SHEALY ENVIRONMENTAL SERVICES, INC.

Report of Analysis

Tetra Tech, Inc.
One S. Wacker Drive, Suite 3700
Chicago, IL 60606
Attention: Bruce Welch

Project Name: Joliet Chemical Fire PRP Clean UP

Project Number: 103X903100690002AJ001

Lot Number:**UL03011**

Date Completed:12/08/2019
Revision Date: 12/12/2019

N. Saikaly

12/12/2019 2:03 PM
Approved and released by:
Project Manager: Nisreen Saikaly

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Case Narrative
Tetra Tech, Inc.
Lot Number: UL03011

This Report of Analysis contains the analytical result(s) for the sample(s) listed on the Sample Summary following this Case Narrative. The sample receiving date is documented in the header information associated with each sample.

All results listed in this report relate only to the samples that are contained within this report.

Sample receipt, sample analysis, and data review have been performed in accordance with the most current approved NELAC standards, the Shealy Environmental Services, Inc. ("Shealy") Quality Assurance Management Plan (QAMP), standard operating procedures (SOPs), and Shealy policies. Any exceptions to the NELAC standards, the QAMP, SOPs or policies are qualified on the results page or discussed below.

If you have any questions regarding this report please contact the Shealy Project Manager listed on the cover page.

Sample Summary
Tetra Tech, Inc.
Lot Number: UL03011

Sample Number	Sample ID	Matrix	Date Sampled	Date Received
001	MPGI-20-Water-RW-120219	Aqueous	12/02/2019 1036	12/03/2019
002	MPGI-21-Water-RW-120219	Aqueous	12/02/2019 0951	12/03/2019
003	MPGI-22-Water-RW-120219	Aqueous	12/02/2019 1114	12/03/2019
004	MPGI-24-Water-RW-120219	Aqueous	12/02/2019 1327	12/03/2019
005	MPGI-25-Water-RW-120219	Aqueous	12/02/2019 1244	12/03/2019
006	MPGI-FB-120219	Aqueous	12/02/2019 1400	12/03/2019

(6 samples)

Detection Summary

Tetra Tech, Inc.

Lot Number: UL03011

Sample	Sample ID	Matrix	Parameter	Method	Result	Q	Units	Page

(0 detections)

Semivolatile Organic Compounds by GC/MS

Client: **Tetra Tech, Inc.**
Laboratory ID: **UL03011-001**
Description: **MPGI-20-Water-RW-120219**
Matrix: **Aqueous**
Date Sampled: **12/02/2019 1036**
Date Received: **12/03/2019**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3520C	8270D	1	12/06/2019 1424	SCD	12/03/2019 1638	37759

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
1,1'-Biphenyl	92-52-4	8270D	ND		4.0	0.50	ug/L	1
2,4,5-Trichlorophenol	95-95-4	8270D	ND		4.0	0.50	ug/L	1
2,4,6-Trichlorophenol	88-06-2	8270D	ND		4.0	0.50	ug/L	1
2,4-Dichlorophenol	120-83-2	8270D	ND		8.0	1.0	ug/L	1
2,4-Dimethylphenol	105-67-9	8270D	ND		4.0	1.0	ug/L	1
2,4-Dinitrophenol	51-28-5	8270D	ND		20	1.0	ug/L	1
2,4-Dinitrotoluene	121-14-2	8270D	ND		8.0	0.50	ug/L	1
2,6-Dinitrotoluene	606-20-2	8270D	ND		8.0	0.50	ug/L	1
2-Chloronaphthalene	91-58-7	8270D	ND		4.0	0.50	ug/L	1
2-Chlorophenol	95-57-8	8270D	ND		4.0	0.50	ug/L	1
2-Methylnaphthalene	91-57-6	8270D	ND		0.80	0.20	ug/L	1
2-Methylphenol	95-48-7	8270D	ND		4.0	1.0	ug/L	1
2-Nitroaniline	88-74-4	8270D	ND		8.0	0.50	ug/L	1
2-Nitrophenol	88-75-5	8270D	ND		4.0	1.0	ug/L	1
3,3'-Dichlorobenzidine	91-94-1	8270D	ND		4.0	1.8	ug/L	1
3+4-Methylphenol	106-44-5	8270D	ND		4.0	1.5	ug/L	1
3-Nitroaniline	99-09-2	8270D	ND		8.0	1.0	ug/L	1
4,6-Dinitro-2-methylphenol	534-52-1	8270D	ND		20	1.0	ug/L	1
4-Bromophenyl phenyl ether	101-55-3	8270D	ND		4.0	0.50	ug/L	1
4-Chloro-3-methyl phenol	59-50-7	8270D	ND		4.0	0.50	ug/L	1
4-Chloroaniline	106-47-8	8270D	ND		8.0	0.50	ug/L	1
4-Chlorophenyl phenyl ether	7005-72-3	8270D	ND		4.0	0.50	ug/L	1
4-Nitroaniline	100-01-6	8270D	ND		8.0	1.5	ug/L	1
4-Nitrophenol	100-02-7	8270D	ND		20	2.0	ug/L	1
Acenaphthene	83-32-9	8270D	ND		0.80	0.20	ug/L	1
Acenaphthylene	208-96-8	8270D	ND		0.80	0.20	ug/L	1
Acetophenone	98-86-2	8270D	ND		4.0	0.50	ug/L	1
Anthracene	120-12-7	8270D	ND		0.80	0.20	ug/L	1
Atrazine	1912-24-9	8270D	ND		4.0	0.50	ug/L	1
Benzaldehyde	100-52-7	8270D	ND		8.0	0.50	ug/L	1
Benzo(a)anthracene	56-55-3	8270D	ND		0.80	0.20	ug/L	1
Benzo(a)pyrene	50-32-8	8270D	ND		0.80	0.20	ug/L	1
Benzo(b)fluoranthene	205-99-2	8270D	ND		0.80	0.20	ug/L	1
Benzo(g,h,i)perylene	191-24-2	8270D	ND		0.80	0.20	ug/L	1
Benzo(k)fluoranthene	207-08-9	8270D	ND		0.80	0.20	ug/L	1
bis (2-Chloro-1-methylethyl) ether	108-60-1	8270D	ND		4.0	0.50	ug/L	1
bis(2-Chloroethoxy)methane	111-91-1	8270D	ND		4.0	0.50	ug/L	1
bis(2-Chloroethyl)ether	111-44-4	8270D	ND		4.0	0.50	ug/L	1
bis(2-Ethylhexyl)phthalate	117-81-7	8270D	ND		4.0	0.50	ug/L	1
Butyl benzyl phthalate	85-68-7	8270D	ND		4.0	0.50	ug/L	1
Caprolactam	105-60-2	8270D	ND		8.0	2.0	ug/L	1
Carbazole	86-74-8	8270D	ND		4.0	0.50	ug/L	1
Chrysene	218-01-9	8270D	ND		0.80	0.20	ug/L	1
Dibenzo(a,h)anthracene	53-70-3	8270D	ND		0.80	0.20	ug/L	1

LOQ = Limit of Quantitation
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
DL = Detection Limit
ND = Not detected at or above the DL
N = Recovery is out of criteria
P = The RPD between two GC columns exceeds 40%
J = Estimated result < LOQ and ≥ DL
H = Out of holding time
W = Reported on wet weight basis

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Semivolatile Organic Compounds by GC/MS

Client: **Tetra Tech, Inc.**
Laboratory ID: **UL03011-001**
Description: **MPGI-20-Water-RW-120219**
Matrix: **Aqueous**
Date Sampled: **12/02/2019 1036**
Date Received: **12/03/2019**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3520C	8270D	1	12/06/2019 1424	SCD	12/03/2019 1638	37759

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
Dibenzofuran	132-64-9	8270D	ND		4.0	0.50	ug/L	1
Diethylphthalate	84-66-2	8270D	ND		4.0	0.50	ug/L	1
Dimethyl phthalate	131-11-3	8270D	ND		4.0	0.50	ug/L	1
Di-n-butyl phthalate	84-74-2	8270D	ND		4.0	0.50	ug/L	1
Di-n-octylphthalate	117-84-0	8270D	ND		4.0	0.50	ug/L	1
Fluoranthene	206-44-0	8270D	ND		0.80	0.20	ug/L	1
Fluorene	86-73-7	8270D	ND		0.80	0.20	ug/L	1
Hexachlorobenzene	118-74-1	8270D	ND		4.0	0.50	ug/L	1
Hexachlorobutadiene	87-68-3	8270D	ND		4.0	0.50	ug/L	1
Hexachlorocyclopentadiene	77-47-4	8270D	ND		20	2.0	ug/L	1
Hexachloroethane	67-72-1	8270D	ND		4.0	1.0	ug/L	1
Indeno(1,2,3-c,d)pyrene	193-39-5	8270D	ND		0.80	0.20	ug/L	1
Isophorone	78-59-1	8270D	ND		4.0	0.50	ug/L	1
Naphthalene	91-20-3	8270D	ND		0.80	0.20	ug/L	1
Nitrobenzene	98-95-3	8270D	ND		4.0	1.5	ug/L	1
N-Nitrosodi-n-propylamine	621-64-7	8270D	ND		4.0	0.50	ug/L	1
N-Nitrosodiphenylamine (Diphenylamine)	86-30-6	8270D	ND		4.0	0.50	ug/L	1
Pentachlorophenol	87-86-5	8270D	ND		20	2.0	ug/L	1
Phenanthrene	85-01-8	8270D	ND		0.80	0.20	ug/L	1
Phenol	108-95-2	8270D	ND		4.0	0.50	ug/L	1
Pyrene	129-00-0	8270D	ND		0.80	0.20	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
2-Fluorobiphenyl		41	37-129
2-Fluorophenol		35	24-127
Nitrobenzene-d5		51	38-127
Phenol-d5		50	28-128
Terphenyl-d14		55	10-148
2,4,6-Tribromophenol		36	35-144

