McCampbell Analytical, Inc.

"When Quality Counts"

Analytical Report

WorkOrder: 1612478 **Amended:** 12/23/2016

Report Created for: Patrick Roddie

1935 Franklin Street #603
San Francisco, CA 94109

Project Contact: Patrick Roddie
Project P.O.:
Project Name: Chiloquin Rain 12-4-16

Project Received: 12/09/2016

Analytical Report reviewed & approved for release on 12/23/2016 by:

Angela Rydelius,
Laboratory Manager

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Glossary of Terms & Qualifier Definitions

Client: Patrick Roddie
Project: Chiloquin Rain 12-4-16
WorkOrder: 1612478

Glossary Abbreviation

%D	Serial Dilution Percent Difference
95% Interval	95% Confident Interval
DF	Dilution Factor
DI WET	(DISTLC) Waste Extraction Test using DI water
DISS	Dissolved (direct analysis of 0.45 µm filtered and acidified water sample)
DLT	Dilution Test (Serial Dilution)
DUP	Duplicate
EDL	Estimated Detection Limit
ITEF	International Toxicity Equivalence Factor
LCS	Laboratory Control Sample
MB	Method Blank
MB % Rec	% Recovery of Surrogate in Method Blank, if applicable
MDL	Method Detection Limit
ML	Minimum Level of Quantitation
MS	Matrix Spike
MSD	Matrix Spike Duplicate
N/A	Not Applicable
ND	Not detected at or above the indicated MDL or RL
NR	Data Not Reported due to matrix interference or insufficient sample amount.
PDS	Post Digestion Spike
PDSD	Post Digestion Spike Duplicate
PF	Prep Factor
RD	Relative Difference
RL	Reporting Limit (The RL is the lowest calibration standard in a multipoint calibration.)
RPD	Relative Percent Deviation
RRT	Relative Retention Time
SPK Val	Spike Value
SPKRef Val	Spike Reference Value
SPLP	Synthetic Precipitation Leachate Procedure
ST	Sorbent Tube
TCLP	Toxicity Characteristic Leachate Procedure
TEQ	Toxicity Equivalents
WET (STLC)	Waste Extraction Test (Soluble Threshold Limit Concentration)

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Analytical Report

Client:	Patrick Roddie	**WorkOrder:**	1612478
Date Received:	12/9/16 12:18	**Extraction Method:**	E200.8
Date Prepared:	12/9/16	**Analytical Method:**	E200.8
Project:	Chiloquin Rain 12-4-16	**Unit:**	µg/L

Metals

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
Chiloquin, OR	**1612478-001A**	**Water**	**12/04/2016 15:30**	**ICP-MS3**	**131051**

Analytes	Result	RL	DF	Date Analyzed
Aluminum	**340**	50	1	12/13/2016 04:16
Barium	**11**	5.0	1	12/13/2016 04:16
Iron	**270**	20	1	12/13/2016 04:16
Strontium	ND	20	1	12/13/2016 04:16
Titanium	**21**	0.50	1	12/13/2016 04:16

Surrogates	REC (%)	Limits	
Terbium	100	70-130	12/13/2016 04:16

Analyst(s): DVH

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Quality Control Report

Client:	Patrick Roddie	**WorkOrder:**	1612478
Date Prepared:	12/9/16	**BatchID:**	131051
Date Analyzed:	12/12/16	**Extraction Method:**	E200.8
Instrument:	ICP-MS3	**Analytical Method:**	E200.8
Matrix:	Water	**Unit:**	µg/L
Project:	Chiloquin Rain 12-4-16	**Sample ID:**	MB/LCS-131051 1612426-004AMS/MSD

QC Summary Report for Metals

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Aluminum	ND	505	50	500	-	101	85-115
Barium	ND	497	5.0	500	-	99	85-115
Iron	ND	4900	20	5000	-	98	85-115
Strontium	ND	478	20	500	-	96	85-115
Titanium	ND	50.8	0.50	50	-	102	85-115
Surrogate Recovery							
Terbium	712	724		750	95	97	70-130

Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
Aluminum	689	698	500	160	105	107	75-125	1.18	20
Barium	529	530	500	25	101	101	75-125	0	20
Iron	5320	5280	5000	420	98	97	75-125	0.792	20
Strontium	561	569	500	95	93	95	75-125	1.45	20
Titanium	54.6	55.1	50	4.3	101	102	75-125	0.985	20
Surrogate Recovery									
Terbium	731	736	750		97	98	70-130	0.614	20

Analyte	DLT Result	DLTRef Val	%D	%D Limit
Aluminum	ND<250	160	-	-
Barium	ND<25	25	-	-
Iron	413	420	1.67	-
Strontium	ND<100	95	-	-
Titanium	3.74	4.3	13.0	-

%D Control Limit applied to analytes with concentrations greater than 25 times the reporting limits.

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CHAIN-OF-CUSTODY RECORD

WorkOrder: 1612478 **ClientCode: PRSF**

☐ WaterTrax ☐ WriteOn ☐ EDF ☐ Excel ☒ EQuIS ☐ Email ☐ HardCopy ☐ ThirdParty ☐ J-flag

Report to:
Patrick Roddie
Patrick Roddie
1935 Franklin Street #603
San Francisco, CA 94109
415 336-4728 FAX:

Email: patrick@webbery.com
cc/3rd Party:
PO:
ProjectNo: Chiloquin Rain 12-4-16

Bill to:
Accounts Payable
Patrick Roddie
1935 Franklin Street #603
San Francisco, CA 94109

Requested TAT: **5 days;**

Date Received: **12/09/2016**
Date Logged: **12/09/2016**

Lab ID	Client ID	Matrix	Collection Date	Hold	Requested Tests (See legend below) 1	2	3	4	5	6	7	8	9	10	11	12
1612478-001	Chiloquin, OR	Water	12/4/2016 15:30	☐	A											

Test Legend:

1	METALSMS_TTLC_W	2		3		4	
5		6		7		8	
9		10		11		12	

Prepared by: Agustina Venegas

Comments: Credit card on file..ok to run automatically..please have accounting process payment prior to sending results.thks

NOTE: Soil samples are discarded 60 days after results are reported unless other arrangements are made (Water samples are 30 days).
Hazardous samples will be returned to client or disposed of at client expense.

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WORK ORDER SUMMARY

Client Name: PATRICK RODDIE
Client Contact: Patrick Roddie
Contact's Email: patrick@webbery.com

Project: Chiloquin Rain 12-4-16
Comments: Credit card on file..ok to run automatically..please have accounting process payment prior to sending results.thks

Work Order: 1612478
QC Level: LEVEL 2
Date Logged: 12/9/2016

☐WaterTrax ☐WriteOn ☐EDF ☐Excel ☐Fax ☐Email ☐HardCopy ☐ThirdParty ☐J-flag

Lab ID	Client ID	Matrix	Test Name	Containers /Composites	Bottle & Preservative	De-chlorinated	Collection Date & Time	TAT	Sediment Content	Hold	SubOut
1612478-001A	Chiloquin, OR	Water	E200.8 (Metals) <Aluminum, Barium, Iron, Strontium, Titanium>	1	250mL HDPE w/ HNO3	☐	12/4/2016 15:30	5 days	Present	☐	

NOTES: - STLC and TCLP extractions require 2 days to complete; therefore, all TATs begin after the extraction is completed (i.e., One-day TAT yields results in 3 days from sample submission).

- MAI assumes that all material present in the provided sampling container is considered part of the sample - MAI does not exclude any material from the sample prior to sample preparation unless requested in writing by the client.

General COC

MAI Work Order # 1412478

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CHAIN OF CUSTODY RECORD

Turn Around Time: 1 Day Rush | 2 Day Rush | 3 Day Rush | STD | Quote #
J-Flag / MDL | ESL | Cleanup Approved | Bottle Order #
Delivery Format: GeoTracker EDF | PDF | EDD | Write On (DW) | EQuIS

Report To: Patrick Roddie Bill To: same - cc on file
Company:
Email: patrick@webbery.com
Alt Email: Tele: 415-336-4728
Project Name/#: CHILOQUIN RAIN 12-4-16
Project Location: Chiloquin, OR PO #
Sampler Signature:

SAMPLE ID Location / Field Point	Sampling Date	Sampling Time	#Containers	Matrix	Preservative	Analysis Requested: ALBASRTI Fe
1 Chiloquin, OR	12-4-16	3:30pm	1	O	4	✓

MAI clients MUST disclose any dangerous chemicals known to be present in their submitted samples in concentrations that may cause immediate harm or serious future health endangerment as a result of brief, gloved, open air, sample handling by MAI staff. Non-disclosure incurs an immediate $250 surcharge and the client is subject to full legal liability for harm suffered. Thank you for your understanding and for allowing us to work safely.

* If metals are requested for water samples and the water type (Matrix) is not specified on the chain of custody, MAI will default to metals by E200.8.

Please provide an adequate volume of sample. If the volume is not sufficient for a MS/MSD a LCS/LCSD will be prepared in its place and noted in the report.

Comments / Instructions

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
PATRICK RODDIE	12-5-16	3:30pm	VSBS	12-5-16	3-30pm
			agreement.	12/9	1248p

Matrix Code: DW=Drinking Water, GW=Ground Water, WW=Waste Water, SW=Seawater, S=Soil, SL=Sludge, A=Air, WP=Wipe, O=Other
Preservative Code: 1=4°C 2=HCl 3=H_2SO_4 4=HNO_3 5=NaOH 6=ZnOAc/NaOH 7=None

Temp °C Initials

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Sample Receipt Checklist

Client Name: **Patrick Roddie**
Project Name: **Chiloquin Rain 12-4-16**

WorkOrder №: **1612478** Matrix: Water
Carrier: USPS

Date and Time Received: **12/9/2016 12:18**
Date Logged: **12/9/2016**
Received by: Agustina Venegas
Logged by: Agustina Venegas

Chain of Custody (COC) Information

Chain of custody present?	Yes	☑	No	☐		
Chain of custody signed when relinquished and received?	Yes	☑	No	☐		
Chain of custody agrees with sample labels?	Yes	☑	No	☐		
Sample IDs noted by Client on COC?	Yes	☑	No	☐		
Date and Time of collection noted by Client on COC?	Yes	☑	No	☐		
Sampler's name noted on COC?	Yes	☑	No	☐		

Sample Receipt Information

Custody seals intact on shipping container/cooler?	Yes	☐	No	☐	NA	☑
Shipping container/cooler in good condition?	Yes	☑	No	☐		
Samples in proper containers/bottles?	Yes	☑	No	☐		
Sample containers intact?	Yes	☑	No	☐		
Sufficient sample volume for indicated test?	Yes	☑	No	☐		

Sample Preservation and Hold Time (HT) Information

All samples received within holding time?	Yes	☑	No	☐	NA	☐
Sample/Temp Blank temperature		Temp:			NA	☑
Water - VOA vials have zero headspace / no bubbles?	Yes	☐	No	☐	NA	☑
Sample labels checked for correct preservation?	Yes	☑	No	☐		
pH acceptable upon receipt (Metal: <2; 522: <4; 218.7: >8)?	Yes	☑	No	☐	NA	☐
Samples Received on Ice?	Yes	☐	No	☑		

UCMR3 Samples:

Total Chlorine tested and acceptable upon receipt for EPA 522?	Yes	☐	No	☐	NA	☑
Free Chlorine tested and acceptable upon receipt for EPA 218.7, 300.1, 537, 539?	Yes	☐	No	☐	NA	☑

Comments: