

ANALYTICAL REPORT

Eurofins TestAmerica, Savannah
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Laboratory Job ID: 680-194170-1
Client Project/Site: Permit Renewal 2021

For:
City of Nashville
405 West Washington
Nashville, Georgia 31639

Attn: Mr. Brandon Rice



Authorized for release by:
1/31/2021 11:38:47 AM

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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.

Definitions/Glossary

Client: City of Nashville
Project/Site: Permit Renewal 2021

Job ID: 680-194170-1

Qualifiers

GC/MS Semi VOA

Qualifier	Qualifier Description
*-	LCS and/or LCSD is outside acceptance limits, low biased.
*1	LCS/LCSD 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.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
▫	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
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)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
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)
TNTC	Too Numerous To Count

Sample Summary

Client: City of Nashville
Project/Site: Permit Renewal 2021

Job ID: 680-194170-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
680-194170-1	Effluent	Water	01/20/21 08:00	01/21/21 12:45	

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Case Narrative

Client: City of Nashville
Project/Site: Permit Renewal 2021

Job ID: 680-194170-1

Job ID: 680-194170-1

Laboratory: Eurofins TestAmerica, Savannah

Narrative

Job Narrative 680-194170-1

Comments

No additional comments.

Receipt

The sample was received on 1/21/2021 12:45 PM; the sample arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 2.5° C.

Receipt Exceptions

The following sample was collected in an improper container: Effluent (680-194170-1). VOA Vials marked for 624_5ML UP have "unpreserved" on TALS label on vial. But label on vial indicates HCL.

GC/MS VOA

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

GC/MS Semi VOA

Method 625: The laboratory control sample/laboratory control sample duplicate (LCS/LCSD) for preparation batch 653112 and analytical batch 653630 recovered outside control limits for the following analyte: Benzidine. Benzidine has been identified as a poor performing analyte when analyzed using this method; therefore, re-extraction/re-analysis was not performed. Batch precision also exceeded control limits for these analyte. These results have been reported and qualified.

Method 625: The %RPD of the laboratory control sample/laboratory control sample duplicate (LCS/LCSD) for preparation batch 653112 and analytical batch 653630 recovered outside control limits for the following analyte: 3,3'-Dichlorobenzidine.

Method 625: The following analyte recovered outside control limits for the laboratory control sample duplicate (LCSD) associated with preparation batch 680-653112 and analytical batch 680-653630: Hexachloroethane. This is not indicative of a systematic control problem because these were random marginal exceedances. Qualified results have been reported.

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

Metals

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

General Chemistry

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

Client Sample Results

Client: City of Nashville
Project/Site: Permit Renewal 2021

Job ID: 680-194170-1

Client Sample ID: Effluent

Lab Sample ID: 680-194170-1

Date Collected: 01/20/21 08:00

Matrix: Water

Date Received: 01/21/21 12:45

Method: 624 - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acrolein	<20		20		ug/L			01/22/21 22:00	1
Acrylonitrile	<20		20		ug/L			01/22/21 22:00	1
Benzene	<1.0		1.0		ug/L			01/22/21 22:00	1
Bromoform	<1.0		1.0		ug/L			01/22/21 22:00	1
Bromomethane	<5.0		5.0		ug/L			01/22/21 22:00	1
Carbon tetrachloride	<1.0		1.0		ug/L			01/22/21 22:00	1
Chlorobenzene	<1.0		1.0		ug/L			01/22/21 22:00	1
Chlorodibromomethane	<1.0		1.0		ug/L			01/22/21 22:00	1
Chloroethane	<5.0		5.0		ug/L			01/22/21 22:00	1
2-Chloroethyl vinyl ether	<10		10		ug/L			01/22/21 22:00	1
Chloroform	<1.0		1.0		ug/L			01/22/21 22:00	1
Chloromethane	<1.0		1.0		ug/L			01/22/21 22:00	1
cis-1,3-Dichloropropene	<1.0		1.0		ug/L			01/22/21 22:00	1
Dichlorobromomethane	<1.0		1.0		ug/L			01/22/21 22:00	1
1,1-Dichloroethane	<1.0		1.0		ug/L			01/22/21 22:00	1
1,2-Dichloroethane	<1.0		1.0		ug/L			01/22/21 22:00	1
1,1-Dichloroethene	<1.0		1.0		ug/L			01/22/21 22:00	1
1,2-Dichloropropane	<1.0		1.0		ug/L			01/22/21 22:00	1
Ethylbenzene	<1.0		1.0		ug/L			01/22/21 22:00	1
Methylene Chloride	<5.0		5.0		ug/L			01/22/21 22:00	1
1,1,2,2-Tetrachloroethane	<1.0		1.0		ug/L			01/22/21 22:00	1
Tetrachloroethene	<1.0		1.0		ug/L			01/22/21 22:00	1
Toluene	<1.0		1.0		ug/L			01/22/21 22:00	1
trans-1,2-Dichloroethene	<1.0		1.0		ug/L			01/22/21 22:00	1
trans-1,3-Dichloropropene	<1.0		1.0		ug/L			01/22/21 22:00	1
1,1,1-Trichloroethane	<1.0		1.0		ug/L			01/22/21 22:00	1
1,1,2-Trichloroethane	<1.0		1.0		ug/L			01/22/21 22:00	1
Trichloroethene	<1.0		1.0		ug/L			01/22/21 22:00	1
Vinyl chloride	<1.0		1.0		ug/L			01/22/21 22:00	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	92		79 - 119		01/22/21 22:00	1

Method: 625 - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	<9.6		9.6		ug/L		01/22/21 13:48	01/28/21 14:16	1
Acenaphthylene	<9.6		9.6		ug/L		01/22/21 13:48	01/28/21 14:16	1
Anthracene	<9.6		9.6		ug/L		01/22/21 13:48	01/28/21 14:16	1
Benzidine	<77	*- *1	77		ug/L		01/22/21 13:48	01/28/21 14:16	1
Benzo[a]anthracene	<9.6		9.6		ug/L		01/22/21 13:48	01/28/21 14:16	1
Benzo[a]pyrene	<9.6		9.6		ug/L		01/22/21 13:48	01/28/21 14:16	1
Benzo[b]fluoranthene	<9.6		9.6		ug/L		01/22/21 13:48	01/28/21 14:16	1
Benzo[g,h,i]perylene	<9.6		9.6		ug/L		01/22/21 13:48	01/28/21 14:16	1
Benzo[k]fluoranthene	<9.6		9.6		ug/L		01/22/21 13:48	01/28/21 14:16	1
Bis(2-chloroethoxy)methane	<9.6		9.6		ug/L		01/22/21 13:48	01/28/21 14:16	1
Bis(2-chloroethyl)ether	<9.6		9.6		ug/L		01/22/21 13:48	01/28/21 14:16	1
bis (2-chloroisopropyl) ether	<9.6		9.6		ug/L		01/22/21 13:48	01/28/21 14:16	1
Bis(2-ethylhexyl) phthalate	<9.6		9.6		ug/L		01/22/21 13:48	01/28/21 14:16	1
4-Bromophenyl phenyl ether	<9.6		9.6		ug/L		01/22/21 13:48	01/28/21 14:16	1
Butyl benzyl phthalate	<9.6		9.6		ug/L		01/22/21 13:48	01/28/21 14:16	1

Eurofins TestAmerica, Savannah

Client Sample Results

Client: City of Nashville
Project/Site: Permit Renewal 2021

Job ID: 680-194170-1

Client Sample ID: Effluent

Lab Sample ID: 680-194170-1

Date Collected: 01/20/21 08:00

Matrix: Water

Date Received: 01/21/21 12:45

Method: 625 - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chloro-3-methylphenol	<9.6		9.6		ug/L		01/22/21 13:48	01/28/21 14:16	1
2-Chloronaphthalene	<9.6		9.6		ug/L		01/22/21 13:48	01/28/21 14:16	1
2-Chlorophenol	<9.6		9.6		ug/L		01/22/21 13:48	01/28/21 14:16	1
4-Chlorophenyl phenyl ether	<9.6		9.6		ug/L		01/22/21 13:48	01/28/21 14:16	1
Chrysene	<9.6		9.6		ug/L		01/22/21 13:48	01/28/21 14:16	1
Dibenz(a,h)anthracene	<9.6		9.6		ug/L		01/22/21 13:48	01/28/21 14:16	1
1,2-Dichlorobenzene	<9.6		9.6		ug/L		01/22/21 13:48	01/28/21 14:16	1
1,3-Dichlorobenzene	<9.6		9.6		ug/L		01/22/21 13:48	01/28/21 14:16	1
1,4-Dichlorobenzene	<9.6		9.6		ug/L		01/22/21 13:48	01/28/21 14:16	1
3,3'-Dichlorobenzidine	<58	*1	58		ug/L		01/22/21 13:48	01/28/21 14:16	1
2,4-Dichlorophenol	<9.6		9.6		ug/L		01/22/21 13:48	01/28/21 14:16	1
Diethyl phthalate	<9.6		9.6		ug/L		01/22/21 13:48	01/28/21 14:16	1
2,4-Dimethylphenol	<9.6		9.6		ug/L		01/22/21 13:48	01/28/21 14:16	1
Dimethyl phthalate	<9.6		9.6		ug/L		01/22/21 13:48	01/28/21 14:16	1
Di-n-butyl phthalate	<9.6		9.6		ug/L		01/22/21 13:48	01/28/21 14:16	1
4,6-Dinitro-2-methylphenol	<48		48		ug/L		01/22/21 13:48	01/28/21 14:16	1
2,4-Dinitrophenol	<48		48		ug/L		01/22/21 13:48	01/28/21 14:16	1
2,4-Dinitrotoluene	<9.6		9.6		ug/L		01/22/21 13:48	01/28/21 14:16	1
2,6-Dinitrotoluene	<9.6		9.6		ug/L		01/22/21 13:48	01/28/21 14:16	1
Di-n-octyl phthalate	<9.6		9.6		ug/L		01/22/21 13:48	01/28/21 14:16	1
1,2-Diphenylhydrazine	<9.6		9.6		ug/L		01/22/21 13:48	01/28/21 14:16	1
Fluoranthene	<9.6		9.6		ug/L		01/22/21 13:48	01/28/21 14:16	1
Fluorene	<9.6		9.6		ug/L		01/22/21 13:48	01/28/21 14:16	1
Hexachlorobenzene	<9.6		9.6		ug/L		01/22/21 13:48	01/28/21 14:16	1
Hexachlorobutadiene	<9.6		9.6		ug/L		01/22/21 13:48	01/28/21 14:16	1
Hexachlorocyclopentadiene	<19		19		ug/L		01/22/21 13:48	01/28/21 14:16	1
Hexachloroethane	<9.6	*-	9.6		ug/L		01/22/21 13:48	01/28/21 14:16	1
Indeno[1,2,3-cd]pyrene	<9.6		9.6		ug/L		01/22/21 13:48	01/28/21 14:16	1
Isophorone	<9.6		9.6		ug/L		01/22/21 13:48	01/28/21 14:16	1
Naphthalene	<9.6		9.6		ug/L		01/22/21 13:48	01/28/21 14:16	1
Nitrobenzene	<9.6		9.6		ug/L		01/22/21 13:48	01/28/21 14:16	1
2-Nitrophenol	<9.6		9.6		ug/L		01/22/21 13:48	01/28/21 14:16	1
4-Nitrophenol	<48		48		ug/L		01/22/21 13:48	01/28/21 14:16	1
N-Nitrosodimethylamine	<19		19		ug/L		01/22/21 13:48	01/28/21 14:16	1
N-Nitrosodi-n-propylamine	<9.6		9.6		ug/L		01/22/21 13:48	01/28/21 14:16	1
N-Nitrosodiphenylamine	<9.6		9.6		ug/L		01/22/21 13:48	01/28/21 14:16	1
Pentachlorophenol	<48		48		ug/L		01/22/21 13:48	01/28/21 14:16	1
Phenanthrene	<9.6		9.6		ug/L		01/22/21 13:48	01/28/21 14:16	1
Phenol	<9.6		9.6		ug/L		01/22/21 13:48	01/28/21 14:16	1
Pyrene	<9.6		9.6		ug/L		01/22/21 13:48	01/28/21 14:16	1
1,2,4-Trichlorobenzene	<9.6		9.6		ug/L		01/22/21 13:48	01/28/21 14:16	1
2,4,6-Trichlorophenol	<9.6		9.6		ug/L		01/22/21 13:48	01/28/21 14:16	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl (Surr)	65		38 - 121	01/22/21 13:48	01/28/21 14:16	1
2-Fluorophenol (Surr)	54		35 - 110	01/22/21 13:48	01/28/21 14:16	1
Nitrobenzene-d5 (Surr)	62		44 - 119	01/22/21 13:48	01/28/21 14:16	1
Phenol-d5 (Surr)	64		27 - 119	01/22/21 13:48	01/28/21 14:16	1
Terphenyl-d14 (Surr)	48		10 - 165	01/22/21 13:48	01/28/21 14:16	1
2,4,6-Tribromophenol (Surr)	69		34 - 132	01/22/21 13:48	01/28/21 14:16	1

Eurofins TestAmerica, Savannah

Client Sample Results

Client: City of Nashville
Project/Site: Permit Renewal 2021

Job ID: 680-194170-1

Client Sample ID: Effluent

Lab Sample ID: 680-194170-1

Date Collected: 01/20/21 08:00

Matrix: Water

Date Received: 01/21/21 12:45

Method: 200.8 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<5.0		5.0		ug/L		01/25/21 09:59	01/25/21 18:30	1
Arsenic	<3.0		3.0		ug/L		01/25/21 09:59	01/25/21 18:30	1
Beryllium	<0.50		0.50		ug/L		01/25/21 09:59	01/25/21 18:30	1
Cadmium	<0.50		0.50		ug/L		01/25/21 09:59	01/25/21 18:30	1
Chromium	<5.0		5.0		ug/L		01/25/21 09:59	01/25/21 18:30	1
Copper	7.0		5.0		ug/L		01/25/21 09:59	01/25/21 18:30	1
Lead	<2.5		2.5		ug/L		01/25/21 09:59	01/25/21 18:30	1
Nickel	<5.0		5.0		ug/L		01/25/21 09:59	01/25/21 18:30	1
Selenium	<2.5		2.5		ug/L		01/25/21 09:59	01/25/21 18:30	1
Silver	<1.0		1.0		ug/L		01/25/21 09:59	01/25/21 18:30	1
Thallium	<1.0		1.0		ug/L		01/25/21 09:59	01/25/21 18:30	1
Zinc	36		20		ug/L		01/25/21 09:59	01/25/21 18:30	1