LOQ = Limit of Quantitation
B = Detected in the method blank
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Semivolatile Organic Compounds by GC/MS

Client: **Tetra Tech, Inc.** Laboratory ID: **UL03011-002**

Description: **MPGI-21-Water-RW-120219** Matrix: **Aqueous**

Date Sampled: **12/02/2019 0951**

Date Received: **12/03/2019**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3520C	8270D	1	12/06/2019 1450	SCD	12/03/2019 1638	37759

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
1,1'-Biphenyl	92-52-4	8270D	ND		4.0	0.50	ug/L	1
2,4,5-Trichlorophenol	95-95-4	8270D	ND		4.0	0.50	ug/L	1
2,4,6-Trichlorophenol	88-06-2	8270D	ND		4.0	0.50	ug/L	1
2,4-Dichlorophenol	120-83-2	8270D	ND		8.0	1.0	ug/L	1
2,4-Dimethylphenol	105-67-9	8270D	ND		4.0	1.0	ug/L	1
2,4-Dinitrophenol	51-28-5	8270D	ND		20	1.0	ug/L	1
2,4-Dinitrotoluene	121-14-2	8270D	ND		8.0	0.50	ug/L	1
2,6-Dinitrotoluene	606-20-2	8270D	ND		8.0	0.50	ug/L	1
2-Chloronaphthalene	91-58-7	8270D	ND		4.0	0.50	ug/L	1
2-Chlorophenol	95-57-8	8270D	ND		4.0	0.50	ug/L	1
2-Methylnaphthalene	91-57-6	8270D	ND		0.80	0.20	ug/L	1
2-Methylphenol	95-48-7	8270D	ND		4.0	1.0	ug/L	1
2-Nitroaniline	88-74-4	8270D	ND		8.0	0.50	ug/L	1
2-Nitrophenol	88-75-5	8270D	ND		4.0	1.0	ug/L	1
3,3'-Dichlorobenzidine	91-94-1	8270D	ND		4.0	1.8	ug/L	1
3+4-Methylphenol	106-44-5	8270D	ND		4.0	1.5	ug/L	1
3-Nitroaniline	99-09-2	8270D	ND		8.0	1.0	ug/L	1
4,6-Dinitro-2-methylphenol	534-52-1	8270D	ND		20	1.0	ug/L	1
4-Bromophenyl phenyl ether	101-55-3	8270D	ND		4.0	0.50	ug/L	1
4-Chloro-3-methyl phenol	59-50-7	8270D	ND		4.0	0.50	ug/L	1
4-Chloroaniline	106-47-8	8270D	ND		8.0	0.50	ug/L	1
4-Chlorophenyl phenyl ether	7005-72-3	8270D	ND		4.0	0.50	ug/L	1
4-Nitroaniline	100-01-6	8270D	ND		8.0	1.5	ug/L	1
4-Nitrophenol	100-02-7	8270D	ND		20	2.0	ug/L	1
Acenaphthene	83-32-9	8270D	ND		0.80	0.20	ug/L	1
Acenaphthylene	208-96-8	8270D	ND		0.80	0.20	ug/L	1
Acetophenone	98-86-2	8270D	ND		4.0	0.50	ug/L	1
Anthracene	120-12-7	8270D	ND		0.80	0.20	ug/L	1
Atrazine	1912-24-9	8270D	ND		4.0	0.50	ug/L	1
Benzaldehyde	100-52-7	8270D	ND		8.0	0.50	ug/L	1
Benzo(a)anthracene	56-55-3	8270D	ND		0.80	0.20	ug/L	1
Benzo(a)pyrene	50-32-8	8270D	ND		0.80	0.20	ug/L	1
Benzo(b)fluoranthene	205-99-2	8270D	ND		0.80	0.20	ug/L	1
Benzo(g,h,i)perylene	191-24-2	8270D	ND		0.80	0.20	ug/L	1
Benzo(k)fluoranthene	207-08-9	8270D	ND		0.80	0.20	ug/L	1
bis (2-Chloro-1-methylethyl) ether	108-60-1	8270D	ND		4.0	0.50	ug/L	1
bis(2-Chloroethoxy)methane	111-91-1	8270D	ND		4.0	0.50	ug/L	1
bis(2-Chloroethyl)ether	111-44-4	8270D	ND		4.0	0.50	ug/L	1
bis(2-Ethylhexyl)phthalate	117-81-7	8270D	ND		4.0	0.50	ug/L	1
Butyl benzyl phthalate	85-68-7	8270D	ND		4.0	0.50	ug/L	1
Caprolactam	105-60-2	8270D	ND		8.0	2.0	ug/L	1
Carbazole	86-74-8	8270D	ND		4.0	0.50	ug/L	1
Chrysene	218-01-9	8270D	ND		0.80	0.20	ug/L	1
Dibenzo(a,h)anthracene	53-70-3	8270D	ND		0.80	0.20	ug/L	1

LOQ = Limit of Quantitation
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
DL = Detection Limit
ND = Not detected at or above the DL
N = Recovery is out of criteria
P = The RPD between two GC columns exceeds 40%
J = Estimated result < LOQ and ≥ DL
H = Out of holding time
W = Reported on wet weight basis

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Semivolatile Organic Compounds by GC/MS

Client: **Tetra Tech, Inc.**
Laboratory ID: **UL03011-002**
Description: **MPGI-21-Water-RW-120219**
Matrix: **Aqueous**
Date Sampled: **12/02/2019 0951**
Date Received: **12/03/2019**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3520C	8270D	1	12/06/2019 1450	SCD	12/03/2019 1638	37759

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
Dibenzofuran	132-64-9	8270D	ND		4.0	0.50	ug/L	1
Diethylphthalate	84-66-2	8270D	ND		4.0	0.50	ug/L	1
Dimethyl phthalate	131-11-3	8270D	ND		4.0	0.50	ug/L	1
Di-n-butyl phthalate	84-74-2	8270D	ND		4.0	0.50	ug/L	1
Di-n-octylphthalate	117-84-0	8270D	ND		4.0	0.50	ug/L	1
Fluoranthene	206-44-0	8270D	ND		0.80	0.20	ug/L	1
Fluorene	86-73-7	8270D	ND		0.80	0.20	ug/L	1
Hexachlorobenzene	118-74-1	8270D	ND		4.0	0.50	ug/L	1
Hexachlorobutadiene	87-68-3	8270D	ND		4.0	0.50	ug/L	1
Hexachlorocyclopentadiene	77-47-4	8270D	ND		20	2.0	ug/L	1
Hexachloroethane	67-72-1	8270D	ND		4.0	1.0	ug/L	1
Indeno(1,2,3-c,d)pyrene	193-39-5	8270D	ND		0.80	0.20	ug/L	1
Isophorone	78-59-1	8270D	ND		4.0	0.50	ug/L	1
Naphthalene	91-20-3	8270D	ND		0.80	0.20	ug/L	1
Nitrobenzene	98-95-3	8270D	ND		4.0	1.5	ug/L	1
N-Nitrosodi-n-propylamine	621-64-7	8270D	ND		4.0	0.50	ug/L	1
N-Nitrosodiphenylamine (Diphenylamine)	86-30-6	8270D	ND		4.0	0.50	ug/L	1
Pentachlorophenol	87-86-5	8270D	ND		20	2.0	ug/L	1
Phenanthrene	85-01-8	8270D	ND		0.80	0.20	ug/L	1
Phenol	108-95-2	8270D	ND		4.0	0.50	ug/L	1
Pyrene	129-00-0	8270D	ND		0.80	0.20	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
2-Fluorobiphenyl		41	37-129
2-Fluorophenol		31	24-127
Nitrobenzene-d5		51	38-127
Phenol-d5		45	28-128
Terphenyl-d14		52	10-148
2,4,6-Tribromophenol		39	35-144

LOQ = Limit of Quantitation
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
DL = Detection Limit
ND = Not detected at or above the DL
N = Recovery is out of criteria
P = The RPD between two GC columns exceeds 40%
J = Estimated result < LOQ and ≥ DL
H = Out of holding time
W = Reported on wet weight basis

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Semivolatile Organic Compounds by GC/MS

Client: **Tetra Tech, Inc.**
Laboratory ID: **UL03011-003**
Description: **MPGI-22-Water-RW-120219**
Matrix: **Aqueous**
Date Sampled: **12/02/2019 1114**
Date Received: **12/03/2019**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3520C	8270D	1	12/06/2019 1750	SCD	12/03/2019 1638	37759

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
1,1'-Biphenyl	92-52-4	8270D	ND		4.0	0.50	ug/L	1
2,4,5-Trichlorophenol	95-95-4	8270D	ND		4.0	0.50	ug/L	1
2,4,6-Trichlorophenol	88-06-2	8270D	ND		4.0	0.50	ug/L	1
2,4-Dichlorophenol	120-83-2	8270D	ND		8.0	1.0	ug/L	1
2,4-Dimethylphenol	105-67-9	8270D	ND		4.0	1.0	ug/L	1
2,4-Dinitrophenol	51-28-5	8270D	ND		20	1.0	ug/L	1
2,4-Dinitrotoluene	121-14-2	8270D	ND		8.0	0.50	ug/L	1
2,6-Dinitrotoluene	606-20-2	8270D	ND		8.0	0.50	ug/L	1
2-Chloronaphthalene	91-58-7	8270D	ND		4.0	0.50	ug/L	1
2-Chlorophenol	95-57-8	8270D	ND		4.0	0.50	ug/L	1
2-Methylnaphthalene	91-57-6	8270D	ND		0.80	0.20	ug/L	1
2-Methylphenol	95-48-7	8270D	ND		4.0	1.0	ug/L	1
2-Nitroaniline	88-74-4	8270D	ND		8.0	0.50	ug/L	1
2-Nitrophenol	88-75-5	8270D	ND		4.0	1.0	ug/L	1
3,3'-Dichlorobenzidine	91-94-1	8270D	ND		4.0	1.8	ug/L	1
3+4-Methylphenol	106-44-5	8270D	ND		4.0	1.5	ug/L	1
3-Nitroaniline	99-09-2	8270D	ND		8.0	1.0	ug/L	1
4,6-Dinitro-2-methylphenol	534-52-1	8270D	ND		20	1.0	ug/L	1
4-Bromophenyl phenyl ether	101-55-3	8270D	ND		4.0	0.50	ug/L	1
4-Chloro-3-methyl phenol	59-50-7	8270D	ND		4.0	0.50	ug/L	1
4-Chloroaniline	106-47-8	8270D	ND		8.0	0.50	ug/L	1
4-Chlorophenyl phenyl ether	7005-72-3	8270D	ND		4.0	0.50	ug/L	1
4-Nitroaniline	100-01-6	8270D	ND		8.0	1.5	ug/L	1
4-Nitrophenol	100-02-7	8270D	ND		20	2.0	ug/L	1
Acenaphthene	83-32-9	8270D	ND		0.80	0.20	ug/L	1
Acenaphthylene	208-96-8	8270D	ND		0.80	0.20	ug/L	1
Acetophenone	98-86-2	8270D	ND		4.0	0.50	ug/L	1
Anthracene	120-12-7	8270D	ND		0.80	0.20	ug/L	1
Atrazine	1912-24-9	8270D	ND		4.0	0.50	ug/L	1
Benzaldehyde	100-52-7	8270D	ND		8.0	0.50	ug/L	1
Benzo(a)anthracene	56-55-3	8270D	ND		0.80	0.20	ug/L	1
Benzo(a)pyrene	50-32-8	8270D	ND		0.80	0.20	ug/L	1
Benzo(b)fluoranthene	205-99-2	8270D	ND		0.80	0.20	ug/L	1
Benzo(g,h,i)perylene	191-24-2	8270D	ND		0.80	0.20	ug/L	1
Benzo(k)fluoranthene	207-08-9	8270D	ND		0.80	0.20	ug/L	1
bis (2-Chloro-1-methylethyl) ether	108-60-1	8270D	ND		4.0	0.50	ug/L	1
bis(2-Chloroethoxy)methane	111-91-1	8270D	ND		4.0	0.50	ug/L	1
bis(2-Chloroethyl)ether	111-44-4	8270D	ND		4.0	0.50	ug/L	1
bis(2-Ethylhexyl)phthalate	117-81-7	8270D	ND		4.0	0.50	ug/L	1
Butyl benzyl phthalate	85-68-7	8270D	ND		4.0	0.50	ug/L	1
Caprolactam	105-60-2	8270D	ND		8.0	2.0	ug/L	1
Carbazole	86-74-8	8270D	ND		4.0	0.50	ug/L	1
Chrysene	218-01-9	8270D	ND		0.80	0.20	ug/L	1
Dibenzo(a,h)anthracene	53-70-3	8270D	ND		0.80	0.20	ug/L	1

LOQ = Limit of Quantitation
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
DL = Detection Limit
ND = Not detected at or above the DL
N = Recovery is out of criteria
P = The RPD between two GC columns exceeds 40%
J = Estimated result < LOQ and ≥ DL
H = Out of holding time
W = Reported on wet weight basis

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Semivolatile Organic Compounds by GC/MS

Client: **Tetra Tech, Inc.**
Laboratory ID: **UL03011-003**
Description: **MPGI-22-Water-RW-120219**
Matrix: **Aqueous**
Date Sampled: **12/02/2019 1114**
Date Received: **12/03/2019**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3520C	8270D	1	12/06/2019 1750	SCD	12/03/2019 1638	37759

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
Dibenzofuran	132-64-9	8270D	ND		4.0	0.50	ug/L	1
Diethylphthalate	84-66-2	8270D	ND		4.0	0.50	ug/L	1
Dimethyl phthalate	131-11-3	8270D	ND		4.0	0.50	ug/L	1
Di-n-butyl phthalate	84-74-2	8270D	ND		4.0	0.50	ug/L	1
Di-n-octylphthalate	117-84-0	8270D	ND		4.0	0.50	ug/L	1
Fluoranthene	206-44-0	8270D	ND		0.80	0.20	ug/L	1
Fluorene	86-73-7	8270D	ND		0.80	0.20	ug/L	1
Hexachlorobenzene	118-74-1	8270D	ND		4.0	0.50	ug/L	1
Hexachlorobutadiene	87-68-3	8270D	ND		4.0	0.50	ug/L	1
Hexachlorocyclopentadiene	77-47-4	8270D	ND		20	2.0	ug/L	1
Hexachloroethane	67-72-1	8270D	ND		4.0	1.0	ug/L	1
Indeno(1,2,3-c,d)pyrene	193-39-5	8270D	ND		0.80	0.20	ug/L	1
Isophorone	78-59-1	8270D	ND		4.0	0.50	ug/L	1
Naphthalene	91-20-3	8270D	ND		0.80	0.20	ug/L	1
Nitrobenzene	98-95-3	8270D	ND		4.0	1.5	ug/L	1
N-Nitrosodi-n-propylamine	621-64-7	8270D	ND		4.0	0.50	ug/L	1
N-Nitrosodiphenylamine (Diphenylamine)	86-30-6	8270D	ND		4.0	0.50	ug/L	1
Pentachlorophenol	87-86-5	8270D	ND		20	2.0	ug/L	1
Phenanthrene	85-01-8	8270D	ND		0.80	0.20	ug/L	1
Phenol	108-95-2	8270D	ND		4.0	0.50	ug/L	1
Pyrene	129-00-0	8270D	ND		0.80	0.20	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
2-Fluorobiphenyl		63	37-129
2-Fluorophenol		43	24-127
Nitrobenzene-d5		74	38-127
Phenol-d5		58	28-128
Terphenyl-d14		84	10-148
2,4,6-Tribromophenol		54	35-144

LOQ = Limit of Quantitation
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
DL = Detection Limit
ND = Not detected at or above the DL
N = Recovery is out of criteria
P = The RPD between two GC columns exceeds 40%
J = Estimated result < LOQ and ≥ DL
H = Out of holding time
W = Reported on wet weight basis

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Semivolatile Organic Compounds by GC/MS

Client: **Tetra Tech, Inc.** Laboratory ID: **UL03011-004**

Description: **MPGI-24-Water-RW-120219** Matrix: **Aqueous**

Date Sampled: **12/02/2019 1327**

Date Received: **12/03/2019**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3520C	8270D	1	12/06/2019 1906	SCD	12/03/2019 1638	37759

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
1,1'-Biphenyl	92-52-4	8270D	ND		4.0	0.50	ug/L	1
2,4,5-Trichlorophenol	95-95-4	8270D	ND		4.0	0.50	ug/L	1
2,4,6-Trichlorophenol	88-06-2	8270D	ND		4.0	0.50	ug/L	1
2,4-Dichlorophenol	120-83-2	8270D	ND		8.0	1.0	ug/L	1
2,4-Dimethylphenol	105-67-9	8270D	ND		4.0	1.0	ug/L	1
2,4-Dinitrophenol	51-28-5	8270D	ND		20	1.0	ug/L	1
2,4-Dinitrotoluene	121-14-2	8270D	ND		8.0	0.50	ug/L	1
2,6-Dinitrotoluene	606-20-2	8270D	ND		8.0	0.50	ug/L	1
2-Chloronaphthalene	91-58-7	8270D	ND		4.0	0.50	ug/L	1
2-Chlorophenol	95-57-8	8270D	ND		4.0	0.50	ug/L	1
2-Methylnaphthalene	91-57-6	8270D	ND		0.80	0.20	ug/L	1
2-Methylphenol	95-48-7	8270D	ND		4.0	1.0	ug/L	1
2-Nitroaniline	88-74-4	8270D	ND		8.0	0.50	ug/L	1
2-Nitrophenol	88-75-5	8270D	ND		4.0	1.0	ug/L	1
3,3'-Dichlorobenzidine	91-94-1	8270D	ND		4.0	1.8	ug/L	1
3+4-Methylphenol	106-44-5	8270D	ND		4.0	1.5	ug/L	1
3-Nitroaniline	99-09-2	8270D	ND		8.0	1.0	ug/L	1
4,6-Dinitro-2-methylphenol	534-52-1	8270D	ND		20	1.0	ug/L	1
4-Bromophenyl phenyl ether	101-55-3	8270D	ND		4.0	0.50	ug/L	1
4-Chloro-3-methyl phenol	59-50-7	8270D	ND		4.0	0.50	ug/L	1
4-Chloroaniline	106-47-8	8270D	ND		8.0	0.50	ug/L	1
4-Chlorophenyl phenyl ether	7005-72-3	8270D	ND		4.0	0.50	ug/L	1
4-Nitroaniline	100-01-6	8270D	ND		8.0	1.5	ug/L	1
4-Nitrophenol	100-02-7	8270D	ND		20	2.0	ug/L	1
Acenaphthene	83-32-9	8270D	ND		0.80	0.20	ug/L	1
Acenaphthylene	208-96-8	8270D	ND		0.80	0.20	ug/L	1
Acetophenone	98-86-2	8270D	ND		4.0	0.50	ug/L	1
Anthracene	120-12-7	8270D	ND		0.80	0.20	ug/L	1
Atrazine	1912-24-9	8270D	ND		4.0	0.50	ug/L	1
Benzaldehyde	100-52-7	8270D	ND		8.0	0.50	ug/L	1
Benzo(a)anthracene	56-55-3	8270D	ND		0.80	0.20	ug/L	1
Benzo(a)pyrene	50-32-8	8270D	ND		0.80	0.20	ug/L	1
Benzo(b)fluoranthene	205-99-2	8270D	ND		0.80	0.20	ug/L	1
Benzo(g,h,i)perylene	191-24-2	8270D	ND		0.80	0.20	ug/L	1
Benzo(k)fluoranthene	207-08-9	8270D	ND		0.80	0.20	ug/L	1
bis (2-Chloro-1-methylethyl) ether	108-60-1	8270D	ND		4.0	0.50	ug/L	1
bis(2-Chloroethoxy)methane	111-91-1	8270D	ND		4.0	0.50	ug/L	1
bis(2-Chloroethyl)ether	111-44-4	8270D	ND		4.0	0.50	ug/L	1
bis(2-Ethylhexyl)phthalate	117-81-7	8270D	ND		4.0	0.50	ug/L	1
Butyl benzyl phthalate	85-68-7	8270D	ND		4.0	0.50	ug/L	1
Caprolactam	105-60-2	8270D	ND		8.0	2.0	ug/L	1
Carbazole	86-74-8	8270D	ND		4.0	0.50	ug/L	1
Chrysene	218-01-9	8270D	ND		0.80	0.20	ug/L	1
Dibenzo(a,h)anthracene	53-70-3	8270D	ND		0.80	0.20	ug/L	1

LOQ = Limit of Quantitation
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
DL = Detection Limit
ND = Not detected at or above the DL
N = Recovery is out of criteria
P = The RPD between two GC columns exceeds 40%
J = Estimated result < LOQ and ≥ DL
H = Out of holding time
W = Reported on wet weight basis

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Semivolatile Organic Compounds by GC/MS

Client: **Tetra Tech, Inc.**
Laboratory ID: **UL03011-004**
Description: **MPGI-24-Water-RW-120219**
Matrix: **Aqueous**
Date Sampled: **12/02/2019 1327**
Date Received: **12/03/2019**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3520C	8270D	1	12/06/2019 1906	SCD	12/03/2019 1638	37759

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
Dibenzofuran	132-64-9	8270D	ND		4.0	0.50	ug/L	1
Diethylphthalate	84-66-2	8270D	ND		4.0	0.50	ug/L	1
Dimethyl phthalate	131-11-3	8270D	ND		4.0	0.50	ug/L	1
Di-n-butyl phthalate	84-74-2	8270D	ND		4.0	0.50	ug/L	1
Di-n-octylphthalate	117-84-0	8270D	ND		4.0	0.50	ug/L	1
Fluoranthene	206-44-0	8270D	ND		0.80	0.20	ug/L	1
Fluorene	86-73-7	8270D	ND		0.80	0.20	ug/L	1
Hexachlorobenzene	118-74-1	8270D	ND		4.0	0.50	ug/L	1
Hexachlorobutadiene	87-68-3	8270D	ND		4.0	0.50	ug/L	1
Hexachlorocyclopentadiene	77-47-4	8270D	ND		20	2.0	ug/L	1
Hexachloroethane	67-72-1	8270D	ND		4.0	1.0	ug/L	1
Indeno(1,2,3-c,d)pyrene	193-39-5	8270D	ND		0.80	0.20	ug/L	1
Isophorone	78-59-1	8270D	ND		4.0	0.50	ug/L	1
Naphthalene	91-20-3	8270D	ND		0.80	0.20	ug/L	1
Nitrobenzene	98-95-3	8270D	ND		4.0	1.5	ug/L	1
N-Nitrosodi-n-propylamine	621-64-7	8270D	ND		4.0	0.50	ug/L	1
N-Nitrosodiphenylamine (Diphenylamine)	86-30-6	8270D	ND		4.0	0.50	ug/L	1
Pentachlorophenol	87-86-5	8270D	ND		20	2.0	ug/L	1
Phenanthrene	85-01-8	8270D	ND		0.80	0.20	ug/L	1
Phenol	108-95-2	8270D	ND		4.0	0.50	ug/L	1
Pyrene	129-00-0	8270D	ND		0.80	0.20	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
2-Fluorobiphenyl		63	37-129
2-Fluorophenol		40	24-127
Nitrobenzene-d5		75	38-127
Phenol-d5		67	28-128
Terphenyl-d14		87	10-148
2,4,6-Tribromophenol		53	35-144

LOQ = Limit of Quantitation
ND = Not detected at or above the DL
H = Out of holding time
B = Detected in the method blank
N = Recovery is out of criteria
W = Reported on wet weight basis
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
DL = Detection Limit
J = Estimated result < LOQ and ≥ DL

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Semivolatile Organic Compounds by GC/MS

Client: **Tetra Tech, Inc.**
Laboratory ID: **UL03011-005**
Description: **MPGI-25-Water-RW-120219**
Matrix: **Aqueous**
Date Sampled: **12/02/2019 1244**
Date Received: **12/03/2019**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3520C	8270D	1	12/06/2019 1605	SCD	12/03/2019 1638	37759

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
1,1'-Biphenyl	92-52-4	8270D	ND		4.0	0.50	ug/L	1
2,4,5-Trichlorophenol	95-95-4	8270D	ND		4.0	0.50	ug/L	1
2,4,6-Trichlorophenol	88-06-2	8270D	ND		4.0	0.50	ug/L	1
2,4-Dichlorophenol	120-83-2	8270D	ND		8.0	1.0	ug/L	1
2,4-Dimethylphenol	105-67-9	8270D	ND		4.0	1.0	ug/L	1
2,4-Dinitrophenol	51-28-5	8270D	ND		20	1.0	ug/L	1
2,4-Dinitrotoluene	121-14-2	8270D	ND		8.0	0.50	ug/L	1
2,6-Dinitrotoluene	606-20-2	8270D	ND		8.0	0.50	ug/L	1
2-Chloronaphthalene	91-58-7	8270D	ND		4.0	0.50	ug/L	1
2-Chlorophenol	95-57-8	8270D	ND		4.0	0.50	ug/L	1
2-Methylnaphthalene	91-57-6	8270D	ND		0.80	0.20	ug/L	1
2-Methylphenol	95-48-7	8270D	ND		4.0	1.0	ug/L	1
2-Nitroaniline	88-74-4	8270D	ND		8.0	0.50	ug/L	1
2-Nitrophenol	88-75-5	8270D	ND		4.0	1.0	ug/L	1
3,3'-Dichlorobenzidine	91-94-1	8270D	ND		4.0	1.8	ug/L	1
3+4-Methylphenol	106-44-5	8270D	ND		4.0	1.5	ug/L	1
3-Nitroaniline	99-09-2	8270D	ND		8.0	1.0	ug/L	1
4,6-Dinitro-2-methylphenol	534-52-1	8270D	ND		20	1.0	ug/L	1
4-Bromophenyl phenyl ether	101-55-3	8270D	ND		4.0	0.50	ug/L	1
4-Chloro-3-methyl phenol	59-50-7	8270D	ND		4.0	0.50	ug/L	1
4-Chloroaniline	106-47-8	8270D	ND		8.0	0.50	ug/L	1
4-Chlorophenyl phenyl ether	7005-72-3	8270D	ND		4.0	0.50	ug/L	1
4-Nitroaniline	100-01-6	8270D	ND		8.0	1.5	ug/L	1
4-Nitrophenol	100-02-7	8270D	ND		20	2.0	ug/L	1
Acenaphthene	83-32-9	8270D	ND		0.80	0.20	ug/L	1
Acenaphthylene	208-96-8	8270D	ND		0.80	0.20	ug/L	1
Acetophenone	98-86-2	8270D	ND		4.0	0.50	ug/L	1
Anthracene	120-12-7	8270D	ND		0.80	0.20	ug/L	1
Atrazine	1912-24-9	8270D	ND		4.0	0.50	ug/L	1
Benzaldehyde	100-52-7	8270D	ND		8.0	0.50	ug/L	1
Benzo(a)anthracene	56-55-3	8270D	ND		0.80	0.20	ug/L	1
Benzo(a)pyrene	50-32-8	8270D	ND		0.80	0.20	ug/L	1
Benzo(b)fluoranthene	205-99-2	8270D	ND		0.80	0.20	ug/L	1
Benzo(g,h,i)perylene	191-24-2	8270D	ND		0.80	0.20	ug/L	1
Benzo(k)fluoranthene	207-08-9	8270D	ND		0.80	0.20	ug/L	1
bis (2-Chloro-1-methylethyl) ether	108-60-1	8270D	ND		4.0	0.50	ug/L	1
bis(2-Chloroethoxy)methane	111-91-1	8270D	ND		4.0	0.50	ug/L	1
bis(2-Chloroethyl)ether	111-44-4	8270D	ND		4.0	0.50	ug/L	1
bis(2-Ethylhexyl)phthalate	117-81-7	8270D	ND		4.0	0.50	ug/L	1
Butyl benzyl phthalate	85-68-7	8270D	ND		4.0	0.50	ug/L	1
Caprolactam	105-60-2	8270D	ND		8.0	2.0	ug/L	1
Carbazole	86-74-8	8270D	ND		4.0	0.50	ug/L	1
Chrysene	218-01-9	8270D	ND		0.80	0.20	ug/L	1
Dibenzo(a,h)anthracene	53-70-3	8270D	ND		0.80	0.20	ug/L	1

LOQ = Limit of Quantitation
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
DL = Detection Limit
ND = Not detected at or above the DL
N = Recovery is out of criteria
P = The RPD between two GC columns exceeds 40%
J = Estimated result < LOQ and ≥ DL
H = Out of holding time
W = Reported on wet weight basis

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Semivolatile Organic Compounds by GC/MS

Client: **Tetra Tech, Inc.**
Laboratory ID: **UL03011-005**
Description: **MPGI-25-Water-RW-120219**
Matrix: **Aqueous**
Date Sampled: **12/02/2019 1244**
Date Received: **12/03/2019**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3520C	8270D	1	12/06/2019 1605	SCD	12/03/2019 1638	37759

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
Dibenzofuran	132-64-9	8270D	ND		4.0	0.50	ug/L	1
Diethylphthalate	84-66-2	8270D	ND		4.0	0.50	ug/L	1
Dimethyl phthalate	131-11-3	8270D	ND		4.0	0.50	ug/L	1
Di-n-butyl phthalate	84-74-2	8270D	ND		4.0	0.50	ug/L	1
Di-n-octylphthalate	117-84-0	8270D	ND		4.0	0.50	ug/L	1
Fluoranthene	206-44-0	8270D	ND		0.80	0.20	ug/L	1
Fluorene	86-73-7	8270D	ND		0.80	0.20	ug/L	1
Hexachlorobenzene	118-74-1	8270D	ND		4.0	0.50	ug/L	1
Hexachlorobutadiene	87-68-3	8270D	ND		4.0	0.50	ug/L	1
Hexachlorocyclopentadiene	77-47-4	8270D	ND		20	2.0	ug/L	1
Hexachloroethane	67-72-1	8270D	ND		4.0	1.0	ug/L	1
Indeno(1,2,3-c,d)pyrene	193-39-5	8270D	ND		0.80	0.20	ug/L	1
Isophorone	78-59-1	8270D	ND		4.0	0.50	ug/L	1
Naphthalene	91-20-3	8270D	ND		0.80	0.20	ug/L	1
Nitrobenzene	98-95-3	8270D	ND		4.0	1.5	ug/L	1
N-Nitrosodi-n-propylamine	621-64-7	8270D	ND		4.0	0.50	ug/L	1
N-Nitrosodiphenylamine (Diphenylamine)	86-30-6	8270D	ND		4.0	0.50	ug/L	1
Pentachlorophenol	87-86-5	8270D	ND		20	2.0	ug/L	1
Phenanthrene	85-01-8	8270D	ND		0.80	0.20	ug/L	1
Phenol	108-95-2	8270D	ND		4.0	0.50	ug/L	1
Pyrene	129-00-0	8270D	ND		0.80	0.20	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
2-Fluorobiphenyl		39	37-129
2-Fluorophenol		44	24-127
Nitrobenzene-d5		52	38-127
Phenol-d5		54	28-128
Terphenyl-d14		50	10-148
2,4,6-Tribromophenol		36	35-144

LOQ = Limit of Quantitation
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
DL = Detection Limit
ND = Not detected at or above the DL
N = Recovery is out of criteria
P = The RPD between two GC columns exceeds 40%
J = Estimated result < LOQ and ≥ DL
H = Out of holding time
W = Reported on wet weight basis

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Semivolatile Organic Compounds by GC/MS

Client: **Tetra Tech, Inc.**
Laboratory ID: **UL03011-006**
Description: **MPGI-FB-120219**
Matrix: **Aqueous**
Date Sampled: **12/02/2019 1400**
Date Received: **12/03/2019**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3520C	8270D	1	12/06/2019 1630	SCD	12/03/2019 1638	37759

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
1,1'-Biphenyl	92-52-4	8270D	ND		4.0	0.50	ug/L	1
2,4,5-Trichlorophenol	95-95-4	8270D	ND		4.0	0.50	ug/L	1
2,4,6-Trichlorophenol	88-06-2	8270D	ND		4.0	0.50	ug/L	1
2,4-Dichlorophenol	120-83-2	8270D	ND		8.0	1.0	ug/L	1
2,4-Dimethylphenol	105-67-9	8270D	ND		4.0	1.0	ug/L	1
2,4-Dinitrophenol	51-28-5	8270D	ND		20	1.0	ug/L	1
2,4-Dinitrotoluene	121-14-2	8270D	ND		8.0	0.50	ug/L	1
2,6-Dinitrotoluene	606-20-2	8270D	ND		8.0	0.50	ug/L	1
2-Chloronaphthalene	91-58-7	8270D	ND		4.0	0.50	ug/L	1
2-Chlorophenol	95-57-8	8270D	ND		4.0	0.50	ug/L	1
2-Methylnaphthalene	91-57-6	8270D	ND		0.80	0.20	ug/L	1
2-Methylphenol	95-48-7	8270D	ND		4.0	1.0	ug/L	1
2-Nitroaniline	88-74-4	8270D	ND		8.0	0.50	ug/L	1
2-Nitrophenol	88-75-5	8270D	ND		4.0	1.0	ug/L	1
3,3'-Dichlorobenzidine	91-94-1	8270D	ND		4.0	1.8	ug/L	1
3+4-Methylphenol	106-44-5	8270D	ND		4.0	1.5	ug/L	1
3-Nitroaniline	99-09-2	8270D	ND		8.0	1.0	ug/L	1
4,6-Dinitro-2-methylphenol	534-52-1	8270D	ND		20	1.0	ug/L	1
4-Bromophenyl phenyl ether	101-55-3	8270D	ND		4.0	0.50	ug/L	1
4-Chloro-3-methyl phenol	59-50-7	8270D	ND		4.0	0.50	ug/L	1
4-Chloroaniline	106-47-8	8270D	ND		8.0	0.50	ug/L	1
4-Chlorophenyl phenyl ether	7005-72-3	8270D	ND		4.0	0.50	ug/L	1
4-Nitroaniline	100-01-6	8270D	ND		8.0	1.5	ug/L	1
4-Nitrophenol	100-02-7	8270D	ND		20	2.0	ug/L	1
Acenaphthene	83-32-9	8270D	ND		0.80	0.20	ug/L	1
Acenaphthylene	208-96-8	8270D	ND		0.80	0.20	ug/L	1
Acetophenone	98-86-2	8270D	ND		4.0	0.50	ug/L	1
Anthracene	120-12-7	8270D	ND		0.80	0.20	ug/L	1
Atrazine	1912-24-9	8270D	ND		4.0	0.50	ug/L	1
Benzaldehyde	100-52-7	8270D	ND		8.0	0.50	ug/L	1
Benzo(a)anthracene	56-55-3	8270D	ND		0.80	0.20	ug/L	1
Benzo(a)pyrene	50-32-8	8270D	ND		0.80	0.20	ug/L	1
Benzo(b)fluoranthene	205-99-2	8270D	ND		0.80	0.20	ug/L	1
Benzo(g,h,i)perylene	191-24-2	8270D	ND		0.80	0.20	ug/L	1
Benzo(k)fluoranthene	207-08-9	8270D	ND		0.80	0.20	ug/L	1
bis (2-Chloro-1-methylethyl) ether	108-60-1	8270D	ND		4.0	0.50	ug/L	1
bis(2-Chloroethoxy)methane	111-91-1	8270D	ND		4.0	0.50	ug/L	1
bis(2-Chloroethyl)ether	111-44-4	8270D	ND		4.0	0.50	ug/L	1
bis(2-Ethylhexyl)phthalate	117-81-7	8270D	ND		4.0	0.50	ug/L	1
Butyl benzyl phthalate	85-68-7	8270D	ND		4.0	0.50	ug/L	1
Caprolactam	105-60-2	8270D	ND		8.0	2.0	ug/L	1
Carbazole	86-74-8	8270D	ND		4.0	0.50	ug/L	1
Chrysene	218-01-9	8270D	ND		0.80	0.20	ug/L	1
Dibenzo(a,h)anthracene	53-70-3	8270D	ND		0.80	0.20	ug/L	1

LOQ = Limit of Quantitation
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
DL = Detection Limit
ND = Not detected at or above the DL
N = Recovery is out of criteria
P = The RPD between two GC columns exceeds 40%
J = Estimated result < LOQ and ≥ DL
H = Out of holding time
W = Reported on wet weight basis

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Semivolatile Organic Compounds by GC/MS

Client: **Tetra Tech, Inc.**
Laboratory ID: **UL03011-006**
Description: **MPGI-FB-120219**
Matrix: **Aqueous**
Date Sampled: **12/02/2019 1400**
Date Received: **12/03/2019**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3520C	8270D	1	12/06/2019 1630	SCD	12/03/2019 1638	37759

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
Dibenzofuran	132-64-9	8270D	ND		4.0	0.50	ug/L	1
Diethylphthalate	84-66-2	8270D	ND		4.0	0.50	ug/L	1
Dimethyl phthalate	131-11-3	8270D	ND		4.0	0.50	ug/L	1
Di-n-butyl phthalate	84-74-2	8270D	ND		4.0	0.50	ug/L	1
Di-n-octylphthalate	117-84-0	8270D	ND		4.0	0.50	ug/L	1
Fluoranthene	206-44-0	8270D	ND		0.80	0.20	ug/L	1
Fluorene	86-73-7	8270D	ND		0.80	0.20	ug/L	1
Hexachlorobenzene	118-74-1	8270D	ND		4.0	0.50	ug/L	1
Hexachlorobutadiene	87-68-3	8270D	ND		4.0	0.50	ug/L	1
Hexachlorocyclopentadiene	77-47-4	8270D	ND		20	2.0	ug/L	1
Hexachloroethane	67-72-1	8270D	ND		4.0	1.0	ug/L	1
Indeno(1,2,3-c,d)pyrene	193-39-5	8270D	ND		0.80	0.20	ug/L	1
Isophorone	78-59-1	8270D	ND		4.0	0.50	ug/L	1
Naphthalene	91-20-3	8270D	ND		0.80	0.20	ug/L	1
Nitrobenzene	98-95-3	8270D	ND		4.0	1.5	ug/L	1
N-Nitrosodi-n-propylamine	621-64-7	8270D	ND		4.0	0.50	ug/L	1
N-Nitrosodiphenylamine (Diphenylamine)	86-30-6	8270D	ND		4.0	0.50	ug/L	1
Pentachlorophenol	87-86-5	8270D	ND		20	2.0	ug/L	1
Phenanthrene	85-01-8	8270D	ND		0.80	0.20	ug/L	1
Phenol	108-95-2	8270D	ND		4.0	0.50	ug/L	1
Pyrene	129-00-0	8270D	ND		0.80	0.20	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
2-Fluorobiphenyl		77	37-129
2-Fluorophenol		59	24-127
Nitrobenzene-d5		89	38-127
Phenol-d5		85	28-128
Terphenyl-d14		106	10-148
2,4,6-Tribromophenol		46	35-144

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QC Summary

Semivolatile Organic Compounds by GC/MS - MB

Sample ID: UQ37759-001
Batch: 37759
Analytical Method: 8270D

Matrix: Aqueous
Prep Method: 3520C
Prep Date: 12/03/2019 1638

Parameter	Result	Q	Dil	LOQ	DL	Units	Analysis Date
1,1'-Biphenyl	ND		1	4.0	0.50	ug/L	12/06/2019 1334
2,4,5-Trichlorophenol	ND		1	4.0	0.50	ug/L	12/06/2019 1334
2,4,6-Trichlorophenol	ND		1	4.0	0.50	ug/L	12/06/2019 1334
2,4-Dichlorophenol	ND		1	8.0	1.0	ug/L	12/06/2019 1334
2,4-Dimethylphenol	ND		1	4.0	1.0	ug/L	12/06/2019 1334
2,4-Dinitrophenol	ND		1	20	1.0	ug/L	12/06/2019 1334
2,4-Dinitrotoluene	ND		1	8.0	0.50	ug/L	12/06/2019 1334
2,6-Dinitrotoluene	ND		1	8.0	0.50	ug/L	12/06/2019 1334
2-Chloronaphthalene	ND		1	4.0	0.50	ug/L	12/06/2019 1334
2-Chlorophenol	ND		1	4.0	0.50	ug/L	12/06/2019 1334
2-Methylnaphthalene	ND		1	0.80	0.20	ug/L	12/06/2019 1334
2-Methylphenol	ND		1	4.0	1.0	ug/L	12/06/2019 1334
2-Nitroaniline	ND		1	8.0	0.50	ug/L	12/06/2019 1334
2-Nitrophenol	ND		1	4.0	1.0	ug/L	12/06/2019 1334
3,3'-Dichlorobenzidine	ND		1	4.0	1.8	ug/L	12/06/2019 1334
3+4-Methylphenol	ND		1	4.0	1.5	ug/L	12/06/2019 1334
3-Nitroaniline	ND		1	8.0	1.0	ug/L	12/06/2019 1334
4,6-Dinitro-2-methylphenol	ND		1	20	1.0	ug/L	12/06/2019 1334
4-Bromophenyl phenyl ether	ND		1	4.0	0.50	ug/L	12/06/2019 1334
4-Chloro-3-methyl phenol	ND		1	4.0	0.50	ug/L	12/06/2019 1334
4-Chloroaniline	ND		1	8.0	0.50	ug/L	12/06/2019 1334
4-Chlorophenyl phenyl ether	ND		1	4.0	0.50	ug/L	12/06/2019 1334
4-Nitroaniline	ND		1	8.0	1.5	ug/L	12/06/2019 1334
4-Nitrophenol	ND		1	20	2.0	ug/L	12/06/2019 1334
Acenaphthene	ND		1	0.80	0.20	ug/L	12/06/2019 1334
Acenaphthylene	ND		1	0.80	0.20	ug/L	12/06/2019 1334
Acetophenone	ND		1	4.0	0.50	ug/L	12/06/2019 1334
Anthracene	ND		1	0.80	0.20	ug/L	12/06/2019 1334
Atrazine	ND		1	4.0	0.50	ug/L	12/06/2019 1334
Benzaldehyde	ND		1	8.0	0.50	ug/L	12/06/2019 1334
Benzo(a)anthracene	ND		1	0.80	0.20	ug/L	12/06/2019 1334
Benzo(a)pyrene	ND		1	0.80	0.20	ug/L	12/06/2019 1334
Benzo(b)fluoranthene	ND		1	0.80	0.20	ug/L	12/06/2019 1334
Benzo(g,h,i)perylene	ND		1	0.80	0.20	ug/L	12/06/2019 1334
Benzo(k)fluoranthene	ND		1	0.80	0.20	ug/L	12/06/2019 1334
bis (2-Chloro-1-methylethyl) ether	ND		1	4.0	0.50	ug/L	12/06/2019 1334
bis(2-Chloroethoxy)methane	ND		1	4.0	0.50	ug/L	12/06/2019 1334
bis(2-Chloroethyl)ether	ND		1	4.0	0.50	ug/L	12/06/2019 1334
bis(2-Ethylhexyl)phthalate	ND		1	4.0	0.50	ug/L	12/06/2019 1334
Butyl benzyl phthalate	ND		1	4.0	0.50	ug/L	12/06/2019 1334
Caprolactam	ND		1	8.0	2.0	ug/L	12/06/2019 1334
Carbazole	ND		1	4.0	0.50	ug/L	12/06/2019 1334
Chrysene	ND		1	0.80	0.20	ug/L	12/06/2019 1334
Dibenzo(a,h)anthracene	ND		1	0.80	0.20	ug/L	12/06/2019 1334

