

Technical Report for

A.G. Wassenaar, Inc.

Flessner

E13236

SGS Accutest Job Number: D92419

Sampling Date: 03/27/17

Report to:

A.G. Wassenaar, Inc.
2180 S Ivanhoe Street Suite 5
Denver, CO 80222
hazelwoodd@agwco.com; petersonr@agwco.com

ATTN: Devin Hazelwood

Total number of pages in report: 103



Test results contained within this data package meet the requirements
of the National Environmental Laboratory Accreditation Program
and/or state specific certification programs as applicable.

Scott Heideman
Laboratory Director

Client Service contact: Jen Jorschumb 303-425-6021

Certifications: CO (CO00049), ID (CO00049), NE (NE-OS-06-04), ND (R-027), NJ (CO007), OK (D9942)
UT (NELAP CO00049), LA (LA150028), TX (T104704511), WY (8TMS-L)

This report shall not be reproduced, except in its entirety, without the written approval of SGS Accutest.
Test results relate only to samples analyzed.

Table of Contents

-1-

Section 1: Sample Summary	4
Section 2: Case Narrative/Conformance Summary	8
Section 3: Summary of Hits	10
Section 4: Sample Results	16
4.1: D92419-1: 1-0.5	17
4.2: D92419-1A: 1-0.5	18
4.3: D92419-2: 1-1.5	20
4.4: D92419-2A: 1-1.5	21
4.5: D92419-3: 1-3.0	23
4.6: D92419-3A: 1-3.0	24
4.7: D92419-4: 2-0.5	26
4.8: D92419-4A: 2-0.5	27
4.9: D92419-5: 2-1.5	29
4.10: D92419-5A: 2-1.5	30
4.11: D92419-6: 2-3.0	32
4.12: D92419-6A: 2-3.0	33
4.13: D92419-7: 3-0.5	35
4.14: D92419-7A: 3-0.5	36
4.15: D92419-8: 3-1.5	38
4.16: D92419-8A: 3-1.5	39
4.17: D92419-9: 3-3.0	41
4.18: D92419-9A: 3-3.0	42
4.19: D92419-10: 4-0.5	44
4.20: D92419-10A: 4-0.5	45
4.21: D92419-11: 4-1.5	47
4.22: D92419-11A: 4-1.5	48
4.23: D92419-12: 4-3.0	50
4.24: D92419-12A: 4-3.0	51
4.25: D92419-13: BG-2	53
4.26: D92419-13A: BG-2	54
4.27: D92419-14: 5-0.5	56
4.28: D92419-14A: 5-0.5	57
4.29: D92419-15: 5-1.5	59
4.30: D92419-15A: 5-1.5	60
4.31: D92419-16: 5-3.0	62
4.32: D92419-16A: 5-3.0	63
4.33: D92419-17: 6-0.5	65
4.34: D92419-17A: 6-0.5	66
4.35: D92419-18: 6-1.5	68
4.36: D92419-18A: 6-1.5	69
4.37: D92419-19: 6-3.0	71
4.38: D92419-19A: 6-3.0	72

Table of Contents

Sections:

1
2
3
4
5
6
7

-2-

4.39: D92419-20: BG-1	74
4.40: D92419-20A: BG-1	75
Section 5: Misc. Forms	77
5.1: Chain of Custody	78
Section 6: Metals Analysis - QC Data Summaries	81
6.1: Prep QC MP21240: Ca,Mg,Na,Sodium Adsorption Ratio	82
6.2: Prep QC MP21285: Ca,Mg,Na,Sodium Adsorption Ratio	92
Section 7: General Chemistry - QC Data Summaries	102
7.1: Method Blank and Spike Results Summary	103

Sample Summary

A.G. Wassenaar, Inc.

Job No: D92419

Flessner

Project No: E13236

Sample Number	Collected Date	Time By	Received	Matrix Code	Type	Client Sample ID
D92419-1	03/27/17	12:25 DH	03/28/17	SO	Soil	1-0.5
D92419-1A	03/27/17	12:25 DH	03/28/17	SO	Soil	1-0.5
D92419-2	03/27/17	12:35 DH	03/28/17	SO	Soil	1-1.5
D92419-2A	03/27/17	12:35 DH	03/28/17	SO	Soil	1-1.5
D92419-3	03/27/17	12:45 DH	03/28/17	SO	Soil	1-3.0
D92419-3A	03/27/17	12:45 DH	03/28/17	SO	Soil	1-3.0
D92419-4	03/27/17	12:55 DH	03/28/17	SO	Soil	2-0.5
D92419-4A	03/27/17	12:55 DH	03/28/17	SO	Soil	2-0.5
D92419-5	03/27/17	13:00 DH	03/28/17	SO	Soil	2-1.5
D92419-5A	03/27/17	13:00 DH	03/28/17	SO	Soil	2-1.5
D92419-6	03/27/17	13:05 DH	03/28/17	SO	Soil	2-3.0
D92419-6A	03/27/17	13:05 DH	03/28/17	SO	Soil	2-3.0
D92419-7	03/27/17	13:10 DH	03/28/17	SO	Soil	3-0.5

Soil samples reported on a dry weight basis unless otherwise indicated on result page.

Sample Summary

(continued)

A.G. Wassenaar, Inc.

Job No: D92419

Flessner

Project No: E13236

Sample Number	Collected Date	Time By	Received	Matrix Code	Type	Client Sample ID
D92419-7A	03/27/17	13:10 DH	03/28/17	SO	Soil	3-0.5
D92419-8	03/27/17	13:15 DH	03/28/17	SO	Soil	3-1.5
D92419-8A	03/27/17	13:15 DH	03/28/17	SO	Soil	3-1.5
D92419-9	03/27/17	13:20 DH	03/28/17	SO	Soil	3-3.0
D92419-9A	03/27/17	13:20 DH	03/28/17	SO	Soil	3-3.0
D92419-10	03/27/17	13:20 DH	03/28/17	SO	Soil	4-0.5
D92419-10A	03/27/17	13:20 DH	03/28/17	SO	Soil	4-0.5
D92419-11	03/27/17	13:25 DH	03/28/17	SO	Soil	4-1.5
D92419-11A	03/27/17	13:25 DH	03/28/17	SO	Soil	4-1.5
D92419-12	03/27/17	13:30 DH	03/28/17	SO	Soil	4-3.0
D92419-12A	03/27/17	13:30 DH	03/28/17	SO	Soil	4-3.0
D92419-13	03/27/17	13:35 DH	03/28/17	SO	Soil	BG-2
D92419-13A	03/27/17	13:35 DH	03/28/17	SO	Soil	BG-2

Soil samples reported on a dry weight basis unless otherwise indicated on result page.

Sample Summary

(continued)

A.G. Wassenaar, Inc.

Job No: D92419

Flessner

Project No: E13236

Sample Number	Collected		Received	Matrix		Client Sample ID
	Date	Time By		Code	Type	
D92419-14	03/27/17	13:40 DH	03/28/17	SO	Soil	5-0.5
D92419-14A	03/27/17	13:40 DH	03/28/17	SO	Soil	5-0.5
D92419-15	03/27/17	13:45 DH	03/28/17	SO	Soil	5-1.5
D92419-15A	03/27/17	13:45 DH	03/28/17	SO	Soil	5-1.5
D92419-16	03/27/17	13:50 DH	03/28/17	SO	Soil	5-3.0
D92419-16A	03/27/17	13:50 DH	03/28/17	SO	Soil	5-3.0
D92419-17	03/27/17	13:55 DH	03/28/17	SO	Soil	6-0.5
D92419-17A	03/27/17	13:55 DH	03/28/17	SO	Soil	6-0.5
D92419-18	03/27/17	14:00 DH	03/28/17	SO	Soil	6-1.5
D92419-18A	03/27/17	14:00 DH	03/28/17	SO	Soil	6-1.5
D92419-19	03/27/17	14:05 DH	03/28/17	SO	Soil	6-3.0
D92419-19A	03/27/17	14:05 DH	03/28/17	SO	Soil	6-3.0
D92419-20	03/27/17	14:15 DH	03/28/17	SO	Soil	BG-1

Soil samples reported on a dry weight basis unless otherwise indicated on result page.



Sample Summary
(continued)

A.G. Wassenaar, Inc.

Job No: D92419

Flessner
Project No: E13236

Sample Number	Collected		Matrix			Client Sample ID
	Date	Time By	Received	Code	Type	
D92419-20A	03/27/17	14:15 DH	03/28/17	SO	Soil	BG-1

Soil samples reported on a dry weight basis unless otherwise indicated on result page.

CASE NARRATIVE / CONFORMANCE SUMMARY

2

Client: A.G. Wassenaar, Inc.

Job No D92419

Site: Flessner

Report Date 4/4/2017 5:19:09 PM

On 03/28/2017, 20 sample(s), 0 Trip Blank(s), and 0 Field Blank(s) were received at SGS Accutest Mountain States (SAMS) at a temperature of 3.6 °C. The samples were intact and properly preserved, unless noted below. An SAMS Job Number of D92419 was assigned to the project. The lab sample ID, client sample ID, and date of sample collection are detailed in the report's Results Summary.

Specified quality control criteria were achieved for this job except as noted below. For more information, please refer to the analytical results and QC summary pages.

Metals By Method SW846 6010C

Matrix: AQ

Batch ID: MP21240

- All samples were digested and analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) D92419-1AMS, D92419-1AMSD, D92419-1ASDL were used as the QC samples for the metals analysis.

Matrix: AQ

Batch ID: MP21285

- All samples were digested and analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) D92419-11AMS, D92419-11AMSD, D92419-11ASDL were used as the QC samples for the metals analysis.

Wet Chemistry By Method SM 2510B-2011 MOD

Matrix: SO

Batch ID: GP20038

- D92419-20 for Specific Conductivity: Result equivalent to 0.06 mmhos/cm
- D92419-13 for Specific Conductivity: Result equivalent to 0.21 mmhos/cm
- D92419-17 for Specific Conductivity: Result equivalent to 0.30 mmhos/cm
- D92419-18 for Specific Conductivity: Result equivalent to 1.50 mmhos/cm
- D92419-11 for Specific Conductivity: Result equivalent to 2.60 mmhos/cm
- D92419-12 for Specific Conductivity: Result equivalent to 2.75 mmhos/cm
- D92419-14 for Specific Conductivity: Result equivalent to 3.08 mmhos/cm
- D92419-19 for Specific Conductivity: Result equivalent to 3.51 mmhos/cm
- D92419-16 for Specific Conductivity: Result equivalent to 3.59 mmhos/cm
- D92419-15 for Specific Conductivity: Result equivalent to 4.70 mmhos/cm

Wet Chemistry By Method SM2540G-2011 M

Matrix: SO

Batch ID: GN38209

- The data for SM2540G-2011 M meets quality control requirements.

Matrix: SO

Batch ID: GN38242

- The data for SM2540G-2011 M meets quality control requirements.

Tuesday, April 04, 2017

Page 1 of 2

Wet Chemistry By Method SW846 9045D

Matrix: SO

Batch ID: GN38227

- The following samples were run outside of holding time for method SW846 9045D: D92419-1, D92419-10, D92419-11, D92419-12, D92419-13, D92419-14, D92419-15, D92419-16, D92419-17, D92419-18, D92419-19, D92419-2, D92419-20, D92419-4, D92419-5, D92419-6, D92419-7, D92419-8, D92419-9

Matrix: SO

Batch ID: GN38229

- The following samples were run outside of holding time for method SW846 9045D: D92419-3

Wet Chemistry By Method USDA HANDBOOK 60

Matrix: SO

Batch ID: MP21240

- D92419-1A through -10A for Sodium Adsorption Ratio: Calculated as: $(\text{Na meq/L}) / \sqrt{[(\text{Ca meq/L}) + (\text{Mg meq/L})/2]}$

Matrix: SO

Batch ID: MP21285

- D92419-11A through -20A for Sodium Adsorption Ratio: Calculated as: $(\text{Na meq/L}) / \sqrt{[(\text{Ca meq/L}) + (\text{Mg meq/L})/2]}$

SAMS certifies that data reported for samples received, listed on the associated custody chain or analytical task order, were produced to specifications meeting AMS's Quality System precision, accuracy and completeness objectives except as noted.

Estimated non-standard method measurement uncertainty data is available on request, based on quality control bias and implicit for standard methods. Acceptable uncertainty requires tested parameter quality control data to meet method criteria.

SAMS is not responsible for data quality assumptions if partial reports are used and recommends that this report be used in its entirety. This report is authorized by SAMS indicated via signature on the report cover.

Summary of Hits

Job Number: D92419
Account: A.G. Wassenaar, Inc.
Project: Flessner
Collected: 03/27/17



Lab Sample ID	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
D92419-1	1-0.5					
Specific Conductivity		290	1.0		umhos/cm	SM 2510B-2011 MOD
pH		9.39			su	SW846 9045D
D92419-1A	1-0.5					
Calcium		6.56	2.0		mg/l	SW846 6010C
Magnesium		2.30	1.0		mg/l	SW846 6010C
Sodium		57.7	2.0		mg/l	SW846 6010C
Sodium Adsorption Ratio ^a		4.94			ratio	USDA HANDBOOK 60
D92419-2	1-1.5					
Specific Conductivity		1400	1.0		umhos/cm	SM 2510B-2011 MOD
pH		9.83			su	SW846 9045D
D92419-2A	1-1.5					
Calcium		9.64	2.0		mg/l	SW846 6010C
Magnesium		2.10	1.0		mg/l	SW846 6010C
Sodium		310	2.0		mg/l	SW846 6010C
Sodium Adsorption Ratio ^a		23.6			ratio	USDA HANDBOOK 60
D92419-3	1-3.0					
Specific Conductivity		970	1.0		umhos/cm	SM 2510B-2011 MOD
pH		9.99			su	SW846 9045D
D92419-3A	1-3.0					
Calcium		6.54	2.0		mg/l	SW846 6010C
Magnesium		1.36	1.0		mg/l	SW846 6010C
Sodium		232	2.0		mg/l	SW846 6010C
Sodium Adsorption Ratio ^a		21.5			ratio	USDA HANDBOOK 60
D92419-4	2-0.5					
Specific Conductivity		930	1.0		umhos/cm	SM 2510B-2011 MOD
pH		9.49			su	SW846 9045D
D92419-4A	2-0.5					
Calcium		4.88	2.0		mg/l	SW846 6010C
Sodium		197	2.0		mg/l	SW846 6010C

Summary of Hits

Job Number: D92419
Account: A.G. Wassenaar, Inc.
Project: Flessner
Collected: 03/27/17

Lab Sample ID	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
Sodium Adsorption Ratio ^a		21.5			ratio	USDA HANDBOOK 60
D92419-5	2-1.5					
Specific Conductivity		2780	1.0		umhos/cm	SM 2510B-2011 MOD
pH		9.24			su	SW846 9045D
D92419-5A	2-1.5					
Calcium		18.9	2.0		mg/l	SW846 6010C
Magnesium		7.14	1.0		mg/l	SW846 6010C
Sodium		546	2.0		mg/l	SW846 6010C
Sodium Adsorption Ratio ^a		27.1			ratio	USDA HANDBOOK 60
D92419-6	2-3.0					
Specific Conductivity		5830	1.0		umhos/cm	SM 2510B-2011 MOD
pH		9.09			su	SW846 9045D
D92419-6A	2-3.0					
Calcium		72.1	2.0		mg/l	SW846 6010C
Magnesium		39.0	1.0		mg/l	SW846 6010C
Sodium		1080	2.0		mg/l	SW846 6010C
Sodium Adsorption Ratio ^a		25.5			ratio	USDA HANDBOOK 60
D92419-7	3-0.5					
Specific Conductivity		920	1.0		umhos/cm	SM 2510B-2011 MOD
pH		9.37			su	SW846 9045D
D92419-7A	3-0.5					
Calcium		6.00	2.0		mg/l	SW846 6010C
Magnesium		1.70	1.0		mg/l	SW846 6010C
Sodium		182	2.0		mg/l	SW846 6010C
Sodium Adsorption Ratio ^a		16.9			ratio	USDA HANDBOOK 60
D92419-8	3-1.5					
Specific Conductivity		3210	1.0		umhos/cm	SM 2510B-2011 MOD
pH		9.73			su	SW846 9045D

Summary of Hits

Job Number: D92419
Account: A.G. Wassenaar, Inc.
Project: Flessner
Collected: 03/27/17



Lab Sample ID	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
D92419-8A	3-1.5					
Calcium		22.8	2.0		mg/l	SW846 6010C
Magnesium		6.18	1.0		mg/l	SW846 6010C
Sodium		638	2.0		mg/l	SW846 6010C
Sodium Adsorption Ratio ^a		30.6			ratio	USDA HANDBOOK 60
D92419-9	3-3.0					
Specific Conductivity		3270	1.0		umhos/cm	SM 2510B-2011 MOD
pH		9.55			su	SW846 9045D
D92419-9A	3-3.0					
Calcium		30.1	2.0		mg/l	SW846 6010C
Magnesium		12.9	1.0		mg/l	SW846 6010C
Sodium		606	2.0		mg/l	SW846 6010C
Sodium Adsorption Ratio ^a		23.3			ratio	USDA HANDBOOK 60
D92419-10	4-0.5					
Specific Conductivity		1100	1.0		umhos/cm	SM 2510B-2011 MOD
pH		9.01			su	SW846 9045D
D92419-10A	4-0.5					
Calcium		9.09	2.0		mg/l	SW846 6010C
Magnesium		8.80	1.0		mg/l	SW846 6010C
Sodium		225	2.0		mg/l	SW846 6010C
Sodium Adsorption Ratio ^a		12.8			ratio	USDA HANDBOOK 60
D92419-11	4-1.5					
Specific Conductivity ^b		2600	1.0		umhos/cm	SM 2510B-2011 MOD
pH		9.54			su	SW846 9045D
D92419-11A	4-1.5					
Calcium		12.3	2.0		mg/l	SW846 6010C
Magnesium		3.15	1.0		mg/l	SW846 6010C
Sodium		523	2.0		mg/l	SW846 6010C
Sodium Adsorption Ratio ^a		34.4			ratio	USDA HANDBOOK 60

Summary of Hits

Job Number: D92419
Account: A.G. Wassenaar, Inc.
Project: Flessner
Collected: 03/27/17

Lab Sample ID	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
D92419-12	4-3.0					
Specific Conductivity ^c		2750	1.0		umhos/cm	SM 2510B-2011 MOD
pH		9.52			su	SW846 9045D
D92419-12A	4-3.0					
Calcium		24.2	2.0		mg/l	SW846 6010C
Magnesium		9.43	1.0		mg/l	SW846 6010C
Sodium		511	2.0		mg/l	SW846 6010C
Sodium Adsorption Ratio ^a		22.3			ratio	USDA HANDBOOK 60
D92419-13	BG-2					
Specific Conductivity ^d		205	1.0		umhos/cm	SM 2510B-2011 MOD
pH		8.28			su	SW846 9045D
D92419-13A	BG-2					
Calcium		20.8	2.0		mg/l	SW846 6010C
Magnesium		5.69	1.0		mg/l	SW846 6010C
Sodium		12.2	2.0		mg/l	SW846 6010C
Sodium Adsorption Ratio ^a		0.611			ratio	USDA HANDBOOK 60
D92419-14	5-0.5					
Specific Conductivity ^e		3080	1.0		umhos/cm	SM 2510B-2011 MOD
pH		9.18			su	SW846 9045D
D92419-14A	5-0.5					
Calcium		22.5	2.0		mg/l	SW846 6010C
Magnesium		14.4	1.0		mg/l	SW846 6010C
Sodium		651	2.0		mg/l	SW846 6010C
Sodium Adsorption Ratio ^a		26.4			ratio	USDA HANDBOOK 60
D92419-15	5-1.5					
Specific Conductivity ^f		4700	1.0		umhos/cm	SM 2510B-2011 MOD
pH		8.99			su	SW846 9045D
D92419-15A	5-1.5					
Calcium		119	2.0		mg/l	SW846 6010C
Magnesium		77.2	1.0		mg/l	SW846 6010C

Summary of Hits

Job Number: D92419
Account: A.G. Wassenaar, Inc.
Project: Flessner
Collected: 03/27/17

Lab Sample ID	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
Sodium		820	2.0		mg/l	SW846 6010C
Sodium Adsorption Ratio ^a		14.4			ratio	USDA HANDBOOK 60
D92419-16	5-3.0					
Specific Conductivity ^g		3590	1.0		umhos/cm	SM 2510B-2011 MOD
pH		8.64			su	SW846 9045D
D92419-16A	5-3.0					
Calcium		227	2.0		mg/l	SW846 6010C
Magnesium		92.8	1.0		mg/l	SW846 6010C
Sodium		447	2.0		mg/l	SW846 6010C
Sodium Adsorption Ratio ^a		6.31			ratio	USDA HANDBOOK 60
D92419-17	6-0.5					
Specific Conductivity ^h		298	1.0		umhos/cm	SM 2510B-2011 MOD
pH		9.51			su	SW846 9045D
D92419-17A	6-0.5					
Calcium		2.85	2.0		mg/l	SW846 6010C
Magnesium		2.54	1.0		mg/l	SW846 6010C
Sodium		68.9	2.0		mg/l	SW846 6010C
Sodium Adsorption Ratio ^a		7.15			ratio	USDA HANDBOOK 60
D92419-18	6-1.5					
Specific Conductivity ⁱ		1500	1.0		umhos/cm	SM 2510B-2011 MOD
pH		8.88			su	SW846 9045D
D92419-18A	6-1.5					
Calcium		45.7	2.0		mg/l	SW846 6010C
Magnesium		13.7	1.0		mg/l	SW846 6010C
Sodium		258	2.0		mg/l	SW846 6010C
Sodium Adsorption Ratio ^a		8.59			ratio	USDA HANDBOOK 60
D92419-19	6-3.0					
Specific Conductivity ^j		3510	1.0		umhos/cm	SM 2510B-2011 MOD
pH		8.13			su	SW846 9045D

Summary of Hits

Job Number: D92419
Account: A.G. Wassenaar, Inc.
Project: Flessner
Collected: 03/27/17



Lab Sample ID	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
D92419-19A	6-3.0					
Calcium		263	2.0		mg/l	SW846 6010C
Magnesium		110	1.0		mg/l	SW846 6010C
Sodium		227	2.0		mg/l	SW846 6010C
Sodium Adsorption Ratio ^a		2.96			ratio	USDA HANDBOOK 60
D92419-20	BG-1					
Specific Conductivity ^k		61.9	1.0		umhos/cm	SM 2510B-2011 MOD
pH		8.13			su	SW846 9045D
D92419-20A	BG-1					
Magnesium		1.79	1.0		mg/l	SW846 6010C
Sodium		13.0	2.0		mg/l	SW846 6010C
Sodium Adsorption Ratio ^a		1.64			ratio	USDA HANDBOOK 60

(a) Calculated as: $(\text{Na meq/L}) / \sqrt{[(\text{Ca meq/L}) + (\text{Mg meq/L})/2]}$

(b) Result equivalent to 2.60 mmhos/cm

(c) Result equivalent to 2.75 mmhos/cm

(d) Result equivalent to 0.21 mmhos/cm

(e) Result equivalent to 3.08 mmhos/cm

(f) Result equivalent to 4.70 mmhos/cm

(g) Result equivalent to 3.59 mmhos/cm

(h) Result equivalent to 0.30 mmhos/cm

(i) Result equivalent to 1.50 mmhos/cm

(j) Result equivalent to 3.51 mmhos/cm

(k) Result equivalent to 0.06 mmhos/cm

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID: 1-0.5
Lab Sample ID: D92419-1
Matrix: SO - Soil
Project: Flessner

Date Sampled: 03/27/17
Date Received: 03/28/17
Percent Solids: 77.9

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
%solids							
Solids, Percent	77.9		%	1	03/28/17	SWT	SM2540G-2011 M
prep: DEPT.OF AG, BOOK N9							
Specific Conductivity	290	1.0	umhos/cm	1	03/29/17	TJ	SM 2510B-2011 MOD
pH	9.39		su	1	03/29/17 11:30	TB	SW846 9045D

RL = Reporting Limit

Report of Analysis

Client Sample ID: 1-0.5
Lab Sample ID: D92419-1A
Matrix: SO - Soil
Project: Flessner

Date Sampled: 03/27/17
Date Received: 03/28/17
Percent Solids: 77.9

SAR Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Calcium	6.56	2.0	mg/l	1	03/30/17	04/04/17 SB	SW846 6010C ¹	SW846 3010A/M ²
Magnesium	2.30	1.0	mg/l	1	03/30/17	04/04/17 SB	SW846 6010C ¹	SW846 3010A/M ²
Sodium	57.7	2.0	mg/l	1	03/30/17	04/04/17 SB	SW846 6010C ¹	SW846 3010A/M ²

(1) Instrument QC Batch: MA8357
(2) Prep QC Batch: MP21240

RL = Reporting Limit

Report of Analysis

Client Sample ID:	1-0.5	Date Sampled:	03/27/17
Lab Sample ID:	D92419-1A	Date Received:	03/28/17
Matrix:	SO - Soil	Percent Solids:	77.9
Project:	Flessner		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Sodium Adsorption Ratio ^a	4.94		ratio	1	04/04/17 10:49	SB	USDA HANDBOOK 60

(a) Calculated as: (Na meq/L) / sqrt [(Ca meq/L)+ (Mg meq/L)/2]

RL = Reporting Limit

4.2
4

Report of Analysis

Client Sample ID: 1-1.5
Lab Sample ID: D92419-2
Matrix: SO - Soil
Project: Flessner

Date Sampled: 03/27/17
Date Received: 03/28/17
Percent Solids: 82.5

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
%solids							
Solids, Percent	82.5		%	1	03/28/17	SWT	SM2540G-2011 M
prep: DEPT.OF AG, BOOK N9							
Specific Conductivity	1400	1.0	umhos/cm	1	03/29/17	TJ	SM 2510B-2011 MOD
pH	9.83		su	1	03/29/17 11:30	TB	SW846 9045D

RL = Reporting Limit

Report of Analysis

Client Sample ID: 1-1.5
Lab Sample ID: D92419-2A
Matrix: SO - Soil
Project: Flessner

Date Sampled: 03/27/17
Date Received: 03/28/17
Percent Solids: 82.5

SAR Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By		Method	Prep Method
Calcium	9.64	2.0	mg/l	1	03/30/17	04/04/17	SB	SW846 6010C ¹	SW846 3010A/M ²
Magnesium	2.10	1.0	mg/l	1	03/30/17	04/04/17	SB	SW846 6010C ¹	SW846 3010A/M ²
Sodium	310	2.0	mg/l	1	03/30/17	04/04/17	SB	SW846 6010C ¹	SW846 3010A/M ²

(1) Instrument QC Batch: MA8357
(2) Prep QC Batch: MP21240

RL = Reporting Limit

4.4
4

Report of Analysis

Client Sample ID:	1-1.5	Date Sampled:	03/27/17
Lab Sample ID:	D92419-2A	Date Received:	03/28/17
Matrix:	SO - Soil	Percent Solids:	82.5
Project:	Flessner		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Sodium Adsorption Ratio ^a	23.6		ratio	1	04/04/17 11:18	SB	USDA HANDBOOK 60

(a) Calculated as: (Na meq/L) / sqrt [(Ca meq/L)+ (Mg meq/L)/2]

RL = Reporting Limit

4.4
4

Report of Analysis

Client Sample ID: 1-3.0
Lab Sample ID: D92419-3
Matrix: SO - Soil
Project: Flessner

Date Sampled: 03/27/17
Date Received: 03/28/17
Percent Solids: 83.6

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
%solids							
Solids, Percent	83.6		%	1	03/28/17	SWT	SM2540G-2011 M
prep: DEPT.OF AG, BOOK N9							
Specific Conductivity	970	1.0	umhos/cm	1	03/29/17	TJ	SM 2510B-2011 MOD
pH	9.99		su	1	03/29/17 11:30	TB	SW846 9045D

RL = Reporting Limit

4.5
4

Report of Analysis

Client Sample ID: 1-3.0
Lab Sample ID: D92419-3A
Matrix: SO - Soil
Project: Flessner

Date Sampled: 03/27/17
Date Received: 03/28/17
Percent Solids: 83.6

SAR Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By		Method	Prep Method
Calcium	6.54	2.0	mg/l	1	03/30/17	04/04/17	SB	SW846 6010C ¹	SW846 3010A/M ²
Magnesium	1.36	1.0	mg/l	1	03/30/17	04/04/17	SB	SW846 6010C ¹	SW846 3010A/M ²
Sodium	232	2.0	mg/l	1	03/30/17	04/04/17	SB	SW846 6010C ¹	SW846 3010A/M ²

(1) Instrument QC Batch: MA8357
(2) Prep QC Batch: MP21240

RL = Reporting Limit

4.6
4

Report of Analysis

Client Sample ID:	1-3.0	Date Sampled:	03/27/17
Lab Sample ID:	D92419-3A	Date Received:	03/28/17
Matrix:	SO - Soil	Percent Solids:	83.6
Project:	Flessner		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Sodium Adsorption Ratio ^a	21.5		ratio	1	04/04/17 11:24	SB	USDA HANDBOOK 60

(a) Calculated as: (Na meq/L) / sqrt [(Ca meq/L)+ (Mg meq/L)/2]

RL = Reporting Limit

Report of Analysis

Client Sample ID:	2-0.5	Date Sampled:	03/27/17
Lab Sample ID:	D92419-4	Date Received:	03/28/17
Matrix:	SO - Soil	Percent Solids:	87.9
Project:	Flessner		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
%solids							
Solids, Percent	87.9		%	1	03/28/17	SWT	SM2540G-2011 M
prep: DEPT.OF AG, BOOK N9							
Specific Conductivity	930	1.0	umhos/cm	1	03/29/17	TJ	SM 2510B-2011 MOD
pH	9.49		su	1	03/29/17 11:30	TB	SW846 9045D

RL = Reporting Limit

Report of Analysis

Client Sample ID:	2-0.5	Date Sampled:	03/27/17
Lab Sample ID:	D92419-4A	Date Received:	03/28/17
Matrix:	SO - Soil	Percent Solids:	87.9
Project:	Flessner		

SAR Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Calcium	4.88	2.0	mg/l	1	03/30/17	04/04/17 SB	SW846 6010C ¹	SW846 3010A/M ²
Magnesium	< 1.0	1.0	mg/l	1	03/30/17	04/04/17 SB	SW846 6010C ¹	SW846 3010A/M ²
Sodium	197	2.0	mg/l	1	03/30/17	04/04/17 SB	SW846 6010C ¹	SW846 3010A/M ²

(1) Instrument QC Batch: MA8357
(2) Prep QC Batch: MP21240

RL = Reporting Limit

Report of Analysis

Client Sample ID:	2-0.5	Date Sampled:	03/27/17
Lab Sample ID:	D92419-4A	Date Received:	03/28/17
Matrix:	SO - Soil	Percent Solids:	87.9
Project:	Flessner		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Sodium Adsorption Ratio ^a	21.5		ratio	1	04/04/17 11:31	SB	USDA HANDBOOK 60

(a) Calculated as: (Na meq/L) / sqrt [(Ca meq/L)+ (Mg meq/L)/2]

RL = Reporting Limit

4.8
4

Report of Analysis

Client Sample ID:	2-1.5	Date Sampled:	03/27/17
Lab Sample ID:	D92419-5	Date Received:	03/28/17
Matrix:	SO - Soil	Percent Solids:	83.4
Project:	Flessner		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
%solids							
Solids, Percent	83.4		%	1	03/28/17	SWT	SM2540G-2011 M
prep: DEPT.OF AG, BOOK N9							
Specific Conductivity	2780	1.0	umhos/cm	1	03/29/17	TJ	SM 2510B-2011 MOD
pH	9.24		su	1	03/29/17 11:30	TB	SW846 9045D

RL = Reporting Limit

Report of Analysis

Client Sample ID: 2-1.5
Lab Sample ID: D92419-5A
Matrix: SO - Soil
Project: Flessner

Date Sampled: 03/27/17
Date Received: 03/28/17
Percent Solids: 83.4

SAR Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Calcium	18.9	2.0	mg/l	1	03/30/17	04/04/17 SB	SW846 6010C ¹	SW846 3010A/M ²
Magnesium	7.14	1.0	mg/l	1	03/30/17	04/04/17 SB	SW846 6010C ¹	SW846 3010A/M ²
Sodium	546	2.0	mg/l	1	03/30/17	04/04/17 SB	SW846 6010C ¹	SW846 3010A/M ²

(1) Instrument QC Batch: MA8357
(2) Prep QC Batch: MP21240

RL = Reporting Limit

Report of Analysis

Client Sample ID:	2-1.5	Date Sampled:	03/27/17
Lab Sample ID:	D92419-5A	Date Received:	03/28/17
Matrix:	SO - Soil	Percent Solids:	83.4
Project:	Flessner		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Sodium Adsorption Ratio ^a	27.1		ratio	1	04/04/17 11:38	SB	USDA HANDBOOK 60

(a) Calculated as: (Na meq/L) / sqrt [(Ca meq/L)+ (Mg meq/L)/2]

RL = Reporting Limit

Report of Analysis

Client Sample ID: 2-3.0
Lab Sample ID: D92419-6
Matrix: SO - Soil
Project: Flessner

Date Sampled: 03/27/17
Date Received: 03/28/17
Percent Solids: 85.8

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
%solids							
Solids, Percent	85.8		%	1	03/28/17	SWT	SM2540G-2011 M
prep: DEPT.OF AG, BOOK N9							
Specific Conductivity	5830	1.0	umhos/cm	1	03/29/17	TJ	SM 2510B-2011 MOD
pH	9.09		su	1	03/29/17 11:30	TB	SW846 9045D

RL = Reporting Limit

4.11
4

Report of Analysis

Client Sample ID: 2-3.0
Lab Sample ID: D92419-6A
Matrix: SO - Soil
Project: Flessner

Date Sampled: 03/27/17
Date Received: 03/28/17
Percent Solids: 85.8

SAR Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By		Method	Prep Method
Calcium	72.1	2.0	mg/l	1	03/30/17	04/04/17	SB	SW846 6010C ¹	SW846 3010A/M ²
Magnesium	39.0	1.0	mg/l	1	03/30/17	04/04/17	SB	SW846 6010C ¹	SW846 3010A/M ²
Sodium	1080	2.0	mg/l	1	03/30/17	04/04/17	SB	SW846 6010C ¹	SW846 3010A/M ²

(1) Instrument QC Batch: MA8357
(2) Prep QC Batch: MP21240

RL = Reporting Limit

Report of Analysis

Client Sample ID:	2-3.0	Date Sampled:	03/27/17
Lab Sample ID:	D92419-6A	Date Received:	03/28/17
Matrix:	SO - Soil	Percent Solids:	85.8
Project:	Flessner		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Sodium Adsorption Ratio ^a	25.5		ratio	1	04/04/17 12:13	SB	USDA HANDBOOK 60

(a) Calculated as: (Na meq/L) / sqrt [(Ca meq/L)+ (Mg meq/L)/2]

RL = Reporting Limit

Report of Analysis

Client Sample ID: 3-0.5
Lab Sample ID: D92419-7
Matrix: SO - Soil
Project: Flessner

Date Sampled: 03/27/17
Date Received: 03/28/17
Percent Solids: 80.9

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
%solids							
Solids, Percent	80.9		%	1	03/28/17	SWT	SM2540G-2011 M
prep: DEPT.OF AG, BOOK N9							
Specific Conductivity	920	1.0	umhos/cm	1	03/29/17	TJ	SM 2510B-2011 MOD
pH	9.37		su	1	03/29/17 11:30	TB	SW846 9045D

RL = Reporting Limit

4.13
4

Report of Analysis

Client Sample ID:	3-0.5	Date Sampled:	03/27/17
Lab Sample ID:	D92419-7A	Date Received:	03/28/17
Matrix:	SO - Soil	Percent Solids:	80.9
Project:	Flessner		

SAR Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Calcium	6.00	2.0	mg/l	1	03/30/17	04/04/17 SB	SW846 6010C ¹	SW846 3010A/M ²
Magnesium	1.70	1.0	mg/l	1	03/30/17	04/04/17 SB	SW846 6010C ¹	SW846 3010A/M ²
Sodium	182	2.0	mg/l	1	03/30/17	04/04/17 SB	SW846 6010C ¹	SW846 3010A/M ²

(1) Instrument QC Batch: MA8357
(2) Prep QC Batch: MP21240

RL = Reporting Limit

Report of Analysis

Client Sample ID:	3-0.5	Date Sampled:	03/27/17
Lab Sample ID:	D92419-7A	Date Received:	03/28/17
Matrix:	SO - Soil	Percent Solids:	80.9
Project:	Flessner		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Sodium Adsorption Ratio ^a	16.9		ratio	1	04/04/17 12:20	SB	USDA HANDBOOK 60

(a) Calculated as: (Na meq/L) / sqrt [(Ca meq/L)+ (Mg meq/L)/2]

RL = Reporting Limit

Report of Analysis

Client Sample ID:	3-1.5	Date Sampled:	03/27/17
Lab Sample ID:	D92419-8	Date Received:	03/28/17
Matrix:	SO - Soil	Percent Solids:	85.7
Project:	Flessner		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
%solids							
Solids, Percent	85.7		%	1	03/28/17	SWT	SM2540G-2011 M
prep: DEPT.OF AG, BOOK N9							
Specific Conductivity	3210	1.0	umhos/cm	1	03/29/17	TJ	SM 2510B-2011 MOD
pH	9.73		su	1	03/29/17 11:30	TB	SW846 9045D

RL = Reporting Limit

4.15
4

Report of Analysis

Client Sample ID: 3-1.5
Lab Sample ID: D92419-8A
Matrix: SO - Soil
Project: Flessner

Date Sampled: 03/27/17
Date Received: 03/28/17
Percent Solids: 85.7

SAR Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Calcium	22.8	2.0	mg/l	1	03/30/17	04/04/17 SB	SW846 6010C ¹	SW846 3010A/M ²
Magnesium	6.18	1.0	mg/l	1	03/30/17	04/04/17 SB	SW846 6010C ¹	SW846 3010A/M ²
Sodium	638	2.0	mg/l	1	03/30/17	04/04/17 SB	SW846 6010C ¹	SW846 3010A/M ²

(1) Instrument QC Batch: MA8357
(2) Prep QC Batch: MP21240

RL = Reporting Limit

4.16
4

Report of Analysis

Client Sample ID:	3-1.5	Date Sampled:	03/27/17
Lab Sample ID:	D92419-8A	Date Received:	03/28/17
Matrix:	SO - Soil	Percent Solids:	85.7
Project:	Flessner		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Sodium Adsorption Ratio ^a	30.6		ratio	1	04/04/17 12:26	SB	USDA HANDBOOK 60

(a) Calculated as: (Na meq/L) / sqrt [(Ca meq/L)+ (Mg meq/L)/2]

RL = Reporting Limit

4.16
4

Report of Analysis

Client Sample ID: 3-3.0
Lab Sample ID: D92419-9
Matrix: SO - Soil
Project: Flessner

Date Sampled: 03/27/17
Date Received: 03/28/17
Percent Solids: 86.9

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
%solids							
Solids, Percent	86.9		%	1	03/28/17	SWT	SM2540G-2011 M
prep: DEPT.OF AG, BOOK N9							
Specific Conductivity	3270	1.0	umhos/cm	1	03/29/17	TJ	SM 2510B-2011 MOD
pH	9.55		su	1	03/29/17 11:30	TB	SW846 9045D

RL = Reporting Limit

Report of Analysis

Client Sample ID: 3-3.0
Lab Sample ID: D92419-9A
Matrix: SO - Soil
Project: Flessner

Date Sampled: 03/27/17
Date Received: 03/28/17
Percent Solids: 86.9

SAR Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By		Method	Prep Method
Calcium	30.1	2.0	mg/l	1	03/30/17	04/04/17	SB	SW846 6010C ¹	SW846 3010A/M ²
Magnesium	12.9	1.0	mg/l	1	03/30/17	04/04/17	SB	SW846 6010C ¹	SW846 3010A/M ²
Sodium	606	2.0	mg/l	1	03/30/17	04/04/17	SB	SW846 6010C ¹	SW846 3010A/M ²

(1) Instrument QC Batch: MA8357
(2) Prep QC Batch: MP21240

RL = Reporting Limit

4.18
4

Report of Analysis

Client Sample ID:	3-3.0	Date Sampled:	03/27/17
Lab Sample ID:	D92419-9A	Date Received:	03/28/17
Matrix:	SO - Soil	Percent Solids:	86.9
Project:	Flessner		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Sodium Adsorption Ratio ^a	23.3		ratio	1	04/04/17 12:33	SB	USDA HANDBOOK 60

(a) Calculated as: (Na meq/L) / sqrt [(Ca meq/L)+ (Mg meq/L)/2]

RL = Reporting Limit

4.18
4

Report of Analysis

Client Sample ID:	4-0.5	Date Sampled:	03/27/17
Lab Sample ID:	D92419-10	Date Received:	03/28/17
Matrix:	SO - Soil	Percent Solids:	82.3
Project:	Flessner		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
%solids							
Solids, Percent	82.3		%	1	03/30/17	SWT	SM2540G-2011 M
prep: DEPT.OF AG, BOOK N9							
Specific Conductivity	1100	1.0	umhos/cm	1	03/29/17	TJ	SM 2510B-2011 MOD
pH	9.01		su	1	03/29/17 11:30	TB	SW846 9045D

RL = Reporting Limit

4.19
4

Report of Analysis

Client Sample ID: 4-0.5
Lab Sample ID: D92419-10A
Matrix: SO - Soil
Project: Flessner

Date Sampled: 03/27/17
Date Received: 03/28/17
Percent Solids: 82.3

SAR Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Calcium	9.09	2.0	mg/l	1	03/30/17	04/04/17 SB	SW846 6010C ¹	SW846 3010A/M ²
Magnesium	8.80	1.0	mg/l	1	03/30/17	04/04/17 SB	SW846 6010C ¹	SW846 3010A/M ²
Sodium	225	2.0	mg/l	1	03/30/17	04/04/17 SB	SW846 6010C ¹	SW846 3010A/M ²

(1) Instrument QC Batch: MA8357
(2) Prep QC Batch: MP21240

RL = Reporting Limit

Report of Analysis

Client Sample ID:	4-0.5	Date Sampled:	03/27/17
Lab Sample ID:	D92419-10A	Date Received:	03/28/17
Matrix:	SO - Soil	Percent Solids:	82.3
Project:	Flessner		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Sodium Adsorption Ratio ^a	12.8		ratio	1	04/04/17 12:39	SB	USDA HANDBOOK 60

(a) Calculated as: (Na meq/L) / sqrt [(Ca meq/L)+ (Mg meq/L)/2]

RL = Reporting Limit

Report of Analysis

Client Sample ID:	4-1.5	Date Sampled:	03/27/17
Lab Sample ID:	D92419-11	Date Received:	03/28/17
Matrix:	SO - Soil	Percent Solids:	86.8
Project:	Flessner		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
%solids							
Solids, Percent	86.8		%	1	03/30/17	SWT	SM2540G-2011 M
prep: DEPT.OF AG, BOOK N9							
Specific Conductivity ^a	2600	1.0	umhos/cm	1	03/31/17	TJ	SM 2510B-2011 MOD
pH	9.54		su	1	03/29/17 11:30	TB	SW846 9045D

(a) Result equivalent to 2.60 mmhos/cm

RL = Reporting Limit

Report of Analysis

Client Sample ID: 4-1.5
Lab Sample ID: D92419-11A
Matrix: SO - Soil
Project: Flessner

Date Sampled: 03/27/17
Date Received: 03/28/17
Percent Solids: 86.8

SAR Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Calcium	12.3	2.0	mg/l	1	03/31/17	04/04/17 SB	SW846 6010C ¹	SW846 3010A/M ²
Magnesium	3.15	1.0	mg/l	1	03/31/17	04/04/17 SB	SW846 6010C ¹	SW846 3010A/M ²
Sodium	523	2.0	mg/l	1	03/31/17	04/04/17 SB	SW846 6010C ¹	SW846 3010A/M ²

(1) Instrument QC Batch: MA8357
(2) Prep QC Batch: MP21285

RL = Reporting Limit

Report of Analysis

Client Sample ID:	4-1.5	Date Sampled:	03/27/17
Lab Sample ID:	D92419-11A	Date Received:	03/28/17
Matrix:	SO - Soil	Percent Solids:	86.8
Project:	Flessner		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Sodium Adsorption Ratio ^a	34.4		ratio	1	04/04/17 13:00	SB	USDA HANDBOOK 60

(a) Calculated as: (Na meq/L) / sqrt [(Ca meq/L)+ (Mg meq/L)/2]

RL = Reporting Limit

Report of Analysis

Client Sample ID:	4-3.0	Date Sampled:	03/27/17
Lab Sample ID:	D92419-12	Date Received:	03/28/17
Matrix:	SO - Soil	Percent Solids:	88.3
Project:	Flessner		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
%solids							
Solids, Percent	88.3		%	1	03/30/17	SWT	SM2540G-2011 M
prep: DEPT.OF AG, BOOK N9							
Specific Conductivity ^a	2750	1.0	umhos/cm	1	03/31/17	TJ	SM 2510B-2011 MOD
pH	9.52		su	1	03/29/17 11:30	TB	SW846 9045D

(a) Result equivalent to 2.75 mmhos/cm

RL = Reporting Limit

Report of Analysis

Client Sample ID:	4-3.0	Date Sampled:	03/27/17
Lab Sample ID:	D92419-12A	Date Received:	03/28/17
Matrix:	SO - Soil	Percent Solids:	88.3
Project:	Flessner		

SAR Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Calcium	24.2	2.0	mg/l	1	03/31/17	04/04/17 SB	SW846 6010C ¹	SW846 3010A/M ²
Magnesium	9.43	1.0	mg/l	1	03/31/17	04/04/17 SB	SW846 6010C ¹	SW846 3010A/M ²
Sodium	511	2.0	mg/l	1	03/31/17	04/04/17 SB	SW846 6010C ¹	SW846 3010A/M ²

(1) Instrument QC Batch: MA8357
(2) Prep QC Batch: MP21285

RL = Reporting Limit

Report of Analysis

Client Sample ID:	4-3.0	Date Sampled:	03/27/17
Lab Sample ID:	D92419-12A	Date Received:	03/28/17
Matrix:	SO - Soil	Percent Solids:	88.3
Project:	Flessner		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Sodium Adsorption Ratio ^a	22.3		ratio	1	04/04/17 13:47	SB	USDA HANDBOOK 60

(a) Calculated as: (Na meq/L) / sqrt [(Ca meq/L)+ (Mg meq/L)/2]

RL = Reporting Limit

Report of Analysis

Client Sample ID:	BG-2	Date Sampled:	03/27/17
Lab Sample ID:	D92419-13	Date Received:	03/28/17
Matrix:	SO - Soil	Percent Solids:	85.5
Project:	Flessner		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
%solids							
Solids, Percent	85.5		%	1	03/30/17	SWT	SM2540G-2011 M
prep: DEPT.OF AG, BOOK N9							
Specific Conductivity ^a	205	1.0	umhos/cm	1	03/31/17	TJ	SM 2510B-2011 MOD
pH	8.28		su	1	03/29/17 11:30	TB	SW846 9045D

(a) Result equivalent to 0.21 mmhos/cm

RL = Reporting Limit

Report of Analysis

Client Sample ID:	BG-2	Date Sampled:	03/27/17
Lab Sample ID:	D92419-13A	Date Received:	03/28/17
Matrix:	SO - Soil	Percent Solids:	85.5
Project:	Flessner		

SAR Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Calcium	20.8	2.0	mg/l	1	03/31/17	04/04/17 SB	SW846 6010C ¹	SW846 3010A/M ²
Magnesium	5.69	1.0	mg/l	1	03/31/17	04/04/17 SB	SW846 6010C ¹	SW846 3010A/M ²
Sodium	12.2	2.0	mg/l	1	03/31/17	04/04/17 SB	SW846 6010C ¹	SW846 3010A/M ²

(1) Instrument QC Batch: MA8357
(2) Prep QC Batch: MP21285

RL = Reporting Limit

Report of Analysis

Client Sample ID: BG-2
Lab Sample ID: D92419-13A
Matrix: SO - Soil
Project: Flessner

Date Sampled: 03/27/17
Date Received: 03/28/17
Percent Solids: 85.5

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Sodium Adsorption Ratio ^a	0.611		ratio	1	04/04/17 13:54	SB	USDA HANDBOOK 60

(a) Calculated as: (Na meq/L) / sqrt [(Ca meq/L)+ (Mg meq/L)/2]

RL = Reporting Limit

Report of Analysis

Client Sample ID: 5-0.5
Lab Sample ID: D92419-14
Matrix: SO - Soil
Project: Flessner

Date Sampled: 03/27/17
Date Received: 03/28/17
Percent Solids: 85.5

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
%solids							
Solids, Percent	85.5		%	1	03/30/17	SWT	SM2540G-2011 M
prep: DEPT.OF AG, BOOK N9							
Specific Conductivity ^a	3080	1.0	umhos/cm	1	03/31/17	TJ	SM 2510B-2011 MOD
pH	9.18		su	1	03/29/17 11:30	TB	SW846 9045D

(a) Result equivalent to 3.08 mmhos/cm

RL = Reporting Limit

4.27
4

Report of Analysis

Client Sample ID:	5-0.5	Date Sampled:	03/27/17
Lab Sample ID:	D92419-14A	Date Received:	03/28/17
Matrix:	SO - Soil	Percent Solids:	85.5
Project:	Flessner		

SAR Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Calcium	22.5	2.0	mg/l	1	03/31/17	04/04/17 SB	SW846 6010C ¹	SW846 3010A/M ²
Magnesium	14.4	1.0	mg/l	1	03/31/17	04/04/17 SB	SW846 6010C ¹	SW846 3010A/M ²
Sodium	651	2.0	mg/l	1	03/31/17	04/04/17 SB	SW846 6010C ¹	SW846 3010A/M ²

(1) Instrument QC Batch: MA8357
(2) Prep QC Batch: MP21285

RL = Reporting Limit

4.28
4

Report of Analysis

Client Sample ID: 5-0.5
Lab Sample ID: D92419-14A
Matrix: SO - Soil
Project: Flessner

Date Sampled: 03/27/17
Date Received: 03/28/17
Percent Solids: 85.5

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Sodium Adsorption Ratio ^a	26.4		ratio	1	04/04/17 14:00	SB	USDA HANDBOOK 60

(a) Calculated as: (Na meq/L) / sqrt [(Ca meq/L)+ (Mg meq/L)/2]

RL = Reporting Limit

Report of Analysis

Client Sample ID: 5-1.5
Lab Sample ID: D92419-15
Matrix: SO - Soil
Project: Flessner

Date Sampled: 03/27/17
Date Received: 03/28/17
Percent Solids: 88.1

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
%solids							
Solids, Percent	88.1		%	1	03/30/17	SWT	SM2540G-2011 M
prep: DEPT.OF AG, BOOK N9							
Specific Conductivity ^a	4700	1.0	umhos/cm	1	03/31/17	TJ	SM 2510B-2011 MOD
pH	8.99		su	1	03/29/17 11:30	TB	SW846 9045D

(a) Result equivalent to 4.70 mmhos/cm

RL = Reporting Limit

4.29
4

Report of Analysis

Client Sample ID: 5-1.5
Lab Sample ID: D92419-15A
Matrix: SO - Soil
Project: Flessner

Date Sampled: 03/27/17
Date Received: 03/28/17
Percent Solids: 88.1

SAR Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Calcium	119	2.0	mg/l	1	03/31/17	04/04/17 SB	SW846 6010C ¹	SW846 3010A/M ²
Magnesium	77.2	1.0	mg/l	1	03/31/17	04/04/17 SB	SW846 6010C ¹	SW846 3010A/M ²
Sodium	820	2.0	mg/l	1	03/31/17	04/04/17 SB	SW846 6010C ¹	SW846 3010A/M ²

(1) Instrument QC Batch: MA8357
(2) Prep QC Batch: MP21285

RL = Reporting Limit

Report of Analysis

Client Sample ID:	5-1.5	Date Sampled:	03/27/17
Lab Sample ID:	D92419-15A	Date Received:	03/28/17
Matrix:	SO - Soil	Percent Solids:	88.1
Project:	Flessner		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Sodium Adsorption Ratio ^a	14.4		ratio	1	04/04/17 14:07	SB	USDA HANDBOOK 60

(a) Calculated as: (Na meq/L) / sqrt [(Ca meq/L)+ (Mg meq/L)/2]

RL = Reporting Limit

4.30
4

Report of Analysis

Client Sample ID: 5-3.0
Lab Sample ID: D92419-16
Matrix: SO - Soil
Project: Flessner

Date Sampled: 03/27/17
Date Received: 03/28/17
Percent Solids: 89.0

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
%solids							
Solids, Percent	89		%	1	03/30/17	SWT	SM2540G-2011 M
prep: DEPT.OF AG, BOOK N9							
Specific Conductivity ^a	3590	1.0	umhos/cm	1	03/31/17	TJ	SM 2510B-2011 MOD
pH	8.64		su	1	03/29/17 11:30	TB	SW846 9045D

(a) Result equivalent to 3.59 mmhos/cm

RL = Reporting Limit

Report of Analysis

Client Sample ID: 5-3.0
Lab Sample ID: D92419-16A
Matrix: SO - Soil
Project: Flessner

Date Sampled: 03/27/17
Date Received: 03/28/17
Percent Solids: 89.0

SAR Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Calcium	227	2.0	mg/l	1	03/31/17	04/04/17 SB	SW846 6010C ¹	SW846 3010A/M ²
Magnesium	92.8	1.0	mg/l	1	03/31/17	04/04/17 SB	SW846 6010C ¹	SW846 3010A/M ²
Sodium	447	2.0	mg/l	1	03/31/17	04/04/17 SB	SW846 6010C ¹	SW846 3010A/M ²

(1) Instrument QC Batch: MA8357
(2) Prep QC Batch: MP21285

RL = Reporting Limit

Report of Analysis

Client Sample ID:	5-3.0	Date Sampled:	03/27/17
Lab Sample ID:	D92419-16A	Date Received:	03/28/17
Matrix:	SO - Soil	Percent Solids:	89.0
Project:	Flessner		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Sodium Adsorption Ratio ^a	6.31		ratio	1	04/04/17 14:13	SB	USDA HANDBOOK 60

(a) Calculated as: (Na meq/L) / sqrt [(Ca meq/L)+ (Mg meq/L)/2]

RL = Reporting Limit

Report of Analysis

Client Sample ID: 6-0.5
Lab Sample ID: D92419-17
Matrix: SO - Soil
Project: Flessner

Date Sampled: 03/27/17
Date Received: 03/28/17
Percent Solids: 88.1

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
%solids							
Solids, Percent	88.1		%	1	03/30/17	SWT	SM2540G-2011 M
prep: DEPT.OF AG, BOOK N9							
Specific Conductivity ^a	298	1.0	umhos/cm	1	03/31/17	TJ	SM 2510B-2011 MOD
pH	9.51		su	1	03/29/17 11:30	TB	SW846 9045D

(a) Result equivalent to 0.30 mmhos/cm

RL = Reporting Limit

Report of Analysis

Client Sample ID:	6-0.5	Date Sampled:	03/27/17
Lab Sample ID:	D92419-17A	Date Received:	03/28/17
Matrix:	SO - Soil	Percent Solids:	88.1
Project:	Flessner		

SAR Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Calcium	2.85	2.0	mg/l	1	03/31/17	04/04/17 SB	SW846 6010C ¹	SW846 3010A/M ²
Magnesium	2.54	1.0	mg/l	1	03/31/17	04/04/17 SB	SW846 6010C ¹	SW846 3010A/M ²
Sodium	68.9	2.0	mg/l	1	03/31/17	04/04/17 SB	SW846 6010C ¹	SW846 3010A/M ²

(1) Instrument QC Batch: MA8357
(2) Prep QC Batch: MP21285

RL = Reporting Limit

Report of Analysis

Client Sample ID:	6-0.5	Date Sampled:	03/27/17
Lab Sample ID:	D92419-17A	Date Received:	03/28/17
Matrix:	SO - Soil	Percent Solids:	88.1
Project:	Flessner		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Sodium Adsorption Ratio ^a	7.15		ratio	1	04/04/17 14:20	SB	USDA HANDBOOK 60

(a) Calculated as: (Na meq/L) / sqrt [(Ca meq/L)+ (Mg meq/L)/2]

RL = Reporting Limit

Report of Analysis

Client Sample ID:	6-1.5	Date Sampled:	03/27/17
Lab Sample ID:	D92419-18	Date Received:	03/28/17
Matrix:	SO - Soil	Percent Solids:	86.6
Project:	Flessner		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
%solids							
Solids, Percent	86.6		%	1	03/30/17	SWT	SM2540G-2011 M
prep: DEPT.OF AG, BOOK N9							
Specific Conductivity ^a	1500	1.0	umhos/cm	1	03/31/17	TJ	SM 2510B-2011 MOD
pH	8.88		su	1	03/29/17 11:30	TB	SW846 9045D

(a) Result equivalent to 1.50 mmhos/cm

RL = Reporting Limit

Report of Analysis

Client Sample ID:	6-1.5	Date Sampled:	03/27/17
Lab Sample ID:	D92419-18A	Date Received:	03/28/17
Matrix:	SO - Soil	Percent Solids:	86.6
Project:	Flessner		

SAR Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Calcium	45.7	2.0	mg/l	1	03/31/17	04/04/17 SB	SW846 6010C ¹	SW846 3010A/M ²
Magnesium	13.7	1.0	mg/l	1	03/31/17	04/04/17 SB	SW846 6010C ¹	SW846 3010A/M ²
Sodium	258	2.0	mg/l	1	03/31/17	04/04/17 SB	SW846 6010C ¹	SW846 3010A/M ²

(1) Instrument QC Batch: MA8357
(2) Prep QC Batch: MP21285

RL = Reporting Limit

Report of Analysis

Client Sample ID:	6-1.5	Date Sampled:	03/27/17
Lab Sample ID:	D92419-18A	Date Received:	03/28/17
Matrix:	SO - Soil	Percent Solids:	86.6
Project:	Flessner		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Sodium Adsorption Ratio ^a	8.59		ratio	1	04/04/17 14:27	SB	USDA HANDBOOK 60

(a) Calculated as: (Na meq/L) / sqrt [(Ca meq/L)+ (Mg meq/L)/2]

RL = Reporting Limit

Report of Analysis

Client Sample ID: 6-3.0
Lab Sample ID: D92419-19
Matrix: SO - Soil
Project: Flessner

Date Sampled: 03/27/17
Date Received: 03/28/17
Percent Solids: 85.8

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
%solids							
Solids, Percent	85.8		%	1	03/30/17	SWT	SM2540G-2011 M
prep: DEPT.OF AG, BOOK N9							
Specific Conductivity ^a	3510	1.0	umhos/cm	1	03/31/17	TJ	SM 2510B-2011 MOD
pH	8.13		su	1	03/29/17 11:30	TB	SW846 9045D

(a) Result equivalent to 3.51 mmhos/cm

RL = Reporting Limit

4.37
4

Report of Analysis

Client Sample ID:	6-3.0	Date Sampled:	03/27/17
Lab Sample ID:	D92419-19A	Date Received:	03/28/17
Matrix:	SO - Soil	Percent Solids:	85.8
Project:	Flessner		

SAR Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Calcium	263	2.0	mg/l	1	03/31/17	04/04/17 SB	SW846 6010C ¹	SW846 3010A/M ²
Magnesium	110	1.0	mg/l	1	03/31/17	04/04/17 SB	SW846 6010C ¹	SW846 3010A/M ²
Sodium	227	2.0	mg/l	1	03/31/17	04/04/17 SB	SW846 6010C ¹	SW846 3010A/M ²

(1) Instrument QC Batch: MA8357
(2) Prep QC Batch: MP21285

RL = Reporting Limit

Report of Analysis

Client Sample ID:	6-3.0	Date Sampled:	03/27/17
Lab Sample ID:	D92419-19A	Date Received:	03/28/17
Matrix:	SO - Soil	Percent Solids:	85.8
Project:	Flessner		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Sodium Adsorption Ratio ^a	2.96		ratio	1	04/04/17 14:34	SB	USDA HANDBOOK 60

(a) Calculated as: (Na meq/L) / sqrt [(Ca meq/L)+ (Mg meq/L)/2]

RL = Reporting Limit

Report of Analysis

Client Sample ID: BG-1
Lab Sample ID: D92419-20
Matrix: SO - Soil
Project: Flessner

Date Sampled: 03/27/17
Date Received: 03/28/17
Percent Solids: 84.8

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
%solids							
Solids, Percent	84.8		%	1	03/30/17	SWT	SM2540G-2011 M
prep: DEPT.OF AG, BOOK N9							
Specific Conductivity ^a	61.9	1.0	umhos/cm	1	03/31/17	TJ	SM 2510B-2011 MOD
pH	8.13		su	1	03/29/17 11:30	TB	SW846 9045D

(a) Result equivalent to 0.06 mmhos/cm

RL = Reporting Limit

Report of Analysis

Client Sample ID: BG-1
Lab Sample ID: D92419-20A
Matrix: SO - Soil
Project: Flessner

Date Sampled: 03/27/17
Date Received: 03/28/17
Percent Solids: 84.8

SAR Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Calcium	< 2.0	2.0	mg/l	1	03/31/17	04/04/17 SB	SW846 6010C ¹	SW846 3010A/M ²
Magnesium	1.79	1.0	mg/l	1	03/31/17	04/04/17 SB	SW846 6010C ¹	SW846 3010A/M ²
Sodium	13.0	2.0	mg/l	1	03/31/17	04/04/17 SB	SW846 6010C ¹	SW846 3010A/M ²

(1) Instrument QC Batch: MA8357
(2) Prep QC Batch: MP21285

RL = Reporting Limit

Report of Analysis

Client Sample ID:	BG-1	Date Sampled:	03/27/17
Lab Sample ID:	D92419-20A	Date Received:	03/28/17
Matrix:	SO - Soil	Percent Solids:	84.8
Project:	Flessner		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Sodium Adsorption Ratio ^a	1.64		ratio	1	04/04/17 14:40	SB	USDA HANDBOOK 60

(a) Calculated as: (Na meq/L) / sqrt [(Ca meq/L)+ (Mg meq/L)/2]

RL = Reporting Limit

Misc. Forms

5

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody



ACCUTEST

CHAIN OF CUSTODY

PAGE 1 OF 2

4036 Youngfield Street, Wheat Ridge, CO 80033
TEL: 303-425-6021 FAX: 303-425-6854
www.accutest.com

FED-EX Tracking #	Bottle Order Control #
SGS Accutest Quote #	SGS Accutest Job #

Client / Reporting Information		Project Information		Requested Analyte (see TEST CODE sheet)										Matrix Codes																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
Company Name	AG Wassenaar	Project Name	A.G. Wassenaar / FLESSNER											DW - Drinking Water GW - Ground Water WW - Water SW - Surface Water SO - Soil SL - Sludge SED - Sediment OI - Oil LIQ - Other Liquid AIR - Air SOL - Other Solid WP - Wipe FB-Field Blank EB-Equipment Blank RB- Rinse Blank TB-Trip Blank																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
Street Address	210 S. Ivanhoe St	Street																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
City	Denver 80222	City, State																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
Project Contact	Devin Hazelwood	Project #	E13236																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
Phone #		Client Purchase Order #	E13236																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
Email	petersenr@agwco.com	City, State ZIP																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
Sample(s) Name(s)	Devin Hazelwood	Project Manager	Rachid Petersen																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
SGS Accutest Sample #	Field ID / Point of Collection	MEQH/DI Val #	Date	Time	Sampled by	Matrix	# of bottles	Number of preserved bottles										LAB USE ONLY																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
	1-0.5		3-27-17	12:35	DEH	SO	1	HC	PH	PCB3	PCB4	PCB5	PCB6	PCB7	PCB8	PCB9	PCB10	PCB11	PCB12	PCB13	PCB14	PCB15	PCB16	PCB17	PCB18	PCB19	PCB20	PCB21	PCB22	PCB23	PCB24	PCB25	PCB26	PCB27	PCB28	PCB29	PCB30	PCB31	PCB32	PCB33	PCB34	PCB35	PCB36	PCB37	PCB38	PCB39	PCB40	PCB41	PCB42	PCB43	PCB44	PCB45	PCB46	PCB47	PCB48	PCB49	PCB50	PCB51	PCB52	PCB53	PCB54	PCB55	PCB56	PCB57	PCB58	PCB59	PCB60	PCB61	PCB62	PCB63	PCB64	PCB65	PCB66	PCB67	PCB68	PCB69	PCB70	PCB71	PCB72	PCB73	PCB74	PCB75	PCB76	PCB77	PCB78	PCB79	PCB80	PCB81	PCB82	PCB83	PCB84	PCB85	PCB86	PCB87	PCB88	PCB89	PCB90	PCB91	PCB92	PCB93	PCB94	PCB95	PCB96	PCB97	PCB98	PCB99	PCB100	PCB101	PCB102	PCB103	PCB104	PCB105	PCB106	PCB107	PCB108	PCB109	PCB110	PCB111	PCB112	PCB113	PCB114	PCB115	PCB116	PCB117	PCB118	PCB119	PCB120	PCB121	PCB122	PCB123	PCB124	PCB125	PCB126	PCB127	PCB128	PCB129	PCB130	PCB131	PCB132	PCB133	PCB134	PCB135	PCB136	PCB137	PCB138	PCB139	PCB140	PCB141	PCB142	PCB143	PCB144	PCB145	PCB146	PCB147	PCB148	PCB149	PCB150	PCB151	PCB152	PCB153	PCB154	PCB155	PCB156	PCB157	PCB158	PCB159	PCB160	PCB161	PCB162	PCB163	PCB164	PCB165	PCB166	PCB167	PCB168	PCB169	PCB170	PCB171	PCB172	PCB173	PCB174	PCB175	PCB176	PCB177	PCB178	PCB179	PCB180	PCB181	PCB182	PCB183	PCB184	PCB185	PCB186	PCB187	PCB188	PCB189	PCB190	PCB191	PCB192	PCB193	PCB194	PCB195	PCB196	PCB197	PCB198	PCB199	PCB200	PCB201	PCB202	PCB203	PCB204	PCB205	PCB206	PCB207	PCB208	PCB209	PCB210	PCB211	PCB212	PCB213	PCB214	PCB215	PCB216	PCB217	PCB218	PCB219	PCB220	PCB221	PCB222	PCB223	PCB224	PCB225	PCB226	PCB227	PCB228	PCB229	PCB230	PCB231	PCB232	PCB233	PCB234	PCB235	PCB236	PCB237	PCB238	PCB239	PCB240	PCB241	PCB242	PCB243	PCB244	PCB245	PCB246	PCB247	PCB248	PCB249	PCB250	PCB251	PCB252	PCB253	PCB254	PCB255	PCB256	PCB257	PCB258	PCB259	PCB260	PCB261	PCB262	PCB263	PCB264	PCB265	PCB266	PCB267	PCB268	PCB269	PCB270	PCB271	PCB272	PCB273	PCB274	PCB275	PCB276	PCB277	PCB278	PCB279	PCB280	PCB281	PCB282	PCB283	PCB284	PCB285	PCB286	PCB287	PCB288	PCB289	PCB290	PCB291	PCB292	PCB293	PCB294	PCB295	PCB296	PCB297	PCB298	PCB299	PCB300	PCB301	PCB302	PCB303	PCB304	PCB305	PCB306	PCB307	PCB308	PCB309	PCB310	PCB311	PCB312	PCB313	PCB314	PCB315	PCB316	PCB317	PCB318	PCB319	PCB320	PCB321	PCB322	PCB323	PCB324	PCB325	PCB326	PCB327	PCB328	PCB329	PCB330	PCB331	PCB332	PCB333	PCB334	PCB335	PCB336	PCB337	PCB338	PCB339	PCB340	PCB341	PCB342	PCB343	PCB344	PCB345	PCB346	PCB347	PCB348	PCB349	PCB350	PCB351	PCB352	PCB353	PCB354	PCB355	PCB356	PCB357	PCB358	PCB359	PCB360	PCB361	PCB362	PCB363	PCB364	PCB365	PCB366	PCB367	PCB368	PCB369	PCB370	PCB371	PCB372	PCB373	PCB374	PCB375	PCB376	PCB377	PCB378	PCB379	PCB380	PCB381	PCB382	PCB383	PCB384	PCB385	PCB386	PCB387	PCB388	PCB389	PCB390	PCB391	PCB392	PCB393	PCB394	PCB395	PCB396	PCB397	PCB398	PCB399	PCB400	PCB401	PCB402	PCB403	PCB404	PCB405	PCB406	PCB407	PCB408	PCB409	PCB410	PCB411	PCB412	PCB413	PCB414	PCB415	PCB416	PCB417	PCB418	PCB419	PCB420	PCB421	PCB422	PCB423	PCB424	PCB425	PCB426	PCB427	PCB428	PCB429	PCB430	PCB431	PCB432	PCB433	PCB434	PCB435	PCB436	PCB437	PCB438	PCB439	PCB440	PCB441	PCB442	PCB443	PCB444	PCB445	PCB446	PCB447	PCB448	PCB449	PCB450	PCB451	PCB452	PCB453	PCB454	PCB455	PCB456	PCB457	PCB458	PCB459	PCB460	PCB461	PCB462	PCB463	PCB464	PCB465	PCB466	PCB467	PCB468	PCB469	PCB470	PCB471	PCB472	PCB473	PCB474	PCB475	PCB476	PCB477	PCB478	PCB479	PCB480	PCB481	PCB482	PCB483	PCB484	PCB485	PCB486	PCB487	PCB488	PCB489	PCB490	PCB491	PCB492	PCB493	PCB494	PCB495	PCB496	PCB497	PCB498	PCB499	PCB500	PCB501	PCB502	PCB503	PCB504	PCB505	PCB506	PCB507	PCB508	PCB509	PCB510	PCB511	PCB512	PCB513	PCB514	PCB515	PCB516	PCB517	PCB518	PCB519	PCB520	PCB521	PCB522	PCB523	PCB524	PCB525	PCB526	PCB527	PCB528	PCB529	PCB530	PCB531	PCB532	PCB533	PCB534	PCB535	PCB536	PCB537	PCB538	PCB539	PCB540	PCB541	PCB542	PCB543	PCB544	PCB545	PCB546	PCB547	PCB548	PCB549	PCB550	PCB551	PCB552	PCB553	PCB554	PCB555	PCB556	PCB557	PCB558	PCB559	PCB560	PCB561	PCB562	PCB563	PCB564	PCB565	PCB566	PCB567	PCB568	PCB569	PCB570	PCB571	PCB572	PCB573	PCB574	PCB575	PCB576	PCB577	PCB578	PCB579	PCB580	PCB581	PCB582	PCB583	PCB584	PCB585	PCB586	PCB587	PCB588	PCB589	PCB590	PCB591	PCB592	PCB593	PCB594	PCB595	PCB596	PCB597	PCB598	PCB599	PCB600	PCB601	PCB602	PCB603	PCB604	PCB605	PCB606	PCB607	PCB608	PCB609	PCB610	PCB611	PCB612	PCB613	PCB614	PCB615	PCB616	PCB617	PCB618	PCB619	PCB620	PCB621	PCB622	PCB623	PCB624	PCB625	PCB626	PCB627	PCB628	PCB629	PCB630	PCB631	PCB632	PCB633	PCB634	PCB635	PCB636	PCB637	PCB638	PCB639	PCB640	PCB641	PCB642	PCB643	PCB644	PCB645	PCB646	PCB647	PCB648	PCB649	PCB650	PCB651	PCB652	PCB653	PCB654	PCB655	PCB656	PCB657	PCB658	PCB659	PCB660	PCB661	PCB662	PCB663	PCB664	PCB665	PCB666	PCB667	PCB668	PCB669	PCB670	PCB671	PCB672	PCB673	PCB674	PCB675	PCB676	PCB677	PCB678	PCB679	PCB680	PCB681	PCB682	PCB683	PCB684	PCB685	PCB686	PCB687	PCB688	PCB689	PCB690	PCB691	PCB692	PCB693	PCB694	PCB695	PCB696	PCB697	PCB698	PCB699	PCB700	PCB701	PCB702	PCB703	PCB704	PCB705	PCB706	PCB707	PCB708	PCB709	PCB710	PCB711	PCB712	PCB713	PCB714	PCB715	PCB716	PCB717	PCB718	PCB719	PCB720	PCB721	PCB722	PCB723	PCB724	PCB725	PCB726	PCB727	PCB728	PCB729	PCB730	PCB731	PCB732	PCB733	PCB734	PCB735	PCB736	PCB737	PCB738	PCB739	PCB740	PCB741	PCB742	PCB743	PCB744	PCB745	PCB746	PCB747	PCB748	PCB749	PCB750	PCB751	PCB752	PCB753	PCB754	PCB755	PCB756	PCB757	PCB758	PCB759	PCB760	PCB761	PCB762	PCB763	PCB764	PCB765	PCB766	PCB767	PCB768	PCB769	PCB770	PCB771	PCB772	PCB773	PCB774	PCB775	PCB776	PCB777	PCB778	PCB779	PCB780	PCB781	PCB782	PCB783	PCB784	PCB785	PCB786	PCB787	PCB788	PCB789	PCB790	PCB791	PCB792	PCB793	PCB794	PCB795	PCB796	PCB797	PCB798	PCB799	PCB800	PCB801	PCB802	PCB803	PCB804	PCB805	PCB806	PCB807	PCB808	PCB809	PCB810	PCB811	PCB812	PCB813	PCB814	PCB815	PCB816	PCB817	PCB818	PCB819	PCB820	PCB821	PCB822	PCB823	PCB824	PCB825	PCB826	PCB827	PCB828	PCB829	PCB830	PCB831	PCB832	PCB833	PCB834	PCB835	PCB836	PCB837	PCB838	PCB839	PCB840	PCB841	PCB842	PCB843	PCB844	PCB845	PCB846	PCB847	PCB848	PCB849	PCB850	PCB851	PCB852	PCB853	PCB854	PCB855	PCB856	PCB857	PCB858	PCB859	PCB860	PCB861	PCB862	PCB863	PCB864	PCB865	PCB866	PCB867	PCB868	PCB869	PCB870	PCB871	PCB872	PCB873	PCB874	PCB875	PCB876	PCB877	PCB878	PCB879	PCB880	PCB881	PCB882	PCB883	PCB884	PCB885	PCB886	PCB887	PCB888	PCB889	PCB890	PCB891	PCB892	PCB893	PCB894	PCB895	PCB896	PCB897	PCB898	PCB899	PCB900	PCB901	PCB902	PCB903	PCB904	PCB905	PCB906	PCB907	PCB908	PCB909	PCB910	PCB911	PCB912	PCB913	PCB914	PCB915	PCB916	PCB917	PCB918	PCB919	PCB920	PCB921	PCB922	PCB923	PCB924	PCB925	PCB926	PCB927	PCB928	PCB929	PCB930	PCB931	PCB932	PCB933	PCB934	PCB935	PCB936	PCB937	PCB938	PCB939	PCB940	PCB941	PCB942	PCB943	PCB944	PCB945	PCB946	PCB947	PCB948	PCB949	PCB950	PCB951	PCB952	PCB953	PCB954	PCB955	PCB956	PCB957	PCB958	PCB959	PCB960	PCB961	PCB962	PCB963	PCB964	PCB965	PCB966	PCB967	PCB968	PCB969	PCB970	PCB971	PCB972	PCB973	PCB974	PCB975	PCB976	PCB977	PCB978	PCB979	PCB980	PCB981	PCB982	PCB983	PCB984	PCB985	PCB986	PCB987	PCB988	PCB989	PCB990	PCB991	PCB992	PCB993	PCB994	PCB995	PCB996	PCB997	PCB998	PCB999	PCB1000	PCB1001	PCB1002	PCB1003	PCB1004	PCB1005	PCB1006	PCB1007	PCB1008	PCB1009	PCB1010	PCB1011	PCB1012	PCB1013	PCB1014	PCB1015	PCB1016	PCB1017	PCB1018	PCB1019	PCB1020	PCB1021	PCB1022	PCB1023	PCB1024	PCB1025	PCB1026	PCB1027	PCB1028	PCB1029	PCB1030	PCB1031	PCB1032	PCB1033	PCB1034	PCB1035	PCB1036	PCB1037	PCB1038	PCB1039	PCB1040	PCB1041	PCB1042	PCB1043	PCB1044	PCB1045	PCB1046	PCB1047	PCB1048	PCB1049	PCB1050	PCB1051	PCB1052	PCB1053	PCB1054	PCB1055	PCB1056	PCB1057	PCB1058	PCB1059	PCB1060	PCB1061	PCB1062	PCB1063	PCB1064	PCB1065	PCB1066	PCB1067	PCB1068	PCB1069	PCB1070	PCB1071	PCB1072	PCB1073	PCB1074	PCB1075	PCB1076	PCB1077	PCB1078	PCB1079	PCB1080	PCB1081	PCB1082	PCB1083	PCB1084	PCB1085	PCB1086	PCB1087	PCB1088	PCB1089	PCB1090	PCB1091	PCB1092	PCB1093	PCB1094	PCB1095	PCB1096	PCB1097	PCB1098	PCB1099	PCB1100	PCB1101	PCB1102	PCB1103	PCB1104	PCB1105	PCB1106	PCB1107	PCB1108	PCB1109	PCB1110	PCB1111	PCB1112	PCB1113	PCB1114	PCB1115	PCB1116	PCB1117	PCB1118	PCB1119	PCB1120	PCB1121	PCB1122	PCB1123	PCB1124	PCB1125	PCB1126	PCB1127	PCB1128	PCB1129	PCB1130	PCB1131	PCB1132	PCB1133	PCB1134	PCB1135	PCB1136	PCB1137	PCB113

4036 Youngfield Street, Wheat Ridge, CO 80033
TEL. 303-425-6021 FAX: 303-425-6854
www.3cculcs.com

[illegible]

D92419: Chain of Custody

Page 2 of 3

SGS Accutest Sample Receipt Summary

Job Number: D92419

Client: AG WASS

Project: FLESSNER

Date / Time Received: 3/28/2017 8:20:00 AM

Delivery Method:

Airbill #'s: hd

Cooler Temps (Initial/Adjusted): #1: (3.6/3.6):

Cooler Security

Y or N

Y or N

- | | | | | | |
|---------------------------|-------------------------------------|--------------------------|-----------------------|-------------------------------------|--------------------------|
| 1. Custody Seals Present: | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 3. COC Present: | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 2. Custody Seals Intact: | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 4. Smpl Dates/Time OK | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

Cooler Temperature

Y or N

- | | | |
|------------------------------|-------------------------------------|--------------------------|
| 1. Temp criteria achieved: | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 2. Cooler temp verification: | IR Gun; | |
| 3. Cooler media: | Ice (Bag) | |
| 4. No. Coolers: | 1 | |

Quality Control Preservation

Y or N

N/A

- | | | | |
|---------------------------------|-------------------------------------|--------------------------|-------------------------------------|
| 1. Trip Blank present / cooler: | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 2. Trip Blank listed on COC: | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 3. Samples preserved properly: | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| 4. VOCs headspace free: | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Comments

Sample Integrity - Documentation

Y or N

- | | | |
|--|-------------------------------------|--------------------------|
| 1. Sample labels present on bottles: | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 2. Container labeling complete: | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 3. Sample container label / COC agree: | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

Sample Integrity - Condition

Y or N

- | | | |
|----------------------------------|-------------------------------------|--------------------------|
| 1. Sample recvd within HT: | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 2. All containers accounted for: | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 3. Condition of sample: | Intact | |

Sample Integrity - Instructions

Y or N N/A

- | | | | |
|---|-------------------------------------|-------------------------------------|-------------------------------------|
| 1. Analysis requested is clear: | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| 2. Bottles received for unspecified tests | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| 3. Sufficient volume recvd for analysis: | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| 4. Compositing instructions clear: | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 5. Filtering instructions clear: | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

D92419: Chain of Custody

Page 3 of 3

Metals Analysis

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Matrix Spike and Duplicate Summaries
- Blank Spike and Lab Control Sample Summaries
- Serial Dilution Summaries

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: D92419
Account: AGWCODN - A.G. Wassenaar, Inc.
Project: Flessner

QC Batch ID: MP21240
Matrix Type: AQUEOUS

Methods: SW846 6010C, USDA HANDBOOK 60
Units: ug/l

Prep Date: 03/30/17

Metal	RL	IDL	MDL	MB raw	final
Aluminum	500	230	65		
Antimony	150	70	44		
Arsenic	130	110	60		
Barium	50	1.5	2		
Beryllium	50	5	8		
Boron	250	17	18		
Cadmium	50	9.5	4		
Calcium	2000	33	50	1.0	<2000
Chromium	50	5.5	3.5		
Cobalt	25	14	6		
Copper	50	23	19		
Iron	350	45	35		
Lead	250	67	25		
Lithium	25	3	3.5		
Magnesium	1000	250	200	47.0	<1000
Manganese	25	2.5	4.5		
Molybdenum	50	43	18		
Nickel	150	31	14		
Phosphorus	500	460	170		
Potassium	5000	420	360		
Selenium	250	150	50		
Silicon	250	210	42		
Silver	150	3	3		
Sodium	2000	63	70	208	<2000
Strontium	25	.5	1.5		
Thallium	50	85	40		
Tin	250	210	60		
Titanium	50	2.5	14		
Uranium	250	20	22		
Vanadium	50	4.5	3		
Zinc	150	45	18		

Associated samples MP21240: D92419-1A, D92419-2A, D92419-3A, D92419-4A, D92419-5A, D92419-6A, D92419-7A, D92419-8A, D92419-9A, D92419-10A

Results < IDL are shown as zero for calculation purposes

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: D92419
Account: AGWCODN - A.G. Wassenaar, Inc.
Project: Flessner

QC Batch ID: MP21240
Matrix Type: AQUEOUS

Methods: SW846 6010C, USDA HANDBOOK 60
Units: ug/l

Prep Date: 03/30/17

Metal	RL	IDL	MDL	MB raw	final
-------	----	-----	-----	-----------	-------

(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D92419
Account: AGWCODN - A.G. Wassenaar, Inc.
Project: Flessner

QC Batch ID: MP21240
Matrix Type: AQUEOUS

Methods: SW846 6010C, USDA HANDBOOK 60
Units: ug/l

Prep Date: 03/30/17

Metal	D92419-1A Original MS		Spikelot ICPAL2	% Rec	QC Limits
Aluminum					
Antimony					
Arsenic					
Barium					
Beryllium					
Boron					
Cadmium					
Calcium	6560	141000	125000	107.6	75-125
Chromium					
Cobalt					
Copper					
Iron					
Lead					
Lithium					
Magnesium	2300	129000	125000	101.4	75-125
Manganese					
Molybdenum					
Nickel					
Phosphorus					
Potassium					
Selenium					
Silicon					
Silver					
Sodium	57700	186000	125000	102.6	75-125
Strontium					
Thallium					
Tin					
Titanium					
Uranium					
Vanadium					
Zinc					

Associated samples MP21240: D92419-1A, D92419-2A, D92419-3A, D92419-4A, D92419-5A, D92419-6A, D92419-7A, D92419-8A, D92419-9A, D92419-10A

Results < IDL are shown as zero for calculation purposes

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D92419
 Account: AGWCODN - A.G. Wassenaar, Inc.
 Project: Flessner

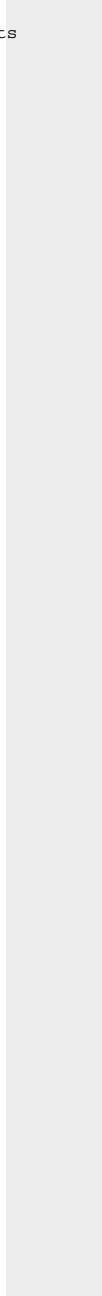
QC Batch ID: MP21240
 Matrix Type: AQUEOUS

Methods: SW846 6010C, USDA HANDBOOK 60
 Units: ug/l

Prep Date: 03/30/17

Metal	D92419-1A Original MS	Spikelot ICPAL2	% Rec	QC Limits
-------	--------------------------	--------------------	-------	--------------

(*) Outside of QC limits
 (N) Matrix Spike Rec. outside of QC limits
 (anr) Analyte not requested



6.1.2

6

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D92419
Account: AGWCODN - A.G. Wassenaar, Inc.
Project: Flessner

QC Batch ID: MP21240
Matrix Type: AQUEOUS

Methods: SW846 6010C, USDA HANDBOOK 60
Units: ug/l

Prep Date: 03/30/17

Metal	D92419-1A Original	MSD	SpikeLot ICPAL2	% Rec	MSD RPD	QC Limit
Aluminum						
Antimony						
Arsenic						
Barium						
Beryllium						
Boron						
Cadmium						
Calcium	6560	143000	125000	109.2	1.4	20
Chromium						
Cobalt						
Copper						
Iron						
Lead						
Lithium						
Magnesium	2300	130000	125000	102.2	0.8	20
Manganese						
Molybdenum						
Nickel						
Phosphorus						
Potassium						
Selenium						
Silicon						
Silver						
Sodium	57700	183000	125000	100.2	1.6	20
Strontium						
Thallium						
Tin						
Titanium						
Uranium						
Vanadium						
Zinc						

Associated samples MP21240: D92419-1A, D92419-2A, D92419-3A, D92419-4A, D92419-5A, D92419-6A, D92419-7A, D92419-8A, D92419-9A, D92419-10A

Results < IDL are shown as zero for calculation purposes

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D92419
 Account: AGWCODN - A.G. Wassenaar, Inc.
 Project: Flessner

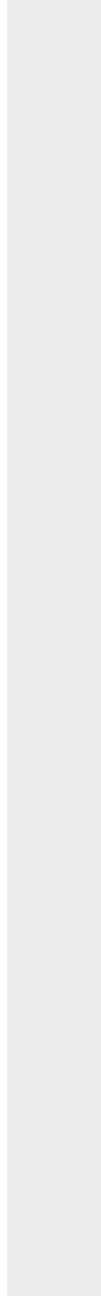
QC Batch ID: MP21240
 Matrix Type: AQUEOUS

Methods: SW846 6010C, USDA HANDBOOK 60
 Units: ug/l

Prep Date: 03/30/17

Metal	D92419-1A Original MSD	SpikeLot ICPALL2	% Rec	MSD RPD	QC Limit
-------	---------------------------	---------------------	-------	------------	-------------

(*) Outside of QC limits
 (N) Matrix Spike Rec. outside of QC limits
 (anr) Analyte not requested



6.1.2

6

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: D92419

Account: AGWCODN - A.G. Wassenaar, Inc.

Project: Flessner

QC Batch ID: MP21240

Methods: SW846 6010C, USDA HANDBOOK 60

Matrix Type: AQUEOUS

Units: ug/l

Prep Date:

03/30/17

Metal	BSP Result	Spikelot ICPALL2	% Rec	QC Limits
Aluminum				
Antimony				
Arsenic				
Barium				
Beryllium				
Boron				
Cadmium				
Calcium	135000	125000	108.0	80-120
Chromium				
Cobalt				
Copper				
Iron				
Lead				
Lithium				
Magnesium	128000	125000	102.4	80-120
Manganese				
Molybdenum				
Nickel				
Phosphorus				
Potassium				
Selenium				
Silicon				
Silver				
Sodium	131000	125000	104.8	80-120
Strontium				
Thallium				
Tin				
Titanium				
Uranium				
Vanadium				
Zinc				

Associated samples MP21240: D92419-1A, D92419-2A, D92419-3A, D92419-4A, D92419-5A, D92419-6A, D92419-7A, D92419-8A, D92419-9A, D92419-10A

Results < IDL are shown as zero for calculation purposes

6.13

SERIAL DILUTION RESULTS SUMMARY

Login Number: D92419
 Account: AGWCODN - A.G. Wassenaar, Inc.
 Project: Flessner

QC Batch ID: MP21240
 Matrix Type: AQUEOUS

Methods: SW846 6010C, USDA HANDBOOK 60
 Units: ug/l

Prep Date: 03/30/17

Metal	D92419-1A Original SDL 1:5		%DIF	QC Limits
Aluminum				
Antimony				
Arsenic				
Barium				
Beryllium				
Boron				
Cadmium				
Calcium	1310	1310	0.3	0-10
Chromium				
Cobalt				
Copper				
Iron				
Lead				
Lithium				
Magnesium	460	450	2.3	0-10
Manganese				
Molybdenum				
Nickel				
Phosphorus				
Potassium				
Selenium				
Silicon				
Silver				
Sodium	11500	11600	0.6	0-10
Strontium				
Thallium				
Tin				
Titanium				
Uranium				
Vanadium				
Zinc				

Associated samples MP21240: D92419-1A, D92419-2A, D92419-3A, D92419-4A, D92419-5A, D92419-6A, D92419-7A, D92419-8A, D92419-9A, D92419-10A

Results < IDL are shown as zero for calculation purposes

SERIAL DILUTION RESULTS SUMMARY

Login Number: D92419
 Account: AGWCODN - A.G. Wassenaar, Inc.
 Project: Flessner

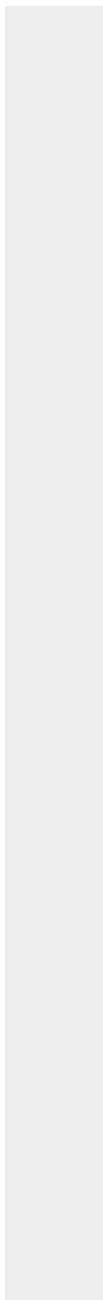
QC Batch ID: MP21240
 Matrix Type: AQUEOUS

Methods: SW846 6010C, USDA HANDBOOK 60
 Units: ug/l

Prep Date: 03/30/17

D92419-1A		QC	
Metal	Original SDL 1:5	%DIF	Limits

(*) Outside of QC limits
 (anr) Analyte not requested



6.1.4
6

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: D92419
Account: AGWCODN - A.G. Wassenaar, Inc.
Project: Flessner

QC Batch ID: MP21285
Matrix Type: AQUEOUS

Methods: SW846 6010C, USDA HANDBOOK 60
Units: ug/l

Prep Date: 03/31/17

Metal	RL	IDL	MDL	MB raw	final
Aluminum	500	230	65		
Antimony	150	70	44		
Arsenic	130	110	60		
Barium	50	1.5	2		
Beryllium	50	5	8		
Boron	250	17	18		
Cadmium	50	9.5	4		
Calcium	2000	33	50	55.5	<2000
Chromium	50	5.5	3.5		
Cobalt	25	14	6		
Copper	50	23	19		
Iron	350	45	35		
Lead	250	67	25		
Lithium	25	3	3.5		
Magnesium	1000	250	200	106	<1000
Manganese	25	2.5	4.5		
Molybdenum	50	43	18		
Nickel	150	31	14		
Phosphorus	500	460	170		
Potassium	5000	420	360		
Selenium	250	150	50		
Silicon	250	210	42		
Silver	150	3	3		
Sodium	2000	63	70	640	<2000
Strontium	25	.5	1.5		
Thallium	50	85	40		
Tin	250	210	60		
Titanium	50	2.5	14		
Uranium	250	20	22		
Vanadium	50	4.5	3		
Zinc	150	45	18		

Associated samples MP21285: D92419-11A, D92419-12A, D92419-13A, D92419-14A, D92419-15A, D92419-16A, D92419-17A, D92419-18A, D92419-19A, D92419-20A

Results < IDL are shown as zero for calculation purposes

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: D92419
Account: AGWCODN - A.G. Wassenaar, Inc.
Project: Flessner

QC Batch ID: MP21285
Matrix Type: AQUEOUS

Methods: SW846 6010C, USDA HANDBOOK 60
Units: ug/l

Prep Date: 03/31/17

Metal	RL	IDL	MDL	MB raw	final
-------	----	-----	-----	-----------	-------

(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D92419
Account: AGWCODN - A.G. Wassenaar, Inc.
Project: Flessner

QC Batch ID: MP21285
Matrix Type: AQUEOUS

Methods: SW846 6010C, USDA HANDBOOK 60
Units: ug/l

Prep Date: 03/31/17

Metal	D92419-11A Original MS		Spikelot ICPAL2	% Rec	QC Limits
Aluminum					
Antimony					
Arsenic					
Barium					
Beryllium					
Boron					
Cadmium					
Calcium	12300	150000	125000	110.2	75-125
Chromium					
Cobalt					
Copper					
Iron					
Lead					
Lithium					
Magnesium	3150	136000	125000	106.3	75-125
Manganese					
Molybdenum					
Nickel					
Phosphorus					
Potassium					
Selenium					
Silicon					
Silver					
Sodium	523000	663000	125000	112.0	75-125
Strontium					
Thallium					
Tin					
Titanium					
Uranium					
Vanadium					
Zinc					

Associated samples MP21285: D92419-11A, D92419-12A, D92419-13A, D92419-14A, D92419-15A, D92419-16A, D92419-17A, D92419-18A, D92419-19A, D92419-20A

Results < IDL are shown as zero for calculation purposes

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D92419
 Account: AGWCODN - A.G. Wassenaar, Inc.
 Project: Flessner

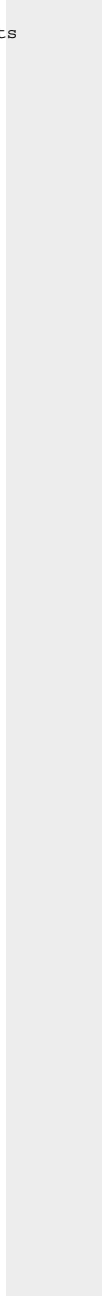
QC Batch ID: MP21285
 Matrix Type: AQUEOUS

Methods: SW846 6010C, USDA HANDBOOK 60
 Units: ug/l

Prep Date: 03/31/17

Metal	D92419-11A Original MS	Spikelot ICPAL2	% Rec	QC Limits
-------	---------------------------	--------------------	-------	--------------

(*) Outside of QC limits
 (N) Matrix Spike Rec. outside of QC limits
 (anr) Analyte not requested



MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D92419
Account: AGWCODN - A.G. Wassenaar, Inc.
Project: Flessner

QC Batch ID: MP21285
Matrix Type: AQUEOUS

Methods: SW846 6010C, USDA HANDBOOK 60
Units: ug/l

Prep Date: 03/31/17

Metal	D92419-11A Original MSD		Spikelot ICPAL2	% Rec	MSD RPD	QC Limit
Aluminum						
Antimony						
Arsenic						
Barium						
Beryllium						
Boron						
Cadmium						
Calcium	12300	153000	125000	112.6	2.0	20
Chromium						
Cobalt						
Copper						
Iron						
Lead						
Lithium						
Magnesium	3150	132000	125000	103.1	3.0	20
Manganese						
Molybdenum						
Nickel						
Phosphorus						
Potassium						
Selenium						
Silicon						
Silver						
Sodium	523000	688000	125000	132.0(a)	3.7	20
Strontium						
Thallium						
Tin						
Titanium						
Uranium						
Vanadium						
Zinc						

Associated samples MP21285: D92419-11A, D92419-12A, D92419-13A, D92419-14A, D92419-15A, D92419-16A, D92419-17A, D92419-18A, D92419-19A, D92419-20A

Results < IDL are shown as zero for calculation purposes

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D92419
 Account: AGWCODN - A.G. Wassenaar, Inc.
 Project: Flessner

QC Batch ID: MP21285
 Matrix Type: AQUEOUS

Methods: SW846 6010C, USDA HANDBOOK 60
 Units: ug/l

Prep Date: 03/31/17

Metal	D92419-11A Original MSD	SpikeLot ICPALL2	% Rec	MSD RPD	QC Limit
-------	----------------------------	---------------------	-------	------------	-------------

- (*) Outside of QC limits
 (N) Matrix Spike Rec. outside of QC limits
 (anr) Analyte not requested
 (a) Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.

6.2.2

6

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: D92419

Account: AGWCODN - A.G. Wassenaar, Inc.

Project: Flessner

QC Batch ID: MP21285

Methods: SW846 6010C, USDA HANDBOOK 60

Matrix Type: AQUEOUS

Units: ug/l

Prep Date:

03/31/17

Metal	BSP Result	Spikelot ICPALL2	% Rec	QC Limits
Aluminum				
Antimony				
Arsenic				
Barium				
Beryllium				
Boron				
Cadmium				
Calcium	136000	125000	108.8	80-120
Chromium				
Cobalt				
Copper				
Iron				
Lead				
Lithium				
Magnesium	126000	125000	100.8	80-120
Manganese				
Molybdenum				
Nickel				
Phosphorus				
Potassium				
Selenium				
Silicon				
Silver				
Sodium	127000	125000	101.6	80-120
Strontium				
Thallium				
Tin				
Titanium				
Uranium				
Vanadium				
Zinc				

Associated samples MP21285: D92419-11A, D92419-12A, D92419-13A, D92419-14A, D92419-15A, D92419-16A, D92419-17A, D92419-18A, D92419-19A, D92419-20A

Results < IDL are shown as zero for calculation purposes

6.2.3



SERIAL DILUTION RESULTS SUMMARY

Login Number: D92419
 Account: AGWCODN - A.G. Wassenaar, Inc.
 Project: Flessner

QC Batch ID: MP21285
 Matrix Type: AQUEOUS

Methods: SW846 6010C, USDA HANDBOOK 60
 Units: ug/l

Prep Date: 03/31/17

D92419-11A		QC		
Metal	Original	SDL 1:5	%DIF	Limits
Aluminum				
Antimony				
Arsenic				
Barium				
Beryllium				
Boron				
Cadmium				
Calcium	2450	2330	5.1	0-10
Chromium				
Cobalt				
Copper				
Iron				
Lead				
Lithium				
Magnesium	629	632	0.3	0-10
Manganese				
Molybdenum				
Nickel				
Phosphorus				
Potassium				
Selenium				
Silicon				
Silver				
Sodium	105000	103000	1.8	0-10
Strontium				
Thallium				
Tin				
Titanium				
Uranium				
Vanadium				
Zinc				

Associated samples MP21285: D92419-11A, D92419-12A, D92419-13A, D92419-14A, D92419-15A, D92419-16A, D92419-17A, D92419-18A, D92419-19A, D92419-20A

Results < IDL are shown as zero for calculation purposes

SERIAL DILUTION RESULTS SUMMARY

Login Number: D92419
Account: AGWCODN - A.G. Wassenaar, Inc.
Project: Flessner

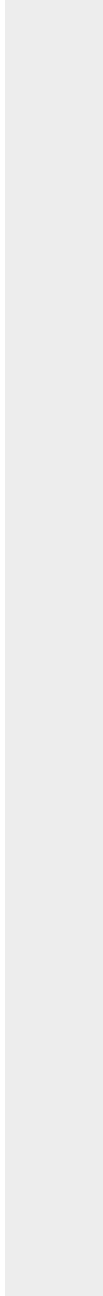
QC Batch ID: MP21285
Matrix Type: AQUEOUS

Methods: SW846 6010C, USDA HANDBOOK 60
Units: ug/l

Prep Date: 03/31/17

D92419-11A		QC	
Metal	Original SDL 1:5	%DIF	Limits

(*) Outside of QC limits
(anr) Analyte not requested



General Chemistry

QC Data Summaries

7

Includes the following where applicable:

- Method Blank and Blank Spike Summaries
- Duplicate Summaries
- Matrix Spike Summaries

METHOD BLANK AND SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: D92419
Account: AGWCODN - A.G. Wassenaar, Inc.
Project: Flessner

Analyte	Batch ID	RL	MB Result	Units	Spike Amount	BSP Result	BSP %Recov	QC Limits
Specific Conductivity	GP20020/GN38225			umhos/cm	999	1000	100.3	90-110%
Specific Conductivity	GP20038/GN38259			umhos/cm	999	1000	100.1	90-110%
pH	GN38227			su	8.00	7.97	99.6	99.1-100.9%
pH	GN38229			su	8.00	7.98	99.8	99.1-100.9%

Associated Samples:

Batch GN38227: D92419-1, D92419-2, D92419-4, D92419-5, D92419-6, D92419-7, D92419-8, D92419-9, D92419-10, D92419-11, D92419-12, D92419-13, D92419-14, D92419-15, D92419-16, D92419-17, D92419-18, D92419-19, D92419-20

Batch GN38229: D92419-3

Batch GP20020: D92419-1, D92419-2, D92419-3, D92419-4, D92419-5, D92419-6, D92419-7, D92419-8, D92419-9, D92419-10

Batch GP20038: D92419-11, D92419-12, D92419-13, D92419-14, D92419-15, D92419-16, D92419-17, D92419-18, D92419-19, D92419-20

(*) Outside of QC limits

7.1

7