de maximis, inc.

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

February 8, 2017

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
4th Quarter 2016 Effluent Discharge Monitoring Report
Groundwater Collection and Treatment System

Dear Mr. Armstrong:

Enclosed please find the completed Discharge Monitoring Report (DMR) forms for the 4th Quarter 2016 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 4th Quarter 2016:

- VOCs were not detected above permit levels.
- 5 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 4th Quarter 2016
Laboratory Analytical Reports

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

File: 4087 /dmr 4th QDMR 2016

PAPER

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

NAME Boarhead Farms c/o de maximis, inc.

ADDRESS 1550 Pond Rd, Suite 120
Allentown, PA 18104

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	16	10	01	TO	16	12	31
	(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	0.004021	0.008334	MGD	XXXX	XXXX	XXXX	XXXX		CONT	REC
	PERMIT REQUIREMENT	MONITOR	MONITOR		XXXX	XXXX	XXXX			CONT	REC
ANTIMONY	SAMPLE MEASUREMENT	XXXX	XXXX	XXXX	XXXX	<0.0077	<0.0077	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	0.0445	0.0445	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	<0.00049	<0.00049	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	<0.0041	<0.0041	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	<0.0062	<0.0062	MG/L		1/QTR	8 HC
	PERMIT REQUIREMENT	XXXX	XXXX		XXXX	0.007	0.014			1/QTR	8 HC

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER

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

TELEPHONE		DATE		
AREA CODE	NUMBER	YEAR	MO	DAY

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NICKEL	SAMPLE MEASUREMENT	XXXX	XXXX	XXXX	XXXX	0.0039	0.0039	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	0.0066	0.0066	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	0.595	0.595	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	<0.0868	<0.0868	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	<0.0019	<0.0019	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	<0.0747	<0.0747	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	<0.0019	<0.0019	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	<0.0001	<0.0001	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	<0.0018	<0.0018	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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ATTACHMENT B – LABORATORY ANALYTICAL RESULTS AND CHAIN-OF-CUSTODY DOCUMENTATION

eurofins | Lancaster Laboratories Environmental

Analysis Report

2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-2681 • www.LancasterLabs.com

ANALYTICAL RESULTS

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: December 30, 2016

Project: Boarhead Farms

Submittal Date: 12/12/2016
Group Number: 1743267
PO Number: 0204215-40-001
Release Number: ORG # 1402
State of Sample Origin: PA

Client Sample Description	Lancaster Labs (LL) #
Effluent Composite Groundwater	8739832
Effluent Grab Groundwater	8739833
Midfluent Grab Groundwater	8739834
Influent Grab Groundwater	8739835
Trip Blank Water	8739836

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

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: 717-656-2681 • www.LancasterLabs.com

Analysis Report

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

LL Sample # WW 8739832
LL Group # 1743267
Account # 02575

Project Name: Boarhead Farms

Collected: 12/12/2016 10:10

Submitted: 12/12/2016 16:25
Reported: 12/30/2016 09:32

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

BRF01

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.	0.0868	1
07044	Antimony	7440-36-0	N.D.	0.0077	1
07035	Arsenic	7440-38-2	0.0445	0.0097	1
07049	Cadmium	7440-43-9	N.D.	0.00049	1
07052	Cobalt	7440-48-4	N.D.	0.0019	1
07053	Copper	7440-50-8	N.D. Q8	0.0041	1
01754	Iron	7439-89-6	N.D.	0.0747	1
07055	Lead	7439-92-1	N.D.	0.0062	1
07058	Manganese	7439-96-5	0.595	0.0018	1
07061	Nickel	7440-02-0	0.0039 J	0.0028	1
07066	Silver	7440-22-4	N.D.	0.0019	1
07072	Zinc	7440-66-6	0.0066 J	0.0054	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-1999**	mg/l	mg/l	
00241	Cyanide (Free)	n.a.	N.D.	0.0040	1
		SM 3500-Cr B-2009	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: 1/31/17.

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	163545716003	12/21/2016 03:34	Elaine F Stoltzfus	1
07044	Antimony	EPA 200.7 rev 4.4	1	163545716003	12/21/2016 03:34	Elaine F Stoltzfus	1
07035	Arsenic	EPA 200.7 rev 4.4	1	163545716003	12/21/2016 03:34	Elaine F Stoltzfus	1
07049	Cadmium	EPA 200.7 rev 4.4	1	163545716003	12/21/2016 03:34	Elaine F Stoltzfus	1
07052	Cobalt	EPA 200.7 rev 4.4	1	163545716003	12/21/2016 03:34	Elaine F Stoltzfus	1
07053	Copper	EPA 200.7 rev 4.4	1	163545716003	12/21/2016 03:34	Elaine F Stoltzfus	1

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2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-2681 • www.LancasterLabs.com

Analysis Report

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

LL Sample # WW 8739832
LL Group # 1743267
Account # 02575

Project Name: Boarhead Farms

Collected: 12/12/2016 10:10

Submitted: 12/12/2016 16:25
Reported: 12/30/2016 09:32

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

BRF01

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
01754	Iron	EPA 200.7 rev 4.4	1	163545716003	12/21/2016 03:34	Elaine F Stoltzfus	1
07055	Lead	EPA 200.7 rev 4.4	1	163545716003	12/21/2016 03:34	Elaine F Stoltzfus	1
07058	Manganese	EPA 200.7 rev 4.4	1	163545716003	12/21/2016 03:34	Elaine F Stoltzfus	1
07061	Nickel	EPA 200.7 rev 4.4	1	163545716003	12/21/2016 03:34	Elaine F Stoltzfus	1
07066	Silver	EPA 200.7 rev 4.4	1	163545716003	12/21/2016 03:34	Elaine F Stoltzfus	1
07072	Zinc	EPA 200.7 rev 4.4	1	163545716003	12/21/2016 03:34	Elaine F Stoltzfus	1
00259	Mercury	EPA 245.1 rev 3	1	163545714001	12/20/2016 06:42	Damary Valentin	1
05716	EPA 600 ICP Digest (tot rec)	EPA 200.7 rev 4.4	1	163545716003	12/19/2016 17:02	Barbara A Kane	1
05714	PW/WW Hg Digest	EPA 245.1 rev 3	1	163545714001	12/19/2016 18:45	Barbara A Kane	1
00241	Cyanide (Free)	SM 4500-CN E-1999	1	16356114101A	12/21/2016 14:06	Dein K Bernot	1
01446	Hexavalent Chromium	SM 3500-Cr B-2009	1	16347144601A	12/12/2016 22:25	Michelle L Lalli	1

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

LL Sample # WW 8739833
LL Group # 1743267
Account # 02575

Project Name: Boarhead Farms

Collected: 12/12/2016 08:10

Submitted: 12/12/2016 16:25
Reported: 12/30/2016 09:32

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

BRF02

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

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

LL Sample # WW 8739833
LL Group # 1743267
Account # 02575

Project Name: Boarhead Farms

Collected: 12/12/2016 08:10

Submitted: 12/12/2016 16:25
Reported: 12/30/2016 09:32

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

BRF02

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	Trichloroethene	79-01-6	N.D.	0.1	1
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.	0.3	1

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Analysis Report

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

LL Sample # WW 8739833
LL Group # 1743267
Account # 02575

Project Name: Boarhead Farms

Collected: 12/12/2016 08:10

Submitted: 12/12/2016 16:25
Reported: 12/30/2016 09:32

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

BRF02

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**EPA 625**		ug/l	ug/l	
10334	bis(2-Ethylhexyl)phthalate	117-81-7	N.D.	1	1
10334	Fluoranthene	206-44-0	N.D.	0.3	1
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. Q0	2	1
10334	Hexachloroethane	67-72-1	N.D.	0.4	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. Q0	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.	0.4	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
	The recovery for a target analyte(s) in the Laboratory Control Spike(s) is outside the QC acceptance limits as noted on the QC Summary. The following corrective action was taken: The sample was re-extracted outside the method required holding time and the QC is compliant. All results are reported from the first trial. Similar results were obtained in both trials.				
Metals	**EPA 200.7 rev 4.4**		mg/l	mg/l	
07051	Chromium	7440-47-3	N.D. Q8	0.0018	1
02828	Trivalent Chromium waters	16065-83-1	N.D.	0.0018	1
	The Trivalent Chromium result is calculated by subtracting Hexavalent Chromium from Total Chromium.				
Wet Chemistry	**SM 3500-Cr B-2009**		mg/l	mg/l	
01446	Hexavalent Chromium	18540-29-9	N.D.	0.0010	1

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Analysis Report

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

LL Sample # WW 8739833
LL Group # 1743267
Account # 02575

Project Name: Boarhead Farms

Collected: 12/12/2016 08:10

Submitted: 12/12/2016 16:25
Reported: 12/30/2016 09:32

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

BRF02

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

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	C163552AA	12/21/2016 03:16	Don V Viray	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	C163552AA	12/21/2016 03:16	Don V Viray	1
10334	TCL 3.2 SVOCs	EPA 625	1	16350WAF625	12/19/2016 23:50	Anthony P Bauer	1
08108	625 Water Extraction	EPA 625	1	16350WAF625	12/16/2016 08:00	David S Schrum	1
07051	Chromium	EPA 200.7 rev 4.4	1	163495716003	12/16/2016 15:56	Eric L Eby	1
02828	Trivalent Chromium waters	EPA 200.7 rev 4.4	1	163562828001	12/21/2016 08:28	Nina C Haller	1
05716	EPA 600 ICP Digest (tot rec)	EPA 200.7 rev 4.4	1	163495716003	12/15/2016 06:50	Lisa J Cooke	1
01446	Hexavalent Chromium	SM 3500-Cr B-2009	1	16347144601A	12/12/2016 22:25	Michelle L Lalli	1

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Analysis Report

2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-2681 • www.LancasterLabs.com

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

LL Sample # WW 8739834
LL Group # 1743267
Account # 02575

Project Name: Boarhead Farms

Collected: 12/12/2016 08:15

Submitted: 12/12/2016 16:25
Reported: 12/30/2016 09:32

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

BRF03

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

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

LL Sample # WW 8739834
LL Group # 1743267
Account # 02575

Project Name: Boarhead Farms

Collected: 12/12/2016 08:15

Submitted: 12/12/2016 16:25
Reported: 12/30/2016 09:32

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

BRF03

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	Trichloroethene	79-01-6	N.D.	0.1	1
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.	0.3	1

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

LL Sample # WW 8739834
LL Group # 1743267
Account # 02575

Project Name: Boarhead Farms

Collected: 12/12/2016 08:15

Submitted: 12/12/2016 16:25
Reported: 12/30/2016 09:32

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

BRF03

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
GC/MS Semivolatiles EPA 625			ug/l	ug/l	
10334	bis(2-Ethylhexyl)phthalate	117-81-7	N.D.	1	1
10334	Fluoranthene	206-44-0	N.D.	0.3	1
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. Q0	2	1
10334	Hexachloroethane	67-72-1	N.D.	0.4	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. Q0	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.	0.4	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

The recovery for a target analyte(s) in the Laboratory Control Spike(s) is outside the QC acceptance limits as noted on the QC Summary. The following corrective action was taken:
The sample was re-extracted outside the method required holding time and the QC is compliant. All results are reported from the first trial. Similar results were obtained in both trials.

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

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

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

LL Sample # WW 8739834
LL Group # 1743267
Account # 02575

Project Name: Boarhead Farms

Collected: 12/12/2016 08:15

Submitted: 12/12/2016 16:25
Reported: 12/30/2016 09:32

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

BRF03

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	C163552AA	12/21/2016 03:38	Don V Viray	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	C163552AA	12/21/2016 03:38	Don V Viray	1
10334	TCL 3.2 SVOCs	EPA 625	1	16350WAF625	12/20/2016 00:13	Anthony P Bauer	1
08108	625 Water Extraction	EPA 625	1	16350WAF625	12/16/2016 08:00	David S Schrum	1

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

LL Sample # WW 8739835
LL Group # 1743267
Account # 02575

Project Name: Boarhead Farms

Collected: 12/12/2016 08:25

Submitted: 12/12/2016 16:25
Reported: 12/30/2016 09:32

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

BRF04

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	9.5		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	0.9	J	0.5	5
02898	Chloroethane	75-00-3	1.6	J	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	11		0.5	5
02898	1,3-Dichlorobenzene	541-73-1	0.7	J	0.5	5
02898	1,4-Dichlorobenzene	106-46-7	2.1	J	0.5	5
02898	Dichlorodifluoromethane	75-71-8	N.D.		0.5	5
02898	1,1-Dichloroethane	75-34-3	23		0.5	5
02898	1,2-Dichloroethane	107-06-2	N.D.		0.5	5
02898	1,1-Dichloroethene	75-35-4	15		0.5	5
02898	cis-1,2-Dichloroethene	156-59-2	190		10	100
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	N.D.		0.5	5
02898	Freon 113	76-13-1	2.0	J	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	35		0.5	5
02898	Toluene	108-88-3	3.5		0.5	5
02898	1,2,3-Trichlorobenzene	87-61-6	0.5	J	0.5	5
02898	1,2,4-Trichlorobenzene	120-82-1	1.6	J	0.5	5
02898	1,1,1-Trichloroethane	71-55-6	190		10	100
02898	1,1,2-Trichloroethane	79-00-5	0.7	J	0.5	5

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

LL Sample # WW 8739835
LL Group # 1743267
Account # 02575

Project Name: Boarhead Farms

Collected: 12/12/2016 08:25

Submitted: 12/12/2016 16:25
Reported: 12/30/2016 09:32

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

BRF04

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	Trichloroethene	79-01-6	340		10	100
02898	Trichlorofluoromethane	75-69-4	N.D.		0.5	5
02898	Vinyl Chloride	75-01-4	6.5		0.5	5
02898	m+p-Xylene	179601-23-1	0.8	J	0.5	5
02898	o-Xylene	95-47-6	N.D.		0.5	5
02898	Xylene (Total)	1330-20-7	0.8	J	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	10		0.3	1
10334	1,3-Dichlorobenzene	541-73-1	0.7	J	0.3	1
10334	1,4-Dichlorobenzene	106-46-7	2	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.		0.3	1

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Analysis Report

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

LL Sample # WW 8739835
LL Group # 1743267
Account # 02575

Project Name: Boarhead Farms

Collected: 12/12/2016 08:25

Submitted: 12/12/2016 16:25
Reported: 12/30/2016 09:32

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

BRF04

CAT No.	Analysis Name	CAS Number	Result		Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**EPA 625**		ug/l		ug/l	
10334	bis(2-Ethylhexyl)phthalate	117-81-7	N.D.		1	1
10334	Fluoranthene	206-44-0	N.D.		0.3	1
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.	Q0	2	1
10334	Hexachloroethane	67-72-1	N.D.		0.4	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.	Q0	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	0.4	J	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.		0.4	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	2	J	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 a target analyte(s) in the Laboratory Control Spike(s) is outside the QC acceptance limits as noted on the QC Summary. The following corrective action was taken: The sample was re-extracted outside the method required holding time and the QC is compliant. All results are reported from the first trial. Similar results were obtained in both trials.					
Metals	**EPA 200.7 rev 4.4**		mg/l		mg/l	
01743	Aluminum	7429-90-5	N.D.		0.0868	1
07044	Antimony	7440-36-0	N.D.		0.0077	1
07035	Arsenic	7440-38-2	N.D.		0.0097	1
07049	Cadmium	7440-43-9	0.0068		0.00049	1
07051	Chromium	7440-47-3	0.0112	J	0.0018	1
02828	Trivalent Chromium waters	16065-83-1	0.011	J	0.0018	1
	The Trivalent Chromium result is calculated by subtracting Hexavalent Chromium from Total Chromium.					
07052	Cobalt	7440-48-4	0.0887		0.0019	1

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Analysis Report

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

LL Sample # WW 8739835
LL Group # 1743267
Account # 02575

Project Name: Boarhead Farms

Collected: 12/12/2016 08:25

Submitted: 12/12/2016 16:25
Reported: 12/30/2016 09:32

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

BRF04

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
Metals	**EPA 200.7 rev 4.4**		mg/l	mg/l	
07053	Copper	7440-50-8	N.D. Q8	0.0041	1
01754	Iron	7439-89-6	3.29	0.0747	1
07055	Lead	7439-92-1	N.D.	0.0062	1
07058	Manganese	7439-96-5	3.22	0.0018	1
07061	Nickel	7440-02-0	0.0702	0.0028	1
07066	Silver	7440-22-4	N.D.	0.0019	1
07072	Zinc	7440-66-6	0.0450	0.0054	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-1999**		mg/l	mg/l	
00241	Cyanide (Free)	n.a.	N.D.	0.0040	1
	SM 3500-Cr B-2009		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: 1/31/17.

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	C163552AA	12/21/2016 04:00	Don V Viray	100
02898	TCL SOM01.2 VOCs	SW-846 8260B 25mL purge	1	C163562AA	12/22/2016 02:25	Don V Viray	5
01163	GC/MS VOA Water Prep	SW-846 5030B	1	C163552AA	12/21/2016 04:00	Don V Viray	100
01163	GC/MS VOA Water Prep	SW-846 5030B	2	C163562AA	12/22/2016 02:25	Don V Viray	5
10334	TCL 3.2 SVOCs	EPA 625	1	16350WAF625	12/20/2016 00:35	Anthony P Bauer	1
08108	625 Water Extraction	EPA 625	1	16350WAF625	12/16/2016 08:00	David S Schrum	1
01743	Aluminum	EPA 200.7 rev 4.4	1	163545716003	12/21/2016 03:01	Elaine F Stoltzfus	1
07044	Antimony	EPA 200.7 rev 4.4	1	163545716003	12/21/2016 03:01	Elaine F Stoltzfus	1
07035	Arsenic	EPA 200.7 rev 4.4	1	163545716003	12/21/2016 03:01	Elaine F Stoltzfus	1
07049	Cadmium	EPA 200.7 rev 4.4	1	163545716003	12/21/2016 03:01	Elaine F Stoltzfus	1
07051	Chromium	EPA 200.7 rev 4.4	1	163545716003	12/21/2016 03:01	Elaine F Stoltzfus	1

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Analysis Report

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

LL Sample # WW 8739835
LL Group # 1743267
Account # 02575

Project Name: Boarhead Farms

Collected: 12/12/2016 08:25

Submitted: 12/12/2016 16:25
Reported: 12/30/2016 09:32

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

BRF04

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
02828	Trivalent Chromium waters	EPA 200.7 rev 4.4	1	163562828001	12/21/2016 20:06	Parker D Lindstrom	1
07052	Cobalt	EPA 200.7 rev 4.4	1	163545716003	12/21/2016 03:01	Elaine F Stoltzfus	1
07053	Copper	EPA 200.7 rev 4.4	1	163545716003	12/21/2016 03:01	Elaine F Stoltzfus	1
01754	Iron	EPA 200.7 rev 4.4	1	163545716003	12/21/2016 03:01	Elaine F Stoltzfus	1
07055	Lead	EPA 200.7 rev 4.4	1	163545716003	12/21/2016 03:01	Elaine F Stoltzfus	1
07058	Manganese	EPA 200.7 rev 4.4	1	163545716003	12/21/2016 03:01	Elaine F Stoltzfus	1
07061	Nickel	EPA 200.7 rev 4.4	1	163545716003	12/21/2016 03:01	Elaine F Stoltzfus	1
07066	Silver	EPA 200.7 rev 4.4	1	163545716003	12/21/2016 03:01	Elaine F Stoltzfus	1
07072	Zinc	EPA 200.7 rev 4.4	1	163545716003	12/21/2016 03:01	Elaine F Stoltzfus	1
00259	Mercury	EPA 245.1 rev 3	1	163545714001	12/20/2016 06:57	Damary Valentin	1
05716	EPA 600 ICP Digest (tot rec)	EPA 200.7 rev 4.4	1	163545716003	12/19/2016 17:02	Barbara A Kane	1
05714	PW/WW Hg Digest	EPA 245.1 rev 3	1	163545714001	12/19/2016 18:45	Barbara A Kane	1
00241	Cyanide (Free)	SM 4500-CN E-1999	1	16356114101A	12/21/2016 14:04	Dein K Bernot	1
01446	Hexavalent Chromium	SM 3500-Cr B-2009	1	16347144601A	12/12/2016 22:25	Michelle L Lalli	1

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Analysis Report

2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-2681 • www.LancasterLabs.com

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

LL Sample # WW 8739836
LL Group # 1743267
Account # 02575

Project Name: Boarhead Farms

Collected: 12/12/2016

Submitted: 12/12/2016 16:25
Reported: 12/30/2016 09:32

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

BRF05

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

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Analysis Report

2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-2681 • www.LancasterLabs.com

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

LL Sample # WW 8739836
LL Group # 1743267
Account # 02575

Project Name: Boarhead Farms

Collected: 12/12/2016

Submitted: 12/12/2016 16:25
Reported: 12/30/2016 09:32

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

BRF05

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	Trichloroethene	79-01-6	N.D.	0.1	1
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: 1/31/17.

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	C163552AA	12/21/2016 02:53	Don V Viray	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	C163552AA	12/21/2016 02:53	Don V Viray	1

Quality Control Summary

Client Name: GES, Inc.-PA
Reported: 12/30/2016 09:32

Group Number: 1743267

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: C163552AA	Sample number(s): 8739833-8739836	
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
Styrene	N.D.	0.1

*- 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: 12/30/2016 09:32

Group Number: 1743267

Method Blank (continued)

Analysis Name	Result	MDL
	ug/l	ug/l
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: C163562AA	Sample number(s): 8739835	
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
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

*- 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: 12/30/2016 09:32

Group Number: 1743267

Method Blank (continued)

Analysis Name	Result	MDL
	ug/l	ug/l
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
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
1,1,2-Trichloroethane	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: 16350WAF625	Sample number(s): 8739833-8739835	
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
2,4-Dimethylphenol	N.D.	0.3
Dimethylphthalate	N.D.	1

*- 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: 12/30/2016 09:32

Group Number: 1743267

Method Blank (continued)

Analysis Name	Result	MDL
	ug/l	ug/l
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.	0.3
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.	0.4
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.	0.4
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: 163495716003	Sample number(s): 8739833	
Chromium	N.D.	0.0018
Batch number: 163545714001	Sample number(s): 8739832,8739835	
Mercury	N.D.	0.000050
Batch number: 163545716003	Sample number(s): 8739832,8739835	
Aluminum	N.D.	0.0868
Antimony	N.D.	0.0077
Arsenic	N.D.	0.0097
Cadmium	N.D.	0.00049
Chromium	N.D.	0.0018
Cobalt	N.D.	0.0019
Copper	N.D.	0.0041
Iron	N.D.	0.0747

*- Outside of specification
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(2) The unspiked result was more than four times the spike added.
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Quality Control Summary

Client Name: GES, Inc.-PA
Reported: 12/30/2016 09:32

Group Number: 1743267

Method Blank (continued)

Analysis Name	Result mg/l	MDL mg/l
Lead	N.D.	0.0062
Manganese	N.D.	0.0018
Nickel	N.D.	0.0028
Silver	N.D.	0.0019
Zinc	N.D.	0.0054
Batch number: 16356114101A	Sample number(s): 8739832,8739835	
Cyanide (Free)	N.D.	0.0040
Batch number: 16347144601A	Sample number(s): 8739832-8739833,8739835	
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: C163552AA	Sample number(s): 8739833-8739836								
Acetone	37.5	41.64	37.5	39.76	111	106	65-130	5	30
Benzene	5.00	5.08	5.00	4.97	102	99	80-120	2	30
Bromochloromethane	5.00	5.27	5.00	5.26	105	105	80-125	0	30
Bromodichloromethane	5.00	5.83	5.00	5.69	117	114	80-120	2	30
Bromoform	5.00	5.37	5.00	5.37	107	107	62-128	0	30
Bromomethane	5.00	4.99	5.00	4.92	100	98	62-131	1	30
2-Butanone	37.5	38.89	37.5	37.85	104	101	66-135	3	30
Carbon Disulfide	5.00	5.03	5.00	4.96	101	99	65-120	1	30
Carbon Tetrachloride	5.00	5.80	5.00	5.71	116	114	79-124	2	30
Chlorobenzene	5.00	4.99	5.00	4.98	100	100	80-120	0	30
Chloroethane	5.00	5.10	5.00	5.03	102	101	63-125	1	30
Chloroform	5.00	5.53	5.00	5.40	111	108	80-120	2	30
Chloromethane	5.00	4.18	5.00	4.11	84	82	55-126	2	30
Cyclohexane	5.00	4.70	5.00	4.73	94	95	69-120	1	30
1,2-Dibromo-3-chloropropane	5.00	5.03	5.00	4.64	101	93	63-134	8	30
Dibromochloromethane	5.00	5.48	5.00	5.48	110	110	78-127	0	30
1,2-Dibromoethane	5.00	5.53	5.00	5.65	111	113	80-120	2	30
1,2-Dichlorobenzene	5.00	5.15	5.00	5.03	103	101	80-120	3	30
1,3-Dichlorobenzene	5.00	5.06	5.00	5.02	101	100	80-120	1	30
1,4-Dichlorobenzene	5.00	5.04	5.00	4.99	101	100	80-120	1	30
Dichlorodifluoromethane	5.00	3.92	5.00	3.87	78	77	35-142	1	30
1,1-Dichloroethane	5.00	5.13	5.00	5.03	103	101	75-120	2	30
1,2-Dichloroethane	5.00	6.31	5.00	6.29	126	126	72-127	0	30
1,1-Dichloroethene	5.00	4.92	5.00	4.87	98	97	76-120	1	30
cis-1,2-Dichloroethene	5.00	5.03	5.00	4.95	101	99	80-120	2	30
trans-1,2-Dichloroethene	5.00	5.21	5.00	5.08	104	102	80-120	2	30
1,2-Dichloropropane	5.00	5.02	5.00	4.98	100	100	80-120	1	30
cis-1,3-Dichloropropene	5.00	5.17	5.00	5.18	103	104	80-124	0	30

*- Outside of specification
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Quality Control Summary

Client Name: GES, Inc.-PA
Reported: 12/30/2016 09:32

Group Number: 1743267

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
trans-1,3-Dichloropropene	5.00	5.57	5.00	5.55	111	111	77-121	0	30
1,4-Dioxane	125	146.44	125	145.95	117	117	55-171	0	30
Ethylbenzene	5.00	5.34	5.00	5.24	107	105	80-120	2	30
Freon 113	5.00	5.03	5.00	5.04	101	101	75-120	0	30
2-Hexanone	25	29.94	25	29.48	120	118	73-128	2	30
Isopropylbenzene	5.00	5.33	5.00	5.31	107	106	80-120	0	30
Methyl Acetate	5.00	5.00	5.00	4.76	100	95	67-139	5	30
Methyl Tertiary Butyl Ether	5.00	5.61	5.00	5.63	112	113	80-120	0	30
4-Methyl-2-pentanone	25	29.16	25	28.23	117	113	71-129	3	30
Methylcyclohexane	5.00	5.08	5.00	5.11	102	102	80-120	1	30
Methylene Chloride	5.00	4.87	5.00	4.79	97	96	80-120	2	30
Styrene	5.00	5.36	5.00	5.25	107	105	80-120	2	30
1,1,2,2-Tetrachloroethane	5.00	5.11	5.00	5.05	102	101	75-123	1	30
Tetrachloroethene	5.00	5.03	5.00	5.00	101	100	80-120	1	30
Toluene	5.00	5.08	5.00	5.08	102	102	80-120	0	30
1,2,3-Trichlorobenzene	5.00	5.19	5.00	5.00	104	100	66-120	4	30
1,2,4-Trichlorobenzene	5.00	5.20	5.00	5.03	104	101	67-120	3	30
1,1,1-Trichloroethane	5.00	5.75	5.00	5.72	115	114	79-120	0	30
1,1,2-Trichloroethane	5.00	5.24	5.00	5.16	105	103	80-120	1	30
Trichloroethene	5.00	5.43	5.00	5.36	109	107	80-120	1	30
Trichlorofluoromethane	5.00	5.60	5.00	5.53	112	111	71-131	1	30
Vinyl Chloride	5.00	4.75	5.00	4.72	95	94	62-128	1	30
m+p-Xylene	10	10.59	10	10.53	106	105	80-120	1	30
o-Xylene	5.00	5.29	5.00	5.20	106	104	80-120	2	30
Xylene (Total)	15	15.88	15	15.74	106	105	80-120	1	30
Batch number: C163562AA	Sample number(s): 8739835								
Acetone	37.5	39.54			105		65-130		
Benzene	5.00	4.86			97		80-120		
Bromochloromethane	5.00	5.26			105		80-125		
Bromodichloromethane	5.00	5.77			115		80-120		
Bromoform	5.00	5.70			114		62-128		
Bromomethane	5.00	4.89			98		62-131		
2-Butanone	37.5	35.07			94		66-135		
Carbon Disulfide	5.00	4.37			87		65-120		
Carbon Tetrachloride	5.00	5.78			116		79-124		
Chlorobenzene	5.00	4.95			99		80-120		
Chloroethane	5.00	4.96			99		63-125		
Chloroform	5.00	5.49			110		80-120		
Chloromethane	5.00	3.82			76		55-126		
Cyclohexane	5.00	4.40			88		69-120		
1,2-Dibromo-3-chloropropane	5.00	5.09			102		63-134		
Dibromochloromethane	5.00	5.54			111		78-127		
1,2-Dibromoethane	5.00	5.48			110		80-120		
1,2-Dichlorobenzene	5.00	5.32			106		80-120		
1,3-Dichlorobenzene	5.00	5.22			104		80-120		
1,4-Dichlorobenzene	5.00	5.22			104		80-120		
Dichlorodifluoromethane	5.00	3.57			71		35-142		

*- 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.
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Quality Control Summary

Client Name: GES, Inc.-PA
Reported: 12/30/2016 09:32

Group Number: 1743267

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
1,1-Dichloroethane	5.00	4.91			98		75-120		
1,2-Dichloroethane	5.00	6.28			126		72-127		
1,1-Dichloroethene	5.00	4.65			93		76-120		
trans-1,2-Dichloroethene	5.00	4.97			99		80-120		
1,2-Dichloropropane	5.00	4.82			96		80-120		
cis-1,3-Dichloropropene	5.00	5.02			100		80-124		
trans-1,3-Dichloropropene	5.00	5.51			110		77-121		
1,4-Dioxane	125	144.49			116		55-171		
Ethylbenzene	5.00	5.21			104		80-120		
Freon 113	5.00	4.87			97		75-120		
2-Hexanone	25	29.71			119		73-128		
Isopropylbenzene	5.00	5.27			105		80-120		
Methyl Acetate	5.00	4.75			95		67-139		
Methyl Tertiary Butyl Ether	5.00	5.35			107		80-120		
4-Methyl-2-pentanone	25	28.54			114		71-129		
Methylcyclohexane	5.00	5.05			101		80-120		
Methylene Chloride	5.00	4.58			92		80-120		
Styrene	5.00	5.27			105		80-120		
1,1,2,2-Tetrachloroethane	5.00	5.22			104		75-123		
Tetrachloroethene	5.00	4.97			99		80-120		
Toluene	5.00	4.91			98		80-120		
1,2,3-Trichlorobenzene	5.00	5.63			113		66-120		
1,2,4-Trichlorobenzene	5.00	5.39			108		67-120		
1,1,2-Trichloroethane	5.00	5.18			104		80-120		
Trichlorofluoromethane	5.00	5.40			108		71-131		
Vinyl Chloride	5.00	4.47			89		62-128		
m+p-Xylene	10	10.46			105		80-120		
o-Xylene	5.00	5.07			101		80-120		
Xylene (Total)	15	15.53			104		80-120		
	ug/l	ug/l	ug/l	ug/l					
Batch number: 16350WAF625	Sample number(s): 8739833-8739835								
Acenaphthene	50	42.33	50	39.6	85	79	71-118	7	30
Acenaphthylene	50	39.5	50	37.85	79	76	70-121	4	30
Anthracene	50	46.3	50	45.41	93	91	80-114	2	30
Benzo(a)anthracene	50	48.23	50	49.05	96	98	76-117	2	30
Benzo(a)pyrene	50	46.95	50	46.95	94	94	76-112	0	30
Benzo(b)fluoranthene	50	46.13	50	47.48	92	95	80-120	3	30
Benzo(g,h,i)perylene	50	48.75	50	48.36	97	97	76-120	1	30
Benzo(k)fluoranthene	50	49.41	50	48.69	99	97	75-121	1	30
4-Bromophenyl-phenylether	50	45.23	50	43.81	90	88	75-118	3	30
Butylbenzylphthalate	50	45.73	50	45.53	91	91	80-125	0	30
Di-n-butylphthalate	50	48.51	50	48.13	97	96	77-116	1	30
Carbazole	50	49	50	48.66	98	97	84-114	1	30
4-Chloro-3-methylphenol	50	47.97	50	48.58	96	97	72-116	1	30
4-Chloroaniline	50	24.32	50	23.99	49	48	23-117	1	30
bis(2-Chloroethoxy)methane	50	48.36	50	48.96	97	98	67-122	1	30
bis(2-Chloroethyl)ether	50	45.34	50	45.67	91	91	74-111	1	30

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Quality Control Summary

Client Name: GES, Inc.-PA
Reported: 12/30/2016 09:32

Group Number: 1743267

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
bis(2-Chloroisopropyl)ether	50	44.7	50	44.43	89	89	74-116	1	30
2-Chloronaphthalene	50	35.65	50	37.74	71	75	60-118	6	30
2-Chlorophenol	50	48.01	50	48.03	96	96	68-117	0	30
4-Chlorophenyl-phenylether	50	40.99	50	40.26	82	81	76-115	2	30
Chrysene	50	48.55	50	47.96	97	96	81-118	1	30
Dibenz(a,h)anthracene	50	50.04	50	49.77	100	100	77-119	1	30
Dibenzofuran	50	42.32	50	41.24	85	82	81-110	3	30
1,2-Dichlorobenzene	50	28.96	50	27.92	58	56	32-111	4	30
1,3-Dichlorobenzene	50	26.57	50	24.71	53	49	24-107	7	30
1,4-Dichlorobenzene	50	26.9	50	25.97	54	52	26-108	4	30
3,3'-Dichlorobenzidine	50	20.75	50	21.88	41	44	10-103	5	30
2,4-Dichlorophenol	50	48.19	50	48.19	96	96	79-114	0	30
Diethylphthalate	50	41.13	50	42.79	82	86	39-114	4	30
2,4-Dimethylphenol	50	36.56	50	36.66	73	73	72-110	0	30
Dimethylphthalate	50	28.29	50	29.86	57	60	33-112	5	30
4,6-Dinitro-2-methylphenol	50	44.93	50	45.81	90	92	74-120	2	30
2,4-Dinitrophenol	100	91.08	100	91.97	91	92	50-128	1	30
2,4-Dinitrotoluene	50	49.5	50	50.06	99	100	85-117	1	30
2,6-Dinitrotoluene	50	49.41	50	48.26	99	97	80-115	2	30
bis(2-Ethylhexyl)phthalate	50	47.2	50	46.54	94	93	77-118	1	30
Fluoranthene	50	48.03	50	48.01	96	96	77-111	0	30
Fluorene	50	44	50	43.54	88	87	80-116	1	30
Hexachlorobenzene	50	46.27	50	45.26	93	91	75-116	2	30
Hexachlorobutadiene	50	22.02	50	20.14	44	40	11-113	9	30
Hexachlorocyclopentadiene	100	10.23	100	8.71	10*	9*	24-128	16	30
Hexachloroethane	50	22.09	50	22.41	44	45	11-105	1	30
Indeno(1,2,3-cd)pyrene	50	48.08	50	47.7	96	95	76-115	1	30
Isophorone	50	45.91	50	45.66	92	91	78-120	1	30
2-Methylnaphthalene	50	36.39	50	31.43	73	63*	65-110	15	30
2-Methylphenol	50	44.24	50	45.63	88	91	58-117	3	30
4-Methylphenol	50	41.61	50	42.22	83	84	44-108	1	30
Naphthalene	50	38.11	50	33.71	76	67	52-115	12	30
2-Nitroaniline	50	47.12	50	48.83	94	98	80-120	4	30
3-Nitroaniline	50	41.78	50	39.98	84	80	78-106	4	30
4-Nitroaniline	50	41.13	50	42.27	82	85	61-104	3	30
Nitrobenzene	50	47.12	50	47.65	94	95	73-113	1	30
2-Nitrophenol	50	47.33	50	47.98	95	96	83-109	1	30
4-Nitrophenol	50	28.23	50	28.4	56	57	10-83	1	30
N-Nitroso-di-n-propylamine	50	46.93	50	47.05	94	94	78-110	0	30
N-Nitrosodiphenylamine	50	47.59	50	47.67	95	95	77-116	0	30
Di-n-octylphthalate	50	48.31	50	50.03	97	100	79-125	4	30
Pentachlorophenol	50	52.75	50	52.01	106	104	57-116	1	30
Phenanthrene	50	47.05	50	46.28	94	93	78-112	2	30
Phenol	50	26.91	50	26.8	54	54	14-69	0	30
Pyrene	50	45.28	50	46.49	91	93	52-115	3	30
1,2,4-Trichlorobenzene	50	28.86	50	25.91	58	52	44-142	11	30
2,4,5-Trichlorophenol	50	49.25	50	48.53	99	97	78-112	1	30
2,4,6-Trichlorophenol	50	49.98	50	50.78	100	102	83-120	2	30

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Quality Control Summary

Client Name: GES, Inc.-PA
Reported: 12/30/2016 09:32

Group Number: 1743267

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
	mg/l	mg/l	mg/l	mg/l					
Batch number: 163495716003	Sample number(s): 8739833								
Chromium	0.200	0.214			107		85-115		
Batch number: 163545714001	Sample number(s): 8739832,8739835								
Mercury	0.00100	0.000922			92		85-115		
Batch number: 163545716003	Sample number(s): 8739832,8739835								
Aluminum	2.00	2.06			103		85-115		
Antimony	0.500	0.515			103		85-115		
Arsenic	0.150	0.155			103		85-115		
Cadmium	0.0500	0.0517			103		85-115		
Chromium	0.200	0.205			102		85-115		
Cobalt	0.500	0.524			105		85-115		
Copper	0.250	0.261			104		85-115		
Iron	1.00	1.01			101		85-115		
Lead	0.150	0.151			101		85-115		
Manganese	0.500	0.510			102		85-115		
Nickel	0.500	0.519			104		85-115		
Silver	0.0500	0.0545			109		85-115		
Zinc	0.500	0.510			102		85-115		
	mg/l	mg/l	mg/l	mg/l					
Batch number: 163561141101A	Sample number(s): 8739832,8739835								
Cyanide (Free)	0.150	0.159			106		90-110		
	mg/l	mg/l	mg/l	mg/l					
Batch number: 163471446601A	Sample number(s): 8739832-8739833,8739835								
Hexavalent Chromium	0.0200	0.0204	0.0200	0.0204	102	102	95-105	0	20

MS/MSD

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

Analysis Name	Unspiked Conc ug/l	MS Spike Added ug/l	MS Conc ug/l	MSD Spike Added ug/l	MSD Conc ug/l	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
Batch number: C163562AA	Sample number(s): 8739835 UNSPK: P746807									
Acetone	N.D.	37.5	38.9	37.5	39.03	104	104	65-130	0	30
Benzene	N.D.	5.00	4.85	5.00	4.80	97	96	80-120	1	30
Bromochloromethane	N.D.	5.00	5.22	5.00	5.04	104	101	80-125	4	30
Bromodichloromethane	N.D.	5.00	5.65	5.00	5.63	113	113	80-120	0	30
Bromoform	N.D.	5.00	5.27	5.00	5.18	105	104	62-128	2	30

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(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.
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Quality Control Summary

Client Name: GES, Inc.-PA
Reported: 12/30/2016 09:32

Group Number: 1743267

MS/MSD (continued)

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

Analysis Name	Unspiked Conc ug/l	MS Spike Added ug/l	MS Conc ug/l	MSD Spike Added ug/l	MSD Conc ug/l	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
Bromomethane	N.D.	5.00	5.00	5.00	5.44	100	109	62-131	9	30
2-Butanone	N.D.	37.5	34.31	37.5	34.64	91	92	66-135	1	30
Carbon Disulfide	N.D.	5.00	4.43	5.00	4.47	89	89	65-120	1	30
Carbon Tetrachloride	N.D.	5.00	6.10	5.00	6.01	122	120	79-124	1	30
Chlorobenzene	N.D.	5.00	4.85	5.00	4.84	97	97	80-120	0	30
Chloroethane	N.D.	5.00	5.03	5.00	5.39	101	108	63-125	7	30
Chloroform	0.540	5.00	5.99	5.00	5.92	109	108	80-120	1	30
Chloromethane	N.D.	5.00	3.81	5.00	4.22	76	84	55-126	10	30
Cyclohexane	N.D.	5.00	4.52	5.00	4.55	90	91	69-120	1	30
1,2-Dibromo-3-chloropropane	N.D.	5.00	4.82	5.00	4.83	96	97	63-134	0	30
Dibromochloromethane	N.D.	5.00	5.30	5.00	5.25	106	105	78-127	1	30
1,2-Dibromoethane	N.D.	5.00	5.19	5.00	5.19	104	104	80-120	0	30
1,2-Dichlorobenzene	N.D.	5.00	4.96	5.00	4.93	99	99	80-120	0	30
1,3-Dichlorobenzene	N.D.	5.00	4.84	5.00	4.84	97	97	80-120	0	30
1,4-Dichlorobenzene	N.D.	5.00	4.89	5.00	4.90	98	98	80-120	0	30
Dichlorodifluoromethane	N.D.	5.00	3.80	5.00	4.11	76	82	35-142	8	30
1,1-Dichloroethane	N.D.	5.00	4.81	5.00	4.89	96	98	75-120	2	30
1,2-Dichloroethane	N.D.	5.00	5.94	5.00	5.92	119	118	72-127	0	30
1,1-Dichloroethene	N.D.	5.00	4.69	5.00	4.75	94	95	76-120	1	30
trans-1,2-Dichloroethene	N.D.	5.00	5.05	5.00	4.98	101	100	80-120	1	30
1,2-Dichloropropane	N.D.	5.00	4.68	5.00	4.68	94	94	80-120	0	30
cis-1,3-Dichloropropene	N.D.	5.00	4.79	5.00	4.84	96	97	80-124	1	30
trans-1,3-Dichloropropene	N.D.	5.00	5.18	5.00	5.22	104	104	77-121	1	30
1,4-Dioxane	N.D.	125	127.63	125	138.44	102	111	55-171	8	30
Ethylbenzene	N.D.	5.00	5.17	5.00	5.14	103	103	80-120	1	30
Freon 113	N.D.	5.00	5.17	5.00	5.04	103	101	75-120	2	30
2-Hexanone	N.D.	25	25.63	25	25.7	103	103	73-128	0	30
Isopropylbenzene	N.D.	5.00	5.26	5.00	5.24	105	105	80-120	0	30
Methyl Acetate	N.D.	5.00	4.30	5.00	4.31	86	86	67-139	0	30
Methyl Tertiary Butyl Ether	N.D.	5.00	5.01	5.00	5.11	100	102	80-120	2	30
4-Methyl-2-pentanone	N.D.	25	25.31	25	25.64	101	103	71-129	1	30
Methylcyclohexane	N.D.	5.00	5.31	5.00	5.19	106	104	80-120	2	30
Methylene Chloride	N.D.	5.00	4.53	5.00	4.50	91	90	80-120	1	30
Styrene	N.D.	5.00	5.15	5.00	5.11	103	102	80-120	1	30
1,1,2,2-Tetrachloroethane	N.D.	5.00	4.64	5.00	4.63	93	93	75-123	0	30
Tetrachloroethene	N.D.	5.00	5.12	5.00	4.99	102	100	80-120	2	30
Toluene	N.D.	5.00	4.88	5.00	4.87	98	97	80-120	0	30
1,2,3-Trichlorobenzene	N.D.	5.00	4.93	5.00	4.91	99	98	66-120	0	30
1,2,4-Trichlorobenzene	N.D.	5.00	4.90	5.00	4.90	98	98	67-120	0	30
1,1,2-Trichloroethane	N.D.	5.00	4.91	5.00	4.80	98	96	80-120	2	30
Trichlorofluoromethane	N.D.	5.00	5.93	5.00	6.44	119	129	71-131	8	30
Vinyl Chloride	N.D.	5.00	4.60	5.00	5.13	92	103	62-128	11	30
m+p-Xylene	N.D.	10	10.44	10	10.19	104	102	80-120	2	30
o-Xylene	N.D.	5.00	5.05	5.00	5.02	101	100	80-120	1	30
Xylene (Total)	N.D.	15	15.5	15	15.21	103	101	80-120	2	30

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(1) The result for one or both determinations was less than five times the LOQ.
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Quality Control Summary

Client Name: GES, Inc.-PA
Reported: 12/30/2016 09:32

Group Number: 1743267

MS/MSD (continued)

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: 163495716003	Sample number(s): 8739833 UNSPK: P742401									
Chromium	0.00189	0.200	0.215			106		70-130		
Batch number: 163545714001	Sample number(s): 8739832,8739835 UNSPK: 8739832									
Mercury	N.D.	0.00100	0.000974			97		80-120		
Batch number: 163545716003	Sample number(s): 8739832,8739835 UNSPK: 8739835									
Aluminum	N.D.	2.00	2.13			106		70-130		
Antimony	N.D.	0.500	0.526			105		70-130		
Arsenic	N.D.	0.150	0.159			106		70-130		
Cadmium	0.00676	0.0500	0.0579			102		70-130		
Chromium	0.0112	0.200	0.218			103		70-130		
Cobalt	0.0887	0.500	0.594			101		70-130		
Copper	N.D.	0.250	0.260			104		70-130		
Iron	3.29	1.00	4.32			103		70-130		
Lead	N.D.	0.150	0.149			99		70-130		
Manganese	3.22	0.500	3.69			95 (2)		70-130		
Nickel	0.0702	0.500	0.566			99		70-130		
Silver	N.D.	0.0500	0.0558			112		70-130		
Zinc	0.0450	0.500	0.544			100		70-130		
	mg/l	mg/l	mg/l	mg/l	mg/l					
Batch number: 16356114101A	Sample number(s): 8739832,8739835 UNSPK: 8739832									
Cyanide (Free)	N.D.	0.200	0.196			98		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: 163495716003	Sample number(s): 8739833 BKG: P742401			
Chromium	0.00189	N.D.	200* (1)	20
Batch number: 163545714001	Sample number(s): 8739832,8739835 BKG: 8739832			
Mercury	N.D.	N.D.	0 (1)	20
Batch number: 163545716003	Sample number(s): 8739832,8739835 BKG: 8739835			
Aluminum	N.D.	N.D.	0 (1)	20
Antimony	N.D.	N.D.	0 (1)	20
Arsenic	N.D.	N.D.	0 (1)	20
Cadmium	0.00676	0.00672	1 (1)	20
Chromium	0.0112	0.0114	2 (1)	20

*- 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: 12/30/2016 09:32

Group Number: 1743267

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		
Cobalt	0.0887	0.0902	2	20
Copper	N.D.	0.00427	200* (1)	20
Iron	3.29	3.36	2	20
Lead	N.D.	N.D.	0 (1)	20
Manganese	3.22	3.26	1	20
Nickel	0.0702	0.0713	2	20
Silver	N.D.	N.D.	0 (1)	20
Zinc	0.0450	0.0455	1 (1)	20
	mg/l	mg/l		
Batch number: 16356114101A	Sample number(s): 8739832,8739835 BKG: 8739832			
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: C163552AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
8739833	108	104	98	98
8739834	109	106	97	97
8739836	108	106	98	99
Blank	107	105	99	98
LCS	105	103	99	101
LCSD	104	105	99	103
Limits:	77-114	74-113	77-110	78-110

Analysis Name: TCL SOM01.2 VOCs
Batch number: C163562AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
8739835	114	106	97	97
Blank	110	107	97	97
LCS	105	106	98	104
MS	105	104	97	102
MSD	105	106	97	103
Limits:	77-114	74-113	77-110	78-110

Analysis Name: TCL 3.2 SVOCs
Batch number: 16350WAF625

*- 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: 12/30/2016 09:32

Group Number: 1743267

Surrogate Quality Control (continued)

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 3.2 SVOCs
Batch number: 16350WAF625

	Nitrobenzene-d5	2-Fluorobiphenyl	Terphenyl-d14	Phenol-d6	2-Fluorophenol	2,4,6-Tribromophenol
8739833	91	87	87	8*	13	53
8739834	92	92	87	28	51	81
8739835	87	84	86	2*	1*	2*
Blank	94	84	94	45	69	95
LCS	91	85	90	50	72	91
LCSD	90	83	92	48	73	93
Limits:	60-119	62-116	55-124	10-75	10-105	11-154

*- 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|1743267|8739832-36

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
								HNO_3 (250 mL)	None (250 mL)	NaOH/asc (250 mL)	HNO_3 (250 mL)	None (1000 mL)	HCl (40 mL)					PRESERVATIVE (Bottle Size)
								NUMBER OF CONTAINERS SUBMITTED										
12-12-16	~~0745~~	0810 Effluent Composite	C	X					1	1	1							"X" - Indicates analysis required but will be analyzed from the Influent grab sample collected for the Metals analysis.
12-12-16	0810	Effluent Grab	G	X				1	1			2	3					
12-12-16	0815	Midfluent Grab	G	X								2	3					
12-12-16	0828	Influent Grab	G	X				X	1	1	1	2	3					
12-12-16	–	Trip Blank	G	X									2					

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
[signature]	12-12-16	12:50	Bill DeYong	12-12-16	16:25			
RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME
Bill DeYong	12-12-16	12:50				[signature]	12/12/16	1625

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			

FCU036:12.20.00:2

Original - Return to Laboratory with Sample(s)

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Sample Administration Receipt Documentation Log

Doc Log ID: 170516

Group Number(s): 1743267

Client: GES

Delivery and Receipt Information

Delivery Method:	ELLE Courier	Arrival Timestamp:	12/12/2016 16:25
Number of Packages:	1	Number of Projects:	1
State/Province of Origin:	PA		

Arrival Condition Summary

Shipping Container Sealed:	No	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 Karen Diem (3060) at 16:52 on 12/12/2016

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	DT121	0.9	DT	Wet	Y	Bagged	N

2425 New Holland Pike
Lancaster, PA 17605-2425
T | 717-656-2300
F | 717-656-2681
www.LancasterLabs.com

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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.**	none detected
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.

Laboratory Data Qualifiers:

C - Result confirmed by reanalysis
E - Concentration exceeds the calibration range
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.

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.

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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Additional Data Qualifiers

Qualifier	Definition
B	Detection in the Blank
Q0	LCS/LCSD Low
Q1	LCS/LCSD High
Q4	MS/MSD Out of Range
Q7	LCS/LCSD RPD
Q8	DUP RPD
Q9	MS/MSD RPD