



Quarterly Groundwater Monitoring Report Second Quarter 2019

**Piper's Wine & Spirit Barn
4127 Hanover Pike
Manchester, Maryland 21102**

**MDE Case No. 18-0496CL
Facility I.D. No. 17166**

AEC Project No. 14-059

Prepared for:

Chenoweth & Associates, Inc.
4127 Hanover Pike
Manchester, Maryland 21102

and

Maryland Department of the Environment
Oil Control Program
1800 Washington Boulevard
Baltimore, Maryland 21230

Prepared by:

Advantage Environmental Consultants, LLC
8610 Washington Boulevard, Suite 217
Jessup, Maryland 20794
Phone – (301) 776-0500
Fax – (301) 776-1123

July 12, 2019



July 12, 2019

Mr. William A. Chenoweth
Chenoweth & Associates, Inc.
4127 Hanover Pike
Manchester, Maryland 21102

**Subject: Quarterly Groundwater Monitoring Report
Piper's Wine & Spirit Barn
4127 Hanover Pike
Manchester, Maryland 21102
MDE Case No. 18-0496CL
Facility I.D. No. 17166
AEC Project No. 14-059**

Dear Mr. Chenoweth:

On June 26, 2019, Advantage Environmental Consultants, LLC (AEC) completed sampling of three onsite groundwater monitoring wells and the on-Site potable drinking water well. This report includes AEC's discussion of the scope of work, methodologies, analytical results, findings and conclusions.

We appreciate the opportunity to be of service to Chenoweth & Associates, Inc. If you should have any questions regarding this report, or if we can be of further assistance, please contact the undersigned at (301) 776-0500.

Sincerely,

ADVANTAGE ENVIRONMENTAL CONSULTANTS, LLC

A handwritten signature in black ink, appearing to read 'Jeremy S. Sheidy', written over a horizontal line.

Jeremy S. Sheidy, P.G.
Senior Project Manager

A handwritten signature in black ink, appearing to read 'Jeffery S. Stein', written over a horizontal line.

Jeffery S. Stein, P.G.
Principal

cc: Mr. Matt Mueller, Maryland Department of the Environment

REGULATORY INFORMATION

Regulatory Agency: Maryland Department of the Environment
Agency Contact: Matthew Mueller
Facility I.D. Number: 17166
MDE Case Number: 18-0496CL
Current Case Status: Quarterly monitoring well, potable well, and tank field monitoring pipe sampling

Reporting Period: 4-1-19 to 6-30-19

GENERAL SITE INFORMATION

Site Contact: William A. Chenoweth
Consultant Contact: Jeremy S. Sheidy
Facility Status: Operating fuel station
Area Property Use: See Site Vicinity Map and Site Plan
Monitoring Wells: MW-1, MW-2, MW-3
Tank Field
Monitoring Pipes: TFMP-1, TFMP-2, TFMP-3, TFMP-4

ACTIVITIES COMPLETED THIS PERIOD

Sampling Date: June 26, 2019
Wells Sampled: MW-1, MW-2, MW-3, and onsite potable well
LNAPL Present: No

ATTACHMENTS

Attachment A

Figures

Figure 1 Site Vicinity Map
Figure 2 Site Plan
Figure 3 Groundwater Gradient Map
Figure 4 Groundwater Quality Map

Attachment B

Tables

Table 1 Historical Groundwater Elevation Data
Table 2 Historical Groundwater Analytical Results

Attachment C

Laboratory Analytical Report and Chain-of-Custody Form

Attachment D

Water Sampler Certification

Introduction

Advantage Environmental Consultants, LLC (AEC) has completed sampling of three onsite groundwater monitoring wells, and the on-Site potable well (PW). All samples were collected on June 26, 2019.

Figure 1 in Attachment A illustrates the site vicinity. Figure 2 in Attachment A illustrates the groundwater monitoring wells, tank field monitoring pipes, and onsite potable drinking water well locations. The following is a description of this work and the results of the recent groundwater sampling effort.

Underground storage tank (UST) and fueling equipment replacement were completed during March, 2019. Activities included full replacement of all USTs and piping at the Site. Former tank field monitoring pipes TP-1 through TP-4 were removed during construction activities. Tank field monitoring pipes TFMP-1 through TFMP-4 are associated with the new UST system. AEC submitted an *Underground Storage Tank System Removal Report*, dated April 23, 2019 to the Maryland Department of the Environment (MDE).

Groundwater Gauging, Sampling, and Analysis

Monitoring Wells

Groundwater samples were collected from the monitoring wells by first gauging and then purging at least three well volumes using a polyvinyl chloride (PVC) bailer, which was cleaned prior to use in each well using a Liquinox detergent. After purging, each well was allowed to recharge for a period of at least one hour prior to sampling. The groundwater samples were collected using dedicated disposable high density polyethylene (HDPE) sampling bailers.

The groundwater flow direction for the monitoring wells on the day of the sampling event is depicted in Figure 3 in Attachment A. Table 1 in Attachment B provides current and historical groundwater elevation data.

The samples were transferred directly into the appropriate sample containers. The sample from each location was placed in 40-milliliter glass vials with Teflon-lined septa and/or one-liter amber glass jars. The sample containers were preserved with hydrochloric acid, as appropriate. Once collected, the samples were placed on ice in a cooler to await shipment to the laboratory. The groundwater monitoring well and tank field monitoring pipe samples were analyzed for volatile organic compounds (VOCs) including fuel oxygenates per Environmental Protection Agency (EPA) Analytical Method 8260, total petroleum hydrocarbons (TPH) diesel range organics (DRO) and TPH gasoline range organics (GRO) per EPA Analytical Method 8015B.

The results of laboratory analysis indicated that no analytes were detected above laboratory quantitation limits in samples MW-1, MW-2, and MW-3.

A Groundwater Quality Map is presented as Figure 4 in Attachment A. Table 2 in Attachment B summarizes the current and historical groundwater analytical results. Laboratory analytical reports and chain-of-custody documentation are included as Attachment C.

On-Site Potable Well Treatment System

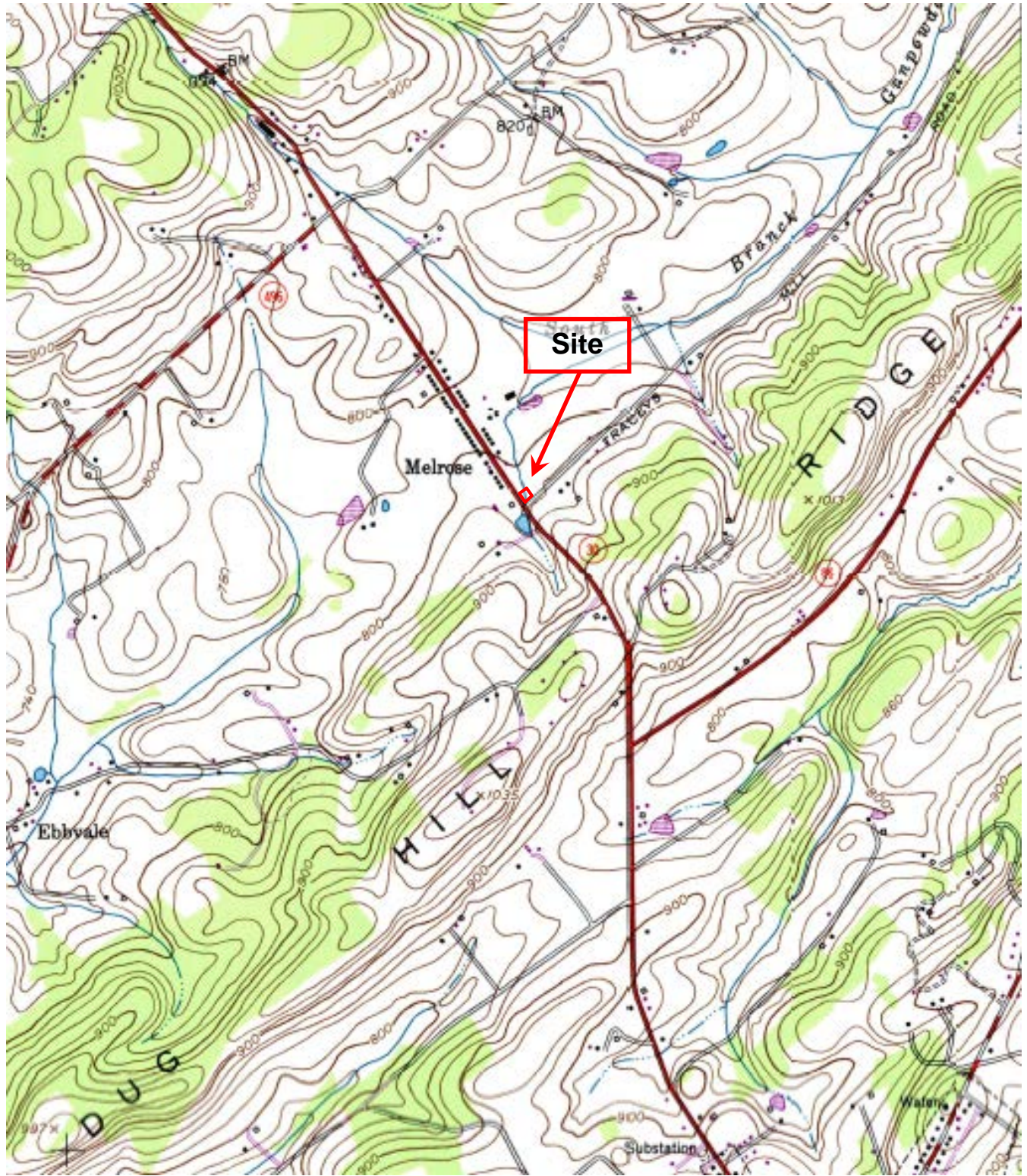
A sample from the on-Site potable well was collected from an exterior spigot. The sample was obtained after purging the system for 15 minutes. The sample was placed in 40 milliliter glass vials with Teflon-lined septa and preserved with hydrochloric acid, as appropriate. Once collected, the samples were placed on ice in a cooler to await shipment to the laboratory. The samples were analyzed for VOCs including fuel oxygenates per EPA Analytical Method 524.2. The sampling was conducted by MDE certified AEC staff scientist Rohan McLaughlin (sampler ID 5315RM). Water Sampler Certification is included as Attachment D.

Laboratory analytical results for the on-Site potable well show that all analytes were BQL. Laboratory analytical reports and chain-of-custody documentation are included as Attachment C.

Tank Field Monitoring Pipe Evaluation

AEC performed an evaluation of the tank field monitoring pipes by screening each with a photoionization detector (PID) for the presence of petroleum hydrocarbon vapors. A plastic covering was securely fastened over each tank field monitoring pipe and was allowed to sit for a period of fifteen minutes. The plastic barrier was then punctured with the PID nozzle, and a reading was taken. No readings above 0.0 parts per million (ppm) were detected in the tank field monitoring pipes. The tank field monitoring pipes were gauged to determine the depth to water, and the presence of light non-aqueous phase liquid (LNAPL). No LNAPL was detected in any of the tank field monitoring pipes.

Attachment A



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 Jessup, Maryland 20794
 Phone: 301-776-0500 Fax: 301-776-1123



Figure 1 - Site Vicinity Map
 Pipers Wine & Spirit Barn
 4127 Hanover Pike
 Manchester, Maryland 21102

AEC Project No.:
 14-059

Report Date:
 July 2019

Drawn By:
 RDM

100 ft



MW-3



MW-1



MW-2



AEC Advantage Environmental Consultants, LLC
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Legend:




-  = Monitoring Well
-  = Tank Field Monitoring Pipe
-  = Potable Well

Figure 2 - Site Plan
Pipers Wine & Spirit Barn
4127 Hanover Pike
Manchester, Maryland 21102

AEC Project No.:
14-059

Report Date:
July 2019

Drawn By:
RDM

100 ft



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Legend:

- = Monitoring Well
- = Potable Well
- = Groundwater Contour
- = Groundwater Flow Direction

Figure 3 – Groundwater Gradient Map
Pipers Wine & Spirit Barn
4127 Hanover Pike
Manchester, Maryland 21102

AEC Project No.: 14-059	Report Date: July 2019	Drawn By: RDM
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100 ft



Groundwater Samples Collected 6/26/19
 Samples analyzed for VOCs per EPA 8260 plus oxygenates
 TPH GRO/DRO per EPA 8015
 VOCs in ug/l or ppb
 TPH GRO/DRO in mg/l or ppm
 <2.0 denotes an analyte not detected above the laboratory
 quantitation limit (limit of quantitation shown)
 Benzene/MTBE/GRO/DRO
 Bold denotes a value above the MDE Regulatory Standard

MW-3

<2.0/<2.0/<0.100/<0.22

MW-2

<2.0/<2.0/<0.100/<0.20

MW-1

<2.0/<2.0/<0.100/<0.20

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- Legend:
-  = Monitoring Well
 -  = Tank Field Monitoring Pipe
 -  = Potable Well

Figure 4 – Groundwater Quality Map
 Pipers Wine & Spirit Barn
 4127 Hanover Pike
 Manchester, Maryland 21102

AEC Project No.: 14-059

Report Date: July 2019

Drawn By: RDM

Attachment B

**Table 1 - Well Gauging Summary
Piper's Wine & Spirit Barn
4127 Hanover Pike, Manchester, Maryland**

Well ID	Date	Depth to Water	Depth to LPH	TOC Elevation	Water Elevation	LPH Elevation	Corrected Water Elevation	LPH Thickness
MW-1	05/16/2013	6.95	ND	100.00	93.05	NM	NM	0.00
	03/28/2014	6.65	ND	100.00	93.35	NM	NM	0.00
	04/22/2015	6.80	ND	100.00	93.20	NM	NM	0.00
	03/17/2016	6.52	ND	100.00	93.48	NM	NM	0.00
	03/09/2017	7.40	ND	100.00	92.60	NM	NM	0.00
	03/16/2018	6.90	ND	100.00	93.10	NM	NM	0.00
	03/29/2018	6.42	ND	100.00	93.58	NM	NM	0.00
	06/26/2018	6.74	ND	100.00	93.26	NM	NM	0.00
	09/27/2018	5.95	ND	100.00	94.05	NM	NM	0.00
	12/06/2018	6.02	ND	100.00	93.98	NM	NM	0.00
	04/09/2019	7.20	ND	100.00	92.80	NM	NM	0.00
	06/26/2019	6.60	ND	100.00	93.40	NM	NM	0.00
	MW-2	05/16/2013	5.60	ND	97.53	91.93	NM	NM
03/28/2014		5.55	ND	97.53	91.98	NM	NM	0.00
04/22/2015		5.56	ND	97.53	91.97	NM	NM	0.00
03/17/2016		5.29	ND	97.53	92.24	NM	NM	0.00
03/09/2017		5.85	ND	97.53	91.68	NM	NM	0.00
03/16/2018		5.46	ND	97.53	92.07	NM	NM	0.00
03/29/2018		5.38	ND	97.53	92.15	NM	NM	0.00
06/26/2018		5.50	ND	97.53	92.03	NM	NM	0.00
09/27/2018		5.40	ND	97.53	92.13	NM	NM	0.00
12/06/2018		5.45	ND	97.53	92.08	NM	NM	0.00
04/09/2019		8.89	ND	97.53	88.64	NM	NM	0.00
06/26/2019		5.21	ND	97.53	92.32	NM	NM	0.00
MW-3		05/16/2013	7.05	ND	93.84	86.79	NM	NM
	03/28/2014	6.02	ND	93.84	87.82	NM	NM	0.00
	04/22/2015	6.57	ND	93.84	87.27	NM	NM	0.00
	03/17/2016	5.51	ND	93.84	88.33	NM	NM	0.00
	03/09/2017	9.58	ND	93.84	84.26	NM	NM	0.00
	03/16/2018	7.45	ND	93.84	86.39	NM	NM	0.00
	03/29/2018	6.96	ND	93.84	86.88	NM	NM	0.00
	06/26/2018	6.41	ND	93.84	87.43	NM	NM	0.00
	09/27/2018	3.98	ND	93.84	89.86	NM	NM	0.00
	12/06/2018	4.36	ND	93.84	89.48	NM	NM	0.00
	04/09/2019	4.82	ND	93.84	89.02	NM	NM	0.00
	06/26/2019	6.45	ND	93.84	87.39	NM	NM	0.00
	TFMP-1	04/09/2019	7.10	ND	NM	NM	NM	NM
06/26/2019		6.37	ND	NM	NM	NM	NM	0.00
TFMP-2	04/09/2019	7.46	ND	NM	NM	NM	NM	0.00
	06/26/2019	5.90	ND	NM	NM	NM	NM	0.00
TFMP-3	04/09/2019	6.05	ND	NM	NM	NM	NM	0.00
	06/26/2019	4.62	ND	NM	NM	NM	NM	0.00
TFMP-4	04/09/2019	5.60	ND	NM	NM	NM	NM	0.00
	06/26/2019	5.73	ND	NM	NM	NM	NM	0.00
TP-1	06/26/2018	5.80	ND	NM	NM	NM	NM	0.00
	Abandoned During UST Replacement	09/27/2018	5.76	ND	NM	NM	NM	0.00
TP-2	12/06/2018	5.60	ND	NM	NM	NM	NM	0.00
	06/26/2018	5.75	ND	NM	NM	NM	NM	0.00
Abandoned During UST Replacement	09/27/2018	5.28	ND	NM	NM	NM	NM	0.00
	12/06/2018	5.28	ND	NM	NM	NM	NM	0.00
TP-3	06/26/2018	5.85	ND	NM	NM	NM	NM	0.00
	Abandoned During UST Replacement	09/27/2018	5.40	ND	NM	NM	NM	0.00
TP-4	12/06/2018	5.41	ND	NM	NM	NM	NM	0.00
	06/26/2018	5.59	ND	NM	NM	NM	NM	0.00
Abandoned During UST Replacement	09/27/2018	5.41	ND	NM	NM	NM	NM	0.00
	12/06/2018	5.50	ND	NM	NM	NM	NM	0.00

