

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

## ANALYTICAL REPORT

TestAmerica Laboratories, Inc.  
TestAmerica Cedar Falls  
704 Enterprise Drive  
Cedar Falls, IA 50613  
Tel: (319)277-2401

TestAmerica Job ID: 310-132299-3  
Client Project/Site: Beneficial Use  
Revision: 1

For:  
Cedar Rapids Water  
City of Cedar Rapids-Finance  
PO BOX 2148  
Cedar Rapids, Iowa 52406

Attn: John Ernst



Authorized for release by:  
7/11/2018 4:24:25 PM

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*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*

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# Case Narrative

Client: Cedar Rapids Water  
Project/Site: Beneficial Use

TestAmerica Job ID: 310-132299-3

**Job ID: 310-132299-3**

**Laboratory: TestAmerica Cedar Falls**

## Narrative

### Job Narrative 310-132299-3

#### Comments

Revised report. VOCs and SVOCs reported to the method detection limit per client request.

#### Receipt

The samples were received on 6/12/2018 3:20 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 3.2° C.

#### GC/MS VOA

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

#### GC/MS Semi VOA

Method(s) 8270D: The laboratory control sample (LCS) for preparation batch 310-206602 and 310-206671 and analytical batch 310-206753 recovered outside control limits for the following analytes: Pyridine.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### HPLC/IC

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

#### Metals

Method(s) 6010C: The following sample was diluted due to the presence of an interferent: NW Plant (310-132299-3). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### General Chemistry

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

#### Organic Prep

Method(s) 1311: Initial pH:10.49 Final pH:6.19 NW Plant (310-132299-3)

Method(s) 1312: Initial pH:10.49 Final pH:10.32 NW Plant (310-132299-3)

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### VOA Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

# Sample Summary

Client: Cedar Rapids Water  
Project/Site: Beneficial Use

TestAmerica Job ID: 310-132299-3

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Lab Sample ID	Client Sample ID	Matrix	Collected	Received
310-132299-3	NW Plant	Sludge	06/11/18 09:45	06/12/18 15:20

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# Detection Summary

Client: Cedar Rapids Water  
Project/Site: Beneficial Use

TestAmerica Job ID: 310-132299-3

**Client Sample ID: NW Plant**

**Lab Sample ID: 310-132299-3**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	187		8.73	4.19	mg/Kg	10	☼	6010C	Total/NA
Manganese	163		21.8	10.5	mg/Kg	10	☼	6010C	Total/NA
Vanadium	2.69	J	21.8	2.44	mg/Kg	10	☼	6010C	Total/NA
Arsenic	0.790		0.634	0.381	mg/Kg	12	☼	7010	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Cedar Falls



# Client Sample Results

Client: Cedar Rapids Water  
Project/Site: Beneficial Use

TestAmerica Job ID: 310-132299-3

**Client Sample ID: NW Plant**

**Lab Sample ID: 310-132299-3**

**Date Collected: 06/11/18 09:45**

**Matrix: Sludge**

**Date Received: 06/12/18 15:20**

## Method: 8260C - Volatile Organic Compounds by GC/MS - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.0140		0.100	0.0140	mg/L			06/14/18 19:58	20
2-Butanone (MEK)	<1.50		5.00	1.50	mg/L			06/14/18 19:58	20
Carbon tetrachloride	<0.0130		0.100	0.0130	mg/L			06/14/18 19:58	20
Chlorobenzene	<0.0120		0.100	0.0120	mg/L			06/14/18 19:58	20
Chloroform	<0.0360		0.100	0.0360	mg/L			06/14/18 19:58	20
1,2-Dichloroethane	<0.0100		0.100	0.0100	mg/L			06/14/18 19:58	20
1,1-Dichloroethene	<0.0110		0.100	0.0110	mg/L			06/14/18 19:58	20
Tetrachloroethene	<0.0870		0.200	0.0870	mg/L			06/14/18 19:58	20
Trichloroethene	<0.0820		0.200	0.0820	mg/L			06/14/18 19:58	20
Vinyl chloride	<0.0190		0.100	0.0190	mg/L			06/14/18 19:58	20

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	103		80 - 120		06/14/18 19:58	20
Dibromofluoromethane (Surr)	100		80 - 120		06/14/18 19:58	20
Toluene-d8 (Surr)	101		80 - 120		06/14/18 19:58	20

## Method: 8270D - Semivolatile Organic Compounds (GC/MS) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	<0.00490		0.0500	0.00490	mg/L		06/15/18 13:08	06/18/18 12:16	1
2,4-Dinitrotoluene	<0.00430		0.0500	0.00430	mg/L		06/15/18 13:08	06/18/18 12:16	1
2,4,5-Trichlorophenol	<0.00310		0.0500	0.00310	mg/L		06/15/18 13:08	06/18/18 12:16	1
2,4,6-Trichlorophenol	<0.00270		0.0500	0.00270	mg/L		06/15/18 13:08	06/18/18 12:16	1
2-Methylphenol	<0.00760		0.0500	0.00760	mg/L		06/15/18 13:08	06/18/18 12:16	1
4-Methylphenol (and/or 3-Methylphenol)	<0.00170		0.0500	0.00170	mg/L		06/15/18 13:08	06/18/18 12:16	1
Hexachlorobenzene	<0.00190		0.0500	0.00190	mg/L		06/15/18 13:08	06/18/18 12:16	1
Hexachlorobutadiene	<0.00250		0.0500	0.00250	mg/L		06/15/18 13:08	06/18/18 12:16	1
Hexachloroethane	<0.00360		0.0500	0.00360	mg/L		06/15/18 13:08	06/18/18 12:16	1
Nitrobenzene	<0.00240		0.0500	0.00240	mg/L		06/15/18 13:08	06/18/18 12:16	1
Pyridine	<0.00410	F2 *	0.0500	0.00410	mg/L		06/15/18 13:08	06/18/18 12:16	1
Pentachlorophenol	<0.0210		0.0500	0.0210	mg/L		06/15/18 13:08	06/18/18 12:16	1
Total Cresols	<0.00760		0.0500	0.00760	mg/L		06/15/18 13:08	06/18/18 12:16	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorophenol (Surr)	49		14 - 110	06/15/18 13:08	06/18/18 12:16	1
Phenol-d6 (Surr)	42		10 - 110	06/15/18 13:08	06/18/18 12:16	1
Nitrobenzene-d5 (Surr)	63		30 - 110	06/15/18 13:08	06/18/18 12:16	1
2-Fluorobiphenyl (Surr)	55		28 - 110	06/15/18 13:08	06/18/18 12:16	1
2,4,6-Tribromophenol (Surr)	61		35 - 110	06/15/18 13:08	06/18/18 12:16	1
Terphenyl-d14 (Surr)	51		39 - 117	06/15/18 13:08	06/18/18 12:16	1

## Method: 9056A - Anions, Ion Chromatography - SPLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	<0.100		0.100		mg/L			06/29/18 13:52	1

## Method: 6010C - Metals (ICP) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.900		0.900		mg/L		06/18/18 07:39	06/19/18 16:04	3
Barium	<1.50		1.50		mg/L		06/18/18 07:39	06/19/18 16:04	3
Cadmium	<0.0600		0.0600		mg/L		06/18/18 07:39	06/19/18 16:04	3
Chromium	<0.0600		0.0600		mg/L		06/18/18 07:39	06/19/18 16:04	3

TestAmerica Cedar Falls

# Client Sample Results

Client: Cedar Rapids Water  
Project/Site: Beneficial Use

TestAmerica Job ID: 310-132299-3

**Client Sample ID: NW Plant**

**Lab Sample ID: 310-132299-3**

**Date Collected: 06/11/18 09:45**

**Matrix: Sludge**

**Date Received: 06/12/18 15:20**

**Method: 6010C - Metals (ICP) - TCLP (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	<0.300		0.300		mg/L		06/18/18 07:39	06/19/18 16:04	3
Selenium	<0.300		0.300		mg/L		06/18/18 07:39	06/19/18 16:04	3
Silver	<0.0600		0.0600		mg/L		06/18/18 07:39	06/20/18 16:28	3

**Method: 6010C - Metals (ICP) - SPLP West**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Barium	<0.100		0.100		mg/L		06/18/18 07:42	06/18/18 17:09	1
Beryllium	<0.0100		0.0100		mg/L		06/18/18 07:42	06/18/18 17:09	1
Cadmium	<0.0200		0.0200		mg/L		06/18/18 07:42	06/18/18 17:09	1
Chromium	<0.0200		0.0200		mg/L		06/18/18 07:42	06/18/18 17:09	1
Copper	<0.100		0.100		mg/L		06/18/18 07:42	06/18/18 17:09	1
Lead	<0.100		0.100		mg/L		06/18/18 07:42	06/18/18 17:09	1
Selenium	<0.100		0.100		mg/L		06/18/18 07:42	06/18/18 17:09	1

**Method: 7010 - Metals (GFAA) - SPLP West**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.00600		0.00600		mg/L		06/18/18 07:44	06/21/18 13:41	1
Arsenic	<0.00100		0.00100		mg/L		06/18/18 07:44	06/20/18 15:55	1
Thallium	<0.00200		0.00200		mg/L		06/18/18 07:44	06/21/18 11:34	1

**Method: 7470A - Mercury (CVAA) - TCLP**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00200		0.00200		mg/L		06/19/18 09:24	06/20/18 11:15	1

**Method: 7470A - Mercury (CVAA) - SPLP West**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00200		0.00200		mg/L		06/19/18 09:27	06/20/18 10:51	1

**General Chemistry**

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	30.8		0.1	0.1	%			06/13/18 08:39	1
Percent Solids	69.2		0.1	0.1	%			06/13/18 08:39	1

# Client Sample Results

Client: Cedar Rapids Water  
Project/Site: Beneficial Use

TestAmerica Job ID: 310-132299-3

**Client Sample ID: NW Plant**

**Date Collected: 06/11/18 09:45**

**Date Received: 06/12/18 15:20**

**Lab Sample ID: 310-132299-3**

**Matrix: Sludge**

**Percent Solids: 69.2**

### Method: 9056A - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	<13.2		13.2		mg/Kg	☼		07/02/18 12:33	10

### Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<7.33		43.7	7.33	mg/Kg	☼	06/15/18 14:59	06/18/18 15:08	10
<b>Barium</b>	<b>187</b>		8.73	4.19	mg/Kg	☼	06/15/18 14:59	06/18/18 15:08	10
Boron	<21.0		87.3	21.0	mg/Kg	☼	06/15/18 14:59	06/18/18 15:08	10
Cadmium	<2.79		8.73	2.79	mg/Kg	☼	06/15/18 14:59	06/18/18 15:08	10
Chromium	<3.93		8.73	3.93	mg/Kg	☼	06/15/18 14:59	06/18/18 15:08	10
Cobalt	<2.01		8.73	2.01	mg/Kg	☼	06/15/18 14:59	06/18/18 15:08	10
Copper	<6.29		8.73	6.29	mg/Kg	☼	06/15/18 14:59	06/18/18 15:08	10
Lead	<27.1		43.7	27.1	mg/Kg	☼	06/15/18 14:59	06/18/18 15:08	10
Lithium	<4.45		21.8	4.45	mg/Kg	☼	06/15/18 14:59	06/18/18 15:08	10
<b>Manganese</b>	<b>163</b>		21.8	10.5	mg/Kg	☼	06/15/18 14:59	06/18/18 15:08	10
Molybdenum	<5.06		21.8	5.06	mg/Kg	☼	06/15/18 14:59	06/18/18 15:08	10
Nickel	<6.72		21.8	6.72	mg/Kg	☼	06/15/18 14:59	06/18/18 15:08	10
Selenium	<22.7		65.5	22.7	mg/Kg	☼	06/15/18 14:59	06/18/18 15:08	10
Silver	<2.27		8.73	2.27	mg/Kg	☼	06/15/18 14:59	06/18/18 15:08	10
<b>Vanadium</b>	<b>2.69 J</b>		21.8	2.44	mg/Kg	☼	06/15/18 14:59	06/18/18 15:08	10
Zinc	<21.8		43.7	21.8	mg/Kg	☼	06/15/18 14:59	06/18/18 15:08	10

### Method: 7010 - Metals (GFAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Arsenic</b>	<b>0.790</b>		0.634	0.381	mg/Kg	☼	06/19/18 10:00	06/20/18 11:58	12
Beryllium	<0.0296		0.264	0.0296	mg/Kg	☼	06/19/18 10:00	06/25/18 10:18	4
Thallium	<0.0973		1.06	0.0973	mg/Kg	☼	06/19/18 10:00	06/21/18 10:41	4

### Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.0107		0.0240	0.0107	mg/Kg	☼	06/18/18 10:00	06/18/18 16:16	1



