600	D	ug/L	500	500	500
Trichloroethene	9300	D	ug/L	500	500	500
Method: SM5310C-00,11			Date Analyzed:	03/07/2017 1818		
Total Organic Carbon	3.0		mg/L	1.0	1.0	1.0

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Job Number: 420-117640-1
Sdg Number: West Nyack, NY

Client Sample ID: **Grant MW-25**
Lab Sample ID: **420-117640-5**

Date Sampled: 03/02/2017 1400
Date Received: 03/03/2017 1130
Client Matrix: Water

Analyte	Result/Qualifier		Unit	RL	RL	Dilution
Method: 8260C			Date Analyzed:		03/07/2017 1910	
Prep Method: 5030C			Date Prepared:		03/07/2017 1910	
Acetone	5.0	U	ug/L	5.0	5.0	1.0
Benzene	1.0	U	ug/L	1.0	1.0	1.0
Carbon disulfide	1.0	U	ug/L	1.0	1.0	1.0
Chloroform	1.0	U	ug/L	1.0	1.0	1.0
cis-1,2-Dichloroethene	5.3		ug/L	1.0	1.0	1.0
Ethylbenzene	1.0	U	ug/L	1.0	1.0	1.0
m-Xylene & p-Xylene	2.0	U	ug/L	2.0	2.0	1.0
o-Xylene	1.0	U	ug/L	1.0	1.0	1.0
Tetrachloroethene	1.0	U	ug/L	1.0	1.0	1.0
Toluene	1.0	U	ug/L	1.0	1.0	1.0
trans-1,2-Dichloroethene	1.0	U	ug/L	1.0	1.0	1.0
Trichloroethene	8.2		ug/L	1.0	1.0	1.0
Vinyl chloride	1.0	U	ug/L	1.0	1.0	1.0
1,1,1-Trichloroethane	1.0	U	ug/L	1.0	1.0	1.0
1,1,2-Trichloroethane	1.0	U	ug/L	1.0	1.0	1.0
1,1-Dichloroethane	1.0	U	ug/L	1.0	1.0	1.0
1,1-Dichloroethene	1.0	U	ug/L	1.0	1.0	1.0
1,2-Dichloroethane	1.0	U	ug/L	1.0	1.0	1.0
2-Butanone (MEK)	1.0	U	ug/L	1.0	1.0	1.0
Surrogate					Acceptance Limits	
Toluene-d8 (Surr)	105		%		74 - 129	
1,2-Dichloroethane-d4 (Surr)	100		%		77 - 117	
4-Bromofluorobenzene	99		%		74 - 119	
Method: SM5310C-00,11			Date Analyzed:		03/07/2017 1818	
Total Organic Carbon	2.0		mg/L	1.0	1.0	1.0

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Job Number: 420-117640-1
Sdg Number: West Nyack, NY

Client Sample ID: **Grant MW-28**
Lab Sample ID: **420-117640-6**

Date Sampled: 03/02/2017 1215
Date Received: 03/03/2017 1130
Client Matrix: Water

Analyte	Result/Qualifier		Unit	RL	RL	Dilution
Method: 8260C			Date Analyzed:		03/07/2017 2022	
Prep Method: 5030C			Date Prepared:		03/07/2017 2022	
Acetone	50	U	ug/L	50	50	10
Benzene	10	U	ug/L	10	10	10
Carbon disulfide	10	U	ug/L	10	10	10
Chloroform	10	U	ug/L	10	10	10
cis-1,2-Dichloroethene	550		ug/L	10	10	10
Ethylbenzene	10	U	ug/L	10	10	10
m-Xylene & p-Xylene	20	U	ug/L	20	20	10
o-Xylene	10	U	ug/L	10	10	10
Tetrachloroethene	31		ug/L	10	10	10
Toluene	10	U	ug/L	10	10	10
trans-1,2-Dichloroethene	10	U	ug/L	10	10	10
Vinyl chloride	10	U	ug/L	10	10	10
1,1,1-Trichloroethane	10	U	ug/L	10	10	10
1,1,2-Trichloroethane	10	U	ug/L	10	10	10
1,1-Dichloroethane	10	U	ug/L	10	10	10
1,1-Dichloroethene	10	U	ug/L	10	10	10
1,2-Dichloroethane	10	U	ug/L	10	10	10
2-Butanone (MEK)	10	U	ug/L	10	10	10

Surrogate			Acceptance Limits
Toluene-d8 (Surr)	103	%	74 - 129
1,2-Dichloroethane-d4 (Surr)	98	%	77 - 117
4-Bromofluorobenzene	101	%	74 - 119

Method: 8260C Run Type: DL			Date Analyzed:		03/07/2017 2058	
Prep Method: 5030C			Date Prepared:		03/07/2017 2058	
Trichloroethene	1900	D	ug/L	50	50	50
Method: SM5310C-00,11			Date Analyzed:		03/07/2017 1818	
Total Organic Carbon	3.3		mg/L	1.0	1.0	1.0

DATA REPORTING QUALIFIERS

Client: Geovation Engineering

Job Number:
Sdg Number: West Nyack, NY

Lab Section	Qualifier	Description
GC/MS VOA		
	D	Surrogate or matrix spike recoveries were not obtained because the extract was diluted for analysis; also compounds analyzed at a dilution may be flagged with a D.
	U	The analyte was analyzed for but not detected at or above the lowest stated limit.

The following analytes are Not Part of the ELAP scope of accreditation:

Sulfur, Tungsten, Silicon, Bicarbonate Alkalinity, 7 Day BOD 5210C, 28 Day BOD, Soluble BOD, Carbon Dioxide**,** Carbonate Alkalinity, CBOD Soluble, Chlorine, Cyanide (WAD), Ferrous Iron, Ferric Iron, Total Nitrogen, Total Organic Nitrogen, Dissolved Oxygen, pH, Phenolphthalein Alkalinity, Solids (Fixed), Solids (Percent), Solids (Percent Moisture) **,** Solids (Percent Volatile), Solids (Volatile Suspended), Temperature, TKN (Soluble), COD (Soluble), Total Inorganic Carbon, Volatile Acids as Acetic Acid, 2-Aminopyridine, 3-Picoline, 1-Methyl-2-pyrrilidinone, Aziridine, Dimethyl sulfoxide, 1-Chlorohexane, Iron Bacteria, Salmonella, & Sulfur Reducing Bacteria.

The following analytes are Not Part of ELAP Potable Water scope of accreditation:

Cobalt (200.7, 200.8), Tin (200.7), Strontium (200.7), Gold (200.7), Platinum (200.7), Palladium (200.7), Titanium (200.7), Phosphorus (365.3), Nitrate-Nitrite (10-107-4-1C, 353.2), m-Xylene & p-Xylene (502.2, 524), Naphthalene (502.2), o-Xylene (502.2, 524), & Fecal Coliform (9222D).

The following analytes are Not Part of ELAP Solid and Hazardous Waste scope of accreditation:

Ammonia (SM 4500NH3G), TKN (351.2), Phosphorus (365.3), 1,2-Dichloro-1,1,2-trifluoroethane (8260), & Chlorodifluoromethane (8260).

The following analytes are Not Part of ELAP Non Potable Water scope of accreditation:

Dissolved Organic Carbon (5310C), Mecoprop (8151A), & MCPA (8151A).

Definitions and Glossary

Client: Geovation Engineering

Job Number:

Sdg Number: West Nyack, NY

Abbreviation	These commonly used abbreviations may or may not be present in this report.
%R	Percent Recovery
DL, RA, RE	Indicates a Dilution, Reanalysis or Reextraction.
EPA	United States Environmental Protection Agency
MDL	Method Detection Limit - an estimate of the minimum amount of a substance that an analytical process can reliably detect. A MDL is analyte- and matrix-specific and may be laboratory-dependent.
ND	Not detected at the reporting limit (or MDL if shown).
QC	Quality Control
RL	Reporting Limit - the minimum levels, concentrations, or quantities of a target variable (e.g., target analyte) that can be reported with a specified degree of confidence.
RPD	Relative Percent Difference - a measure of the relative difference between two points.

EnviroTest Laboratories Inc.

CHAIN OF CUSTODY 11764O

315 Fullerton Avenue
Newburgh, NY 12550
TEL (845) 562-0890
FAX (845) 562-0841

CUSTOMER NAME: Geovation Engineering, P.C.
ADDRESS: P.O. Box 513 2016 Rt. 284
CITY, STATE, ZIP: Slate Hill N.Y. 10973
NAME OF CONTACT: Bob Zimmer PHONE NO.
PROJECT LOCATION: West Nyack, N.Y.
PROJECT NUMBER / PO NO.:

REPORT TYPE
STANDARD ☐ ISRA ☐
NJ REG ☐
NYASP A ☐ B ☐ CLP ☐
OTHER level 2

TURNAROUND
☑ NORMAL
☐ QUICK
☐ VERBAL

REPORT # (Lab Use Only)

SAMPLE TEMP. 6.1 C
SAMPLE REC'D ON ICE ☑ Y ☐ N
ph CHECK ☐ Y ☐ N
CHLORINE (RESIDUAL) ☐ Y ☐ N
REVIEWED BY:

NY PUBLIC WATER SUPPLIES
SOURCE ID
ELAP TYPE
FEDERAL ID

NOTE: SAMPLE TEMPERATURE UPON RECEIPT MUST BE 4° ± 2°C.

Matrix
DW = DRINKING WATER S = SOIL O = OIL
WW = WASTE WATER SL = SLUDGE GW = GROUND WATER

ANALYSIS REQUESTED

ETL #	SAMPLING DATE	TIME AM PM	COMP	GRAB	MATRIX	CLIENT I.D.	Total Number of Containers	40ml Glass HCL	Liter Amber HCL	250ml Amber Sulfuric	Liter Amber Organic Washed	250ml Plastic Nitric Acid	250ml Plastic Sodium Hydroxide	Liter Plastic	250ml Plastic Sulfuric Acid	250ml Plastic	125ml Plastic Sterile	250ml Plastic NaOH/ZN ACC	40ml Glass Sulfuric	40ml Glass	DO	
	3/2/17	17:15		X	GW	Grant MW-12	6	2										2	2			VOC's 8260+10 TCL list & TOC
		16:20				MW-18																
		12:40				MW-19																
		14:45				MW-24																
		14:00				MW-25																
		12:15				MW-28																

SAMPLES SUBMITTED FOR ANALYSIS WILL BE SUBJECT TO THE ETL TERMS AND CONDITIONS OF SALE UNLESS ALTERNATE TERMS ARE AGREED IN WRITING.

RELINQUISHED BY		COMPANY	DATE 3/3/17	TIME 1130	RECEIVED BY	COMPANY	DATE 3/3/17 TIME 1130
SAMPLED BY	Matthew Morales	COMPANY GEPC	DATE 3/2/17	TIME	RECEIVED BY	COMPANY	DATE TIME
RELINQUISHED BY		COMPANY GEPC	DATE	TIME	RECEIVED BY	COMPANY ETL	DATE 3/3/17 TIME 1130

COMMENTS

NYSDOH 10142 NJDEP NY015 CTDOPH PH-0554 EPA NY00049

LOGIN SAMPLE RECEIPT CHECK LIST

Client: Geovation Engineering

Job Number: 420-117640-1
SDG Number: West Nyack, NY

Login Number: **117640**

Question	T/F/NA	Comment
Samples were collected by ETL employee as per SOP-SAM-1	NA	
The cooler's custody seal, if present, is intact.	NA	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is recorded.	True	6.1C
Cooler Temp. is within method specified range.(0-6 C PW, 0-8 C NPW, or BAC <10 C	True	
If false, was sample received on ice within 6 hours of collection.	NA	
Based on above criteria cooler temperature is acceptable.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	