de maximis, inc.

1550 Pond Road
Suite 120
Allentown, PA 18104
(610) 435-1151
(610) 435-8459 FAX

July 19, 2018

Via U.S. Mail

Mr. Dustin Armstrong
PADEP
2 East Main Street
Norristown, PA 19401

RE: Boarhead Farms Superfund Site OU-1
EPA Docket No. III-2000-01-DC
2nd Quarter 2018 Effluent Discharge Monitoring Report
Groundwater Collection and Treatment System

Dear Mr. Armstrong:

Enclosed please find the completed Discharge Monitoring Report (DMR) forms for the 2nd Quarter 2018 effluent samples from the groundwater treatment plant at the Boarhead Farms Site (Site). These DMR forms are being submitted on behalf of the Respondents in the above referenced EPA docket, and other companies contributing to the funding of the OU-1 remedy. The DMRs are submitted based on PADEP's December 29, 2000 revised Permit with the exception of collecting a 24-hour composite sample for inorganic constituents. In a letter dated March 28, 2001, EPA recommended that the sampling frequency be changed to a composite sample over an 8-hour period.

I would like to call to your attention the following, relative to these DMRs for the 2nd Quarter 2018:

- VOCs were not detected above permit levels.
- 6 of the 6 constituents designated "Monitor and Report" were not detected in the effluent.

Please contact Geoff Seibel or me with any questions at (610) 435-1151.

Sincerely,

de maximis, inc.

R. Craig Coslett
Project Coordinator for OU 1

Enclosures: DMR Forms for 2nd Quarter 2018
Test America Analytical Reports

CC: Chris Sklaney, USEPA
Boarhead Farms OU1 Performing Parties
Peter Randazzo, Brown and Caldwell
D. Jelinek, GES

File: 4087 /DMR 2nd Quarter 2018

PAPER

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if Different)

NAME Boarhead Farms c/o de maximis, inc.

ADDRESS 1550 Pond Rd, Suite 120
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FACILITY LOCATION Groundwater Treatment System
1310 Lonely Cottage Rd 18972

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
DISCHARGE MONITORING REPORT (DMR)

(2-16) PERMIT NUMBER	(17-19) DISCHARGE NUMBER
PAXXXX	001

MONITORING PERIOD	YEAR	MO	DAY		YEAR	MO	DAY
FROM	18	04	01	TO	18	06	30
	(20-21)	(22-23)	(24-25)		(26-27)	(28-29)	(30-31)

Form Approved.
OMB No. 2040-0004
Approval expires 05-31-98

☐ Check here if No Discharge

NOTE: Read Instructions before completing this form

PARAMETER (32-37)		(3 Card Only) QUANTITY OR LOADING (46-53) AVERAGE	(54-61) MAXIMUM	UNITS	(4 Card Only) QUALITY OR CONCENTRATION (38-45) MINIMUM	(46-53) AVERAGE	(54-61) MAXIMUM	UNITS	NO. EX (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)
FLOW (MGD)	SAMPLE MEASUREMENT	0.033030	0.065664	MGD	XXXX	XXXX	XXXX	XXXX		CONT	REC
	PERMIT REQUIREMENT	MONITOR	MONITOR		XXXX	XXXX	XXXX			CONT	REC
ANTIMONY	SAMPLE MEASUREMENT	XXXX	XXXX	XXXX	XXXX	<0.0087	<0.0087	MG/L		1/QTR	8 HC
	PERMIT REQUIREMENT	XXXX	XXXX		XXXX	0.015	0.031			1/QTR	8 HC
ARSENIC	SAMPLE MEASUREMENT	XXXX	XXXX	XXXX	XXXX	<0.0096	<0.0096	MG/L		1/QTR	8 HC
	PERMIT REQUIREMENT	XXXX	XXXX		XXXX	MONITOR/ REPORT	MONITOR/ REPORT			1/QTR	8 HC
CADMIUM	SAMPLE MEASUREMENT	XXXX	XXXX	XXXX	XXXX	<0.0018	<0.0018	MG/L		1/QTR	8 HC
	PERMIT REQUIREMENT	XXXX	XXXX		XXXX	0.0042	0.0084			1/QTR	8 HC
CHROMIUM HEXAVALENT	SAMPLE MEASUREMENT	XXXX	XXXX	XXXX	XXXX	<0.0010	<0.0010	MG/L		1/QTR	8 HC
	PERMIT REQUIREMENT	XXXX	XXXX		XXXX	0.011	0.023			1/QTR	8 HC
COPPER	SAMPLE MEASUREMENT	XXXX	XXXX	XXXX	XXXX	<0.0040	<0.0040	MG/L		1/QTR	8 HC
	PERMIT REQUIREMENT	XXXX	XXXX		XXXX	0.016	0.033			1/QTR	8 HC
LEAD	SAMPLE MEASUREMENT	XXXX	XXXX	XXXX	XXXX	<0.0060	<0.0060	MG/L		1/QTR	8 HC
	PERMIT REQUIREMENT	XXXX	XXXX		XXXX	0.007	0.014			1/QTR	8 HC

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE		
	I CERTIFY UNDER PENALTY OF LAW THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED UNDER MY DIRECTION OR SUPERVISION IN ACCORDANCE WITH A SYSTEM DESIGNED TO ASSURE THAT QUALIFIED PERSONNEL PROPERLY GATHER AND EVALUATE THE INFORMATION SUBMITTED. BASED ON MY INQUIRY OF THE PERSON OR PERSONS WHO MANAGE THE SYSTEM, OR THOSE PERSONS DIRECTLY RESPONSIBLE FOR GATHERING THE INFORMATION, THE INFORMATION SUBMITTED IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS.						
TYPED OR PRINTED		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	AREA CODE	NUMBER	YEAR	MO	DAY

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

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NICKEL	SAMPLE MEASUREMENT	XXXX	XXXX	XXXX	XXXX	<0.0040	<0.0040	MG/L		1/QTR	8 HC
	PERMIT REQUIREMENT	XXXX	XXXX		XXXX	0.09	0.18			1/QTR	8 HC
ZINC	SAMPLE MEASUREMENT	XXXX	XXXX	XXXX	XXXX	<0.0065	<0.0065	MG/L		1/QTR	8 HC
	PERMIT REQUIREMENT	XXXX	XXXX		XXXX	0.157	0.315			1/QTR	8 HC
MANGENESE	SAMPLE MEASUREMENT	XXXX	XXXX	XXXX	XXXX	0.0051	0.0051	MG/L		1/QTR	8 HC
	PERMIT REQUIREMENT	XXXX	XXXX		XXXX	1.12	2.24			1/QTR	8 HC
ALUMINUM	SAMPLE MEASUREMENT	XXXX	XXXX	XXXX	XXXX	<0.0894	<0.0894	MG/L		1/QTR	8 HC
	PERMIT REQUIREMENT	XXXX	XXXX		XXXX	0.623	1.25			1/QTR	8 HC
COBALT	SAMPLE MEASUREMENT	XXXX	XXXX	XXXX	XXXX	<0.0017	<0.0017	MG/L		1/QTR	8 HC
	PERMIT REQUIREMENT	XXXX	XXXX		XXXX	0.021	0.043			1/QTR	8 HC
IRON/TOTAL	SAMPLE MEASUREMENT	XXXX	XXXX	XXXX	XXXX	<0.0805	<0.0805	MG/L		1/QTR	8 HC
	PERMIT REQUIREMENT	XXXX	XXXX		XXXX	1.68	3.36			1/QTR	8 HC
MERCURY	SAMPLE MEASUREMENT	XXXX	XXXX	XXXX	XXXX	<0.000050	<0.000050	MG/L		1/QTR	8 HC
	PERMIT REQUIREMENT	XXXX	XXXX		XXXX	ND	ND			1/QTR	8 HC

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SILVER	SAMPLE MEASUREMENT	XXXX	XXXX	XXXX	XXXX	<0.0024	<0.0024	MG/L		1/QTR	8 HC
	PERMIT REQUIREMENT	XXXX	XXXX		XXXX	0.008	0.017			1/QTR	8 HC
CYANIDE, FREE	SAMPLE MEASUREMENT	XXXX	XXXX	XXXX	XXXX	<0.0040	<0.0040	MG/L		1/QTR	8 HC
	PERMIT REQUIREMENT	XXXX	XXXX		XXXX	0.005	0.011			1/QTR	8 HC
2,4,6-TRICHLOROPHENOL	SAMPLE MEASUREMENT	XXXX	XXXX	XXXX	XXXX	<0.0007	<0.0007	MG/L		1/QTR	GRAB
	PERMIT REQUIREMENT	XXXX	XXXX		XXXX	0.0038	0.0076			1/QTR	GRAB
BENZENE	SAMPLE MEASUREMENT	XXXX	XXXX	XXXX	XXXX	<0.0001	<0.0001	MG/L		1/QTR	GRAB
	PERMIT REQUIREMENT	XXXX	XXXX		XXXX	0.0022	0.004			1/QTR	GRAB
1,2-DICHLOROETHANE	SAMPLE MEASUREMENT	XXXX	XXXX	XXXX	XXXX	<0.0001	<0.0001	MG/L		1/QTR	GRAB
	PERMIT REQUIREMENT	XXXX	XXXX		XXXX	0.0007	0.0014			1/QTR	GRAB
1,1-DICHLOROETHYLENE	SAMPLE MEASUREMENT	XXXX	XXXX	XXXX	XXXX	<0.0001	<0.0001	MG/L		1/QTR	GRAB
	PERMIT REQUIREMENT	XXXX	XXXX		XXXX	ND	0.0002			1/QTR	GRAB
METHYLENE CHLORIDE	SAMPLE MEASUREMENT	XXXX	XXXX	XXXX	XXXX	<0.0002	<0.0002	MG/L		1/QTR	GRAB
	PERMIT REQUIREMENT	XXXX	XXXX		XXXX	0.0086	0.017			1/QTR	GRAB

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TETRACHLOROETHYLENE	SAMPLE MEASUREMENT	XXXX	XXXX	XXXX	XXXX	<0.0001	<0.0001	MG/L		1/QTR	GRAB
	PERMIT REQUIREMENT	XXXX	XXXX		XXXX	0.0015	0.003			1/QTR	GRAB
TOLUENE	SAMPLE MEASUREMENT	XXXX	XXXX	XXXX	XXXX	<0.0001	<0.0001	MG/L		1/QTR	GRAB
	PERMIT REQUIREMENT	XXXX	XXXX		XXXX	0.0023	0.0046			1/QTR	GRAB
1,1,1-TRICHLOROETHANE	SAMPLE MEASUREMENT	XXXX	XXXX	XXXX	XXXX	<0.0001	<0.0001	MG/L		1/QTR	GRAB
	PERMIT REQUIREMENT	XXXX	XXXX		XXXX	0.017	0.034			1/QTR	GRAB
TRICHLOROETHYLENE	SAMPLE MEASUREMENT	XXXX	XXXX	XXXX	XXXX	<0.0001	<0.0001	MG/L		1/QTR	GRAB
	PERMIT REQUIREMENT	XXXX	XXXX		XXXX	0.005	0.01			1/QTR	GRAB
VINYL CHLORIDE	SAMPLE MEASUREMENT	XXXX	XXXX	XXXX	XXXX	<0.0001	<0.0001	MG/L		1/QTR	GRAB
	PERMIT REQUIREMENT	XXXX	XXXX		XXXX	0.0036	0.0072			1/QTR	GRAB
ACETONE	SAMPLE MEASUREMENT	XXXX	XXXX	XXXX	XXXX	<0.0030	<0.0030	MG/L		1/QTR	GRAB
	PERMIT REQUIREMENT	XXXX	XXXX		XXXX	MONITOR/ REPORT	MONITOR/ REPORT			1/QTR	GRAB
XYLENES, TOTAL	SAMPLE MEASUREMENT	XXXX	XXXX	XXXX	XXXX	<0.0001	<0.0001	MG/L		1/QTR	GRAB
	PERMIT REQUIREMENT	XXXX	XXXX		XXXX	MONITOR/ REPORT	MONITOR/ REPORT			1/QTR	GRAB

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1,2-DICHLOROBENZENE	SAMPLE MEASUREMENT	XXXX	XXXX	XXXX	XXXX	<0.0003	<0.0003	MG/L		1/QTR	GRAB
	PERMIT REQUIREMENT	XXXX	XXXX		XXXX	MONITOR/ REPORT	MONITOR/ REPORT			1/QTR	GRAB
NAPHTHALENE	SAMPLE MEASUREMENT	XXXX	XXXX	XXXX	XXXX	<0.0002	<0.0002	MG/L		1/QTR	GRAB
	PERMIT REQUIREMENT	XXXX	XXXX		XXXX	MONITOR/ REPORT	MONITOR/ REPORT			1/QTR	GRAB
CHROMIUM, TRIVALENT	SAMPLE MEASUREMENT	XXXX	XXXX	XXXX	XXXX	<0.0033	<0.0033	MG/L		1/QTR	8 HC
	PERMIT REQUIREMENT	XXXX	XXXX		XXXX	MONITOR/ REPORT	MONITOR/ REPORT			1/QTR	8 HC
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
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eurofins | Lancaster Laboratories Environmental

2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-6766 • www.EurofinsUS.com/LancLabsEnv

ANALYSIS REPORT

Prepared by:

Eurofins Lancaster Laboratories Environmental
2425 New Holland Pike
Lancaster, PA 17601

Prepared for:

GES, Inc.-PA
Suite 500
440 Creamery Way
Exton PA 19341

Report Date: June 11, 2018 17:07

Project: Boarhead Farms

Account #: 02575
Group Number: 1950181
PO Number: 0204215-40-001
Release Number: ORG # 1402
State of Sample Origin: PA

Regulatory agencies do not accredit laboratories for all methods, analytes, and matrices. Our current scopes of accreditation can be viewed at http://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/resources/certifications/ . To request copies of prior scopes of accreditation, contact your project manager.

Electronic Copy To	GES, Inc.-PA	Attn: Derek Jelinek
Electronic Copy To	GES Inc.	Attn: Data Distribution

Respectfully Submitted,

Lynn M. Frederiksen

Lynn M. Frederiksen
Principal Specialist Group Leader

(717) 556-7255

eurofins | Lancaster Laboratories Environmental

2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-6766 • www.EurofinsUS.com/LancLabsEnv

SAMPLE INFORMATION

Client Sample Description	Sample Collection Date/Time	ELLE#
Effluent Composite Groundwater	06/01/2018 10:20	9638456
Effluent Grab Groundwater	06/01/2018 09:40	9638457
Midfluent Grab Groundwater	06/01/2018 09:45	9638458
Influent Grab Groundwater	06/01/2018 09:55	9638459
OBEW & BREW Influent Grab Groundwater	06/01/2018 10:05	9638460
Trip Blank Water	06/01/2018	9638461

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

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Analysis Report

Sample Description: **Effluent Composite Groundwater**
Upper Black Eddy, PA
Boarhead Farms Quarterly GW Sampling

GES, Inc.-PA
ELLE Sample #: WW 9638456
ELLE Group #: 1950181
Matrix: Groundwater

Project Name: **Boarhead Farms**

Submittal Date/Time: 06/01/2018 14:02
Collection Date/Time: 06/01/2018 10:20

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
Metals		**EPA 200.7 rev 4.4**	**mg/l**	**mg/l**	
01743	Aluminum	7429-90-5	N.D. B	0.0894	1
07044	Antimony	7440-36-0	N.D. K3	0.0087	1
07035	Arsenic	7440-38-2	N.D.	0.0096	1
07049	Cadmium[1]	7440-43-9	N.D.	0.0018	1
07052	Cobalt	7440-48-4	N.D.	0.0017	1
07053	Copper	7440-50-8	N.D.	0.0040	1
01754	Iron	7439-89-6	N.D.	0.0805	1
07055	Lead	7439-92-1	N.D.	0.0060	1
07058	Manganese	7439-96-5	0.0051	0.0016	1
07061	Nickel	7440-02-0	N.D.	0.0040	1
07066	Silver	7440-22-4	N.D.	0.0024	1
07072	Zinc	7440-66-6	N.D.	0.0065	1
		EPA 245.1 rev 3	**mg/l**	**mg/l**	
00259	Mercury	7439-97-6	N.D.	0.000050	1
Wet Chemistry		**SM 4500-CN E-2011**	**mg/l**	**mg/l**	
00241	Cyanide (Free)[1]	n.a.	N.D.	0.0040	1
		SM 3500-Cr B-2011	**mg/l**	**mg/l**	
01446	Hexavalent Chromium	18540-29-9	N.D.	0.0010	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/19.

[1] = This analyte was not on the laboratory's PA DEP Scope of Accreditation at the time of analysis.

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
01743	Aluminum	EPA 200.7 rev 4.4	1	181550571604	06/06/2018 04:57	Jonathan J Allen	1
07044	Antimony	EPA 200.7 rev 4.4	1	181550571604	06/06/2018 04:57	Jonathan J Allen	1
07035	Arsenic	EPA 200.7 rev 4.4	1	181550571604	06/06/2018 04:57	Jonathan J Allen	1
07049	Cadmium	EPA 200.7 rev 4.4	1	181550571604	06/06/2018 04:57	Jonathan J Allen	1
07052	Cobalt	EPA 200.7 rev 4.4	1	181550571604	06/06/2018 04:57	Jonathan J Allen	1
07053	Copper	EPA 200.7 rev 4.4	1	181550571604	06/06/2018 04:57	Jonathan J Allen	1
01754	Iron	EPA 200.7 rev 4.4	1	181550571604	06/06/2018 04:57	Jonathan J Allen	1
07055	Lead	EPA 200.7 rev 4.4	1	181550571604	06/06/2018 04:57	Jonathan J Allen	1
07058	Manganese	EPA 200.7 rev 4.4	1	181550571604	06/06/2018 04:57	Jonathan J Allen	1
07061	Nickel	EPA 200.7 rev 4.4	1	181550571604	06/06/2018 04:57	Jonathan J Allen	1
07066	Silver	EPA 200.7 rev 4.4	1	181550571604	06/06/2018 04:57	Jonathan J Allen	1
07072	Zinc	EPA 200.7 rev 4.4	1	181550571604	06/06/2018 04:57	Jonathan J Allen	1
00259	Mercury	EPA 245.1 rev 3	1	181550571401	06/06/2018 06:47	Damary Valentin	1

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Analysis Report

Sample Description: **Effluent Composite Groundwater**
Upper Black Eddy, PA
Boarhead Farms Quarterly GW Sampling

GES, Inc.-PA
ELLE Sample #: WW 9638456
ELLE Group #: 1950181
Matrix: Groundwater

Project Name: **Boarhead Farms**

Submittal Date/Time: 06/01/2018 14:02
Collection Date/Time: 06/01/2018 10:20

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
05716	EPA 600 ICP Digest (tot rec)	EPA 200.7 rev 4.4	1	181550571604	06/05/2018 05:04	James L Mertz	1
05714	PW/WW Hg Digest	EPA 245.1 rev 3	1	181550571401	06/05/2018 07:54	James L Mertz	1
00241	Cyanide (Free)	SM 4500-CN E-2011	1	18162114101A	06/11/2018 10:27	Ashlynn M Cornelius	1
01446	Hexavalent Chromium	SM 3500-Cr B-2011	1	18153144601A	06/02/2018 06:05	Daniel S Smith	1

Sample Description: **Effluent Grab Groundwater**
Upper Black Eddy, PA
Boarhead Farms Quarterly GW Sampling

GES, Inc.-PA
ELLE Sample #: WW 9638457
ELLE Group #: 1950181
Matrix: Groundwater

Project Name: **Boarhead Farms**

Submittal Date/Time: 06/01/2018 14:02
Collection Date/Time: 06/01/2018 09:40

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B 25mL purge**		**ug/l**	**ug/l**	
02898	Acetone	67-64-1	N.D.	3.0	1
02898	Benzene	71-43-2	N.D.	0.1	1
02898	Bromochloromethane	74-97-5	N.D.	0.1	1
02898	Bromodichloromethane	75-27-4	N.D.	0.1	1
02898	Bromoform	75-25-2	N.D.	0.1	1
02898	Bromomethane	74-83-9	N.D.	0.1	1
02898	2-Butanone	78-93-3	N.D.	1.0	1
02898	Carbon Disulfide	75-15-0	N.D.	0.4	1
02898	Carbon Tetrachloride	56-23-5	N.D.	0.1	1
02898	Chlorobenzene	108-90-7	N.D.	0.1	1
02898	Chloroethane	75-00-3	N.D.	0.1	1
02898	Chloroform	67-66-3	N.D.	0.1	1
02898	Chloromethane	74-87-3	N.D.	0.2	1
02898	Cyclohexane	110-82-7	0.2 J	0.1	1
02898	1,2-Dibromo-3-chloropropane	96-12-8	N.D.	0.2	1
02898	Dibromochloromethane	124-48-1	N.D.	0.1	1
02898	1,2-Dibromoethane	106-93-4	N.D.	0.1	1
02898	1,2-Dichlorobenzene	95-50-1	N.D.	0.1	1
02898	1,3-Dichlorobenzene	541-73-1	N.D.	0.1	1
02898	1,4-Dichlorobenzene	106-46-7	N.D.	0.1	1
02898	Dichlorodifluoromethane	75-71-8	N.D.	0.1	1
02898	1,1-Dichloroethane	75-34-3	N.D.	0.1	1
02898	1,2-Dichloroethane	107-06-2	N.D.	0.1	1
02898	1,1-Dichloroethene	75-35-4	N.D.	0.1	1
02898	cis-1,2-Dichloroethene	156-59-2	N.D.	0.1	1
02898	trans-1,2-Dichloroethene	156-60-5	N.D.	0.1	1
02898	1,2-Dichloropropane	78-87-5	N.D.	0.1	1
02898	cis-1,3-Dichloropropene	10061-01-5	N.D.	0.1	1
02898	trans-1,3-Dichloropropene	10061-02-6	N.D.	0.1	1
02898	1,4-Dioxane	123-91-1	N.D.	20	1
02898	Ethylbenzene	100-41-4	N.D.	0.1	1
02898	Freon 113	76-13-1	N.D.	0.2	1
02898	2-Hexanone	591-78-6	N.D.	1.0	1
02898	Isopropylbenzene	98-82-8	N.D.	0.1	1
02898	Methyl Acetate	79-20-9	N.D.	0.3	1
02898	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.1	1
02898	4-Methyl-2-pentanone	108-10-1	N.D.	1.0	1
02898	Methylcyclohexane	108-87-2	N.D.	0.1	1
02898	Methylene Chloride	75-09-2	N.D.	0.2	1
02898	Styrene	100-42-5	N.D.	0.1	1
02898	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	0.1	1
02898	Tetrachloroethene	127-18-4	N.D.	0.1	1
02898	Toluene	108-88-3	N.D.	0.1	1
02898	1,2,3-Trichlorobenzene	87-61-6	N.D.	0.1	1
02898	1,2,4-Trichlorobenzene	120-82-1	N.D.	0.1	1
02898	1,1,1-Trichloroethane	71-55-6	N.D.	0.1	1
02898	1,1,2-Trichloroethane	79-00-5	N.D.	0.1	1
02898	Trichloroethene	79-01-6	N.D.	0.1	1

Sample Description: **Effluent Grab Groundwater**
Upper Black Eddy, PA
Boarhead Farms Quarterly GW Sampling

GES, Inc.-PA
ELLE Sample #: WW 9638457
ELLE Group #: 1950181
Matrix: Groundwater

Project Name: **Boarhead Farms**

Submittal Date/Time: 06/01/2018 14:02
Collection Date/Time: 06/01/2018 09:40

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B 25mL purge**		ug/l	ug/l	
02898	Trichlorofluoromethane	75-69-4	N.D.	0.1	1
02898	Vinyl Chloride	75-01-4	N.D.	0.1	1
02898	m+p-Xylene	179601-23-1	N.D.	0.1	1
02898	o-Xylene	95-47-6	N.D.	0.1	1
02898	Xylene (Total)	1330-20-7	N.D.	0.1	1
GC/MS Semivolatiles	**EPA 625**		ug/l	ug/l	
10334	Acenaphthene	83-32-9	N.D.	0.3	1
10334	Acenaphthylene	208-96-8	N.D.	0.3	1
10334	Anthracene	120-12-7	N.D.	0.2	1
10334	Benzo(a)anthracene	56-55-3	N.D.	0.2	1
10334	Benzo(a)pyrene	50-32-8	N.D.	0.3	1
10334	Benzo(b)fluoranthene	205-99-2	N.D.	0.3	1
10334	Benzo(g,h,i)perylene	191-24-2	N.D.	0.2	1
10334	Benzo(k)fluoranthene	207-08-9	N.D.	0.3	1
10334	4-Bromophenyl-phenylether	101-55-3	N.D.	0.3	1
10334	Butylbenzylphthalate	85-68-7	N.D.	0.8	1
10334	Di-n-butylphthalate	84-74-2	N.D.	0.5	1
10334	Carbazole	86-74-8	N.D.	0.2	1
10334	4-Chloro-3-methylphenol	59-50-7	N.D.	0.3	1
10334	4-Chloroaniline	106-47-8	N.D.	0.3	1
10334	bis(2-Chloroethoxy)methane	111-91-1	N.D.	0.5	1
10334	bis(2-Chloroethyl)ether	111-44-4	N.D.	0.4	1
10334	bis(2-Chloroisopropyl)ether	39638-32-9	N.D.	0.3	1
	Bis(2-chloroisopropyl) ether CAS #39638-32-9 and 2,2'-Oxybis(1-chloropropane) CAS #108-60-1 cannot be separated chromatographically. The reported result represents the combined total of both compounds.				
10334	2-Chloronaphthalene	91-58-7	N.D.	0.2	1
10334	2-Chlorophenol	95-57-8	N.D.	0.3	1
10334	4-Chlorophenyl-phenylether	7005-72-3	N.D.	0.3	1
10334	Chrysene	218-01-9	N.D.	0.2	1
10334	Dibenz(a,h)anthracene	53-70-3	N.D.	0.4	1
10334	Dibenzofuran	132-64-9	N.D.	0.2	1
10334	1,2-Dichlorobenzene	95-50-1	N.D.	0.3	1
10334	1,3-Dichlorobenzene	541-73-1	N.D.	0.3	1
10334	1,4-Dichlorobenzene	106-46-7	N.D.	0.3	1
10334	3,3'-Dichlorobenzidine	91-94-1	N.D.	0.8	1
10334	2,4-Dichlorophenol	120-83-2	N.D.	0.3	1
10334	Diethylphthalate	84-66-2	N.D.	0.3	1
10334	2,4-Dimethylphenol	105-67-9	N.D.	0.3	1
10334	Dimethylphthalate	131-11-3	N.D.	1	1
10334	4,6-Dinitro-2-methylphenol	534-52-1	N.D.	4	1
10334	2,4-Dinitrophenol	51-28-5	N.D.	10	1
10334	2,4-Dinitrotoluene	121-14-2	N.D.	0.4	1
10334	2,6-Dinitrotoluene	606-20-2	N.D.	0.4	1
10334	bis(2-Ethylhexyl)phthalate	117-81-7	N.D.	1	1
10334	Fluoranthene	206-44-0	N.D.	0.3	1

Sample Description: **Effluent Grab Groundwater**
Upper Black Eddy, PA
Boarhead Farms Quarterly GW Sampling

GES, Inc.-PA
ELLE Sample #: WW 9638457
ELLE Group #: 1950181
Matrix: Groundwater

Project Name: **Boarhead Farms**

Submittal Date/Time: 06/01/2018 14:02
Collection Date/Time: 06/01/2018 09:40

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**EPA 625**		ug/l	ug/l	
10334	Fluorene	86-73-7	N.D.	0.3	1
10334	Hexachlorobenzene	118-74-1	N.D.	1	1
10334	Hexachlorobutadiene	87-68-3	N.D.	0.8	1
10334	Hexachlorocyclopentadiene	77-47-4	N.D.	2	1
10334	Hexachloroethane	67-72-1	N.D.	0.7	1
10334	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.3	1
10334	Isophorone	78-59-1	N.D.	0.3	1
10334	2-Methylnaphthalene	91-57-6	N.D.	0.3	1
10334	2-Methylphenol	95-48-7	N.D.	0.3	1
10334	4-Methylphenol	106-44-5	N.D.	0.3	1
10334	Naphthalene	91-20-3	N.D.	0.2	1
10334	2-Nitroaniline	88-74-4	N.D.	0.3	1
10334	3-Nitroaniline	99-09-2	N.D.	0.4	1
10334	4-Nitroaniline	100-01-6	N.D.	0.5	1
10334	Nitrobenzene	98-95-3	N.D.	0.5	1
10334	2-Nitrophenol	88-75-5	N.D.	0.4	1
10334	4-Nitrophenol	100-02-7	N.D.	5	1
10334	N-Nitroso-di-n-propylamine	621-64-7	N.D.	0.4	1
10334	N-Nitrosodiphenylamine	86-30-6	N.D.	0.3	1
	N-nitrosodiphenylamine decomposes in the GC inlet forming diphenylamine. The result reported for N-nitrosodiphenylamine represents the combined total of both compounds.				
10334	Di-n-octylphthalate	117-84-0	N.D.	0.5	1
10334	Pentachlorophenol	87-86-5	N.D.	3	1
10334	Phenanthrene	85-01-8	N.D.	0.2	1
10334	Phenol	108-95-2	N.D.	0.4	1
10334	Pyrene	129-00-0	N.D.	0.2	1
10334	1,2,4-Trichlorobenzene	120-82-1	N.D.	0.3	1
10334	2,4,5-Trichlorophenol	95-95-4	N.D.	0.4	1
10334	2,4,6-Trichlorophenol	88-06-2	N.D.	0.7	1
Metals	**EPA 200.7 rev 4.4**		mg/l	mg/l	
07051	Chromium	7440-47-3	N.D.	0.0033	1
02828	Trivalent Chromium waters[1]	16065-83-1	N.D.	0.0033	1
	The Trivalent Chromium result is calculated by subtracting Hexavalent Chromium from Total Chromium.				
Wet Chemistry	**SM 3500-Cr B-2011**		mg/l	mg/l	
01446	Hexavalent Chromium	18540-29-9	0.0014 J	0.0010	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/19.

[1] = This analyte was not on the laboratory's PA DEP Scope of Accreditation at the time of analysis.

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

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Analysis Report

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Sample Description: **Effluent Grab Groundwater**
Upper Black Eddy, PA
Boarhead Farms Quarterly GW Sampling

GES, Inc.-PA
ELLE Sample #: WW 9638457
ELLE Group #: 1950181
Matrix: Groundwater

Project Name: **Boarhead Farms**

Submittal Date/Time: 06/01/2018 14:02
Collection Date/Time: 06/01/2018 09:40

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
02898	TCL SOM01.2 VOCs	SW-846 8260B 25mL purge	1	G181581AA	06/07/2018 12:29	Jennifer K Howe	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	G181581AA	06/07/2018 12:29	Jennifer K Howe	1
10334	TCL 3.2 SVOCs	EPA 625	1	18157WAZ625	06/08/2018 16:02	Linda M Hartenstine	1
08108	625 Water Extraction	EPA 625	2	18157WAZ625	06/07/2018 08:00	Bradley W VanLeuven	1
07051	Chromium	EPA 200.7 rev 4.4	1	181550571604	06/06/2018 05:07	Jonathan J Allen	1
02828	Trivalent Chromium waters	EPA 200.7 rev 4.4	1	181590282801	06/08/2018 09:19	Nina C Haller	1
05716	EPA 600 ICP Digest (tot rec)	EPA 200.7 rev 4.4	1	181550571604	06/05/2018 05:04	James L Mertz	1
01446	Hexavalent Chromium	SM 3500-Cr B-2011	1	18153144601A	06/02/2018 06:05	Daniel S Smith	1

Sample Description: **Midfluent Grab Groundwater**
Upper Black Eddy, PA
Boarhead Farms Quarterly GW Sampling

GES, Inc.-PA
ELLE Sample #: WW 9638458
ELLE Group #: 1950181
Matrix: Groundwater

Project Name: **Boarhead Farms**

Submittal Date/Time: 06/01/2018 14:02
Collection Date/Time: 06/01/2018 09:45

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B 25mL purge**		**ug/l**	**ug/l**	
02898	Acetone	67-64-1	N.D.	3.0	1
02898	Benzene	71-43-2	N.D.	0.1	1
02898	Bromochloromethane	74-97-5	N.D.	0.1	1
02898	Bromodichloromethane	75-27-4	N.D.	0.1	1
02898	Bromoform	75-25-2	N.D.	0.1	1
02898	Bromomethane	74-83-9	N.D.	0.1	1
02898	2-Butanone	78-93-3	N.D.	1.0	1
02898	Carbon Disulfide	75-15-0	N.D.	0.4	1
02898	Carbon Tetrachloride	56-23-5	N.D.	0.1	1
02898	Chlorobenzene	108-90-7	N.D.	0.1	1
02898	Chloroethane	75-00-3	N.D.	0.1	1
02898	Chloroform	67-66-3	N.D.	0.1	1
02898	Chloromethane	74-87-3	N.D.	0.2	1
02898	Cyclohexane	110-82-7	N.D.	0.1	1
02898	1,2-Dibromo-3-chloropropane	96-12-8	N.D.	0.2	1
02898	Dibromochloromethane	124-48-1	N.D.	0.1	1
02898	1,2-Dibromoethane	106-93-4	N.D.	0.1	1
02898	1,2-Dichlorobenzene	95-50-1	N.D.	0.1	1
02898	1,3-Dichlorobenzene	541-73-1	N.D.	0.1	1
02898	1,4-Dichlorobenzene	106-46-7	N.D.	0.1	1
02898	Dichlorodifluoromethane	75-71-8	N.D.	0.1	1
02898	1,1-Dichloroethane	75-34-3	0.2 J	0.1	1
02898	1,2-Dichloroethane	107-06-2	N.D.	0.1	1
02898	1,1-Dichloroethene	75-35-4	N.D.	0.1	1
02898	cis-1,2-Dichloroethene	156-59-2	0.7	0.1	1
02898	trans-1,2-Dichloroethene	156-60-5	N.D.	0.1	1
02898	1,2-Dichloropropane	78-87-5	N.D.	0.1	1
02898	cis-1,3-Dichloropropene	10061-01-5	N.D.	0.1	1
02898	trans-1,3-Dichloropropene	10061-02-6	N.D.	0.1	1
02898	1,4-Dioxane	123-91-1	N.D.	20	1
02898	Ethylbenzene	100-41-4	N.D.	0.1	1
02898	Freon 113	76-13-1	N.D.	0.2	1
02898	2-Hexanone	591-78-6	N.D.	1.0	1
02898	Isopropylbenzene	98-82-8	N.D.	0.1	1
02898	Methyl Acetate	79-20-9	N.D.	0.3	1
02898	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.1	1
02898	4-Methyl-2-pentanone	108-10-1	N.D.	1.0	1
02898	Methylcyclohexane	108-87-2	N.D.	0.1	1
02898	Methylene Chloride	75-09-2	N.D.	0.2	1
02898	Styrene	100-42-5	N.D.	0.1	1
02898	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	0.1	1
02898	Tetrachloroethene	127-18-4	N.D.	0.1	1
02898	Toluene	108-88-3	N.D.	0.1	1
02898	1,2,3-Trichlorobenzene	87-61-6	N.D.	0.1	1
02898	1,2,4-Trichlorobenzene	120-82-1	N.D.	0.1	1
02898	1,1,1-Trichloroethane	71-55-6	0.3 J	0.1	1
02898	1,1,2-Trichloroethane	79-00-5	N.D.	0.1	1
02898	Trichloroethene	79-01-6	N.D.	0.1	1

Sample Description: **Midfluent Grab Groundwater**
Upper Black Eddy, PA
Boarhead Farms Quarterly GW Sampling

GES, Inc.-PA
ELLE Sample #: WW 9638458
ELLE Group #: 1950181
Matrix: Groundwater

Project Name: **Boarhead Farms**

Submittal Date/Time: 06/01/2018 14:02
Collection Date/Time: 06/01/2018 09:45

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B 25mL purge**		**ug/l**	**ug/l**	
02898	Trichlorofluoromethane	75-69-4	N.D.	0.1	1
02898	Vinyl Chloride	75-01-4	N.D.	0.1	1
02898	m+p-Xylene	179601-23-1	N.D.	0.1	1
02898	o-Xylene	95-47-6	N.D.	0.1	1
02898	Xylene (Total)	1330-20-7	N.D.	0.1	1
GC/MS Semivolatiles	**EPA 625**		**ug/l**	**ug/l**	
10334	Acenaphthene	83-32-9	N.D.	0.3	1
10334	Acenaphthylene	208-96-8	N.D.	0.3	1
10334	Anthracene	120-12-7	N.D.	0.2	1
10334	Benzo(a)anthracene	56-55-3	N.D.	0.2	1
10334	Benzo(a)pyrene	50-32-8	N.D.	0.3	1
10334	Benzo(b)fluoranthene	205-99-2	N.D.	0.3	1
10334	Benzo(g,h,i)perylene	191-24-2	N.D.	0.2	1
10334	Benzo(k)fluoranthene	207-08-9	N.D.	0.3	1
10334	4-Bromophenyl-phenylether	101-55-3	N.D.	0.3	1
10334	Butylbenzylphthalate	85-68-7	N.D.	0.8	1
10334	Di-n-butylphthalate	84-74-2	N.D.	0.5	1
10334	Carbazole	86-74-8	N.D.	0.2	1
10334	4-Chloro-3-methylphenol	59-50-7	N.D.	0.3	1
10334	4-Chloroaniline	106-47-8	N.D.	0.3	1
10334	bis(2-Chloroethoxy)methane	111-91-1	N.D.	0.5	1
10334	bis(2-Chloroethyl)ether	111-44-4	N.D.	0.4	1
10334	bis(2-Chloroisopropyl)ether	39638-32-9	N.D.	0.3	1
	Bis(2-chloroisopropyl) ether CAS #39638-32-9 and 2,2'-Oxybis(1-chloropropane) CAS #108-60-1 cannot be separated chromatographically. The reported result represents the combined total of both compounds.				
10334	2-Chloronaphthalene	91-58-7	N.D.	0.2	1
10334	2-Chlorophenol	95-57-8	N.D.	0.3	1
10334	4-Chlorophenyl-phenylether	7005-72-3	N.D.	0.3	1
10334	Chrysene	218-01-9	N.D.	0.2	1
10334	Dibenz(a,h)anthracene	53-70-3	N.D.	0.4	1
10334	Dibenzofuran	132-64-9	N.D.	0.2	1
10334	1,2-Dichlorobenzene	95-50-1	N.D.	0.3	1
10334	1,3-Dichlorobenzene	541-73-1	N.D.	0.3	1
10334	1,4-Dichlorobenzene	106-46-7	N.D.	0.3	1
10334	3,3'-Dichlorobenzidine	91-94-1	N.D.	0.8	1
10334	2,4-Dichlorophenol	120-83-2	N.D.	0.3	1
10334	Diethylphthalate	84-66-2	N.D.	0.3	1
10334	2,4-Dimethylphenol	105-67-9	N.D.	0.3	1
10334	Dimethylphthalate	131-11-3	N.D.	1	1
10334	4,6-Dinitro-2-methylphenol	534-52-1	N.D.	4	1
10334	2,4-Dinitrophenol	51-28-5	N.D.	10	1
10334	2,4-Dinitrotoluene	121-14-2	N.D.	0.4	1
10334	2,6-Dinitrotoluene	606-20-2	N.D.	0.4	1
10334	bis(2-Ethylhexyl)phthalate	117-81-7	N.D.	1	1
10334	Fluoranthene	206-44-0	N.D.	0.3	1

Sample Description: **Midfluent Grab Groundwater**
Upper Black Eddy, PA
Boarhead Farms Quarterly GW Sampling

GES, Inc.-PA
ELLE Sample #: WW 9638458
ELLE Group #: 1950181
Matrix: Groundwater

Project Name: **Boarhead Farms**

Submittal Date/Time: 06/01/2018 14:02
Collection Date/Time: 06/01/2018 09:45

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**EPA 625**		ug/l	ug/l	
10334	Fluorene	86-73-7	N.D.	0.3	1
10334	Hexachlorobenzene	118-74-1	N.D.	1	1
10334	Hexachlorobutadiene	87-68-3	N.D.	0.8	1
10334	Hexachlorocyclopentadiene	77-47-4	N.D.	2	1
10334	Hexachloroethane	67-72-1	N.D.	0.7	1
10334	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.3	1
10334	Isophorone	78-59-1	N.D.	0.3	1
10334	2-Methylnaphthalene	91-57-6	N.D.	0.3	1
10334	2-Methylphenol	95-48-7	N.D.	0.3	1
10334	4-Methylphenol	106-44-5	N.D.	0.3	1
10334	Naphthalene	91-20-3	N.D.	0.2	1
10334	2-Nitroaniline	88-74-4	N.D.	0.3	1
10334	3-Nitroaniline	99-09-2	N.D.	0.4	1
10334	4-Nitroaniline	100-01-6	N.D.	0.5	1
10334	Nitrobenzene	98-95-3	N.D.	0.5	1
10334	2-Nitrophenol	88-75-5	N.D.	0.4	1
10334	4-Nitrophenol	100-02-7	N.D.	5	1
10334	N-Nitroso-di-n-propylamine	621-64-7	N.D.	0.4	1
10334	N-Nitrosodiphenylamine	86-30-6	N.D.	0.3	1
	N-nitrosodiphenylamine decomposes in the GC inlet forming diphenylamine. The result reported for N-nitrosodiphenylamine represents the combined total of both compounds.				
10334	Di-n-octylphthalate	117-84-0	N.D.	0.5	1
10334	Pentachlorophenol	87-86-5	N.D.	3	1
10334	Phenanthrene	85-01-8	N.D.	0.2	1
10334	Phenol	108-95-2	N.D.	0.4	1
10334	Pyrene	129-00-0	N.D.	0.2	1
10334	1,2,4-Trichlorobenzene	120-82-1	N.D.	0.3	1
10334	2,4,5-Trichlorophenol	95-95-4	N.D.	0.4	1
10334	2,4,6-Trichlorophenol	88-06-2	N.D.	0.7	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/19.

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
02898	TCL SOM01.2 VOCs	SW-846 8260B 25mL purge	1	G181581AA	06/07/2018 12:52	Jennifer K Howe	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	G181581AA	06/07/2018 12:52	Jennifer K Howe	1
10334	TCL 3.2 SVOCs	EPA 625	1	18157WAZ625	06/08/2018 16:25	Linda M Hartenstine	1
08108	625 Water Extraction	EPA 625	2	18157WAZ625	06/07/2018 08:00	Bradley W VanLeuven	1

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Analysis Report

Sample Description: **Influent Grab Groundwater**
Upper Black Eddy, PA
Boarhead Farms Quarterly GW Sampling

GES, Inc.-PA
ELLE Sample #: WW 9638459
ELLE Group #: 1950181
Matrix: Groundwater

Project Name: **Boarhead Farms**

Submittal Date/Time: 06/01/2018 14:02
Collection Date/Time: 06/01/2018 09:55

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B 25mL purge**		**ug/l**	**ug/l**	
02898	Acetone	67-64-1	N.D.	30	10
02898	Benzene	71-43-2	1.8 J	1.0	10
02898	Bromochloromethane	74-97-5	N.D.	1.0	10
02898	Bromodichloromethane	75-27-4	N.D.	1.0	10
02898	Bromoform	75-25-2	N.D.	1.0	10
02898	Bromomethane	74-83-9	N.D.	1.0	10
02898	2-Butanone	78-93-3	N.D.	10	10
02898	Carbon Disulfide	75-15-0	N.D.	4.0	10
02898	Carbon Tetrachloride	56-23-5	N.D.	1.0	10
02898	Chlorobenzene	108-90-7	N.D.	1.0	10
02898	Chloroethane	75-00-3	N.D.	1.0	10
02898	Chloroform	67-66-3	N.D.	1.0	10
02898	Chloromethane	74-87-3	N.D.	2.0	10
02898	Cyclohexane	110-82-7	N.D.	1.0	10
02898	1,2-Dibromo-3-chloropropane	96-12-8	N.D.	2.0	10
02898	Dibromochloromethane	124-48-1	N.D.	1.0	10
02898	1,2-Dibromoethane	106-93-4	N.D.	1.0	10
02898	1,2-Dichlorobenzene	95-50-1	1.1 J	1.0	10
02898	1,3-Dichlorobenzene	541-73-1	N.D.	1.0	10
02898	1,4-Dichlorobenzene	106-46-7	N.D.	1.0	10
02898	Dichlorodifluoromethane	75-71-8	N.D.	1.0	10
02898	1,1-Dichloroethane	75-34-3	11	1.0	10
02898	1,2-Dichloroethane	107-06-2	N.D.	1.0	10
02898	1,1-Dichloroethene	75-35-4	8.1	1.0	10
02898	cis-1,2-Dichloroethene	156-59-2	360	10	100
02898	trans-1,2-Dichloroethene	156-60-5	5.0	1.0	10
02898	1,2-Dichloropropane	78-87-5	N.D.	1.0	10
02898	cis-1,3-Dichloropropene	10061-01-5	N.D.	1.0	10
02898	trans-1,3-Dichloropropene	10061-02-6	N.D.	1.0	10
02898	1,4-Dioxane	123-91-1	N.D.	200	10
02898	Ethylbenzene	100-41-4	N.D.	1.0	10
02898	Freon 113	76-13-1	2.6 J	2.0	10
02898	2-Hexanone	591-78-6	N.D.	10	10
02898	Isopropylbenzene	98-82-8	N.D.	1.0	10
02898	Methyl Acetate	79-20-9	N.D.	3.0	10
02898	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	1.0	10
02898	4-Methyl-2-pentanone	108-10-1	N.D.	10	10
02898	Methylcyclohexane	108-87-2	N.D.	1.0	10
02898	Methylene Chloride	75-09-2	N.D.	2.0	10
02898	Styrene	100-42-5	N.D.	1.0	10
02898	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	1.0	10
02898	Tetrachloroethene	127-18-4	25	1.0	10
02898	Toluene	108-88-3	N.D.	1.0	10
02898	1,2,3-Trichlorobenzene	87-61-6	N.D.	1.0	10
02898	1,2,4-Trichlorobenzene	120-82-1	N.D.	1.0	10
02898	1,1,1-Trichloroethane	71-55-6	93	1.0	10
02898	1,1,2-Trichloroethane	79-00-5	N.D.	1.0	10
02898	Trichloroethene	79-01-6	560	10	100

Sample Description: **Influent Grab Groundwater**
Upper Black Eddy, PA
Boarhead Farms Quarterly GW Sampling

GES, Inc.-PA
ELLE Sample #: WW 9638459
ELLE Group #: 1950181
Matrix: Groundwater

Project Name: **Boarhead Farms**

Submittal Date/Time: 06/01/2018 14:02
Collection Date/Time: 06/01/2018 09:55

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B 25mL purge**		**ug/l**	**ug/l**	
02898	Trichlorofluoromethane	75-69-4	N.D.	1.0	10
02898	Vinyl Chloride	75-01-4	3.2 J	1.0	10
02898	m+p-Xylene	179601-23-1	N.D.	1.0	10
02898	o-Xylene	95-47-6	N.D.	1.0	10
02898	Xylene (Total)	1330-20-7	N.D.	1.0	10
GC/MS Semivolatiles	**EPA 625**		**ug/l**	**ug/l**	
10334	Acenaphthene	83-32-9	N.D.	0.3	1
10334	Acenaphthylene	208-96-8	N.D.	0.3	1
10334	Anthracene	120-12-7	N.D.	0.2	1
10334	Benzo(a)anthracene	56-55-3	N.D.	0.2	1
10334	Benzo(a)pyrene	50-32-8	N.D.	0.3	1
10334	Benzo(b)fluoranthene	205-99-2	N.D.	0.3	1
10334	Benzo(g,h,i)perylene	191-24-2	N.D.	0.2	1
10334	Benzo(k)fluoranthene	207-08-9	N.D.	0.3	1
10334	4-Bromophenyl-phenylether	101-55-3	N.D.	0.3	1
10334	Butylbenzylphthalate	85-68-7	N.D.	0.8	1
10334	Di-n-butylphthalate	84-74-2	N.D.	0.5	1
10334	Carbazole	86-74-8	N.D.	0.2	1
10334	4-Chloro-3-methylphenol	59-50-7	N.D.	0.3	1
10334	4-Chloroaniline	106-47-8	N.D.	0.3	1
10334	bis(2-Chloroethoxy)methane	111-91-1	N.D.	0.5	1
10334	bis(2-Chloroethyl)ether	111-44-4	N.D.	0.4	1
10334	bis(2-Chloroisopropyl)ether	39638-32-9	N.D.	0.3	1
	Bis(2-chloroisopropyl) ether CAS #39638-32-9 and 2,2'-Oxybis(1-chloropropane) CAS #108-60-1 cannot be separated chromatographically. The reported result represents the combined total of both compounds.				
10334	2-Chloronaphthalene	91-58-7	N.D.	0.2	1
10334	2-Chlorophenol	95-57-8	N.D.	0.3	1
10334	4-Chlorophenyl-phenylether	7005-72-3	N.D.	0.3	1
10334	Chrysene	218-01-9	N.D.	0.2	1
10334	Dibenz(a,h)anthracene	53-70-3	N.D.	0.4	1
10334	Dibenzofuran	132-64-9	N.D.	0.2	1
10334	1,2-Dichlorobenzene	95-50-1	0.4 J	0.3	1
10334	1,3-Dichlorobenzene	541-73-1	N.D.	0.3	1
10334	1,4-Dichlorobenzene	106-46-7	0.4 J	0.3	1
10334	3,3'-Dichlorobenzidine	91-94-1	N.D.	0.8	1
10334	2,4-Dichlorophenol	120-83-2	N.D.	0.3	1
10334	Diethylphthalate	84-66-2	N.D.	0.3	1
10334	2,4-Dimethylphenol	105-67-9	N.D.	0.3	1
10334	Dimethylphthalate	131-11-3	N.D.	1	1
10334	4,6-Dinitro-2-methylphenol	534-52-1	N.D.	4	1
10334	2,4-Dinitrophenol	51-28-5	N.D.	10	1
10334	2,4-Dinitrotoluene	121-14-2	N.D.	0.4	1
10334	2,6-Dinitrotoluene	606-20-2	N.D.	0.4	1
10334	bis(2-Ethylhexyl)phthalate	117-81-7	N.D.	1	1
10334	Fluoranthene	206-44-0	N.D.	0.3	1

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Analysis Report

Sample Description: **Influent Grab Groundwater**
Upper Black Eddy, PA
Boarhead Farms Quarterly GW Sampling

GES, Inc.-PA
ELLE Sample #: WW 9638459
ELLE Group #: 1950181
Matrix: Groundwater

Project Name: **Boarhead Farms**

Submittal Date/Time: 06/01/2018 14:02
Collection Date/Time: 06/01/2018 09:55

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**EPA 625**		**ug/l**	**ug/l**	
10334	Fluorene	86-73-7	N.D.	0.3	1
10334	Hexachlorobenzene	118-74-1	N.D.	1	1
10334	Hexachlorobutadiene	87-68-3	N.D.	0.8	1
10334	Hexachlorocyclopentadiene	77-47-4	N.D.	2	1
10334	Hexachloroethane	67-72-1	N.D.	0.7	1
10334	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.3	1
10334	Isophorone	78-59-1	N.D.	0.3	1
10334	2-Methylnaphthalene	91-57-6	N.D.	0.3	1
10334	2-Methylphenol	95-48-7	N.D.	0.3	1
10334	4-Methylphenol	106-44-5	N.D.	0.3	1
10334	Naphthalene	91-20-3	N.D.	0.2	1
10334	2-Nitroaniline	88-74-4	N.D.	0.3	1
10334	3-Nitroaniline	99-09-2	0.4 J	0.4	1
10334	4-Nitroaniline	100-01-6	N.D.	0.5	1
10334	Nitrobenzene	98-95-3	2 J	0.5	1
10334	2-Nitrophenol	88-75-5	N.D.	0.4	1
10334	4-Nitrophenol	100-02-7	N.D.	5	1
10334	N-Nitroso-di-n-propylamine	621-64-7	N.D.	0.4	1
10334	N-Nitrosodiphenylamine	86-30-6	N.D.	0.3	1
	N-nitrosodiphenylamine decomposes in the GC inlet forming diphenylamine. The result reported for N-nitrosodiphenylamine represents the combined total of both compounds.				
10334	Di-n-octylphthalate	117-84-0	N.D.	0.5	1
10334	Pentachlorophenol	87-86-5	N.D.	3	1
10334	Phenanthrene	85-01-8	N.D.	0.2	1
10334	Phenol	108-95-2	N.D.	0.4	1
10334	Pyrene	129-00-0	N.D.	0.2	1
10334	1,2,4-Trichlorobenzene	120-82-1	N.D.	0.3	1
10334	2,4,5-Trichlorophenol	95-95-4	N.D.	0.4	1
10334	2,4,6-Trichlorophenol	88-06-2	N.D.	0.7	1
Metals	**EPA 200.7 rev 4.4**		**mg/l**	**mg/l**	
01743	Aluminum	7429-90-5	N.D. B	0.0894	1
07044	Antimony	7440-36-0	N.D. K3	0.0087	1
07035	Arsenic	7440-38-2	N.D.	0.0096	1
07049	Cadmium[1]	7440-43-9	0.0031 J	0.0018	1
07051	Chromium	7440-47-3	0.0065 J	0.0033	1
02828	Trivalent Chromium waters[1]	16065-83-1	0.0034 J	0.0033	1
	The Trivalent Chromium result is calculated by subtracting Hexavalent Chromium from Total Chromium.				
07052	Cobalt	7440-48-4	0.0046 J	0.0017	1
07053	Copper	7440-50-8	N.D.	0.0040	1
01754	Iron	7439-89-6	0.471	0.0805	1
07055	Lead	7439-92-1	N.D.	0.0060	1
07058	Manganese	7439-96-5	1.56	0.0016	1
07061	Nickel	7440-02-0	0.0143	0.0040	1
07066	Silver	7440-22-4	N.D.	0.0024	1
07072	Zinc	7440-66-6	N.D.	0.0065	1

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Analysis Report

Sample Description: **Influent Grab Groundwater**
Upper Black Eddy, PA
Boarhead Farms Quarterly GW Sampling

GES, Inc.-PA
ELLE Sample #: WW 9638459
ELLE Group #: 1950181
Matrix: Groundwater

Project Name: **Boarhead Farms**

Submittal Date/Time: 06/01/2018 14:02
Collection Date/Time: 06/01/2018 09:55

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
Metals		**EPA 245.1 rev 3**	**mg/l**	**mg/l**	
00259	Mercury	7439-97-6	N.D.	0.000050	1
Wet Chemistry		**SM 4500-CN E-2011**	**mg/l**	**mg/l**	
00241	Cyanide (Free)[1]	n.a.	N.D.	0.0040	1
		SM 3500-Cr B-2011	**mg/l**	**mg/l**	
01446	Hexavalent Chromium	18540-29-9	0.0031 J	0.0010	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/19.

[1] = This analyte was not on the laboratory's PA DEP Scope of Accreditation at the time of analysis.

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
02898	TCL SOM01.2 VOCs	SW-846 8260B 25mL purge	1	G181581AA	06/07/2018 13:14	Jennifer K Howe	10
02898	TCL SOM01.2 VOCs	SW-846 8260B 25mL purge	1	G181581AA	06/07/2018 13:36	Jennifer K Howe	100
01163	GC/MS VOA Water Prep	SW-846 5030B	1	G181581AA	06/07/2018 13:14	Jennifer K Howe	10
01163	GC/MS VOA Water Prep	SW-846 5030B	2	G181581AA	06/07/2018 13:36	Jennifer K Howe	100
10334	TCL 3.2 SVOCs	EPA 625	1	18157WAZ625	06/08/2018 16:47	Linda M Hartenstine	1
08108	625 Water Extraction	EPA 625	2	18157WAZ625	06/07/2018 08:00	Bradley W VanLeuven	1
01743	Aluminum	EPA 200.7 rev 4.4	1	181550571604	06/06/2018 05:11	Jonathan J Allen	1
07044	Antimony	EPA 200.7 rev 4.4	1	181550571604	06/06/2018 05:11	Jonathan J Allen	1
07035	Arsenic	EPA 200.7 rev 4.4	1	181550571604	06/06/2018 05:11	Jonathan J Allen	1
07049	Cadmium	EPA 200.7 rev 4.4	1	181550571604	06/06/2018 05:11	Jonathan J Allen	1
07051	Chromium	EPA 200.7 rev 4.4	1	181550571604	06/06/2018 05:11	Jonathan J Allen	1
02828	Trivalent Chromium waters	EPA 200.7 rev 4.4	1	181590282801	06/08/2018 09:19	Nina C Haller	1
07052	Cobalt	EPA 200.7 rev 4.4	1	181550571604	06/06/2018 05:11	Jonathan J Allen	1
07053	Copper	EPA 200.7 rev 4.4	1	181550571604	06/06/2018 05:11	Jonathan J Allen	1
01754	Iron	EPA 200.7 rev 4.4	1	181550571604	06/06/2018 05:11	Jonathan J Allen	1
07055	Lead	EPA 200.7 rev 4.4	1	181550571604	06/06/2018 05:11	Jonathan J Allen	1
07058	Manganese	EPA 200.7 rev 4.4	1	181550571604	06/06/2018 05:11	Jonathan J Allen	1
07061	Nickel	EPA 200.7 rev 4.4	1	181550571604	06/06/2018 05:11	Jonathan J Allen	1
07066	Silver	EPA 200.7 rev 4.4	1	181550571604	06/06/2018 05:11	Jonathan J Allen	1
07072	Zinc	EPA 200.7 rev 4.4	1	181550571604	06/06/2018 05:11	Jonathan J Allen	1
00259	Mercury	EPA 245.1 rev 3	1	181550571401	06/06/2018 06:53	Damary Valentin	1
05716	EPA 600 ICP Digest (tot rec)	EPA 200.7 rev 4.4	1	181550571604	06/05/2018 05:04	James L Mertz	1
05714	PW/WW Hg Digest	EPA 245.1 rev 3	1	181550571401	06/05/2018 07:54	James L Mertz	1
00241	Cyanide (Free)	SM 4500-CN E-2011	1	18162114101A	06/11/2018 10:29	Ashlynn M Cornelius	1
01446	Hexavalent Chromium	SM 3500-Cr B-2011	1	18153144601A	06/02/2018 06:05	Daniel S Smith	1

Sample Description: **OBEW & BREW Influent Grab Groundwater**
Upper Black Eddy, PA
Boarhead Farms Quarterly GW Sampling

GES, Inc.-PA
ELLE Sample #: WW 9638460
ELLE Group #: 1950181
Matrix: Groundwater

Project Name: **Boarhead Farms**

Submittal Date/Time: 06/01/2018 14:02
Collection Date/Time: 06/01/2018 10:05

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B 25mL purge**		ug/l	ug/l	
02898	Acetone	67-64-1	N.D.	15	5
02898	Benzene	71-43-2	12	0.5	5
02898	Bromochloromethane	74-97-5	N.D.	0.5	5
02898	Bromodichloromethane	75-27-4	N.D.	0.5	5
02898	Bromoform	75-25-2	N.D.	0.5	5
02898	Bromomethane	74-83-9	N.D.	0.5	5
02898	2-Butanone	78-93-3	N.D.	5.0	5
02898	Carbon Disulfide	75-15-0	N.D.	2.0	5
02898	Carbon Tetrachloride	56-23-5	N.D.	0.5	5
02898	Chlorobenzene	108-90-7	N.D.	0.5	5
02898	Chloroethane	75-00-3	2.9	0.5	5
02898	Chloroform	67-66-3	N.D.	0.5	5
02898	Chloromethane	74-87-3	N.D.	1.0	5
02898	Cyclohexane	110-82-7	N.D.	0.5	5
02898	1,2-Dibromo-3-chloropropane	96-12-8	N.D.	1.0	5
02898	Dibromochloromethane	124-48-1	N.D.	0.5	5
02898	1,2-Dibromoethane	106-93-4	N.D.	0.5	5
02898	1,2-Dichlorobenzene	95-50-1	1.8 J	0.5	5
02898	1,3-Dichlorobenzene	541-73-1	N.D.	0.5	5
02898	1,4-Dichlorobenzene	106-46-7	N.D.	0.5	5
02898	Dichlorodifluoromethane	75-71-8	N.D.	0.5	5
02898	1,1-Dichloroethane	75-34-3	17	0.5	5
02898	1,2-Dichloroethane	107-06-2	N.D.	0.5	5
02898	1,1-Dichloroethene	75-35-4	16	0.5	5
02898	cis-1,2-Dichloroethene	156-59-2	220	5.0	50
02898	trans-1,2-Dichloroethene	156-60-5	1.8 J	0.5	5
02898	1,2-Dichloropropane	78-87-5	N.D.	0.5	5
02898	cis-1,3-Dichloropropene	10061-01-5	N.D.	0.5	5
02898	trans-1,3-Dichloropropene	10061-02-6	N.D.	0.5	5
02898	1,4-Dioxane	123-91-1	N.D.	100	5
02898	Ethylbenzene	100-41-4	1.6 J	0.5	5
02898	Freon 113	76-13-1	N.D.	1.0	5
02898	2-Hexanone	591-78-6	N.D.	5.0	5
02898	Isopropylbenzene	98-82-8	N.D.	0.5	5
02898	Methyl Acetate	79-20-9	N.D.	1.5	5
02898	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.5	5
02898	4-Methyl-2-pentanone	108-10-1	N.D.	5.0	5
02898	Methylcyclohexane	108-87-2	N.D.	0.5	5
02898	Methylene Chloride	75-09-2	N.D.	1.0	5
02898	Styrene	100-42-5	N.D.	0.5	5
02898	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	0.5	5
02898	Tetrachloroethene	127-18-4	24	0.5	5
02898	Toluene	108-88-3	N.D.	0.5	5
02898	1,2,3-Trichlorobenzene	87-61-6	N.D.	0.5	5
02898	1,2,4-Trichlorobenzene	120-82-1	N.D.	0.5	5
02898	1,1,1-Trichloroethane	71-55-6	120	5.0	50
02898	1,1,2-Trichloroethane	79-00-5	0.8 J	0.5	5
02898	Trichloroethene	79-01-6	340	5.0	50

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Analysis Report

Sample Description: **OBEW & BREW Influent Grab Groundwater**
Upper Black Eddy, PA
Boarhead Farms Quarterly GW Sampling

GES, Inc.-PA
ELLE Sample #: WW 9638460
ELLE Group #: 1950181
Matrix: Groundwater

Project Name: **Boarhead Farms**

Submittal Date/Time: 06/01/2018 14:02
Collection Date/Time: 06/01/2018 10:05

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B 25mL purge**		**ug/l**	**ug/l**	
02898	Trichlorofluoromethane	75-69-4	N.D.	0.5	5
02898	Vinyl Chloride	75-01-4	3.1	0.5	5
02898	m+p-Xylene	179601-23-1	2.2 J	0.5	5
02898	o-Xylene	95-47-6	1.9 J	0.5	5
02898	Xylene (Total)	1330-20-7	4.1	0.5	5
GC/MS Semivolatiles	**EPA 625**		**ug/l**	**ug/l**	
10334	Acenaphthene	83-32-9	N.D.	0.3	1
10334	Acenaphthylene	208-96-8	N.D.	0.3	1
10334	Anthracene	120-12-7	N.D.	0.2	1
10334	Benzo(a)anthracene	56-55-3	N.D.	0.2	1
10334	Benzo(a)pyrene	50-32-8	N.D.	0.3	1
10334	Benzo(b)fluoranthene	205-99-2	N.D.	0.3	1
10334	Benzo(g,h,i)perylene	191-24-2	N.D.	0.2	1
10334	Benzo(k)fluoranthene	207-08-9	N.D.	0.3	1
10334	4-Bromophenyl-phenylether	101-55-3	N.D.	0.3	1
10334	Butylbenzylphthalate	85-68-7	N.D.	0.8	1
10334	Di-n-butylphthalate	84-74-2	N.D.	0.5	1
10334	Carbazole	86-74-8	N.D.	0.2	1
10334	4-Chloro-3-methylphenol	59-50-7	N.D.	0.3	1
10334	4-Chloroaniline	106-47-8	N.D.	0.3	1
10334	bis(2-Chloroethoxy)methane	111-91-1	N.D.	0.5	1
10334	bis(2-Chloroethyl)ether	111-44-4	N.D.	0.4	1
10334	bis(2-Chloroisopropyl)ether	39638-32-9	N.D.	0.3	1
	Bis(2-chloroisopropyl) ether CAS #39638-32-9 and 2,2'-Oxybis(1-chloropropane) CAS #108-60-1 cannot be separated chromatographically. The reported result represents the combined total of both compounds.				
10334	2-Chloronaphthalene	91-58-7	N.D.	0.2	1
10334	2-Chlorophenol	95-57-8	N.D.	0.3	1
10334	4-Chlorophenyl-phenylether	7005-72-3	N.D.	0.3	1
10334	Chrysene	218-01-9	N.D.	0.2	1
10334	Dibenz(a,h)anthracene	53-70-3	N.D.	0.4	1
10334	Dibenzofuran	132-64-9	N.D.	0.2	1
10334	1,2-Dichlorobenzene	95-50-1	1 J	0.3	1
10334	1,3-Dichlorobenzene	541-73-1	N.D.	0.3	1
10334	1,4-Dichlorobenzene	106-46-7	N.D.	0.3	1
10334	3,3'-Dichlorobenzidine	91-94-1	N.D.	0.8	1
10334	2,4-Dichlorophenol	120-83-2	N.D.	0.3	1
10334	Diethylphthalate	84-66-2	N.D.	0.3	1
10334	2,4-Dimethylphenol	105-67-9	N.D.	0.3	1
10334	Dimethylphthalate	131-11-3	N.D.	1	1
10334	4,6-Dinitro-2-methylphenol	534-52-1	N.D.	4	1
10334	2,4-Dinitrophenol	51-28-5	N.D.	10	1
10334	2,4-Dinitrotoluene	121-14-2	N.D.	0.4	1
10334	2,6-Dinitrotoluene	606-20-2	N.D.	0.4	1
10334	bis(2-Ethylhexyl)phthalate	117-81-7	N.D.	1	1
10334	Fluoranthene	206-44-0	N.D.	0.3	1

Sample Description: **OBEW & BREW Influent Grab Groundwater**
Upper Black Eddy, PA
Boarhead Farms Quarterly GW Sampling

GES, Inc.-PA
ELLE Sample #: WW 9638460
ELLE Group #: 1950181
Matrix: Groundwater

Project Name: **Boarhead Farms**

Submittal Date/Time: 06/01/2018 14:02
Collection Date/Time: 06/01/2018 10:05

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**EPA 625**		**ug/l**	**ug/l**	
10334	Fluorene	86-73-7	N.D.	0.3	1
10334	Hexachlorobenzene	118-74-1	N.D.	1	1
10334	Hexachlorobutadiene	87-68-3	N.D.	0.8	1
10334	Hexachlorocyclopentadiene	77-47-4	N.D.	2	1
10334	Hexachloroethane	67-72-1	N.D.	0.7	1
10334	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.3	1
10334	Isophorone	78-59-1	N.D.	0.3	1
10334	2-Methylnaphthalene	91-57-6	N.D.	0.3	1
10334	2-Methylphenol	95-48-7	N.D.	0.3	1
10334	4-Methylphenol	106-44-5	N.D.	0.3	1
10334	Naphthalene	91-20-3	N.D.	0.2	1
10334	2-Nitroaniline	88-74-4	N.D.	0.3	1
10334	3-Nitroaniline	99-09-2	N.D.	0.4	1
10334	4-Nitroaniline	100-01-6	N.D.	0.5	1
10334	Nitrobenzene	98-95-3	5 J	0.5	1
10334	2-Nitrophenol	88-75-5	N.D.	0.4	1
10334	4-Nitrophenol	100-02-7	N.D.	5	1
10334	N-Nitroso-di-n-propylamine	621-64-7	N.D.	0.4	1
10334	N-Nitrosodiphenylamine	86-30-6	N.D.	0.3	1
	N-nitrosodiphenylamine decomposes in the GC inlet forming diphenylamine. The result reported for N-nitrosodiphenylamine represents the combined total of both compounds.				
10334	Di-n-octylphthalate	117-84-0	N.D.	0.5	1
10334	Pentachlorophenol	87-86-5	N.D.	3	1
10334	Phenanthrene	85-01-8	N.D.	0.2	1
10334	Phenol	108-95-2	N.D.	0.4	1
10334	Pyrene	129-00-0	N.D.	0.2	1
10334	1,2,4-Trichlorobenzene	120-82-1	N.D.	0.3	1
10334	2,4,5-Trichlorophenol	95-95-4	N.D.	0.4	1
10334	2,4,6-Trichlorophenol	88-06-2	N.D.	0.7	1
	The recovery for the sample surrogate(s) is outside the QC acceptance limits as noted on the QC Summary. The following action was taken: The sample was re-extracted within the method required holding time and the surrogates are again outside of the acceptance limits. The data is reported from the second trial.				
Metals	**EPA 200.7 rev 4.4**		**mg/l**	**mg/l**	
01743	Aluminum	7429-90-5	N.D. B	0.0894	1
07044	Antimony	7440-36-0	N.D. K3	0.0087	1
07035	Arsenic	7440-38-2	N.D.	0.0096	1
07049	Cadmium[1]	7440-43-9	N.D.	0.0018	1
07051	Chromium	7440-47-3	N.D.	0.0033	1
02828	Trivalent Chromium waters[1]	16065-83-1	N.D.	0.0033	1
	The Trivalent Chromium result is calculated by subtracting Hexavalent Chromium from Total Chromium.				
07052	Cobalt	7440-48-4	0.0098	0.0017	1
07053	Copper	7440-50-8	0.0042 J	0.0040	1
01754	Iron	7439-89-6	1.09	0.0805	1
07055	Lead	7439-92-1	N.D.	0.0060	1

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Analysis Report

Sample Description: OBEW & BREW Influent Grab Groundwater
Upper Black Eddy, PA
Boarhead Farms Quarterly GW Sampling

GES, Inc.-PA
ELLE Sample #: WW 9638460
ELLE Group #: 1950181
Matrix: Groundwater

Project Name: Boarhead Farms

Submittal Date/Time: 06/01/2018 14:02
Collection Date/Time: 06/01/2018 10:05

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
Metals		**EPA 200.7 rev 4.4**	**mg/l**	**mg/l**	
07058	Manganese	7439-96-5	3.54	0.0016	1
07061	Nickel	7440-02-0	0.0324	0.0040	1
07066	Silver	7440-22-4	N.D.	0.0024	1
07072	Zinc	7440-66-6	N.D.	0.0065	1
		EPA 245.1 rev 3	**mg/l**	**mg/l**	
00259	Mercury	7439-97-6	N.D.	0.000050	1
Wet Chemistry		**SM 4500-CN E-2011**	**mg/l**	**mg/l**	
00241	Cyanide (Free)[1]	n.a.	N.D.	0.0040	1
		SM 3500-Cr B-2011	**mg/l**	**mg/l**	
01446	Hexavalent Chromium	18540-29-9	N.D.	0.0010	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/19.

[1] = This analyte was not on the laboratory's PA DEP Scope of Accreditation at the time of analysis.

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
02898	TCL SOM01.2 VOCs	SW-846 8260B 25mL purge	1	G181581AA	06/07/2018 13:58	Jennifer K Howe	5
02898	TCL SOM01.2 VOCs	SW-846 8260B 25mL purge	1	G181581AA	06/07/2018 14:21	Jennifer K Howe	50
01163	GC/MS VOA Water Prep	SW-846 5030B	1	G181581AA	06/07/2018 13:58	Jennifer K Howe	5
01163	GC/MS VOA Water Prep	SW-846 5030B	2	G181581AA	06/07/2018 14:21	Jennifer K Howe	50
10334	TCL 3.2 SVOCs	EPA 625	1	18157WAZ625	06/08/2018 17:10	Linda M Hartenstine	1
08108	625 Water Extraction	EPA 625	2	18157WAZ625	06/07/2018 08:00	Bradley W VanLeuven	1
01743	Aluminum	EPA 200.7 rev 4.4	1	181550571604	06/06/2018 05:14	Jonathan J Allen	1
07044	Antimony	EPA 200.7 rev 4.4	1	181550571604	06/06/2018 05:14	Jonathan J Allen	1
07035	Arsenic	EPA 200.7 rev 4.4	1	181550571604	06/06/2018 05:14	Jonathan J Allen	1
07049	Cadmium	EPA 200.7 rev 4.4	1	181550571604	06/06/2018 05:14	Jonathan J Allen	1
07051	Chromium	EPA 200.7 rev 4.4	1	181550571604	06/06/2018 05:14	Jonathan J Allen	1
02828	Trivalent Chromium waters	EPA 200.7 rev 4.4	1	181590282801	06/08/2018 09:19	Nina C Haller	1
07052	Cobalt	EPA 200.7 rev 4.4	1	181550571604	06/06/2018 05:14	Jonathan J Allen	1
07053	Copper	EPA 200.7 rev 4.4	1	181550571604	06/06/2018 05:14	Jonathan J Allen	1
01754	Iron	EPA 200.7 rev 4.4	1	181550571604	06/06/2018 05:14	Jonathan J Allen	1
07055	Lead	EPA 200.7 rev 4.4	1	181550571604	06/06/2018 05:14	Jonathan J Allen	1
07058	Manganese	EPA 200.7 rev 4.4	1	181550571604	06/06/2018 05:14	Jonathan J Allen	1
07061	Nickel	EPA 200.7 rev 4.4	1	181550571604	06/06/2018 05:14	Jonathan J Allen	1
07066	Silver	EPA 200.7 rev 4.4	1	181550571604	06/06/2018 05:14	Jonathan J Allen	1

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Analysis Report

Sample Description: **OBEW & BREW Influent Grab Groundwater**
Upper Black Eddy, PA
Boarhead Farms Quarterly GW Sampling

GES, Inc.-PA
ELLE Sample #: WW 9638460
ELLE Group #: 1950181
Matrix: Groundwater

Project Name: **Boarhead Farms**

Submittal Date/Time: 06/01/2018 14:02
Collection Date/Time: 06/01/2018 10:05

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07072	Zinc	EPA 200.7 rev 4.4	1	181550571604	06/06/2018 05:14	Jonathan J Allen	1
00259	Mercury	EPA 245.1 rev 3	1	181550571401	06/06/2018 06:55	Damary Valentin	1
05716	EPA 600 ICP Digest (tot rec)	EPA 200.7 rev 4.4	1	181550571604	06/05/2018 05:04	James L Mertz	1
05714	PW/WW Hg Digest	EPA 245.1 rev 3	1	181550571401	06/05/2018 07:54	James L Mertz	1
00241	Cyanide (Free)	SM 4500-CN E-2011	1	18162114101A	06/11/2018 10:30	Ashlynn M Cornelius	1
01446	Hexavalent Chromium	SM 3500-Cr B-2011	1	18153144601A	06/02/2018 06:05	Daniel S Smith	1

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Analysis Report

Sample Description: **Trip Blank Water**
Upper Black Eddy, PA
Boarhead Farms Quarterly GW Sampling

GES, Inc.-PA
ELLE Sample #: WW 9638461
ELLE Group #: 1950181
Matrix: Water

Project Name: **Boarhead Farms**

Submittal Date/Time: 06/01/2018 14:02
Collection Date/Time: 06/01/2018

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B 25mL purge**		ug/l	ug/l	
02898	Acetone	67-64-1	N.D.	3.0	1
02898	Benzene	71-43-2	N.D.	0.1	1
02898	Bromochloromethane	74-97-5	N.D.	0.1	1
02898	Bromodichloromethane	75-27-4	N.D.	0.1	1
02898	Bromoform	75-25-2	N.D.	0.1	1
02898	Bromomethane	74-83-9	N.D.	0.1	1
02898	2-Butanone	78-93-3	N.D.	1.0	1
02898	Carbon Disulfide	75-15-0	N.D.	0.4	1
02898	Carbon Tetrachloride	56-23-5	N.D.	0.1	1
02898	Chlorobenzene	108-90-7	N.D.	0.1	1
02898	Chloroethane	75-00-3	N.D.	0.1	1
02898	Chloroform	67-66-3	N.D.	0.1	1
02898	Chloromethane	74-87-3	N.D.	0.2	1
02898	Cyclohexane	110-82-7	N.D.	0.1	1
02898	1,2-Dibromo-3-chloropropane	96-12-8	N.D.	0.2	1
02898	Dibromochloromethane	124-48-1	N.D.	0.1	1
02898	1,2-Dibromoethane	106-93-4	N.D.	0.1	1
02898	1,2-Dichlorobenzene	95-50-1	N.D.	0.1	1
02898	1,3-Dichlorobenzene	541-73-1	N.D.	0.1	1
02898	1,4-Dichlorobenzene	106-46-7	N.D.	0.1	1
02898	Dichlorodifluoromethane	75-71-8	N.D.	0.1	1
02898	1,1-Dichloroethane	75-34-3	N.D.	0.1	1
02898	1,2-Dichloroethane	107-06-2	N.D.	0.1	1
02898	1,1-Dichloroethene	75-35-4	N.D.	0.1	1
02898	cis-1,2-Dichloroethene	156-59-2	N.D.	0.1	1
02898	trans-1,2-Dichloroethene	156-60-5	N.D.	0.1	1
02898	1,2-Dichloropropane	78-87-5	N.D.	0.1	1
02898	cis-1,3-Dichloropropene	10061-01-5	N.D.	0.1	1
02898	trans-1,3-Dichloropropene	10061-02-6	N.D.	0.1	1
02898	1,4-Dioxane	123-91-1	N.D.	20	1
02898	Ethylbenzene	100-41-4	N.D.	0.1	1
02898	Freon 113	76-13-1	N.D.	0.2	1
02898	2-Hexanone	591-78-6	N.D.	1.0	1
02898	Isopropylbenzene	98-82-8	N.D.	0.1	1
02898	Methyl Acetate	79-20-9	N.D.	0.3	1
02898	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.1	1
02898	4-Methyl-2-pentanone	108-10-1	N.D.	1.0	1
02898	Methylcyclohexane	108-87-2	N.D.	0.1	1
02898	Methylene Chloride	75-09-2	N.D.	0.2	1
02898	Styrene	100-42-5	N.D.	0.1	1
02898	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	0.1	1
02898	Tetrachloroethene	127-18-4	N.D.	0.1	1
02898	Toluene	108-88-3	N.D.	0.1	1
02898	1,2,3-Trichlorobenzene	87-61-6	N.D.	0.1	1
02898	1,2,4-Trichlorobenzene	120-82-1	N.D.	0.1	1
02898	1,1,1-Trichloroethane	71-55-6	N.D.	0.1	1
02898	1,1,2-Trichloroethane	79-00-5	N.D.	0.1	1
02898	Trichloroethene	79-01-6	N.D.	0.1	1

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Analysis Report

Sample Description: **Trip Blank Water**
Upper Black Eddy, PA
Boarhead Farms Quarterly GW Sampling

GES, Inc.-PA
ELLE Sample #: WW 9638461
ELLE Group #: 1950181
Matrix: Water

Project Name: **Boarhead Farms**

Submittal Date/Time: 06/01/2018 14:02
Collection Date/Time: 06/01/2018

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B 25mL purge**		**ug/l**	**ug/l**	
02898	Trichlorofluoromethane	75-69-4	N.D.	0.1	1
02898	Vinyl Chloride	75-01-4	N.D.	0.1	1
02898	m+p-Xylene	179601-23-1	N.D.	0.1	1
02898	o-Xylene	95-47-6	N.D.	0.1	1
02898	Xylene (Total)	1330-20-7	N.D.	0.1	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/19.

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
02898	TCL SOM01.2 VOCs	SW-846 8260B 25mL purge	1	G181581AA	06/07/2018 11:23	Jennifer K Howe	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	G181581AA	06/07/2018 11:23	Jennifer K Howe	1

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Quality Control Summary

Client Name: GES, Inc.-PA
Reported: 06/11/2018 17:07

Group Number: 1950181

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

Method Blank

Analysis Name	Result	MDL
	ug/l	ug/l
Batch number: G181581AA	Sample number(s): 9638457-9638461	
Acetone	N.D.	3.0
Benzene	N.D.	0.1
Bromochloromethane	N.D.	0.1
Bromodichloromethane	N.D.	0.1
Bromoform	N.D.	0.1
Bromomethane	N.D.	0.1
2-Butanone	N.D.	1.0
Carbon Disulfide	N.D.	0.4
Carbon Tetrachloride	N.D.	0.1
Chlorobenzene	N.D.	0.1
Chloroethane	N.D.	0.1
Chloroform	N.D.	0.1
Chloromethane	N.D.	0.2
Cyclohexane	N.D.	0.1
1,2-Dibromo-3-chloropropane	N.D.	0.2
Dibromochloromethane	N.D.	0.1
1,2-Dibromoethane	N.D.	0.1
1,2-Dichlorobenzene	N.D.	0.1
1,3-Dichlorobenzene	N.D.	0.1
1,4-Dichlorobenzene	N.D.	0.1
Dichlorodifluoromethane	N.D.	0.1
1,1-Dichloroethane	N.D.	0.1
1,2-Dichloroethane	N.D.	0.1
1,1-Dichloroethene	N.D.	0.1
cis-1,2-Dichloroethene	N.D.	0.1
trans-1,2-Dichloroethene	N.D.	0.1
1,2-Dichloropropane	N.D.	0.1
cis-1,3-Dichloropropene	N.D.	0.1
trans-1,3-Dichloropropene	N.D.	0.1
1,4-Dioxane	N.D.	20
Ethylbenzene	N.D.	0.1
Freon 113	N.D.	0.2
2-Hexanone	N.D.	1.0
Isopropylbenzene	N.D.	0.1
Methyl Acetate	N.D.	0.3
Methyl Tertiary Butyl Ether	N.D.	0.1
4-Methyl-2-pentanone	N.D.	1.0
Methylcyclohexane	N.D.	0.1
Methylene Chloride	N.D.	0.2

*- Outside of specification
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Quality Control Summary

Client Name: GES, Inc.-PA
Reported: 06/11/2018 17:07

Group Number: 1950181

Method Blank (continued)

Analysis Name	Result ug/l	MDL ug/l
Styrene	N.D.	0.1
1,1,2,2-Tetrachloroethane	N.D.	0.1
Tetrachloroethene	N.D.	0.1
Toluene	N.D.	0.1
1,2,3-Trichlorobenzene	N.D.	0.1
1,2,4-Trichlorobenzene	N.D.	0.1
1,1,1-Trichloroethane	N.D.	0.1
1,1,2-Trichloroethane	N.D.	0.1
Trichloroethene	N.D.	0.1
Trichlorofluoromethane	N.D.	0.1
Vinyl Chloride	N.D.	0.1
m+p-Xylene	N.D.	0.1
o-Xylene	N.D.	0.1
Xylene (Total)	N.D.	0.1
Batch number: 18157WAZ625	Sample number(s): 9638457-9638460	
Acenaphthene	N.D.	0.3
Acenaphthylene	N.D.	0.3
Anthracene	N.D.	0.2
Benzo(a)anthracene	N.D.	0.2
Benzo(a)pyrene	N.D.	0.3
Benzo(b)fluoranthene	N.D.	0.3
Benzo(g,h,i)perylene	N.D.	0.2
Benzo(k)fluoranthene	N.D.	0.3
4-Bromophenyl-phenylether	N.D.	0.3
Butylbenzylphthalate	N.D.	0.8
Di-n-butylphthalate	N.D.	0.5
Carbazole	N.D.	0.2
4-Chloro-3-methylphenol	N.D.	0.3
4-Chloroaniline	N.D.	0.3
bis(2-Chloroethoxy)methane	N.D.	0.5
bis(2-Chloroethyl)ether	N.D.	0.4
bis(2-Chloroisopropyl)ether	N.D.	0.3
2-Chloronaphthalene	N.D.	0.2
2-Chlorophenol	N.D.	0.3
4-Chlorophenyl-phenylether	N.D.	0.3
Chrysene	N.D.	0.2
Dibenz(a,h)anthracene	N.D.	0.4
Dibenzofuran	N.D.	0.2
1,2-Dichlorobenzene	N.D.	0.3
1,3-Dichlorobenzene	N.D.	0.3
1,4-Dichlorobenzene	N.D.	0.3
3,3'-Dichlorobenzidine	N.D.	0.8
2,4-Dichlorophenol	N.D.	0.3
Diethylphthalate	N.D.	0.3

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Quality Control Summary

Client Name: GES, Inc.-PA
Reported: 06/11/2018 17:07

Group Number: 1950181

Method Blank (continued)

Analysis Name	Result	MDL
	ug/l	ug/l
2,4-Dimethylphenol	N.D.	0.3
Dimethylphthalate	N.D.	1
4,6-Dinitro-2-methylphenol	N.D.	4
2,4-Dinitrophenol	N.D.	10
2,4-Dinitrotoluene	N.D.	0.4
2,6-Dinitrotoluene	N.D.	0.4
bis(2-Ethylhexyl)phthalate	N.D.	1
Fluoranthene	N.D.	0.3
Fluorene	N.D.	0.3
Hexachlorobenzene	N.D.	1
Hexachlorobutadiene	N.D.	0.8
Hexachlorocyclopentadiene	N.D.	2
Hexachloroethane	N.D.	0.7
Indeno(1,2,3-cd)pyrene	N.D.	0.3
Isophorone	N.D.	0.3
2-Methylnaphthalene	N.D.	0.3
2-Methylphenol	N.D.	0.3
4-Methylphenol	N.D.	0.3
Naphthalene	N.D.	0.2
2-Nitroaniline	N.D.	0.3
3-Nitroaniline	N.D.	0.4
4-Nitroaniline	N.D.	0.5
Nitrobenzene	N.D.	0.5
2-Nitrophenol	N.D.	0.4
4-Nitrophenol	N.D.	5
N-Nitroso-di-n-propylamine	N.D.	0.4
N-Nitrosodiphenylamine	N.D.	0.3
Di-n-octylphthalate	N.D.	0.5
Pentachlorophenol	N.D.	3
Phenanthrene	N.D.	0.2
Phenol	N.D.	0.4
Pyrene	N.D.	0.2
1,2,4-Trichlorobenzene	N.D.	0.3
2,4,5-Trichlorophenol	N.D.	0.4
2,4,6-Trichlorophenol	N.D.	0.7
	mg/l	mg/l
Batch number: 181550571401	Sample number(s): 9638456,9638459-9638460	
Mercury	N.D.	0.000050
Batch number: 181550571604	Sample number(s): 9638456-9638457,9638459-9638460	
Aluminum	0.126 J	0.0894
Antimony	N.D.	0.0087
Arsenic	N.D.	0.0096
Cadmium	N.D.	0.0018
Chromium	N.D.	0.0033

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Quality Control Summary

Client Name: GES, Inc.-PA
Reported: 06/11/2018 17:07

Group Number: 1950181

Method Blank (continued)

Analysis Name	Result mg/l	MDL mg/l
Cobalt	N.D.	0.0017
Copper	N.D.	0.0040
Iron	N.D.	0.0805
Lead	N.D.	0.0060
Manganese	N.D.	0.0016
Nickel	N.D.	0.0040
Silver	N.D.	0.0024
Zinc	N.D.	0.0065
Batch number: 18162114101A	Sample number(s): 9638456,9638459-9638460	
Cyanide (Free)	N.D.	0.0040
Batch number: 18153144601A	Sample number(s): 9638456-9638457,9638459-9638460	
Hexavalent Chromium	N.D.	0.0010

LCS/LCSD

Analysis Name	LCS Spike Added ug/l	LCS Conc ug/l	LCSD Spike Added ug/l	LCSD Conc ug/l	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: G181581AA	Sample number(s): 9638457-9638461								
Acetone	37.5	37.97	37.5	37.52	101	100	68-141	1	30
Benzene	5.00	5.03	5.00	4.84	101	97	80-120	4	30
Bromochloromethane	5.00	5.01	5.00	4.80	100	96	80-120	4	30
Bromodichloromethane	5.00	5.29	5.00	5.00	106	100	80-125	6	30
Bromoform	5.00	4.98	5.00	4.75	100	95	57-141	5	30
Bromomethane	5.00	5.12	5.00	4.80	102	96	62-125	7	30
2-Butanone	37.5	36.52	37.5	38.17	97	102	59-141	4	30
Carbon Disulfide	5.00	4.90	5.00	4.62	98	92	72-129	6	30
Carbon Tetrachloride	5.00	5.58	5.00	5.25	112	105	71-139	6	30
Chlorobenzene	5.00	5.07	5.00	4.92	101	98	80-120	3	30
Chloroethane	5.00	4.88	5.00	4.62	98	92	63-120	5	30
Chloroform	5.00	5.08	5.00	4.89	102	98	80-120	4	30
Chloromethane	5.00	4.99	5.00	4.73	100	95	47-120	5	30
Cyclohexane	5.00	5.12	5.00	4.87	102	97	69-120	5	30
1,2-Dibromo-3-chloropropane	5.00	4.87	5.00	5.12	97	102	48-149	5	30
Dibromochloromethane	5.00	5.60	5.00	5.32	112	106	73-135	5	30
1,2-Dibromoethane	5.00	5.41	5.00	5.18	108	104	80-120	4	30
1,2-Dichlorobenzene	5.00	5.17	5.00	5.04	103	101	80-120	3	30
1,3-Dichlorobenzene	5.00	5.09	5.00	4.89	102	98	80-120	4	30
1,4-Dichlorobenzene	5.00	5.16	5.00	5.03	103	101	80-120	2	30
Dichlorodifluoromethane	5.00	4.69	5.00	4.45	94	89	23-128	5	30
1,1-Dichloroethane	5.00	5.00	5.00	4.81	100	96	80-120	4	30

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Quality Control Summary

Client Name: GES, Inc.-PA
Reported: 06/11/2018 17:07

Group Number: 1950181

LCS/LCSD (continued)

Analysis Name	LCS Spike Added ug/l	LCS Conc ug/l	LCSD Spike Added ug/l	LCSD Conc ug/l	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
1,2-Dichloroethane	5.00	4.88	5.00	4.74	98	95	68-137	3	30
1,1-Dichloroethene	5.00	5.35	5.00	5.18	107	104	80-124	3	30
cis-1,2-Dichloroethene	5.00	5.26	5.00	5.02	105	100	80-120	5	30
trans-1,2-Dichloroethene	5.00	5.19	5.00	4.93	104	99	80-120	5	30
1,2-Dichloropropane	5.00	5.14	5.00	4.97	103	99	80-120	3	30
cis-1,3-Dichloropropene	5.00	5.10	5.00	4.86	102	97	74-122	5	30
trans-1,3-Dichloropropene	5.00	5.22	5.00	4.99	104	100	71-131	5	30
1,4-Dioxane	125	141.4	125	135.33	113	108	59-162	4	30
Ethylbenzene	5.00	5.10	5.00	4.89	102	98	80-120	4	30
Freon 113	5.00	5.01	5.00	4.81	100	96	80-128	4	30
2-Hexanone	25	26.82	25	26.13	107	105	61-143	3	30
Isopropylbenzene	5.00	5.20	5.00	5.03	104	101	80-120	3	30
Methyl Acetate	5.00	4.51	5.00	4.38	90	88	59-143	3	30
Methyl Tertiary Butyl Ether	5.00	5.00	5.00	4.88	100	98	75-122	2	30
4-Methyl-2-pentanone	25	26.54	25	25.6	106	102	67-140	4	30
Methylcyclohexane	5.00	5.10	5.00	4.85	102	97	80-120	5	30
Methylene Chloride	5.00	4.97	5.00	4.78	99	96	80-120	4	30
Styrene	5.00	5.27	5.00	5.06	105	101	80-120	4	30
1,1,2,2-Tetrachloroethane	5.00	5.26	5.00	5.16	105	103	75-123	2	30
Tetrachloroethene	5.00	5.14	5.00	4.90	103	98	80-120	5	30
Toluene	5.00	5.10	5.00	4.94	102	99	80-120	3	30
1,2,3-Trichlorobenzene	5.00	5.24	5.00	5.07	105	101	66-120	3	30
1,2,4-Trichlorobenzene	5.00	5.23	5.00	5.07	105	101	74-120	3	30
1,1,1-Trichloroethane	5.00	5.35	5.00	5.02	107	100	78-126	6	30
1,1,2-Trichloroethane	5.00	5.29	5.00	5.13	106	103	80-120	3	30
Trichloroethene	5.00	5.02	5.00	4.87	100	97	80-120	3	30
Trichlorofluoromethane	5.00	5.14	5.00	4.85	103	97	52-143	6	30
Vinyl Chloride	5.00	4.81	5.00	4.54	96	91	56-120	6	30
m+p-Xylene	10	10.27	10	9.91	103	99	80-120	4	30
o-Xylene	5.00	5.08	5.00	4.89	102	98	80-120	4	30
Xylene (Total)	15	15.35	15	14.8	102	99	80-120	4	30
	ug/l	ug/l	ug/l	ug/l					
Batch number: 18157WAZ625	Sample number(s): 9638457-9638460								
Acenaphthene	50	50.14	50	46.99	100	94	47-145	6	30
Acenaphthylene	50	48.41	50	45.87	97	92	33-145	5	30
Anthracene	50	47.54	50	46.12	95	92	27-133	3	30
Benzo(a)anthracene	50	46.18	50	45.72	92	91	33-143	1	30
Benzo(a)pyrene	50	47.54	50	45.52	95	91	17-163	4	30
Benzo(b)fluoranthene	50	44.79	50	45.57	90	91	24-159	2	30
Benzo(g,h,i)perylene	50	46.81	50	44.71	94	89	10-200	5	30
Benzo(k)fluoranthene	50	52.24	50	48.47	104	97	11-162	7	30
4-Bromophenyl-phenylether	50	46.58	50	46.01	93	92	53-127	1	30
Butylbenzylphthalate	50	47.43	50	48.43	95	97	10-152	2	30

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Quality Control Summary

Client Name: GES, Inc.-PA
Reported: 06/11/2018 17:07

Group Number: 1950181

LCS/LCSD (continued)

Analysis Name	LCS Spike Added ug/l	LCS Conc ug/l	LCSD Spike Added ug/l	LCSD Conc ug/l	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Di-n-butylphthalate	50	48.64	50	47	97	94	10-118	3	30
Carbazole	50	50.74	50	48.51	101	97	69-121	4	30
4-Chloro-3-methylphenol	50	49.83	50	48.69	100	97	22-147	2	30
4-Chloroaniline	50	31.51	50	34.65	63	69	24-99	9	30
bis(2-Chloroethoxy)methane	50	47.36	50	46.19	95	92	33-184	2	30
bis(2-Chloroethyl)ether	50	45.75	50	44.41	92	89	12-158	3	30
bis(2-Chloroisopropyl)ether	50	45.13	50	43.57	90	87	36-166	4	30
2-Chloronaphthalene	50	43.98	50	43.73	88	87	60-118	1	30
2-Chlorophenol	50	47.1	50	45.85	94	92	23-134	3	30
4-Chlorophenyl-phenylether	50	49.2	50	46.11	98	92	25-158	6	30
Chrysene	50	46.65	50	45.98	93	92	17-168	1	30
Dibenz(a,h)anthracene	50	47.86	50	45.74	96	91	10-200	5	30
Dibenzofuran	50	49.48	50	48.2	99	96	62-123	3	30
1,2-Dichlorobenzene	50	39.98	50	41.25	80	82	32-129	3	30
1,3-Dichlorobenzene	50	37.33	50	40.21	75	80	10-172	7	30
1,4-Dichlorobenzene	50	38.37	50	40.28	77	81	20-124	5	30
3,3'-Dichlorobenzidine	50	18.41	50	20.97	37	42	10-200	13	30
2,4-Dichlorophenol	50	49.5	50	48.01	99	96	39-135	3	30
Diethylphthalate	50	49.41	50	47.93	99	96	10-114	3	30
2,4-Dimethylphenol	50	39.36	50	38.39	79	77	32-119	3	30
Dimethylphthalate	50	47.62	50	46.2	95	92	10-112	3	30
4,6-Dinitro-2-methylphenol	50	48.2	50	47.87	96	96	10-181	1	30
2,4-Dinitrophenol	100	105.5	100	101.87	106	102	10-191	3	30
2,4-Dinitrotoluene	50	51.46	50	50.43	103	101	39-139	2	30
2,6-Dinitrotoluene	50	50.28	50	47.77	101	96	50-158	5	30
bis(2-Ethylhexyl)phthalate	50	46.58	50	47.05	93	94	10-158	1	30
Fluoranthene	50	48.59	50	46.71	97	93	26-137	4	30
Fluorene	50	49.75	50	47.66	99	95	59-121	4	30
Hexachlorobenzene	50	48.02	50	47.78	96	96	10-152	0	30
Hexachlorobutadiene	50	36.35	50	39.5	73	79	24-116	8	30
Hexachlorocyclopentadiene	100	35.45	100	39.98	35	40	10-88	12	30
Hexachloroethane	50	33.08	50	35.76	66	72	40-113	8	30
Indeno(1,2,3-cd)pyrene	50	46.81	50	45.1	94	90	10-171	4	30
Isophorone	50	47.93	50	46.55	96	93	21-196	3	30
2-Methylnaphthalene	50	44.51	50	44.62	89	89	38-125	0	30
2-Methylphenol	50	45.1	50	43.24	90	86	52-119	4	30
4-Methylphenol	50	39.88	50	37.53	80	75	42-112	6	30
Naphthalene	50	42.92	50	43.5	86	87	21-133	1	30
2-Nitroaniline	50	49.56	50	47.81	99	96	78-115	4	30
3-Nitroaniline	50	47.45	50	45.6	95	91	72-108	4	30
4-Nitroaniline	50	41.87	50	38.6	84	77	52-105	8	30
Nitrobenzene	50	47.58	50	45.62	95	91	35-180	4	30
2-Nitrophenol	50	48.01	50	47.85	96	96	29-182	0	30
4-Nitrophenol	50	21.99	50	20.28	44	41	10-132	8	30

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Quality Control Summary

Client Name: GES, Inc.-PA
Reported: 06/11/2018 17:07

Group Number: 1950181

LCS/LCSD (continued)

Analysis Name	LCS Spike Added ug/l	LCS Conc ug/l	LCSD Spike Added ug/l	LCSD Conc ug/l	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
N-Nitroso-di-n-propylamine	50	45	50	43.98	90	88	10-200	2	30
N-Nitrosodiphenylamine	50	46.2	50	46.12	92	92	69-120	0	30
Di-n-octylphthalate	50	50.69	50	47.92	101	96	10-146	6	30
Pentachlorophenol	50	51.11	50	49.08	102	98	14-176	4	30
Phenanthrene	50	48.65	50	46.97	97	94	54-120	4	30
Phenol	50	22.94	50	21.02	46	42	10-112	9	30
Pyrene	50	46.33	50	46.11	93	92	52-115	0	30
1,2,4-Trichlorobenzene	50	40.26	50	41.23	81	82	44-142	2	30
2,4,5-Trichlorophenol	50	49.48	50	48.6	99	97	76-118	2	30
2,4,6-Trichlorophenol	50	49.91	50	47.8	100	96	37-144	4	30
	mg/l	mg/l	mg/l	mg/l					
Batch number: 181550571401	Sample number(s): 9638456,9638459-9638460								
Mercury	0.00100	0.000883			88		85-115		
Batch number: 181550571604	Sample number(s): 9638456-9638457,9638459-9638460								
Aluminum	2.00	2.09			105		85-115		
Antimony	0.500	0.541			108		85-115		
Arsenic	0.150	0.156			104		85-115		
Cadmium	0.0500	0.0517			103		85-115		
Chromium	0.200	0.202			101		85-115		
Cobalt	0.500	0.524			105		85-115		
Copper	0.250	0.258			103		85-115		
Iron	1.00	1.01			101		85-115		
Lead	0.150	0.152			101		85-115		
Manganese	0.500	0.523			105		85-115		
Nickel	0.500	0.529			106		85-115		
Silver	0.0500	0.0507			101		85-115		
Zinc	0.500	0.525			105		85-115		
	mg/l	mg/l	mg/l	mg/l					
Batch number: 18162114101A	Sample number(s): 9638456,9638459-9638460								
Cyanide (Free)	0.150	0.150			100		90-110		
	mg/l	mg/l	mg/l	mg/l					
Batch number: 18153144601A	Sample number(s): 9638456-9638457,9638459-9638460								
Hexavalent Chromium	0.0200	0.0193	0.0200	0.0194	97	97	95-105	1	3

MS/MSD

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: GES, Inc.-PA
Reported: 06/11/2018 17:07

Group Number: 1950181

MS/MSD

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike

Analysis Name	Unspiked Conc mg/l	MS Spike Added mg/l	MS Conc mg/l	MSD Spike Added mg/l	MSD Conc mg/l	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
Batch number: 181550571401	Sample number(s): 9638456,9638459-9638460 UNSPK: 9638456									
Mercury	N.D.	0.00100	0.000889			89		80-120		
Batch number: 181550571604	Sample number(s): 9638456-9638457,9638459-9638460 UNSPK: P638368									
Aluminum	0.376	2.00	2.61			112		70-130		
Antimony	N.D.	0.500	0.547			109		70-130		
Arsenic	0.0104	0.150	0.154			96		70-130		
Cadmium	0.0116	0.0500	0.0621			101		70-130		
Chromium	N.D.	0.200	0.201			101		70-130		
Cobalt	N.D.	0.500	0.510			102		70-130		
Copper	0.0121	0.250	0.269			103		70-130		
Iron	10.25	1.00	10.14			-11 (2)		70-130		
Lead	N.D.	0.150	0.154			103		70-130		
Manganese	0.468	0.500	0.979			102		70-130		
Nickel	N.D.	0.500	0.517			103		70-130		
Silver	N.D.	0.0500	0.0515			103		70-130		
Zinc	0.193	0.500	0.691			100		70-130		
	mg/l	mg/l	mg/l	mg/l	mg/l					
Batch number: 18162114101A	Sample number(s): 9638456,9638459-9638460 UNSPK: P636668									
Cyanide (Free)	N.D.	0.200	0.194			97		90-110		

Laboratory Duplicate

Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	BKG Conc mg/l	DUP Conc mg/l	DUP RPD	DUP RPD Max
Batch number: 181550571401	Sample number(s): 9638456,9638459-9638460 BKG: 9638456			
Mercury	N.D.	N.D.	0 (1)	20
Batch number: 181550571604	Sample number(s): 9638456-9638457,9638459-9638460 BKG: P638368			
Aluminum	0.376	0.371	1 (1)	20
Antimony	N.D.	N.D.	0 (1)	20
Arsenic	0.0104	N.D.	200* (1)	20
Cadmium	0.0116	0.0118	1 (1)	20
Chromium	N.D.	N.D.	0 (1)	20
Cobalt	N.D.	N.D.	0 (1)	20
Copper	0.0121	0.00907	29* (1)	20
Iron	10.25	10.11	1	20

*- Outside of specification
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(2) The unspiked result was more than four times the spike added.
P####### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: GES, Inc.-PA
Reported: 06/11/2018 17:07

Group Number: 1950181

Laboratory Duplicate (continued)

Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	BKG Conc	DUP Conc	DUP RPD	DUP RPD Max
	mg/l	mg/l		
Lead	N.D.	N.D.	0 (1)	20
Manganese	0.468	0.473	1	20
Nickel	N.D.	N.D.	0 (1)	20
Silver	N.D.	0.00256	200* (1)	20
Zinc	0.193	0.191	1	20
	mg/l	mg/l		
Batch number: 18162114101A	Sample number(s): 9638456,9638459-9638460 BKG: P636668			
Cyanide (Free)	N.D.	N.D.	0 (1)	20

Surrogate Quality Control

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: TCL SOM01.2 VOCs
Batch number: G181581AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
9638457	99	100	99	98
9638458	100	100	100	99
9638459	101	101	99	98
9638460	101	101	100	99
9638461	100	101	101	99
Blank	99	102	101	99
LCS	99	100	100	98
LCSD	99	100	101	98
Limits:	80-120	80-120	80-120	80-120

Analysis Name: TCL 3.2 SVOCs
Batch number: 18157WAZ625

	Nitrobenzene-d5	2-Fluorobiphenyl	Terphenyl-d14	Phenol-d6	2-Fluorophenol	2,4,6-Tribromophenol
9638457	93	96	101	37	58	106
9638458	92	92	100	36	55	103
9638459	91	92	100	19	10	30
9638460	94	96	104	21	8*	14*
Blank	96	98	108	42	58	106
LCS	96	98	111	45	63	103
LCSD	92	94	108	40	58	100
Limits:	60-119	55-117	56-118	10-75	10-99	27-142

*- Outside of specification
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(2) The unspiked result was more than four times the spike added.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-4766 • www.EurofinsUS.com/LancLabsEnv

Quality Control Summary

Client Name: GES, Inc.-PA
Reported: 06/11/2018 17:07

Group Number: 1950181

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

2575 1950181 9638456-61

Serial Number

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ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

Lancaster Laboratories, Inc.
2425 New Holland Pike
Lancaster, PA 17605

Lynn Frederickson
Principal Project Manager - Client Services
Phone: (717) 656-2300

Project Name:	GES Project Number:
Boarhead Farms (02575)	0204215-40-001
1310 Lonely Cottage Rd. Upper Black Eddy, PA 18972	Quote No.:
GES Project Manager: Derek Jelinek	Client Phone: 610-458-1077 x3065 / Client Fax: 610-458-2300
Client Name: Groundwater & Environmental Services, Inc.	Client E-mail: labreportspae@gesonline.com and DJelinek@gesonline.com
Client Address: 440 Creamery Way, Suite 500, Exton PA 19341	

Page 1 of 1

STANDARD REPORT DELIVERY ☒

DATE DUE_____

EXPEDITED REPORT DELIVERY (SURCHARGE) DATE DUE ○

NUMBER OF COOLERS SUBMITTED PER SHIPMENT:

SAMPLE DATE	SAMPLE TIME	SAMPLE IDENTIFICATION	COMPOSITE (C) OR GRAB (G) INDICATE	AQUEOUS (WATER)	SOLID OR SEMISOLID	AIR	NONAQUEOUS LIQUID (OIL, SOLVENT...)	Chromium (200.7), Trivalent Chromium	Chromium, Hexavalent (SM20 3500 Cr B)	Cyanide, Free (SM20 4500 CN E)	Metals (200.7) - See Site Specific List	SVOCs (625) - See Site Specific List	VOCs (SW846-8260B 25mL purge) - See Site Specific List					REMARKS
		PRESERVATIVE (Bottle Size)						HNO_3 (250 mL)	None (250 mL)	NaOH/asc (250 mL)	HNO_3 (250 mL)	None (1000 mL)	HCl (40 mL)					
		NUMBER OF CONTAINERS SUBMITTED																
6-1-18	10:20	Effluent Composite	C	X					1	1	1							"X" - Indicates analysis required but will be analyzed from the respective bottleware for the Metals analysis.
6-1-18	0940	Effluent Grab	G	X				1	1			2	3					
6-1-18	0948	Midfluent Grab	G	X								2	3					
6-1-18	0955	Influent Grab	G	X				X	1	1	1	2	3					
6-1-18	10:08	OBEW & BREW Influent	G	X				X	1	1	1	2	3					
6-1-18	-	Trip Blank	G	X									2					

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
	6-1-18	11:24		6/1/18	1402			
RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME
	6/1/18	1124					6-1-18	1402

LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME	CUSTODY INTACT	CUSTODY SEAL NO.	STL LOG NO.	LABORATORY REMARKS:
See Above			YES ○ NO ○ N/A	N/A		14:02 LF

FCU036:12.20.00:2 LF

Original - Return to Laboratory with Sample(s)

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Sample Administration Receipt Documentation Log

Doc Log ID: 217984

Group Number(s): 1950181

Client: GES

Delivery and Receipt Information

Delivery Method:	ELLE Courier	Arrival Timestamp:	06/01/2018 14:02
Number of Packages:	1	Number of Projects:	1
State/Province of Origin:	PA		

Arrival Condition Summary

Shipping Container Sealed:	Yes	Sample IDs on COC match Containers:	Yes
Custody Seal Present:	No	Sample Date/Times match COC:	Yes
Samples Chilled:	Yes	VOA Vial Headspace ≥ 6mm:	No
Paperwork Enclosed:	Yes	Total Trip Blank Qty:	2
Samples Intact:	Yes	Trip Blank Type:	HCl
Missing Samples:	No	Air Quality Samples Present:	No
Extra Samples:	No		
Discrepancy in Container Qty on COC:	No		

Unpacked by Melvin Sanchez (8943) at 14:28 on 06/01/2018

Samples Chilled Details

Thermometer Types: DT = Digital (Temp. Bottle) IR = Infrared (Surface Temp) All Temperatures in °C.

Cooler #	Thermometer ID	Corrected Temp	Therm. Type	Ice Type	Ice Present?	Ice Container	Elevated Temp?
1	DT42-01	0.8	DT	Wet	Y	Loose	N

2425 New Holland Pike
Lancaster, PA 17605-2425

T | 717-656-2300
F | 717-656-2681
www.LancasterLabs.com

Explanation of Symbols and Abbreviations

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

BMQL	Below Minimum Quantitation Level	**mg**	milligram(s)
C	degrees Celsius	**mL**	milliliter(s)
cfu	colony forming units	**MPN**	Most Probable Number
CP Units	cobalt-chloroplatinate units	**N.D.**	non-detect
F	degrees Fahrenheit	**ng**	nanogram(s)
g	gram(s)	**NTU**	nephelometric turbidity units
IU	International Units	**pg/L**	picogram/liter
kg	kilogram(s)	**RL**	Reporting Limit
L	liter(s)	**TNTC**	Too Numerous To Count
lb.	pound(s)	**µg**	microgram(s)
m3	cubic meter(s)	**µL**	microliter(s)
meq	milliequivalents	**umhos/cm**	micromhos/cm

< less than

> greater than

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 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.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) 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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Data Qualifiers

Qualifier	Definition
C	Result confirmed by reanalysis
D1	Indicates for dual column analyses that the result is reported from column 1
D2	Indicates for dual column analyses that the result is reported from column 2
E	Concentration exceeds the calibration range
K1	Initial Calibration Blank is above the QC limit and the sample result is ND
K2	Continuing Calibration Blank is above the QC limit and the sample result is ND
K3	Initial Calibration Verification is above the QC limit and the sample result is ND
K4	Continuing Calibration Verification is above the QC limit and the sample result is ND
J (or G, I, X)	Estimated value >= the Method Detection Limit (MDL or DL) and < the Limit of Quantitation (LOQ or RL)
P	Concentration difference between the primary and confirmation column >40%. The lower result is reported.
U	Analyte was not detected at the value indicated
V	Concentration difference between the primary and confirmation column >100%. The reporting limit is raised due to this disparity and evident interference.
W	The dissolved oxygen uptake for the unseeded blank is greater than 0.20 mg/L.
Z	Laboratory Defined - see analysis report
B	Detection in the Blank
Q0	LCS/LCSD Low
Q1	LCS/LCSD High
Q2	MS/MSD Low
Q3	MS/MSD High
Q7	LCS/LCSD RPD
Q8	DUP RPD
Q9	MS/MSD RPD

Additional Organic and Inorganic CLP qualifiers may be used with Form 1 reports as defined by the CLP methods.
Qualifiers specific to Dioxin/Furans and PCB Congeners are detailed on the individual Analysis Report.