# Definitions/Glossary

Client: Cedar Rapids Water  
Project/Site: Beneficial Use

TestAmerica Job ID: 310-132299-3

## Qualifiers

### GC/MS VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

### GC/MS Semi VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
F2	MS/MSD RPD exceeds control limits
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

### Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

# Surrogate Summary

Client: Cedar Rapids Water  
Project/Site: Beneficial Use

TestAmerica Job ID: 310-132299-3

## Method: 8260C - Volatile Organic Compounds by GC/MS

Matrix: Sludge

Prep Type: TCLP

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	BFB	DBFM	TOL
		(80-120)	(80-120)	(80-120)
310-132299-3	NW Plant	103	100	101
310-132299-3 MS	NW Plant	102	101	103
310-132299-3 MSD	NW Plant	102	103	105

#### Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)  
DBFM = Dibromofluoromethane (Surr)  
TOL = Toluene-d8 (Surr)

## Method: 8260C - Volatile Organic Compounds by GC/MS

Matrix: Solid

Prep Type: TCLP

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	BFB	DBFM	TOL
		(80-120)	(80-120)	(80-120)
LB 310-206482/1-A	Method Blank	110	105	100
LCS 310-206482/2-A	Lab Control Sample	100	106	103

#### Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)  
DBFM = Dibromofluoromethane (Surr)  
TOL = Toluene-d8 (Surr)

## Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Matrix: Sludge

Prep Type: TCLP

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	2FP	PHL6	NBZ	FBP	TBP	TPHL
		(14-110)	(10-110)	(30-110)	(28-110)	(35-110)	(39-117)
310-132299-3	NW Plant	49	42	63	55	61	51
310-132299-3 MS	NW Plant	41	35	50	45	46	41
310-132299-3 MSD	NW Plant	52	45	63	59	59	52

#### Surrogate Legend

2FP = 2-Fluorophenol (Surr)  
PHL6 = Phenol-d6 (Surr)  
NBZ = Nitrobenzene-d5 (Surr)  
FBP = 2-Fluorobiphenyl (Surr)  
TBP = 2,4,6-Tribromophenol (Surr)  
TPHL = Terphenyl-d14 (Surr)

## Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Matrix: Solid

Prep Type: TCLP

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	2FP	PHL6	NBZ	FBP	TBP	TPHL
		(14-110)	(10-110)	(30-110)	(28-110)	(35-110)	(39-117)
LB 310-206602/1-B	Method Blank	66	67	73	67	71	71
LCS 310-206602/2-B	Lab Control Sample	53	52	60	55	56	52

#### Surrogate Legend

TestAmerica Cedar Falls

# Surrogate Summary

Client: Cedar Rapids Water  
Project/Site: Beneficial Use

TestAmerica Job ID: 310-132299-3

2FP = 2-Fluorophenol (Surr)  
PHL6 = Phenol-d6 (Surr)  
NBZ = Nitrobenzene-d5 (Surr)  
FBP = 2-Fluorobiphenyl (Surr)  
TBP = 2,4,6-Tribromophenol (Surr)  
TPHL = Terphenyl-d14 (Surr)

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# QC Sample Results

Client: Cedar Rapids Water  
Project/Site: Beneficial Use

TestAmerica Job ID: 310-132299-3

## Method: 8260C - Volatile Organic Compounds by GC/MS

**Lab Sample ID: LB 310-206482/1-A**

**Matrix: Solid**

**Analysis Batch: 206473**

**Client Sample ID: Method Blank**

**Prep Type: TCLP**

Analyte	LB Result	LB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.0140		0.100	0.0140	mg/L			06/14/18 19:14	20
2-Butanone (MEK)	<1.50		5.00	1.50	mg/L			06/14/18 19:14	20
Carbon tetrachloride	<0.0130		0.100	0.0130	mg/L			06/14/18 19:14	20
Chlorobenzene	<0.0120		0.100	0.0120	mg/L			06/14/18 19:14	20
Chloroform	<0.0360		0.100	0.0360	mg/L			06/14/18 19:14	20
1,2-Dichloroethane	<0.0100		0.100	0.0100	mg/L			06/14/18 19:14	20
1,1-Dichloroethene	<0.0110		0.100	0.0110	mg/L			06/14/18 19:14	20
Tetrachloroethene	<0.0870		0.200	0.0870	mg/L			06/14/18 19:14	20
Trichloroethene	<0.0820		0.200	0.0820	mg/L			06/14/18 19:14	20
Vinyl chloride	<0.0190		0.100	0.0190	mg/L			06/14/18 19:14	20

Surrogate	LB %Recovery	LB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	110		80 - 120		06/14/18 19:14	20
Dibromofluoromethane (Surr)	105		80 - 120		06/14/18 19:14	20
Toluene-d8 (Surr)	100		80 - 120		06/14/18 19:14	20

**Lab Sample ID: LCS 310-206482/2-A**

**Matrix: Solid**

**Analysis Batch: 206473**

**Client Sample ID: Lab Control Sample**

**Prep Type: TCLP**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	2.00	1.873		mg/L		94	66 - 120
2-Butanone (MEK)	4.00	3.683	J	mg/L		92	50 - 150
Carbon tetrachloride	2.00	1.970		mg/L		98	62 - 122
Chlorobenzene	2.00	2.042		mg/L		102	64 - 120
Chloroform	2.00	1.828		mg/L		91	67 - 120
1,2-Dichloroethane	2.00	1.984		mg/L		99	66 - 124
1,1-Dichloroethene	2.00	1.746		mg/L		87	57 - 120
Tetrachloroethene	2.00	1.955		mg/L		98	63 - 120
Trichloroethene	2.00	1.931		mg/L		97	66 - 120
Vinyl chloride	2.00	1.729		mg/L		86	36 - 120

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	100		80 - 120
Dibromofluoromethane (Surr)	106		80 - 120
Toluene-d8 (Surr)	103		80 - 120

**Lab Sample ID: 310-132299-3 MS**

**Matrix: Sludge**

**Analysis Batch: 206473**

**Client Sample ID: NW Plant**

**Prep Type: TCLP**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	<0.0140		2.00	1.942		mg/L		97	63 - 120
2-Butanone (MEK)	<1.50		4.00	3.815	J	mg/L		95	50 - 150
Carbon tetrachloride	<0.0130		2.00	2.009		mg/L		100	56 - 125
Chlorobenzene	<0.0120		2.00	2.061		mg/L		103	63 - 120
Chloroform	<0.0360		2.00	1.860		mg/L		93	65 - 120