All measurements in feet
LPH = Liquid Phase Hydrocarbon
TOC = Top of Casing
ND = None Detected
NA = Not Applicable
NG = Not Gauged
NM = Not Measured

**Table 2 - Groundwater Analytical Results
Piper's Wine & Spirit Barn
4127 Hanover Pike, Manchester, Maryland**

Well No.	Date	B	T	E	X	Naphthalene	MTBE	TPH GRO	TPH DRO
MW-1	05/16/2013	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	NS	NS
	03/28/2014	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	NS	NS
	04/22/2015	<2.0	<2.0	<2.0	<4.0	<2.0	<2.0	NS	NS
	03/17/2016	<2.0	<2.0	<2.0	<4.0	<2.0	<2.0	NS	NS
	03/09/2017	<2.0	<2.0	<2.0	<4.0	<2.0	<2.0	NS	NS
	03/16/2018	<2.0	<2.0	<2.0	<4.0	<2.0	<2.0	NS	NS
	06/26/2018	<2.0	<2.0	<2.0	<4.0	<2.0	<2.0	<0.100	<0.19
	09/27/2018	<2.0	<2.0	<2.0	<4.0	<2.0	<2.0	<0.100	<0.20
	12/06/2018	<2.0	<2.0	<2.0	<4.0	<2.0	<2.0	<0.100	<0.20
	04/09/2019	<2.0	<2.0	<2.0	<4.0	<2.0	<2.0	<0.100	<0.20
06/26/2019	<2.0	<2.0	<2.0	<4.0	<2.0	<2.0	<0.100	<0.20	
MW-2	05/16/2013	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	NS	NS
	03/28/2014	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	NS	NS
	04/22/2015	<2.0	<2.0	<2.0	<4.0	<2.0	<2.0	NS	NS
	03/17/2016	<2.0	<2.0	<2.0	<4.0	<2.0	<2.0	NS	NS
	03/09/2017	<2.0	<2.0	<2.0	<4.0	<2.0	<2.0	NS	NS
	03/16/2018	<2.0	<2.0	<2.0	<4.0	<2.0	<2.0	NS	NS
	06/26/2018	<2.0	<2.0	<2.0	<4.0	<2.0	<2.0	<0.100	<0.19
	09/27/2018	<2.0	<2.0	<2.0	<4.0	<2.0	<2.0	<0.100	<0.19
	12/06/2018	<2.0	<2.0	<2.0	<4.0	<2.0	<2.0	<0.100	<0.20
	04/09/2019	<2.0	<2.0	<2.0	<4.0	<2.0	<2.0	<0.100	<0.20
06/26/2019	<2.0	<2.0	<2.0	<4.0	<2.0	<2.0	<0.100	<0.20	
MW-3	05/16/2013	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	NS	NS
	03/28/2014	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	NS	NS
	04/22/2015	<2.0	<2.0	<2.0	<4.0	<2.0	<2.0	NS	NS
	03/17/2016	<2.0	<2.0	<2.0	<4.0	<2.0	<2.0	NS	NS
	03/09/2017	<2.0	<2.0	<2.0	<4.0	<2.0	<2.0	NS	NS
	03/16/2018	11.4	<2.0	<2.0	<4.0	<2.0	6.6	NS	NS
	03/29/2018	12.3	<2.0	<2.0	<4.0	<2.0	6.9	NS	NS
	06/26/2018	<2.0	<2.0	<2.0	<4.0	<2.0	2.9	<0.100	<0.19
	09/27/2018	<2.0	<2.0	<2.0	<4.0	<2.0	<2.0	<0.100	<0.19
	12/06/2018	<2.0	<2.0	<2.0	<4.0	<2.0	<2.0	<0.100	<0.22
04/09/2019	<2.0	<2.0	<2.0	<4.0	<2.0	<2.0	<0.100	<0.22	
06/26/2019	<2.0	<2.0	<2.0	<4.0	<2.0	<2.0	<0.100	<0.20	
TP-1	06/26/2018	5.8	28.1	<2.0	40.0	<2.0	18.1	0.261	0.80
	09/27/2018	<2.0	<2.0	<2.0	6.4	<2.0	2.3	0.249	0.50
	12/06/2018	<2.0	<2.0	<2.0	6.4	<2.0	<2.0	<0.100	0.78
TP-2	06/26/2018	<2.0	<2.0	<2.0	<4.0	<2.0	<2.0	<0.100	3.16
	09/27/2018	<2.0	<2.0	<2.0	<4.0	<2.0	<2.0	<0.100	2.19
	12/06/2018	<2.0	<2.0	<2.0	<4.0	<2.0	<2.0	<0.100	0.61
TP-3	06/26/2018	<2.0	<2.0	<2.0	<4.0	<2.0	<2.0	<0.100	2.69
	09/27/2018	<2.0	<2.0	<2.0	<4.0	<2.0	<2.0	<0.100	1.52
	12/06/2018	<2.0	<2.0	<2.0	<4.0	<2.0	<2.0	<0.100	<0.19
TP-4	06/26/2018	58.4	462	16.1	178.5	<2.0	20.8	0.97	0.49
	09/27/2018	67.0	92.4	13.1	112.2	3.2	22.7	0.561	0.53
	12/06/2018	5.0	8.3	3.3	21.2	<2.0	<2.0	0.157	0.33
Type I and II Aquifers		5	1,000	700	10,000	0.65	20	0.047	0.047

BTEX, MTBE, and naphthalene results in parts per billion or ug/l

TPH DRO/GRO results in parts per million or mg/l

<5.0 = Analyte was not detected above the laboratory limit of quantitation (limit of quantitation shown)

B = Benzene; T = Toluene; E = Ethylbenzene; X = Xylene

MTBE = Methyl tert butyl ether

TPH DRO = total petroleum hydrocarbons diesel range organics

TPH GRO = total petroleum hydrocarbons gasoline range organics

Bold indicates concentrations above MDE Standards

Some compounds may have been detected but are not tabulated on this spreadsheet.

See laboratory analytical results reports for full results.

MDE Standards (Generic Numeric Cleanup Standards for Groundwater and Soil - Interim Final Guidance Update No. 2.1 - June 2008)

Attachment C



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Baltimore MD 21227
410-247-7600
www.mdspectral.com
VELAP ID 460040



1500 Canon Center Dr Suite G
Baltimore MD 21227
410-247-7600
www.mdspectral.com
Reported:
07/08/19 11:09

Analytical Results

Project: PIPER'S WINE & SPIRITS

Project Number: 14-059
Project Manager: Jeffrey Stein

Client Sample ID	Alternate Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-1		9062609-01	Nonpotable Water	06/26/19 11:45	06/26/19 13:34
MW-2		9062609-02	Nonpotable Water	06/26/19 11:50	06/26/19 13:34
MW-3		9062609-03	Nonpotable Water	06/26/19 11:55	06/26/19 13:34

08 July 2019

Jeffery Stein
Advantage Environmental Consultants
8610 Baltimore Washington Blvd, Suite 217
Jesup, MD 20794
RE: PIPER'S WINE & SPIRITS

Enclosed are the results of analyses for samples received by the laboratory on 06/26/19 13:34.

Maryland Spectral Services, Inc. is a TNI 2009 Standard accredited laboratory and as such, all analyses performed at Maryland Spectral Services included in this report are 2009 TNI certified except as indicated at the end of this report. Please visit our website at www.mdspectral.com for a complete listing of our TNI 2009 Standard accreditations.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Will Brewington
President

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Will Brewington, President

All analyses performed at Maryland Spectral Services included in the report are TNI certified except as indicated at the end of the report.

Analytical Results

Project: PIPER'S WINE & SPIRITS

Project Number: 14-059
Project Manager: Jeffery Stein

MW-1

9062609-01 (Nonpotable Water)
Sample Date: 06/26/19

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Quantitation Limit (LOQ)	Dilution	Prepared	Analyzed	Analyst
VOLATILE ORGANICS BY EPA METHOD 8260B (GC/MS)									
Acetone	ND		ug/L	10.0	10.0	1	07/08/19	07/08/19 00:28	GM
tert-Amyl alcohol (TAA)	ND		ug/L	20.0	20.0	1	07/08/19	07/08/19 00:28	GM
tert-Amyl methyl ether (TAME)	ND		ug/L	5.0	2.0	1	07/08/19	07/08/19 00:28	GM
Benzene	ND		ug/L	5.0	2.0	1	07/08/19	07/08/19 00:28	GM
Bromobenzene	ND		ug/L	5.0	2.0	1	07/08/19	07/08/19 00:28	GM
Bromochloromethane	ND		ug/L	5.0	2.0	1	07/08/19	07/08/19 00:28	GM
Bromodichloromethane	ND		ug/L	5.0	2.0	1	07/08/19	07/08/19 00:28	GM
Bromoform	ND		ug/L	5.0	2.0	1	07/08/19	07/08/19 00:28	GM
Bromomethane	ND		ug/L	5.0	5.0	1	07/08/19	07/08/19 00:28	GM
tert-Butanol (TBA)	ND		ug/L	15.0	15.0	1	07/08/19	07/08/19 00:28	GM
2-Butanone (MEK)	ND		ug/L	10.0	10.0	1	07/08/19	07/08/19 00:28	GM
n-Butylbenzene	ND		ug/L	5.0	2.0	1	07/08/19	07/08/19 00:28	GM
sec-Butylbenzene	ND		ug/L	5.0	2.0	1	07/08/19	07/08/19 00:28	GM
tert-Butylbenzene	ND		ug/L	5.0	2.0	1	07/08/19	07/08/19 00:28	GM
Carbon disulfide	ND		ug/L	5.0	2.0	1	07/08/19	07/08/19 00:28	GM
Carbon tetrachloride	ND		ug/L	5.0	2.0	1	07/08/19	07/08/19 00:28	GM
Chlorobenzene	ND		ug/L	5.0	2.0	1	07/08/19	07/08/19 00:28	GM
Chloroethane	ND		ug/L	5.0	5.0	1	07/08/19	07/08/19 00:28	GM
Chloroform	ND		ug/L	5.0	2.0	1	07/08/19	07/08/19 00:28	GM
2-Chlorotoluene	ND		ug/L	5.0	2.0	1	07/08/19	07/08/19 00:28	GM
4-Chlorotoluene	ND		ug/L	5.0	2.0	1	07/08/19	07/08/19 00:28	GM
Dibromochloromethane	ND		ug/L	5.0	2.0	1	07/08/19	07/08/19 00:28	GM
1,2-Dibromo-3-chloropropane	ND		ug/L	5.0	2.0	1	07/08/19	07/08/19 00:28	GM
1,2-Dibromomethane (EDB)	ND		ug/L	5.0	2.0	1	07/08/19	07/08/19 00:28	GM
Dibromomethane	ND		ug/L	5.0	2.0	1	07/08/19	07/08/19 00:28	GM
1,2-Dichlorobenzene	ND		ug/L	5.0	2.0	1	07/08/19	07/08/19 00:28	GM
1,3-Dichlorobenzene	ND		ug/L	5.0	2.0	1	07/08/19	07/08/19 00:28	GM
1,4-Dichlorobenzene	ND		ug/L	5.0	2.0	1	07/08/19	07/08/19 00:28	GM
Dichlorodifluoromethane	ND		ug/L	5.0	2.0	1	07/08/19	07/08/19 00:28	GM
1,1-Dichloroethane	ND		ug/L	5.0	2.0	1	07/08/19	07/08/19 00:28	GM
1,2-Dichloroethane	ND		ug/L	5.0	2.0	1	07/08/19	07/08/19 00:28	GM
1,1-Dichloroethene	ND		ug/L	5.0	2.0	1	07/08/19	07/08/19 00:28	GM

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Will Brewington, President

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Analytical Results

Project: PIPER'S WINE & SPIRITS

Project Number: 14-059
Project Manager: Jeffery Stein

MW-1

9062609-01 (Nonpotable Water)
Sample Date: 06/26/19

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Quantitation Limit (LOQ)	Dilution	Prepared	Analyzed	Analyst
VOLATILE ORGANICS BY EPA METHOD 8260B (GC/MS) (continued)									
cis-1,2-Dichloroethene	ND		ug/L	5.0	2.0	1	07/08/19	07/08/19 00:28	GM
trans-1,2-Dichloroethene	ND		ug/L	5.0	2.0	1	07/08/19	07/08/19 00:28	GM
Dichlorofluoromethane	ND		ug/L	5.0	2.0	1	07/08/19	07/08/19 00:28	GM
1,2-Dichloropropane	ND		ug/L	5.0	2.0	1	07/08/19	07/08/19 00:28	GM
1,3-Dichloropropane	ND		ug/L	5.0	2.0	1	07/08/19	07/08/19 00:28	GM
2,2-Dichloropropane	ND		ug/L	5.0	2.0	1	07/08/19	07/08/19 00:28	GM
1,1-Dichloropropane	ND		ug/L	5.0	2.0	1	07/08/19	07/08/19 00:28	GM
cis-1,3-Dichloropropene	ND		ug/L	5.0	2.0	1	07/08/19	07/08/19 00:28	GM
trans-1,3-Dichloropropene	ND		ug/L	5.0	2.0	1	07/08/19	07/08/19 00:28	GM
Diisopropyl ether (DIPE)	ND		ug/L	5.0	2.0	1	07/08/19	07/08/19 00:28	GM
Ethyl tert-butyl ether (ETBE)	ND		ug/L	5.0	2.0	1	07/08/19	07/08/19 00:28	GM
Ethylbenzene	ND		ug/L	5.0	2.0	1	07/08/19	07/08/19 00:28	GM
Hexachlorobutadiene	ND		ug/L	5.0	2.0	1	07/08/19	07/08/19 00:28	GM
2-Hexanone	ND		ug/L	10.0	10.0	1	07/08/19	07/08/19 00:28	GM
Isopropylbenzene (Cumene)	ND		ug/L	5.0	2.0	1	07/08/19	07/08/19 00:28	GM
4-Isopropyltoluene	ND		ug/L	5.0	2.0	1	07/08/19	07/08/19 00:28	GM
Methyl tert-butyl ether (MTBE)	ND		ug/L	5.0	2.0	1	07/08/19	07/08/19 00:28	GM
4-Methyl-2-pentanone	ND		ug/L	10.0	10.0	1	07/08/19	07/08/19 00:28	GM
Methylene chloride	ND		ug/L	10.0	10.0	1	07/08/19	07/08/19 00:28	GM
Naphthalene	ND		ug/L	5.0	2.0	1	07/08/19	07/08/19 00:28	GM
n-Propylbenzene	ND		ug/L	5.0	2.0	1	07/08/19	07/08/19 00:28	GM
Styrene	ND		ug/L	5.0	2.0	1	07/08/19	07/08/19 00:28	GM
1,1,1,2-Tetrachloroethane	ND		ug/L	5.0	2.0	1	07/08/19	07/08/19 00:28	GM
1,1,2,2-Tetrachloroethane	ND		ug/L	5.0	2.0	1	07/08/19	07/08/19 00:28	GM
Tetrachloroethane	ND		ug/L	5.0	2.0	1	07/08/19	07/08/19 00:28	GM
Toluene	ND		ug/L	5.0	2.0	1	07/08/19	07/08/19 00:28	GM
1,2,3-Trichlorobenzene	ND		ug/L	5.0	2.0	1	07/08/19	07/08/19 00:28	GM
1,2,4-Trichlorobenzene	ND		ug/L	5.0	2.0	1	07/08/19	07/08/19 00:28	GM
1,1,1-Trichloroethane	ND		ug/L	5.0	2.0	1	07/08/19	07/08/19 00:28	GM
1,1,2-Trichloroethane	ND		ug/L	5.0	2.0	1	07/08/19	07/08/19 00:28	GM
Trichloroethane	ND		ug/L	5.0	2.0	1	07/08/19	07/08/19 00:28	GM
Trichlorofluoromethane (Freon 11)	ND		ug/L	5.0	2.0	1	07/08/19	07/08/19 00:28	GM
1,2,3-Trichloropropane	ND		ug/L	5.0	2.0	1	07/08/19	07/08/19 00:28	GM

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Analytical Results

Project: PIPER'S WINE & SPIRITS

Project Number: 14-059
Project Manager: Jeffery Stein

MW-1

9062609-01 (Nonpotable Water)

Sample Date: 06/26/19

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Quantitation Limit (LOQ)	Dilution	Prepared	Analyzed	Analyst
VOLATILE ORGANICS BY EPA METHOD 8260B (GC/MS) (continued)									
1,2,4-Trimethylbenzene	ND		ug/L	5.0	2.0	1	07/08/19	07/08/19 00:28	GM
1,3,5-Trimethylbenzene	ND		ug/L	5.0	2.0	1	07/08/19	07/08/19 00:28	GM
Vinyl chloride	ND		ug/L	5.0	2.0	1	07/08/19	07/08/19 00:28	GM
o-Xylene	ND		ug/L	5.0	2.0	1	07/08/19	07/08/19 00:28	GM
m- & p-Xylenes	ND		ug/L	5.0	2.0	1	07/08/19	07/08/19 00:28	GM
<i>Surrogate: 1,2-Dichlorobenzene-d4</i>									
Surrogate: Toluene-d8				75-120	101 %		07/08/19	07/08/19 00:28	
Surrogate: 4-Dibromobenzene				75-120	100 %		07/08/19	07/08/19 00:28	
GASOLINE RANGE ORGANICS BY EPA 8015C									
Gasoline-Range Organics	ND		ug/L	100	100	1	06/27/19	06/27/19 17:05	GM
DIESEL RANGE ORGANICS BY EPA 3510/8015C									
Diesel-Range Organics	ND		mg/L	0.20	0.20	1	06/27/19	07/01/19 16:19	SEA
<i>Surrogate: o-Terphenyl</i>									
				60-120	110 %		06/27/19	07/01/19 16:19	

