



McC Campbell Analytical, Inc.

"When Quality Counts"

Analytical Report

WorkOrder: 1711466

Report Created for: Patrick Roddie

1935 Franklin Street #603
San Francisco, CA 94109

Project Contact: Patrick Roddie

Project P.O.:

Project Name: SF Rain 11/8/17

Project Received: 11/10/2017

Analytical Report reviewed & approved for release on 11/16/2017 by:

Yen Cao

Project 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: SF Rain 11/8/17
WorkOrder: 1711466

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
ERS	External reference sample. Second source calibration verification.
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)

Analytical Qualifiers

J Result is less than the RL/ML but greater than the MDL. The reported concentration is an estimated value.



Analytical Report

Client: Patrick Roddie
Date Received: 11/10/17 16:40
Date Prepared: 11/13/17
Project: SF Rain 11/8/17

WorkOrder: 1711466
Extraction Method: E200.8
Analytical Method: E200.8
Unit: µg/L

Metals

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
San Francisco	1711466-001A	Water	11/08/2017 21:30	ICP-MS2 134SMPL.D	148575

Analytes	Result	Qualifiers	MDL	RL	DF	Date Analyzed
Aluminum	18	J	14	50	1	11/13/2017 22:59
Barium	11		1.1	5.0	1	11/13/2017 22:59
Iron	22		4.4	20	1	11/13/2017 22:59
Titanium	2.8		0.13	0.50	1	11/13/2017 22:59

Surrogates	REC (%)	Limits
Terbium	99	70-130

Analyst(s): ND



Quality Control Report

Client: Patrick Roddie
Date Prepared: 11/13/17
Date Analyzed: 11/13/17
Instrument: ICP-MS2
Matrix: Water
Project: SF Rain 11/8/17

WorkOrder: 1711466
BatchID: 148575
Extraction Method: E200.8
Analytical Method: E200.8
Unit: µg/L
Sample ID: MB/LCS-148575
 1711509-005AMS/MSD

QC Summary Report for Metals

Analyte	MB Result	LCS Result	MDL	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Aluminum	ND	524	14	50	500	-	105	85-115
Barium	ND	515	1.1	5.0	500	-	103	85-115
Iron	ND	5230	4.4	20	5000	-	105	85-115
Titanium	ND	52.3	0.13	0.50	50	-	105	85-115
Surrogate Recovery								
Terbium	770.1	771			750	103	103	70-130

Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
Aluminum	478	473	500	ND	96	95	75-125	1.07	20
Barium	507	504	500	ND	96	95	75-125	0.614	20
Iron	6090	5920	5000	400	114	110	75-125	2.86	20
Titanium	55.4	52.8	50	ND	105	100	75-125	4.83	20
Surrogate Recovery									
Terbium	784	777	750		105	104	70-130	0.909	20

Analyte	DLT Result	DLTRef Val	%D	%D Limit
Aluminum	ND<2500	ND	-	-
Barium	ND<250	ND	-	-
Iron	ND<1000	400	-	-
Titanium	ND<25	ND	-	-

%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

WaterTrax WriteOn EDF

CHAIN-OF-CUSTODY RECORD

WorkOrder: 1711466

ClientCode: PRSF

Excel EQulS Email HardCopy ThirdParty J-flag
 Detection Summary Dry-Weight

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: SF Rain 11/8/17

Bill to:

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

Requested TAT: 5 days;

Date Received: 11/10/2017

Date Logged: 11/10/2017

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	
1711466-001	San Francisco	Water	11/8/2017 21:30	<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:

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

Project: SF Rain 11/8/17

Work Order: 1711466

Client Contact: Patrick Roddie

QC Level: LEVEL 2

Contact's Email: patrick@webbery.com

Comments:

Date Logged: 11/10/2017

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
1711466-001A	San Francisco	Water	E200.8 (Metals) <Aluminum, Barium, Iron, Titanium>	1	250mL HDPE w/ HNO3	<input type="checkbox"/>	11/8/2017 21:30	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.



Sample Receipt Checklist

Client Name: Patrick Roddie
Project Name: SF Rain 11/8/17

Date and Time Received: 11/10/2017 16:40
Date Logged: 11/10/2017
Received by: Alexandra Iniguez
Logged by: Alexandra Iniguez

WorkOrder No: 1711466 Matrix: Water
Carrier: Basit Sheikh (MAI Courier)

Chain of Custody (COC) Information

- Chain of custody present? Yes [checked] No []
- Chain of custody signed when relinquished and received? Yes [checked] No []
- Chain of custody agrees with sample labels? Yes [checked] No []
- Sample IDs noted by Client on COC? Yes [checked] No []
- Date and Time of collection noted by Client on COC? Yes [checked] No []
- Sampler's name noted on COC? Yes [checked] No []
- COC agrees with Quote? Yes [] No [] NA [checked]

Sample Receipt Information

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

Sample Preservation and Hold Time (HT) Information

- All samples received within holding time? Yes [checked] No [] NA []
- Sample/Temp Blank temperature Temp: 5.9°C NA []
- Water - VOA vials have zero headspace / no bubbles? Yes [] No [] NA [checked]
- Sample labels checked for correct preservation? Yes [checked] No []
- pH acceptable upon receipt (Metal: <2; 522: <4; 218.7: >8)? Yes [] No [checked] NA []
- Samples Received on Ice? Yes [checked] No []

(Ice Type: WET ICE)

UCMR Samples:

- Total Chlorine tested and acceptable upon receipt for EPA 522? Yes [] No [] NA [checked]
- Free Chlorine tested and acceptable upon receipt for EPA 218.7, 300.1, 537, 539? Yes [] No [] NA [checked]

Comments: pH adjusted in Lab.