TestAmerica Cedar Falls

# QC Sample Results

Client: Cedar Rapids Water  
Project/Site: Beneficial Use

TestAmerica Job ID: 310-132299-3

## Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

**Lab Sample ID: 310-132299-3 MS**

**Matrix: Sludge**

**Analysis Batch: 206473**

**Client Sample ID: NW Plant**

**Prep Type: TCLP**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2-Dichloroethane	<0.0100		2.00	2.012		mg/L		101	64 - 125
1,1-Dichloroethene	<0.0110		2.00	1.968		mg/L		98	55 - 120
Tetrachloroethene	<0.0870		2.00	1.998		mg/L		100	57 - 120
Trichloroethene	<0.0820		2.00	2.027		mg/L		101	61 - 120
Vinyl chloride	<0.0190		2.00	1.938		mg/L		97	36 - 120

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	102		80 - 120
Dibromofluoromethane (Surr)	101		80 - 120
Toluene-d8 (Surr)	103		80 - 120

**Lab Sample ID: 310-132299-3 MSD**

**Matrix: Sludge**

**Analysis Batch: 206473**

**Client Sample ID: NW Plant**

**Prep Type: TCLP**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	<0.0140		2.00	1.954		mg/L		98	63 - 120	1	14
2-Butanone (MEK)	<1.50		4.00	3.937	J	mg/L		98	50 - 150	3	18
Carbon tetrachloride	<0.0130		2.00	2.023		mg/L		101	56 - 125	1	17
Chlorobenzene	<0.0120		2.00	2.136		mg/L		107	63 - 120	4	12
Chloroform	<0.0360		2.00	1.905		mg/L		95	65 - 120	2	14
1,2-Dichloroethane	<0.0100		2.00	2.025		mg/L		101	64 - 125	1	15
1,1-Dichloroethene	<0.0110		2.00	2.068		mg/L		103	55 - 120	5	19
Tetrachloroethene	<0.0870		2.00	1.988		mg/L		99	57 - 120	0	18
Trichloroethene	<0.0820		2.00	2.012		mg/L		101	61 - 120	1	15
Vinyl chloride	<0.0190		2.00	2.030		mg/L		101	36 - 120	5	17

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	102		80 - 120
Dibromofluoromethane (Surr)	103		80 - 120
Toluene-d8 (Surr)	105		80 - 120

## Method: 8270D - Semivolatile Organic Compounds (GC/MS)

**Lab Sample ID: LB 310-206602/1-B**

**Matrix: Solid**

**Analysis Batch: 206753**

**Client Sample ID: Method Blank**

**Prep Type: TCLP**

**Prep Batch: 206671**

Analyte	LB Result	LB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	<0.00490		0.0500	0.00490	mg/L		06/15/18 13:08	06/18/18 11:21	1
2,4-Dinitrotoluene	<0.00430		0.0500	0.00430	mg/L		06/15/18 13:08	06/18/18 11:21	1
2,4,5-Trichlorophenol	<0.00310		0.0500	0.00310	mg/L		06/15/18 13:08	06/18/18 11:21	1
2,4,6-Trichlorophenol	<0.00270		0.0500	0.00270	mg/L		06/15/18 13:08	06/18/18 11:21	1
2-Methylphenol	<0.00760		0.0500	0.00760	mg/L		06/15/18 13:08	06/18/18 11:21	1
4-Methylphenol (and/or 3-Methylphenol)	<0.00170		0.0500	0.00170	mg/L		06/15/18 13:08	06/18/18 11:21	1
Hexachlorobenzene	<0.00190		0.0500	0.00190	mg/L		06/15/18 13:08	06/18/18 11:21	1
Hexachlorobutadiene	<0.00250		0.0500	0.00250	mg/L		06/15/18 13:08	06/18/18 11:21	1

TestAmerica Cedar Falls

# QC Sample Results

Client: Cedar Rapids Water  
Project/Site: Beneficial Use

TestAmerica Job ID: 310-132299-3

## Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LB 310-206602/1-B**  
**Matrix: Solid**  
**Analysis Batch: 206753**

**Client Sample ID: Method Blank**  
**Prep Type: TCLP**  
**Prep Batch: 206671**

Analyte	LB Result	LB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachloroethane	<0.00360		0.0500	0.00360	mg/L		06/15/18 13:08	06/18/18 11:21	1
Nitrobenzene	<0.00240		0.0500	0.00240	mg/L		06/15/18 13:08	06/18/18 11:21	1
Pyridine	<0.00410		0.0500	0.00410	mg/L		06/15/18 13:08	06/18/18 11:21	1
Pentachlorophenol	<0.0210		0.0500	0.0210	mg/L		06/15/18 13:08	06/18/18 11:21	1
Total Cresols	<0.00760		0.0500	0.00760	mg/L		06/15/18 13:08	06/18/18 11:21	1

Surrogate	LB %Recovery	LB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorophenol (Surr)	66		14 - 110	06/15/18 13:08	06/18/18 11:21	1
Phenol-d6 (Surr)	67		10 - 110	06/15/18 13:08	06/18/18 11:21	1
Nitrobenzene-d5 (Surr)	73		30 - 110	06/15/18 13:08	06/18/18 11:21	1
2-Fluorobiphenyl (Surr)	67		28 - 110	06/15/18 13:08	06/18/18 11:21	1
2,4,6-Tribromophenol (Surr)	71		35 - 110	06/15/18 13:08	06/18/18 11:21	1
Terphenyl-d14 (Surr)	71		39 - 117	06/15/18 13:08	06/18/18 11:21	1

**Lab Sample ID: LCS 310-206602/2-B**  
**Matrix: Solid**  
**Analysis Batch: 206753**

**Client Sample ID: Lab Control Sample**  
**Prep Type: TCLP**  
**Prep Batch: 206671**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
1,4-Dichlorobenzene	0.0625	0.02809	J	mg/L		45	24 - 110
2,4-Dinitrotoluene	0.0625	0.04147	J	mg/L		66	35 - 110
2,4,5-Trichlorophenol	0.0625	0.04165	J	mg/L		67	41 - 110
2,4,6-Trichlorophenol	0.0625	0.03977	J	mg/L		64	39 - 110
2-Methylphenol	0.0625	0.03959	J	mg/L		63	31 - 110
4-Methylphenol (and/or 3-Methylphenol)	0.0625	0.04036	J	mg/L		65	28 - 110
Hexachlorobenzene	0.0625	0.04029	J	mg/L		64	42 - 110
Hexachlorobutadiene	0.0625	0.02860	J	mg/L		46	27 - 110
Hexachloroethane	0.0625	0.02624	J	mg/L		42	25 - 110
Nitrobenzene	0.0625	0.04096	J	mg/L		66	35 - 110
Pyridine	0.125	<0.00410	*	mg/L		3	10 - 110
Pentachlorophenol	0.125	0.08422		mg/L		67	35 - 110

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2-Fluorophenol (Surr)	53		14 - 110
Phenol-d6 (Surr)	52		10 - 110
Nitrobenzene-d5 (Surr)	60		30 - 110
2-Fluorobiphenyl (Surr)	55		28 - 110
2,4,6-Tribromophenol (Surr)	56		35 - 110
Terphenyl-d14 (Surr)	52		39 - 117

**Lab Sample ID: 310-132299-3 MS**  
**Matrix: Sludge**  
**Analysis Batch: 206753**

**Client Sample ID: NW Plant**  
**Prep Type: TCLP**  
**Prep Batch: 206671**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
1,4-Dichlorobenzene	<0.00490		0.0625	0.02302	J	mg/L		37	24 - 110
2,4-Dinitrotoluene	<0.00430		0.0625	0.02822	J	mg/L		45	30 - 110

TestAmerica Cedar Falls

# QC Sample Results

Client: Cedar Rapids Water  
Project/Site: Beneficial Use

TestAmerica Job ID: 310-132299-3

## Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: 310-132299-3 MS**

**Matrix: Sludge**

**Analysis Batch: 206753**

**Client Sample ID: NW Plant**

**Prep Type: TCLP**

**Prep Batch: 206671**

Analyte	Sample	Sample Qualifier	Spike Added	MS	MS	Unit	D	%Rec	%Rec. Limits
	Result			Result	Qualifier				
2,4,5-Trichlorophenol	<0.00310		0.0625	0.02937	J	mg/L		47	34 - 110
2,4,6-Trichlorophenol	<0.00270		0.0625	0.02762	J	mg/L		44	35 - 110
2-Methylphenol	<0.00760		0.0625	0.02699	J	mg/L		43	23 - 110
4-Methylphenol (and/or 3-Methylphenol)	<0.00170		0.0625	0.02677	J	mg/L		43	18 - 110
Hexachlorobenzene	<0.00190		0.0625	0.02532	J	mg/L		41	36 - 110
Hexachlorobutadiene	<0.00250		0.0625	0.02280	J	mg/L		36	26 - 110
Hexachloroethane	<0.00360		0.0625	0.02091	J	mg/L		33	24 - 110
Nitrobenzene	<0.00240		0.0625	0.02874	J	mg/L		46	28 - 110
Pyridine	<0.00410	F2 *	0.125	0.04231	J	mg/L		34	10 - 110
Pentachlorophenol	<0.0210		0.125	0.05166		mg/L		41	34 - 110

Surrogate	MS	MS	Limits
	%Recovery	Qualifier	
2-Fluorophenol (Surr)	41		14 - 110
Phenol-d6 (Surr)	35		10 - 110
Nitrobenzene-d5 (Surr)	50		30 - 110
2-Fluorobiphenyl (Surr)	45		28 - 110
2,4,6-Tribromophenol (Surr)	46		35 - 110
Terphenyl-d14 (Surr)	41		39 - 117

**Lab Sample ID: 310-132299-3 MSD**

**Matrix: Sludge**

**Analysis Batch: 206753**

**Client Sample ID: NW Plant**

**Prep Type: TCLP**

**Prep Batch: 206671**

Analyte	Sample	Sample Qualifier	Spike Added	MSD	MSD	Unit	D	%Rec	%Rec. Limits	RPD	Limit
	Result			Result	Qualifier						
1,4-Dichlorobenzene	<0.00490		0.0625	0.02730	J	mg/L		44	24 - 110	17	35
2,4-Dinitrotoluene	<0.00430		0.0625	0.04013	J	mg/L		64	30 - 110	35	35
2,4,5-Trichlorophenol	<0.00310		0.0625	0.03950	J	mg/L		63	34 - 110	29	35
2,4,6-Trichlorophenol	<0.00270		0.0625	0.03898	J	mg/L		62	35 - 110	34	35
2-Methylphenol	<0.00760		0.0625	0.03827	J	mg/L		61	23 - 110	35	35
4-Methylphenol (and/or 3-Methylphenol)	<0.00170		0.0625	0.03747	J	mg/L		60	18 - 110	33	35
Hexachlorobenzene	<0.00190		0.0625	0.03615	J	mg/L		58	36 - 110	35	35
Hexachlorobutadiene	<0.00250		0.0625	0.02951	J	mg/L		47	26 - 110	26	35
Hexachloroethane	<0.00360		0.0625	0.02511	J	mg/L		40	24 - 110	18	35
Nitrobenzene	<0.00240		0.0625	0.04061	J	mg/L		65	28 - 110	34	35
Pyridine	<0.00410	F2 *	0.125	0.07650	F2	mg/L		61	10 - 110	58	35
Pentachlorophenol	<0.0210		0.125	0.06347		mg/L		51	34 - 110	21	35

Surrogate	MSD	MSD	Limits
	%Recovery	Qualifier	
2-Fluorophenol (Surr)	52		14 - 110
Phenol-d6 (Surr)	45		10 - 110
Nitrobenzene-d5 (Surr)	63		30 - 110
2-Fluorobiphenyl (Surr)	59		28 - 110
2,4,6-Tribromophenol (Surr)	59		35 - 110
Terphenyl-d14 (Surr)	52		39 - 117

TestAmerica Cedar Falls

# QC Sample Results

Client: Cedar Rapids Water  
Project/Site: Beneficial Use

TestAmerica Job ID: 310-132299-3

## Method: 9056A - Anions, Ion Chromatography

**Lab Sample ID: MB 310-208242/1-A ^10**  
**Matrix: Solid**  
**Analysis Batch: 208349**

**Client Sample ID: Method Blank**  
**Prep Type: Soluble**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	<9.29		9.29		mg/Kg			07/02/18 10:27	10

**Lab Sample ID: LCS 310-208242/2-A ^10**  
**Matrix: Solid**  
**Analysis Batch: 208349**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Soluble**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	100	98.23		mg/Kg		98	90 - 110

**Lab Sample ID: LB 310-208068/1-A**  
**Matrix: Solid**  
**Analysis Batch: 208344**

**Client Sample ID: Method Blank**  
**Prep Type: SPLP**

Analyte	LB Result	LB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	<0.100		0.100		mg/L			06/29/18 11:41	1

**Lab Sample ID: LCS 310-208068/2-A**  
**Matrix: Solid**  
**Analysis Batch: 208344**

**Client Sample ID: Lab Control Sample**  
**Prep Type: SPLP**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	1.00	0.9961		mg/L		100	90 - 110



# QC Association Summary

Client: Cedar Rapids Water  
Project/Site: Beneficial Use

TestAmerica Job ID: 310-132299-3

## GC/MS VOA

### Analysis Batch: 206473

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-132299-3	NW Plant	TCLP	Sludge	8260C	206482
LB 310-206482/1-A	Method Blank	TCLP	Solid	8260C	206482
LCS 310-206482/2-A	Lab Control Sample	TCLP	Solid	8260C	206482
310-132299-3 MS	NW Plant	TCLP	Sludge	8260C	206482
310-132299-3 MSD	NW Plant	TCLP	Sludge	8260C	206482

### Leach Batch: 206482

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-132299-3	NW Plant	TCLP	Sludge	1311	
LB 310-206482/1-A	Method Blank	TCLP	Solid	1311	
LCS 310-206482/2-A	Lab Control Sample	TCLP	Solid	1311	
310-132299-3 MS	NW Plant	TCLP	Sludge	1311	
310-132299-3 MSD	NW Plant	TCLP	Sludge	1311	

## GC/MS Semi VOA

### Leach Batch: 206602

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-132299-3	NW Plant	TCLP	Sludge	1311	
LB 310-206602/1-B	Method Blank	TCLP	Solid	1311	
LCS 310-206602/2-B	Lab Control Sample	TCLP	Solid	1311	
310-132299-3 MS	NW Plant	TCLP	Sludge	1311	
310-132299-3 MSD	NW Plant	TCLP	Sludge	1311	

### Prep Batch: 206671

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-132299-3	NW Plant	TCLP	Sludge	3510C	206602
LB 310-206602/1-B	Method Blank	TCLP	Solid	3510C	206602
LCS 310-206602/2-B	Lab Control Sample	TCLP	Solid	3510C	206602
310-132299-3 MS	NW Plant	TCLP	Sludge	3510C	206602
310-132299-3 MSD	NW Plant	TCLP	Sludge	3510C	206602

### Analysis Batch: 206753

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-132299-3	NW Plant	TCLP	Sludge	8270D	206671
LB 310-206602/1-B	Method Blank	TCLP	Solid	8270D	206671
LCS 310-206602/2-B	Lab Control Sample	TCLP	Solid	8270D	206671
310-132299-3 MS	NW Plant	TCLP	Sludge	8270D	206671
310-132299-3 MSD	NW Plant	TCLP	Sludge	8270D	206671

## HPLC/IC

### Leach Batch: 208068

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-132299-3	NW Plant	SPLP	Sludge	1312	
LB 310-208068/1-A	Method Blank	SPLP	Solid	1312	
LCS 310-208068/2-A	Lab Control Sample	SPLP	Solid	1312	

TestAmerica Cedar Falls

# QC Association Summary

Client: Cedar Rapids Water  
Project/Site: Beneficial Use

TestAmerica Job ID: 310-132299-3

## HPLC/IC (Continued)

### Leach Batch: 208242

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-132299-3	NW Plant	Soluble	Sludge	DI Leach	
MB 310-208242/1-A ^10	Method Blank	Soluble	Solid	DI Leach	
LCS 310-208242/2-A ^10	Lab Control Sample	Soluble	Solid	DI Leach	

### Analysis Batch: 208344

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-132299-3	NW Plant	SPLP	Sludge	9056A	208068
LB 310-208068/1-A	Method Blank	SPLP	Solid	9056A	208068
LCS 310-208068/2-A	Lab Control Sample	SPLP	Solid	9056A	208068

### Analysis Batch: 208349

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-132299-3	NW Plant	Soluble	Sludge	9056A	208242
MB 310-208242/1-A ^10	Method Blank	Soluble	Solid	9056A	208242
LCS 310-208242/2-A ^10	Lab Control Sample	Soluble	Solid	9056A	208242

## Metals

### Prep Batch: 206436

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-132299-3	NW Plant	Total/NA	Sludge	7471B	

### Leach Batch: 206603

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-132299-3	NW Plant	TCLP	Sludge	1311	

### Leach Batch: 206605

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-132299-3	NW Plant	SPLP West	Sludge	1312	

### Prep Batch: 206688

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-132299-3	NW Plant	Total/NA	Sludge	3050B	

### Prep Batch: 206734

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-132299-3	NW Plant	TCLP	Sludge	3010A	206603

### Prep Batch: 206742

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-132299-3	NW Plant	SPLP West	Sludge	3010A	206605

### Prep Batch: 206743

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-132299-3	NW Plant	SPLP West	Sludge	3020A	206605

### Prep Batch: 206825

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-132299-3	NW Plant	Total/NA	Sludge	3050B	

TestAmerica Cedar Falls

# QC Association Summary

Client: Cedar Rapids Water  
Project/Site: Beneficial Use

TestAmerica Job ID: 310-132299-3

## Metals (Continued)

### Analysis Batch: 206839

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-132299-3	NW Plant	Total/NA	Sludge	6010C	206688

### Analysis Batch: 206842

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-132299-3	NW Plant	Total/NA	Sludge	7471B	206436

### Prep Batch: 206902

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-132299-3	NW Plant	TCLP	Sludge	7470A	206603

### Prep Batch: 206905

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-132299-3	NW Plant	SPLP West	Sludge	7470A	206605

### Analysis Batch: 206908

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-132299-3	NW Plant	SPLP West	Sludge	6010C	206742

### Analysis Batch: 206979

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-132299-3	NW Plant	TCLP	Sludge	6010C	206734

### Analysis Batch: 207091

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-132299-3	NW Plant	SPLP West	Sludge	7470A	206905
310-132299-3	NW Plant	TCLP	Sludge	7470A	206902

### Analysis Batch: 207129

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-132299-3	NW Plant	SPLP West	Sludge	7010	206743
310-132299-3	NW Plant	Total/NA	Sludge	7010	206825

### Analysis Batch: 207144

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-132299-3	NW Plant	TCLP	Sludge	6010C	206734

### Analysis Batch: 207229

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-132299-3	NW Plant	SPLP West	Sludge	7010	206743
310-132299-3	NW Plant	Total/NA	Sludge	7010	206825

