

 **ANALYTICAL REPORT****PREPARED FOR**

Attn: Chelsey Little
Montague WPCF
34 Greenfield Road
Montague Massachusetts 01351

JOB DESCRIPTION

Metals

JOB NUMBER

620-8034-1



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Definitions/Glossary

Client: Montague WPCF
Project/Site: Metals

Job ID: 620-8034-1

Qualifiers

Metals

Qualifier	Qualifier Description
*+	LCS and/or LCSD is outside acceptance limits, high biased.
^2	Calibration Blank (ICB and/or CCB) is outside acceptance limits.
^3+	Reporting Limit Check Standard is outside acceptance limits, high biased
B	Compound was found in the blank and sample.
F1	MS and/or MSD recovery 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.
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
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

Case Narrative

Client: Montague WPCF
Project/Site: Metals

Job ID: 620-8034-1

Job ID: 620-8034-1

Laboratory: Eurofins New England

Narrative

Job Narrative 620-8034-1

Receipt

The samples were received on 11/2/2022 12:30 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 1.0° C.

Receipt Exceptions

The water samples were preserved with HNO₃ on 11/02/2022 @ 14:20 Influent (620-8034-1), Effluent (620-8034-2) and Cake (620-8034-3)

Metals

Method 200.7 Rev 4.4: The post digestion spike % recovery associated with batch 620-17183 was outside of control limits. The associated sample is: Effluent (620-8034-2).

Method 200.7 Rev 4.4: The laboratory control sample (LCS) and / or laboratory control sample duplicate (LCSD) for preparation batch 620-17148 and analytical batch 620-17249 recovered outside control limits for the following analytes: silver. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Method 200.7 Rev 4.4: The ICV percent recovery is within range, data is acceptable. Influent (620-8034-1) and Effluent (620-8034-2)

Method 245.1: The post digestion spike % recovery for mercury associated with batch 620-17074 was outside of control limits. The associated sample is: Effluent (620-8034-2). Sample was not post-spiked.

Method 6010D: The aqueous CRI failed for silver, but the soil CRI passed. Sample is a soil, data is acceptable. Cake (620-8034-3)

Method 6010D: There was a hit in the method blank and the CCB for silver, but sample concentration is below the reporting limit and is technically non-detect. Data is acceptable because Cake (620-8034-3)

Method 7471B: The sample duplicate (DUP) precision for preparation batch 620-17046 and analytical batch 620-17074 was outside control limits. Sample non-homogeneity is suspected.

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.

Client Sample Results

Client: Montague WPCF
Project/Site: Metals

Job ID: 620-8034-1

Client Sample ID: Influent

Date Collected: 11/02/22 00:00

Date Received: 11/02/22 12:30

Lab Sample ID: 620-8034-1

Matrix: Water

Method: EPA 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.0080	0.0055	mg/L		11/07/22 17:41	11/08/22 15:49	1
Barium	0.076		0.010	0.0036	mg/L		11/07/22 17:41	11/10/22 01:02	1
Cadmium	ND		0.0050	0.00082	mg/L		11/07/22 17:41	11/08/22 15:49	1
Chromium	ND		0.010	0.0038	mg/L		11/07/22 17:41	11/08/22 15:49	1
Copper	0.051		0.010	0.0058	mg/L		11/07/22 17:41	11/08/22 15:49	1
Lead	ND		0.015	0.0068	mg/L		11/07/22 17:41	11/08/22 15:49	1
Nickel	0.0048	J	0.010	0.0020	mg/L		11/07/22 17:41	11/08/22 15:49	1
Selenium	ND		0.030	0.015	mg/L		11/07/22 17:41	11/08/22 15:49	1
Silver	ND	*+	0.010	0.0071	mg/L		11/07/22 17:41	11/10/22 01:02	1
Zinc	0.17		0.020	0.0055	mg/L		11/07/22 17:41	11/08/22 15:49	1

Method: EPA 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00022	0.00022	mg/L		11/04/22 10:21	11/04/22 16:24	1

Client Sample ID: Effluent

Date Collected: 11/02/22 00:00

Date Received: 11/02/22 12:30

Lab Sample ID: 620-8034-2

Matrix: Water

Method: EPA 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.0080	0.0055	mg/L		11/07/22 17:41	11/08/22 16:08	1
Barium	0.038		0.010	0.0036	mg/L		11/07/22 17:41	11/10/22 01:08	1
Cadmium	ND		0.0050	0.00082	mg/L		11/07/22 17:41	11/08/22 16:08	1
Chromium	ND		0.010	0.0038	mg/L		11/07/22 17:41	11/08/22 16:08	1
Copper	0.0063	J	0.010	0.0058	mg/L		11/07/22 17:41	11/08/22 16:08	1
Lead	ND		0.015	0.0068	mg/L		11/07/22 17:41	11/08/22 16:08	1
Nickel	ND		0.010	0.0020	mg/L		11/07/22 17:41	11/08/22 16:08	1
Selenium	ND		0.030	0.015	mg/L		11/07/22 17:41	11/08/22 16:08	1
Silver	ND	F1 *+	0.010	0.0071	mg/L		11/07/22 17:41	11/10/22 01:08	1
Zinc	0.043		0.020	0.0055	mg/L		11/07/22 17:41	11/08/22 16:08	1

