Parkhill

2023 SEMIANNUAL MONITORING REPORT
(SAMPLING DATE: JUNE 21, 2023)

R360 ENVIRONMENTAL SOLUTIONS
R360 Artesia LLC Landfarm
Maljamar, New Mexico

October | 2023

Parkhill Project # 04056122

Parkhill

TABLE OF CONTENTS

Parkhill

1.0 INTRODUCTION

On behalf of our client, R360 Environmental Solutions, LLC (R360), Parkhill is pleased to present the 2023 First Semi-annual Monitoring Report for the R360 Artesia, LLC Landfarm (landfarm) for samples collected on June 21, 2023. Pursuant to 19.15.9.711 NMAC, the New Mexico Oil Conservation Division (OCD)-issued permit No. NM1-30 to Artesia Aeration Landfarm on November 29, 1999 as a commercial surface waste management facility for the treatment of exempt oil field waste consisting primarily of petroleum hydrocarbon-impacted soil and drill cuttings. R360 acquired the landfarm in April 2011 and has not accepted new material since that time. The landfarm occupies approximately 48.4 acres in Unit A (NE/4, NE/4) of Section 7, Township 17 South, Range 32 East, Lea County, New Mexico, as depicted on the Site Location Map (Figure 1). The landfarm is divided into six cells (cells 1 through 6) ranging in size from about 2.74 acres (Cell 1) to 13.28 acres (Cell 6). Figure 2 is a site map depicting facility layout and locations of the vadose and treatment zone samples collected during this semiannual sampling event.

2.0 MONITORING PROGRAM

Samples are no longer collected from Cell 6 due to the removal of treatment zone soils overlying the perched water zone beneath Cell 6 and the southwestern corner of Cell 5. Removed soils were placed as additional lifts in cells 1, 3, and 4 in 2015. OCD granted approval for adding additional lifts of contaminated soil to Cell 2 on March 23, 2015, and in cells 1, 3, and 4 on November 21, 2016. No contaminated soils have since been added to those cells since those dates. Therefore, treatment zone samples are not necessary in cells 1, 2, 3, and 4, as they have met closure performance standards and do not require additional remediation. Treatment zone samples continue to be collected in Cell 5 which continues progressing toward remediation levels in order to meet closure performance standards identified 19.15.36.15.D NMAC.

On May 3, 2017, R360 requested approval from OCD for a minor permit modification to reduce the required quarterly vadose zone monitoring frequency for total petroleum hydrocarbons (TPH) and volatile aromatic organics (BTEX) to semi-annual as required by 19.15.36.15.E(2) NMAC. In accordance with OCD's written approval of the minor permit modification on May 9, 2017, the vadose zone is monitored for TPH, BTEX, and chloride semi-annually; and for major cations/anions and Water Quality Control Commission (WQCC) metals annually.

3.0 SOIL SAMPLING PROCEDURES

Vadose zone samples are collected from cells 1 through 5 at 2 to 3 feet below native ground surface or to the naturally indurated caliche layer, whichever is encountered first. The samples are collected with a clean stainless steel trowel after a backhoe temporarily excavates the overlying treatment zone soils from each location, and then excavated 2 to 3 feet into native soils where a sample is collected. The samples are then placed in 4-ounce glass containers, properly labeled, and placed in a cooler with ice. The native soils are then returned to the excavation until the original ground surface is reached, followed by the replacement of removed treatment zone soils to the temporary excavation with the backhoe.

A treatment zone sample is collected from an approximate depth of 1 foot into the treatment (tilled) zone at Cell 5 using a stainless steel trowel. Treatment zone sample aliquots from four discrete locations are composited into a single sample and immediately placed in a 4- ounce containers, properly labeled, and placed in a cooler with ice.

The locations of all samples are accurately recorded with a Garmin® Etrex 22x handheld GPS receiver. All soil samples were delivered with appropriate chain of custody documentation to Hall Environmental Analysis Laboratory (Albuquerque, NM), which is accredited under the National Environmental Laboratory Accreditation Program (NELAP). Laboratory analysis was performed for each constituent using the following methods:

- TPH (C6- C36) using EPA Method 8015;
- BTEX using EPA Method 8021B;
- WQCC metals (Subsections A and B of 20.6.2.3103 NMAC- Arsenic, Barium, Cadmium, Chromium, Lead, Total Mercury, Selenium, Silver, Copper, Iron, Manganese, Zinc) using EPA Methods 6010B and 7471B (Total Mercury);
- Major cations (Calcium, Magnesium, Sodium, and Potassium) using EPA Method 6010B, and major anions (Chloride, Sulfate, and Bicarbonate) using EPA Methods 300, 375, and 310.

4.0 LABORATORY ANALYTICAL TEST RESULTS

Treatment and vadose zone sample analytical results for this event are summarized in Table 1 (BTEX, TPH, and Chloride). Additional vadose zone sample analytical results for this monitoring event are summarized in Tables 2 (WQCC metals), and Table 3 (Cations/Anions). Laboratory analytical reports and chains of custody are included as Exhibit A.

R360 is in the process of addressing OCD concerns with respect to their letter dated May 13, 2022, in particular, the monitoring program and establishing background levels. After review of this monitoring report by OCD, R360 will be in touch with OCD to discuss the monitoring program and other concerns. Plans are to submit a Background Sampling Plan, establish background levels for comparison to vadose zone sampling results.

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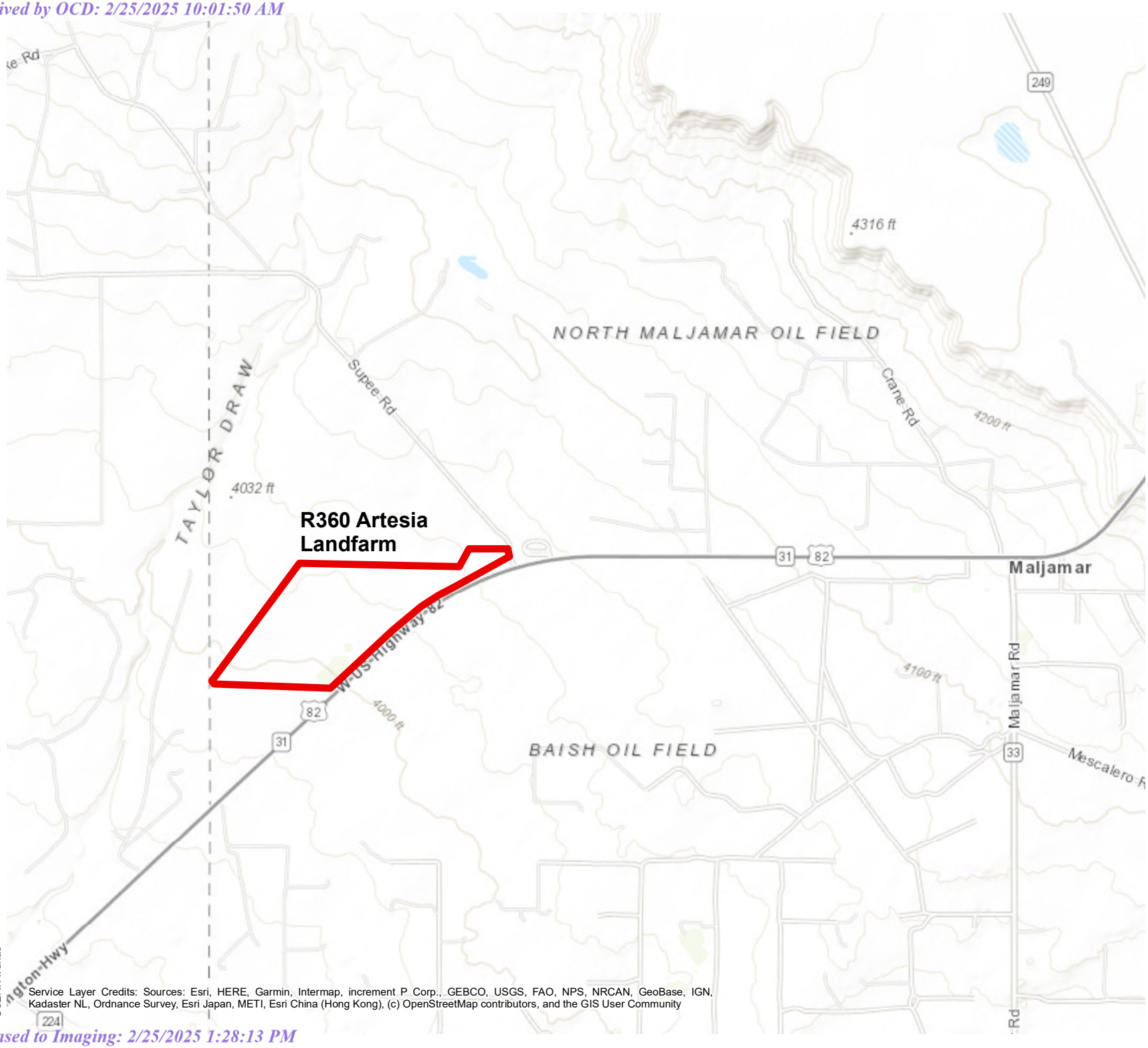
Figures



1 inch = 3,000 feet

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Figure 1: Site Location Map

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Service Layer Credits: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

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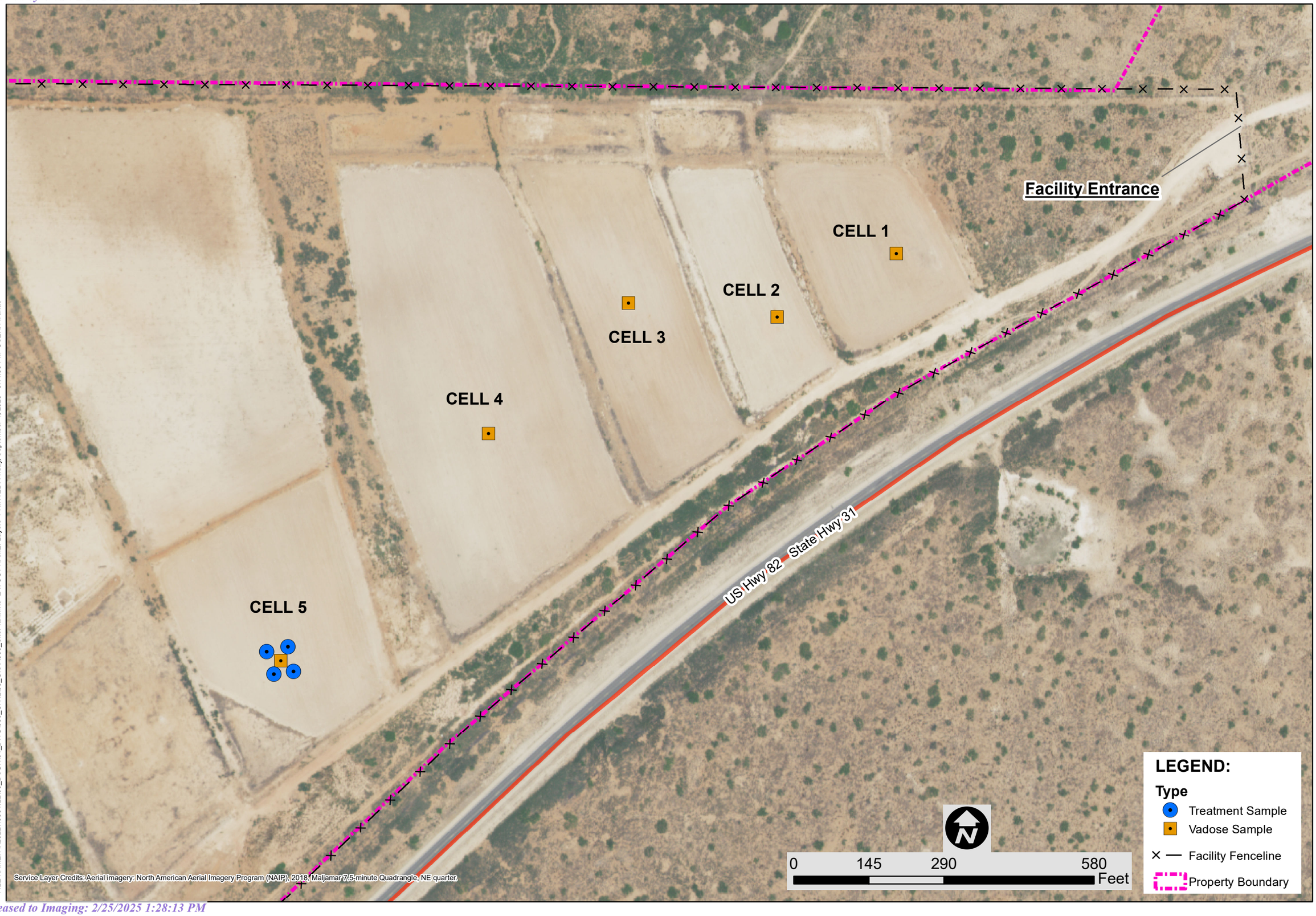
USER: AYuhas



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Issue: SEMIANNUAL MONITORING
Project No: 04056122.00
Date: 09/01/2023
Figuret: 2

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Landfarm
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Tables

Table 1
R360 Artesia - PCS Landfarm Soil Sampling Results - 2023
Summary of Benzene, BTEX, TPH and Chloride Results (mg/kg)

Cell	Date	Zone	Depth (ft btz)	Benzene	Toluene	Ethyl-benzene	Xylenes	Total BTEX[1]	GRO	DRO	MRO	TPH[1]	Chloride
1	6/21/2023	Vadose	2.5	<0.024	<0.047	<0.047	<0.095	<0.213	<4.7	<9.2	<46	<59.9	24
	TBD		--	--	--	--	--	--	--	--	--	--	--
2	6/21/2023	Vadose	2.5	<0.025	<0.050	<0.050	<0.099	<0.224	<5.0	<9.3	<47	<61.3	400
	TBD		--	--	--	--	--	--	--	--	--	--	--
3	6/21/2023	Vadose	2.75	<0.025	<0.049	<0.049	<0.099	<0.222	<4.9	<9.6	<48	<62.5	10
	TBD		--	--	--	--	--	--	--	--	--	--	--
4	6/21/2023	Vadose	2.5	<0.024	<0.048	<0.048	<0.097	<0.217	<4.8	<9.5	<47	<61.3	65
	TBD		--	--	--	--	--	--	--	--	--	--	--
5	6/21/2023	Treatment	1' bgs	*na*	*na*	*na*	*na*	*na*	<4.6	330	700	1030	540
	TBD		--	--	--	--	--	--	--	--	--	--	--
	6/21/2023	Vadose	2.5	<0.024	<0.049	<0.049	<0.098	<0.220	<4.9	<9.9	<49	<63.8	540
	TBD		--	--	--	--	--	--	--	--	--	--	--
	Background*:			*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.006*	*<10.4*	*<10.4*	*<10.4*	*<31.2*	*<5.04*
	Reporting limit (RL):			0.025	0.050	0.050	0.099	--	5.0	9.9	49	--	7.5
	19.15.36.15(F) Closure Standards:			0.2	NA	NA	NA	50	500		--	2500	500
	19.15.29.12 Closure Standards:			10	NA	NA	NA	50	1000		--	2500	10000

Table 2
R360 Artesia - PCS Landfarm Soil Sampling Results - 2023
Summary of WQCC Metals in Vadose Zone Samples (mg/kg)
(Samples collected June 21, 2023)

Cell	Depth (ft btz)	Ag	As	Ba	Cd	Cr	Cu	Fe	Hg	Mn	Pb	Se	Zn
1	2.5	<1.0	<10	42	<0.50	4.6	<4.0	5200	<0.074	51	<3.0	<5.0	11
2	2.5	1.2	<10	570	<0.51	7.7	<4.0	9800	<0.073	110	<3.0	8.1	16
3	2.75	<0.96	<9.6	38	<0.48	4.6	<3.8	5100	<0.072	55	<2.9	<4.8	12
4	2.5	<0.97	<9.7	18	<0.48	3.9	<3.9	4300	<0.073	43	<2.9	<4.8	9.0
5	2.5	<1.0	<10	16	<0.50	4.1	<4.0	4400	<0.072	37	<3.0	<5.0	9.7
Reporting Limit (RL):		1.0	10.0	0.2	<0.5	0.6	4.0	200	0.074	0.5	3.0	5.0	5.0
Background*:		*1.71*	*3.13*	*55.6*	*1.71*	*9.67*	*1.02*	*13798*	*0.0101*	*73.3*	*2.53*	*6.46*	*25.6*

Table 3
R360 Artesia - PCS Landfarm Soil Sampling Results - 2023
Summary of Major Cations/Anions in Vadose Zone Samples (mg/kg)
(Samples collected June 21, 2023)

Cell	Depth (ft btz)	Cations				Anions		T-Alk
		Ca	Mg	K	Na	Cl	SO_4	
1	2.5	15000	1300	1200	210	24	460	117
2	2.5	190000	6600	2200	400	400	430	71
3	2.75	5300	1100	1200	<96	10	76	117
4	2.5	590	800	920	170	65	420	83
5	2.5	460	680	960	750	540	180	114

NOTES:
btz - Depth below treatment zone (i.e., below native ground surface)
bgs - Depth below existing ground surface
na - Samples collected from the Treatment Zone were not analyzed for this constituent
ns - Samples were not collected for selected analysis
"--" - Second 2023 sampling event has not yet been conducted.
[1] - As a coneservative approach, the non-detection threshold for TPH is the sum of individual detection limits
All concentrations reported in mg/kg (parts per million)
Treatment zone depths are listed as feet below existing ground surface
Vadose Zone depth listed in feet below native ground surface (feet beolw bottomof Treatment Zone)
* - Background concentration values provided in 2022 Annual report, but not approved by OCD

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Exhibit A: Laboratory Analytical Test Results and Chain of Custody Documentation

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

August 15, 2023

Mike Kingsley

Parkhill
333 Rio Rancho Blvd. N.E., Suite 400
Rio Rancho, NM 87124
TEL: (505) 867-6990
FAX: (505) 867-6991

RE: R360 Artesia Landfarm OrderNo.: 2306B86

Dear Mike Kingsley:

Hall Environmental Analysis Laboratory received 6 sample(s) on 6/21/2023 for the analyses presented in the following report.

This report is a revised report and it replaces the original report issued July 28, 2023.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. All samples are reported as received unless otherwise indicated.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **2306B86**
Date Reported: **8/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Parkhill
Client Sample ID: VZ-1
Project: R360 Artesia Landfarm
Collection Date: 6/21/2023 10:00:00 AM
Lab ID: 2306B86-001 **Matrix:** SOIL **Received Date:** 6/21/2023 4:19:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **JMT**	
Chloride	24	7.5		mg/Kg	5	6/26/2023 12:28:24 PM	75836
Sulfate	460	7.5		mg/Kg	5	6/26/2023 12:28:24 PM	75836
EPA METHOD 7471B: MERCURY						Analyst: **tem**	
Mercury	ND	0.074	H	mg/Kg	1	8/3/2023 1:16:24 PM	76615
EPA METHOD 6010B: SOIL METALS						Analyst: **VP**	
Arsenic	ND	10		mg/Kg	2	6/28/2023 12:49:13 PM	75841
Barium	42	0.20		mg/Kg	2	6/28/2023 11:30:41 AM	75841
Cadmium	ND	0.50		mg/Kg	2	6/28/2023 11:30:41 AM	75841
Calcium	15000	250		mg/Kg	5	6/28/2023 11:32:42 AM	75841
Chromium	4.6	0.60		mg/Kg	2	6/28/2023 11:30:41 AM	75841
Copper	ND	4.0		mg/Kg	2	6/28/2023 11:30:41 AM	75841
Iron	5200	500		mg/Kg	50	7/3/2023 12:24:41 PM	75841
Lead	ND	3.0		mg/Kg	2	6/28/2023 11:30:41 AM	75841
Magnesium	1300	100		mg/Kg	2	6/28/2023 11:30:41 AM	75841
Manganese	51	0.50		mg/Kg	2	6/28/2023 11:30:41 AM	75841
Potassium	1200	100		mg/Kg	2	6/28/2023 11:30:41 AM	75841
Selenium	ND	5.0		mg/Kg	2	7/3/2023 12:23:05 PM	75841
Silver	ND	1.0		mg/Kg	2	6/28/2023 11:30:41 AM	75841
Sodium	210	100		mg/Kg	2	6/28/2023 11:30:41 AM	75841
Zinc	11	5.0		mg/Kg	2	6/28/2023 11:30:41 AM	75841
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**	
Diesel Range Organics (DRO)	ND	9.2		mg/Kg	1	6/27/2023 5:49:11 PM	75820
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	6/27/2023 5:49:11 PM	75820
Surr: DNOP	107	69-147		%Rec	1	6/27/2023 5:49:11 PM	75820
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **KMN**	
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	6/26/2023 6:43:00 PM	75813
Surr: BFB	96.0	15-244		%Rec	1	6/26/2023 6:43:00 PM	75813
EPA METHOD 8021B: VOLATILES						Analyst: **KMN**	
Methyl tert-butyl ether (MTBE)	ND	0.095		mg/Kg	1	6/26/2023 6:43:00 PM	75813
Benzene	ND	0.024		mg/Kg	1	6/26/2023 6:43:00 PM	75813
Toluene	ND	0.047		mg/Kg	1	6/26/2023 6:43:00 PM	75813
Ethylbenzene	ND	0.047		mg/Kg	1	6/26/2023 6:43:00 PM	75813
Xylenes, Total	ND	0.095		mg/Kg	1	6/26/2023 6:43:00 PM	75813
Surr: 4-Bromofluorobenzene	94.0	39.1-146		%Rec	1	6/26/2023 6:43:00 PM	75813

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2306B86**
Date Reported: **8/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Parkhill
Client Sample ID: VZ-2
Project: R360 Artesia Landfarm
Collection Date: 6/21/2023 9:30:00 AM
Lab ID: 2306B86-002 **Matrix:** SOIL **Received Date:** 6/21/2023 4:19:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **JMT**	
Chloride	400	30		mg/Kg	20	6/26/2023 2:07:42 PM	75836
Sulfate	430	7.5		mg/Kg	5	6/26/2023 1:55:17 PM	75836
EPA METHOD 7471B: MERCURY						Analyst: **tem**	
Mercury	ND	0.073	H	mg/Kg	1	8/3/2023 1:18:31 PM	76615
EPA METHOD 6010B: SOIL METALS						Analyst: **VP**	
Arsenic	ND	10		mg/Kg	2	6/28/2023 12:52:13 PM	75841
Barium	570	0.51		mg/Kg	5	6/28/2023 11:37:06 AM	75841
Cadmium	ND	0.51		mg/Kg	2	6/28/2023 11:34:54 AM	75841
Calcium	190000	2500		mg/Kg	50	7/3/2023 12:27:50 PM	75841
Chromium	7.7	0.61		mg/Kg	2	6/28/2023 11:34:54 AM	75841
Copper	ND	4.0		mg/Kg	2	6/28/2023 11:34:54 AM	75841
Iron	9800	510		mg/Kg	50	7/3/2023 12:27:50 PM	75841
Lead	ND	3.0		mg/Kg	2	6/28/2023 11:34:54 AM	75841
Magnesium	6600	100		mg/Kg	2	6/28/2023 11:34:54 AM	75841
Manganese	110	0.51		mg/Kg	2	6/28/2023 11:34:54 AM	75841
Potassium	2200	100		mg/Kg	2	6/28/2023 11:34:54 AM	75841
Selenium	8.1	5.1		mg/Kg	2	7/3/2023 12:26:10 PM	75841
Silver	1.2	1.0		mg/Kg	2	6/28/2023 11:34:54 AM	75841
Sodium	400	100		mg/Kg	2	6/28/2023 11:34:54 AM	75841
Zinc	16	5.1		mg/Kg	2	6/28/2023 11:34:54 AM	75841
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**	
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	6/27/2023 1:51:08 PM	75820
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	6/27/2023 1:51:08 PM	75820
Surr: DNOP	97.8	69-147		%Rec	1	6/27/2023 1:51:08 PM	75820
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **KMN**	
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	6/26/2023 7:05:00 PM	75813
Surr: BFB	97.2	15-244		%Rec	1	6/26/2023 7:05:00 PM	75813
EPA METHOD 8021B: VOLATILES						Analyst: **KMN**	
Methyl tert-butyl ether (MTBE)	ND	0.099		mg/Kg	1	6/26/2023 7:05:00 PM	75813
Benzene	ND	0.025		mg/Kg	1	6/26/2023 7:05:00 PM	75813
Toluene	ND	0.050		mg/Kg	1	6/26/2023 7:05:00 PM	75813
Ethylbenzene	ND	0.050		mg/Kg	1	6/26/2023 7:05:00 PM	75813
Xylenes, Total	ND	0.099		mg/Kg	1	6/26/2023 7:05:00 PM	75813
Surr: 4-Bromofluorobenzene	92.4	39.1-146		%Rec	1	6/26/2023 7:05:00 PM	75813

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2306B86**
Date Reported: **8/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Parkhill
Client Sample ID: VZ-3
Project: R360 Artesia Landfarm
Collection Date: 6/21/2023 9:15:00 AM
Lab ID: 2306B86-003 **Matrix:** SOIL **Received Date:** 6/21/2023 4:19:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **JMT**	
Chloride	10	7.5		mg/Kg	5	6/26/2023 2:20:06 PM	75836
Sulfate	76	7.5		mg/Kg	5	6/26/2023 2:20:06 PM	75836
EPA METHOD 7471B: MERCURY						Analyst: **tem**	
Mercury	ND	0.072	H	mg/Kg	1	8/3/2023 1:20:39 PM	76615
EPA METHOD 6010B: SOIL METALS						Analyst: **VP**	
Arsenic	ND	9.6		mg/Kg	2	6/28/2023 12:55:09 PM	75841
Barium	38	0.19		mg/Kg	2	6/28/2023 11:39:07 AM	75841
Cadmium	ND	0.48		mg/Kg	2	6/28/2023 11:39:07 AM	75841
Calcium	5300	96		mg/Kg	2	6/28/2023 11:39:07 AM	75841
Chromium	4.6	0.58		mg/Kg	2	6/28/2023 11:39:07 AM	75841
Copper	ND	3.8		mg/Kg	2	6/28/2023 11:39:07 AM	75841
Iron	5100	480		mg/Kg	50	7/3/2023 12:38:06 PM	75841
Lead	ND	2.9		mg/Kg	2	6/28/2023 11:39:07 AM	75841
Magnesium	1100	96		mg/Kg	2	6/28/2023 11:39:07 AM	75841
Manganese	55	0.48		mg/Kg	2	6/28/2023 11:39:07 AM	75841
Potassium	1200	96		mg/Kg	2	6/28/2023 11:39:07 AM	75841
Selenium	ND	4.8		mg/Kg	2	7/3/2023 12:36:31 PM	75841
Silver	ND	0.96		mg/Kg	2	6/28/2023 11:39:07 AM	75841
Sodium	ND	96		mg/Kg	2	6/28/2023 11:39:07 AM	75841
Zinc	12	4.8		mg/Kg	2	6/28/2023 11:39:07 AM	75841
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**	
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	6/27/2023 2:01:54 PM	75820
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	6/27/2023 2:01:54 PM	75820
Surr: DNOP	96.5	69-147		%Rec	1	6/27/2023 2:01:54 PM	75820
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **KMN**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	6/26/2023 7:28:00 PM	75813
Surr: BFB	100	15-244		%Rec	1	6/26/2023 7:28:00 PM	75813
EPA METHOD 8021B: VOLATILES						Analyst: **KMN**	
Methyl tert-butyl ether (MTBE)	ND	0.099		mg/Kg	1	6/26/2023 7:28:00 PM	75813
Benzene	ND	0.025		mg/Kg	1	6/26/2023 7:28:00 PM	75813
Toluene	ND	0.049		mg/Kg	1	6/26/2023 7:28:00 PM	75813
Ethylbenzene	ND	0.049		mg/Kg	1	6/26/2023 7:28:00 PM	75813
Xylenes, Total	ND	0.099		mg/Kg	1	6/26/2023 7:28:00 PM	75813
Surr: 4-Bromofluorobenzene	93.2	39.1-146		%Rec	1	6/26/2023 7:28:00 PM	75813

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2306B86**
Date Reported: **8/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Parkhill
Client Sample ID: VZ-4
Project: R360 Artesia Landfarm
Collection Date: 6/21/2023 9:00:00 AM
Lab ID: 2306B86-004 **Matrix:** SOIL **Received Date:** 6/21/2023 4:19:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **JMT**	
Chloride	65	7.5		mg/Kg	5	6/26/2023 2:44:54 PM	75836
Sulfate	420	7.5		mg/Kg	5	6/26/2023 2:44:54 PM	75836
EPA METHOD 7471B: MERCURY						Analyst: **tem**	
Mercury	ND	0.073	H	mg/Kg	1	8/3/2023 1:22:46 PM	76615
EPA METHOD 6010B: SOIL METALS						Analyst: **VP**	
Arsenic	ND	9.7		mg/Kg	2	6/28/2023 12:58:06 PM	75841
Barium	18	0.19		mg/Kg	2	6/28/2023 11:43:19 AM	75841
Cadmium	ND	0.48		mg/Kg	2	6/28/2023 11:43:19 AM	75841
Calcium	590	97		mg/Kg	2	6/28/2023 11:43:19 AM	75841
Chromium	3.9	0.58		mg/Kg	2	6/28/2023 11:43:19 AM	75841
Copper	ND	3.9		mg/Kg	2	6/28/2023 11:43:19 AM	75841
Iron	4300	480		mg/Kg	50	7/3/2023 12:41:05 PM	75841
Lead	ND	2.9		mg/Kg	2	6/28/2023 11:43:19 AM	75841
Magnesium	800	97		mg/Kg	2	6/28/2023 11:43:19 AM	75841
Manganese	43	0.48		mg/Kg	2	6/28/2023 11:43:19 AM	75841
Potassium	920	97		mg/Kg	2	6/28/2023 11:43:19 AM	75841
Selenium	ND	4.8		mg/Kg	2	7/3/2023 12:39:36 PM	75841
Silver	ND	0.97		mg/Kg	2	6/28/2023 11:43:19 AM	75841
Sodium	170	97		mg/Kg	2	6/28/2023 11:43:19 AM	75841
Zinc	9.0	4.8		mg/Kg	2	6/28/2023 11:43:19 AM	75841
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**	
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	6/27/2023 2:12:39 PM	75820
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	6/27/2023 2:12:39 PM	75820
Surr: DNOP	124	69-147		%Rec	1	6/27/2023 2:12:39 PM	75820
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **KMN**	
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	6/26/2023 7:50:00 PM	75813
Surr: BFB	103	15-244		%Rec	1	6/26/2023 7:50:00 PM	75813
EPA METHOD 8021B: VOLATILES						Analyst: **KMN**	
Methyl tert-butyl ether (MTBE)	ND	0.097		mg/Kg	1	6/26/2023 7:50:00 PM	75813
Benzene	ND	0.024		mg/Kg	1	6/26/2023 7:50:00 PM	75813
Toluene	ND	0.048		mg/Kg	1	6/26/2023 7:50:00 PM	75813
Ethylbenzene	ND	0.048		mg/Kg	1	6/26/2023 7:50:00 PM	75813
Xylenes, Total	ND	0.097		mg/Kg	1	6/26/2023 7:50:00 PM	75813
Surr: 4-Bromofluorobenzene	93.4	39.1-146		%Rec	1	6/26/2023 7:50:00 PM	75813

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2306B86**
Date Reported: **8/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Parkhill
Client Sample ID: VZ-5
Project: R360 Artesia Landfarm
Collection Date: 6/21/2023 8:31:00 AM
Lab ID: 2306B86-005 **Matrix:** SOIL **Received Date:** 6/21/2023 4:19:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **JMT**	
Chloride	540	30		mg/Kg	20	6/26/2023 3:22:08 PM	75836
Sulfate	180	7.5		mg/Kg	5	6/26/2023 3:09:43 PM	75836
EPA METHOD 7471B: MERCURY						Analyst: **tem**	
Mercury	ND	0.072	H	mg/Kg	1	8/3/2023 1:32:41 PM	76615
EPA METHOD 6010B: SOIL METALS						Analyst: **VP**	
Arsenic	ND	10		mg/Kg	2	7/10/2023 6:45:41 AM	75896
Barium	16	0.20		mg/Kg	2	7/10/2023 6:45:41 AM	75896
Cadmium	ND	0.50		mg/Kg	2	7/10/2023 6:45:41 AM	75896
Calcium	460	100		mg/Kg	2	7/10/2023 6:45:41 AM	75896
Chromium	4.1	0.60		mg/Kg	2	7/10/2023 6:45:41 AM	75896
Copper	ND	4.0		mg/Kg	2	7/10/2023 6:45:41 AM	75896
Iron	4400	200		mg/Kg	20	7/10/2023 7:28:37 AM	75896
Lead	ND	3.0		mg/Kg	2	7/27/2023 12:38:02 PM	75896
Magnesium	680	100		mg/Kg	2	7/10/2023 6:45:41 AM	75896
Manganese	37	0.50		mg/Kg	2	7/10/2023 6:45:41 AM	75896
Potassium	960	100		mg/Kg	2	7/10/2023 6:45:41 AM	75896
Selenium	ND	5.0		mg/Kg	2	7/10/2023 6:45:41 AM	75896
Silver	ND	1.0		mg/Kg	2	7/10/2023 6:45:41 AM	75896
Sodium	750	100		mg/Kg	2	7/10/2023 6:45:41 AM	75896
Zinc	9.7	5.0		mg/Kg	2	7/10/2023 6:45:41 AM	75896
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**	
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	6/27/2023 2:23:28 PM	75820
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	6/27/2023 2:23:28 PM	75820
Surr: DNOP	99.1	69-147		%Rec	1	6/27/2023 2:23:28 PM	75820
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **KMN**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	6/26/2023 8:56:00 PM	75813
Surr: BFB	94.0	15-244		%Rec	1	6/26/2023 8:56:00 PM	75813
EPA METHOD 8021B: VOLATILES						Analyst: **KMN**	
Methyl tert-butyl ether (MTBE)	ND	0.098		mg/Kg	1	6/26/2023 8:56:00 PM	75813
Benzene	ND	0.024		mg/Kg	1	6/26/2023 8:56:00 PM	75813
Toluene	ND	0.049		mg/Kg	1	6/26/2023 8:56:00 PM	75813
Ethylbenzene	ND	0.049		mg/Kg	1	6/26/2023 8:56:00 PM	75813
Xylenes, Total	ND	0.098		mg/Kg	1	6/26/2023 8:56:00 PM	75813
Surr: 4-Bromofluorobenzene	92.4	39.1-146		%Rec	1	6/26/2023 8:56:00 PM	75813

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2306B86**
Date Reported: **8/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Parkhill
Client Sample ID: TZ-5
Project: R360 Artesia Landfarm
Collection Date: 6/21/2023 8:35:00 AM
Lab ID: 2306B86-006 **Matrix:** SOIL **Received Date:** 6/21/2023 4:19:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **JMT**	
Chloride	540	60		mg/Kg	20	6/26/2023 1:18:03 PM	75836
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**	
Diesel Range Organics (DRO)	330	48		mg/Kg	5	6/27/2023 7:45:24 PM	75820
Motor Oil Range Organics (MRO)	700	240		mg/Kg	5	6/27/2023 7:45:24 PM	75820
Surr: DNOP	88.3	69-147		%Rec	5	6/27/2023 7:45:24 PM	75820
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **KMN**	
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	6/26/2023 9:18:00 PM	75813
Surr: BFB	92.2	15-244		%Rec	1	6/26/2023 9:18:00 PM	75813

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

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ANALYTICAL SUMMARY REPORT

July 07, 2023

Hall Environmental
4901 Hawkins St NE Ste D
Albuquerque, NM 87109-4372

Work Order: B23062065

Project Name: Not Indicated

Energy Laboratories Inc Billings MT received the following 5 samples for Hall Environmental on 6/23/2023 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
B23062065-001	2306B86-001B, VZ-1	06/21/23 10:00	06/23/23	Soil	Alkalinity, Water Extractable DI Water Soil Extract ASA10-3
B23062065-002	2306B86-002B, VZ-2	06/21/23 9:30	06/23/23	Soil	Same As Above
B23062065-003	2306B86-003B, VZ-3	06/21/23 9:15	06/23/23	Soil	Same As Above
B23062065-004	2306B86-004B, VZ-4	06/21/23 9:00	06/23/23	Soil	Same As Above
B23062065-005	2306B86-005B, VZ-5	06/21/23 8:31	06/23/23	Soil	Same As Above

The analyses presented in this report were performed by Energy Laboratories, Inc., 1120 S 27th St., Billings, MT 59101, unless otherwise noted. Any exceptions or problems with the analyses are noted in the report package. Any issues encountered during sample receipt are documented in the Work Order Receipt Checklist.

The results as reported relate only to the item(s) submitted for testing. This report shall be used or copied only in its entirety. Energy Laboratories, Inc. is not responsible for the consequences arising from the use of a partial report.

If you have any questions regarding these test results, please contact your Project Manager.

Report Approved By:

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LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Client: Hall Environmental
Project: Not Indicated
Report Date: 07/07/23

Lab ID: B23062065-001
Client Sample ID: 2306B86-001B, VZ-1
Collection Date: 06/21/23 10:00
DateReceived: 06/23/23
Matrix: Soil

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
WATER EXTRACTABLE CONSTITUENTS							
Alkalinity, 1:2	117	mg/kg		8		ASA10-3	07/07/23 09:17 / fap

Lab ID: B23062065-002
Client Sample ID: 2306B86-002B, VZ-2
Collection Date: 06/21/23 09:30
DateReceived: 06/23/23
Matrix: Soil

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
WATER EXTRACTABLE CONSTITUENTS							
Alkalinity, 1:2	71	mg/kg		8		ASA10-3	07/07/23 09:35 / fap

Lab ID: B23062065-003
Client Sample ID: 2306B86-003B, VZ-3
Collection Date: 06/21/23 09:15
DateReceived: 06/23/23
Matrix: Soil

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
WATER EXTRACTABLE CONSTITUENTS							
Alkalinity, 1:2	117	mg/kg		8		ASA10-3	07/07/23 09:48 / fap

Lab ID: B23062065-004
Client Sample ID: 2306B86-004B, VZ-4
Collection Date: 06/21/23 09:00
DateReceived: 06/23/23
Matrix: Soil

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
WATER EXTRACTABLE CONSTITUENTS							
Alkalinity, 1:2	83	mg/kg		8		ASA10-3	07/07/23 10:02 / fap

Lab ID: B23062065-005
Client Sample ID: 2306B86-005B, VZ-5
Collection Date: 06/21/23 08:31
DateReceived: 06/23/23
Matrix: Soil

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
WATER EXTRACTABLE CONSTITUENTS							
Alkalinity, 1:2	114	mg/kg		8		ASA10-3	07/07/23 10:10 / fap

Report Definitions:
RL - Analyte Reporting Limit
QCL - Quality Control Limit
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

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QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Hall Environmental **Work Order:** B23062065 **Report Date:** 07/07/23

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: **ASA10-3**										Batch: 180465
Lab ID: **LCS-180465**	Laboratory Control Sample					Run: ORIONVERSASTARPRO_230				07/07/23 08:50
Alkalinity, 1:2		231	mg/kg	8.0	98	70	130			
Lab ID: **B23062065-005A DUP**	Sample Duplicate					Run: ORIONVERSASTARPRO_230				07/07/23 10:25
Alkalinity, 1:2		114	mg/kg	8.0				0.0	30	

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

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Work Order Receipt Checklist

Hall Environmental

B23062065

Login completed by: Leslie S. Cadreau
Date Received: 6/23/2023
Reviewed by: gmccartney
Received by: htm
Reviewed Date: 6/28/2023
Carrier name: FedEx

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on all shipping container(s)/cooler(s)?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on all sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes ☑	No ☐	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes ☐	No ☑	Not Applicable ☐
Container/Temp Blank temperature:	5.4°C Blue Ice		
Containers requiring zero headspace have no headspace or bubble that is <6mm (1/4").	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☐	No ☐	Not Applicable ☑

Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

The reference date for Radon analysis is the sample collection date. The reference date for all other Radiochemical analyses is the analysis date. Radiochemical precision results represent a 2-sigma Total Measurement Uncertainty.

Contact and Corrective Action Comments:

None

HALL ENVIRONMENTAL ANALYSIS LABORATORY

CHAIN OF CUSTODY RECORD

PAGE: 1 OF: 1

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975
FAX: 505-345-4107
Website: www.hallenvironmental.com

SUB CONTRATOR: Energy Labs -Billings	COMPANY: Energy Laboratories	PHONE: (406) 869-6253	FAX: (406) 252-6069
ADDRESS: 1120 South 27th Street		ACCOUNT #:	EMAIL:
CITY, STATE, ZIP: Billings, MT 59107			

ITEM	SAMPLE	CLIENT SAMPLE ID	BOTTLE TYPE	MATRIX	COLLECTION DATE	# CONTAINERS	ANALYTICAL COMMENTS
1	2306B86-001B	VZ-1	4OZGU	Soil	6/21/2023 10:00:00 AM	1	Alkalinity in Soil
2	2306B86-002B	VZ-2	4OZGU	Soil	6/21/2023 9:30:00 AM	1	Alkalinity in Soil
3	2306B86-003B	VZ-3	4OZGU	Soil	6/21/2023 9:15:00 AM	1	Alkalinity in Soil
4	2306B86-004B	VZ-4	4OZGU	Soil	6/21/2023 9:00:00 AM	1	Alkalinity in Soil
5	2306B86-005B	VZ-5	4OZGU	Soil	6/21/2023 8:31:00 AM	1	Alkalinity in Soil

B23062065

SPECIAL INSTRUCTIONS / COMMENTS:

Please include the LAB ID and the CLIENT SAMPLE ID on all final reports. Please e-mail results to lab@hallenvironmental.com. Please return all coolers and blue ice. Thank you.

Relinquished By:	Date: 6/22/2023	Time: 11:45 AM	Received By:	Date:	Time:
Relinquished By:	Date:	Time:	Received By:	Date:	Time:
Relinquished By:	Date:	Time:	Received By:	Date: 6/23/23	Time: 0905

TAT: Standard ☐ RUSH Next BD ☐ 2nd BD ☐ 3rd BD ☐

REPORT TRANSMITTAL DESIRED:
☐ HARDCOPY (extra cost) ☐ FAX ☐ EMAIL ☐ ONLINE

FOR LAB USE ONLY
Temp of samples ____ °C Attempt to Cool ? ____
Comments: ____

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2306B86**

15-Aug-23

Client: Parkhill

Project: R360 Artesia Landfarm

Sample ID: **MB-75836**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBS**	Batch ID: **75836**	RunNo: **97729**
Prep Date: **6/26/2023**	Analysis Date: **6/26/2023**	SeqNo: **3554216** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								
Sulfate	ND	1.5								

Sample ID: **LCS-75836**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSS**	Batch ID: **75836**	RunNo: **97729**
Prep Date: **6/26/2023**	Analysis Date: **6/26/2023**	SeqNo: **3554217** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	15	1.5	15.00	0	99.9	90	110			
Sulfate	31	1.5	30.00	0	103	90	110			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2306B86**

15-Aug-23

Client: Parkhill

Project: R360 Artesia Landfarm

Sample ID: **LCS-75820**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **75820**	RunNo: **97733**
Prep Date: **6/26/2023**	Analysis Date: **6/27/2023**	SeqNo: **3554371** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	45	10	50.00	0	89.2	61.9	130			
Surr: DNOP	6.1		5.000		123	69	147			

Sample ID: **MB-75820**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **75820**	RunNo: **97733**
Prep Date: **6/26/2023**	Analysis Date: **6/27/2023**	SeqNo: **3554372** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	10		10.00		99.7	69	147			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2306B86**

15-Aug-23

Client: Parkhill

Project: R360 Artesia Landfarm

Sample ID: **lcs-75813**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **75813**	RunNo: **97706**
Prep Date: **6/23/2023**	Analysis Date: **6/26/2023**	SeqNo: **3554056** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	22	5.0	25.00	0	86.3	70	130			
Surr: BFB	2100		1000		208	15	244			

Sample ID: **mb-75813**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **75813**	RunNo: **97706**
Prep Date: **6/23/2023**	Analysis Date: **6/26/2023**	SeqNo: **3554057** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	930		1000		93.0	15	244			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2306B86**

15-Aug-23

Client: Parkhill

Project: R360 Artesia Landfarm

Sample ID: **lcs-75813**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **75813**	RunNo: **97706**
Prep Date: **6/23/2023**	Analysis Date: **6/26/2023**	SeqNo: **3554101** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	1.1	0.10	1.000	0	108	70	130			
Benzene	0.96	0.025	1.000	0	96.4	70	130			
Toluene	0.98	0.050	1.000	0	98.1	70	130			
Ethylbenzene	1.0	0.050	1.000	0	99.7	70	130			
Xylenes, Total	3.0	0.10	3.000	0	99.7	70	130			
Surr: 4-Bromofluorobenzene	0.96		1.000		96.5	39.1	146			

Sample ID: **mb-75813**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **75813**	RunNo: **97706**
Prep Date: **6/23/2023**	Analysis Date: **6/26/2023**	SeqNo: **3554102** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	ND	0.10								
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.93		1.000		93.3	39.1	146			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2306B86**

15-Aug-23

Client: Parkhill

Project: R360 Artesia Landfarm

Sample ID: **MB-76615**	SampType: **MBLK**	TestCode: **EPA Method 7471B: Mercury**
Client ID: **PBS**	Batch ID: **76615**	RunNo: **98702**
Prep Date: **8/2/2023**	Analysis Date: **8/3/2023**	SeqNo: **3595393** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	ND	0.066								

Sample ID: **LCSLL-76615**	SampType: **LCSLL**	TestCode: **EPA Method 7471B: Mercury**
Client ID: **BatchQC**	Batch ID: **76615**	RunNo: **98702**
Prep Date: **8/2/2023**	Analysis Date: **8/3/2023**	SeqNo: **3595394** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	ND	0.066	0.01332	0	101	70	130			

Sample ID: **LCS-76615**	SampType: **LCS**	TestCode: **EPA Method 7471B: Mercury**
Client ID: **LCSS**	Batch ID: **76615**	RunNo: **98702**
Prep Date: **8/2/2023**	Analysis Date: **8/3/2023**	SeqNo: **3595395** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.34	0.066	0.3333	0	101	80	120			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2306B86**

15-Aug-23

Client: Parkhill

Project: R360 Artesia Landfarm

Sample ID: **MB-75841**	SampType: **MBLK**	TestCode: **EPA Method 6010B: Soil Metals**
Client ID: **PBS**	Batch ID: **75841**	RunNo: **97765**
Prep Date: **6/26/2023**	Analysis Date: **6/28/2023**	SeqNo: **3556634** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.10								
Cadmium	ND	0.25								
Calcium	ND	50								
Chromium	ND	0.30								
Copper	ND	2.0								
Iron	ND	10								
Lead	ND	1.5								
Magnesium	ND	50								
Manganese	ND	0.25								
Potassium	ND	50								
Silver	ND	0.50								
Sodium	ND	50								
Zinc	ND	2.5								

Sample ID: **LCSLL-75841**	SampType: **LCSLL**	TestCode: **EPA Method 6010B: Soil Metals**
Client ID: **BatchQC**	Batch ID: **75841**	RunNo: **97765**
Prep Date: **6/26/2023**	Analysis Date: **6/28/2023**	SeqNo: **3556635** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.15	0.10	0.1000	0	147	50	150			
Cadmium	ND	0.25	0.1000	0	105	50	150			
Calcium	ND	50	25.00	0	193	50	150			S
Chromium	0.33	0.30	0.3000	0	111	50	150			
Copper	ND	2.0	0.3000	0	143	50	150			
Iron	ND	10	1.000	0	204	50	150			S
Magnesium	ND	50	25.00	0	101	50	150			
Manganese	ND	0.25	0.1000	0	133	50	150			
Potassium	ND	50	25.00	0	103	50	150			
Silver	ND	0.50	0.2500	0	94.7	50	150			
Sodium	ND	50	25.00	0	107	50	150			
Zinc	ND	2.5	0.5000	0	351	50	150			S

Sample ID: **LCS-75841**	SampType: **LCS**	TestCode: **EPA Method 6010B: Soil Metals**
Client ID: **LCSS**	Batch ID: **75841**	RunNo: **97765**
Prep Date: **6/26/2023**	Analysis Date: **6/28/2023**	SeqNo: **3556636** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	25	0.10	25.00	0	98.6	80	120			
Cadmium	24	0.25	25.00	0	97.9	80	120			
Calcium	2500	50	2500	0	99.9	80	120			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2306B86**

15-Aug-23

Client: Parkhill

Project: R360 Artesia Landfarm

Sample ID: **LCS-75841**	SampType: **LCS**	TestCode: **EPA Method 6010B: Soil Metals**
Client ID: **LCSS**	Batch ID: **75841**	RunNo: **97765**
Prep Date: **6/26/2023**	Analysis Date: **6/28/2023**	SeqNo: **3556636** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chromium	25	0.30	25.00	0	100	80	120			
Copper	25	2.0	25.00	0	101	80	120			
Iron	24	10	25.00	0	95.9	80	120			
Lead	25	1.5	25.00	0	100	80	120			
Magnesium	2400	50	2500	0	96.3	80	120			
Manganese	25	0.25	25.00	0	98.5	80	120			
Potassium	2400	50	2500	0	95.9	80	120			
Silver	5.0	0.50	5.000	0	100	80	120			
Sodium	2400	50	2500	0	97.1	80	120			
Zinc	25	2.5	25.00	0	99.5	80	120			

Sample ID: **MB-75841**	SampType: **MBLK**	TestCode: **EPA Method 6010B: Soil Metals**
Client ID: **PBS**	Batch ID: **75841**	RunNo: **97765**
Prep Date: **6/26/2023**	Analysis Date: **6/28/2023**	SeqNo: **3556869** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	5.0								

Sample ID: **LCSLL-75841**	SampType: **LCSLL**	TestCode: **EPA Method 6010B: Soil Metals**
Client ID: **BatchQC**	Batch ID: **75841**	RunNo: **97765**
Prep Date: **6/26/2023**	Analysis Date: **6/28/2023**	SeqNo: **3556870** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	5.0	1.000	0	103	50	150			

Sample ID: **LCS-75841**	SampType: **LCS**	TestCode: **EPA Method 6010B: Soil Metals**
Client ID: **LCSS**	Batch ID: **75841**	RunNo: **97765**
Prep Date: **6/26/2023**	Analysis Date: **6/28/2023**	SeqNo: **3556871** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	25	5.0	25.00	0	100	80	120			

Sample ID: **MB-75896**	SampType: **MBLK**	TestCode: **EPA Method 6010B: Soil Metals**
Client ID: **PBS**	Batch ID: **75896**	RunNo: **97893**
Prep Date: **6/28/2023**	Analysis Date: **7/3/2023**	SeqNo: **3561520** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.10								
Cadmium	ND	0.25								
Calcium	ND	50								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2306B86**

15-Aug-23

Client: Parkhill

Project: R360 Artesia Landfarm

Sample ID: **MB-75896**	SampType: **MBLK**	TestCode: **EPA Method 6010B: Soil Metals**
Client ID: **PBS**	Batch ID: **75896**	RunNo: **97893**
Prep Date: **6/28/2023**	Analysis Date: **7/3/2023**	SeqNo: **3561520** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chromium	ND	0.30								
Iron	ND	10								
Lead	ND	1.5								
Selenium	ND	2.5								
Silver	ND	0.50								

Sample ID: **LCSLL-75896**	SampType: **LCSLL**	TestCode: **EPA Method 6010B: Soil Metals**
Client ID: **BatchQC**	Batch ID: **75896**	RunNo: **97893**
Prep Date: **6/28/2023**	Analysis Date: **7/3/2023**	SeqNo: **3561521** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.12	0.10	0.1000	0	122	50	150			
Cadmium	ND	0.25	0.1000	0	112	50	150			
Calcium	ND	50	25.00	0	127	50	150			
Chromium	0.31	0.30	0.3000	0	103	50	150			
Iron	ND	10	1.000	0	204	50	150			S
Lead	ND	1.5	0.2500	0	123	50	150			
Selenium	ND	2.5	2.500	0	78.9	50	150			
Silver	ND	0.50	0.2500	0	72.3	50	150			

Sample ID: **LCS-75896**	SampType: **LCS**	TestCode: **EPA Method 6010B: Soil Metals**
Client ID: **LCSS**	Batch ID: **75896**	RunNo: **97893**
Prep Date: **6/28/2023**	Analysis Date: **7/3/2023**	SeqNo: **3561522** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	24	0.10	25.00	0	95.7	80	120			
Cadmium	24	0.25	25.00	0	94.5	80	120			
Calcium	2100	50	2500	0	83.6	80	120			
Chromium	25	0.30	25.00	0	98.5	80	120			
Iron	22	10	25.00	0	87.4	80	120			
Lead	23	1.5	25.00	0	92.9	80	120			
Selenium	24	2.5	25.00	0	95.0	80	120			
Silver	4.9	0.50	5.000	0	97.4	80	120			

Sample ID: **MB-75841**	SampType: **MBLK**	TestCode: **EPA Method 6010B: Soil Metals**
Client ID: **PBS**	Batch ID: **75841**	RunNo: **97893**
Prep Date: **6/26/2023**	Analysis Date: **7/3/2023**	SeqNo: **3561523** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Selenium	ND	2.5								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2306B86**

15-Aug-23

Client: Parkhill

Project: R360 Artesia Landfarm

Sample ID: **LCSLL-75841**	SampType: **LCSLL**	TestCode: **EPA Method 6010B: Soil Metals**
Client ID: **BatchQC**	Batch ID: **75841**	RunNo: **97893**
Prep Date: **6/26/2023**	Analysis Date: **7/3/2023**	SeqNo: **3561524** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Selenium	ND	2.5	2.500	0	0	50	150			S

Sample ID: **LCS-75841**	SampType: **LCS**	TestCode: **EPA Method 6010B: Soil Metals**
Client ID: **LCSS**	Batch ID: **75841**	RunNo: **97893**
Prep Date: **6/26/2023**	Analysis Date: **7/3/2023**	SeqNo: **3561525** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Selenium	22	2.5	25.00	0	88.0	80	120			

Sample ID: **MB-75896**	SampType: **MBLK**	TestCode: **EPA Method 6010B: Soil Metals**
Client ID: **PBS**	Batch ID: **75896**	RunNo: **98025**
Prep Date: **6/28/2023**	Analysis Date: **7/10/2023**	SeqNo: **3566937** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	5.0								

Sample ID: **LCSLL-75896**	SampType: **LCSLL**	TestCode: **EPA Method 6010B: Soil Metals**
Client ID: **BatchQC**	Batch ID: **75896**	RunNo: **98025**
Prep Date: **6/28/2023**	Analysis Date: **7/10/2023**	SeqNo: **3566938** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	5.0	1.000	0	51.7	50	150			

Sample ID: **LCS-75896**	SampType: **LCS**	TestCode: **EPA Method 6010B: Soil Metals**
Client ID: **LCSS**	Batch ID: **75896**	RunNo: **98025**
Prep Date: **6/28/2023**	Analysis Date: **7/10/2023**	SeqNo: **3566939** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	23	5.0	25.00	0	92.5	80	120			

Sample ID: **MB-75841**	SampType: **MBLK**	TestCode: **EPA Method 6010B: Soil Metals**
Client ID: **PBS**	Batch ID: **75841**	RunNo: **98543**
Prep Date: **6/26/2023**	Analysis Date: **7/27/2023**	SeqNo: **3588029** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	ND	1.5								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2306B86**

15-Aug-23

Client: Parkhill

Project: R360 Artesia Landfarm

Sample ID: **LCSLL-75841**	SampType: **LCSLL**	TestCode: **EPA Method 6010B: Soil Metals**
Client ID: **BatchQC**	Batch ID: **75841**	RunNo: **98543**
Prep Date: **6/26/2023**	Analysis Date: **7/27/2023**	SeqNo: **3588030** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	ND	1.5	0.2500	0	128	50	150			

Sample ID: **LCS-75841**	SampType: **LCS**	TestCode: **EPA Method 6010B: Soil Metals**
Client ID: **LCSS**	Batch ID: **75841**	RunNo: **98543**
Prep Date: **6/26/2023**	Analysis Date: **7/27/2023**	SeqNo: **3588031** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	25	1.5	25.00	0	98.5	80	120			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: Parkhill | Work Order Number: 2306B86 | RcptNo: 1

Received By: **Kasandra Jimena Garcia** 6/21/2023 4:19:00 PM

Completed By: **Tracy Casarrubias** 6/22/2023 11:16:39 AM

Reviewed By: 6-22-23

Chain of Custody

1. Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
2. How was the sample delivered?	Client		

Log In

3. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
4. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☑	No ☐	NA ☐
5. Sample(s) in proper container(s)?	Yes ☑	No ☐	
6. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
7. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
8. Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
9. Received at least 1 vial with headspace <1/4" for AQ VOA?	Yes ☐	No ☐	NA ☑
10. Were any sample containers received broken?	Yes ☐	No ☑	
11. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	
12. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
13. Is it clear what analyses were requested?	Yes ☑	No ☐	
14. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	

# of preserved bottles checked for pH:
(<2 or >12 unless noted)
Adjusted?
Checked by: JM 6/22/23

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: Date:
By Whom: Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding:
Client Instructions:

16. Additional remarks:

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	0.9	Good	Not Present	Yogi		

Chain-of-Custody Record

Client: Parkhill

Mailing Address: 333 Rio Rancho Blvd NE #400, Rio Rancho, NM 87124

Phone #: 505 504 7765

email or Fax#: ayohas@parkhill.com

QA/QC Package:

☒ Standard ☐ Level 4 (Full Validation)

Accreditation: ☐ Az Compliance

☒ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time:

☒ Standard ☐ Rush

Project Name: R360 Artesia Landfarm

Project #: 04056122.00

Project Manager: Matt Kingsley

Sampler: Andy Yuhas

On Ice: ☒ Yes ☐ No

# of Coolers: 1 YOG-1

Cooler Temp(including CF): 0.9-0 = 0.9 (°C)

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2306B86	BTEX / MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)	TPH 8015M (C6-C36)	Chloride - 300.0	Anions (Cl, SO_4, Bicarb)	Cations: Ca, Mg, Na, K	B Metals: Cu, Fe, Mn, Zn	A Metals: Ag, As, Ba, Cd, Hg, Pb, Se
6/21	1000	Soil	VZ-1	4oz (3)	None	001	X	Y									X	X	X	X	X	X
6/21	0930		VZ-2	4oz (3)	None	002	X	Y									X	X	X	X	X	X
6/21	0915		VZ-3	4oz (3)	None	003	X	X									X	X	X	X	X	X
6/21	0900		VZ-4	4oz (3)	None	004	X	X									X	X	X	X	X	X
6/21	0831		VZ-5	4oz (3)	None	005	X	X									X	X	X	X	X	X
6/21	0835		TZ-5	4oz (3)	None	006	X	per email TMB's Y. 6/22/23									X	X				

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
6/21	1619			CDO	6.21.23	16:19
Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time

Remarks:

State of New Mexico
Energy, Minerals and Natural Resources Department

BY ELECTRONIC MAIL ONLY

February 25, 2025

Mr. Dillon Baird
Waste Connections | Southern Region
1780 Hughes Landing Blvd, Suite 800
The Woodlands, Texas 77381
dillon.baird@wasteconnections.com

RE: 2023 Semi-Annual Monitoring Report Review
R360 Artesia, LLC
Permit NM1-30
Unit A (NE/4, NE/4) of Section 7, Township 17 South, Range 32 East NMPM
Lea County, New Mexico

Mr. Baird:
The Oil Conservation Division (OCD) has completed its review of R360 Artesia, LLC's (R360) 2023 Semi-Annual Monitoring Report**,** dated October 2023, for the landfarm under permit NM1-30. The OCD's review of the semi-annual report has resulted in the discovery that R360 is not in compliance with the requirements of 19.15.36 NMAC for a release detected in the vadose zone as a result of the required routine semi-annual monitoring. Also, R360 has not complied with the Closure conditions of existing permit NM1-30 and the closure and post-closure requirements of 19.15.36.18 NMAC to pursue closure and post-closure of the landfarm.

Section 2.0, Monitoring Program:
Treatment Zone Monitoring: According to OCD records, during March of 2015 the Operator placed additional lifts of contaminated soil, relocated from cells 5, 6 and the "buffer zones," into Cells 1,2,3 and 4. Nothing in the OCD records indicates that after placement of these lifts, there was any treatment zone monitoring/sampling, as required of 19.15.36.15.D NMAC, or any sampling for all the constituents required of 19.15.36.15.F(1-5) NMAC to demonstrate compliance with the treatment zone closure performance standards.

Vadose Zone Monitoring: Compliance with the requirements of 19.15.36.15.E(2) NMAC is not demonstrated in the 2023 Semi-Annual Monitoring Report. A note below Table 3 states: "Background concentration values provided in 2022 Annual report but not approved by OCD." Since OCD has not approved the background and PQL values, please submit a facility background demonstration for OCD's review and consideration of approval for future use.

Tables 1 & 2:
The exceedances of background soil concentrations(unapproved) and PQL values used in Tables 1 and 2 of the 2023 Semi-Annual Monitoring Report, indicate that compliance with the requirements of 19.15.36.15.E(5) NMAC has not been demonstrated in response to a release. On Table 1 of the report, R360 documents exceedances of Chloride for Cells 1-5 and exceedances of several WQCC metals in cell 2. In accordance with 19.15.36.15.E(5) NMAC for release response, if vadose zone sampling results show that the concentrations of TPH, BTEX or chlorides exceed the higher of the PQL or the background soil concentrations, then the operator shall notify the division's environmental bureau of the exceedance, and shall immediately collect and analyze a minimum of four randomly selected, independent samples for TPH, BTEX, chlorides and the constituents listed in Subsections A and B of 20.6.2.3103 NMAC. The operator shall submit the results of the re-sampling event and a response action plan for the division's approval within 45 days of the initial notification. The response action plan shall address changes in the landfarm's operation to prevent further contamination and, if necessary, a plan for remediating existing contamination. OCD has received no notification of release, no results from a re-sampling event and no response action plan.

Table 3:
No background values were provided for any of the constituents listed on Table 3, therefore OCD is unable to accept R360/Parkhill's conclusion "WQCC metals and major cations/anions were consistent with background concentrations."

Closure:
In accordance with Permit NM1-30, Condition 2, under the heading of Closure, *a closure plan to include the following procedures must be submitted to the OCD Santa Fe office for approval:*
a) When the facility is to be closed no new material will be accepted;
b) Existing landfarm soils mustl be remediated until they meet the OCD standards in effect at the time of closure;
c) The soils beneath the landfarm cells must be characterized as to the total petroleum hydrocarbons (TPH) and volatile aromatic organics (BTEX) content in order to determine potential migration of contamination beneath the facility.
d) Contaminated soils exceeding OCD closure standards for the site must be removed or remediated;
e) The area must be contoured, seeded with native grasses and allowed to return to its natural state. If the landowner desires to keep existing structures, berms, or fences for future alternative uses the structures, berms, or fences may be left in place.
f) Closure must be pursuant to all OCD requirements in effect at the time of closure, and any other applicable local, state and/or federal regulations."

Pursuant to 19.15.36.18.A(5) NMAC, "Closure shall proceed in accordance *with the approved closure and post closure plan and schedule* and modifications or additional requirements the division imposes." OCD has no record of R360 submitting a closure and post-closure care plan and/or schedule for review. To be approved to pursue closure and post-closure, R360 must comply with the existing closure permit conditions of permit NM1-30 and the closure and post-closure requirements of 19.15.36.18 NMAC by providing notice and submitting a closure and post closure plan and a proposed schedule for closure for OCD's review and consideration of approval. This will ensure that the correct constituents required of 19.15.36.15.F(5) NMAC are analyzed and assessed for closure. Submit the closure and post closure plan and proposed schedule as a stand-alone separate request through OCD Permitting as a "Non-Fee SWMF Submittal."

If there are any questions, please do not hesitate to contact me at (505) 549-5583 or joseph.kennedy@emnrd.nm.gov

Respectfully,

Joseph Kenndy
Environmental Specialist Advanced

Sante Fe Main Office
Phone: (505) 476-3441

General Information
Phone: (505) 629-6116

Online Phone Directory
https://www.emnrd.nm.gov/ocd/contact-us

State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

CONDITIONS

Operator:	OGRID:
R360 Artesia, LLC 3 Waterway Square Place The Woodlands, TX 77380	332356
	Action Number: 435076
	Action Type: [C-137] Non-Fee SWMF Submittal (SWMF NON-FEE SUBMITTAL)

CONDITIONS

Created By	Condition	Condition Date
joseph.kennedy	OCD emailed the review/response to Dillon Baird and Eric Duran(R360) on February 25, 2025. Please see the OCD's review/response attached to the bottom of the report.	2/25/2025