### Analysis Batch: 207241

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-132299-3	NW Plant	SPLP West	Sludge	7010	206743

### Analysis Batch: 207575

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-132299-3	NW Plant	Total/NA	Sludge	7010	206825

TestAmerica Cedar Falls

# QC Association Summary

Client: Cedar Rapids Water  
Project/Site: Beneficial Use

TestAmerica Job ID: 310-132299-3

## General Chemistry

### Analysis Batch: 206341

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-132299-3	NW Plant	Total/NA	Sludge	Moisture	

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# Lab Chronicle

Client: Cedar Rapids Water  
Project/Site: Beneficial Use

TestAmerica Job ID: 310-132299-3

**Client Sample ID: NW Plant**

**Date Collected: 06/11/18 09:45**

**Date Received: 06/12/18 15:20**

**Lab Sample ID: 310-132299-3**

**Matrix: Sludge**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Leach	1311			206482	06/13/18 14:15	JTA	TAL CF
TCLP	Analysis	8260C		20	206473	06/14/18 19:58	SJN	TAL CF
TCLP	Leach	1311			206602	06/14/18 13:55	JTA	TAL CF
TCLP	Prep	3510C			206671	06/15/18 13:08	CMC	TAL CF
TCLP	Analysis	8270D		1	206753	06/18/18 12:16	DMD	TAL CF
SPLP	Leach	1312			208068	06/28/18 15:10	JTA	TAL CF
SPLP	Analysis	9056A		1	208344	06/29/18 13:52	HED	TAL CF
SPLP West	Leach	1312			206605	06/14/18 13:55	JTA	TAL CF
SPLP West	Prep	3010A			206742	06/18/18 07:42	JNR	TAL CF
SPLP West	Analysis	6010C		1	206908	06/18/18 17:09	SAD	TAL CF
TCLP	Leach	1311			206603	06/14/18 13:55	JTA	TAL CF
TCLP	Prep	3010A			206734	06/18/18 07:39	JNR	TAL CF
TCLP	Analysis	6010C		3	206979	06/19/18 16:04	JIS	TAL CF
TCLP	Leach	1311			206603	06/14/18 13:55	JTA	TAL CF
TCLP	Prep	3010A			206734	06/18/18 07:39	JNR	TAL CF
TCLP	Analysis	6010C		3	207144	06/20/18 16:28	JIS	TAL CF
SPLP West	Leach	1312			206605	06/14/18 13:55	JTA	TAL CF
SPLP West	Prep	3020A			206743	06/18/18 07:44	JNR	TAL CF
SPLP West	Analysis	7010		1	207129	06/20/18 15:55	JIS	TAL CF
SPLP West	Leach	1312			206605	06/14/18 13:55	JTA	TAL CF
SPLP West	Prep	3020A			206743	06/18/18 07:44	JNR	TAL CF
SPLP West	Analysis	7010		1	207229	06/21/18 11:34	CJT	TAL CF
SPLP West	Leach	1312			206605	06/14/18 13:55	JTA	TAL CF
SPLP West	Prep	3020A			206743	06/18/18 07:44	JNR	TAL CF
SPLP West	Analysis	7010		1	207241	06/21/18 13:41	CJT	TAL CF
SPLP West	Leach	1312			206605	06/14/18 13:55	JTA	TAL CF
SPLP West	Prep	7470A			206905	06/19/18 09:27	JNR	TAL CF
SPLP West	Analysis	7470A		1	207091	06/20/18 10:51	JNR	TAL CF
TCLP	Leach	1311			206603	06/14/18 13:55	JTA	TAL CF
TCLP	Prep	7470A			206902	06/19/18 09:24	JNR	TAL CF
TCLP	Analysis	7470A		1	207091	06/20/18 11:15	JNR	TAL CF
Total/NA	Analysis	Moisture		1	206341	06/13/18 08:39	SAS	TAL CF

**Client Sample ID: NW Plant**

**Date Collected: 06/11/18 09:45**

**Date Received: 06/12/18 15:20**

**Lab Sample ID: 310-132299-3**

**Matrix: Sludge**

**Percent Solids: 69.2**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			208242	07/02/18 08:10	JNR	TAL CF
Soluble	Analysis	9056A		10	208349	07/02/18 12:33	HED	TAL CF
Total/NA	Prep	3050B			206688	06/15/18 14:59	CJT	TAL CF
Total/NA	Analysis	6010C		10	206839	06/18/18 15:08	SAD	TAL CF
Total/NA	Prep	3050B			206825	06/19/18 10:00	JNR	TAL CF
Total/NA	Analysis	7010		12	207129	06/20/18 11:58	JIS	TAL CF

TestAmerica Cedar Falls

# Lab Chronicle

Client: Cedar Rapids Water  
Project/Site: Beneficial Use

TestAmerica Job ID: 310-132299-3

**Client Sample ID: NW Plant**

**Lab Sample ID: 310-132299-3**

**Date Collected: 06/11/18 09:45**

**Matrix: Sludge**

**Date Received: 06/12/18 15:20**

**Percent Solids: 69.2**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			206825	06/19/18 10:00	JNR	TAL CF
Total/NA	Analysis	7010		4	207229	06/21/18 10:41	CJT	TAL CF
Total/NA	Prep	3050B			206825	06/19/18 10:00	JNR	TAL CF
Total/NA	Analysis	7010		4	207575	06/25/18 10:18	CJT	TAL CF
Total/NA	Prep	7471B			206436	06/18/18 10:00	JNR	TAL CF
Total/NA	Analysis	7471B		1	206842	06/18/18 16:16	JNR	TAL CF

**Laboratory References:**

TAL CF = TestAmerica Cedar Falls, 704 Enterprise Drive, Cedar Falls, IA 50613, TEL (319)277-2401

# Accreditation/Certification Summary

Client: Cedar Rapids Water  
Project/Site: Beneficial Use

TestAmerica Job ID: 310-132299-3

## Laboratory: TestAmerica Cedar Falls

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	EPA Region	Identification Number	Expiration Date
Iowa	State Program	7	007	12-01-19

The following analytes are included in this report, but accreditation/certification is not offered by the governing authority:

Analysis Method	Prep Method	Matrix	Analyte
Moisture		Sludge	Percent Moisture
Moisture		Sludge	Percent Solids

- 1
- 2
- 3
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- 15

# Method Summary

Client: Cedar Rapids Water  
Project/Site: Beneficial Use

TestAmerica Job ID: 310-132299-3

Method	Method Description	Protocol	Laboratory
8260C	Volatile Organic Compounds by GC/MS	SW846	TAL CF
8270D	Semivolatile Organic Compounds (GC/MS)	SW846	TAL CF
9056A	Anions, Ion Chromatography	SW846	TAL CF
6010C	Metals (ICP)	SW846	TAL CF
7010	Metals (GFAA)	SW846	TAL CF
7470A	Mercury (CVAA)	SW846	TAL CF
7471B	Mercury (CVAA)	SW846	TAL CF
Moisture	Percent Moisture	EPA	TAL CF
1311	TCLP Extraction	SW846	TAL CF
1311	TCLP Zero Headspace Extraction	SW846	TAL CF
1312	SPLP Extraction	SW846	TAL CF
3010A	Preparation, Total Metals	SW846	TAL CF
3020A	Preparation, Total Metals	SW846	TAL CF
3050B	Preparation, Metals	SW846	TAL CF
3510C	Liquid-Liquid Extraction (Separatory Funnel)	SW846	TAL CF
5030B	Purge and Trap	SW846	TAL CF
7470A	Preparation, Mercury	SW846	TAL CF
7471B	Preparation, Mercury	SW846	TAL CF
DI Leach	Deionized Water Leaching Procedure	ASTM	TAL CF

#### Protocol References:

ASTM = ASTM International

EPA = US Environmental Protection Agency

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

#### Laboratory References:

TAL CF = TestAmerica Cedar Falls, 704 Enterprise Drive, Cedar Falls, IA 50613, TEL (319)277-2401





## Cooler/Sample Receipt and Temperature Log Form

<b>Client Information</b>	
Client: <u>City of Cedar Rapids WRCF</u>	
City/State: <u>Cedar Rapids IA</u>	Project:
<b>Receipt Information</b>	
Date/Time Received: <u>6/12/18 1520</u>	Received By: <u>HM</u>
Delivery Type: <input type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> FedEx Ground <input type="checkbox"/> US Mail <input type="checkbox"/> Spee-Dee <input checked="" type="checkbox"/> TA Courier <input type="checkbox"/> TA Field Services <input type="checkbox"/> Client Drop-off <input type="checkbox"/> Other: _____	
<b>Condition of Cooler/Containers</b>	
Sample(s) received in Cooler?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <i>If yes: Cooler ID:</i>
Multiple Coolers?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <i>If yes: Cooler # ___ of ___</i>
Cooler Custody Seals Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <i>If yes: Cooler custody seals intact?</i> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Sample Custody Seals Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <i>If yes: Sample custody seals intact?</i> <input type="checkbox"/> Yes <input type="checkbox"/> No
Trip Blank Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <i>If yes: Which VOA samples are in cooler? ↓</i>
<b>Temperature Record</b>	
Coolant: <input checked="" type="checkbox"/> Wet ice <input type="checkbox"/> Blue ice <input type="checkbox"/> Dry ice <input type="checkbox"/> Other: _____ <input type="checkbox"/> NONE	
Thermometer ID: <u>H</u>	Correction Factor (°C): <u>+0.0</u>
• Temp Blank Temperature – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature	
Uncorrected Temp (°C): <u>3.2</u>	Corrected Temp (°C): <u>3.2</u>
• Sample Container Temperature	
Container type(s) used:	
Uncorrected Temp (°C):	Corrected Temp (°C):
<b>Exceptions Noted</b>	
1) If temperature exceeds criteria, was sample(s) received same day of sampling? <input type="checkbox"/> Yes <input type="checkbox"/> No	
a) <i>If yes: Is there evidence that the chilling process began?</i> <input type="checkbox"/> Yes <input type="checkbox"/> No	
2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) <input type="checkbox"/> Yes <input type="checkbox"/> No	
NOTE: If yes, contact PM before proceeding. If no, proceed with login	
<b>Additional Comments</b>	

Cedar Falls Division  
704 Enterprise Drive  
Cedar Falls, IA 50613

Phone 319-277-2401 or 800-750-2401  
Fax 319-277-2425

To assist us in using the proper analytical methods,  
is this work being conducted for regulatory purposes?  
Compliance Monitoring

Client Name: City of Cedar Rapids WPCF Client #:  
Address: 7525 Bertram Rd. SE  
City/State/Zip Code: Cedar Rapids, IA 52403  
Project Manager: John Ernst

Project Name: \_\_\_\_\_  
Project #: \_\_\_\_\_  
Site/Location ID: \_\_\_\_\_ State: \_\_\_\_\_  
Report To: \_\_\_\_\_  
Invoice To: \_\_\_\_\_  
Quote #: \_\_\_\_\_ PO#: \_\_\_\_\_

Email Address: j.ernst@cedar-rapids.org  
Telephone Number: 319-286-5286 x 4684 Fax:  
Sampler Name: (Print Name) John Ernst Holly Kuble  
Sampler Signature: [Signature] [Signature]

TAT	Standard	Rush (surcharges may apply)	Date Needed:	Fax Results:	Email Results:	SAMPLE ID	Date Sampled	Time Sampled	G = Grab, C = Composite	Field Filtered	Matrix Preservation & # of Containers						Analyze For:	QC Deliverables	REMARKS	
											SL - Sludge	DW - Drinking Water	GW - Groundwater	S - Soil/Solid	WW - Wastewater	Other				HNO <sub>3</sub>
				Y	N	North Ash Lagoon	6-11-18	08:45	G									✓	TCRP Meths	
				Y	N	SAVE. East Well Field	6-11-18	9:15	G									✓	TCRP Meths SPLP Meths ECLA Meths Total Meths TCRP VOL TCRP SVOC	
						NW Plant	6-11-18	9:45	G									✓		

**Special Instructions:**  
Beneficial Use Determination Analysis

Relinquished By: <u>[Signature]</u>	Date: <u>6/12/18</u>	Time: <u>16:45</u>	Received By: <u>[Signature]</u>	Date: <u>6-12-18</u>	Time: <u>15:20</u>
Relinquished By:	Date:	Time:	Received By:	Date:	Time:
Relinquished By:	Date:	Time:	Received By:	Date:	Time:

**LABORATORY COMMENTS:**



# Login Sample Receipt Checklist

Client: Cedar Rapids Water

Job Number: 310-132299-3

**Login Number: 132299**

**List Source: TestAmerica Cedar Falls**

**List Number: 1**

**Creator: Patrick, Kathryn E**

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	