Method: EPA 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00023	0.00023	mg/L		11/04/22 10:21	11/04/22 16:32	1

Client Sample ID: Cake

Date Collected: 11/02/22 00:00

Date Received: 11/02/22 12:30

Lab Sample ID: 620-8034-3

Matrix: Solid

Percent Solids: 24.5

Method: SW846 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	3.6	J	5.0	0.64	mg/Kg	✱	11/07/22 09:04	11/08/22 00:14	1
Barium	190		3.4	0.40	mg/Kg	✱	11/07/22 09:04	11/08/22 00:14	1
Cadmium	1.2	J	1.7	0.087	mg/Kg	✱	11/07/22 09:04	11/08/22 00:14	1
Chromium	15		3.4	0.45	mg/Kg	✱	11/07/22 09:04	11/08/22 00:14	1
Copper	500		3.4	0.81	mg/Kg	✱	11/07/22 09:04	11/08/22 00:14	1
Lead	27		5.0	0.71	mg/Kg	✱	11/07/22 09:04	11/08/22 00:14	1
Nickel	14	B	3.4	0.39	mg/Kg	✱	11/07/22 09:04	11/08/22 00:14	1
Selenium	4.7	J	5.0	0.96	mg/Kg	✱	11/07/22 09:04	11/08/22 00:14	1
Silver	3.2	J ^2 B ^3+	5.0	0.54	mg/Kg	✱	11/07/22 09:04	11/09/22 03:34	1

Eurofins New England

Client Sample Results

Client: Montague WPCF
Project/Site: Metals

Job ID: 620-8034-1

Client Sample ID: Cake

Lab Sample ID: 620-8034-3

Date Collected: 11/02/22 00:00

Matrix: Solid

Date Received: 11/02/22 12:30

Percent Solids: 24.5

Method: SW846 6010D - Metals (ICP) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Zinc	970		10	2.6	mg/Kg	☼	11/07/22 09:04	11/08/22 00:14	1

Method: SW846 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	1.0		0.20	0.033	mg/Kg	☼	11/04/22 09:04	11/04/22 14:37	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA Moisture)	75.5		0.1	0.1	%			11/09/22 10:13	1
Percent Solids (EPA Moisture)	24.5		0.1	0.1	%			11/09/22 10:13	1

Lab Chronicle

Client: Montague WPCF
Project/Site: Metals

Job ID: 620-8034-1

Client Sample ID: Influent

Date Collected: 11/02/22 00:00

Date Received: 11/02/22 12:30

Lab Sample ID: 620-8034-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	200.7			17148	DWC	EET NE	11/07/22 17:41
Total/NA	Analysis	200.7 Rev 4.4		1	17183	CAJ	EET NE	11/08/22 15:49
Total/NA	Prep	200.7			17148	DWC	EET NE	11/07/22 17:41
Total/NA	Analysis	200.7 Rev 4.4		1	17249	CAJ	EET NE	11/10/22 01:02
Total/NA	Prep	245.1			17058	DWC	EET NE	11/04/22 10:21
Total/NA	Analysis	245.1		1	17074	CAJ	EET NE	11/04/22 16:24

Client Sample ID: Effluent

Date Collected: 11/02/22 00:00

Date Received: 11/02/22 12:30

Lab Sample ID: 620-8034-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	200.7			17148	DWC	EET NE	11/07/22 17:41
Total/NA	Analysis	200.7 Rev 4.4		1	17183	CAJ	EET NE	11/08/22 16:08
Total/NA	Prep	200.7			17148	DWC	EET NE	11/07/22 17:41
Total/NA	Analysis	200.7 Rev 4.4		1	17249	CAJ	EET NE	11/10/22 01:08
Total/NA	Prep	245.1			17058	DWC	EET NE	11/04/22 10:21
Total/NA	Analysis	245.1		1	17074	CAJ	EET NE	11/04/22 16:32

Client Sample ID: Cake

Date Collected: 11/02/22 00:00

Date Received: 11/02/22 12:30

Lab Sample ID: 620-8034-3

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	Moisture		1	17231	DWC	EET NE	11/09/22 10:13

Client Sample ID: Cake

Date Collected: 11/02/22 00:00

Date Received: 11/02/22 12:30

Lab Sample ID: 620-8034-3

Matrix: Solid

Percent Solids: 24.5

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3050B			17092	DWC	EET NE	11/07/22 09:04
Total/NA	Analysis	6010D		1	17093	CAJ	EET NE	11/08/22 00:14
Total/NA	Prep	3050B			17092	DWC	EET NE	11/07/22 09:04
Total/NA	Analysis	6010D		1	17183	CAJ	EET NE	11/09/22 03:34
Total/NA	Prep	7471B			17046	DWC	EET NE	11/04/22 09:04
Total/NA	Analysis	7471B		1	17074	CAJ	EET NE	11/04/22 14:37

Laboratory References:

EET NE = Eurofins New England, 646 Camp Ave, North Kingstown, RI 02852, TEL (413)789-9018

Accreditation/Certification Summary

Client: Montague WPCF
Project/Site: Metals

Job ID: 620-8034-1

Laboratory: Eurofins New England

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

Authority	Program	Identification Number	Expiration Date
Massachusetts	State	M-RI907	06-30-23

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
200.7 Rev 4.4	200.7	Water	Barium
6010D	3050B	Solid	Arsenic
6010D	3050B	Solid	Barium
6010D	3050B	Solid	Cadmium
6010D	3050B	Solid	Chromium
6010D	3050B	Solid	Copper
6010D	3050B	Solid	Lead
6010D	3050B	Solid	Nickel
6010D	3050B	Solid	Selenium
6010D	3050B	Solid	Silver
6010D	3050B	Solid	Zinc
7471B	7471B	Solid	Mercury
Moisture		Solid	Percent Moisture
Moisture		Solid	Percent Solids

Method Summary

Client: Montague WPCF
Project/Site: Metals

Job ID: 620-8034-1

Method	Method Description	Protocol	Laboratory
200.7 Rev 4.4	Metals (ICP)	EPA	EET NE
245.1	Mercury (CVAA)	EPA	EET NE
6010D	Metals (ICP)	SW846	EET NE
7471B	Mercury (CVAA)	SW846	EET NE
Moisture	Percent Moisture	EPA	EET NE
200.7	Preparation, Total Metals	EPA	EET NE
245.1	Preparation, Mercury	EPA	EET NE
3050B	Preparation, Metals	SW846	EET NE
7471B	Preparation, Mercury	SW846	EET NE

Protocol References:

EPA = US Environmental Protection Agency

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

Laboratory References:

EET NE = Eurofins New England, 646 Camp Ave, North Kingstown, RI 02852, TEL (413)789-9018

Sample Summary

Client: Montague WPCF
Project/Site: Metals

Job ID: 620-8034-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
620-8034-1	Influent	Water	11/02/22 00:00	11/02/22 12:30
620-8034-2	Effluent	Water	11/02/22 00:00	11/02/22 12:30
620-8034-3	Cake	Solid	11/02/22 00:00	11/02/22 12:30

1

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Chain of Custody Record

3 Camp Ave
 Smith Kingstown RI 02852
 Phone: (413) 789-9018

Sampler: **WPCF** Lab P/N: Mason Becky C
 Phone: E-Mail: Becky Mason@et.eurofins.com
 Page 1 of 1

Company: **WPCF**
 Address: **Montague WPCF**
 Greenfield Road
 Montague
 Zip: **01351**
 Compliance Project: Yes No
 Purchase Order not required
 PO #:
 WO #:
 Project #: **62000756**
 SSOWN#:
 Project Name: **CF.SUPT@montague-ma.gov**
 Project Address: **Montague WPCF**

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix (W=Water, S=Solid, O=Soil, B=Blood, T=Tissue, A=Air)	Field Filtered Samples (Yes or No)	Perform MSD (Yes or No)	Metals: As/Ba/Cd/Cr/Cu/Pb/Ni/Se/Ag/Zn/Hg	Analysis Requested	Special Instructions/Note:
1 Influent	11-2-22		C	W			X		
2 Effluent	11-2-22		C	W			X		
3 Cake	11-2-22		G	S			X		

Due Date Requested:
 TAT Requested (days):
 Compliance Project: Yes No
 Purchase Order not required
 PO #:
 WO #:
 Project #: **62000756**
 SSOWN#:
 Project Name: **CF.SUPT@montague-ma.gov**
 Project Address: **Montague WPCF**

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
 Return To Client Disposal By Lab Archive For _____ Months

Special Instructions/QC Requirements:

Relinquished by: *[Signature]* Date: 11-2-22 10:29
 Relinquished by: *[Signature]* Date: 11-2-22 12:30
 Relinquished by: *[Signature]* Date: 11-2-22 10:29
 Relinquished by: *[Signature]* Date: 11-2-22 12:30

Company: **MCWF** Date/Time: 11-2-22 10:29
 Company: **QVE** Date/Time: 11-2-22 12:30
 Company: **QVE** Date/Time: 11-2-22 10:29
 Company: **QVE** Date/Time: 11-2-22 12:30

Login Sample Receipt Checklist

Client: Montague WPCF

Job Number: 620-8034-1

Login Number: 8034

List Source: Eurofins New England

List Number: 1

Creator: Makhoul, Elie

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	N/A	
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	

Eurofins New England

Job Notes

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the {0} Project Manager.

Authorization



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