



Nicholson GeoSolutions LLC

3433 East Lake Drive
Centennial, CO 80121

June 21, 2018

Mr. Terry Pape
HRM Resources, LLC
410 17th Street, Suite 1600
Denver, CO 80202

**Subject: Cowles No. 1 Landfarm Removal and Footprint Sampling Results
COGCC Remediation #9053**

Dear Terry:

Nicholson GeoSolutions LLC was retained by HRM Resources II LLC (HRM) to conduct soil sampling of the landfarm footprint on the Cowles No. 1 lease, Washington County, Colorado. The landfarm material was removed and sent to the Denver Arapahoe Disposal (DADS) Landfill in Aurora, Colorado during May and early June 2018 by Jayhawk Grading, Inc. A total of 595 yards of impacted material was sent to the landfill. Appendix A provides the landfill gatehouse summaries.

Sampling of the landfarm footprint was initially conducted at four locations on May 22nd, 2018. The locations of the footprint samples are shown on Figure 1. All footprint samples were analyzed for Total Volatile Petroleum Hydrocarbons (TVPH – gasoline range), Total Extractable Petroleum Hydrocarbons (TEPH – diesel and motor oil range), BTEX (benzene, toluene, ethylbenzene, and xylenes), sodium adsorption ratio (SAR), pH, and conductivity to evaluate compliance with the COGCC Table 910-1 standards.

Table 1 provides a summary of the analytical results for the samples. The laboratory report is contained in Appendix B. TPH exceeded the standard of 500 mg/kg for sample Cowles-1, and SAR exceeded the standard of 12 for sample Cowles-4. In addition, pH failed for all samples.

In response to the initial round of sampling, additional soil was excavated from the portions of the landfarm that failed and two additional footprint samples were collected on June 6th, 2018. Table 2 provides the results for the additional footprint samples. All results were below the COGCC standards for the additional footprint samples and no further action is required at this site.

Nicholson GeoSolutions LLC



David K. Nicholson, P.G.
Principal Geologist

Table 1 Cowles No. 1 Landfarm Footprint Sample Results – May 22, 2018

	Table 910-1 Standards	Cowles-1	Cowles-2	Cowles-3	Cowles-4
TVPH – gasoline range	500 ¹	< 0.1	<0.1	<0.1	<0.1
TEPH – diesel and motor oil range		726	58.2	15.11	40.8
benzene	0.17	<0.0005	<0.0005	<0.0005	<0.0005
toluene	85	<0.005	<0.005	<0.005	<0.005
ethylbenzene	100	<0.0005	<0.0005	<0.0005	<0.0005
xylenes	175	<0.0015	<0.0015	<0.0015	<0.0015
pH	6-9	9.35	9.32	9.40	9.08
Specific Conductivity	<4 mmhos/cm	0.425	0.399	0.49	1.2
SAR	<12	9.63	9.76	9.56	24.1

¹The standard is 500 for the combined total of TVPH and TEPH All units in mg/kg except where indicated
Values in bold exceed standards

Table 2 Cowles No. 1 Additional Footprint Sample Results – June 6, 2018

	Table 910-1 Standards	Cowles-1	Cowles-4
TVPH – gasoline range	500 ¹	<0.1	<0.1
TEPH – diesel and motor oil range		7.87	286
benzene	0.17	0.00114	<0.0005
toluene	85	<0.005	<0.005
ethylbenzene	100	<0.0005	<0.0005
xylenes	175	<0.0015	<0.0015
pH	6-9	8.86	8.32
Specific Conductivity	<4 mmhos/cm	0.622	1.48
SAR	<12	8.75	8.66

¹The standard is 500 for the combined total of TVPH and TEPH All units in mg/kg except where indicated



APPENDIX A
Landfill Gatehouse Summaries

App A_Cowles
HRM Resources II LLC

Ticket Date	Ticket ID	Cust Code	MAS Unique ID	Manifest	Profile	Truck	Material	Material Description	Origin	Rate Unit	Rate Qty	Yards
5/11/2018	3116381	0015549	150419453005	468958	120980CO	1	ContSoilPet-Cubic Yards	Cont. Soil - Petroleum	COWLES P	CYD	17	17
5/17/2018	3121675	0015549	150419453005	468957	120980CO	1	ContSoilPet-Cubic Yards	Cont. Soil - Petroleum	COWLES P	CYD	17	17
5/17/2018	3121744	0015549	150419453005	468959	120980CO	1	ContSoilPet-Cubic Yards	Cont. Soil - Petroleum	COWLES P	CYD	17	17
5/18/2018	3122248	0015549	150419453005	446418	120980CO	1	ContSoilPet-Cubic Yards	Cont. Soil - Petroleum	COWLES	CYD	17	17
5/18/2018	3122257	0015549	150419453005	468972	120980CO	1	ContSoilPet-Cubic Yards	Cont. Soil - Petroleum	COWLES P	CYD	17	17
5/18/2018	3122259	0015549	150419453005	468965	120980CO	1	ContSoilPet-Cubic Yards	Cont. Soil - Petroleum	COWLES P	CYD	17	17
5/18/2018	3122261	0015549	150419453005	468971	120980CO	1	ContSoilPet-Cubic Yards	Cont. Soil - Petroleum	COWLES P	CYD	17	17
5/18/2018	3122264	0015549	150419453005	468973	120980CO	1	ContSoilPet-Cubic Yards	Cont. Soil - Petroleum	COWLES P	CYD	17	17
5/18/2018	3122268	0015549	150419453005	468974	120980CO	1	ContSoilPet-Cubic Yards	Cont. Soil - Petroleum	COWLES P	CYD	17	17
5/18/2018	3122299	0015549	150419453005	468967	120980CO	1	ContSoilPet-Cubic Yards	Cont. Soil - Petroleum	COWLES P	CYD	17	17
5/18/2018	3122309	0015549	150419453005	468969	120980CO	1	ContSoilPet-Cubic Yards	Cont. Soil - Petroleum	COWLES P	CYD	17	17
5/18/2018	3122313	0015549	150419453005	468964	120980CO	1	ContSoilPet-Cubic Yards	Cont. Soil - Petroleum	COWLES P	CYD	17	17
5/18/2018	3122317	0015549	150419453005	468970	120980CO	1	ContSoilPet-Cubic Yards	Cont. Soil - Petroleum	COWLES P	CYD	17	17
5/18/2018	3122321	0015549	150419453005	468962	120980CO	1	ContSoilPet-Cubic Yards	Cont. Soil - Petroleum	COWLES P	CYD	17	17
5/18/2018	3122323	0015549	150419453005	468966	120980CO	1	ContSoilPet-Cubic Yards	Cont. Soil - Petroleum	COWLES P	CYD	17	17
5/18/2018	3122328	0015549	150419453005	468960	120980CO	1	ContSoilPet-Cubic Yards	Cont. Soil - Petroleum	COWLES P	CYD	17	17
5/18/2018	3122333	0015549	150419453005	468963	120980CO	1	ContSoilPet-Cubic Yards	Cont. Soil - Petroleum	COWLES P	CYD	17	17
5/18/2018	3122342	0015549	150419453005	468961	120980CO	1	ContSoilPet-Cubic Yards	Cont. Soil - Petroleum	COWLES P	CYD	17	17
5/18/2018	3122352	0015549	150419453005	468968	120980CO	1	ContSoilPet-Cubic Yards	Cont. Soil - Petroleum	COWLES P	CYD	17	17
5/18/2018	3122353	0015549	150419453005	446420	120980CO	1	ContSoilPet-Cubic Yards	Cont. Soil - Petroleum	COWLES	CYD	17	17
5/18/2018	3122355	0015549	150419453005	446421	120980CO	1	ContSoilPet-Cubic Yards	Cont. Soil - Petroleum	COWLES	CYD	17	17
5/18/2018	3122357	0015549	150419453005	446422	120980CO	1	ContSoilPet-Cubic Yards	Cont. Soil - Petroleum	COWLES	CYD	17	17

Criteria: 05/20/2018 12:00 AM to 06/16/2018 11:59 PM
Business Unit Name: S04012 - Denver Arapahoe Disposal (USA)
User: SLA
Date: Jun 21 2018, 12:15:06 PM
Operation Type: All
Customer Name: HRMRESOURCESIILLC(HRM RESOURCES II LLC)
Ticket Type: All
Customer Type: All
PMT Category: All

[illegible]

APPENDIX B

Laboratory Reports

May 29, 2018

HRM Resources, LLC - Denver, CO

Sample Delivery Group: L996532
Samples Received: 05/24/2018
Project Number:
Description: HRM Landfarm Sampling

Report To: Dave Nicholson
410 17th St., Ste. 1600
Denver, CO 80202

Entire Report Reviewed By:



Mark W. Beasley
Technical Service Representative

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by ESC is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.



Cp: Cover Page	1	¹ Cp
Tc: Table of Contents	2	
Ss: Sample Summary	3	² Tc
Cn: Case Narrative	4	
Sr: Sample Results	5	³ Ss
COWLES-1 L996532-01	5	
COWLES-2 L996532-02	6	⁴ Cn
COWLES-3 L996532-03	7	⁵ Sr
COWLES-4 L996532-04	8	
Qc: Quality Control Summary	9	⁶ Qc
Wet Chemistry by Method 9045D	9	
Wet Chemistry by Method 9050AMod	10	⁷ Gl
Volatile Organic Compounds (GC) by Method 8015/8021	11	⁸ Al
Semi-Volatile Organic Compounds (GC) by Method 8015	13	
Gl: Glossary of Terms	14	⁹ Sc
Al: Accreditations & Locations	15	
Sc: Sample Chain of Custody	16	

SAMPLE SUMMARY

ONE LAB. NATIONWIDE.



COWLES-1 L996532-01 Solid

Collected by
D. Nicholson

Collected date/time
05/22/18 11:45

Received date/time
05/24/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Calculated Results	WG1115945	1	05/26/18 17:22	05/29/18 10:14	CCE
Wet Chemistry by Method 9045D	WG1115800	1	05/24/18 16:05	05/24/18 17:00	MLW
Wet Chemistry by Method 9050AMod	WG1115793	1	05/24/18 15:37	05/24/18 16:16	MA
Volatile Organic Compounds (GC) by Method 8015/8021	WG1115968	1	05/24/18 16:38	05/25/18 07:41	DWR
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1115978	10	05/25/18 16:18	05/26/18 00:31	DMW

¹ Cp

² Tc

³ Ss

⁴ Cn

COWLES-2 L996532-02 Solid

Collected by
D. Nicholson

Collected date/time
05/22/18 11:50

Received date/time
05/24/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Calculated Results	WG1115945	1	05/26/18 17:22	05/29/18 10:18	CCE
Wet Chemistry by Method 9045D	WG1115800	1	05/24/18 16:05	05/24/18 17:00	MLW
Wet Chemistry by Method 9050AMod	WG1115793	1	05/24/18 15:37	05/24/18 16:16	MA
Volatile Organic Compounds (GC) by Method 8015/8021	WG1115968	1	05/24/18 16:38	05/25/18 08:04	DWR
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1115978	10	05/25/18 16:18	05/25/18 23:02	DMW

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

COWLES-3 L996532-03 Solid

Collected by
D. Nicholson

Collected date/time
05/22/18 11:55

Received date/time
05/24/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Calculated Results	WG1115945	1	05/26/18 17:22	05/29/18 10:21	CCE
Wet Chemistry by Method 9045D	WG1115800	1	05/24/18 16:05	05/24/18 17:00	MLW
Wet Chemistry by Method 9050AMod	WG1115793	1	05/24/18 15:37	05/24/18 16:16	MA
Volatile Organic Compounds (GC) by Method 8015/8021	WG1115968	1	05/24/18 16:38	05/25/18 08:26	DWR
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1115978	1	05/25/18 16:18	05/25/18 22:24	DMW

⁹ Sc

COWLES-4 L996532-04 Solid

Collected by
D. Nicholson

Collected date/time
05/22/18 12:00

Received date/time
05/24/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Calculated Results	WG1115784	1	05/25/18 10:09	05/27/18 13:07	ST
Wet Chemistry by Method 9045D	WG1115800	1	05/24/18 16:05	05/24/18 17:00	MLW
Wet Chemistry by Method 9050AMod	WG1115793	1	05/24/18 15:37	05/24/18 16:16	MA
Volatile Organic Compounds (GC) by Method 8015/8021	WG1115968	1	05/24/18 16:38	05/25/18 08:48	DWR
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1115978	1	05/25/18 16:18	05/25/18 22:37	DMW

ACCOUNT:

HRM Resources, LLC - Denver, CO

PROJECT:

SDG:

L996532

DATE/TIME:

05/29/18 13:05

PAGE:

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All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All radiochemical sample results for solids are reported on a dry weight basis with the exception of tritium, carbon-14 and radon, unless wet weight was requested by the client. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Mark W. Beasley
Technical Service Representative

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	9.63		1	05/29/2018 10:14	WG1115945

Wet Chemistry by Method 9045D

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
pH	9.35	T8	1	05/24/2018 17:00	WG1115800

Sample Narrative:

L996532-01 WG1115800: 9.35 at 22.5C

Wet Chemistry by Method 9050AMod

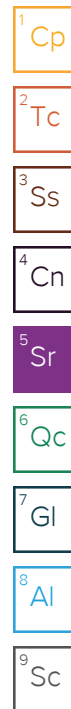
Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Specific Conductance	umhos/cm		umhos/cm			
Specific Conductance	425		10.0	1	05/24/2018 16:16	WG1115793

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	ND		0.000500	1	05/25/2018 07:41	WG1115968
Toluene	ND		0.00500	1	05/25/2018 07:41	WG1115968
Ethylbenzene	ND		0.000500	1	05/25/2018 07:41	WG1115968
Total Xylene	ND		0.00150	1	05/25/2018 07:41	WG1115968
TPH (GC/FID) Low Fraction	ND		0.100	1	05/25/2018 07:41	WG1115968
(S) a,a,a-Trifluorotoluene(FID)	96.0		77.0-120		05/25/2018 07:41	WG1115968
(S) a,a,a-Trifluorotoluene(PID)	96.8		75.0-128		05/25/2018 07:41	WG1115968

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	367		40.0	10	05/26/2018 00:31	WG1115978
C28-C40 Oil Range	359		40.0	10	05/26/2018 00:31	WG1115978
(S) o-Terphenyl	92.4		18.0-148		05/26/2018 00:31	WG1115978





Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	9.76		1	05/29/2018 10:18	WG1115945

Wet Chemistry by Method 9045D

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
pH	9.32	T8	1	05/24/2018 17:00	WG1115800

Sample Narrative:

L996532-02 WG1115800: 9.32 at 22.1C

Wet Chemistry by Method 9050AMod

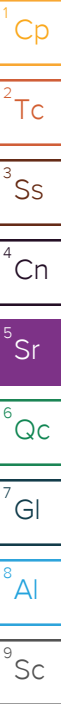
Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Specific Conductance	umhos/cm		umhos/cm			
	399		10.0	1	05/24/2018 16:16	WG1115793

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	ND		0.000500	1	05/25/2018 08:04	WG1115968
Toluene	ND		0.00500	1	05/25/2018 08:04	WG1115968
Ethylbenzene	ND		0.000500	1	05/25/2018 08:04	WG1115968
Total Xylene	ND		0.00150	1	05/25/2018 08:04	WG1115968
TPH (GC/FID) Low Fraction	ND		0.100	1	05/25/2018 08:04	WG1115968
(S) a,a,a-Trifluorotoluene(FID)	94.5		77.0-120		05/25/2018 08:04	WG1115968
(S) a,a,a-Trifluorotoluene(PID)	95.3		75.0-128		05/25/2018 08:04	WG1115968

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	ND		40.0	10	05/25/2018 23:02	WG1115978
C28-C40 Oil Range	58.2		40.0	10	05/25/2018 23:02	WG1115978
(S) o-Terphenyl	56.2		18.0-148		05/25/2018 23:02	WG1115978





Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	9.56		1	05/29/2018 10:21	WG1115945

Wet Chemistry by Method 9045D

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
pH	9.40	T8	1	05/24/2018 17:00	WG1115800

Sample Narrative:

L996532-03 WG1115800: 9.4 at 22.5C

Wet Chemistry by Method 9050AMod

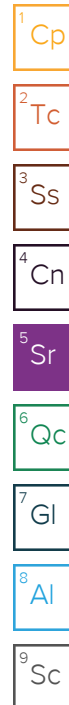
Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Specific Conductance	umhos/cm		umhos/cm			
	490		10.0	1	05/24/2018 16:16	WG1115793

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	ND		0.000500	1	05/25/2018 08:26	WG1115968
Toluene	ND		0.00500	1	05/25/2018 08:26	WG1115968
Ethylbenzene	ND		0.000500	1	05/25/2018 08:26	WG1115968
Total Xylene	ND		0.00150	1	05/25/2018 08:26	WG1115968
TPH (GC/FID) Low Fraction	ND		0.100	1	05/25/2018 08:26	WG1115968
(S) a,a,a-Trifluorotoluene(FID)	96.1		77.0-120		05/25/2018 08:26	WG1115968
(S) a,a,a-Trifluorotoluene(PID)	97.4		75.0-128		05/25/2018 08:26	WG1115968

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	6.76		4.00	1	05/25/2018 22:24	WG1115978
C28-C40 Oil Range	8.35		4.00	1	05/25/2018 22:24	WG1115978
(S) o-Terphenyl	50.4		18.0-148		05/25/2018 22:24	WG1115978





Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	24.1		1	05/27/2018 13:07	WG1115784

Wet Chemistry by Method 9045D

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
pH	9.08	T8	1	05/24/2018 17:00	WG1115800

Sample Narrative:

L996532-04 WG1115800: 9.08 at 22.2C

Wet Chemistry by Method 9050AMod

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Specific Conductance	umhos/cm		umhos/cm			
	1200		10.0	1	05/24/2018 16:16	WG1115793

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	ND		0.000500	1	05/25/2018 08:48	WG1115968
Toluene	ND		0.00500	1	05/25/2018 08:48	WG1115968
Ethylbenzene	ND		0.000500	1	05/25/2018 08:48	WG1115968
Total Xylene	ND	J3 J6	0.00150	1	05/25/2018 08:48	WG1115968
TPH (GC/FID) Low Fraction	ND		0.100	1	05/25/2018 08:48	WG1115968
(S) a,a,a-Trifluorotoluene(FID)	96.7		77.0-120		05/25/2018 08:48	WG1115968
(S) a,a,a-Trifluorotoluene(PID)	96.9		75.0-128		05/25/2018 08:48	WG1115968

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	17.4		4.00	1	05/25/2018 22:37	WG1115978
C28-C40 Oil Range	23.4		4.00	1	05/25/2018 22:37	WG1115978
(S) o-Terphenyl	54.9		18.0-148		05/25/2018 22:37	WG1115978

1	Cp
2	Tc
3	Ss
4	Cn
5	Sr
6	Qc
7	Gl
8	Al
9	Sc



L996490-01 Original Sample (OS) • Duplicate (DUP)

(OS) L996490-01 05/24/18 17:00 • (DUP) R3312916-3 05/24/18 17:00

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	su	su		%		%
pH	8.84	8.82	1	0.227		1

Sample Narrative:

OS: 8.84 at 23.1C
DUP: 8.82 at 22.7C



L996532-04 Original Sample (OS) • Duplicate (DUP)

(OS) L996532-04 05/24/18 17:00 • (DUP) R3312916-4 05/24/18 17:00

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	su	su		%		%
pH	9.08	9.07	1	0.110		1

Sample Narrative:

OS: 9.08 at 22.2C
DUP: 9.07 at 22.1C

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3312916-1 05/24/18 17:00 • (LCSD) R3312916-2 05/24/18 17:00

	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Analyte	su	su	su	%	%	%			%	%
pH	10.0	9.97	9.96	99.7	99.6	99.0-101			0.100	1

Sample Narrative:

LCS: 9.97 at 20.8C
LCSD: 9.96 at 20.5C

Method Blank (MB)

(MB) R3312896-1 05/24/18 16:16

Analyte	MB Result umhos/cm	MB Qualifier	MB MDL umhos/cm	MB RDL umhos/cm
Specific Conductance	U		10.0	10.0

1

Cp

2

Tc

3

Ss

4

Cn

5

Sr

6

Qc

7

Gl

8

Al

9

Sc

L996490-01 Original Sample (OS) • Duplicate (DUP)

(OS) L996490-01 05/24/18 16:16 • (DUP) R3312896-4 05/24/18 16:16

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	532	529	1	0.566		20

L996523-03 Original Sample (OS) • Duplicate (DUP)

(OS) L996523-03 05/24/18 16:16 • (DUP) R3312896-5 05/24/18 16:16

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	357	355	1	0.562		20

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3312896-2 05/24/18 16:16 • (LCSD) R3312896-3 05/24/18 16:16

Analyte	Spike Amount umhos/cm	LCS Result umhos/cm	LCSD Result umhos/cm	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Specific Conductance	877	875	873	99.8	99.5	85.0-115			0.229	20

Method Blank (MB)

(MB) R3313347-5 05/25/18 01:21

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Benzene	U		0.000120	0.000500
Toluene	U		0.000150	0.00500
Ethylbenzene	U		0.000110	0.000500
Total Xylene	U		0.000460	0.00150
TPH (GC/FID) Low Fraction	U		0.0217	0.100
(S) a,a,a-Trifluorotoluene(FID)	99.0			77.0-120
(S) a,a,a-Trifluorotoluene(PID)	99.4			75.0-128

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

Laboratory Control Sample (LCS)

(LCS) R3313347-3 05/25/18 00:10

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Benzene	0.0500	0.0523	105	71.0-121	
Toluene	0.0500	0.0533	107	72.0-120	
Ethylbenzene	0.0500	0.0532	106	76.0-121	
Total Xylene	0.150	0.159	106	75.0-124	
(S) a,a,a-Trifluorotoluene(FID)			99.6	77.0-120	
(S) a,a,a-Trifluorotoluene(PID)			98.8	75.0-128	

Laboratory Control Sample (LCS)

(LCS) R3313347-4 05/25/18 00:36

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
TPH (GC/FID) Low Fraction	5.50	5.85	106	70.0-136	
(S) a,a,a-Trifluorotoluene(FID)			104	77.0-120	
(S) a,a,a-Trifluorotoluene(PID)			109	75.0-128	



[L996532-01,02,03,04](#)

L996532-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L996532-04 05/25/18 08:48 • (MS) R3313347-6 05/25/18 09:32 • (MSD) R3313347-7 05/25/18 09:55

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Benzene	0.0500	ND	0.0251	0.0209	50.1	41.8	1	10.0-146			18.1	29
Toluene	0.0500	ND	0.0265	0.0211	53.0	42.3	1	10.0-143			22.6	30
Ethylbenzene	0.0500	ND	0.0293	0.0226	58.6	45.2	1	10.0-147			25.9	31
Total Xylene	0.150	ND	0.0875	0.0655	58.3	43.7	1	10.0-149	J6	J3 J6	28.8	30
(S) a,a,a-Trifluorotoluene(FID)					97.0	96.5		77.0-120				
(S) a,a,a-Trifluorotoluene(PID)					96.3	96.9		75.0-128				

L996532-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L996532-04 05/25/18 08:48 • (MS) R3313347-8 05/25/18 10:18 • (MSD) R3313347-9 05/25/18 10:40

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
TPH (GC/FID) Low Fraction	5.50	ND	1.30	1.27	23.7	23.1	1	10.0-147			2.53	30
(S) a,a,a-Trifluorotoluene(FID)					94.8	94.2		77.0-120				
(S) a,a,a-Trifluorotoluene(PID)					97.4	98.2		75.0-128				

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc



Method Blank (MB)

(MB) R3313205-1 05/25/18 21:08

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
C10-C28 Diesel Range	U		1.61	4.00
C28-C40 Oil Range	U		0.274	4.00
(S) o-Terphenyl	82.5			18.0-148

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3313205-2 05/25/18 21:20 • (LCSD) R3313205-3 05/25/18 21:33

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
C10-C28 Diesel Range	50.0	36.5	39.7	73.1	79.4	50.0-150			8.32	20
(S) o-Terphenyl				84.0	88.1	18.0-148				

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc



Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Abbreviations and Definitions

MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier Description

J3	The associated batch QC was outside the established quality control range for precision.
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.
T8	Sample(s) received past/too close to holding time expiration.

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



ESC Lab Sciences is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our one location design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be YOUR LAB OF CHOICE.

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by ESC Lab Sciences.

State Accreditations

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN-03-2002-34
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico ¹	n/a
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina ¹	DW21704
Georgia	NELAP	North Carolina ³	41
Georgia ¹	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN2000002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LA000356
Kentucky ^{1 6}	90010	South Carolina	84004
Kentucky ²	16	South Dakota	n/a
Louisiana	AI30792	Tennessee ^{1 4}	2006
Louisiana ¹	LA180010	Texas	T 104704245-17-14
Maine	TN0002	Texas ⁵	LAB0152
Maryland	324	Utah	TN00003
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	460132
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA

Third Party Federal Accreditations

A2LA – ISO 17025	1461.01	AIHA-LAP, LLC EMLAP	100789
A2LA – ISO 17025 ⁵	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

¹ Drinking Water ² Underground Storage Tanks ³ Aquatic Toxicity ⁴ Chemical/Microbiological ⁵ Mold ⁶ Wastewater n/a Accreditation not applicable

Our Locations

ESC Lab Sciences has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. ESC Lab Sciences performs all testing at our central laboratory.



Company Name/Address:

Nicholson GeoSolutions. LLC.3433 E. Lake Dr.
Centennial, CO 80121

Billing Information:

Terry Pape
HRM Resources II, LLC
410 17th Street, Suite 1600
Denver, CO 80202

Report to:

Dave Nicholson

Email To:

dknicholson@q.com

Project

Description: **HRM Landfarm Sampling**City/State
Collected:Phone: **303-601-2023**

Client Project #

Lab Project #

Fax:

Collected by (print):

Site/Facility ID #

P.O. #

Collected by (signature)

Rush? (Lab MUST Be Notified)

Date Results Needed

Same Day200%

Next Day100%

☒ Two Day50%☐ Three Day25%Email? ☐ No ☒ YesFAX? ☒ No ☐ YesNo.
of
Cnts

Sample ID

Comp/Grab

Matrix *

Depth

Date

Time

Cowles - 1
Cowles - 2
Cowles - 3
Cowles - 4

SS

5/22

1145

4

SS

↓

1150

↓

SS

↓

1155

↓

SS

↓

1200

↓

SS

SS

SS

SS

SS

SS

SS

TEPH(8015) Diesel & Oil Range (1) 4oz Clear - No Pres

BTEX/TVPH (1) 4oz Clear - No Pres

SAR - 4oz Clear - No Pres

SPCON, pH - 4oz Clear - No Pres

Analysis / Container / Preservative

Chain of Custody

Page 1 of 1

ESC
L.A.B S.C.I.E.N.C.E.S

YOUR LAB OF CHOICE

12055 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859L# **996532****H022**Acctnum: **HRMRESDCO**

Template:

Prelogin:

TSR:

Cooler:

Shipped Via:

Rem./Contaminant

Sample # (lab only)

-01

-02

-03

-04

* Matrix: **SS** - Soil **GW** - Groundwater **WW** - WasteWater **DW** - Drinking Water **OT** - Other

Remarks:

Relinquished by: (Signature)

Date:

Time:

4361 6930 2075

Received by: (Signature)

Relinquished by: (Signature)

Date:

Time:

Received by: (Signature)

Relinquished by: (Signature)

Date:

Time:

Received for lab by: (Signature)

pH _____ Temp _____

Flow _____ Other _____

Samples returned via: ☐ UPS☒ FedEx ☐ Courier ☐ _____

Temp: _____ °C Bottles Received:

0.5 °C 16

Date: _____ Time: _____

5/24/18 0845

Hold #

Condition: (lab use only)

COC Seal Intact: ☐ Y ☒ N ☐ NA

pH Checked:

NCF:

ESC LAB SCIENCES Cooler Receipt Form

Client: <u>HR MR B5DC0</u>	SDG#	<u>996532</u>	
Cooler Received/Opened On: <u>5/24/18</u>	Temperature:	<u>0.5</u>	
Received By: Kathryn Cason			
Signature: <u>Kathryn Cason</u>			
Receipt Check List	NP	Yes	No
COC Seal Present / Intact?	/		
COC Signed / Accurate?		/	
Bottles arrive intact?		/	
Correct bottles used?		/	
Sufficient volume sent?		/	
If Applicable			
VOA Zero headspace?			
Preservation Correct / Checked?			

June 11, 2018

HRM Resources, LLC - Denver, CO

Sample Delivery Group: L999863
Samples Received: 06/07/2018
Project Number:
Description: HRM Landfarm Sampling

Report To: Dave Nicholson
410 17th St., Ste. 1600
Denver, CO 80202

Entire Report Reviewed By:



Mark W. Beasley
Technical Service Representative

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by ESC is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.



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COWLES P-1 L999863-02	8	⁴ Cn
COWLES P-4 L999863-03	9	⁵ Sr
ANDERSON-1 L999863-04	10	
ANDERSON-2 L999863-05	11	⁶ Qc
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SAMPLE SUMMARY

ONE LAB. NATIONWIDE.



LIPPLEMANN P-1 L999863-01 Solid

Collected by
David Cox

Collected date/time
06/06/18 10:30

Received date/time
06/07/18 08:45

¹ Cp

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Calculated Results	WG1121485	1	06/08/18 14:04	06/09/18 15:53	WBD
Wet Chemistry by Method 9045D	WG1121586	1	06/08/18 09:29	06/08/18 10:45	MLW
Wet Chemistry by Method 9050AMod	WG1121617	1	06/08/18 09:43	06/08/18 11:23	MJA
Volatile Organic Compounds (GC) by Method 8015/8021	WG1121817	1	06/07/18 22:30	06/08/18 17:42	DWR
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1121510	10	06/07/18 23:12	06/08/18 18:05	MTJ

² Tc

³ Ss

⁴ Cn

COWLES P-1 L999863-02 Solid

Collected by
David Cox

Collected date/time
06/06/18 11:30

Received date/time
06/07/18 08:45

⁵ Sr

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Calculated Results	WG1121485	1	06/08/18 14:04	06/09/18 16:03	WBD
Wet Chemistry by Method 9045D	WG1121586	1	06/08/18 09:29	06/08/18 10:45	MLW
Wet Chemistry by Method 9050AMod	WG1121617	1	06/08/18 09:43	06/08/18 11:23	MJA
Volatile Organic Compounds (GC) by Method 8015/8021	WG1121817	1	06/07/18 22:30	06/08/18 18:05	DWR
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1121510	1	06/07/18 23:12	06/08/18 15:29	MTJ

⁶ Qc

⁷ Gl

⁸ Al

COWLES P-4 L999863-03 Solid

Collected by
David Cox

Collected date/time
06/06/18 11:35

Received date/time
06/07/18 08:45

⁹ Sc

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Calculated Results	WG1121485	1	06/08/18 14:04	06/09/18 16:07	WBD
Wet Chemistry by Method 9045D	WG1121586	1	06/08/18 09:29	06/08/18 10:45	MLW
Wet Chemistry by Method 9050AMod	WG1121617	1	06/08/18 09:43	06/08/18 11:23	MJA
Volatile Organic Compounds (GC) by Method 8015/8021	WG1121817	1	06/07/18 22:30	06/08/18 18:27	DWR
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1121510	5	06/07/18 23:12	06/08/18 17:27	MTJ

ANDERSON-1 L999863-04 Solid

Collected by
David Cox

Collected date/time
06/06/18 12:45

Received date/time
06/07/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Calculated Results	WG1121485	1	06/08/18 14:04	06/09/18 16:10	WBD
Wet Chemistry by Method 9045D	WG1121586	1	06/08/18 09:29	06/08/18 10:45	MLW
Wet Chemistry by Method 9050AMod	WG1121617	1	06/08/18 09:43	06/08/18 11:23	MJA
Volatile Organic Compounds (GC) by Method 8015/8021	WG1121817	1	06/07/18 22:30	06/08/18 18:49	DWR
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1121510	10	06/07/18 23:12	06/08/18 18:17	MTJ

ANDERSON-2 L999863-05 Solid

Collected by
David Cox

Collected date/time
06/06/18 12:50

Received date/time
06/07/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Calculated Results	WG1121485	1	06/08/18 14:04	06/09/18 16:13	WBD
Wet Chemistry by Method 9045D	WG1121586	1	06/08/18 09:29	06/08/18 10:45	MLW
Wet Chemistry by Method 9050AMod	WG1121617	1	06/08/18 09:43	06/08/18 11:23	MJA
Volatile Organic Compounds (GC) by Method 8015/8021	WG1121817	1	06/07/18 22:30	06/08/18 19:12	DWR
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1121510	5	06/07/18 23:12	06/08/18 17:14	MTJ

ACCOUNT:

HRM Resources, LLC - Denver, CO

PROJECT:

SDG:

L999863

DATE/TIME:

06/11/18 14:41

PAGE:

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SAMPLE SUMMARY

ONE LAB. NATIONWIDE.



ANDERSON-3 L999863-06 Solid

Collected by
David Cox

Collected date/time
06/06/18 13:00

Received date/time
06/07/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Calculated Results	WG1121485	1	06/08/18 14:04	06/09/18 16:17	WBD
Wet Chemistry by Method 9045D	WG1121586	1	06/08/18 09:29	06/08/18 10:45	MLW
Wet Chemistry by Method 9050AMod	WG1121617	1	06/08/18 09:43	06/08/18 11:23	MJA
Volatile Organic Compounds (GC) by Method 8015/8021	WG1121817	1	06/07/18 22:30	06/08/18 19:34	DWR
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1121510	5	06/07/18 23:12	06/08/18 17:39	MTJ

¹ Cp

² Tc

³ Ss

⁴ Cn

ANDERSON-4 L999863-07 Solid

Collected by
David Cox

Collected date/time
06/06/18 13:05

Received date/time
06/07/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Calculated Results	WG1121485	1	06/08/18 14:04	06/09/18 16:20	WBD
Wet Chemistry by Method 9045D	WG1121586	1	06/08/18 09:29	06/08/18 10:45	MLW
Wet Chemistry by Method 9050AMod	WG1121617	1	06/08/18 09:43	06/08/18 11:23	MJA
Volatile Organic Compounds (GC) by Method 8015/8021	WG1121817	1	06/07/18 22:30	06/08/18 19:56	DWR
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1121510	10	06/07/18 23:12	06/08/18 17:52	MTJ

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

BARFKNECHT-1 L999863-08 Solid

Collected by
David Cox

Collected date/time
06/06/18 13:35

Received date/time
06/07/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Calculated Results	WG1121485	1	06/08/18 14:04	06/09/18 16:23	WBD
Wet Chemistry by Method 9045D	WG1121586	1	06/08/18 09:29	06/08/18 10:45	MLW
Wet Chemistry by Method 9050AMod	WG1121617	1	06/08/18 09:43	06/08/18 11:23	MJA
Volatile Organic Compounds (GC) by Method 8015/8021	WG1121817	1	06/07/18 22:30	06/08/18 20:18	DWR
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1121510	1	06/07/18 23:12	06/08/18 17:01	MTJ

⁹ Sc

BARFKNECHT-2 L999863-09 Solid

Collected by
David Cox

Collected date/time
06/06/18 13:45

Received date/time
06/07/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Calculated Results	WG1121485	1	06/08/18 14:04	06/09/18 16:27	WBD
Wet Chemistry by Method 9045D	WG1121586	1	06/08/18 09:29	06/08/18 10:45	MLW
Wet Chemistry by Method 9050AMod	WG1121617	1	06/08/18 09:43	06/08/18 11:23	MJA
Volatile Organic Compounds (GC) by Method 8015/8021	WG1121817	1	06/07/18 22:30	06/08/18 20:41	DWR
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1121510	1	06/07/18 23:12	06/08/18 15:43	MTJ

BARFKNECHT-3 L999863-10 Solid

Collected by
David Cox

Collected date/time
06/06/18 13:50

Received date/time
06/07/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Calculated Results	WG1121485	1	06/08/18 14:04	06/09/18 16:30	WBD
Wet Chemistry by Method 9045D	WG1121586	1	06/08/18 09:29	06/08/18 10:45	MLW
Wet Chemistry by Method 9050AMod	WG1121617	1	06/08/18 09:43	06/08/18 11:23	MJA
Volatile Organic Compounds (GC) by Method 8015/8021	WG1121817	1	06/07/18 22:30	06/08/18 21:03	DWR
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1121510	1	06/07/18 23:12	06/08/18 15:57	MTJ

ACCOUNT:

HRM Resources, LLC - Denver, CO

PROJECT:

SDG:

L999863

DATE/TIME:

06/11/18 14:41

PAGE:

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SAMPLE SUMMARY

ONE LAB. NATIONWIDE.



BARFKNECHT-4 L999863-11 Solid

Collected by
David CoxCollected date/time
06/06/18 14:00Received date/time
06/07/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Calculated Results	WG1121485	1	06/08/18 14:04	06/09/18 16:34	WBD
Wet Chemistry by Method 9045D	WG1121586	1	06/08/18 09:29	06/08/18 10:45	MLW
Wet Chemistry by Method 9050AMod	WG1121617	1	06/08/18 09:43	06/08/18 11:23	MJA
Volatile Organic Compounds (GC) by Method 8015/8021	WG1121817	1	06/07/18 22:30	06/08/18 21:25	DWR
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1121510	1	06/07/18 23:12	06/08/18 16:11	MTJ

¹Cp²Tc³Ss⁴Cn⁵Sr⁶Qc⁷Gl⁸Al⁹Sc

ACCOUNT:

HRM Resources, LLC - Denver, CO

PROJECT:

SDG:

L999863

DATE/TIME:

06/11/18 14:41

PAGE:

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All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All radiochemical sample results for solids are reported on a dry weight basis with the exception of tritium, carbon-14 and radon, unless wet weight was requested by the client. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Mark W. Beasley
Technical Service Representative

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	8.75		1	06/09/2018 16:03	WG1121485

Wet Chemistry by Method 9045D

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
pH	8.86	T8	1	06/08/2018 10:45	WG1121586

Sample Narrative:

L999863-02 WG1121586: 8.86 at 21.9C

Wet Chemistry by Method 9050AMod

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Specific Conductance	umhos/cm		umhos/cm			
	622		10.0	1	06/08/2018 11:23	WG1121617

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	0.00114		0.000500	1	06/08/2018 18:05	WG1121817
Toluene	ND		0.00500	1	06/08/2018 18:05	WG1121817
Ethylbenzene	ND		0.000500	1	06/08/2018 18:05	WG1121817
Total Xylene	ND		0.00150	1	06/08/2018 18:05	WG1121817
TPH (GC/FID) Low Fraction	ND		0.100	1	06/08/2018 18:05	WG1121817
(S) a,a,a-Trifluorotoluene(FID)	93.2		77.0-120		06/08/2018 18:05	WG1121817
(S) a,a,a-Trifluorotoluene(PID)	93.7		75.0-128		06/08/2018 18:05	WG1121817

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	ND		4.00	1	06/08/2018 15:29	WG1121510
C28-C40 Oil Range	7.87		4.00	1	06/08/2018 15:29	WG1121510
(S) o-Terphenyl	72.8		18.0-148		06/08/2018 15:29	WG1121510

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	8.66		1	06/09/2018 16:07	WG1121485

Wet Chemistry by Method 9045D

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
pH	8.32	T8	1	06/08/2018 10:45	WG1121586

Sample Narrative:

L999863-03 WG1121586: 8.32 at 22.1C

Wet Chemistry by Method 9050AMod

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Specific Conductance	umhos/cm		umhos/cm			
	1480		10.0	1	06/08/2018 11:23	WG1121617

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	ND		0.000500	1	06/08/2018 18:27	WG1121817
Toluene	ND		0.00500	1	06/08/2018 18:27	WG1121817
Ethylbenzene	ND		0.000500	1	06/08/2018 18:27	WG1121817
Total Xylene	ND		0.00150	1	06/08/2018 18:27	WG1121817
TPH (GC/FID) Low Fraction	ND		0.100	1	06/08/2018 18:27	WG1121817
(S) a,a,a-Trifluorotoluene(FID)	92.5		77.0-120		06/08/2018 18:27	WG1121817
(S) a,a,a-Trifluorotoluene(PID)	92.7		75.0-128		06/08/2018 18:27	WG1121817

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	127		20.0	5	06/08/2018 17:27	WG1121510
C28-C40 Oil Range	159		20.0	5	06/08/2018 17:27	WG1121510
(S) o-Terphenyl	61.5		18.0-148		06/08/2018 17:27	WG1121510

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



L999504-01 Original Sample (OS) • Duplicate (DUP)

(OS) L999504-01 06/08/18 10:45 • (DUP) R3316472-3 06/08/18 10:45

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	su	su		%		%
pH	4.88	4.90	1	0.409		1

Sample Narrative:

OS: 4.88 at 22.8C

DUP: 4.9 at 22.3C



L999863-10 Original Sample (OS) • Duplicate (DUP)

(OS) L999863-10 06/08/18 10:45 • (DUP) R3316472-4 06/08/18 10:45

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	su	su		%		%
pH	8.82	8.85	1	0.340		1

Sample Narrative:

OS: 8.82 at 21.9C

DUP: 8.85 at 21.9C

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3316472-1 06/08/18 10:45 • (LCSD) R3316472-2 06/08/18 10:45

	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Analyte	su	su	su	%	%	%			%	%
pH	10.0	9.96	9.97	99.6	99.7	99.0-101			0.100	1

Sample Narrative:

LCS: 9.96 at 20.5C

LCSD: 9.97 at 20.6C



Method Blank (MB)

(MB) R3316456-1 06/08/18 11:23

Analyte	MB Result umhos/cm	MB Qualifier	MB MDL umhos/cm	MB RDL umhos/cm
Specific Conductance	U		10.0	10.0

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

L999790-01 Original Sample (OS) • Duplicate (DUP)

(OS) L999790-01 06/08/18 11:23 • (DUP) R3316456-4 06/08/18 11:23

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	519	520	1	0.192		20

L999863-07 Original Sample (OS) • Duplicate (DUP)

(OS) L999863-07 06/08/18 11:23 • (DUP) R3316456-5 06/08/18 11:23

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	1350	1350	1	0.743		20

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3316456-2 06/08/18 11:23 • (LCSD) R3316456-3 06/08/18 11:23

Analyte	Spike Amount umhos/cm	LCS Result umhos/cm	LCSD Result umhos/cm	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Specific Conductance	877	876	875	99.9	99.8	85.0-115			0.114	20



Method Blank (MB)

(MB) R3316721-5 06/08/18 13:36

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Benzene	U		0.000120	0.000500
Toluene	U		0.000150	0.00500
Ethylbenzene	U		0.000110	0.000500
Total Xylene	U		0.000460	0.00150
TPH (GC/FID) Low Fraction	U		0.0217	0.100
(S) a,a,a-Trifluorotoluene(FID)	96.7			77.0-120
(S) a,a,a-Trifluorotoluene(PID)	98.5			75.0-128

1
Cp

2
Tc

3
Ss

4
Cn

5
Sr

6
Qc

7
Gl

8
Al

9
Sc

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3316721-1 06/08/18 11:44 • (LCSD) R3316721-2 06/08/18 12:06

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Benzene	0.0500	0.0480	0.0488	96.0	97.5	71.0-121			1.61	20
Toluene	0.0500	0.0495	0.0496	99.1	99.1	72.0-120			0.0949	20
Ethylbenzene	0.0500	0.0491	0.0499	98.3	99.7	76.0-121			1.49	20
Total Xylene	0.150	0.148	0.150	98.9	100	75.0-124			1.21	20
(S) a,a,a-Trifluorotoluene(FID)				97.6	97.1	77.0-120				
(S) a,a,a-Trifluorotoluene(PID)				96.7	97.0	75.0-128				

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3316721-3 06/08/18 12:28 • (LCSD) R3316721-4 06/08/18 12:51

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
TPH (GC/FID) Low Fraction	5.50	5.78	5.75	105	104	70.0-136			0.579	20
(S) a,a,a-Trifluorotoluene(FID)				102	102	77.0-120				
(S) a,a,a-Trifluorotoluene(PID)				108	108	75.0-128				



L999863-06 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L999863-06 06/08/18 19:34 • (MS) R3316721-6 06/08/18 21:47 • (MSD) R3316721-7 06/08/18 22:10

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Benzene	0.0500	ND	0.0201	0.0187	40.2	37.3	1	10.0-146			7.54	29
Toluene	0.0500	ND	0.0111	0.0136	20.7	25.7	1	10.0-143			20.1	30
Ethylbenzene	0.0500	ND	0.00496	0.00779	9.93	15.6	1	10.0-147	J6	J3	44.3	31
Total Xylene	0.150	ND	0.0123	0.0196	7.86	12.7	1	10.0-149	J6	J3 J6	45.7	30
(S) a,a,a-Trifluorotoluene(FID)					87.4	87.4		77.0-120				
(S) a,a,a-Trifluorotoluene(PID)					87.9	88.9		75.0-128				

L999863-06 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L999863-06 06/08/18 19:34 • (MS) R3316721-8 06/08/18 22:32 • (MSD) R3316721-9 06/08/18 22:54

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
TPH (GC/FID) Low Fraction	5.50	ND	2.25	2.16	40.8	39.4	1	10.0-147			3.64	30
(S) a,a,a-Trifluorotoluene(FID)					86.6	88.5		77.0-120				
(S) a,a,a-Trifluorotoluene(PID)					90.2	93.5		75.0-128				

1
Cp

2
Tc

3
Ss

4
Cn

5
Sr

6
Qc

7
Gl

8
Al

9
Sc



Method Blank (MB)

(MB) R3316537-1 06/08/18 12:59

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
C10-C28 Diesel Range	U		1.61	4.00
C28-C40 Oil Range	U		0.274	4.00
(S) o-Terphenyl	74.8			18.0-148

1
Cp

2
Tc

3
Ss

4
Cn

5
Sr

6
Qc

7
Gl

8
Al

9
Sc

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3316537-3 06/08/18 13:40 • (LCSD) R3316537-2 06/08/18 13:26

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
C10-C28 Diesel Range	50.0	30.7	30.0	61.4	60.0	50.0-150			2.26	20
(S) o-Terphenyl				69.9	71.1	18.0-148				

L999790-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L999790-01 06/08/18 14:07 • (MS) R3316537-4 06/08/18 14:21 • (MSD) R3316537-5 06/08/18 14:35

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
C10-C28 Diesel Range	50.0	ND	35.2	37.3	70.3	74.6	1	50.0-150			5.92	20
(S) o-Terphenyl					76.3	85.3		18.0-148				



Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Abbreviations and Definitions

MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier Description

J3	The associated batch QC was outside the established quality control range for precision.
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.
T8	Sample(s) received past/too close to holding time expiration.

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



ESC Lab Sciences is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our one location design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be YOUR LAB OF CHOICE.

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by ESC Lab Sciences.

State Accreditations

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN-03-2002-34
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico ¹	n/a
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina ¹	DW21704
Georgia	NELAP	North Carolina ³	41
Georgia ¹	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN2000002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LA000356
Kentucky ^{1 6}	90010	South Carolina	84004
Kentucky ²	16	South Dakota	n/a
Louisiana	AI30792	Tennessee ^{1 4}	2006
Louisiana ¹	LA180010	Texas	T 104704245-17-14
Maine	TN0002	Texas ⁵	LAB0152
Maryland	324	Utah	TN00003
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	460132
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA

Third Party Federal Accreditations

A2LA – ISO 17025	1461.01	AIHA-LAP, LLC EMLAP	100789
A2LA – ISO 17025 ⁵	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

¹ Drinking Water ² Underground Storage Tanks ³ Aquatic Toxicity ⁴ Chemical/Microbiological ⁵ Mold ⁶ Wastewater n/a Accreditation not applicable

Our Locations

ESC Lab Sciences has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. ESC Lab Sciences performs all testing at our central laboratory.



Company Name/Address:

Nicholson GeoSolutions. LLC.**3433 E. Lake Dr.
Centennial, CO 80121**

Billing Information:

**Terry Pape
HRM Resources II, LLC
410 17th Street, Suite 1600
Denver, CO 80202**

Analysis / Container / Preservative

Chain of Custody Page 1 of 2



YOUR LAB OF CHOICE

12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

Report to:

Dave Nicholson + Dave Cox

Email To:

dknicholson@q.comProject
Description: **HRM Landfarm Sampling**

City/State

Collected:

Phone: **303-601-2023**

Client Project #

Lab Project #

Fax:

Collected by (print):

D. COX

Site/Facility ID #

P.O. #

Collected by (signature):

*D. Cox***Rush? (Lab MUST Be Notified)**

Same Day200%

Next Day100%

☒ Two Day50%

Three Day25%

Date Results Needed

Email? ☐ No ☐ YesFAX? ☐ No ☐ YesNo.
of
CntrsImmediately
Packed on Ice N ☒

Sample ID

Comp/Grab

Matrix *

Depth

Date

Time

Lippelmann P-1

G

SS

6-6-18

1030

4

Cowles P-1

G

SS

1130

4

Cowles P-4

G

SS

1135

4

Anderson - 1

G

SS

1245

4

Anderson - 2

G

SS

1250

4

Anderson - 3

G

SS

1300

4

Anderson - 4

G

SS

1305

4

SS

2

SS

2

SS

2

* Matrix: SS - Soil GW - Groundwater WW - WasteWater DW - Drinking Water OT - Other

pH Temp

Remarks:

Flow Other

Hold #

Relinquished by: (Signature)

Date:

6-6-18

Time:

1730

Received by: (Signature)

Samples returned via: ☐ UPS

Condition: (lab use only)

Relinquished by: (Signature)

Date:

Time:

Received by: (Signature)

Temp: °C Bottles Received:

COC Seal Intact: ☒ Y ☐ N ☐ NA

Relinquished by: (Signature)

Date:

Time:

Received for lab by: (Signature)

Date: Time:

pH Checked:


NCF:

Eric H. Huber

6/7/18 0845

ESC LAB SCIENCES

Cooler Receipt Form

Client: HR MRES DCO	SDG#	999863		
Cooler Received/Opened On: 6/7/18	Temperature:	0.2°		
Received By: Eric Struck				
Signature: 				
Receipt Check List		NP	Yes	No
		/		
COC Signed / Accurate?			/	
Bottles arrive intact?			/	
Correct bottles used?			/	
Sufficient volume sent?			/	
If Applicable				
VOA Zero headspace?				
Preservation Correct / Checked?				