LOQ = Limit of Quantitation
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LOD = Limit of Detection

P = The RPD between two GC columns exceeds 40%
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N = Recovery is out of criteria
+ = RPD is out of criteria

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

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Semivolatile Organic Compounds by GC/MS - MB

Sample ID: UQ37759-001
Batch: 37759
Analytical Method: 8270D

Matrix: Aqueous
Prep Method: 3520C
Prep Date: 12/03/2019 1638

Parameter	Result	Q	Dil	LOQ	DL	Units	Analysis Date
Dibenzofuran	ND		1	4.0	0.50	ug/L	12/06/2019 1334
Diethylphthalate	ND		1	4.0	0.50	ug/L	12/06/2019 1334
Dimethyl phthalate	ND		1	4.0	0.50	ug/L	12/06/2019 1334
Di-n-butyl phthalate	ND		1	4.0	0.50	ug/L	12/06/2019 1334
Di-n-octylphthalate	ND		1	4.0	0.50	ug/L	12/06/2019 1334
Fluoranthene	ND		1	0.80	0.20	ug/L	12/06/2019 1334
Fluorene	ND		1	0.80	0.20	ug/L	12/06/2019 1334
Hexachlorobenzene	ND		1	4.0	0.50	ug/L	12/06/2019 1334
Hexachlorobutadiene	ND		1	4.0	0.50	ug/L	12/06/2019 1334
Hexachlorocyclopentadiene	ND		1	20	2.0	ug/L	12/06/2019 1334
Hexachloroethane	ND		1	4.0	1.0	ug/L	12/06/2019 1334
Indeno(1,2,3-c,d)pyrene	ND		1	0.80	0.20	ug/L	12/06/2019 1334
Isophorone	ND		1	4.0	0.50	ug/L	12/06/2019 1334
Naphthalene	ND		1	0.80	0.20	ug/L	12/06/2019 1334
Nitrobenzene	ND		1	4.0	1.5	ug/L	12/06/2019 1334
N-Nitrosodi-n-propylamine	ND		1	4.0	0.50	ug/L	12/06/2019 1334
N-Nitrosodiphenylamine (Diphenylamine)	ND		1	4.0	0.50	ug/L	12/06/2019 1334
Pentachlorophenol	ND		1	20	2.0	ug/L	12/06/2019 1334
Phenanthrene	ND		1	0.80	0.20	ug/L	12/06/2019 1334
Phenol	ND		1	4.0	0.50	ug/L	12/06/2019 1334
Pyrene	ND		1	0.80	0.20	ug/L	12/06/2019 1334

Surrogate	Q	% Rec	Acceptance Limit
2-Fluorobiphenyl		41	37-129
2-Fluorophenol		32	24-127
Nitrobenzene-d5		51	38-127
Phenol-d5		41	28-128
Terphenyl-d14		55	10-148
2,4,6-Tribromophenol		38	35-144

LOQ = Limit of Quantitation
DL = Detection Limit
LOD = Limit of Detection
P = The RPD between two GC columns exceeds 40%
J = Estimated result < LOQ and ≥ DL
ND = Not detected at or above the DL
N = Recovery is out of criteria
+ = RPD is out of criteria

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

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Semivolatile Organic Compounds by GC/MS - LCS

Sample ID: UQ37759-002
Batch: 37759
Analytical Method: 8270D

Matrix: Aqueous
Prep Method: 3520C
Prep Date: 12/03/2019 1638

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
1,1'-Biphenyl	40	19		1	47	30-130	12/06/2019 1359
2,4,5-Trichlorophenol	40	17		1	41	30-123	12/06/2019 1359
2,4,6-Trichlorophenol	40	19		1	48	30-130	12/06/2019 1359
2,4-Dichlorophenol	40	20		1	51	30-121	12/06/2019 1359
2,4-Dimethylphenol	40	21		1	53	20-125	12/06/2019 1359
2,4-Dinitrophenol	80	39		1	49	11-126	12/06/2019 1359
2,4-Dinitrotoluene	40	19		1	47	30-130	12/06/2019 1359
2,6-Dinitrotoluene	40	18		1	44	30-130	12/06/2019 1359
2-Chloronaphthalene	40	18		1	45	30-130	12/06/2019 1359
2-Chlorophenol	40	20		1	49	30-130	12/06/2019 1359
2-Methylnaphthalene	40	21		1	51	40-132	12/06/2019 1359
2-Methylphenol	40	20		1	51	30-130	12/06/2019 1359
2-Nitroaniline	40	21		1	52	30-130	12/06/2019 1359
2-Nitrophenol	40	21		1	52	30-130	12/06/2019 1359
3,3'-Dichlorobenzidine	40	13		1	32	10-126	12/06/2019 1359
3+4-Methylphenol	40	21		1	53	30-130	12/06/2019 1359
3-Nitroaniline	40	17		1	42	30-130	12/06/2019 1359
4,6-Dinitro-2-methylphenol	40	22		1	55	30-130	12/06/2019 1359
4-Bromophenyl phenyl ether	40	17		1	42	30-124	12/06/2019 1359
4-Chloro-3-methyl phenol	40	22		1	55	30-123	12/06/2019 1359
4-Chloroaniline	40	18		1	45	12-157	12/06/2019 1359
4-Chlorophenyl phenyl ether	40	18		1	45	30-121	12/06/2019 1359
4-Nitroaniline	40	25		1	62	30-135	12/06/2019 1359
4-Nitrophenol	80	44		1	56	30-130	12/06/2019 1359
Acenaphthene	40	20		1	51	30-122	12/06/2019 1359
Acenaphthylene	40	20		1	49	30-130	12/06/2019 1359
Acetophenone	40	20		1	50	30-130	12/06/2019 1359
Anthracene	40	20		1	49	30-123	12/06/2019 1359
Atrazine	40	18		1	45	30-130	12/06/2019 1359
Benzaldehyde	40	14		1	34	20-115	12/06/2019 1359
Benzo(a)anthracene	40	19		1	48	40-125	12/06/2019 1359
Benzo(a)pyrene	40	17		1	43	40-128	12/06/2019 1359
Benzo(b)fluoranthene	40	19		1	47	30-130	12/06/2019 1359
Benzo(g,h,i)perylene	40	17		1	44	30-130	12/06/2019 1359
Benzo(k)fluoranthene	40	19		1	46	30-130	12/06/2019 1359
bis (2-Chloro-1-methylethyl) ether	40	21		1	54	30-130	12/06/2019 1359
bis(2-Chloroethoxy)methane	40	21		1	54	30-130	12/06/2019 1359
bis(2-Chloroethyl)ether	40	20		1	51	30-130	12/06/2019 1359
bis(2-Ethylhexyl)phthalate	40	18		1	44	30-130	12/06/2019 1359
Butyl benzyl phthalate	40	21		1	52	30-130	12/06/2019 1359
Caprolactam	40	22		1	56	30-130	12/06/2019 1359
Carbazole	40	17		1	42	30-130	12/06/2019 1359
Chrysene	40	19		1	48	30-130	12/06/2019 1359
Dibenzo(a,h)anthracene	40	18		1	45	30-130	12/06/2019 1359

LOQ = Limit of Quantitation
DL = Detection Limit
LOD = Limit of Detection

P = The RPD between two GC columns exceeds 40%
J = Estimated result < LOQ and ≥ DL
ND = Not detected at or above the DL

N = Recovery is out of criteria
+ = RPD is out of criteria

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

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Semivolatile Organic Compounds by GC/MS - LCS

Sample ID: UQ37759-002
Batch: 37759
Analytical Method: 8270D

Matrix: Aqueous
Prep Method: 3520C
Prep Date: 12/03/2019 1638

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Dibenzofuran	40	18		1	46	30-118	12/06/2019 1359
Diethylphthalate	40	19		1	47	40-125	12/06/2019 1359
Dimethyl phthalate	40	19		1	48	40-127	12/06/2019 1359
Di-n-butyl phthalate	40	19		1	47	40-127	12/06/2019 1359
Di-n-octylphthalate	40	18		1	45	30-130	12/06/2019 1359
Fluoranthene	40	18		1	46	40-128	12/06/2019 1359
Fluorene	40	20		1	49	30-124	12/06/2019 1359
Hexachlorobenzene	40	16		1	39	30-125	12/06/2019 1359
Hexachlorobutadiene	40	16		1	40	24-110	12/06/2019 1359
Hexachlorocyclopentadiene	200	68		1	34	22-122	12/06/2019 1359
Hexachloroethane	40	23		1	58	30-130	12/06/2019 1359
Indeno(1,2,3-c,d)pyrene	40	17		1	42	30-130	12/06/2019 1359
Isophorone	40	23		1	58	30-130	12/06/2019 1359
Naphthalene	40	21		1	53	30-130	12/06/2019 1359
Nitrobenzene	40	23		1	58	30-130	12/06/2019 1359
N-Nitrosodi-n-propylamine	40	23		1	58	30-130	12/06/2019 1359
N-Nitrosodiphenylamine (Diphenylamine)	40	17		1	43	30-123	12/06/2019 1359
Pentachlorophenol	80	39		1	49	30-130	12/06/2019 1359
Phenanthrene	40	18		1	46	40-123	12/06/2019 1359
Phenol	40	21		1	52	30-130	12/06/2019 1359
Pyrene	40	20		1	51	40-126	12/06/2019 1359

Surrogate	Q	% Rec	Acceptance Limit
2-Fluorobiphenyl		45	37-129
2-Fluorophenol		47	24-127
Nitrobenzene-d5		56	38-127
Phenol-d5		52	28-128
Terphenyl-d14		52	10-148
2,4,6-Tribromophenol		39	35-144

LOQ = Limit of Quantitation
DL = Detection Limit
LOD = Limit of Detection

P = The RPD between two GC columns exceeds 40%
J = Estimated result < LOQ and ≥ DL
ND = Not detected at or above the DL

N = Recovery is out of criteria
+ = RPD is out of criteria

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Shealy Environmental Services, Inc.
106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.shealylab.com

Chain of Custody
and
Miscellaneous Documents

SHEALY

Chain of Custody Record

Shealy Environmental Services, Inc.
106 Vantage Point Drive
West Columbia, South Carolina 29172
Telephone No. (803) 791-9700 Fax No. (803) 791-9111
www.shealylab.com

Number

Client: Tetra Tech	Report to Contact: Andre Baker and Brendan Martin	Telephone No. / E-mail: andre.baker@coriolis.com, brendan.martin@tetratech.com	Quote No.
Address: 1 S. Wacker Drive Suite 3700	Sampler's Signature: x Brendan Martin	Analysis (Attach list if more space is needed)	Page 1 of 1
City: Chicago; State: IL; Zip Code: 60606	Printed Name: Brendan Martin		
Project Name: Joliet Chemical Fire PRP Cleanup Site			
Project Number: 103X9031X0690002AJ001	P.O No.: SHLY-1		

UL03010

UL03011

NMS

Sample ID / Description (Containers for each sample may be combined on one line)	Date	Time	G-Grab C-Composite	Matrix: Aqueous	Solid	Non-Aqueous	No of Containers by Preservative Type: Unpres.	H2SO4	HNO3	HCl	NaOH	0.035 Kit		TCL VOCs/SW-846 8260C	TCL SVOCs/SW-846 8270D								
MP61-20-Water-RW-120219	120219	1036 ~~1030am~~		X			1			3				X	X								
MP61-21-Water-RW-120219	120219	0951		X			1			3				X	X								
MP61-22-Water-RW-120219	120219	1114		X			1			3				X	X								
MP61-24-Water-RW-120219	120219	1327		X			1			3				X	X								
MP61-25-Water-RW-120219	120219	1244		X			1			3				X	X								
MP61-FB-120219	120219	1400		X			1			3				X	X								Field Blank
MP61-TB-120219	120219	—		X						2				X									Trip Blank

Turn Around Time Required (Prior lab approval required for expedited TAT): ☐ Standard ☒ Rush (Please Specify) 2/3 day

Sample Disposal: ☐ Return to Client ☒ Disposal by Lab

Possible Hazard Identification (List any known hazards in the remarks): ☒ Non-Hazardous ☐ Flammable ☐ Skin Irritant ☐ SDS provided ☐ Unknown

QC Requirements

1. Relinquished by: Brendan Martin Brendan Martin	Date: 120219	Time: 1500	1. Received by	Date	Time
2. Relinquished by:	Date	Time	2. Received by	Date	Time
3. Relinquished by	Date	Time	3. Received by	Date	Time
4. Relinquished by: Fed EX	Date: 12/03/19	Time: 0935	4. Laboratory Received by: L Hite	Date: 12/03/19	Time: 0935

Note: All samples are retained for four weeks from receipt unless other arrangements are made.

LAB USE ONLY
Received on Ice (Check) ☑ Y ☐ N ☐ Ice Pack Receipt Temp. 1.5 °C

Document Number: ME002OW-01

Shealy Environmental Services, Inc.
Document Number: ME0018C-14

Page 1 of 1
Effective Date: 8/2/2018

Sample Receipt Checklist (SRC)

Client: Tetra Tech Cooler Inspected by/date: LKH / 12-03-2019 Lot #: UL03010/UL03010

Means of receipt: ☐ SESI ☐ Client ☐ UPS ☑ FedEx ☐ Other: ___

☑ Yes	☐ No		1. Were custody seals present on the cooler?
☑ Yes	☐ No	☐ NA	2. If custody seals were present, were they intact and unbroken?

pH Strip ID: NA Chlorine Strip ID: NA Tested by: NA

Original temperature upon receipt / Derived (Corrected) temperature upon receipt %Solid Snap-Cup ID: NA

1.5 / 1.5 °C NA / NA °C NA / NA °C NA / NA °C

Method: ☑ Temperature Blank ☐ Against Bottles IR Gun ID: 5 IR Gun Correction Factor: 0 °C

Method of coolant: ☑ Wet Ice ☐ Ice Packs ☐ Dry Ice ☐ None

☐ Yes	☐ No	☑ NA	3. If temperature of any cooler exceeded 6.0°C, was Project Manager Notified? PM was Notified by: phone / email / face-to-face (circle one).
☑ Yes	☐ No	☐ NA	4. Is the commercial courier's packing slip attached to this form?
☑ Yes	☐ No		5. Were proper custody procedures (relinquished/received) followed?
☑ Yes	☐ No		6. Were sample IDs listed on the COC?
☑ Yes	☐ No		7. Were sample IDs listed on all sample containers?
☑ Yes	☐ No		8. Was collection date & time listed on the COC?
☑ Yes	☐ No		9. Was collection date & time listed on all sample containers?
☑ Yes	☐ No		10. Did all container label information (ID, date, time) agree with the COC?
☑ Yes	☐ No		11. Were tests to be performed listed on the COC?
☑ Yes	☐ No		12. Did all samples arrive in the proper containers for each test and/or in good condition (unbroken, lids on, etc.)? ___
☑ Yes	☐ No		13. Was adequate sample volume available?
☑ Yes	☐ No		14. Were all samples received within ½ the holding time or 48 hours, whichever comes first?
☐ Yes	☑ No		15. Were any samples containers missing/excess (circle one) samples Not listed on COC?
☐ Yes	☑ No	☐ NA	16. For VOA and RSK-175 samples, were bubbles present >"pea-size" (¼"or 6mm in diameter) in any of the VOA vials?
☐ Yes	☐ No	☑ NA	17. Were all DRO/metals/nutrient samples received at a pH of < 2?
☐ Yes	☐ No	☑ NA	18. Were all cyanide samples received at a pH > 12 and sulfide samples received at a pH > 9?
☐ Yes	☐ No	☑ NA	19. Were all applicable NH_3/TKN/cyanide/phenol/625 (< 0.5mg/L) samples free of residual chlorine?
☐ Yes	☐ No	☑ NA	20. Were client remarks/requests (i.e. requested dilutions, MS/MSD designations, etc…) correctly transcribed from the COC into the comment section in LIMS?
☑ Yes	☐ No		21. Was the quote number listed on the container label? If yes, Quote # 22663

Sample Preservation (Must be completed for any sample(s) incorrectly preserved or with headspace.)

Sample(s) NA were received incorrectly preserved and were adjusted accordingly in sample receiving with NA mL of circle one: H2SO4, HNO3, HCl, NaOH using SR # NA.
Time of preservation NA. If more than one preservative is needed, please note in the comments below.

Sample(s) NA were received with bubbles >6 mm in diameter.

Samples(s) NA were received with TRC > 0.5 mg/L (If #19 is *no*) and were adjusted accordingly in sample receiving with sodium thiosulfate ($Na_2S_2O_3$) with Shealy ID: NA.

SR barcode labels applied by: LKH Date: 12-03-2019

Comments: