

August 24, 2020

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

Cascade Corporation- Fairview, OR

Sample Delivery Group: L1251377

Samples Received: 08/06/2020

Project Number:

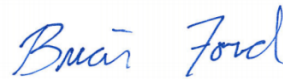
Description: Cascade

Report To: Cindy Bartlett

2201 NE 201st Avenue

Fairview, OR 97024-9718

Entire Report Reviewed By:



Brian Ford

Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.



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SAMPLE SUMMARY

ONE LAB. NATIONWIDE.



NVWD-080520 L1251377-01 Solid

Collected by
PY/MT

Collected date/time
08/05/20 13:40

Received date/time
08/06/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1524343	1	08/12/20 18:49	08/12/20 19:01	JAV	Mt. Juliet, TN
Mercury by Method 7471B	WG1529947	1	08/21/20 08:28	08/23/20 15:23	TCT	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG1529875	1	08/21/20 08:00	08/21/20 23:36	TRB	Mt. Juliet, TN

¹ Cp

² Tc

³ Ss

ROB-080520 L1251377-02 Solid

Collected by
PY/MT

Collected date/time
08/05/20 14:00

Received date/time
08/06/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1524343	1	08/12/20 18:49	08/12/20 19:01	JAV	Mt. Juliet, TN
Mercury by Method 7471B	WG1529947	1	08/21/20 08:28	08/23/20 15:53	TCT	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG1529875	1	08/21/20 08:00	08/21/20 23:39	TRB	Mt. Juliet, TN

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

ACCOUNT:

Cascade Corporation- Fairview, OR

PROJECT:

SDG:

L1251377

DATE/TIME:

08/24/20 10:00

PAGE:

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All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Brian Ford
Project Manager

¹ Cp

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⁹ Sc



Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	56.5		1	08/12/2020 19:01	WG1524343

1 Cp

2 Tc

3 Ss

4 Cn

Mercury by Method 7471B

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Mercury	ND		0.0708	1	08/23/2020 15:23	WG1529947

5 Sr

Metals (ICP) by Method 6010D

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Arsenic	ND		3.54	1	08/21/2020 23:36	WG1529875
Barium	95.0		0.885	1	08/21/2020 23:36	WG1529875
Cadmium	ND		0.885	1	08/21/2020 23:36	WG1529875
Chromium	86.4		1.77	1	08/21/2020 23:36	WG1529875
Lead	3.03		0.885	1	08/21/2020 23:36	WG1529875
Selenium	ND		3.54	1	08/21/2020 23:36	WG1529875
Silver	ND		1.77	1	08/21/2020 23:36	WG1529875

6 Qc

7 Gl

8 Al

9 Sc



Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	93.4		1	08/12/2020 19:01	WG1524343

1 Cp

2 Tc

3 Ss

4 Cn

Mercury by Method 7471B

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis date / time	Batch
Mercury	ND		0.0428	1	08/23/2020 15:53	WG1529947

5 Sr

Metals (ICP) by Method 6010D

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis date / time	Batch
Arsenic	ND		2.14	1	08/21/2020 23:39	WG1529875
Barium	91.3		0.535	1	08/21/2020 23:39	WG1529875
Cadmium	ND		0.535	1	08/21/2020 23:39	WG1529875
Chromium	105		1.07	1	08/21/2020 23:39	WG1529875
Lead	3.10		0.535	1	08/21/2020 23:39	WG1529875
Selenium	ND		2.14	1	08/21/2020 23:39	WG1529875
Silver	ND		1.07	1	08/21/2020 23:39	WG1529875

6 Qc

7 Gl

8 Al

9 Sc

Method Blank (MB)

(MB) R3559304-1 08/12/20 19:01

	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	%		%	%
Total Solids	0.000			

1

Cp

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Tc

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Ss

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Cn

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Sr

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Qc

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Sc

L1247644-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1247644-01 08/12/20 19:01 • (DUP) R3559304-3 08/12/20 19:01

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	%	%		%		%
Total Solids	56.5	52.2	1	7.84		10

Laboratory Control Sample (LCS)

(LCS) R3559304-2 08/12/20 19:01

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Analyte	%	%	%	%	
Total Solids	50.0	50.0	100	85.0-115	

Method Blank (MB)

(MB) R3562865-1 08/23/20 15:18				
	MB Result	<u>MB Qualifier</u>	MB MDL	MB RDL
Analyte	mg/kg		mg/kg	mg/kg
Mercury	U		0.0180	0.0400

Laboratory Control Sample (LCS)

(LCS) R3562865-4 08/23/20 18:53					
	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	<u>LCS Qualifier</u>
Analyte	mg/kg	mg/kg	%	%	
Mercury	0.500	0.456	91.2	80.0-120	

