

September 8, 2020

Mr. Max Knop
K.P. Kauffman Company, Inc.
World Trade Center
1675 Broadway, Suite 2800
Denver, CO 80202-4825

Re: Surface and Groundwater Investigation, Robert G Berge #2 Spill, Fort Lupton, Weld County, CO

Dear Mr. Knop:

Apex Consulting Services, Inc. (APEX) is pleased to submit the results of our surface and groundwater investigation for the Robert G Berge #2 Spill west of Fort Lupton, Weld County, CO (SPILL). On June 15, 2020, a leak from a flowline was discovered. The leak was repaired and soil in the vicinity of the leak was excavated and disposed.

Surface Water (Ditch) and Groundwater Sampling

On August 27, 2020, APEX collected a groundwater sample from a private water well located approximately 850' northwest of the SPILL (DWR Permit 230133). The well is 770 feet deep and is located at 10506 Highway 52 in Fort Lupton, Colorado. Field parameters (pH, specific conductance, and temperature) were recorded during sampling. The sample was collected from an outdoor spigot when pH, specific conductance, and temperature parameters were stable. The sample location is illustrated on Figure 1.

APEX collected surface water samples from the Brantner irrigation ditch on August 27, 2020. Samples were collected approximately 300 feet upstream (Berge 1 – Ditch) of the SPILL, at the SPILL (Berge 2 – Ditch) and approximately 300 feet downstream (Berge 3 – Ditch) of the SPILL. Field parameters (pH, specific conductance, and temperature) were recorded during sampling. The sample location is illustrated on Figure 1.

LABORATORY ANALYSES AND RESULTS

The samples were handled with clean, new, nitrile gloves and placed in laboratory supplied vials and bottles. The samples (vials and bottles) were stored on ice in a cooler and delivered to Summit Scientific (SUMMITT) of Golden, Colorado under chain-of-custody documentation. The samples were analyzed for BTEX by EPA Method 8260B, chloride and sulfate by EPA Method 300 and total dissolved solids (TDS) by EPA Method SM 540C. The laboratory reports provided by SUMMIT are included in Attachment A. The analytical results are also summarized on Table 1.

DISCUSSIONS AND CONCLUSIONS

The analytical results indicate that BTEX compounds were not detected in any of the samples submitted for analysis. Also, the chloride, sulfate and TDS concentrations detected in the samples do not exceed

Page 2

background concentrations. Based on the analytical results, it does not appear that SPILL has impacted surface (ditch) or groundwater in the area. Consequently, additional surface or groundwater sampling and analysis is not necessary.

If you have any questions or comments, please call.

Sincerely,

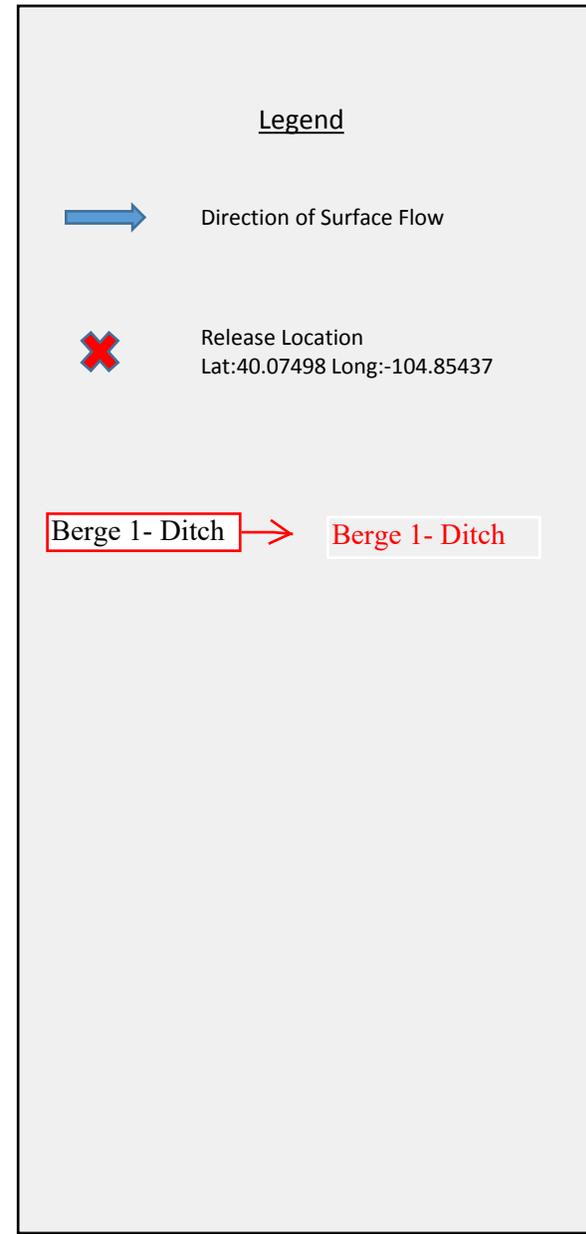
APEX CONSULTING SERVICES, INC.

A handwritten signature in blue ink that reads "Michael Hattel".

Michael D. Hattel, P.G., P.E.S.
Principal

MDH:mh

KPK.Berge#2.FtLupton.Water.Rpt.2020



Date:	June 2020
Designed By:	K.P. Kauffman Co.
Drawn By:	MWK



K.P. Kauffman Company, Inc.
1675 Broadway, Suite 2800
Denver CO, 80202

K.P. Kauffman Company, Inc.
Robert G. Berge #2Release
SWSE, Section 2, Township 1 North, Range 67 West
Weld County, Colorado

Figure #1
Site Map

TABLE 1

SUMMARY OF LABORATORY RESULTS FOR SURFACE AND GROUNDWATER SAMPLES COLLECTED FROM BERGE #2, WELD COUNTY, COLORADO

Sample	Date	pH	Specific Conductance (mS)	Benzene (ug/L)	Toluene (ug/L)	Ethyl-Benzene (ug/L)	Total Xylenes (ug/L)	Chloride (mg/L)	Sulfate* (mg/L)	TDS (mg/L)
Berge 1- Ditch	8/27/20	7.95	0.968	<1	<1	<1	<2	132.0	192.0	528
Berge 2- Ditch	8/27/20	7.93	0.970	<1	<1	<1	<2	126.0	182.0	505
Berge 3 - Ditch	8/27/20	7.93	0.966	<1	<1	<1	<2	84.5	115.0	505
10506-GW	8/27/20	8.77	0.957	<1	<1	<1	<2	24.0	32.4	446
Standard	NA	NA	NA	5	1000	700	1400	*165	*240	*660

Standard = Colorado Oil and Gas Conservation Commission (COGCC) and/or State of Colorado

mS = Microsiemens at 25 degrees Celcius

ug/L = Micrograms per liter

mg/L = Milligrams per liter

* = 1.25 x background for surface water samples

Benzene, toluene, ethylbenzene, and total xylenes by EPA Method 8260

Chloride by EPA Method 300

Sulfate by EPA Method 300

TDS by EPA Method SM 540C

NA = Not Applicable

ATTACHMENT A

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

September 03, 2020

Max Knop

K.P. Kauffman

1675 Broadway

Denver, CO 80202

RE: Berge/Fac 4

Work Order #2008267

Enclosed are the results of analyses for samples received by Summit Scientific on 08/27/20 17:15. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads "Muri Premer". The signature is written in a cursive style with a large initial "M" and a long, sweeping underline.

Muri Premer For Paul Shrewsbury
President



K.P. Kauffman
1675 Broadway
Denver CO, 80202

Project: Berge/Fac 4

Project Number: [none]
Project Manager: Max Knop

Reported:
09/03/20 16:32

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
Berge 1-Ditch	2008267-01	Water	08/27/20 08:20	08/27/20 17:15
Berge 2-Ditch	2008267-02	Water	08/27/20 08:35	08/27/20 17:15
Berge 3-Ditch	2008267-03	Water	08/27/20 08:45	08/27/20 17:15
10506-GW	2008267-04	Water	08/27/20 09:20	08/27/20 17:15

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Summit Scientific

S₂

2008267

4653 Table Mountain Drive ♦ Golden, Colorado 80403
303-277-9310 ♦ 303-374-5933 (f)

Page 1 of 1

Client: K.P. Kauffman Company, Inc.

Project Manager: Max Knop

Address: 1675 Broadway, Suite 2800

E-Mail: MKnop@kpk.com

City/State/Zip: Denver, CO 80202-4628

Phone: 303-825-4822

Project Name: Berge Fac 4

Sampler Name: Mike Hattel (mhattel@msn.com)

Project Number:

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix				Analysis Requested				Special Instructions
					HCl	HNO3	None	Other	Water	Soil	Air-Canister #	Other	BTEX	TD5	Chlorides	Sulfates	
1	Berge 1 - Ditch	8/27/20	8:20	4					X				X	X	X	X	
2	Berge 2 - Ditch	↓	8:35	4					X				X	X	X	X	
3	Berge 3 - Ditch	↓	8:45	4					X				X	X	X	X	
4	10506 - GWS	↓	9:20	4					X				X	X	X	X	
5																	
6																	
7																	
8																	
9																	
10																	

Relinquished by: <u>Mike Hattel</u>	Date/Time: <u>8/27/20 17:05</u>	Received by: <u>[Signature]</u>	Date/Time: <u>08-27-20 17:05</u>	Turn Around Time (Check) Same Day <input type="checkbox"/> 72 hours <input type="checkbox"/> 24 hours <input type="checkbox"/> Standard <input checked="" type="checkbox"/> 48 hours <input type="checkbox"/> Sample Integrity: Temperature Upon Receipt: <u>1.7</u> Samples Intact: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Notes: Report to M. Knop & M. Hattel
Relinquished by:	Date/Time:	Received by:	Date/Time:		
Relinquished by:	Date/Time:	Received by:	Date/Time:		



K.P. Kauffman
1675 Broadway
Denver CO, 80202

Project: Berge/Fac 4

Project Number: [none]
Project Manager: Max Knop

Reported:
09/03/20 16:32

Berge 1-Ditch
2008267-01 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **08/27/20 08:20**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	1.0		ug/l	1	2008307	08/28/20	08/28/20	EPA 8260B	
Toluene	ND	1.0		"	"	"	"	"	"	
Ethylbenzene	ND	1.0		"	"	"	"	"	"	
Xylenes (total)	ND	2.0		"	"	"	"	"	"	

Date Sampled: **08/27/20 08:20**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		73.1 %		23-173		"	"	"	"	
Surrogate: Toluene-d8		115 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		91.4 %		21-167		"	"	"	"	

Anions by EPA Method 300.0

Date Sampled: **08/27/20 08:20**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Sulfate	192	30.0		mg/L	100	2009019	09/02/20	09/02/20	EPA 300.0	
Chloride	132	6.00		"	"	"	"	"	"	

Total Dissolved Solids by SM2540C

Date Sampled: **08/27/20 08:20**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Total Dissolved Solids	528	10.0		mg/L	1	2008298	08/28/20	08/28/20	SM2540C	

Summit Scientific

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K.P. Kauffman
1675 Broadway
Denver CO, 80202

Project: Berge/Fac 4
Project Number: [none]
Project Manager: Max Knop

Reported:
09/03/20 16:32

Berge 2-Ditch
2008267-02 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **08/27/20 08:35**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	1.0		ug/l	1	2008307	08/28/20	08/28/20	EPA 8260B	
Toluene	ND	1.0		"	"	"	"	"	"	
Ethylbenzene	ND	1.0		"	"	"	"	"	"	
Xylenes (total)	ND	2.0		"	"	"	"	"	"	

Date Sampled: **08/27/20 08:35**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		88.1 %		23-173		"	"	"	"	
Surrogate: Toluene-d8		109 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		98.6 %		21-167		"	"	"	"	

Anions by EPA Method 300.0

Date Sampled: **08/27/20 08:35**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Chloride	126	6.00		mg/L	100	2009019	09/02/20	09/02/20	EPA 300.0	
Sulfate	182	30.0		"	"	"	"	"	"	

Total Dissolved Solids by SM2540C

Date Sampled: **08/27/20 08:35**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Total Dissolved Solids	505	10.0		mg/L	1	2008298	08/28/20	08/28/20	SM2540C	

Summit Scientific

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K.P. Kauffman
1675 Broadway
Denver CO, 80202

Project: Berge/Fac 4

Project Number: [none]
Project Manager: Max Knop

Reported:
09/03/20 16:32

Berge 3-Ditch
2008267-03 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **08/27/20 08:45**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	1.0		ug/l	1	2008307	08/28/20	08/28/20	EPA 8260B	
Toluene	ND	1.0		"	"	"	"	"	"	
Ethylbenzene	ND	1.0		"	"	"	"	"	"	
Xylenes (total)	ND	2.0		"	"	"	"	"	"	

Date Sampled: **08/27/20 08:45**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		94.7 %		23-173		"	"	"	"	
Surrogate: Toluene-d8		105 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		99.3 %		21-167		"	"	"	"	

Anions by EPA Method 300.0

Date Sampled: **08/27/20 08:45**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Sulfate	115	30.0		mg/L	100	2009019	09/02/20	09/02/20	EPA 300.0	
Chloride	84.5	6.00		"	"	"	"	"	"	

Total Dissolved Solids by SM2540C

Date Sampled: **08/27/20 08:45**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Total Dissolved Solids	505	10.0		mg/L	1	2008298	08/28/20	08/28/20	SM2540C	

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K.P. Kauffman
1675 Broadway
Denver CO, 80202

Project: Berge/Fac 4

Project Number: [none]
Project Manager: Max Knop

Reported:
09/03/20 16:32

10506-GW
2008267-04 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **08/27/20 09:20**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	1.0		ug/l	1	2008307	08/28/20	08/28/20	EPA 8260B	
Toluene	ND	1.0		"	"	"	"	"	"	
Ethylbenzene	ND	1.0		"	"	"	"	"	"	
Xylenes (total)	ND	2.0		"	"	"	"	"	"	

Date Sampled: **08/27/20 09:20**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		82.0 %		23-173		"	"	"	"	
Surrogate: Toluene-d8		101 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		93.8 %		21-167		"	"	"	"	

Anions by EPA Method 300.0

Date Sampled: **08/27/20 09:20**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Chloride	24.3	6.00		mg/L	100	2009019	09/02/20	09/02/20	EPA 300.0	
Sulfate	32.4	30.0		"	"	"	"	"	"	

Total Dissolved Solids by SM2540C

Date Sampled: **08/27/20 09:20**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Total Dissolved Solids	446	10.0		mg/L	1	2008298	08/28/20	08/28/20	SM2540C	

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K.P. Kauffman
1675 Broadway
Denver CO, 80202

Project: Berge/Fac 4

Project Number: [none]
Project Manager: Max Knop

Reported:
09/03/20 16:32

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

Analyte	Reporting			Spike	Source	%REC		RPD		Notes
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	

Batch 2008307 - EPA 5030 Water MS

Blank (2008307-BLK1)

Prepared & Analyzed: 08/28/20

Benzene	ND	1.0	ug/l							
Toluene	ND	1.0	"							
Ethylbenzene	ND	1.0	"							
Xylenes (total)	ND	2.0	"							
Surrogate: 1,2-Dichloroethane-d4	11.0		"	13.3		82.4	23-173			
Surrogate: Toluene-d8	14.4		"	13.3		108	20-170			
Surrogate: 4-Bromofluorobenzene	12.3		"	13.3		92.5	21-167			

LCS (2008307-BS1)

Prepared & Analyzed: 08/28/20

Benzene	29.3	1.0	ug/l	33.3		88.0	51-132			
Toluene	31.3	1.0	"	33.3		93.9	51-138			
Ethylbenzene	29.4	1.0	"	33.3		88.1	58-146			
m,p-Xylene	55.2	2.0	"	66.7		82.8	57-144			
o-Xylene	27.4	1.0	"	33.3		82.3	53-146			
Surrogate: 1,2-Dichloroethane-d4	10.4		"	13.3		77.8	23-173			
Surrogate: Toluene-d8	14.0		"	13.3		105	20-170			
Surrogate: 4-Bromofluorobenzene	12.8		"	13.3		95.9	21-167			

Matrix Spike (2008307-MS1)

Source: 2008269-25

Prepared & Analyzed: 08/28/20

Benzene	27.4	1.0	ug/l	33.3	ND	82.3	34-141			
Toluene	31.5	1.0	"	33.3	ND	94.4	27-151			
Ethylbenzene	29.9	1.0	"	33.3	ND	89.6	29-160			
m,p-Xylene	55.5	2.0	"	66.7	ND	83.3	20-166			
o-Xylene	27.2	1.0	"	33.3	ND	81.7	33-159			
Surrogate: 1,2-Dichloroethane-d4	8.82		"	13.3		66.2	23-173			
Surrogate: Toluene-d8	14.0		"	13.3		105	20-170			
Surrogate: 4-Bromofluorobenzene	12.4		"	13.3		93.0	21-167			

Summit Scientific

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K.P. Kauffman
1675 Broadway
Denver CO, 80202

Project: Berge/Fac 4

Project Number: [none]
Project Manager: Max Knop

Reported:
09/03/20 16:32

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

Analyte	Reporting			Spike	Source	%REC			RPD	Notes
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	

Batch 2008307 - EPA 5030 Water MS

Matrix Spike Dup (2008307-MSD1)

Source: 2008269-25

Prepared & Analyzed: 08/28/20

Benzene	29.7	1.0	ug/l	33.3	ND	89.1	34-141	7.95	30	
Toluene	33.8	1.0	"	33.3	ND	102	27-151	7.26	30	
Ethylbenzene	28.4	1.0	"	33.3	ND	85.2	29-160	5.08	30	
m,p-Xylene	52.9	2.0	"	66.7	ND	79.4	20-166	4.81	30	
o-Xylene	26.4	1.0	"	33.3	ND	79.1	33-159	3.21	30	
Surrogate: 1,2-Dichloroethane-d4	12.3		"	13.3		92.0	23-173			
Surrogate: Toluene-d8	15.0		"	13.3		112	20-170			
Surrogate: 4-Bromofluorobenzene	12.3		"	13.3		92.0	21-167			

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



K.P. Kauffman
1675 Broadway
Denver CO, 80202

Project: Berge/Fac 4

Project Number: [none]
Project Manager: Max Knop

Reported:
09/03/20 16:32

Anions by EPA Method 300.0 - Quality Control
Summit Scientific

Analyte	Result	Reporting		Spike Level	Source		%REC		RPD		Notes
		Limit	Units		Result	%REC	Limits	RPD	Limit		

Batch 2009019 - General Preparation

Blank (2009019-BLK1)

Prepared & Analyzed: 09/02/20

Chloride	ND	0.0600	mg/L							
Sulfate	ND	0.300	"							

LCS (2009019-BS1)

Prepared & Analyzed: 09/02/20

Chloride	3.23	0.0600	mg/L	3.00	108	90-110				
Sulfate	15.9	0.300	"	15.0	106	90-110				

Duplicate (2009019-DUP1)

Source: 2009010-01

Prepared & Analyzed: 09/02/20

Chloride	156	6.00	mg/L		146		6.03	20		
Sulfate	57.1	30.0	"		52.9		7.64	20		

Matrix Spike (2009019-MS1)

Source: 2009010-01

Prepared & Analyzed: 09/02/20

Sulfate	1450	30.0	mg/L	1500	52.9	93.2	80-120			
Chloride	458	6.00	"	300	146	104	80-120			

Summit Scientific

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K.P. Kauffman
 1675 Broadway
 Denver CO, 80202

Project: Berge/Fac 4

Project Number: [none]
 Project Manager: Max Knop

Reported:
 09/03/20 16:32

Total Dissolved Solids by SM2540C - Quality Control
Summit Scientific

Analyte	Result	Reporting		Spike Level	Source		%REC		RPD		Notes
		Limit	Units		Result	%REC	Limits	RPD	Limit		

Batch 2008298 - General Preparation

Blank (2008298-BLK1)

Prepared & Analyzed: 08/28/20

Total Dissolved Solids ND 10.0 mg/L

Duplicate (2008298-DUP1)

Source: 2008267-01

Prepared & Analyzed: 08/28/20

Total Dissolved Solids 531 10.0 mg/L 528 0.510 20

Summit Scientific

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K.P. Kauffman
1675 Broadway
Denver CO, 80202

Project: Berge/Fac 4

Project Number: [none]
Project Manager: Max Knop

Reported:
09/03/20 16:32

Notes and Definitions

DET Analyte DETECTED
ND Analyte NOT DETECTED at or above the reporting limit
NR Not Reported
dry Sample results reported on a dry weight basis
RPD Relative Percent Difference