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.20		0.20		ug/L		01/26/21 11:43	01/27/21 15:48	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	<0.010		0.010		mg/L		01/28/21 11:22	01/28/21 13:28	1
Phenolics, Total Recoverable	<0.050		0.050		mg/L		01/29/21 09:51	01/29/21 10:47	1
Hardness as calcium carbonate	100		10		mg/L			01/29/21 07:32	1

QC Sample Results

Client: City of Nashville
Project/Site: Permit Renewal 2021

Job ID: 680-194170-1

Method: 624 - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 680-653099/8

Matrix: Water

Analysis Batch: 653099

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acrolein	<20		20		ug/L			01/22/21 16:12	1
Acrylonitrile	<20		20		ug/L			01/22/21 16:12	1
Benzene	<1.0		1.0		ug/L			01/22/21 16:12	1
Bromoform	<1.0		1.0		ug/L			01/22/21 16:12	1
Bromomethane	<5.0		5.0		ug/L			01/22/21 16:12	1
Carbon tetrachloride	<1.0		1.0		ug/L			01/22/21 16:12	1
Chlorobenzene	<1.0		1.0		ug/L			01/22/21 16:12	1
Chlorodibromomethane	<1.0		1.0		ug/L			01/22/21 16:12	1
Chloroethane	<5.0		5.0		ug/L			01/22/21 16:12	1
2-Chloroethyl vinyl ether	<10		10		ug/L			01/22/21 16:12	1
Chloroform	<1.0		1.0		ug/L			01/22/21 16:12	1
Chloromethane	<1.0		1.0		ug/L			01/22/21 16:12	1
cis-1,3-Dichloropropene	<1.0		1.0		ug/L			01/22/21 16:12	1
Dichlorobromomethane	<1.0		1.0		ug/L			01/22/21 16:12	1
1,1-Dichloroethane	<1.0		1.0		ug/L			01/22/21 16:12	1
1,2-Dichloroethane	<1.0		1.0		ug/L			01/22/21 16:12	1
1,1-Dichloroethene	<1.0		1.0		ug/L			01/22/21 16:12	1
1,2-Dichloropropane	<1.0		1.0		ug/L			01/22/21 16:12	1
Ethylbenzene	<1.0		1.0		ug/L			01/22/21 16:12	1
Methylene Chloride	<5.0		5.0		ug/L			01/22/21 16:12	1
1,1,2,2-Tetrachloroethane	<1.0		1.0		ug/L			01/22/21 16:12	1
Tetrachloroethene	<1.0		1.0		ug/L			01/22/21 16:12	1
Toluene	<1.0		1.0		ug/L			01/22/21 16:12	1
trans-1,2-Dichloroethene	<1.0		1.0		ug/L			01/22/21 16:12	1
trans-1,3-Dichloropropene	<1.0		1.0		ug/L			01/22/21 16:12	1
1,1,1-Trichloroethane	<1.0		1.0		ug/L			01/22/21 16:12	1
1,1,2-Trichloroethane	<1.0		1.0		ug/L			01/22/21 16:12	1
Trichloroethene	<1.0		1.0		ug/L			01/22/21 16:12	1
Vinyl chloride	<1.0		1.0		ug/L			01/22/21 16:12	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	91		79 - 119		01/22/21 16:12	1

Lab Sample ID: LCS 680-653099/4

Matrix: Water

Analysis Batch: 653099

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acrolein	1000	620		ug/L		62	54 - 145
Acrylonitrile	500	683		ug/L		137	10 - 183
Benzene	50.0	43.0		ug/L		86	37 - 151
Bromoform	50.0	46.3		ug/L		93	45 - 169
Bromomethane	50.0	32.6		ug/L		65	1 - 242
Carbon tetrachloride	50.0	42.5		ug/L		85	70 - 140
Chlorobenzene	50.0	46.4		ug/L		93	37 - 160
Chlorodibromomethane	50.0	45.5		ug/L		91	53 - 149
Chloroethane	50.0	46.2		ug/L		92	14 - 230
2-Chloroethyl vinyl ether	50.0	52.7		ug/L		105	1 - 305

Eurofins TestAmerica, Savannah

QC Sample Results

Client: City of Nashville
Project/Site: Permit Renewal 2021

Job ID: 680-194170-1

Method: 624 - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 680-653099/4

Matrix: Water

Analysis Batch: 653099

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloroform	50.0	44.2		ug/L		88	51 - 138
Chloromethane	50.0	43.5		ug/L		87	1 - 273
cis-1,3-Dichloropropene	50.0	42.8		ug/L		86	1 - 227
Dichlorobromomethane	50.0	42.8		ug/L		86	35 - 155
1,1-Dichloroethane	50.0	45.1		ug/L		90	59 - 155
1,2-Dichloroethane	50.0	48.6		ug/L		97	49 - 155
1,1-Dichloroethene	50.0	41.6		ug/L		83	1 - 234
1,2-Dichloropropane	50.0	44.6		ug/L		89	1 - 210
Ethylbenzene	50.0	46.3		ug/L		93	37 - 162
Methylene Chloride	50.0	45.0		ug/L		90	1 - 221
1,1,2,2-Tetrachloroethane	50.0	58.7		ug/L		117	46 - 157
Tetrachloroethene	50.0	47.1		ug/L		94	64 - 148
Toluene	50.0	45.9		ug/L		92	47 - 150
trans-1,2-Dichloroethene	50.0	43.8		ug/L		88	54 - 156
trans-1,3-Dichloropropene	50.0	44.1		ug/L		88	17 - 183
1,1,1-Trichloroethane	50.0	43.1		ug/L		86	52 - 162
1,1,2-Trichloroethane	50.0	49.4		ug/L		99	52 - 150
Trichloroethene	50.0	46.5		ug/L		93	71 - 157
Vinyl chloride	50.0	46.8		ug/L		94	1 - 251

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Toluene-d8 (Surr)	91		79 - 119

Lab Sample ID: LCSD 680-653099/5

Matrix: Water

Analysis Batch: 653099

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acrolein	1000	623		ug/L		62	54 - 145	0	50
Acrylonitrile	500	700		ug/L		140	10 - 183	2	50
Benzene	50.0	43.1		ug/L		86	37 - 151	0	30
Bromoform	50.0	46.2		ug/L		92	45 - 169	0	30
Bromomethane	50.0	34.7		ug/L		69	1 - 242	6	100
Carbon tetrachloride	50.0	43.3		ug/L		87	70 - 140	2	30
Chlorobenzene	50.0	47.2		ug/L		94	37 - 160	2	30
Chlorodibromomethane	50.0	45.5		ug/L		91	53 - 149	0	30
Chloroethane	50.0	47.0		ug/L		94	14 - 230	2	50
2-Chloroethyl vinyl ether	50.0	53.8		ug/L		108	1 - 305	2	100
Chloroform	50.0	44.2		ug/L		88	51 - 138	0	30
Chloromethane	50.0	44.3		ug/L		89	1 - 273	2	50
cis-1,3-Dichloropropene	50.0	43.0		ug/L		86	1 - 227	0	30
Dichlorobromomethane	50.0	42.8		ug/L		86	35 - 155	0	30
1,1-Dichloroethane	50.0	44.6		ug/L		89	59 - 155	1	30
1,2-Dichloroethane	50.0	48.8		ug/L		98	49 - 155	0	30
1,1-Dichloroethene	50.0	41.3		ug/L		83	1 - 234	1	30
1,2-Dichloropropane	50.0	45.6		ug/L		91	1 - 210	2	30
Ethylbenzene	50.0	47.8		ug/L		96	37 - 162	3	30
Methylene Chloride	50.0	44.8		ug/L		90	1 - 221	0	30