L1251377-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1251377-01 08/23/20 15:23 • (MS) R3562865-2 08/23/20 15:25 • (MSD) R3562865-3 08/23/20 15:28												
	Spike Amount (dry)	Original Result (dry)	MS Result (dry)	MSD Result (dry)	MS Rec.	MSD Rec.	Dilution	Rec. Limits	<u>MS Qualifier</u>	<u>MSD Qualifier</u>	RPD	RPD Limits
Analyte	mg/kg	mg/kg	mg/kg	mg/kg	%	%		%			%	%
Mercury	0.885	ND	0.713	0.771	80.6	87.1	1	75.0-125			7.73	20

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Cp

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Tc

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Ss

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Cn

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Sr

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Qc

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Gl

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Al

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Sc

Method Blank (MB)

(MB) R3562583-1 08/21/20 23:18

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Arsenic	U		0.460	2.00
Barium	U		0.240	0.500
Cadmium	U		0.0810	0.500
Chromium	U		0.250	1.00
Lead	U		0.208	0.500
Selenium	U		0.617	2.00
Silver	U		0.228	1.00

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

Laboratory Control Sample (LCS)

(LCS) R3562583-2 08/21/20 23:21

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Arsenic	100	93.8	93.8	80.0-120	
Barium	100	101	101	80.0-120	
Cadmium	100	95.1	95.1	80.0-120	
Chromium	100	97.5	97.5	80.0-120	
Lead	100	95.2	95.2	80.0-120	
Selenium	100	95.6	95.6	80.0-120	
Silver	20.0	17.8	89.0	80.0-120	

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

L1252612-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1252612-02 08/21/20 23:23 • (MS) R3562583-5 08/21/20 23:31 • (MSD) R3562583-6 08/21/20 23:34

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Arsenic	100	ND	98.8	103	97.8	102	1	75.0-125			4.64	20
Barium	100	2.03	109	115	107	113	1	75.0-125			5.15	20
Cadmium	100	ND	101	106	101	106	1	75.0-125			4.68	20
Chromium	100	1.78	107	110	105	108	1	75.0-125			2.86	20
Lead	100	1.03	103	108	102	107	1	75.0-125			4.20	20
Selenium	100	ND	99.8	105	99.8	105	1	75.0-125			5.42	20
Silver	20.0	ND	18.9	19.8	94.6	98.9	1	75.0-125			4.38	20



Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

(dry)	Results are reported based on the dry weight of the sample. [this will only be present on a dry report basis for soils].
MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
RDL (dry)	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier Description

The remainder of this page intentionally left blank, there are no qualifiers applied to this SDG.

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Pace National is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our one location design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be YOUR LAB OF CHOICE.

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace National.

State Accreditations

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN-03-2002-34
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico ¹	n/a
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina ¹	DW21704
Georgia	NELAP	North Carolina ³	41
Georgia ¹	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LA000356
Kentucky ^{1 6}	90010	South Carolina	84004
Kentucky ²	16	South Dakota	n/a
Louisiana	AI30792	Tennessee ^{1 4}	2006
Louisiana ¹	LA180010	Texas	T104704245-18-15
Maine	TN0002	Texas ⁵	LAB0152
Maryland	324	Utah	TN00003
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	460132
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA

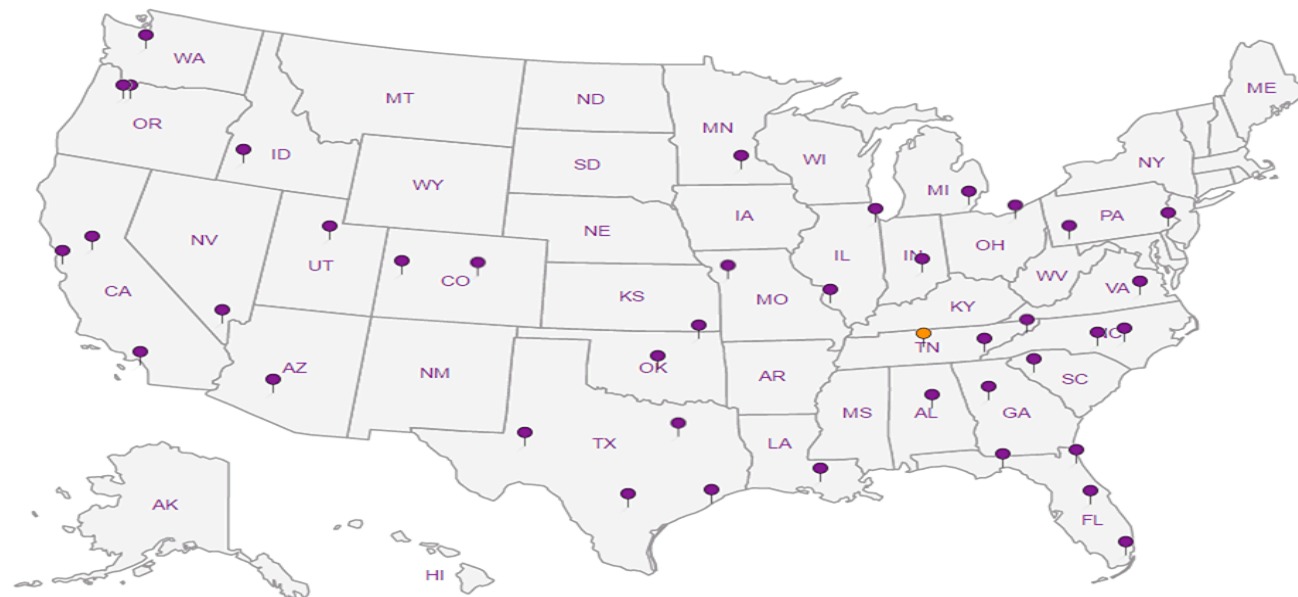
Third Party Federal Accreditations

A2LA – ISO 17025	1461.01	AIHA-LAP, LLC EMLAP	100789
A2LA – ISO 17025 ⁵	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

¹ Drinking Water ² Underground Storage Tanks ³ Aquatic Toxicity ⁴ Chemical/Microbiological ⁵ Mold ⁶ Wastewater n/a Accreditation not applicable

Our Locations

Pace National has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. Pace National performs all testing at our central laboratory.



Cascade Corporation- Fairview, OR

2201 NE 201st Avenue
Fairview, OR 97024-9718

Billing Information:
Accounts Payable
P.O. Box 20187
Portland, OR 97294-0187

Pres
Chk

Analysis / Container / Preservative

Chain of Custody Page 1 of 1

Report to:
Cindy Bartlett

Email To:
CBartlett@Geosyntec.com; bwebb@Geosyntec.c

Project Description:

Cascade

City/State

Fairview, OR

Please Circle:
PT MT CT ET

Phone: 503-669-6286

Client Project #

Lab Project #

CASCORFOR-PNG0564

Collected by (print):

PAT YADON Mike TAYLOR

Site/Facility ID #

P.O. #

Collected by (signature):

[Signature]

Rush? (Lab MUST Be Notified)

Same Day Five Day
Next Day 5 Day (Rad Only)
Two Day 10 Day (Rad Only)
Three Day

Quote #

Date Results Needed

No.
of

Immediately
Packed on Ice N Y X

Sample ID

Comp/Grab

Matrix *

Depth

Date

Time

Cntrs

NVWD-080520

SS

8/5/20

13:40

6

2x

4x

ROB-080520

SS

8/5/20

14:00

9

3x

6x

TRIP Blank Lot# 448

NA

NA

NA

1

X

SS

* Matrix:

SS - Soil AIR - Air F - Filter
GW - Groundwater B - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other

Remarks:

Samples returned via:

UPS FedEx Courier

Tracking #

175000042523

pH Temp

Flow Other

Sample Receipt Checklist

CCC Seal Present/Intact: NP Y N
CCC Signed/Accurate: Y N
Bottles arrive intact: Y N
Correct bottles used: Y N
Sufficient volume sent: Y N
If Applicable
VOA Zero Headspace: Y N
Preservation Correct/Checked: Y N
RAD Screen <0.5 nR/hr: Y N

Relinquished by: (Signature)

[Signature]

Date:

8/5/20

Time:

15:00

Received by: (Signature)

FEO EX

Trip Blank Received: Yes/No

NO/MeOH
TBR

Relinquished by: (Signature)

Date:

Time:

Received by: (Signature)

Temp: 18.7°C Bottles Received: 15

If preservation required by Login: Date/Time

Relinquished by: (Signature)

Date:

Time:

Received for lab by: (Signature)

[Signature]

Date: 8/6/20 Time: 0845

Hold:

Condition:

NCF OK

VOCs 8260D 2ozClr-NoPres end 602

VOCs 8260D 40mIamb/MeOH5ml/Syr

SDG # 61247644

G121

L1751377

Acctnum: CASCORFOR

Template: T170334

Prelogin: P783977

PM: 110 - Brian Ford

PB:

Shipped Via:

Remarks

Sample # (lab only)

8/17/20

Andy Vann

From: Brian Ford
Sent: Monday, August 17, 2020 3:37 PM
To: Project Service; Sample Storage; Brian Ford
Subject: L1247644 *CASCORFOR* re-log

Please re-log -01 and -02 for MRCRA8,TS as R5 due 08/24. Transfer TS.

Thanks,

Brian Ford

Project Manager

Pace Analytical National Center for Testing & Innovation

12065 Lebanon Road | Mt. Juliet, TN 37122

direct 615.773.9772

bford@pacenational.com | pacenational.com

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