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Analytical Results

Project: PIPER'S WINE & SPIRITS

Project Number: 14-059
Project Manager: Jeffery Stein

MW-2

9062609-02 (Nonpotable Water)

Sample Date: 06/26/19

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Quantitation Limit (LOQ)	Dilution	Prepared	Analyzed	Analyst
VOLATILE ORGANICS BY EPA METHOD 8260B (GC/MS)									
Acetone	ND		ug/L	10.0	10.0	1	07/08/19	07/08/19 00:51	GM
tert-Amyl alcohol (TAA)	ND		ug/L	20.0	20.0	1	07/08/19	07/08/19 00:51	GM
tert-Amyl methyl ether (TAME)	ND		ug/L	5.0	2.0	1	07/08/19	07/08/19 00:51	GM
Benzene	ND		ug/L	5.0	2.0	1	07/08/19	07/08/19 00:51	GM
Bromobenzene	ND		ug/L	5.0	2.0	1	07/08/19	07/08/19 00:51	GM
Bromochloromethane	ND		ug/L	5.0	2.0	1	07/08/19	07/08/19 00:51	GM
Bromodichloromethane	ND		ug/L	5.0	2.0	1	07/08/19	07/08/19 00:51	GM
Bromoforn	ND		ug/L	5.0	2.0	1	07/08/19	07/08/19 00:51	GM
Bromomethane	ND		ug/L	5.0	5.0	1	07/08/19	07/08/19 00:51	GM
tert-Butanol (TBA)	ND		ug/L	15.0	15.0	1	07/08/19	07/08/19 00:51	GM
2-Butanone (MEK)	ND		ug/L	10.0	10.0	1	07/08/19	07/08/19 00:51	GM
n-Butylbenzene	ND		ug/L	5.0	2.0	1	07/08/19	07/08/19 00:51	GM
sec-Butylbenzene	ND		ug/L	5.0	2.0	1	07/08/19	07/08/19 00:51	GM
tert-Butylbenzene	ND		ug/L	5.0	2.0	1	07/08/19	07/08/19 00:51	GM
Carbon disulfide	ND		ug/L	5.0	2.0	1	07/08/19	07/08/19 00:51	GM
Carbon tetrachloride	ND		ug/L	5.0	2.0	1	07/08/19	07/08/19 00:51	GM
Chlorobenzene	ND		ug/L	5.0	2.0	1	07/08/19	07/08/19 00:51	GM
Chloroethane	ND		ug/L	5.0	5.0	1	07/08/19	07/08/19 00:51	GM
Chloroform	ND		ug/L	5.0	2.0	1	07/08/19	07/08/19 00:51	GM
Chloromethane	ND		ug/L	5.0	2.0	1	07/08/19	07/08/19 00:51	GM
2-Chlorotoluene	ND		ug/L	5.0	2.0	1	07/08/19	07/08/19 00:51	GM
4-Chlorotoluene	ND		ug/L	5.0	2.0	1	07/08/19	07/08/19 00:51	GM
Dibromochloromethane	ND		ug/L	5.0	2.0	1	07/08/19	07/08/19 00:51	GM
1,2-Dibromo-3-chloropropane	ND		ug/L	5.0	2.0	1	07/08/19	07/08/19 00:51	GM
1,2-Dibromomethane (EDB)	ND		ug/L	5.0	2.0	1	07/08/19	07/08/19 00:51	GM
Dibromomethane	ND		ug/L	5.0	2.0	1	07/08/19	07/08/19 00:51	GM
1,2-Dichlorobenzene	ND		ug/L	5.0	2.0	1	07/08/19	07/08/19 00:51	GM
1,3-Dichlorobenzene	ND		ug/L	5.0	2.0	1	07/08/19	07/08/19 00:51	GM
1,4-Dichlorobenzene	ND		ug/L	5.0	2.0	1	07/08/19	07/08/19 00:51	GM
Dichlorodifluoromethane	ND		ug/L	5.0	2.0	1	07/08/19	07/08/19 00:51	GM
1,1-Dichloroethane	ND		ug/L	5.0	2.0	1	07/08/19	07/08/19 00:51	GM
1,2-Dichloroethane	ND		ug/L	5.0	2.0	1	07/08/19	07/08/19 00:51	GM
1,1-Dichloroethene	ND		ug/L	5.0	2.0	1	07/08/19	07/08/19 00:51	GM

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Analytical Results

Project: PIPER'S WINE & SPIRITS

Project Number: 14-059
Project Manager: Jeffery Stein

MW-2

9062609-02 (Nonpotable Water)

Sample Date: 06/26/19

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Quantitation Limit (LOQ)	Dilution	Prepared	Analyzed	Analyst
VOLATILE ORGANICS BY EPA METHOD 8260B (GC/MS) (continued)									
cis-1,2-Dichloroethene	ND		ug/L	5.0	2.0	1	07/08/19	07/08/19 00:51	GM
trans-1,2-Dichloroethene	ND		ug/L	5.0	2.0	1	07/08/19	07/08/19 00:51	GM
Dichlorofluoromethane	ND		ug/L	5.0	2.0	1	07/08/19	07/08/19 00:51	GM
1,2-Dichloropropane	ND		ug/L	5.0	2.0	1	07/08/19	07/08/19 00:51	GM
1,3-Dichloropropane	ND		ug/L	5.0	2.0	1	07/08/19	07/08/19 00:51	GM
2,2-Dichloropropane	ND		ug/L	5.0	2.0	1	07/08/19	07/08/19 00:51	GM
1,1-Dichloropropane	ND		ug/L	5.0	2.0	1	07/08/19	07/08/19 00:51	GM
cis-1,3-Dichloropropene	ND		ug/L	5.0	2.0	1	07/08/19	07/08/19 00:51	GM
trans-1,3-Dichloropropene	ND		ug/L	5.0	2.0	1	07/08/19	07/08/19 00:51	GM
Diisopropyl ether (DIPE)	ND		ug/L	5.0	2.0	1	07/08/19	07/08/19 00:51	GM
Ethyl tert-butyl ether (ETBE)	ND		ug/L	5.0	2.0	1	07/08/19	07/08/19 00:51	GM
Ethylbenzene	ND		ug/L	5.0	2.0	1	07/08/19	07/08/19 00:51	GM
Hexachlorobutadiene	ND		ug/L	5.0	2.0	1	07/08/19	07/08/19 00:51	GM
2-Hexanone	ND		ug/L	10.0	10.0	1	07/08/19	07/08/19 00:51	GM
Isopropylbenzene (Cumene)	ND		ug/L	5.0	2.0	1	07/08/19	07/08/19 00:51	GM
4-Isopropyltoluene	ND		ug/L	5.0	2.0	1	07/08/19	07/08/19 00:51	GM
Methyl tert-butyl ether (MTBE)	ND		ug/L	5.0	2.0	1	07/08/19	07/08/19 00:51	GM
4-Methyl-2-pentanone	ND		ug/L	10.0	10.0	1	07/08/19	07/08/19 00:51	GM
Methylene chloride	ND		ug/L	10.0	10.0	1	07/08/19	07/08/19 00:51	GM
Naphthalene	ND		ug/L	5.0	2.0	1	07/08/19	07/08/19 00:51	GM
n-Propylbenzene	ND		ug/L	5.0	2.0	1	07/08/19	07/08/19 00:51	GM
Styrene	ND		ug/L	5.0	2.0	1	07/08/19	07/08/19 00:51	GM
1,1,1,2-Tetrachloroethane	ND		ug/L	5.0	2.0	1	07/08/19	07/08/19 00:51	GM
1,1,2,2-Tetrachloroethane	ND		ug/L	5.0	2.0	1	07/08/19	07/08/19 00:51	GM
Tetrachloroethene	ND		ug/L	5.0	2.0	1	07/08/19	07/08/19 00:51	GM
Toluene	ND		ug/L	5.0	2.0	1	07/08/19	07/08/19 00:51	GM
1,2,3-Trichlorobenzene	ND		ug/L	5.0	2.0	1	07/08/19	07/08/19 00:51	GM
1,2,4-Trichlorobenzene	ND		ug/L	5.0	2.0	1	07/08/19	07/08/19 00:51	GM
1,1,1-Trichloroethane	ND		ug/L	5.0	2.0	1	07/08/19	07/08/19 00:51	GM
1,1,2-Trichloroethane	ND		ug/L	5.0	2.0	1	07/08/19	07/08/19 00:51	GM
Trichloroethene	ND		ug/L	5.0	2.0	1	07/08/19	07/08/19 00:51	GM
Trichlorofluoromethane (Freon 11)	ND		ug/L	5.0	2.0	1	07/08/19	07/08/19 00:51	GM
1,2,3-Trichloropropane	ND		ug/L	5.0	2.0	1	07/08/19	07/08/19 00:51	GM

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Analytical Results

Project: PIPER'S WINE & SPIRITS

Project Number: 14-059
Project Manager: Jeffery Stein

MW-2

9062609-02 (Nonpotable Water)

Sample Date: 06/26/19

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Quantitation Limit (LOQ)	Dilution	Prepared	Analyzed	Analyst
VOLATILE ORGANICS BY EPA METHOD 8260B (GC/MS) (continued)									
1,2,4-Trimethylbenzene	ND		ug/L	5.0	2.0	1	07/08/19	07/08/19 00:51	GM
1,3,5-Trimethylbenzene	ND		ug/L	5.0	2.0	1	07/08/19	07/08/19 00:51	GM
Vinyl chloride	ND		ug/L	5.0	2.0	1	07/08/19	07/08/19 00:51	GM
o-Xylene	ND		ug/L	5.0	2.0	1	07/08/19	07/08/19 00:51	GM
m- & p-Xylenes	ND		ug/L	5.0	2.0	1	07/08/19	07/08/19 00:51	GM
Styrene; 1,2-Dichloroethane-d4	75-120			102 %			07/08/19	07/08/19 00:51	
Styrene; Toluene-d8	75-120			99 %			07/08/19	07/08/19 00:51	
Styrene; 4-Bromofluorobenzene	78-110			100 %			07/08/19	07/08/19 00:51	
GASOLINE RANGE ORGANICS BY EPA 8015C									
Gasoline-Range Organics	ND		ug/L	100	100	1	06/27/19	06/27/19 17:42	GM
DIESEL RANGE ORGANICS BY EPA 3510/8015C									
Diesel-Range Organics	ND		ug/L	0.19	0.19	1	06/27/19	07/01/19 16:47	SEA
Styrene; o-Terphenyl	60-120			113 %			06/27/19	07/01/19 16:47	

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Analytical Results

Project: PIPER'S WINE & SPIRITS

Project Number: 14-059
Project Manager: Jeffery Stein

MW-3

9062609-03 (Nonpotable Water)
Sample Date: 06/26/19

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Quantitation Limit (LOQ)	Dilution	Prepared	Analyzed	Analyst
VOLATILE ORGANICS BY EPA METHOD 8260B (GC/MS)									
Acetone	ND		ug/L	10.0	10.0	1	07/08/19	07/08/19 01:14	GM
tert-Amyl alcohol (TAA)	ND		ug/L	20.0	20.0	1	07/08/19	07/08/19 01:14	GM
tert-Amyl methyl ether (TAME)	ND		ug/L	5.0	2.0	1	07/08/19	07/08/19 01:14	GM
Benzene	ND		ug/L	5.0	2.0	1	07/08/19	07/08/19 01:14	GM
Bromobenzene	ND		ug/L	5.0	2.0	1	07/08/19	07/08/19 01:14	GM
Bromochloromethane	ND		ug/L	5.0	2.0	1	07/08/19	07/08/19 01:14	GM
Bromodichloromethane	ND		ug/L	5.0	2.0	1	07/08/19	07/08/19 01:14	GM
Bromoform	ND		ug/L	5.0	2.0	1	07/08/19	07/08/19 01:14	GM
Bromomethane	ND		ug/L	5.0	5.0	1	07/08/19	07/08/19 01:14	GM
tert-Butanol (TBA)	ND		ug/L	15.0	15.0	1	07/08/19	07/08/19 01:14	GM
2-Butanol (MEK)	ND		ug/L	10.0	10.0	1	07/08/19	07/08/19 01:14	GM
n-Butylbenzene	ND		ug/L	5.0	2.0	1	07/08/19	07/08/19 01:14	GM
sec-Butylbenzene	ND		ug/L	5.0	2.0	1	07/08/19	07/08/19 01:14	GM
tert-Butylbenzene	ND		ug/L	5.0	2.0	1	07/08/19	07/08/19 01:14	GM
Carbon disulfide	ND		ug/L	5.0	2.0	1	07/08/19	07/08/19 01:14	GM
Carbon tetrachloride	ND		ug/L	5.0	2.0	1	07/08/19	07/08/19 01:14	GM
Chlorobenzene	ND		ug/L	5.0	2.0	1	07/08/19	07/08/19 01:14	GM
Chloroethane	ND		ug/L	5.0	5.0	1	07/08/19	07/08/19 01:14	GM
Chloroform	ND		ug/L	5.0	2.0	1	07/08/19	07/08/19 01:14	GM
2-Chlorotoluene	ND		ug/L	5.0	2.0	1	07/08/19	07/08/19 01:14	GM
4-Chlorotoluene	ND		ug/L	5.0	2.0	1	07/08/19	07/08/19 01:14	GM
Dibromochloromethane	ND		ug/L	5.0	2.0	1	07/08/19	07/08/19 01:14	GM
1,2-Dibromo-3-chloropropane	ND		ug/L	5.0	2.0	1	07/08/19	07/08/19 01:14	GM
1,2-Dibromomethane (EDB)	ND		ug/L	5.0	2.0	1	07/08/19	07/08/19 01:14	GM
Dibromomethane	ND		ug/L	5.0	2.0	1	07/08/19	07/08/19 01:14	GM
1,2-Dichlorobenzene	ND		ug/L	5.0	2.0	1	07/08/19	07/08/19 01:14	GM
1,3-Dichlorobenzene	ND		ug/L	5.0	2.0	1	07/08/19	07/08/19 01:14	GM
1,4-Dichlorobenzene	ND		ug/L	5.0	2.0	1	07/08/19	07/08/19 01:14	GM
Dichlorodifluoromethane	ND		ug/L	5.0	2.0	1	07/08/19	07/08/19 01:14	GM
1,1-Dichloroethane	ND		ug/L	5.0	2.0	1	07/08/19	07/08/19 01:14	GM
1,2-Dichloroethane	ND		ug/L	5.0	2.0	1	07/08/19	07/08/19 01:14	GM
1,1-Dichloroethene	ND		ug/L	5.0	2.0	1	07/08/19	07/08/19 01:14	GM

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Will Brewington, President

All analyses performed at Maryland Spectral Services included in the report are TNI certified except as indicated at the end of the report.

Analytical Results

Project: PIPER'S WINE & SPIRITS

Project Number: 14-059
Project Manager: Jeffery Stein

MW-3

9062609-03 (Nonpotable Water)
Sample Date: 06/26/19

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Quantitation Limit (LOQ)	Dilution	Prepared	Analyzed	Analyst
VOLATILE ORGANICS BY EPA METHOD 8260B (GC/MS) (continued)									
cis-1,2-Dichloroethene	ND		ug/L	5.0	2.0	1	07/08/19	07/08/19 01:14	GM
trans-1,2-Dichloroethene	ND		ug/L	5.0	2.0	1	07/08/19	07/08/19 01:14	GM
Dichlorofluoromethane	ND		ug/L	5.0	2.0	1	07/08/19	07/08/19 01:14	GM
1,2-Dichloropropane	ND		ug/L	5.0	2.0	1	07/08/19	07/08/19 01:14	GM
1,3-Dichloropropane	ND		ug/L	5.0	2.0	1	07/08/19	07/08/19 01:14	GM
2,2-Dichloropropane	ND		ug/L	5.0	2.0	1	07/08/19	07/08/19 01:14	GM
1,1-Dichloropropane	ND		ug/L	5.0	2.0	1	07/08/19	07/08/19 01:14	GM
cis-1,3-Dichloropropene	ND		ug/L	5.0	2.0	1	07/08/19	07/08/19 01:14	GM
trans-1,3-Dichloropropene	ND		ug/L	5.0	2.0	1	07/08/19	07/08/19 01:14	GM
Diisopropyl ether (DIPE)	ND		ug/L	5.0	2.0	1	07/08/19	07/08/19 01:14	GM
Ethyl tert-butyl ether (ETBE)	ND		ug/L	5.0	2.0	1	07/08/19	07/08/19 01:14	GM
Ethylbenzene	ND		ug/L	5.0	2.0	1	07/08/19	07/08/19 01:14	GM
Hexachlorobutadiene	ND		ug/L	5.0	2.0	1	07/08/19	07/08/19 01:14	GM
2-Hexanone	ND		ug/L	10.0	10.0	1	07/08/19	07/08/19 01:14	GM
Isopropylbenzene (Cumene)	ND		ug/L	5.0	2.0	1	07/08/19	07/08/19 01:14	GM
4-Isopropyltoluene	ND		ug/L	5.0	2.0	1	07/08/19	07/08/19 01:14	GM
Methyl tert-butyl ether (MTBE)	ND		ug/L	5.0	2.0	1	07/08/19	07/08/19 01:14	GM
4-Methyl-2-pentanone	ND		ug/L	10.0	10.0	1	07/08/19	07/08/19 01:14	GM
Methylene chloride	ND		ug/L	10.0	10.0	1	07/08/19	07/08/19 01:14	GM
Naphthalene	ND		ug/L	5.0	2.0	1	07/08/19	07/08/19 01:14	GM
n-Propylbenzene	ND		ug/L	5.0	2.0	1	07/08/19	07/08/19 01:14	GM
Styrene	ND		ug/L	5.0	2.0	1	07/08/19	07/08/19 01:14	GM
1,1,1,2-Tetrachloroethane	ND		ug/L	5.0	2.0	1	07/08/19	07/08/19 01:14	GM
1,1,2,2-Tetrachloroethane	ND		ug/L	5.0	2.0	1	07/08/19	07/08/19 01:14	GM
Tetrachloroethane	ND		ug/L	5.0	2.0	1	07/08/19	07/08/19 01:14	GM
Toluene	ND		ug/L	5.0	2.0	1	07/08/19	07/08/19 01:14	GM
1,2,3-Trichlorobenzene	ND		ug/L	5.0	2.0	1	07/08/19	07/08/19 01:14	GM
1,2,4-Trichlorobenzene	ND		ug/L	5.0	2.0	1	07/08/19	07/08/19 01:14	GM
1,1,1-Trichloroethane	ND		ug/L	5.0	2.0	1	07/08/19	07/08/19 01:14	GM
1,1,2-Trichloroethane	ND		ug/L	5.0	2.0	1	07/08/19	07/08/19 01:14	GM
Trichloroethene	ND		ug/L	5.0	2.0	1	07/08/19	07/08/19 01:14	GM
Trichlorofluoromethane (Freon 11)	ND		ug/L	5.0	2.0	1	07/08/19	07/08/19 01:14	GM
1,2,3-Trichloropropane	ND		ug/L	5.0	2.0	1	07/08/19	07/08/19 01:14	GM

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Will Brewington, President

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Analytical Results

Project: PIPER'S WINE & SPIRITS

Project Number: 14-059

Project Manager: Jeffrey Stein

MW-3

9062609-03 (Nonpotable Water)

Sample Date: 06/26/19

Analyte	Result	Units	Notes	Reporting Limit (MRL)	Quantitation Limit (LOQ)	Dilution	Prepared	Analyzed	Analyst
VOLATILE ORGANICS BY EPA METHOD 8260B (GC/MS) (continued)									
1,2,4-Trimethylbenzene	ND	ug/L		5.0	2.0	1	07/08/19	07/08/19 01:14	GM
1,3,5-Trimethylbenzene	ND	ug/L		5.0	2.0	1	07/08/19	07/08/19 01:14	GM
Vinyl chloride	ND	ug/L		5.0	2.0	1	07/08/19	07/08/19 01:14	GM
o-Xylene	ND	ug/L		5.0	2.0	1	07/08/19	07/08/19 01:14	GM
m- & p-Xylenes	ND	ug/L		5.0	2.0	1	07/08/19	07/08/19 01:14	GM
Stearic acid, 1,2-Dichloroethane:d4		75-120		102 %			07/08/19	07/08/19 01:14	
Stearic acid, Toluene:d8		75-120		99 %			07/08/19	07/08/19 01:14	
Stearic acid, 4-Bromofluorobenzene		78-110		99 %			07/08/19	07/08/19 01:14	
GASOLINE RANGE ORGANICS BY EPA 8015C									
Gasoline-Range Organics	ND	ug/L		100	100	1	06/27/19	06/27/19 18:19	GM
DIESEL RANGE ORGANICS BY EPA 3510/8015C									
Diesel-Range Organics	ND	mg/L		0.21	0.21	1	06/27/19	07/01/19 17:14	SJA
Stearic acid, o-Terphenyl		60-120		112 %			06/27/19	07/01/19 17:14	

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Will Brewington

Will Brewington, President

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Analytical Results

Project: PIPER'S WINE & SPIRITS

Project Number: 14-059

Project Manager: Jeffrey Stein

Notes and Definitions

J Detected but below the reporting limit; therefore, result is an estimated concentration (CLP J-Flag).

- DET Analyte DETECTED
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- dry Sample results reported on a dry weight basis
- RPD Relative Percent Difference
- %-Solids Percent Solids is a supportive test and as such does not require accreditation

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Will Brewington

Will Brewington, President

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02 July 2019

Jeffery Stein
Advantage Environmental Consultants
8610 Baltimore Washington Blvd, Suite 217
Jessup, MD 20794

RE: PIPER'S WINE & SPIRITS

Enclosed are the results of analyses for samples received by the laboratory on 06/26/19 13:34.
Please visit our website at www.mdspectral.com for a complete listing of our accreditations.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Will Brewington
President

Project: PIPER'S WINE & SPIRITS

Project Number: 14-059

Project Manager: Jeffrey Stein

Reported:
07/02/19 14:54

Client Sample ID	Alternate Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
PW		9062612-01	Drinking Water	06/26/19 09:15	06/26/19 13:34

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Will Brewington, President

1500 Caton Center Dr Suite G
Baltimore MD 21227
410-247-7600
www.mdspectral.com
MD DW Labid 153

Project: PIPER'S WINE & SPIRITS

Project Number: 14-059
Project Manager: Jeffrey Stein

Project: PIPER'S WINE & SPIRITS

Project Number: 14-059
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1500 Caton Center Dr Suite G
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410-247-7600
www.mdspectral.com
MD DW Labid 153

Project: PIPER'S WINE & SPIRITS

Project Number: 14-059
Project Manager: Jeffrey Stein

PW

PW

9062612-01 (Drinking Water)
Sample Date: 06/26/19

9062612-01 (Drinking Water)
Sample Date: 06/26/19

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Quantitation Limit (LOQ)	Dilution	Prepared	Analyzed	Analyst
VOLATILE ORGANICS BY EPA METHOD 524.2 (GC/MS)									
tert-Amyl alcohol (TAA)	ND		ug/L	10.0	10.0	1	06/27/19	06/27/19 14:46	WB
tert-Amyl methyl ether (TAME)	ND		ug/L	0.50	0.50	1	06/27/19	06/27/19 14:46	WB
Benzene	ND		ug/L	0.50	0.50	1	06/27/19	06/27/19 14:46	WB
Bromobenzene	ND		ug/L	0.50	0.50	1	06/27/19	06/27/19 14:46	WB
Bromochloromethane	ND		ug/L	0.50	0.50	1	06/27/19	06/27/19 14:46	WB
Bromodichloromethane	ND		ug/L	0.50	0.50	1	06/27/19	06/27/19 14:46	WB
Bromoforn	ND		ug/L	0.50	0.50	1	06/27/19	06/27/19 14:46	WB
Bromomethane	ND		ug/L	0.50	0.50	1	06/27/19	06/27/19 14:46	WB
tert-Butanol (TBA)	ND		ug/L	10.0	10.0	1	06/27/19	06/27/19 14:46	WB
n-Butylbenzene	ND		ug/L	0.50	0.50	1	06/27/19	06/27/19 14:46	WB
sec-Butylbenzene	ND		ug/L	0.50	0.50	1	06/27/19	06/27/19 14:46	WB
tert-Butylbenzene	ND		ug/L	0.50	0.50	1	06/27/19	06/27/19 14:46	WB
Carbon tetrachloride	ND		ug/L	0.50	0.50	1	06/27/19	06/27/19 14:46	WB
Chlorobenzene	ND		ug/L	0.50	0.50	1	06/27/19	06/27/19 14:46	WB
Chloroethane	ND		ug/L	0.50	0.50	1	06/27/19	06/27/19 14:46	WB
Chloroform	ND		ug/L	0.50	0.50	1	06/27/19	06/27/19 14:46	WB
Chloromethane	ND		ug/L	0.50	0.50	1	06/27/19	06/27/19 14:46	WB
2-Chlorotoluene	ND		ug/L	0.50	0.50	1	06/27/19	06/27/19 14:46	WB
4-Chlorotoluene	ND		ug/L	0.50	0.50	1	06/27/19	06/27/19 14:46	WB
Dibromochloromethane	ND		ug/L	0.50	0.50	1	06/27/19	06/27/19 14:46	WB
1,2-Dibromo-3-chloropropane	ND		ug/L	0.50	0.50	1	06/27/19	06/27/19 14:46	WB
1,2-Dibromoethane (EDB)	ND		ug/L	0.50	0.50	1	06/27/19	06/27/19 14:46	WB
Dibromomethane	ND		ug/L	0.50	0.50	1	06/27/19	06/27/19 14:46	WB
1,2-Dichlorobenzene	ND		ug/L	0.50	0.50	1	06/27/19	06/27/19 14:46	WB
1,3-Dichlorobenzene	ND		ug/L	0.50	0.50	1	06/27/19	06/27/19 14:46	WB
1,4-Dichlorobenzene	ND		ug/L	0.50	0.50	1	06/27/19	06/27/19 14:46	WB
Dichlorodifluoromethane	ND		ug/L	0.50	0.50	1	06/27/19	06/27/19 14:46	WB
1,1-Dichloroethane	ND		ug/L	0.50	0.50	1	06/27/19	06/27/19 14:46	WB
1,2-Dichloroethane	ND		ug/L	0.50	0.50	1	06/27/19	06/27/19 14:46	WB
1,1-Dichloroethane	ND		ug/L	0.50	0.50	1	06/27/19	06/27/19 14:46	WB
cis-1,2-Dichloroethane	ND		ug/L	0.50	0.50	1	06/27/19	06/27/19 14:46	WB
trans-1,2-Dichloroethane	ND		ug/L	0.50	0.50	1	06/27/19	06/27/19 14:46	WB

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Will Brewington, President

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Quantitation Limit (LOQ)	Dilution	Prepared	Analyzed	Analyst
VOLATILE ORGANICS BY EPA METHOD 524.2 (GC/MS) (continued)									
1,2-Dichloropropane	ND		ug/L	0.50	0.50	1	06/27/19	06/27/19 14:46	WB
1,3-Dichloropropane	ND		ug/L	0.50	0.50	1	06/27/19	06/27/19 14:46	WB
2,2-Dichloropropane	ND		ug/L	0.50	0.50	1	06/27/19	06/27/19 14:46	WB
1,1-Dichloroethane	ND		ug/L	0.50	0.50	1	06/27/19	06/27/19 14:46	WB
cis-1,3-Dichloropropene	ND		ug/L	0.50	0.50	1	06/27/19	06/27/19 14:46	WB
trans-1,3-Dichloropropene	ND		ug/L	0.50	0.50	1	06/27/19	06/27/19 14:46	WB
Diisopropyl ether (DIPE)	ND		ug/L	0.50	0.50	1	06/27/19	06/27/19 14:46	WB
Ethyl tert-butyl ether (ETBE)	ND		ug/L	0.50	0.50	1	06/27/19	06/27/19 14:46	WB
Hexachlorobutadiene	ND		ug/L	0.50	0.50	1	06/27/19	06/27/19 14:46	WB
Isopropylbenzene (Cumene)	ND		ug/L	0.50	0.50	1	06/27/19	06/27/19 14:46	WB
4-Isopropyltoluene	ND		ug/L	0.50	0.50	1	06/27/19	06/27/19 14:46	WB
Methyl tert-butyl ether (MTBE)	ND		ug/L	0.50	0.50	1	06/27/19	06/27/19 14:46	WB
Methylene chloride	ND		ug/L	1.00	1.00	1	06/27/19	06/27/19 14:46	WB
Naphthalene	ND		ug/L	0.50	0.50	1	06/27/19	06/27/19 14:46	WB
n-Propylbenzene	ND		ug/L	0.50	0.50	1	06/27/19	06/27/19 14:46	WB
Styrene	ND		ug/L	0.50	0.50	1	06/27/19	06/27/19 14:46	WB
1,1,1,2-Tetrachloroethane	ND		ug/L	0.50	0.50	1	06/27/19	06/27/19 14:46	WB
1,1,2,2-Tetrachloroethane	ND		ug/L	0.50	0.50	1	06/27/19	06/27/19 14:46	WB
Toluene	ND		ug/L	0.50	0.50	1	06/27/19	06/27/19 14:46	WB
1,2,3-Trichlorobenzene	ND		ug/L	0.50	0.50	1	06/27/19	06/27/19 14:46	WB
1,2,4-Trichlorobenzene	ND		ug/L	0.50	0.50	1	06/27/19	06/27/19 14:46	WB
1,1,1-Trichloroethane	ND		ug/L	0.50	0.50	1	06/27/19	06/27/19 14:46	WB
1,1,2-Trichloroethane	ND		ug/L	0.50	0.50	1	06/27/19	06/27/19 14:46	WB
Trichloroethane	ND		ug/L	0.50	0.50	1	06/27/19	06/27/19 14:46	WB
Trichlorofluoromethane (Freon 11)	ND		ug/L	0.50	0.50	1	06/27/19	06/27/19 14:46	WB
1,2,3-Trichloropropane	ND		ug/L	0.50	0.50	1	06/27/19	06/27/19 14:46	WB
1,2,4-Trimethylbenzene	ND		ug/L	0.50	0.50	1	06/27/19	06/27/19 14:46	WB
1,3,5-Trimethylbenzene	ND		ug/L	0.50	0.50	1	06/27/19	06/27/19 14:46	WB
Vinyl chloride	ND		ug/L	0.50	0.50	1	06/27/19	06/27/19 14:46	WB
o-Xylene	ND		ug/L	0.50	0.50	1	06/27/19	06/27/19 14:46	WB

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Will Brewington, President

1500 Caton Center Dr Suite G
Baltimore MD 21227
410-247-7600
www.mdspectral.com
MD DW LabID 153
Reported:
07/02/19 14:54

Project: PIPER'S WINE & SPIRITS

Project Number: 14-059
Project Manager: Jeffrey Stein

PW

9062612-01 (Drinking Water)
Sample Date: 06/26/19

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Quantitation Limit (LOQ)	Dilution	Prepared	Analyzed	Analyst
VOLATILE ORGANICS BY EPA METHOD 524.2 (GC/MS) (continued)									
m- & p-Xylenes	ND		ug/L	0.50	0.50	1	06/27/19	06/27/19 14:46	WB
Stearic acid	80-120			104 %	06/27/19		06/27/19 14:46		
Stearic acid	80-120			104 %	06/27/19		06/27/19 14:46		

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410-247-7600
www.mdspectral.com
MD DW LabID 153
Reported:
07/02/19 14:54

Project: PIPER'S WINE & SPIRITS

Project Number: 14-059
Project Manager: Jeffrey Stein

Notes and Definitions

- DET Analyte DETECTED
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- dry Sample results reported on a dry weight basis
- RPD Relative Percent Difference
- %-Solids Percent Solids is a supportive test and as such does not require accreditation



Will Brewington, President

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Will Brewington, President

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Attachment D



Department of the Environment
Water Sampler Certification

ANDREW CLARK sampler id **0883AC**
HAS BEEN APPROVED FOR COLLECTION OF DRINKING
WATER SAMPLES REQUIRED UNDER THE SAFE
DRINKING WATER ACT

1909-10-291 **9/28/2019**
certification number expiration date



Maryland
Department of the Environment
Water Sampler Certification

BRIAN TAETZSCH sampler id **6403BT**
HAS BEEN APPROVED FOR COLLECTION OF DRINKING
WATER SAMPLES REQUIRED UNDER THE SAFE
DRINKING WATER ACT

2006-02-020 **6/26/2020**
certification number expiration date



Maryland
Department of the Environment
Water Sampler Certification

Christopher Ortolani sampler id **2685CO**
HAS BEEN APPROVED FOR COLLECTION OF DRINKING
WATER SAMPLES REQUIRED UNDER THE SAFE
DRINKING WATER ACT

2003-17-703 **3/15/2020**
certification number expiration date



Maryland
Department of the Environment
Water Sampler Certification

COLLEEN MCMULLEN sampler id **8929CM**
HAS BEEN APPROVED FOR COLLECTION OF DRINKING
WATER SAMPLES REQUIRED UNDER THE SAFE
DRINKING WATER ACT

2005-00-879 **6/6/2020**
certification number expiration date



Maryland
Department of the Environment
Water Sampler Certification

JUAN BOTERO sampler id **6914JB**
HAS BEEN APPROVED FOR COLLECTION OF DRINKING
WATER SAMPLES REQUIRED UNDER THE SAFE
DRINKING WATER ACT

2009-02-234 **9/26/2020**
certification number expiration date



1800 WASHINGTON BLVD STE 200
BALTIMORE, MD 21230-1708
410-537-9729

THIS CARD CERTIFIES THAT

KEVIN PELLEGRINI sampler id **1110KP**
HAS BEEN APPROVED FOR COLLECTION OF DRINKING
WATER SAMPLES REQUIRED UNDER THE SAFE
DRINKING WATER ACT AND STATE REGULATIONS

1895-13-659 **5/6/2018**
certification number expiration date



Maryland
Department of the Environment
Water Sampler Certification

ROHAN MCLAUGHLIN sampler id **5315RM**
HAS BEEN APPROVED FOR COLLECTION OF DRINKING
WATER SAMPLES REQUIRED UNDER THE SAFE
DRINKING WATER ACT

2004-03-761 **4/4/2020**
certification number expiration date



Maryland
Department of the Environment
Water Sampler Certification

SIDHARTH GANESAN sampler id **9138SG**
HAS BEEN APPROVED FOR COLLECTION OF DRINKING
WATER SAMPLES REQUIRED UNDER THE SAFE
DRINKING WATER ACT

2006-02-982 **6/26/2020**
certification number expiration date



Maryland
Department of the Environment
Water Sampler Certification

STEPHEN DESSEL sampler id **7845SD**
HAS BEEN APPROVED FOR COLLECTION OF DRINKING
WATER SAMPLES REQUIRED UNDER THE SAFE
DRINKING WATER ACT

1905-13-808 **5/18/2019**
certification number expiration date



Maryland
Department of the Environment
Water Sampler Certification

CHARLIE KILER sampler id **7961CK**
HAS BEEN APPROVED FOR COLLECTION OF DRINKING
WATER SAMPLES REQUIRED UNDER THE SAFE
DRINKING WATER ACT

2111-00-301 **11/8/2021**
certification number expiration date