Eurofins TestAmerica, Savannah

QC Sample Results

Client: City of Nashville
Project/Site: Permit Renewal 2021

Job ID: 680-194170-1

Method: 624 - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 680-653099/5

Matrix: Water

Analysis Batch: 653099

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1,2,2-Tetrachloroethane	50.0	59.0		ug/L		118	46 - 157	0	30
Tetrachloroethene	50.0	46.9		ug/L		94	64 - 148	1	30
Toluene	50.0	45.9		ug/L		92	47 - 150	0	30
trans-1,2-Dichloroethene	50.0	44.9		ug/L		90	54 - 156	2	30
trans-1,3-Dichloropropene	50.0	43.7		ug/L		87	17 - 183	1	30
1,1,1-Trichloroethane	50.0	43.6		ug/L		87	52 - 162	1	30
1,1,2-Trichloroethane	50.0	48.5		ug/L		97	52 - 150	2	30
Trichloroethene	50.0	47.2		ug/L		94	71 - 157	1	30
Vinyl chloride	50.0	47.5		ug/L		95	1 - 251	1	50

Surrogate	LCSD %Recovery	LCSD Qualifier	LCSD Limits
Toluene-d8 (Surr)	91		79 - 119

Method: 625 - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 680-653112/4-A

Matrix: Water

Analysis Batch: 653630

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 653112

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	<10		10		ug/L		01/22/21 13:48	01/28/21 11:26	1
Acenaphthylene	<10		10		ug/L		01/22/21 13:48	01/28/21 11:26	1
Anthracene	<10		10		ug/L		01/22/21 13:48	01/28/21 11:26	1
Benzidine	<80		80		ug/L		01/22/21 13:48	01/28/21 11:26	1
Benzo[a]anthracene	<10		10		ug/L		01/22/21 13:48	01/28/21 11:26	1
Benzo[a]pyrene	<10		10		ug/L		01/22/21 13:48	01/28/21 11:26	1
Benzo[b]fluoranthene	<10		10		ug/L		01/22/21 13:48	01/28/21 11:26	1
Benzo[g,h,i]perylene	<10		10		ug/L		01/22/21 13:48	01/28/21 11:26	1
Benzo[k]fluoranthene	<10		10		ug/L		01/22/21 13:48	01/28/21 11:26	1
Bis(2-chloroethoxy)methane	<10		10		ug/L		01/22/21 13:48	01/28/21 11:26	1
Bis(2-chloroethyl)ether	<10		10		ug/L		01/22/21 13:48	01/28/21 11:26	1
bis (2-chloroisopropyl) ether	<10		10		ug/L		01/22/21 13:48	01/28/21 11:26	1
Bis(2-ethylhexyl) phthalate	<10		10		ug/L		01/22/21 13:48	01/28/21 11:26	1
4-Bromophenyl phenyl ether	<10		10		ug/L		01/22/21 13:48	01/28/21 11:26	1
Butyl benzyl phthalate	<10		10		ug/L		01/22/21 13:48	01/28/21 11:26	1
4-Chloro-3-methylphenol	<10		10		ug/L		01/22/21 13:48	01/28/21 11:26	1
2-Chloronaphthalene	<10		10		ug/L		01/22/21 13:48	01/28/21 11:26	1
2-Chlorophenol	<10		10		ug/L		01/22/21 13:48	01/28/21 11:26	1
4-Chlorophenyl phenyl ether	<10		10		ug/L		01/22/21 13:48	01/28/21 11:26	1
Chrysene	<10		10		ug/L		01/22/21 13:48	01/28/21 11:26	1
Dibenz(a,h)anthracene	<10		10		ug/L		01/22/21 13:48	01/28/21 11:26	1
1,2-Dichlorobenzene	<10		10		ug/L		01/22/21 13:48	01/28/21 11:26	1
1,3-Dichlorobenzene	<10		10		ug/L		01/22/21 13:48	01/28/21 11:26	1
1,4-Dichlorobenzene	<10		10		ug/L		01/22/21 13:48	01/28/21 11:26	1
3,3'-Dichlorobenzidine	<60		60		ug/L		01/22/21 13:48	01/28/21 11:26	1
2,4-Dichlorophenol	<10		10		ug/L		01/22/21 13:48	01/28/21 11:26	1
Diethyl phthalate	<10		10		ug/L		01/22/21 13:48	01/28/21 11:26	1
2,4-Dimethylphenol	<10		10		ug/L		01/22/21 13:48	01/28/21 11:26	1
Dimethyl phthalate	<10		10		ug/L		01/22/21 13:48	01/28/21 11:26	1

Eurofins TestAmerica, Savannah

QC Sample Results

Client: City of Nashville
Project/Site: Permit Renewal 2021

Job ID: 680-194170-1

Method: 625 - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 680-653112/4-A

Matrix: Water

Analysis Batch: 653630

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 653112

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Di-n-butyl phthalate	<10		10		ug/L		01/22/21 13:48	01/28/21 11:26	1
4,6-Dinitro-2-methylphenol	<50		50		ug/L		01/22/21 13:48	01/28/21 11:26	1
2,4-Dinitrophenol	<50		50		ug/L		01/22/21 13:48	01/28/21 11:26	1
2,4-Dinitrotoluene	<10		10		ug/L		01/22/21 13:48	01/28/21 11:26	1
2,6-Dinitrotoluene	<10		10		ug/L		01/22/21 13:48	01/28/21 11:26	1
Di-n-octyl phthalate	<10		10		ug/L		01/22/21 13:48	01/28/21 11:26	1
1,2-Diphenylhydrazine	<10		10		ug/L		01/22/21 13:48	01/28/21 11:26	1
Fluoranthene	<10		10		ug/L		01/22/21 13:48	01/28/21 11:26	1
Fluorene	<10		10		ug/L		01/22/21 13:48	01/28/21 11:26	1
Hexachlorobenzene	<10		10		ug/L		01/22/21 13:48	01/28/21 11:26	1
Hexachlorobutadiene	<10		10		ug/L		01/22/21 13:48	01/28/21 11:26	1
Hexachlorocyclopentadiene	<20		20		ug/L		01/22/21 13:48	01/28/21 11:26	1
Hexachloroethane	<10		10		ug/L		01/22/21 13:48	01/28/21 11:26	1
Indeno[1,2,3-cd]pyrene	<10		10		ug/L		01/22/21 13:48	01/28/21 11:26	1
Isophorone	<10		10		ug/L		01/22/21 13:48	01/28/21 11:26	1
Naphthalene	<10		10		ug/L		01/22/21 13:48	01/28/21 11:26	1
Nitrobenzene	<10		10		ug/L		01/22/21 13:48	01/28/21 11:26	1
2-Nitrophenol	<10		10		ug/L		01/22/21 13:48	01/28/21 11:26	1
4-Nitrophenol	<50		50		ug/L		01/22/21 13:48	01/28/21 11:26	1
N-Nitrosodimethylamine	<20		20		ug/L		01/22/21 13:48	01/28/21 11:26	1
N-Nitrosodi-n-propylamine	<10		10		ug/L		01/22/21 13:48	01/28/21 11:26	1
N-Nitrosodiphenylamine	<10		10		ug/L		01/22/21 13:48	01/28/21 11:26	1
Pentachlorophenol	<50		50		ug/L		01/22/21 13:48	01/28/21 11:26	1
Phenanthrene	<10		10		ug/L		01/22/21 13:48	01/28/21 11:26	1
Phenol	<10		10		ug/L		01/22/21 13:48	01/28/21 11:26	1
Pyrene	<10		10		ug/L		01/22/21 13:48	01/28/21 11:26	1
1,2,4-Trichlorobenzene	<10		10		ug/L		01/22/21 13:48	01/28/21 11:26	1
2,4,6-Trichlorophenol	<10		10		ug/L		01/22/21 13:48	01/28/21 11:26	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl (Surr)	81		38 - 121	01/22/21 13:48	01/28/21 11:26	1
2-Fluorophenol (Surr)	71		35 - 110	01/22/21 13:48	01/28/21 11:26	1
Nitrobenzene-d5 (Surr)	78		44 - 119	01/22/21 13:48	01/28/21 11:26	1
Phenol-d5 (Surr)	68		27 - 119	01/22/21 13:48	01/28/21 11:26	1
Terphenyl-d14 (Surr)	101		10 - 165	01/22/21 13:48	01/28/21 11:26	1
2,4,6-Tribromophenol (Surr)	84		34 - 132	01/22/21 13:48	01/28/21 11:26	1

Lab Sample ID: LCS 680-653112/5-A

Matrix: Water

Analysis Batch: 653630

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 653112

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	100	58.9		ug/L		59	47 - 145
Acenaphthylene	100	71.4		ug/L		71	33 - 145
Anthracene	100	78.7		ug/L		79	27 - 133
Benzidine	100	<42	*	ug/L		0	1 - 200
Benzo[a]anthracene	100	85.6		ug/L		86	33 - 143
Benzo[a]pyrene	100	90.0		ug/L		90	17 - 163

Eurofins TestAmerica, Savannah

QC Sample Results

Client: City of Nashville
Project/Site: Permit Renewal 2021

Job ID: 680-194170-1

Method: 625 - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 680-653112/5-A

Matrix: Water

Analysis Batch: 653630

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 653112

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzo[b]fluoranthene	100	94.4		ug/L		94	24 - 159
Benzo[g,h,i]perylene	100	86.7		ug/L		87	1 - 219
Benzo[k]fluoranthene	100	99.6		ug/L		100	11 - 162
Bis(2-chloroethoxy)methane	100	65.6		ug/L		66	33 - 184
Bis(2-chloroethyl)ether	100	75.9		ug/L		76	12 - 158
bis (2-chloroisopropyl) ether	100	99.2		ug/L		99	36 - 166
Bis(2-ethylhexyl) phthalate	100	109		ug/L		109	8 - 158
4-Bromophenyl phenyl ether	100	73.0		ug/L		73	53 - 127
Butyl benzyl phthalate	100	92.9		ug/L		93	1 - 152
4-Chloro-3-methylphenol	100	74.2		ug/L		74	22 - 147
2-Chloronaphthalene	100	64.9		ug/L		65	60 - 118
2-Chlorophenol	100	59.9		ug/L		60	23 - 134
4-Chlorophenyl phenyl ether	100	73.9		ug/L		74	25 - 158
Chrysene	100	88.5		ug/L		88	17 - 168
Dibenz(a,h)anthracene	100	91.7		ug/L		92	1 - 227
1,2-Dichlorobenzene	100	48.7		ug/L		49	32 - 129
1,3-Dichlorobenzene	100	45.5		ug/L		46	1 - 172
1,4-Dichlorobenzene	100	45.6		ug/L		46	20 - 124
3,3'-Dichlorobenzidine	100	47.4	J	ug/L		47	1 - 262
2,4-Dichlorophenol	100	72.4		ug/L		72	39 - 135
Diethyl phthalate	100	79.0		ug/L		79	1 - 114
2,4-Dimethylphenol	100	60.1		ug/L		60	32 - 119
Dimethyl phthalate	100	75.7		ug/L		76	1 - 112
Di-n-butyl phthalate	100	79.2		ug/L		79	1 - 118
4,6-Dinitro-2-methylphenol	200	171		ug/L		86	1 - 181
2,4-Dinitrophenol	200	159		ug/L		79	1 - 191
2,4-Dinitrotoluene	100	82.7		ug/L		83	39 - 139
2,6-Dinitrotoluene	100	74.3		ug/L		74	50 - 158
Di-n-octyl phthalate	100	102		ug/L		102	4 - 146
1,2-Diphenylhydrazine	100	76.0		ug/L		76	30 - 130
Fluoranthene	100	75.3		ug/L		75	26 - 137
Fluorene	100	73.7		ug/L		74	59 - 121
Hexachlorobenzene	100	70.3		ug/L		70	1 - 152
Hexachlorobutadiene	100	55.4		ug/L		55	24 - 116
Hexachlorocyclopentadiene	100	38.2		ug/L		38	1 - 200
Hexachloroethane	100	43.6		ug/L		44	40 - 113
Indeno[1,2,3-cd]pyrene	100	80.3		ug/L		80	1 - 171
Isophorone	100	71.6		ug/L		72	21 - 196
Naphthalene	100	56.1		ug/L		56	21 - 133
Nitrobenzene	100	67.8		ug/L		68	35 - 180
2-Nitrophenol	100	66.4		ug/L		66	29 - 182
4-Nitrophenol	200	173		ug/L		87	1 - 132
N-Nitrosodimethylamine	100	79.2		ug/L		79	10 - 150
N-Nitrosodi-n-propylamine	100	65.5		ug/L		65	1 - 230
N-Nitrosodiphenylamine	100	69.3		ug/L		69	10 - 150
Pentachlorophenol	200	107		ug/L		53	14 - 176
Phenanthrene	100	79.3		ug/L		79	54 - 120
Phenol	100	62.6		ug/L		63	5 - 112
Pyrene	100	83.9		ug/L		84	52 - 115

Eurofins TestAmerica, Savannah

QC Sample Results

Client: City of Nashville
Project/Site: Permit Renewal 2021

Job ID: 680-194170-1

Method: 625 - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 680-653112/5-A

Matrix: Water

Analysis Batch: 653630

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 653112

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2,4-Trichlorobenzene	100	55.3		ug/L		55	44 - 142
2,4,6-Trichlorophenol	100	70.0		ug/L		70	37 - 144

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2-Fluorobiphenyl (Surr)	67		38 - 121
2-Fluorophenol (Surr)	60		35 - 110
Nitrobenzene-d5 (Surr)	62		44 - 119
Phenol-d5 (Surr)	60		27 - 119
Terphenyl-d14 (Surr)	87		10 - 165
2,4,6-Tribromophenol (Surr)	69		34 - 132

Lab Sample ID: LCSD 680-653112/6-A

Matrix: Water

Analysis Batch: 653630

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 653112

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acenaphthene	100	60.4		ug/L		60	47 - 145	2	40
Acenaphthylene	100	71.7		ug/L		72	33 - 145	0	40
Anthracene	100	78.8		ug/L		79	27 - 133	0	40
Benzidine	100	73.3	J *1	ug/L		73	1 - 200	200	40
Benzo[a]anthracene	100	86.5		ug/L		86	33 - 143	1	40
Benzo[a]pyrene	100	84.2		ug/L		84	17 - 163	7	40
Benzo[b]fluoranthene	100	92.8		ug/L		93	24 - 159	2	40
Benzo[g,h,i]perylene	100	83.3		ug/L		83	1 - 219	4	40
Benzo[k]fluoranthene	100	102		ug/L		102	11 - 162	2	40
Bis(2-chloroethoxy)methane	100	61.9		ug/L		62	33 - 184	6	40
Bis(2-chloroethyl)ether	100	70.2		ug/L		70	12 - 158	8	40
bis (2-chloroisopropyl) ether	100	95.7		ug/L		96	36 - 166	4	40
Bis(2-ethylhexyl) phthalate	100	112		ug/L		112	8 - 158	2	40
4-Bromophenyl phenyl ether	100	74.0		ug/L		74	53 - 127	1	40
Butyl benzyl phthalate	100	117		ug/L		117	1 - 152	23	40
4-Chloro-3-methylphenol	100	80.1		ug/L		80	22 - 147	8	40
2-Chloronaphthalene	100	60.8		ug/L		61	60 - 118	7	40
2-Chlorophenol	100	52.0		ug/L		52	23 - 134	14	40
4-Chlorophenyl phenyl ether	100	72.8		ug/L		73	25 - 158	2	40
Chrysene	100	91.2		ug/L		91	17 - 168	3	40
Dibenz(a,h)anthracene	100	86.3		ug/L		86	1 - 227	6	40
1,2-Dichlorobenzene	100	41.6		ug/L		42	32 - 129	16	40
1,3-Dichlorobenzene	100	40.8		ug/L		41	1 - 172	11	40
1,4-Dichlorobenzene	100	41.1		ug/L		41	20 - 124	10	40
3,3'-Dichlorobenzidine	100	83.4	*1	ug/L		83	1 - 262	55	40
2,4-Dichlorophenol	100	66.9		ug/L		67	39 - 135	8	40
Diethyl phthalate	100	78.5		ug/L		79	1 - 114	1	40
2,4-Dimethylphenol	100	58.7		ug/L		59	32 - 119	2	40
Dimethyl phthalate	100	78.8		ug/L		79	1 - 112	4	40
Di-n-butyl phthalate	100	93.0		ug/L		93	1 - 118	16	40
4,6-Dinitro-2-methylphenol	200	161		ug/L		80	1 - 181	6	40
2,4-Dinitrophenol	200	163		ug/L		82	1 - 191	3	40

Eurofins TestAmerica, Savannah

QC Sample Results

Client: City of Nashville
Project/Site: Permit Renewal 2021

Job ID: 680-194170-1

Method: 625 - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 680-653112/6-A

Matrix: Water

Analysis Batch: 653630

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 653112

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
2,4-Dinitrotoluene	100	83.9		ug/L		84	39 - 139	1	40
2,6-Dinitrotoluene	100	80.0		ug/L		80	50 - 158	7	40
Di-n-octyl phthalate	100	105		ug/L		105	4 - 146	3	40
1,2-Diphenylhydrazine	100	74.8		ug/L		75	30 - 130	1	40
Fluoranthene	100	87.7		ug/L		88	26 - 137	15	40
Fluorene	100	72.5		ug/L		73	59 - 121	2	40
Hexachlorobenzene	100	72.5		ug/L		72	1 - 152	3	40
Hexachlorobutadiene	100	45.7		ug/L		46	24 - 116	19	40
Hexachlorocyclopentadiene	100	32.0		ug/L		32	1 - 200	18	40
Hexachloroethane	100	35.9	*	ug/L		36	40 - 113	19	40
Indeno[1,2,3-cd]pyrene	100	84.8		ug/L		85	1 - 171	5	40
Isophorone	100	77.2		ug/L		77	21 - 196	8	40
Naphthalene	100	51.5		ug/L		51	21 - 133	9	40
Nitrobenzene	100	68.3		ug/L		68	35 - 180	1	40
2-Nitrophenol	100	69.3		ug/L		69	29 - 182	4	40
4-Nitrophenol	200	171		ug/L		85	1 - 132	1	40
N-Nitrosodimethylamine	100	69.3		ug/L		69	10 - 150	13	40
N-Nitrosodi-n-propylamine	100	60.3		ug/L		60	1 - 230	8	40
N-Nitrosodiphenylamine	100	72.1		ug/L		72	10 - 150	4	40
Pentachlorophenol	200	129		ug/L		64	14 - 176	19	40
Phenanthrene	100	79.6		ug/L		80	54 - 120	0	40
Phenol	100	56.4		ug/L		56	5 - 112	10	40
Pyrene	100	100		ug/L		100	52 - 115	18	40
1,2,4-Trichlorobenzene	100	49.1		ug/L		49	44 - 142	12	40
2,4,6-Trichlorophenol	100	79.0		ug/L		79	37 - 144	12	40

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
2-Fluorobiphenyl (Surr)	70		38 - 121
2-Fluorophenol (Surr)	49		35 - 110
Nitrobenzene-d5 (Surr)	62		44 - 119
Phenol-d5 (Surr)	52		27 - 119
Terphenyl-d14 (Surr)	110		10 - 165
2,4,6-Tribromophenol (Surr)	72		34 - 132

Method: 200.8 - Metals (ICP/MS)

Lab Sample ID: MB 680-653222/1-A

Matrix: Water

Analysis Batch: 653352

Client Sample ID: Method Blank

Prep Type: Total Recoverable

Prep Batch: 653222

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<5.0		5.0		ug/L		01/25/21 09:59	01/25/21 18:12	1
Arsenic	<3.0		3.0		ug/L		01/25/21 09:59	01/25/21 18:12	1
Beryllium	<0.50		0.50		ug/L		01/25/21 09:59	01/25/21 18:12	1
Cadmium	<0.50		0.50		ug/L		01/25/21 09:59	01/25/21 18:12	1
Chromium	<5.0		5.0		ug/L		01/25/21 09:59	01/25/21 18:12	1
Copper	<5.0		5.0		ug/L		01/25/21 09:59	01/25/21 18:12	1
Lead	<2.5		2.5		ug/L		01/25/21 09:59	01/25/21 18:12	1
Nickel	<5.0		5.0		ug/L		01/25/21 09:59	01/25/21 18:12	1

Eurofins TestAmerica, Savannah

QC Sample Results

Client: City of Nashville
Project/Site: Permit Renewal 2021

Job ID: 680-194170-1

Method: 200.8 - Metals (ICP/MS) (Continued)

Lab Sample ID: MB 680-653222/1-A

Matrix: Water

Analysis Batch: 653352

Client Sample ID: Method Blank

Prep Type: Total Recoverable

Prep Batch: 653222

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Selenium	<2.5		2.5		ug/L		01/25/21 09:59	01/25/21 18:12	1
Silver	<1.0		1.0		ug/L		01/25/21 09:59	01/25/21 18:12	1
Thallium	<1.0		1.0		ug/L		01/25/21 09:59	01/25/21 18:12	1
Zinc	<20		20		ug/L		01/25/21 09:59	01/25/21 18:12	1

Lab Sample ID: LCS 680-653222/2-A

Matrix: Water

Analysis Batch: 653352

Client Sample ID: Lab Control Sample

Prep Type: Total Recoverable

Prep Batch: 653222

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	50.0	47.0		ug/L		94	85 - 115
Arsenic	100	102		ug/L		102	85 - 115
Beryllium	50.0	52.6		ug/L		105	85 - 115
Cadmium	50.0	51.6		ug/L		103	85 - 115
Chromium	100	104		ug/L		104	85 - 115
Copper	99.1	106		ug/L		107	85 - 115
Lead	454	470		ug/L		104	85 - 115
Nickel	99.0	104		ug/L		105	85 - 115
Selenium	100	105		ug/L		105	85 - 115
Silver	50.0	51.2		ug/L		102	85 - 115
Thallium	40.0	40.9		ug/L		102	85 - 115
Zinc	100	106		ug/L		106	85 - 115

Method: 245.1 - Mercury (CVAA)

Lab Sample ID: MB 680-653405/12-A

Matrix: Water

Analysis Batch: 653732

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 653405

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.20		0.20		ug/L		01/26/21 11:43	01/27/21 15:34	1

Lab Sample ID: LCS 680-653405/14-A

Matrix: Water

Analysis Batch: 653732

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 653405

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	2.50	2.58		ug/L		103	85 - 115

Lab Sample ID: 680-194170-1 MS

Matrix: Water

Analysis Batch: 653732

Client Sample ID: Effluent

Prep Type: Total/NA

Prep Batch: 653405

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	<0.20		1.00	0.988		ug/L		99	70 - 130

QC Sample Results

Client: City of Nashville
Project/Site: Permit Renewal 2021

Job ID: 680-194170-1

Method: 245.1 - Mercury (CVAA) (Continued)

Lab Sample ID: 680-194170-1 MSD
Matrix: Water
Analysis Batch: 653732

Client Sample ID: Effluent
Prep Type: Total/NA
Prep Batch: 653405

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	<0.20		1.00	0.950		ug/L		95	70 - 130	4	20

Method: 335.4 - Cyanide, Total

Lab Sample ID: MB 680-653646/12-A
Matrix: Water
Analysis Batch: 653738

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 653646

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	<0.010		0.010		mg/L		01/28/21 11:22	01/28/21 13:28	1

Lab Sample ID: LCS 680-653646/13-A
Matrix: Water
Analysis Batch: 653738

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 653646

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	0.0500	0.0478		mg/L		96	90 - 110

Method: 420.1 - Phenolics, Total Recoverable

Lab Sample ID: MB 680-653844/1-A
Matrix: Water
Analysis Batch: 653874

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 653844

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenolics, Total Recoverable	<0.050		0.050		mg/L		01/29/21 09:51	01/29/21 10:46	1

Lab Sample ID: LCS 680-653844/2-A
Matrix: Water
Analysis Batch: 653874

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 653844

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Phenolics, Total Recoverable	0.100	0.0975		mg/L		98	75 - 125

Lab Sample ID: 680-194170-1 MS
Matrix: Water
Analysis Batch: 653874

Client Sample ID: Effluent
Prep Type: Total/NA
Prep Batch: 653844

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Phenolics, Total Recoverable	<0.050		0.100	0.0765		mg/L		77	75 - 125

Lab Sample ID: 680-194170-1 MSD
Matrix: Water
Analysis Batch: 653874

Client Sample ID: Effluent
Prep Type: Total/NA
Prep Batch: 653844

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Phenolics, Total Recoverable	<0.050		0.100	0.0849		mg/L		85	75 - 125	10	30

Eurofins TestAmerica, Savannah

QC Sample Results

Client: City of Nashville
Project/Site: Permit Renewal 2021

Job ID: 680-194170-1

Method: SM 2340C - Hardness, Total

Lab Sample ID: MB 680-653804/1
Matrix: Water
Analysis Batch: 653804

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hardness as calcium carbonate	<10		10		mg/L			01/29/21 07:32	1

Lab Sample ID: LCS 680-653804/2
Matrix: Water
Analysis Batch: 653804

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Hardness as calcium carbonate	400	401		mg/L		100	75 - 125

Lab Sample ID: LCSD 680-653804/3
Matrix: Water
Analysis Batch: 653804

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Hardness as calcium carbonate	400	407		mg/L		102	75 - 125	1	30

Lab Sample ID: 680-194170-1 DU
Matrix: Water
Analysis Batch: 653804

Client Sample ID: Effluent
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Hardness as calcium carbonate	100		85.3		mg/L		16	30

QC Association Summary

Client: City of Nashville
Project/Site: Permit Renewal 2021

Job ID: 680-194170-1

GC/MS VOA

Analysis Batch: 653099

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-194170-1	Effluent	Total/NA	Water	624	
MB 680-653099/8	Method Blank	Total/NA	Water	624	
LCS 680-653099/4	Lab Control Sample	Total/NA	Water	624	
LCSD 680-653099/5	Lab Control Sample Dup	Total/NA	Water	624	

GC/MS Semi VOA

Prep Batch: 653112

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-194170-1	Effluent	Total/NA	Water	625	
MB 680-653112/4-A	Method Blank	Total/NA	Water	625	
LCS 680-653112/5-A	Lab Control Sample	Total/NA	Water	625	
LCSD 680-653112/6-A	Lab Control Sample Dup	Total/NA	Water	625	

Analysis Batch: 653630

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-194170-1	Effluent	Total/NA	Water	625	653112
MB 680-653112/4-A	Method Blank	Total/NA	Water	625	653112
LCS 680-653112/5-A	Lab Control Sample	Total/NA	Water	625	653112
LCSD 680-653112/6-A	Lab Control Sample Dup	Total/NA	Water	625	653112

Metals

Prep Batch: 653222

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-194170-1	Effluent	Total Recoverable	Water	200.8	
MB 680-653222/1-A	Method Blank	Total Recoverable	Water	200.8	
LCS 680-653222/2-A	Lab Control Sample	Total Recoverable	Water	200.8	

Analysis Batch: 653352

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-194170-1	Effluent	Total Recoverable	Water	200.8	653222
MB 680-653222/1-A	Method Blank	Total Recoverable	Water	200.8	653222
LCS 680-653222/2-A	Lab Control Sample	Total Recoverable	Water	200.8	653222

Prep Batch: 653405

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-194170-1	Effluent	Total/NA	Water	245.1	
MB 680-653405/12-A	Method Blank	Total/NA	Water	245.1	
LCS 680-653405/14-A	Lab Control Sample	Total/NA	Water	245.1	
680-194170-1 MS	Effluent	Total/NA	Water	245.1	
680-194170-1 MSD	Effluent	Total/NA	Water	245.1	

Analysis Batch: 653732

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-194170-1	Effluent	Total/NA	Water	245.1	653405
MB 680-653405/12-A	Method Blank	Total/NA	Water	245.1	653405
LCS 680-653405/14-A	Lab Control Sample	Total/NA	Water	245.1	653405
680-194170-1 MS	Effluent	Total/NA	Water	245.1	653405
680-194170-1 MSD	Effluent	Total/NA	Water	245.1	653405

Eurofins TestAmerica, Savannah

QC Association Summary

Client: City of Nashville
Project/Site: Permit Renewal 2021

Job ID: 680-194170-1

General Chemistry

Prep Batch: 653646

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-194170-1	Effluent	Total/NA	Water	Distill/CN	
MB 680-653646/12-A	Method Blank	Total/NA	Water	Distill/CN	
LCS 680-653646/13-A	Lab Control Sample	Total/NA	Water	Distill/CN	

Analysis Batch: 653738

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-194170-1	Effluent	Total/NA	Water	335.4	653646
MB 680-653646/12-A	Method Blank	Total/NA	Water	335.4	653646
LCS 680-653646/13-A	Lab Control Sample	Total/NA	Water	335.4	653646

Analysis Batch: 653804

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-194170-1	Effluent	Total/NA	Water	SM 2340C	
MB 680-653804/1	Method Blank	Total/NA	Water	SM 2340C	
LCS 680-653804/2	Lab Control Sample	Total/NA	Water	SM 2340C	
LCSD 680-653804/3	Lab Control Sample Dup	Total/NA	Water	SM 2340C	
680-194170-1 DU	Effluent	Total/NA	Water	SM 2340C	

Prep Batch: 653844

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-194170-1	Effluent	Total/NA	Water	Distill/Phenol	
MB 680-653844/1-A	Method Blank	Total/NA	Water	Distill/Phenol	
LCS 680-653844/2-A	Lab Control Sample	Total/NA	Water	Distill/Phenol	
680-194170-1 MS	Effluent	Total/NA	Water	Distill/Phenol	
680-194170-1 MSD	Effluent	Total/NA	Water	Distill/Phenol	

Analysis Batch: 653874

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-194170-1	Effluent	Total/NA	Water	420.1	653844
MB 680-653844/1-A	Method Blank	Total/NA	Water	420.1	653844
LCS 680-653844/2-A	Lab Control Sample	Total/NA	Water	420.1	653844
680-194170-1 MS	Effluent	Total/NA	Water	420.1	653844
680-194170-1 MSD	Effluent	Total/NA	Water	420.1	653844

Lab Chronicle

Client: City of Nashville
Project/Site: Permit Renewal 2021

Job ID: 680-194170-1

Client Sample ID: Effluent

Lab Sample ID: 680-194170-1

Date Collected: 01/20/21 08:00

Matrix: Water

Date Received: 01/21/21 12:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	624		1	5 mL	5 mL	653099	01/22/21 22:00	Y1S	TAL SAV
	Instrument ID: CMSC									
Total/NA	Prep	625			1039.3 mL	1 mL	653112	01/22/21 13:48	EHS	TAL SAV
Total/NA	Analysis	625		1			653630	01/28/21 14:16	DBM	TAL SAV
	Instrument ID: CMSN									
Total Recoverable	Prep	200.8			50 mL	250 mL	653222	01/25/21 09:59	BCB	TAL SAV
Total Recoverable	Analysis	200.8		1			653352	01/25/21 18:30	BJB	TAL SAV
	Instrument ID: ICPMSD									
Total/NA	Prep	245.1			50 mL	50 mL	653405	01/26/21 11:43	JKL	TAL SAV
Total/NA	Analysis	245.1		1			653732	01/27/21 15:48	JKL	TAL SAV
	Instrument ID: LEEMAN2									
Total/NA	Prep	Distill/CN			6 mL	6 mL	653646	01/28/21 11:22	CMR	TAL SAV
Total/NA	Analysis	335.4		1			653738	01/28/21 13:28	CMR	TAL SAV
	Instrument ID: KONELAB4									
Total/NA	Prep	Distill/Phenol			6 mL	6 mL	653844	01/29/21 09:51	SM	TAL SAV
Total/NA	Analysis	420.1		1	6 mL	6 mL	653874	01/29/21 10:47	SM	TAL SAV
	Instrument ID: KONELAB3									
Total/NA	Analysis	SM 2340C		1	25 mL	25 mL	653804	01/29/21 07:32	NVF	TAL SAV
	Instrument ID: NOEQUIP									

Laboratory References:

TAL SAV = Eurofins TestAmerica, Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

Accreditation/Certification Summary

Client: City of Nashville
Project/Site: Permit Renewal 2021

Job ID: 680-194170-1

Laboratory: Eurofins TestAmerica, Savannah

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Florida	NELAP	E87052	06-30-21
Georgia	State	E87052	06-30-21

1

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Method Summary

Client: City of Nashville
Project/Site: Permit Renewal 2021

Job ID: 680-194170-1

Method	Method Description	Protocol	Laboratory
624	Volatile Organic Compounds (GC/MS)	40CFR136A	TAL SAV
625	Semivolatile Organic Compounds (GC/MS)	40CFR136A	TAL SAV
200.8	Metals (ICP/MS)	EPA	TAL SAV
245.1	Mercury (CVAA)	EPA	TAL SAV
335.4	Cyanide, Total	MCAWW	TAL SAV
420.1	Phenolics, Total Recoverable	MCAWW	TAL SAV
SM 2340C	Hardness, Total	SM	TAL SAV
200.8	Preparation, Total Recoverable Metals	EPA	TAL SAV
245.1	Preparation, Mercury	EPA	TAL SAV
625	Liquid-Liquid Extraction	40CFR136A	TAL SAV
Distill/CN	Distillation, Cyanide	None	TAL SAV
Distill/Phenol	Distillation, Phenolics	None	TAL SAV

Protocol References:

40CFR136A = "Methods for Organic Chemical Analysis of Municipal Industrial Wastewater", 40CFR, Part 136, Appendix A, October 26, 1984 and subsequent revisions.

EPA = US Environmental Protection Agency

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

None = None

SM = "Standard Methods For The Examination Of Water And Wastewater"

Laboratory References:

TAL SAV = Eurofins TestAmerica, Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

Chain of Custody Record

ATLANTA-472

Client Information		Sampler: <i>Debris Run</i>		Lab PM: Savore, Noel	Carrier Tracking No(s):	COC No: 680-121915-46049.1
Client Contact: Mr. Brandon Rice		Phone: 729-507-2827		E-Mail: Noel.Savore@Eurofinset.com	State of Origin:	Page 1 of 1
Company: City of Nashville		PWSID		Job #		
Address: 405 West Washington		Due Date Requested:		Analysis Requested		
City: Nashville		TAT Requested (days):		Preservation Codes:		
State/Zip: GA, 31639		Compliance Project: ☐ Yes ☐ No		A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Amchlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA Other:		
Phone:		PO #		M - Hexane N - None O - AsNaO2 P - Na2O4S Q - Na2SO3 R - Na2S2O3 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 Z - other (specify)		
Email: rice.brandon79@yahoo.com		Purchase Order not required		Other:		
Project Name: Permit Renewal 2021		WO #				
Site: <i>Waste water Treatment Plant</i>		Project # 68024981				
SSOW#		Sample Date		Total Number of Containers		
Sample Identification		Sample Time		Special Instructions/Note:		
Effluent		1-19-21/1-20-21 8-8				
Sample Type (C=Comp, G=grab)		Preservation Code				
Matrix (W=water, S=solid, O=waste/oli, BT=Tissue, A=Air)		Water				
Field Filtered Sample (Yes or No)		D				
Perform MS/MSD (Yes or No)		D				
200.8 CWA, 245.1		D				
2340C - Hardness, Total (mg/l as CaCO3)		D				
625 - PP Semivolatiles		D				
335.4 - Cyanide, Total		D				
624.5ml UP, 3day - PP Volatiles		D				
420.1 - Phenolics, Total Recoverable		D				
Barcode		680-194170 Chain of Custody				
Possible Hazard Identification ☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological						
Deliverable Requested I, II, III, IV, Other (specify) ☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months						
Special Instructions/QC Requirements Empty Kit Relinquished by: _____ Date: _____						
Relinquished by: _____ Date/Time: _____ Company: _____						
Relinquished by: _____ Date/Time: _____ Company: _____						
Relinquished by: _____ Date/Time: _____ Company: _____						
Custody Seals Intact ☐ Yes ☐ No ☐ Custody Seal No. 1398423						
Cooler Temperature(s) °C and Other Remarks: 33/2.5						

Login Sample Receipt Checklist

Client: City of Nashville

Job Number: 680-194170-1

Login Number: 194170

List Source: Eurofins TestAmerica, Savannah

List Number: 1

Creator: Sims, Robert D

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ 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.	True	
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.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	