



McC Campbell Analytical, Inc.

"When Quality Counts"

Analytical Report

WorkOrder: 1701509

Report Created for: Patrick Roddie

1935 Franklin Street #603
San Francisco, CA 94109

Project Contact: Patrick Roddie

Project P.O.:

Project Name: Chiloquin Snow 1/1/17

Project Received: 01/13/2017

Analytical Report reviewed & approved for release on 01/20/2017 by:

Angela Rydelius,
Laboratory Manager

The report shall not be reproduced except in full, without the written approval of the laboratory. The analytical results relate only to the items tested. Results reported conform to the most current NELAP standards, where applicable, unless otherwise stated in the case narrative.





Glossary of Terms & Qualifier Definitions

Client: Patrick Roddie
Project: Chiloquin Snow 1/1/17
WorkOrder: 1701509

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)

Quality Control Qualifiers

F10 MS/MSD outside control limits. Physical or chemical interferences exist due to sample matrix.



Analytical Report

Client: Patrick Roddie
Date Received: 1/13/17 14:00
Date Prepared: 1/13/17
Project: Chiloquin Snow 1/1/17

WorkOrder: 1701509
Extraction Method: E200.8
Analytical Method: E200.8
Unit: µg/L

Metals

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
Chiloquin, OR	1701509-001A	Water	01/01/2017 11:00	ICP-MS3	132608

Analytes	Result	RL	DF	Date Analyzed
Aluminum	66	50	1	01/18/2017 01:09
Barium	ND	5.0	1	01/18/2017 01:09
Iron	45	20	1	01/18/2017 01:09
Strontium	ND	20	1	01/18/2017 01:09
Titanium	2.8	0.50	1	01/18/2017 01:09

Surrogates	REC (%)	Limits	Date Analyzed
Terbium	99	70-130	01/18/2017 01:09

Analyst(s): DVH



Quality Control Report

Client: Patrick Roddie
Date Prepared: 1/13/17
Date Analyzed: 1/13/17 - 1/17/17
Instrument: ICP-MS3
Matrix: Water
Project: Chiloquin Snow 1/1/17

WorkOrder: 1701509
BatchID: 132608
Extraction Method: E200.8
Analytical Method: E200.8
Unit: µg/L
Sample ID: MB/LCS-132608
 1701485-002AMS/MSD

QC Summary Report for Metals

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Aluminum	ND	499	50	500	-	100	85-115
Barium	ND	511	5.0	500	-	102	85-115
Iron	ND	5200	20	5000	-	104	85-115
Strontium	ND	492	20	500	-	98	85-115
Titanium	ND	49.3	0.50	50	-	99	85-115
Surrogate Recovery							
Terbium	726.3	765		750	97	102	70-130

Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
Aluminum	2180	2140	500	1700	89	80	75-125	2.08	20
Barium	638	621	500	96	108	105	75-125	2.73	20
Iron	7270	7050	5000	2000	105	101	75-125	3.02	20
Strontium	1100	1060	500	580	105	98	75-125	3.14	20
Titanium	109	105	50	70	79	69,F10	75-125	4.30	20
Surrogate Recovery									
Terbium	821	795	750		110	106	70-130	3.30	20

Analyte	DLT Result	DLTRef Val	%D	%D Limit
Aluminum	1780	1700	4.71	20
Barium	86.0	96	10.4	-
Iron	2040	2000	2.00	20
Strontium	539	580	7.07	20
Titanium	72.4	70	3.43	20

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



1534 Willow Pass Rd
Pittsburg, CA 94565-1701
(925) 252-9262

CHAIN-OF-CUSTODY RECORD

WorkOrder: 1701509

ClientCode: PRSF

WaterTrax
 WriteOn
 EDF
 Excel
 EQulS
 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 Snow 1/1/17

Bill to:

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

Requested TAT: 5 days;

Date Received: 01/13/2017
Date Logged: 01/13/2017

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	
1701509-001	Chiloquin, OR	Water	1/1/2017 11:00	<input type="checkbox"/>	A												

Test Legend:

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

Prepared by: Alexandra Iniguez

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.



WORK ORDER SUMMARY

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

Project: Chiloquin Snow 1/1/17

Work Order: 1701509
QC Level: LEVEL 2
Date Logged: 1/13/2017

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

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
1701509-001A	Chiloquin, OR	Water	E200.8 (Metals) <Aluminum, Barium, Iron, Strontium, Titanium>	1	250mL HDPE w/ HNO3	<input type="checkbox"/>	1/1/2017 11:00	5 days	Trace	<input type="checkbox"/>	

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.



McCAMPBELL ANALYTICAL, INC.

1534 Willow Pass Rd. Pittsburg, Ca. 94565-1701

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main@mccampbell.com

CHAIN OF CUSTODY RECORD

Turn Around Time: 1 Day Rush	2 Day Rush	3 Day Rush	STD	<input checked="" type="checkbox"/>	Quote #
J-Flag / MDL	ESL	Cleanup Approved	Bottle Order #		
Delivery Format	GeoTracker EDF	PDF	<input checked="" type="checkbox"/>	EDD	Write On (DW)
					EQUIS

Report To: **Patrick Roddie** Bill To: **same - cc on file**

Analysis Requested

Company:

Email: **patrick@webbery.com**

Alt Email: _____ Tele: **415-336-4728**

Project Name/#: **CHILOQUIN SNOW 1-1-17**

Project Location: **Chiloquin, OR** PO # _____

Sampler Signature: *[Signature]*

SAMPLE ID Location / Field Point	Sampling Date Time		#Containers	Matrix	Preservative	ALUMINUM - AL	BARIUM - BA	STRONTIUM - SR	TITANIUM - TI	IRON - FE											
Chiloquin, OR	1-1-17	11AM	1	O	4	X	X	X	X	X											

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.

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
<i>PATRICK RODDIE</i> <i>[Signature]</i>	<i>1-11-17</i>	<i>2 PM</i>	<i>[Signature]</i>	<i>1-11-17</i>	<i>2 PM</i>
				<i>1/13/17</i>	<i>10:48</i>

Comments / Instructions

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=H₂SO₄ 4=HNO₃ 5=NaOH 6=ZnOAc/NaOH 7=None

Temp _____ °C Initials _____



Sample Receipt Checklist

Client Name: **Patrick Roddie**
 Project Name: **Chiloquin Snow 1/1/17**

Date and Time Received: **1/13/2017 14:00**
 Date Logged: **1/13/2017**
 Received by: **Alexandra Iniguez**
 Logged by: **Alexandra Iniguez**

WorkOrder No: **1701509** Matrix: Water
 Carrier: USPS

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: