Souder, Miller & Associates ♦ 201 S. Halagueno St. ♦ Carlsbad, NM 88220
(575) 689-8801

October 23, 2024 #5E33699-BG1

EMNRD – Oil Conservation Division Environmental Incidents Group
506 W. Texas Ave
Artesia, NM 88210

RE: Actions Completed to Address Closure Report Denial, Miss Sue 12-23S-27E RF #202H (Miss Sue) Release, Eddy County, New Mexico

On behalf of San Mateo Midstream, Souder, Miller & Associates (SMA) has prepared this Letter Report describing actions taken to address the rejection of the Spill Closure Report prepared by Vertex Resource Service Inc. (Vertex) and dated February 14, 2023. This Letter Report details the additional horizontal delineation and collection of background samples completed at the Miss Sue 12-23S-27E RB #202H Site (incident # nAPP2234143030) to obtain final closure.

NMOCD Closure Denial Correspondence

The New Mexico Oil Conservation Division (OCD) has rejected the submitted Application for Administrative Approval of a Release Notification and Corrective Action (C-141) for incident ID # nAPP2234143030 for the following reasons:

- *The Closure Report is denied. Please continue to horizontally delineate the release area until it meets closure criteria standards. Sidewall/edge samples should be delineated/excavated to 600 mg/kg for chlorides and 100 mg/kg for TPH to define the edge of the release. Please make sure the C-141 Page 6 Closure Page is signed and dated at the time of submittal.*

The following is a summary of the correspondence questions between SMA and OCD clarifying requirements to satisfy site closure:

SMA: *I have reviewed your denial along with the closure report for Matador and wanted to touch base with you on obtaining final closure on it. The Miss Sue is located in an area where the backgrounds obtain a natural elevated level of chlorides vastly higher than the 600 limit. Before I complete a site visit can we clarify exactly what data I need to collect in additional will support background samples already collected and comply with closure criteria?*

My approach with this is to collect four sample points, North, East, South, and West at depth intervals ranging 0-4 feet bgs that are delineated to match what background sample levels are for that area. In addition to the samples collected with laboratory analysis, supporting photos, schematic, and closure report, will it be required to collect more background samples and submit any remediation plan, variance request, or further confirmation sampling/notification from Matador for this release?

Will we need to resubmit the whole closure report again or can we submit a supplemental supportive report for closure?

A Spill Rule Clarification document was put on the OCD website a few years ago to outline the procedure for collecting background samples. I believe it is part 7 that tries to clarify what needs to be accomplished as far as background sampling is concerned.

OCD*: The rule speaks of "background" chloride concentrations in three places: 19.15.29.11(A)(5)(c) NMAC regarding unknown or large volume releases, as a footnote to Table I, and in 19.15.29.13(D)(1) NMAC regarding reclamation. How would a responsible party obtain information to determine background? A grab, not composite, sample(s) should be gathered in areas undisturbed by oil and gas activities, nominally uphill from the release area, and no closer than 50 feet but no farther than 100 feet from the lateral and horizontal extents of a release's impact. The background sampling should be representative of the entire horizontal and vertical extent of the release. Other means may be acceptable to OCD, but only after review and a written determination.*

Generally, the OCD likes to see at least 3 background samples obtained. As far as the part about being "representative of the entire horizontal and vertical extent of the release", the depth of the contaminants should be used as a gauge. If you believe the contaminants are estimated to be 4 feet deep, collect samples for chlorides in 1-foot increments down to 4 feet. The three background numbers at a depth of 1 foot should be averaged. The three background numbers at a depth of 2 feet should be averaged and so on. The composite numbers will be used for the final background numbers.

Sampling Activities

On September 9, 2024, SMA personnel performed additional background sampling activities in accordance with NMOCD Spill Rule Clarification Obtaining Background Data (19.15.29.12) and discussions with OCD detailed above. A total of 15 discreet background soil samples were collected from three sample locations (five samples per location) from depths between 0-4 feet below ground surface (bgs). Additionally, five composite samples of corresponding depths were collected to obtain average levels between the three sampling locations.

All 20 samples were collected into laboratory provided jars and submitted to Eurofins Albuquerque Analysis Laboratory (Eurofins) for analysis of Method 300.0 for total chlorides. The composite background samples (BG1 - BG3) at each interval demonstrate background chloride concentrations for the soils within the area of Miss Sue range from 2,100 mg/kg to 5,100 mg/kg for the top four feet of soil.

Field screening and laboratory analytical results are summarized in Table 1.

Table 1. Summary of Field Screening and Laboratory Analytical Results

Sample Description			Field Screening	Laboratory Analysis
Background Sample ID	Sample Date	Depth (ft bgs)	Electrical Conductivity (ppm)	Inorganic Method 300.0 Chloride Concentration (mg/kg)
BG1	9/9/2024	0	919	4000
	9/9/2024	1	3682	3600
	9/9/2024	2	3747	3200
	9/9/2024	3	2907	2300
	9/9/2024	4	995	620
BG2	9/9/2024	0	6680	6800
	9/9/2024	1	2800	2200
	9/9/2024	2	2625	2300
	9/9/2024	3	1512	1800
	9/9/2024	4	1367	1900
BG3	9/9/2024	0	1465	1600
	9/9/2024	1	1155	770
	9/9/2024	2	2057	1700
	9/9/2024	3	3430	1900
	9/9/2024	4	1622	1700
BG1-BG3 composites	9/9/2024	0	4335	5100
	9/9/2024	1	2477	2800
	9/9/2024	2	2710	2200
	9/9/2024	3	3132	2800
	9/9/2024	4	1350	2100

Background sample locations are included in Figure 1. The Photolog and field notes collected during the September 9, 2024 site sampling activities are included in Appendix A, laboratory analytical report is included in Appendix B, a copy of the original denied Closure Report is included in Appendix C, and correspondence between SMA and NMOCD is included with Appendix D.

Conclusion and Request for Closure

San Mateo Midstream has completed all additional sampling actions needed to request approval for the originally denied closure report. As demonstrated in Table 1, background samples support remedial activities and reasoning that naturally elevated concentrations of chlorides are in the soils around the Miss Sue site and meet the standards of 19.15.29.11(A)(5)(c) NMAC for representing the area where the release occurred. Based on the successful remediation efforts, compliance with NMOCD regulations, and confirmation that contaminant levels are below the regulatory thresholds, San Mateo Midstream respectfully requests the closure of Incident Report nAPP2234143030 to be closed.

All supporting documentation, including the NMOCD C-141 form, sample location figures, and laboratory analysis reports, are included with this submission.

If there are any questions regarding this report, please contact Monica Peppin (575) 909-3418 or Stephanie Hinds at (505) 793-7079.

Submitted by:
SOUDER, MILLER & ASSOCIATES

Reviewed by:

Monica Peppin
Project Manager

Stephanie Hinds, P.E.
Project Engineer

ATTACHMENTS:

Figures:

Figure 1: Background Sample Locations

Appendices:

Appendix A: Photolog and Field Notes Report
Appendix B: Laboratory Analytical Report
Appendix C: Denied Closure Report
Appendix D. Correspondence with NMOCD

FIGURES

Legend Sample Locations

- BG - Background
- Miss Sue RB #202H

N

0 1,500 3,000

Feet

Site and Sample Location Map
Eddy County, New Mexico
Miss Sue RB #202H
San Mateo Midstream

San Mateo MIDSTREAM

Figure 1

Revisions
By: Date: Detail:
By: Date: Detail:

Drawn: Monica Peppin
Date: 9/24/2024
Checked:
Approved:

SMA Since 1935

701 South Halagueno Street
Carlsbad, New Mexico 88221
(575) 689-7040
Serving the Southwest & Rocky Mountains

APPENDIX A:
PHOTOLOG AND FIELD NOTES REPORT

Site Assessment Report

Date/Time: 09-10-2024 08:56 AM
Technician: Monica Peppin

Site Information

Project # 5E33699

Client San Mateo Midstream

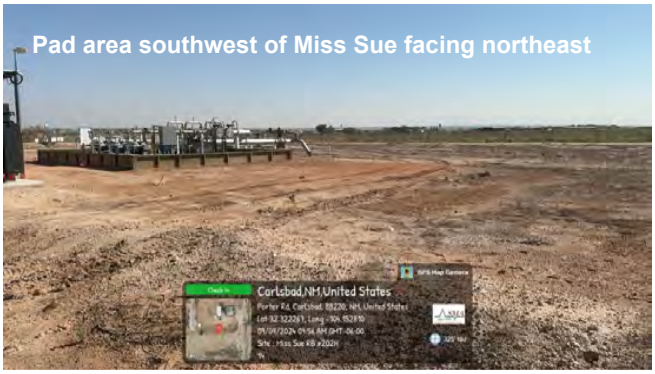
GPS Check In 32.322637, -104.153245

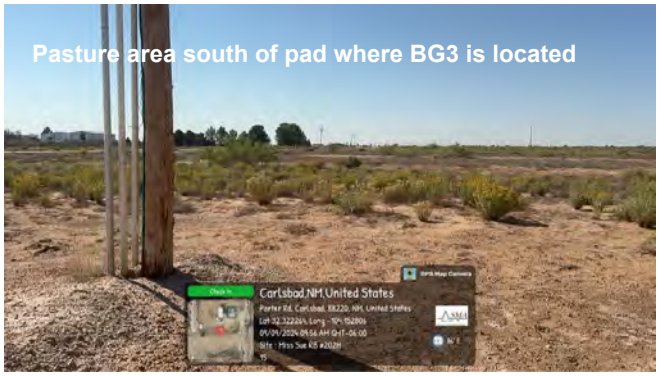
Field Notes and Photographs

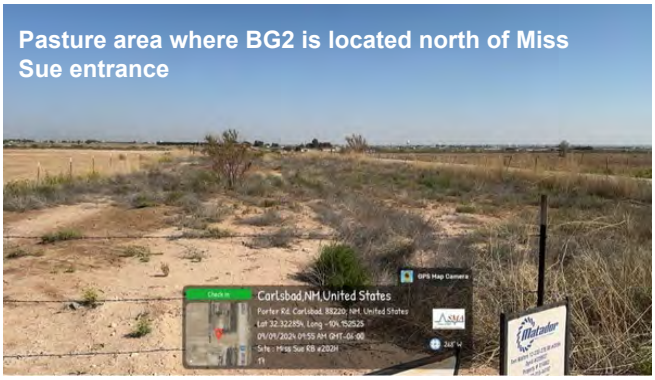
Field Notes

Collection of background samples due to closure report denial. Need three sample points minimum and have to composite sample each depth interval for an average of chloride levels. Soils have a natural high level of elevated chlorides and visual salting all around is visible. Salting on surface is visible in undisturbed areas around where site is located.

Site Photographs



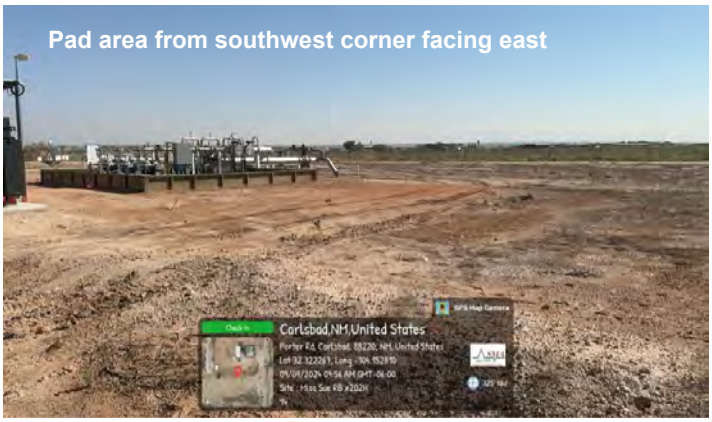




Site Assessment Report

Date Submitted: 09-10-2024 01:56 PM
Technician: Monica Peppin
Souder, Miller, & Associates

Site Photographs



Next Steps/Recommendations

Field screen samples for chlorides for each discreet depth interval and then composite each sample depth interval together for average reading of chlorides, start field screening and laboratory analysis table, submit samples to laboratory for analysis of chlorides, get laboratory analysis results and add to table, complete summary closure report with details of additional work completed per request from the NMOCD from the original closure report submitted.

Signature Date 9/9/2024

APPENDIX B:
LABORATORY ANALYTICAL REPORT

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Monica Peppin
Souder, Miller & Associates
201 S. Halagueno St.
Carlsbad, New Mexico 88220

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JOB DESCRIPTION

Miss Sue RB#202H

JOB NUMBER

885-11542-1

Eurofins Albuquerque
4901 Hawkins NE
Albuquerque NM 87109

See page two for job notes and contact information.

Eurofins Albuquerque

Job Notes

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing South Central, LLC Project Manager.

Authorization

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9/27/2024 3:13:41 PM

Authorized for release by
Catherine Upton, Project Manager
Catherine.upton@et.eurofinsus.com
(505)345-3975

Client: Souder, Miller & Associates
Project/Site: Miss Sue RB#202H

Laboratory Job ID: 885-11542-1

Table of Contents

Definitions/Glossary

Client: Souder, Miller & Associates
Job ID: 885-11542-1
Project/Site: Miss Sue RB#202H

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: Souder, Miller & Associates
Project: Miss Sue RB#202H

Job ID: 885-11542-1

Job ID: 885-11542-1 Eurofins Albuquerque

Job Narrative
885-11542-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers and/or narrative comments are included to explain any exceptions, if applicable.

- Matrix QC may not be reported if insufficient sample is provided or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt
The samples were received on 9/11/2024 7:50 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 0.8°C.

HPLC/IC
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Client Sample Results

Client: Souder, Miller & Associates
Job ID: 885-11542-1
Project/Site: Miss Sue RB#202H

Client Sample ID: BG1-0'
Lab Sample ID: 885-11542-1
Date Collected: 09/09/24 08:41
Matrix: Solid
Date Received: 09/11/24 07:50

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	4000		150		mg/Kg		09/12/24 08:39	09/13/24 09:26	50

Client Sample Results

Client: Souder, Miller & Associates
Project/Site: Miss Sue RB#202H

Job ID: 885-11542-1

Client Sample ID: BG1-1'
Date Collected: 09/09/24 08:42
Date Received: 09/11/24 07:50

Lab Sample ID: 885-11542-2
Matrix: Solid

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	3600		150		mg/Kg		09/12/24 08:39	09/13/24 09:42	50

Client Sample Results

Client: Souder, Miller & Associates
Job ID: 885-11542-1
Project/Site: Miss Sue RB#202H

Client Sample ID: BG1-2'
Lab Sample ID: 885-11542-3
Date Collected: 09/09/24 08:45
Matrix: Solid
Date Received: 09/11/24 07:50

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	3200		150		mg/Kg		09/12/24 08:39	09/13/24 09:57	50

Client Sample Results

Client: Souder, Miller & Associates
Job ID: 885-11542-1
Project/Site: Miss Sue RB#202H

Client Sample ID: BG1-3'
Lab Sample ID: 885-11542-4
Date Collected: 09/09/24 08:48
Matrix: Solid
Date Received: 09/11/24 07:50

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2300		150		mg/Kg		09/12/24 08:39	09/13/24 10:12	50

Client Sample Results

Client: Souder, Miller & Associates
Job ID: 885-11542-1
Project/Site: Miss Sue RB#202H

Client Sample ID: BG1-4'
Lab Sample ID: 885-11542-5
Date Collected: 09/09/24 08:52
Matrix: Solid
Date Received: 09/11/24 07:50

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	620		60		mg/Kg		09/12/24 08:39	09/12/24 17:50	20

Client Sample Results

Client: Souder, Miller & Associates
Job ID: 885-11542-1
Project/Site: Miss Sue RB#202H

Client Sample ID: BG2-0'
Lab Sample ID: 885-11542-6
Date Collected: 09/09/24 09:24
Matrix: Solid
Date Received: 09/11/24 07:50

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	6800		300		mg/Kg		09/12/24 08:39	09/13/24 12:59	100

Client Sample Results

Client: Souder, Miller & Associates
Job ID: 885-11542-1
Project/Site: Miss Sue RB#202H

Client Sample ID: BG2-1'
Lab Sample ID: 885-11542-7
Date Collected: 09/09/24 09:25
Matrix: Solid
Date Received: 09/11/24 07:50

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2200		150		mg/Kg		09/12/24 08:39	09/13/24 10:42	50

Client Sample Results

Client: Souder, Miller & Associates
Job ID: 885-11542-1
Project/Site: Miss Sue RB#202H

Client Sample ID: BG2-2'
Lab Sample ID: 885-11542-8
Date Collected: 09/09/24 09:28
Matrix: Solid
Date Received: 09/11/24 07:50

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2300		60		mg/Kg		09/12/24 08:39	09/12/24 18:55	20

Client Sample Results

Client: Souder, Miller & Associates
Job ID: 885-11542-1
Project/Site: Miss Sue RB#202H

Client Sample ID: BG2-3'
Lab Sample ID: 885-11542-9
Date Collected: 09/09/24 09:30
Matrix: Solid
Date Received: 09/11/24 07:50

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1800		60		mg/Kg		09/12/24 08:39	09/12/24 19:08	20

Client Sample Results

Client: Souder, Miller & Associates
Job ID: 885-11542-1
Project/Site: Miss Sue RB#202H

Client Sample ID: BG2-4'
Lab Sample ID: 885-11542-10
Date Collected: 09/09/24 09:31
Matrix: Solid
Date Received: 09/11/24 07:50

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1900		150		mg/Kg		09/12/24 08:39	09/13/24 10:58	50

Client Sample Results

Client: Souder, Miller & Associates
Job ID: 885-11542-1
Project/Site: Miss Sue RB#202H

Client Sample ID: BG3-0'
Lab Sample ID: 885-11542-11
Date Collected: 09/09/24 08:59
Matrix: Solid
Date Received: 09/11/24 07:50

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1600		60		mg/Kg		09/12/24 08:39	09/12/24 19:34	20

Client Sample Results

Client: Souder, Miller & Associates
Job ID: 885-11542-1
Project/Site: Miss Sue RB#202H

Client Sample ID: BG3-1'
Lab Sample ID: 885-11542-12
Date Collected: 09/09/24 09:00
Matrix: Solid
Date Received: 09/11/24 07:50

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	770		60		mg/Kg		09/12/24 08:39	09/12/24 19:47	20

Client Sample Results

Client: Souder, Miller & Associates
Job ID: 885-11542-1
Project/Site: Miss Sue RB#202H

Client Sample ID: BG3-2'
Lab Sample ID: 885-11542-13
Date Collected: 09/09/24 09:03
Matrix: Solid
Date Received: 09/11/24 07:50

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1700		150		mg/Kg		09/12/24 08:39	09/19/24 22:14	50

Client Sample Results

Client: Souder, Miller & Associates
Job ID: 885-11542-1
Project/Site: Miss Sue RB#202H

Client Sample ID: BG3-3'
Lab Sample ID: 885-11542-14
Date Collected: 09/09/24 09:04
Matrix: Solid
Date Received: 09/11/24 07:50

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1900		60		mg/Kg		09/12/24 08:39	09/12/24 20:25	20

Client Sample Results

Client: Souder, Miller & Associates
Job ID: 885-11542-1
Project/Site: Miss Sue RB#202H

Client Sample ID: BG3-4'
Lab Sample ID: 885-11542-15
Date Collected: 09/09/24 09:07
Matrix: Solid
Date Received: 09/11/24 07:50

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1700		60		mg/Kg		09/12/24 08:39	09/12/24 20:00	20

Client Sample Results

Client: Souder, Miller & Associates
Job ID: 885-11542-1
Project/Site: Miss Sue RB#202H

Client Sample ID: BG1-3 0'
Lab Sample ID: 885-11542-16
Date Collected: 09/09/24 09:50
Matrix: Solid
Date Received: 09/11/24 07:50

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	5100		300		mg/Kg		09/12/24 09:50	09/12/24 16:03	100

Client Sample Results

Client: Souder, Miller & Associates
Job ID: 885-11542-1
Project/Site: Miss Sue RB#202H

Client Sample ID: BG1-3 1'
Lab Sample ID: 885-11542-17
Date Collected: 09/09/24 09:52
Matrix: Solid
Date Received: 09/11/24 07:50

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2800		150		mg/Kg		09/12/24 09:50	09/13/24 11:43	50

Client Sample Results

Client: Souder, Miller & Associates
Job ID: 885-11542-1
Project/Site: Miss Sue RB#202H

Client Sample ID: BG1-3 2'
Lab Sample ID: 885-11542-18
Date Collected: 09/09/24 09:53
Matrix: Solid
Date Received: 09/11/24 07:50

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2200		150		mg/Kg		09/12/24 09:50	09/13/24 12:28	50

Client Sample Results

Client: Souder, Miller & Associates
Job ID: 885-11542-1
Project/Site: Miss Sue RB#202H

Client Sample ID: BG1-3 3'
Lab Sample ID: 885-11542-19
Date Collected: 09/09/24 09:54
Matrix: Solid
Date Received: 09/11/24 07:50

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2800		150		mg/Kg		09/12/24 09:50	09/13/24 12:44	50

Client Sample Results

Client: Souder, Miller & Associates
Job ID: 885-11542-1
Project/Site: Miss Sue RB#202H

Client Sample ID: BG1-3 4'
Lab Sample ID: 885-11542-20
Date Collected: 09/09/24 09:55
Matrix: Solid
Date Received: 09/11/24 07:50

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2100		60		mg/Kg		09/12/24 09:50	09/12/24 13:59	20

QC Sample Results

Client: Souder, Miller & Associates
Project/Site: Miss Sue RB#202H

Job ID: 885-11542-1

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 885-12096/1-A
Matrix: Solid
Analysis Batch: 12139

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 12096

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		3.0		mg/Kg		09/12/24 08:39	09/12/24 14:12	1

Lab Sample ID: LCS 885-12096/2-A
Matrix: Solid
Analysis Batch: 12139

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 12096

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			30.0	29.1		mg/Kg		97	90 - 110		

Lab Sample ID: MB 885-12106/1-A
Matrix: Solid
Analysis Batch: 12139

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 12106

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		3.0		mg/Kg		09/12/24 09:50	09/12/24 10:59	1
Chloride	ND		3.0		mg/Kg		09/12/24 09:50	09/12/24 10:59	1

Lab Sample ID: LCS 885-12106/2-A
Matrix: Solid
Analysis Batch: 12139

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 12106

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			30.0	29.7		mg/Kg		99	90 - 110		
Chloride			30.0	29.7		mg/Kg		99	90 - 110		

QC Association Summary

Client: Souder, Miller & Associates
Project/Site: Miss Sue RB#202H

Job ID: 885-11542-1

HPLC/IC

Prep Batch: 12096

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-11542-1	BG1-0'	Total/NA	Solid	300_Prep	
885-11542-2	BG1-1'	Total/NA	Solid	300_Prep	
885-11542-3	BG1-2'	Total/NA	Solid	300_Prep	
885-11542-4	BG1-3'	Total/NA	Solid	300_Prep	
885-11542-5	BG1-4'	Total/NA	Solid	300_Prep	
885-11542-6	BG2-0'	Total/NA	Solid	300_Prep	
885-11542-7	BG2-1'	Total/NA	Solid	300_Prep	
885-11542-8	BG2-2'	Total/NA	Solid	300_Prep	
885-11542-9	BG2-3'	Total/NA	Solid	300_Prep	
885-11542-10	BG2-4'	Total/NA	Solid	300_Prep	
885-11542-11	BG3-0'	Total/NA	Solid	300_Prep	
885-11542-12	BG3-1'	Total/NA	Solid	300_Prep	
885-11542-13	BG3-2'	Total/NA	Solid	300_Prep	
885-11542-14	BG3-3'	Total/NA	Solid	300_Prep	
885-11542-15	BG3-4'	Total/NA	Solid	300_Prep	
MB 885-12096/1-A	Method Blank	Total/NA	Solid	300_Prep	
LCS 885-12096/2-A	Lab Control Sample	Total/NA	Solid	300_Prep	

Prep Batch: 12106

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-11542-16	BG1-3 0'	Total/NA	Solid	300_Prep	
885-11542-17	BG1-3 1'	Total/NA	Solid	300_Prep	
885-11542-18	BG1-3 2'	Total/NA	Solid	300_Prep	
885-11542-19	BG1-3 3'	Total/NA	Solid	300_Prep	
885-11542-20	BG1-3 4'	Total/NA	Solid	300_Prep	
MB 885-12106/1-A	Method Blank	Total/NA	Solid	300_Prep	
LCS 885-12106/2-A	Lab Control Sample	Total/NA	Solid	300_Prep	

Analysis Batch: 12139

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-11542-5	BG1-4'	Total/NA	Solid	300.0	12096
885-11542-8	BG2-2'	Total/NA	Solid	300.0	12096
885-11542-9	BG2-3'	Total/NA	Solid	300.0	12096
885-11542-11	BG3-0'	Total/NA	Solid	300.0	12096
885-11542-12	BG3-1'	Total/NA	Solid	300.0	12096
885-11542-14	BG3-3'	Total/NA	Solid	300.0	12096
885-11542-15	BG3-4'	Total/NA	Solid	300.0	12096
885-11542-20	BG1-3 4'	Total/NA	Solid	300.0	12106
MB 885-12096/1-A	Method Blank	Total/NA	Solid	300.0	12096
MB 885-12106/1-A	Method Blank	Total/NA	Solid	300.0	12106
MB 885-12106/1-A	Method Blank	Total/NA	Solid	300.0	12106
LCS 885-12096/2-A	Lab Control Sample	Total/NA	Solid	300.0	12096
LCS 885-12106/2-A	Lab Control Sample	Total/NA	Solid	300.0	12106
LCS 885-12106/2-A	Lab Control Sample	Total/NA	Solid	300.0	12106

Analysis Batch: 12166

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-11542-16	BG1-3 0'	Total/NA	Solid	300.0	12106

QC Association Summary

Client: Souder, Miller & Associates
Job ID: 885-11542-1
Project/Site: Miss Sue RB#202H

HPLC/IC

Analysis Batch: 12262

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-11542-1	BG1-0'	Total/NA	Solid	300.0	12096
885-11542-2	BG1-1'	Total/NA	Solid	300.0	12096
885-11542-3	BG1-2'	Total/NA	Solid	300.0	12096
885-11542-4	BG1-3'	Total/NA	Solid	300.0	12096
885-11542-6	BG2-0'	Total/NA	Solid	300.0	12096
885-11542-7	BG2-1'	Total/NA	Solid	300.0	12096
885-11542-10	BG2-4'	Total/NA	Solid	300.0	12096
885-11542-17	BG1-3 1'	Total/NA	Solid	300.0	12106
885-11542-18	BG1-3 2'	Total/NA	Solid	300.0	12106
885-11542-19	BG1-3 3'	Total/NA	Solid	300.0	12106

Analysis Batch: 12575

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-11542-13	BG3-2'	Total/NA	Solid	300.0	12096

Lab Chronicle

Client: Souder, Miller & Associates
Job ID: 885-11542-1
Project/Site: Miss Sue RB#202H

Client Sample ID: BG1-0'
Lab Sample ID: 885-11542-1
Date Collected: 09/09/24 08:41
Matrix: Solid
Date Received: 09/11/24 07:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	300_Prep			12096	RC	EET ALB	09/12/24 08:39
Total/NA	Analysis	300.0		50	12262	EH	EET ALB	09/13/24 09:26

Client Sample ID: BG1-1'
Lab Sample ID: 885-11542-2
Date Collected: 09/09/24 08:42
Matrix: Solid
Date Received: 09/11/24 07:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	300_Prep			12096	RC	EET ALB	09/12/24 08:39
Total/NA	Analysis	300.0		50	12262	EH	EET ALB	09/13/24 09:42

Client Sample ID: BG1-2'
Lab Sample ID: 885-11542-3
Date Collected: 09/09/24 08:45
Matrix: Solid
Date Received: 09/11/24 07:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	300_Prep			12096	RC	EET ALB	09/12/24 08:39
Total/NA	Analysis	300.0		50	12262	EH	EET ALB	09/13/24 09:57

Client Sample ID: BG1-3'
Lab Sample ID: 885-11542-4
Date Collected: 09/09/24 08:48
Matrix: Solid
Date Received: 09/11/24 07:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	300_Prep			12096	RC	EET ALB	09/12/24 08:39
Total/NA	Analysis	300.0		50	12262	EH	EET ALB	09/13/24 10:12

Client Sample ID: BG1-4'
Lab Sample ID: 885-11542-5
Date Collected: 09/09/24 08:52
Matrix: Solid
Date Received: 09/11/24 07:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	300_Prep			12096	RC	EET ALB	09/12/24 08:39
Total/NA	Analysis	300.0		20	12139	EH	EET ALB	09/12/24 17:50

Client Sample ID: BG2-0'
Lab Sample ID: 885-11542-6
Date Collected: 09/09/24 09:24
Matrix: Solid
Date Received: 09/11/24 07:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	300_Prep			12096	RC	EET ALB	09/12/24 08:39
Total/NA	Analysis	300.0		100	12262	EH	EET ALB	09/13/24 12:59

Lab Chronicle

Client: Souder, Miller & Associates
Job ID: 885-11542-1
Project/Site: Miss Sue RB#202H

Client Sample ID: BG2-1'
Lab Sample ID: 885-11542-7
Date Collected: 09/09/24 09:25
Matrix: Solid
Date Received: 09/11/24 07:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	300_Prep			12096	RC	EET ALB	09/12/24 08:39
Total/NA	Analysis	300.0		50	12262	EH	EET ALB	09/13/24 10:42

Client Sample ID: BG2-2'
Lab Sample ID: 885-11542-8
Date Collected: 09/09/24 09:28
Matrix: Solid
Date Received: 09/11/24 07:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	300_Prep			12096	RC	EET ALB	09/12/24 08:39
Total/NA	Analysis	300.0		20	12139	EH	EET ALB	09/12/24 18:55

Client Sample ID: BG2-3'
Lab Sample ID: 885-11542-9
Date Collected: 09/09/24 09:30
Matrix: Solid
Date Received: 09/11/24 07:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	300_Prep			12096	RC	EET ALB	09/12/24 08:39
Total/NA	Analysis	300.0		20	12139	EH	EET ALB	09/12/24 19:08

Client Sample ID: BG2-4'
Lab Sample ID: 885-11542-10
Date Collected: 09/09/24 09:31
Matrix: Solid
Date Received: 09/11/24 07:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	300_Prep			12096	RC	EET ALB	09/12/24 08:39
Total/NA	Analysis	300.0		50	12262	EH	EET ALB	09/13/24 10:58

Client Sample ID: BG3-0'
Lab Sample ID: 885-11542-11
Date Collected: 09/09/24 08:59
Matrix: Solid
Date Received: 09/11/24 07:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	300_Prep			12096	RC	EET ALB	09/12/24 08:39
Total/NA	Analysis	300.0		20	12139	EH	EET ALB	09/12/24 19:34

Client Sample ID: BG3-1'
Lab Sample ID: 885-11542-12
Date Collected: 09/09/24 09:00
Matrix: Solid
Date Received: 09/11/24 07:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	300_Prep			12096	RC	EET ALB	09/12/24 08:39
Total/NA	Analysis	300.0		20	12139	EH	EET ALB	09/12/24 19:47

Lab Chronicle

Client: Souder, Miller & Associates
Job ID: 885-11542-1
Project/Site: Miss Sue RB#202H

Client Sample ID: BG3-2'
Lab Sample ID: 885-11542-13
Date Collected: 09/09/24 09:03
Matrix: Solid
Date Received: 09/11/24 07:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	300_Prep			12096	RC	EET ALB	09/12/24 08:39
Total/NA	Analysis	300.0		50	12575	JT	EET ALB	09/19/24 22:14

Client Sample ID: BG3-3'
Lab Sample ID: 885-11542-14
Date Collected: 09/09/24 09:04
Matrix: Solid
Date Received: 09/11/24 07:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	300_Prep			12096	RC	EET ALB	09/12/24 08:39
Total/NA	Analysis	300.0		20	12139	EH	EET ALB	09/12/24 20:25

Client Sample ID: BG3-4'
Lab Sample ID: 885-11542-15
Date Collected: 09/09/24 09:07
Matrix: Solid
Date Received: 09/11/24 07:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	300_Prep			12096	RC	EET ALB	09/12/24 08:39
Total/NA	Analysis	300.0		20	12139	EH	EET ALB	09/12/24 20:00

Client Sample ID: BG1-3 0'
Lab Sample ID: 885-11542-16
Date Collected: 09/09/24 09:50
Matrix: Solid
Date Received: 09/11/24 07:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	300_Prep			12106	EH	EET ALB	09/12/24 09:50
Total/NA	Analysis	300.0		100	12166	EH	EET ALB	09/12/24 16:03

Client Sample ID: BG1-3 1'
Lab Sample ID: 885-11542-17
Date Collected: 09/09/24 09:52
Matrix: Solid
Date Received: 09/11/24 07:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	300_Prep			12106	EH	EET ALB	09/12/24 09:50
Total/NA	Analysis	300.0		50	12262	EH	EET ALB	09/13/24 11:43

Client Sample ID: BG1-3 2'
Lab Sample ID: 885-11542-18
Date Collected: 09/09/24 09:53
Matrix: Solid
Date Received: 09/11/24 07:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	300_Prep			12106	EH	EET ALB	09/12/24 09:50
Total/NA	Analysis	300.0		50	12262	EH	EET ALB	09/13/24 12:28

Lab Chronicle

Client: Souder, Miller & Associates
Job ID: 885-11542-1
Project/Site: Miss Sue RB#202H

Client Sample ID: BG1-3 3'
Lab Sample ID: 885-11542-19
Date Collected: 09/09/24 09:54
Matrix: Solid
Date Received: 09/11/24 07:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	300_Prep			12106	EH	EET ALB	09/12/24 09:50
Total/NA	Analysis	300.0		50	12262	EH	EET ALB	09/13/24 12:44

Client Sample ID: BG1-3 4'
Lab Sample ID: 885-11542-20
Date Collected: 09/09/24 09:55
Matrix: Solid
Date Received: 09/11/24 07:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	300_Prep			12106	EH	EET ALB	09/12/24 09:50
Total/NA	Analysis	300.0		20	12139	EH	EET ALB	09/12/24 13:59

Laboratory References:

EET ALB = Eurofins Albuquerque, 4901 Hawkins NE, Albuquerque, NM 87109, TEL (505)345-3975

Accreditation/Certification Summary

Client: Souder, Miller & Associates
Job ID: 885-11542-1
Project/Site: Miss Sue RB#202H

Laboratory: Eurofins Albuquerque

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
New Mexico	State	NM9425, NM0901	02-26-25

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
300.0	300_Prep	Solid	Chloride

Oregon	NELAP	NM100001	02-26-25

Chain-of-Custody Record

Client: SMA

M. Peppin

Mailing Address:

Phone #:

email or Fax#:

QA/QC Package:

☐ Standard ☐ Level 4 (Full Validation)

Accreditation: ☐ Az Compliance

☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time:

☑ Standard ☐ Rush 5 Days

Project Name: Miss Sue RB #202H

Project #: 5E 33699 - BG1

Project Manager: Monica Peppin

Sampler: MJP

On Ice: ☑ Yes ☐ No

# of Coolers: 1

Cooler Temp(including CF): 0.3+0.5 = 0.8 (°C)

HALL ENVIRONMENTAL ANALYSIS LABO

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

885-11542 COC

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No.	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)
9/9	8:41	Soil	BG1 0'	4oz	ice	1							✓			
	8:42		1'			2										
	8:45		2'			3										
	8:48		3'			4										
	8:52		4'			5										
	9:24		BG2 0'			6										
	9:25		1'			7										
	9:28		2'			8										
	9:30		3'			9										
	9:31		4'			10										
	8:59		BG3 0			11										
	9:00		1			12										

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
9/10/24	945		CVC		9/10/24	945
9/10/24	1900			Courier	9/11/24	7:50

Remarks: Matador Resources

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

Chain-of-Custody Record

Client: SMA
M. Peppin

Mailing Address:

Phone #:

email or Fax#:

QA/QC Package:
☐ Standard ☐ Level 4 (Full Validation)

Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other
☐ EDD (Type)

Turn-Around Time:
☑ Standard ☑ Rush 5 days

Project Name: Miss Sue RB #202H

Project #: 5E33699-BG1

Project Manager: Monica Peppin

Sampler: MJP

On Ice: ☑ Yes ☐ No chucky

# of Coolers: 1

Cooler Temp(including CF): 0.3 +0.5 = 0.8 (°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.	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)
9/9	9:03	Soil	BG3 2'	4oz	ice	13							✓			
	9:04		3'			14										
	9:07		4'			15										
	9:50		BG1-B3 0'			16										
	9:52		BG1-3 1'			17										
	9:53		BG1-3 2'			18										
	9:54		BG1-3 3'			19										
	9:55		BG1-3 4'			20										

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
9/10/24	945				9/10/24	945
9/10/24	1900			courier	9/11/24	7:50

Remarks: Matador Resources

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

Login Sample Receipt Checklist

Client: Souder, Miller & Associates

Job Number: 885-11542-1

Login Number: 11542

List Source: Eurofins Albuquerque

List Number: 1

Creator: Casarrubias, Tracy

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

APPENDIX C:
PREVIOUS DENIED CLOSURE REPORT

February 14, 2023 Vertex Project #: 22E-04178

Spill Closure Report: Miss Sue 12-23S-27E RB #202H
Section 11, Township 23 South, Range 27 East
API: 30-015-44433
County: Eddy
Incident Report: nAPP2234143030

Prepared For: **San Mateo Midstream**
1500, 5400 LBJ Freeway
Dallas, Texas 75240

New Mexico Oil Conservation Division – District 2
811 South 1st Street
Artesia, New Mexico 88210

San Mateo Midstream retained Vertex Resource Services Inc. (Vertex) to conduct a Spill Assessment for a release of produced water caused by failure of a 2" valve within a lined containment and overflowed at the Miss Sue 12-23S-27E RB #202H, API 30-015-44433, Incident nAPP2234143030 (hereafter referred to as "site"). This letter provides a description of the Spill Assessment and includes a request for Spill Closure. The spill area is located at N 32.32247, W –104.15278.

Background

The site is located approximately 4.17 miles northwest of Loving, New Mexico (Google Inc., 2022). The legal location for the site is Section 11, Township 23 South and Range 27 East in Eddy County, New Mexico. The spill area is located on private property. An aerial photograph and site schematic are included on Figure 1, Attachment 1.

The Geological Map of New Mexico (New Mexico Bureau of Geology and Mineral Resources, 2022) indicates the site's surface geology is comprised primarily of Qa - Quaternary Alluvium (Quaternary). The Natural Resources Conservation Service (NRCS) *Web Soil Survey* characterizes the predominant soil texture on the site is Karro Loam. It tends to be well drained with high runoff and very low available moisture levels in the soil profile (United States Department of Agriculture, Natural Resources Conservation Service, 2022).

The surrounding landscape is associated with plains and alluvial fans at elevations of 3,000 to 4,500 feet above sea level. The climate is semi-arid, with an annual precipitation ranging between 10 to 14 inches. Historically, the plant community intergrades with that of Gyp Upland, where it is dependent upon the levels of gypsum and sodicity/salinity. Salt flats can be associated with playas that have important effects on soil properties. Alkali sacaton is dominant with a mixture of small, scattered shrubs, especially four-wing saltbrush, Atriplex species, and iodinebush. Alkali sacaton is patchily distributed and large patches of bare ground may be common. Overgrazing and extended drought can reduce grass cover (United States Department of Agriculture, Natural Resources Conservation Service, 2022).

There is no surface water located on-site. The nearest significant watercourse, as defined in Subsection P of 19.15.17.7 Mexico Administrative Code (NMAC; New Mexico Oil Conservation Division, 2018), is the Pecos River located approximately 2.65 miles east of the site (Google Inc., 2022). There are no continuous flowing watercourses or significant watercourses, lakebeds, sinkholes, playa lakes, or other critical water or community features as outlined in Paragraph (4) of Subsection C of 19.15.29.12 NMAC.

Incident Description

The spill occurred on December 7, 2022, due to failure of a 2" valve within a lined containment that breached the liner. The spill was reported on December 7, 2022, and involved the release of approximately 10 barrels (bbl.) of produced water on the pad site. Approximately 6 bbl. of free fluid was removed during initial spill clean-up. Characterization samples are included in Table 2, Attachment 2. The New Mexico Oil Conservation Division (NMOCD) C-141 Report: nAPP2234143030 is included in Attachment 3. The daily field report (DFR) and site photographs are included in Attachment 4.

Closure Criteria Determination

The depth to groundwater was determined using information from the United States Department of the Interior, United States Geological Survey (2022) National Water Information Mapping System and New Mexico Office of the State Engineer (2022) Water Rights Reporting System. A 0.5-mile search radius was used to determine groundwater depth. The closest recorded depth to groundwater was determined to be 73 feet below ground surface (bgs) and 0.29 miles from the site (New Mexico Office of the State Engineer, New Mexico Water Rights Reporting System, 2022). Documentation used in Closure Criteria Determination research is included in Attachment 5.

Background Chloride

Based on site research on the historical agricultural use of the area where the site is located, as well as information from the NRCS *Web Soil Survey* report included in Attachment 5, Vertex determined there may be potential for existing background chlorides to exceed remediation criteria as outlined in Table 1. At the time of the initial site visit, background samples were collected for laboratory analysis to determine if background chloride levels exceeded the applicable NMOCD closure criteria. These background samples were obtained from two background borehole locations (BG23-), selected outside of the release footprint per guidance provided in the NMOCD *Procedures for Implementation of the Spill Rule* (19.15.29 NMAC; New Mexico Energy, Minerals and Natural Resources Department, 2019). The samples were collected at 1-foot intervals, to a depth of 4 feet bgs, which was expected to exceed the projected final depth of remediation. The location of the background sample in relation to the release footprint is presented on Figure 1 (Attachment 1).

Laboratory analysis of the background samples showed natural background chloride levels within the range of NMOCD closure criteria for areas where depth to groundwater is greater than 51 feet bgs but less than 100 feet bgs. The background sample laboratory data are included in Table 2 (Attachment 2). As allowed by the 19.15.29.12 NMAC – Closure Criteria for Soils Impacted by a Release table, for chloride remediation, "numerical limits or natural background level, whichever is greater" may be used to determine the level of remediation required for a release.

Closure Criteria Worksheet			
Site Name: Miss Sue 12-23S-27E RB #202H			
Spill Coordinates:		X: 32.32247	Y: -104.15278
Site Specific Conditions		Value	Unit
1	Depth to Groundwater	**73**	feet
2	Within 300 feet of any continuously flowing watercourse or any other significant watercourse	13,969	feet
3	Within 200 feet of any lakebed, sinkhole or playa lake (measured from the ordinary high-water mark)	37,361	feet
4	Within 300 feet from an occupied residence, school, hospital, institution or church	907	feet
5	i) Within 500 feet of a spring or a private, domestic fresh water well used by less than five households for domestic or stock watering purposes, **or**	2,840	feet
	ii) Within 1000 feet of any fresh water well or spring	2,840	feet
6	Within incorporated municipal boundaries or within a defined municipal fresh water field covered under a municipal ordinance adopted pursuant to Section 3-27-3 NMSA 1978 as amended, unless the municipality specifically approves	No	(Y/N)
7	Within 300 feet of a wetland	1,520	feet
8	Within the area overlying a subsurface mine	No	(Y/N)
9	Within an unstable area (Karst Map)	Medium	Critical High Medium Low
10	Within a 100-year Floodplain	Undetermined	year
11	Soil Type	Karro Loam	
12	Ecological Classification	Salt Flats	
13	Geology	Qa	
	NMAC 19.15.29.12 E (Table 1) Closure Criteria	51-100'	<50' 51-100' >100'

The closure criteria determined for the site are associated with the following constituent concentration limits as presented in Table 1.

Table 1. Closure Criteria for Soils Impacted by a Release

Minimum depth below any point within the horizontal boundary of the release to groundwater less than 10,000 mg/l TDS	Constituent	Limit
51 feet - 100 feet	Chloride	10,000 mg/kg
	TPH (GRO+DRO+MRO)	2,500 mg/kg
	GRO+DRO	1,000 mg/kg
	BTEX	50 mg/kg
	Benzene	10 mg/kg

TDS - Total dissolved solids, TPH - Total petroleum hydrocarbons = gasoline range organics (GRO) + diesel range organics (DRO) + motor oil range organics (MRO), BTEX - Benzene, toluene, ethylbenzene, and xylenes

Remedial Actions Taken

An initial site inspection of the spill area was completed on December 14, 2022, which identified the area of the spill specified in the initial C-141 Report, estimated the approximate volume of the spill and white lined the area required for the 811 One Call request. The impacted area was determined to be approximately 62 feet long and 55 feet wide; the total affected area was determined to be 1,840 square feet. The DFR associated with the site inspection is included in Attachment 4.

Remediation efforts began on January 23, 2023, and were completed on January 27, 2023. Vertex personnel supervised the excavation of impacted soils. Field screening was completed on a total of three sample points and consisted of analysis using Titration (chlorides). Field screening results were used to identify areas requiring further remediation from those areas showing concentrations below determined closure criteria levels. Soils were removed to a depth of 0.25 feet bgs. Impacted soil was transported by a licensed waste hauler and disposed of at an approved waste management facility. Field screening results are included in Table 3, Attachment 2.

Notification that confirmatory samples were being collected was provided to the NMOCD on January 20, 2023, and is included in Attachment 6. Confirmatory composite samples were collected from the base and walls of the excavation in 200 square foot increments. A total of 14 samples, including two background samples, were collected for laboratory analysis following NMOCD soil sampling procedures. Samples were submitted to Hall Environmental Analysis Laboratory under chain-of-custody protocols and analyzed for BTEX (EPA Method 8021B), total petroleum hydrocarbons (GRO, DRO, MRO – EPA Method 8015D) and total chlorides (EPA Method 300.0). Laboratory results are presented in Table 3, Attachment 2 and the laboratory data report is included in Attachment 7. All confirmatory samples collected and analyzed were below closure criteria for the site.

Closure Request

The spill area was fully delineated, remediated and backfilled with local soils. The Confirmatory Sample Notification email is included in Attachment 6. Confirmatory samples were analyzed by the laboratory and found to be below

allowable concentrations as per the NMAC Closure Criteria for Soils Impacted by a Release locations "51-100 feet to groundwater". Based on these findings, San Mateo Midstream requests that this spill be closed.

Should you have any questions or concerns, please do not hesitate to contact the undersigned at 575.361.9880 or mpeppin@vertex.ca.

Monica Peppin, A.S.
PROJECT MANAGER, REPORTING

February 20, 2023
Date

Attachments

Attachment 1. Site Schematics
Attachment 2. Tables
Attachment 3. NMOCD C-141 Report
Attachment 4. Daily Field Reports with Pictures
Attachment 5. Closure Criteria for Soils Impacted by a Release Research Determination Documentation
Attachment 6. Confirmatory Sampling Notification
Attachment 7. Laboratory Data Reports and Chain Of Custody Forms

References

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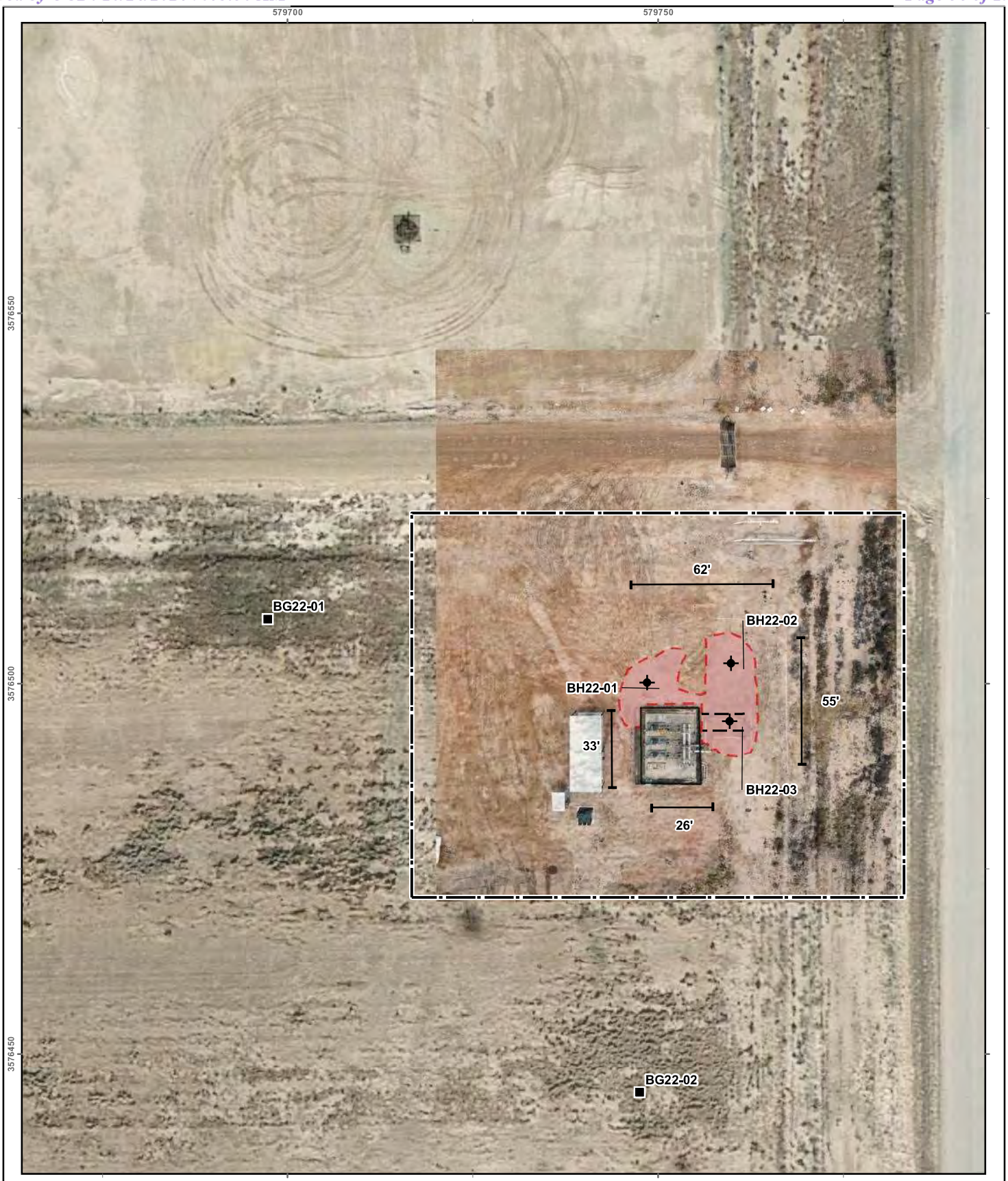
Limitations

This report has been prepared for the sole benefit of San Mateo Midstream. This document may not be used by any other person or entity, with the exception of the New Mexico Oil Conservation Division, without the express written consent of Vertex Resource Services Inc. (Vertex) and San Mateo Midstream. Any use of this report by a third party, or any reliance on decisions made based on it, or damages suffered as a result of the use of this report are the sole responsibility of the user.

The information and conclusions contained in this report are based upon work undertaken by trained professional and technical staff in accordance with generally accepted scientific practices current at the time the work was performed. The conclusions and recommendations presented represent the best judgement of Vertex based on the data collected during the assessment. Due to the nature of the assessment and the data available, Vertex cannot warrant against undiscovered environmental liabilities. Conclusions and recommendations presented in this report should not be considered legal advice.

ATTACHMENT 2



Background Sample
Borehole
Flowline
Approximate Lease Boundary
Containment (~887 sq. ft.)
Initial Release (~1,840 sq. ft.)

VERTEX

0 5 10 20 m

NAD 1983 UTM Zone 13N
Date: Feb 10/23

N

Characterization schematic
Miss Sue 12-23S-27E RB #202H

FIGURE: 1

San Mateo MIDSTREAM

Geospatial data presented in this figure may be derived from external sources and Vertex does not assume any liability for inaccuracies. This figure is intended for reference use only and is not certified for legal, survey, or engineering purposes.

Note: Background imagery from Google Earth, 2022. Features from GPS. Vertex Professional Services Ltd., 2022.

VERSATILITY. EXPERTISE.

Document Path: G:\1-Projects_US PROJECTS\Matador Resources\22E-04178\Figure 1 Characterization schematic (Miss Sue)Drone.mxd

● Base Sample (Prefixed by"BS23-")
▲ Wall Sample (Prefixed by "WS23-")
Pipeline (Aboveground)
Excavation to 0.25' (~1,950 sq. ft.)
Containment

VERTEX

0 2.5 5 m

NAD 1983 UTM Zone 13N
Date: Feb 10/23

N

Excavation Schematic
Miss Sue 12-23S-27E RB #202H

FIGURE: **2**

San Mateo MIDSTREAM

Geospatial data presented in this figure may be derived from external sources and Vertex does not assume any liability for inaccuracies. This figure is intended for reference use only and is not certified for legal, survey, or engineering purposes.

Note: Background imagery collected from UAV survey by Vertex Professional Services Ltd., 2022. Features from GPS. Vertex Professional Services Ltd., 2023.

VERSATILITY. EXPERTISE.

Document Path: G:\1-Projects_US PROJECTS\Matador Resources\22E-04178\Figure 2 Excavation Schematic (Miss Sue).mxd

ATTACHMENT 1

Client Name: San Mateo Midstream
Site Name: Miss Sue 12-23S-27E RB #202H
NMOCD Tracking #: nAPP2234143030
Project #: 22E-04178
Lab Reports: 2212809, 2212A20, 2212A19

Table 2. Initial Characterization Sample Field Screen and Laboratory Results - Depth to Groundwater 51-100 feet bgs

Sample Description			Field Screening			Petroleum Hydrocarbons							Inorganic
						Volatile		Extractable					
Sample ID	Depth (ft)	Sample Date	Volatile Organic Compounds (PID)	Extractable Organic Compounds (PetroFlag)	Chloride Concentration	Benzene	BTEX (Total)	Gasoline Range Organics (GRO)	Diesel Range Organics (DRO)	Motor Oil Range Organics (MRO)	(GRO + DRO)	Total Petroleum Hydrocarbons (TPH)	Chloride Concentration
			(ppm)	(ppm)	(ppm)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
BG22-01	0'	2022-12-12	-	-	-	-	-	-	-	-	-	-	370
	1'	2022-12-12	-	-	-	-	-	-	-	-	-	-	2400
	2'	2022-12-12	-	-	-	-	-	-	-	-	-	-	2700
	3'	2022-12-12	-	-		-	-	-	-	-	-	-	3000
BG22-02	0'	2022-12-14	-	-	4,985	-	-	-	-	-	-	-	3300
	1'	2022-12-14	-	-	-	-	-	-	-	-	-	-	4700
	2'	2022-12-14	-	-	2,300	-	-	-	-	-	-	-	2200
	3'	2022-12-14	-	-	2,290	-	-	-	-	-	-	-	1800
	4'	2022-12-14	-	-	2,753	-	-	-	-	-	-	-	2300
BH22-01	0'	2022-12-14	-	-	2,740	ND	ND	ND	ND	ND	ND	ND	2800
	1'	2022-12-14	-	-	3,555	-	-	-	-	-	-	-	-
	2'	2022-12-14	-	-	3,953	ND	ND	ND	ND	ND	ND	ND	4600
	3'	2022-12-14	-	-	2,585	-	-	-	-	-	-	-	-
	4'	2022-12-14	-	-	2,188	ND	ND	ND	ND	ND	ND	ND	1900
BH22-02	0'	2022-12-14	-	-	7,655	ND	ND	ND	ND	ND	ND	ND	5400
	1'	2022-12-14	-	-	-	-	-	-	-	-	-	-	-
	2'	2022-12-14	-	-	3,390	ND	ND	ND	ND	ND	ND	ND	3700
	3'	2022-12-14	-	-	-	-	-	-	-	-	-	-	-
	4'	2022-12-14	-	-	2,168	ND	ND	ND	ND	ND	ND	ND	1900
BH22-03	0'	2022-12-14	-	-	5,418	ND	ND	ND	ND	ND	ND	ND	5200
	1'	2022-12-14	-	-	-	-	-	-	-	-	-	-	-
	2'	2022-12-14	-	-	1,608	ND	ND	ND	ND	ND	ND	ND	1600
	3'	2022-12-14	-	-	-	-	-	-	-	-	-	-	-
	4'	2022-12-14	-	-	688	ND	ND	ND	ND	ND	ND	ND	230

"ND" Not Detected at the Reporting Limit
"-" indicates not analyzed/assessed
Bold and grey shaded indicates exceedance outside of NMOCD Closure Criteria (on-pad)
Bold and green shaded indicates exceedance outside of NMOCD Reclamation Criteria (off-pad)

Client Name: San Mateo Midstream
Site Name: Miss Sue 12-23S-27E RB #202H
NMOCD Tracking #: nAPP2234143030
Project #: 22E-04178
Lab Report: 2302142

Table 3. Confirmatory Sample Field Screen and Laboratory Results - Depth to Groundwater 51-100 feet bgs

Sample Description			Field Screening			Petroleum Hydrocarbons							Inorganic
						Volatile		Extractable					
Sample ID	Depth (ft)	Sample Date	Volatile Organic Compounds (PID)	Extractable Organic Compounds (PetroFlag)	Chloride Concentration	Benzene	BTEX (Total)	Gasoline Range Organics (GRO)	Diesel Range Organics (DRO)	Motor Oil Range Organics (MRO)	(GRO + DRO)	Total Petroleum Hydrocarbons (TPH)	Chloride Concentration
			(ppm)	(ppm)	(ppm)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
BS23-01	0.25'	1/27/2023	-	1	1,548	ND	ND	ND	ND	ND	ND	ND	1400
BS23-02	0.25'	1/27/2023	-	1	2,428	ND	ND	ND	ND	ND	ND	ND	5500
BS23-03	0.25'	1/27/2023	-	0	1,258	ND	ND	ND	11	ND	11	11	1700
BS23-04	0.25'	1/27/2023	-	0	263	ND	ND	ND	ND	ND	ND	ND	650
BS23-05	0.25'	1/27/2023	-	9	1,250	ND	ND	ND	ND	ND	ND	ND	840
BS23-06	0.25'	1/27/2023	-	5	310	ND	0.079	ND	ND	ND	ND	ND	140
BS23-07	0.25'	1/27/2023	-	8	353	ND	ND	ND	ND	ND	ND	ND	530
BS23-08	0.25'	1/27/2023	-	14	5,043	ND	ND	ND	ND	ND	ND	ND	5100
BS23-09	0.25'	1/27/2023	-	9	3,320	ND	ND	ND	ND	ND	ND	ND	3500
BS23-10	0.25'	1/27/2023	-	11	2,075	ND	ND	ND	ND	ND	ND	ND	2000
WS23-01	0.25'	1/27/2023	-	0	5,370	ND	ND	ND	ND	ND	ND	ND	880
WS23-02	0.25'	1/27/2023	-	9	560	ND	ND	ND	ND	ND	ND	ND	5500
WS23-03	0.25'	1/27/2023	-	0	1,215	ND	ND	ND	ND	ND	ND	ND	870
WS23-04	0.25'	1/27/2023	-	5	713	ND	ND	ND	ND	ND	ND	ND	1300

"ND" Not Detected at the Reporting Limit
"-" indicates not analyzed/assessed
Bold and grey shaded indicates exceedance outside of NMOCD Closure Criteria (on-pad)
Bold and green shaded indicates exceedance outside of NMOCD Reclamation Criteria (off-pad)

ATTACHMENT 3

District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 S. First St., Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources Department

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-141
Revised August 24, 2018
Submit to appropriate OCD District office

Incident ID	nAPP2234143030
District RP	
Facility ID	
Application ID	

Release Notification

Responsible Party

Responsible Party San Mateo Midstream	OGRID 329461
Contact Name Clinton Talley	Contact Telephone 337-319-8398
Contact email clinton.talley@matadorresources.com	Incident # *(assigned by OCD)* nAPP2234143030
Contact mailing address 5400 LBJ Freeway, Suite 1500, Dallas, Texas 75240	

Location of Release Source

Latitude 32.32247 Longitude -104.15278
(NAD 83 in decimal degrees to 5 decimal places)

Site Name Miss Sue 12-23S-27E RB #202H	Site Type Gas
Date Release Discovered 12/07/2022	API# *(if applicable)* 30-015-44433

Unit Letter	Section	Township	Range	County
H	11	23S	27E	Eddy

Surface Owner: ☐ State ☐ Federal ☐ Tribal ☒ Private (*Name:* _____)

Nature and Volume of Release

Material(s) Released (Select all that apply and attach calculations or specific justification for the volumes provided below)

☐ Crude Oil	Volume Released (bbls)	Volume Recovered (bbls)
☒ Produced Water	Volume Released (bbls) 10 bbls	Volume Recovered (bbls) 6 bbls
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	☐ Yes ☐ No
☐ Condensate	Volume Released (bbls)	Volume Recovered (bbls)
☐ Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
☐ Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release

2" valve failure in lined containment. Release did breach liner.

State of New Mexico
Oil Conservation Division

Incident ID	nAPP2234143030
District RP	
Facility ID	
Application ID	

Was this a major release as defined by 19.15.29.7(A) NMAC? ☐ Yes ☒ No	If YES, for what reason(s) does the responsible party consider this a major release?
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)?	

Initial Response

The responsible party must undertake the following actions immediately unless they could create a safety hazard that would result in injury

☒ The source of the release has been stopped.

☒ The impacted area has been secured to protect human health and the environment.

☒ Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices.

☒ All free liquids and recoverable materials have been removed and managed appropriately.

If all the actions described above have not been undertaken, explain why:

Per 19.15.29.8 B. (4) NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please attach a narrative of actions to date. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see 19.15.29.11(A)(5)(a) NMAC), please attach all information needed for closure evaluation.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Printed Name: Clinton Talley Title: RES Specialist

Signature: _____ Date: _____

email: clinton.talley@matadorresources.com Telephone: 337-319-8398

OCD Only

Received by: _____ Date: _____

Incident ID	nAPP2234143030
District RP	
Facility ID	
Application ID	

Site Assessment/Characterization

This information must be provided to the appropriate district office no later than 90 days after the release discovery date.

What is the shallowest depth to groundwater beneath the area affected by the release?	73 (ft bgs)
Did this release impact groundwater or surface water?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	☐ Yes ☒ No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	☐ Yes ☒ No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	☐ Yes ☒ No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	☐ Yes ☒ No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a wetland?	☐ Yes ☒ No
Are the lateral extents of the release overlying a subsurface mine?	☐ Yes ☒ No
Are the lateral extents of the release overlying an unstable area such as karst geology?	☐ Yes ☒ No
Are the lateral extents of the release within a 100-year floodplain?	☐ Yes ☒ No
Did the release impact areas **not** on an exploration, development, production, or storage site?	☐ Yes ☒ No

Attach a comprehensive report (electronic submittals in .pdf format are preferred) demonstrating the lateral and vertical extents of soil contamination associated with the release have been determined. Refer to 19.15.29.11 NMAC for specifics.

Characterization Report Checklist: ***Each of the following items must be included in the report.***

- ☒ Scaled site map showing impacted area, surface features, subsurface features, delineation points, and monitoring wells.
- ☒ Field data
- ☒ Data table of soil contaminant concentration data
- ☒ Depth to water determination
- ☒ Determination of water sources and significant watercourses within ½-mile of the lateral extents of the release
- ☒ Boring or excavation logs
- ☒ Photographs including date and GIS information
- ☒ Topographic/Aerial maps
- ☒ Laboratory data including chain of custody

If the site characterization report does not include completed efforts at remediation of the release, the report must include a proposed remediation plan. That plan must include the estimated volume of material to be remediated, the proposed remediation technique, proposed sampling plan and methods, anticipated timelines for beginning and completing the remediation. The closure criteria for a release are contained in Table 1 of 19.15.29.12 NMAC, however, use of the table is modified by site- and release-specific parameters.

State of New Mexico
Oil Conservation Division

Incident ID	nAPP2234143030
District RP	
Facility ID	
Application ID	

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Printed Name: Clinton Talley Title: RES Specialist

Signature: _____ Date: _____

email: clinton.talley@matadorresources.com Telephone: 337-319-8398

OCD Only

Received by: _____ Date: _____

Incident ID	nAPP2234143030
District RP	
Facility ID	
Application ID	

Remediation Plan

Remediation Plan Checklist: ***Each of the following items must be included in the plan.***

- ☐ Detailed description of proposed remediation technique
- ☐ Scaled sitemap with GPS coordinates showing delineation points
- ☐ Estimated volume of material to be remediated
- ☐ Closure criteria is to Table 1 specifications subject to 19.15.29.12(C)(4) NMAC
- ☐ Proposed schedule for remediation (note if remediation plan timeline is more than 90 days OCD approval is required)

Deferral Requests Only: ***Each of the following items must be confirmed as part of any request for deferral of remediation.***

☐ Contamination must be in areas immediately under or around production equipment where remediation could cause a major facility deconstruction.

☐ Extents of contamination must be fully delineated.

☐ Contamination does not cause an imminent risk to human health, the environment, or groundwater.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Printed Name: Clinton Talley Title: RES Specialist

Signature: _____ Date: _____

email: clinton.talley@matadorresources.com Telephone: 337-319-8398

OCD Only

Received by: _____ Date: _____

☐ Approved ☐ Approved with Attached Conditions of Approval ☐ Denied ☐ Deferral Approved

Signature: _____ Date: _____

Incident ID	nAPP2234143030
District RP	
Facility ID	
Application ID	

Closure

The responsible party must attach information demonstrating they have complied with all applicable closure requirements and any conditions or directives of the OCD. This demonstration should be in the form of a comprehensive report (electronic submittals in .pdf format are preferred) including a scaled site map, sampling diagrams, relevant field notes, photographs of any excavation prior to backfilling, laboratory data including chain of custody documents of final sampling, and a narrative of the remedial activities. Refer to 19.15.29.12 NMAC.

Closure Report Attachment Checklist: ***Each of the following items must be included in the closure report.***

☒ A scaled site and sampling diagram as described in 19.15.29.11 NMAC

☒ Photographs of the remediated site prior to backfill or photos of the liner integrity if applicable (Note: appropriate OCD District office must be notified 2 days prior to liner inspection)

☒ Laboratory analyses of final sampling (Note: appropriate ODC District office must be notified 2 days prior to final sampling)

☒ Description of remediation activities

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations. The responsible party acknowledges they must substantially restore, reclaim, and re-vegetate the impacted surface area to the conditions that existed prior to the release or their final land use in accordance with 19.15.29.13 NMAC including notification to the OCD when reclamation and re-vegetation are complete.

Printed Name: Clinton Talley Title: RES Specialist

Signature: _____ Date: _____

email: clinton.talley@matadorresources.com Telephone: 337-319-8398

OCD Only

Received by: _____ Date: _____

Closure approval by the OCD does not relieve the responsible party of liability should their operations have failed to adequately investigate and remediate contamination that poses a threat to groundwater, surface water, human health, or the environment nor does not relieve the responsible party of compliance with any other federal, state, or local laws and/or regulations.

Closure Approved by: _____ Date: _____

Printed Name: _____ Title: _____

ATTACHMENT 4

Daily Site Visit Report

Client:	Matador Resources	Inspection Date:	12/7/2022
Site Location Name:	Miss Sue 12-23S-27E RB #202H	Report Run Date:	12/8/2022 12:55 AM
Client Contact Name:	Arsenio Jones	API #:	30-015-44433
Client Contact Phone #:	(575)361-4333		
Unique Project ID		Project Owner:	
Project Reference #		Project Manager:	

Summary of Times

Arrived at Site	12/7/2022 11:20 AM
Departed Site	12/7/2022 12:10 PM

Daily Site Visit Report

Field Notes

11:52 Arrived on site and filled out JSAs.

11:52 Began assessing and mapping marked spill area

11:53 Completed spill polygon in USA collector

12:06 Photographed area and departed site

Next Steps & Recommendations

1 Delineate spill

Daily Site Visit Report

Field Notes

10:48 Arrived on site and filled out safety paperwork

10:48 White lined a one call area around the spill release zone

10:53 White lined additional sample points

11:05 Filled out daily field report

Next Steps & Recommendations

1

Daily Site Visit Report

Site Photos

Viewing Direction: Northeast

Marked spill area and west side of containment

Viewing Direction: South

Western boundary of marked spill area

Viewing Direction: East

Northern boundary or spill area

Viewing Direction: East

Continuation of northern spill boundary

Daily Site Visit Report

Viewing Direction: South

Northern section of spill and north wall of containment

Viewing Direction: Northeast

Northern portion of spill

Viewing Direction: South

Eastern boundary of spill

Viewing Direction: West

Southeast spill area and eastern containment wall

Daily Site Visit Report

Site Photos

Viewing Direction: North

Placard

Viewing Direction: West

BG22-01 white line

Viewing Direction: East

BG22-02 white line

Viewing Direction: North

Release area white line

Daily Site Visit Report

Viewing Direction: Northwest

Release area white line

Viewing Direction: West

Release area white line

Viewing Direction: Southeast

Release area white line

Daily Site Visit Report

Site Photos

Viewing Direction: East	**Viewing Direction**: South
	
BG22-01	Off-site area west of site

Daily Site Visit Report

Site Photos

Viewing Direction: Southeast

Northwest corner of site

Viewing Direction: Southwest

Northeast corner of site

Viewing Direction: Northwest

Southeast corner of site

Viewing Direction: Northeast

Southwest corner of site

Daily Site Visit Report

Client:	Matador Resources	Inspection Date:	1/23/2023
Site Location Name:	Miss Sue 12-23S-27E RB #202H	Report Run Date:	1/23/2023 10:29 PM
Client Contact Name:	Arsenio Jones	API #:	30-015-44433
Client Contact Phone #:	(575)361-4333		
Unique Project ID		Project Owner:	
Project Reference #		Project Manager:	

Summary of Times

Arrived at Site	1/23/2023 7:58 AM
Departed Site	1/23/2023 11:55 AM

Daily Site Visit Report

Field Notes

8:35 Arrived on-site at 0758, meet Pecos River crew and San Mateo, filled out safety paperwork, conducted tailgate meeting, and discussed work for the day

8:35 Backhoe began scraping surface

11:06 FS1 taken at 0940. FS2 taken at 1045. FS3 through FS5 taken at 1100

11:52 All samples clean within criteria

11:52 Samples taken at a depth of 1 inch

Next Steps & Recommendations

1

Daily Site Visit Report

Site Photos

Viewing Direction: South	**Viewing Direction**: Northeast
	
Backhoe scraping surface	Southwest corner of spill scraping
Viewing Direction: Southwest	**Viewing Direction**: Northeast
	
FS1	FS2

Daily Site Visit Report

Viewing Direction: South	**Viewing Direction**: Southeast
	
FS3	FS4
Viewing Direction: Southeast	**Viewing Direction**: Southeast
	
FS5	Northwest corner of spill scraping

Daily Site Visit Report

Viewing Direction: Southwest	**Viewing Direction**: Northwest
	
Northeast corner of spill scraping	Southeast corner of spill scraping

Daily Site Visit Report

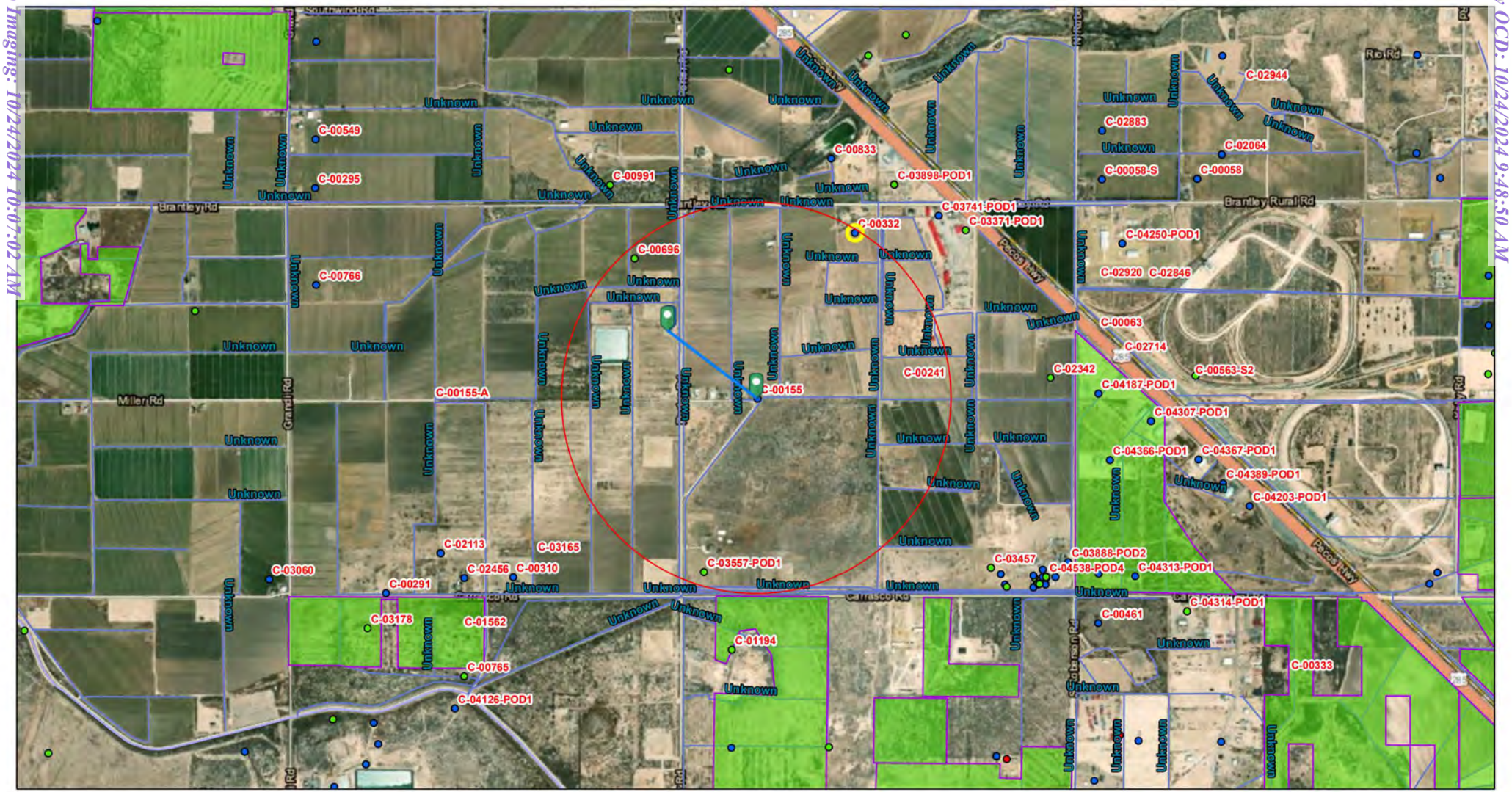
Daily Site Visit Signature

Inspector: Michael Barnes

Signature: 

ATTACHMENT 5

Miss Sue 12-23S-27E RB #202H



12/7/2022, 3:25:48 PM

Override 1

GIS WATERS PODs

Active

Pending

Plugged

OSE District Boundary

Water Right Regulations

Negative Easement Area

Conveyances

Canal

Ditch

SiteBoundaries

1:18,056

0 0.17 0.35 0.7 mi

0 0.3 0.6 1.2 km

Esri, HERE, GeoTechnologies, Inc., Esri, HERE, Garmin, GeoTechnologies, Inc., U.S. Department of Energy Office of Legacy Management, Maxar

Web Generated Map
Map is generated by web users.

New Mexico Office of the State Engineer
Point of Diversion Summary

(quarters are 1=NW 2=NE 3=SW 4=SE)
(quarters are smallest to largest) (NAD83 UTM in meters)

Well Tag	POD Number	Q64	Q16	Q4	Sec	Twn	Rng	X	Y
	C 00155	4	3	1	12	23S	27E	580110	3576218

Driller License: **Driller Company:**

Driller Name: CHARLES MOORE

Drill Start Date:	06/19/1952	**Drill Finish Date:**	07/10/1952	**Plug Date:**	
Log File Date:	07/18/1952	**PCW Rcv Date:**	06/23/1955	**Source:**	Shallow
Pump Type:	TURBIN	**Pipe Discharge Size:**		**Estimated Yield:**	1800 GPM
Casing Size:	16.00	**Depth Well:**	215 feet	**Depth Water:**	73 feet

Water Bearing Stratifications:	Top	Bottom	Description
	135	215	Sandstone/Gravel/Conglomerate

Casing Perforations:	Top	Bottom
	108	156

Meter Number:	4993	**Meter Make:**	WATERSPEC
Meter Serial Number:	934617	**Meter Multiplier:**	1.0000
Number of Dials:	4	**Meter Type:**	Diversion
Unit of Measure:	Acre-Feet	**Return Flow Percent:**	
Usage Multiplier:		**Reading Frequency:**	

Meter Readings (in Acre-Feet)

Read Date	Year	Mtr Reading	Flag	Rdr	Comment	Mtr Amount	Online
09/01/2001	2001	0	A	MS		0	
09/10/2001	2001	10	A	MS		10.000	
11/07/2001	2001	17	A	MS		6.570	
04/10/2002	2002	21	A	MS		4.670	
06/12/2002	2002	96	A	MS		75.250	
09/04/2002	2002	102	A	ms		5.640	
01/16/2003	2002	102	A	ms		0	
04/03/2003	2003	105	A	ms		2.950	
06/04/2003	2003	145	A	ms		39.690	
08/20/2003	2003	218	A	ab		73.500	
10/28/2003	2003	273	A	TW		54.580	
01/07/2004	2003	273	A	ab		0	
04/19/2004	2004	273	A	TW		0	
07/15/2004	2004	337	A	TW		64.380	
10/20/2004	2004	344	A	TW		7.070	
01/03/2005	2004	347	A	TW		2.940	
03/31/2005	2005	347	A	JW		0	
07/06/2005	2005	347	A	JW		0.150	
10/19/2005	2005	348	A	TW		0.850	
01/05/2006	2005	348	A	TW		0	

04/12/2006	2006	348	A	tw	0
07/12/2006	2006	382	A	tw	33.500
01/09/2007	2006	387	A	tw	5.740
07/03/2007	2007	390	A	tw	2.140
10/11/2007	2007	390	A	tw	0.270
01/03/2008	2007	390	A	tw	0
04/21/2008	2008	401	A	tw	11.370
07/06/2008	2008	432	A	tw	31.160
10/02/2008	2008	434	A	tw	1.310
01/20/2009	2008	434	A	tw	0
04/22/2009	2009	434	A	tw	0
08/04/2009	2009	434	A	tw	0.110
01/06/2010	2009	434	A	tw	0
06/02/2010	2010	434	A	tw	0
01/19/2011	2010	434	A	tw	0
01/23/2012	2011	434	A	tw	0.020
03/05/2012	2012	434	A	tw	0
07/24/2012	2012	434	A	tw	0
02/13/2013	2012	434	A	tw	0
11/05/2013	2013	434	A	tw	0
07/22/2014	2014	434	A	tw	0
12/10/2014	2014	434	A	tw	0
02/23/2016	2016	434	A	tw	0
08/11/2016	2016	434	A	tw	0
12/27/2016	2016	434	A	tw	0
05/25/2017	2017	434	A	tw	0
12/29/2017	2017	434	A	tw	0

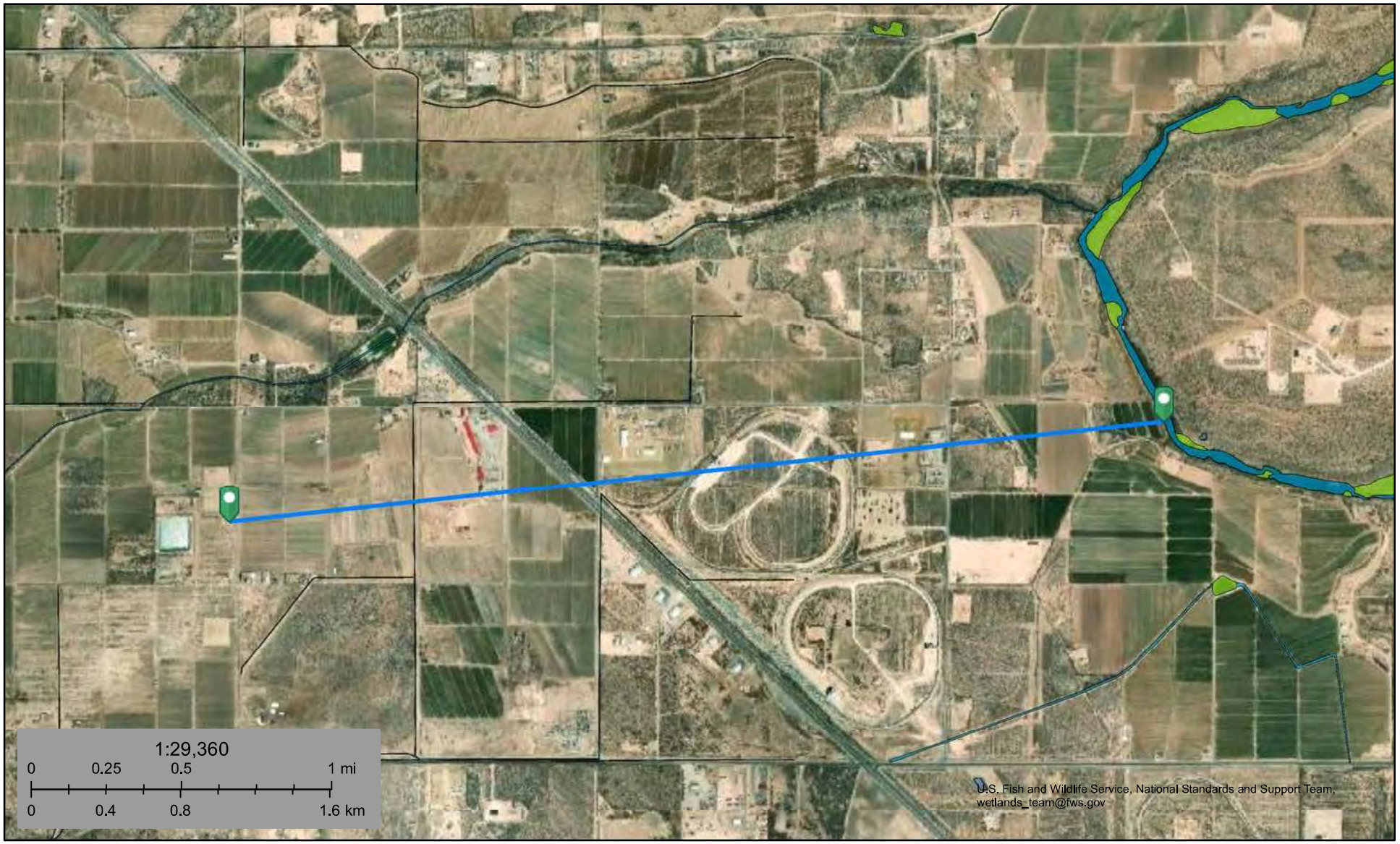
x

**YTD Meter Amounts:	Year	Amount
	2001	16.570
	2002	85.560
	2003	170.720
	2004	74.390
	2005	1.000
	2006	39.240
	2007	2.410
	2008	43.840
	2009	0.110
	2010	0
	2011	0.020
	2012	0
	2013	0
	2014	0
	2015	0
	2016	0
	2017	0

x

U.S. Fish and Wildlife Service
National Wetlands Inventory

Miss Sue 12-23S-27E RB #202H



December 7, 2022

Wetlands

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

National Wetlands Inventory (NWI)
This page was produced by the NWI mapper

U.S. Fish and Wildlife Service
National Wetlands Inventory

Miss Sue 12-23S-27E RB #202H

December 7, 2022

Wetlands

- Estuarine and Marine Deepwater
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National Wetlands Inventory (NWI)
This page was produced by the NWI mapper

Miss Sue 12-23S-27E RB #202H

12/7/2022, 4:20:15 PM

Override 1

GIS WATERS PODs
- Active
- Pending

OSE District Boundary

Water Right Regulations
- Negative Easement Area

Conveyances
- Ditch
- SiteBoundaries

1:9,028

0 0.07 0.15 0.3 mi

0 0.15 0.3 0.6 km

Esri, HERE, GeoTechnologies, Inc., Esri, HERE, Garmin, GeoTechnologies, Inc., U.S. Department of Energy Office of Legacy Management, Maxar

Web Generated Map
Map is generated by web users.

New Mexico Office of the State Engineer
Water Right Summary

get image list

WR File Number: C 00332 **Subbasin:** C **Cross Reference:** -

Primary Purpose: DOM 72-12-1 DOMESTIC ONE HOUSEHOLD

Primary Status: PMT PERMIT

Total Acres: **Subfile:** - **Header:** -

Total Diversion: 3 **Cause/Case:** -

Owner: ALFREDO FRANCO

x

Documents on File

	Trn #	Doc	File/Act	Status 1	Status 2	Transaction Desc.	From/ To	Acres	Diversion	Consumptive
get images	198591	72121	1952-06-06	PMT	LOG	C 332	T		3	

x

Current Points of Diversion

(NAD83 UTM in meters)

POD Number	Well Tag	Source	Q 64	Q16	Q4	Sec	Tws	Rng	X	Y	Other Location Desc
C 00332		Shallow	2	2	1	12	23S	27E	580508	3576903*	

***An (*) after northing value indicates UTM location was derived from PLSS - see Help**

U.S. Fish and Wildlife Service
National Wetlands Inventory

Miss Sue 12-23S-27E RB #202H

December 7, 2022

Wetlands

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
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- Riverine

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National Wetlands Inventory (NWI)
This page was produced by the NWI mapper

Miss Sue 12-23S-27E RB #202H

12/7/2022, 4:26:23 PM

1:288,895

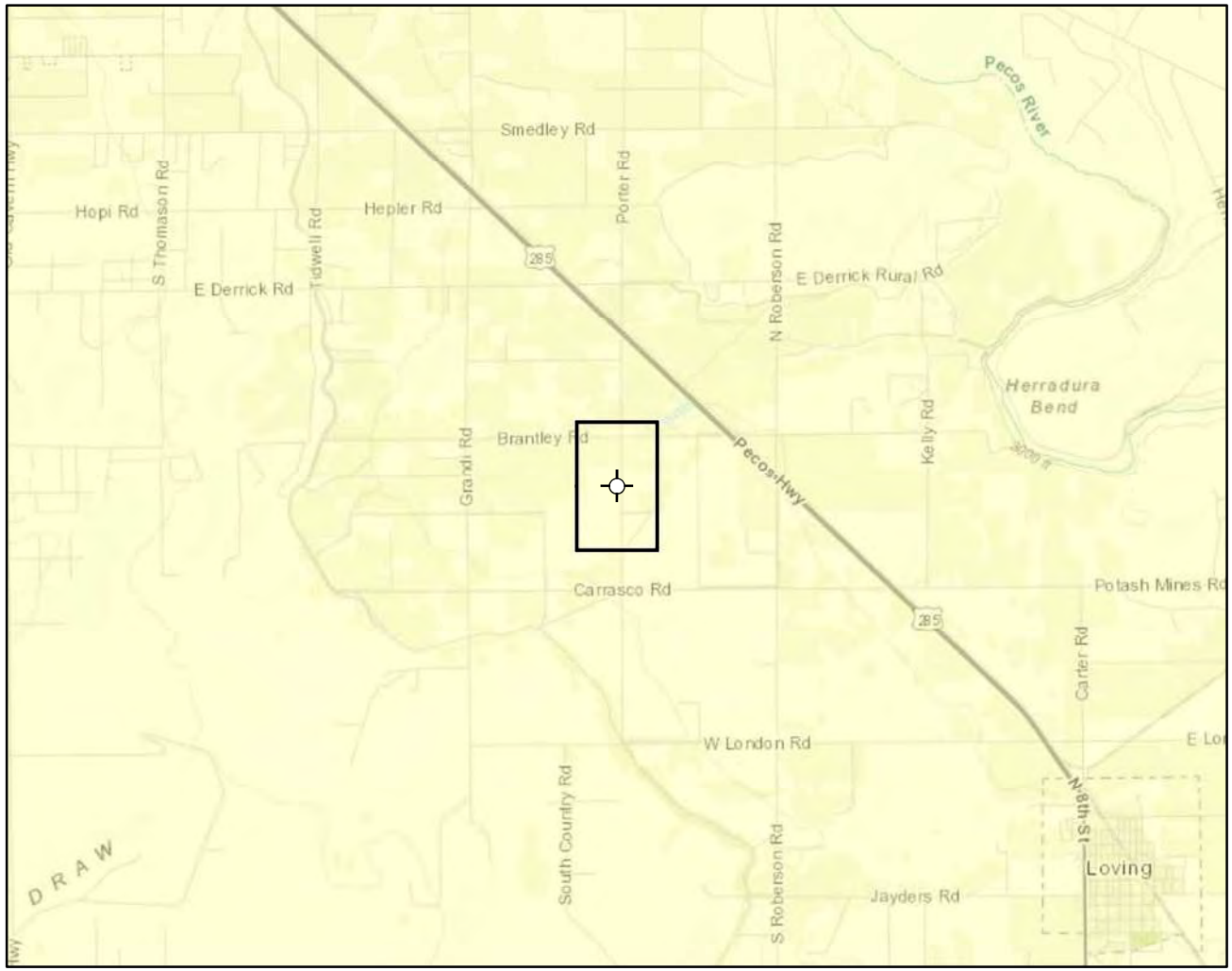
0 2 4 8 mi

0 3.25 6.5 13 km

National Geographic, Esri, Garmin, HERE, UNEP-WCMC, USGS, NASA, ESA, METI, NRCAN, GEBCO, NOAA, increment P Corp.

EMNRD MMD GIS Coordinator

New Energy, Minerals and Natural Resources Department (http://nm-emnrd.maps.arcgis.com/apps/webappbuilder/index.html?id=7ebfa3c432db42978d66c99a9cc8311a)



Karst Potential

- Critical
- High
- Medium
- Low

Site Location

Site Buffer (1,000 sq. ft)

Overview Map

0 0.25 0.5 1 mi

Detail Map

0 150 300 600 ft.

VERTEX

Map Center:
Lat/Long: 32.322470, -104.152780

NAD 1983 UTM Zone 13N
Date: Dec 09/22

N

Karst Potential Schematic
Miss Sue 12-23S-27E RB #202H

FIGURE:

X

Geospatial data presented in this figure may be derived from external sources and Vertex does not assume any liability for inaccuracies. This figure is intended for reference use only and is not certified for legal, survey, or engineering purposes.

Note: Inset Map, ESRI 2022; Overview Map: ESRI World Topographic. Karst potential data sourced from Rosswell Field Office, Bureau of Land Management, 2020 or United States Department of the Interior, Bureau of Land Management. (2018). Karst Potential.

VERSATILITY. EXPERTISE.

Document Path: G:\1-Projects_US PROJECTS\Matador Resources\22E-04178\Figure X - Karst Potential Schematic (Miss Sue).mxd

National Flood Hazard Layer FIRMette

FEMA

104°9'29"W 32°19'36"N

104°8'51"W 32°19'6"N

0 250 500 1,000 1,500 2,000 Feet

1:6,000

Basemap: USGS National Map: Orthoimagery: Data refreshed October, 2020

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 / 17.5 Cross Sections with 1% Annual Chance / Water Surface Elevation
- Coastal Transect
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

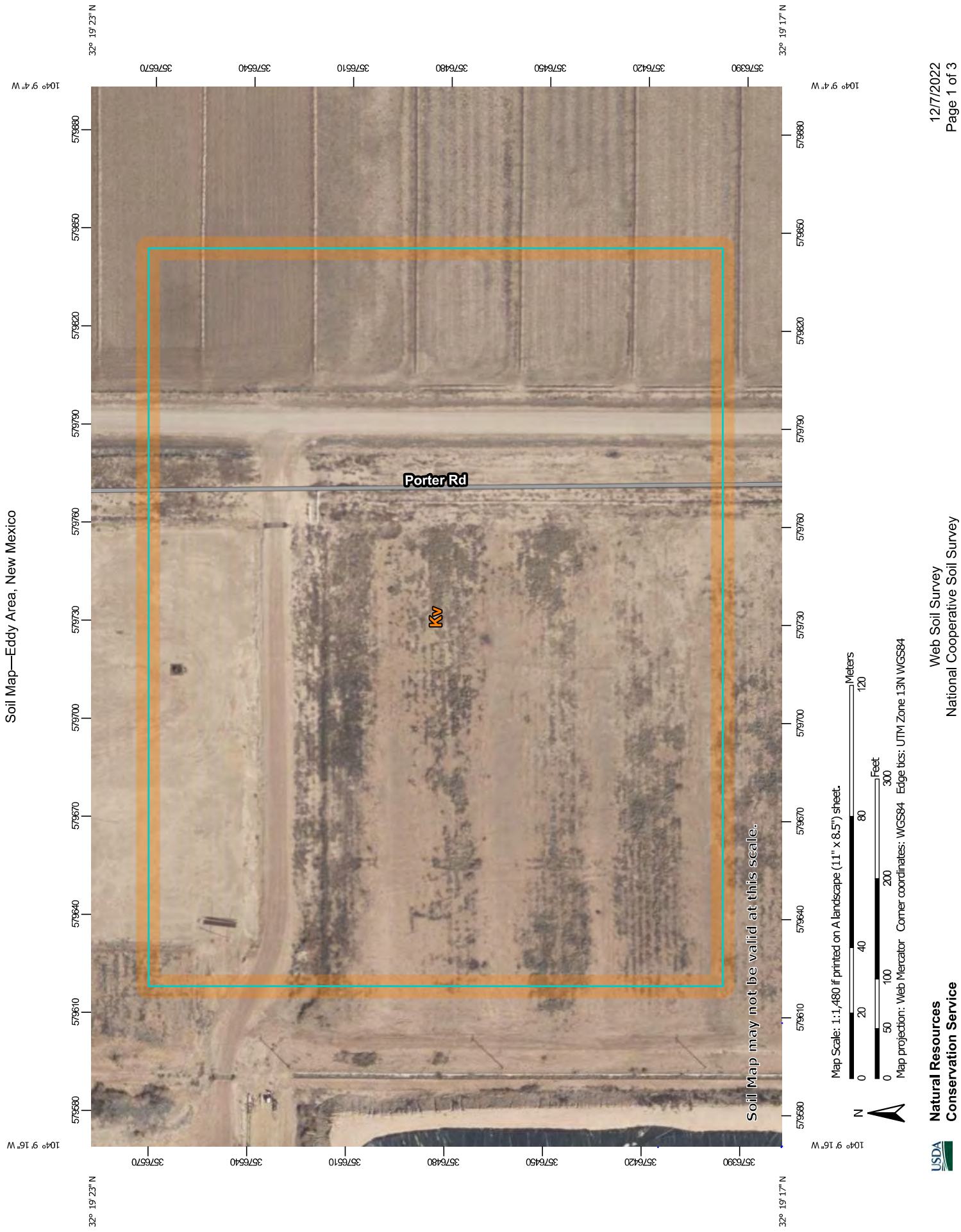
N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 12/7/2022 at 6:22 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.


Soil Map—Eddy Area, New Mexico
12/7/2022
Page 1 of 3
Porter Rd
KV
Soil Map may not be valid at this scale.
Web Soil Survey
National Cooperative Soil Survey
Natural Resources
Conservation Service
Map Scale: 1:1,480 if printed on A landscape (11" x 8.5") sheet.
Meters
Feet
Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 13N WGS84
32° 19' 23" N
32° 19' 17" N
104° 9' 4" W
104° 9' 16" W
579880
579850
579820
579790
579760
579730
579700
579670
579640
579610
579580
357630
357642
357648
357654
357657

MAP LEGEND

Area of Interest (AOI)

- Area of Interest (AOI)

Soils

- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features

- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features

- Streams and Canals

Transportation

- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background

- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Eddy Area, New Mexico
Survey Area Data: Version 18, Sep 8, 2022

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Feb 27, 2020—Feb 28, 2020

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
Kv	Karro loam, saline, 0 to 1 percent slopes	9.8	100.0%
Totals for Area of Interest		**9.8**	**100.0%**

Eddy Area, New Mexico

Kv—Karro loam, saline, 0 to 1 percent slopes

Map Unit Setting

National map unit symbol: 1w4x
Elevation: 3,000 to 4,500 feet
Mean annual precipitation: 10 to 14 inches
Mean annual air temperature: 60 to 64 degrees F
Frost-free period: 200 to 220 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Karro and similar soils: 99 percent
Minor components: 1 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Karro

Setting

Landform: Plains, alluvial fans
Landform position (three-dimensional): Riser, talf, rise
Down-slope shape: Convex, linear
Across-slope shape: Linear
Parent material: Mixed alluvium

Typical profile

H1 - 0 to 10 inches: loam
H2 - 10 to 90 inches: loam

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.60 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 60 percent
Maximum salinity: Nonsaline to slightly saline (0.0 to 4.0 mmhos/cm)
Sodium adsorption ratio, maximum: 13.0
Available water supply, 0 to 60 inches: High (about 10.5 inches)

Interpretive groups

Land capability classification (irrigated): 2s
Land capability classification (nonirrigated): 6s
Hydrologic Soil Group: C
Ecological site: R070BC036NM - Salt Flats

Hydric soil rating: No

Minor Components

Reeves

Percent of map unit: 1 percent
Ecological site: R070BC007NM - Loamy
Hydric soil rating: No

Data Source Information

Soil Survey Area: Eddy Area, New Mexico
Survey Area Data: Version 18, Sep 8, 2022

USDA Natural Resources Conservation Service

Ecological site R070BC036NM
Salt Flats

Accessed: 12/07/2022

General information

Provisional. A provisional ecological site description has undergone quality control and quality assurance review. It contains a working state and transition model and enough information to identify the ecological site.

Figure 1. Mapped extent

Areas shown in blue indicate the maximum mapped extent of this ecological site. Other ecological sites likely occur within the highlighted areas. It is also possible for this ecological site to occur outside of highlighted areas if detailed soil survey has not been completed or recently updated.

Associated sites

R042BB006NM	**Gyp Upland, Desert Shrub**
R042BB014NM	**Loamy, Desert Shrub**

Table 1. Dominant plant species

Tree	Not specified
Shrub	Not specified
Herbaceous	Not specified

Physiographic features

This site consists of very deep, well drained soils that formed in calcareous mixed alluvial sediments derived from sedimentary material. The site is on floodplains, alluvial flats, fan remants and stream terraces and have slopes of 0 to 3 percent. Elevations range from 3,700 feet to 5,000 feet. The climate is arid to semiarid with mean annual precipitation of 10 to 14 inches. The mean annual temperature ranges between 60 degrees to 64 degrees F.

Table 2. Representative physiographic features

Landforms	(1) Alluvial flat (2) Flood plain (3) Fan piedmont
Flooding duration	Extremely brief (0.1 to 4 hours) to brief (2 to 7 days)
Flooding frequency	Very rare to rare
Ponding duration	Very brief (4 to 48 hours) to brief (2 to 7 days)
Ponding frequency	Rare to occasional
Elevation	3,000–5,000 ft
Slope	0–3%
Ponding depth	1–4 in
Water table depth	0 in
Aspect	Aspect is not a significant factor

Climatic features

Annual average precipitation ranges from 10.0 to 13.0 inches. Wide fluctuations from year to year are common, ranging from a low of about 2 inches to a high of over 20 inches. At least one-half of the annual precipitation comes in the form of rainfall during July, August, and September. Precipitation in the form of snow or sleet averages less than 4 inches annually.

The average annual air temperature is about 61 degrees F. Summer maximums usually exceed 100 degrees F., anc winter minimums can go below zero. The average frost-free season exceeds 200 days and extends from April 1 to November 1.

Both the temperature regime and rainfall distribution favor warm-season perennial plants on this site. Spring moisture conditions are only occasionally adequate to cause significant growth during this period of the year. High winds from the west and southwest are common from March to June, which further tends to create poor soil moisture conditions in the springtime.

Table 3. Representative climatic features

Frost-free period (average)	221 days
Freeze-free period (average)	240 days
Precipitation total (average)	13 in

Influencing water features

This site is not influenced by water from wetlands or streams.

Soil features

Soils are deep or very deep. Surface textures are loam, sandy loam, silt loam. Subsoil textures are silty clay loam, clay loam, loam, sandy clay loam. Some soils have stratified layers of very fine sandy loam or silt loam or sandy loam. Soils contain varying amounts of salt and alkali accumulations which are inhibitory to certain plant species.

Minimum and maximum values listed below represent the characteristic soils for this site.

Characteristic soils:
Hondale
Harkey
Karro
Bigetty
Glendale

Table 4. Representative soil features

Surface texture	(1) Silt loam (2) Sandy loam (3) Loam
Family particle size	(1) Loamy
Drainage class	Moderately well drained to well drained
Permeability class	Slow to moderate
Soil depth	60–72 in
Surface fragment cover <=3"	0–10%
Surface fragment cover >3"	0%

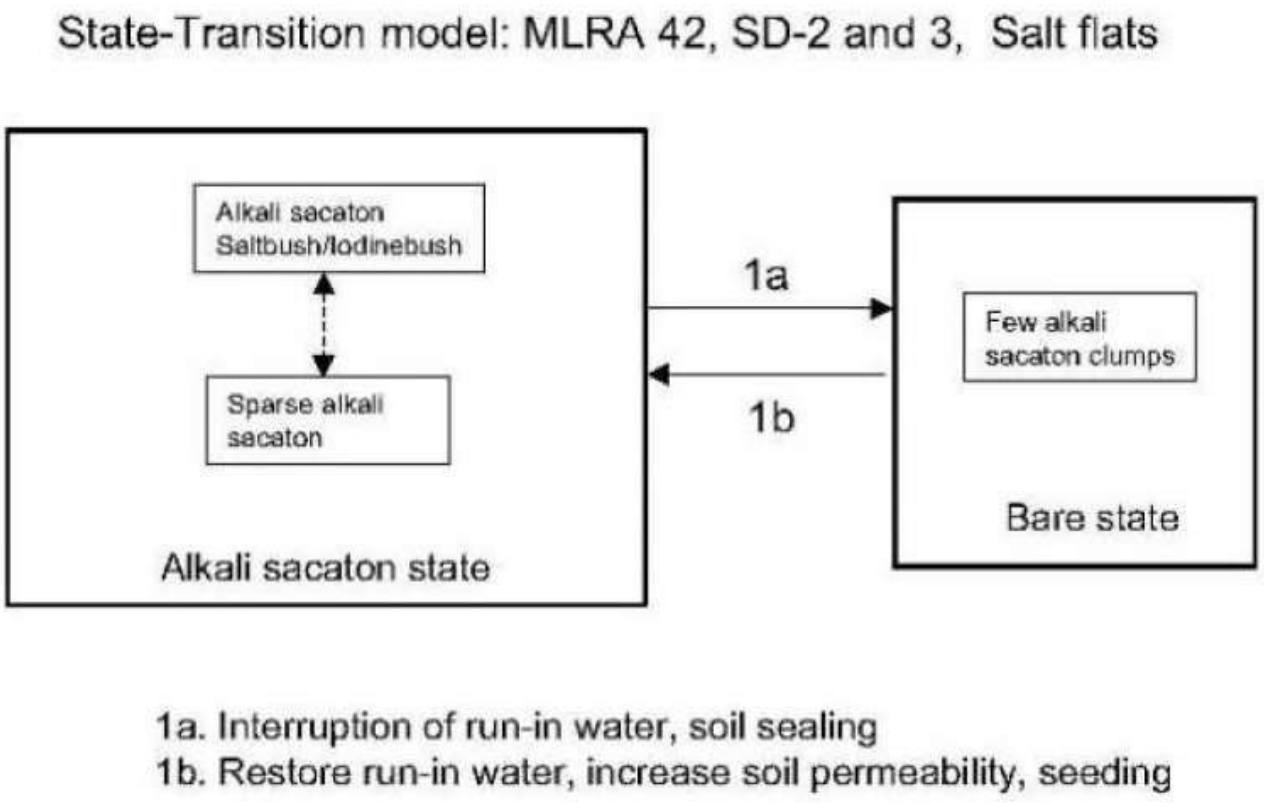
Available water capacity (0-40in)	4–9 in
Calcium carbonate equivalent (0-40in)	1–15%
Electrical conductivity (0-40in)	2–16 mmhos/cm
Sodium adsorption ratio (0-40in)	1–13
Soil reaction (1:1 water) (0-40in)	7.9–9.6
Subsurface fragment volume <=3" (Depth not specified)	0–15%
Subsurface fragment volume >3" (Depth not specified)	0%

Ecological dynamics

Overview

The soils and vegetation of this site intergrades with that of the Gyp Upland (the “gyp flats” type) and Loamy sites, depending on the levels of gypsum and sodicity/salinity, respectively. Salt flats can be associated with playas that are barren because they are inundated for long periods. Differences in sodicity within the Salt Flats site have important effects on soil properties. Differences in salinity control plant composition directly. The historic plant community type of the salt flats site is dominated by alkali sacaton (*Sporobolus airoides*) and scattered small shrubs, especially four-wing saltbush (*Atriplex canescens*), other Atriplex species, and iodinebush (*Allenrolfea occidentalis*). Alkali sacaton is patchily distributed in this site, and large patches of bare ground may be common. Fluctuations in sacaton cover may occur in response to drought or grazing pressure. Drought and/or overgrazing may lead to plant mortality. Subsequent reductions of water infiltration through the soil surface may inhibit reestablishment. The concentration of sodium and/or salts at the soil surface may also play a role in retarding sacaton establishment in patches and larger areas. Bare areas may persist for decades or longer. Alteration of surface hydrology, such that run-in water is diverted away from grass patches, may also lead to grass loss.
No systematic studies of communities, states or transitions have been performed in the salt flats site.

State and transition model



State 1
Historic Climax Plant Community

Community 1.1
Historic Climax Plant Community

Alkali sacaton State Alkali sacaton grassland: Alkali sacaton is dominant and four-wing saltbush and/or iodinebush are scattered throughout. Iodinebush may be considered as an index species for this site. Other Atriplex species may also be present (some are rare, such as *Atriplex griffithsii*). In some cases, a moderate diversity of grasses may be present, including vine mesquite (*Panicum obtusum*) and tobosa (*Pleuraphis mutica*). In other cases (e.g. soils with higher salinity), alkali sacaton is the sole perennial grass. In some cases, mesquite (*Prosopis glandulosa*) may be present but this shrub should be limited on saline soils. Mesquite increases may be associated with soils more closely allied to loamy ecological sites. Bare patches or even large, continuous areas may naturally occur, perhaps reflecting the consequences of past drought events, areas with very high salinity (e.g. greater than ca. 3% dry soil weight in the top 10 cm; Ungar 1966), or areas in which water ponds for long periods. Heavy grazing may result in the loss of alkali sacaton plants and, in some cases, increases in the relative abundance of other grasses such as burrograss (*Scleropogon brevifolius*). Distinguishing human-caused bare areas from naturally bare areas may be difficult in this site. Diagnosis: Alkali sacaton cover is high in favorable topographic positions. Some bare patches are present. Additional States: Transition to bare state (1a): Factors leading to the loss of sacaton, such as drought, grazing, or other disturbances can set this transition in motion. Once grasses are lost, the loss of soil organic matter, root channels and structures that intercept water may lead to soil sealing and reduced infiltration. Furthermore, the sodic (alkali) subsoil layers that are exposed following loss of topsoil are highly susceptible to soil sealing. Once soil sealing occurs, salts can accumulate at the soil surface and increase to toxic levels. Soil compaction and degradation by trampling may also contribute to soil sealing. In addition, interruption of overland water flow (e.g. by a road) may reduce soil water availability to the point where sacaton plants die and cannot reestablish. These factors inhibit grass reestablishment and may lead to long-term soil degradation. Key indicators of approach to transition: Decadence and mortality in alkali sacaton, reduced litter, increased bare ground, increases in topsoil salinity and sodicity.

Table 5. Annual production by plant type

Plant Type	Low (Lb/Acre)	Representative Value (Lb/Acre)	High (Lb/Acre)
Grass/Grasslike	260	488	715
Shrub/Vine	96	180	264
Forb	44	82	121
Total	**400**	**750**	**1100**

Table 6. Soil surface cover

Tree basal cover	0%
Shrub/vine/liana basal cover	0%
Grass/grasslike basal cover	20%
Forb basal cover	0%
Non-vascular plants	0%
Biological crusts	0%
Litter	15%
Surface fragments >0.25" and <=3"	0%
Surface fragments >3"	0%
Bedrock	0%
Water	0%
Bare ground	60%

Figure 5. Plant community growth curve (percent production by month). NM2520, R042XC036NM Salt Flats HCPC. R042XC036NM Salt Flats HCPC.

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0	0	0	5	10	10	25	30	15	5	0	0

State 2
Bare

Community 2.1
Bare

Bare: These communities are largely barren with a variable cover of alkali sacaton or perhaps other grasses. Sacaton plants often appear decadent. Diagnosis: Bare ground predominates. Transition to alkali sacaton grassland (1b): Run-in water must be restored if it was interrupted. If erosion, high surface salinity, and reduced infiltration restrict grass abundance, restoration is probably impossible. Flushing and leaching of salts is limited by natric horizons. Accumulation of non-saline sediments that have eroded from areas upslope may facilitate grass recolonization over time. Seed germination seems to be favored by cracks in the soil (De Alba-Avila and Cox 1988), so such sites could be favorable for seeding attempts where salinity is not limiting. Information sources and theoretical background: Communities, states, and transitions are based upon information in the ecological site description and observations by Brandon Bestelmeyer, Jornada Experimental Range and Arlene Tugel, NRCS. Information on the causes of patchiness in alkali sacaton is sorely needed.

Additional community tables

Table 7. Community 1.1 plant community composition

Group	Common Name	Symbol	Scientific Name	Annual Production (Lb/Acre)	Foliar Cover (%)
Grass/Grasslike					

1	**Warm Season**			263–338	
	alkali sacaton	SPAI	*Sporobolus airoides*	263–338	–
2	**Warm Season**			23–60	
	vine mesquite	PAOB	*Panicum obtusum*	23–60	–
3	**Warm Season**			8–38	
	black grama	BOER4	*Bouteloua eriopoda*	8–38	–
4	**Warm Season**			23–60	
	cane bluestem	BOBA3	*Bothriochloa barbinodis*	23–60	–
	plains bristlegrass	SEVU2	*Setaria vulpiseta*	23–60	–
	sand dropseed	SPCR	*Sporobolus cryptandrus*	23–60	–
	big sacaton	SPWR2	*Sporobolus wrightii*	23–60	–
5	**Warm Season**			8–38	
	saltgrass	DISP	*Distichlis spicata*	8–38	–
6	**Warm Season**			23–60	
	threeawn	ARIST	*Aristida*	23–60	–
	low woollygrass	DAPU7	*Dasyochloa pulchella*	23–60	–
	tobosagrass	PLMU3	*Pleuraphis mutica*	23–60	–
	burrograss	SCBR2	*Scleropogon brevifolius*	23–60	–
7	**Warm Season**			8–23	
	Graminoid (grass or grass-like)	2GRAM	*Graminoid (grass or grass-like)*	8–23	–
Shrub/Vine					
8	**Shrub**			23–60	
	fourwing saltbush	ATCA2	*Atriplex canescens*	23–60	–
9	**Shrub**			60–90	
	iodinebush	ALOC2	*Allenrolfea occidentalis*	60–90	–
	saltbush	ATRIP	*Atriplex*	60–90	–
10	**Shrub**			8–23	
	crown of thorns	KOSP	*Koeberlinia spinosa*	8–23	–
11	**Shrub**			8–23	
	broom snakeweed	GUSA2	*Gutierrezia sarothrae*	8–23	–
12	**Shrub**			8–23	
	baccharis	BACCH	*Baccharis*	8–23	–
	mormon tea	EPVI	*Ephedra viridis*	8–23	–
Forb					
13	**Forb**			23–60	
	dwarf desertpeony	ACNA2	*Acourtia nana*	23–60	–
	goldenbush	ISOCO	*Isocoma*	23–60	–
	southern goldenbush	ISPL	*Isocoma pluriflora*	23–60	–
	desert seepweed	SUSU	*Suaeda suffrutescens*	23–60	–
	crinklemat	TIQUI	*Tiquilia*	23–60	–
14	**Annual Forbs**			8–38	
	Forb, annual	2FA	*Forb, annual*	8–38	–
15	**Perennial Forbs**			8–38	

	Forb, perennial	2FP	*Forb, perennial*	8–38	–

Animal community

This site provides habitat which support a resident animal community that is characterized by coyote, black-tailed jackrabbit, desert cottontail, bannertail kangaroo rat, scaled quail, loggerhead shrike, horned lark, meadowlark, little striped whiptail lizard, and Texas horned lizard.

Hydrological functions

The runoff curve numbers are determined by field investigations using hydraulic cover conditions and hydrologic soil groups.

Hydrologic Interpretations
Soil Series--------Hydrologic Group
Hondale----------D
Harkey----------B
Karro----------B
Bigetty----------B
Glendale----------B

Recreational uses

Suitability for camping and picnicking is fair to poor, limited mostly by weather extremes. Hunting is fair for pronghorn antelope, quail, dove, small game, and waterfowl where seasonal open water occurs. Photography and bird watching can be fair to good, especially during migration seasons. Most small animals of the site are nocturnal and secretive, seen only at night, early morning or evening. Scenic beauty is greatest during spring and sometimes summer months when flowering of forbs, shrubs, and cacti occurs.

Wood products

This site has no significant value for wood products.

Other products

This site is suitable for grazing in all seasons of the year. Most of the palatable green forage for livestock is produced in the summer months and lends the site to seasonal use. It is suited to grazing by cattle, sheep, goats, and horses, generally without regard to class of livestock. Retrogression caused by inadequately managed grazing usually results in such plants as black grama, and fourwing saltbush being replaced by burrograss, tobosa, other Atriplex species, and seepweed. Mesquite and allthorn may dominate the site eventually, and recovery may be slow under grazing management alone.

Other information

Guide to Suggested Initial Stocking Rate Acres per Animal Unit Month
Similarity Index--------Ac/AUM
100 - 76----------2.8 – 3.7
75 – 51----------3.5 – 5.5
50 – 26----------5.0 – 10.5
25 – 0----------10.5 - +

Other references

Other References:
Data collection for this site was done in conjunction with the progressive soil surveys within the Southern Desertic Basins, Plains and Mountains, Major Land Resource Areas of New Mexico. This site has been mapped and correlated with soils in the following soil surveys. Sierra County Dona Ana County Grant County Hidalgo County

Luna County Otero County

Characteristic Soils Are:
Hondale silt loam, strongly alkali
Hondale loam, strongly alkali
Hondale soils, strongly alkali
Hondale sandy clay loam
Mimbres silty clay loam, alkali, not flooded
Other Soils included are:
Marcial silty clay loam
Ubar silt loam
Mead silt oam
Reagan loam, saline
Hurley loam, saline
Reeves loam, saline
Karro loam, saline
Bigetty loam, moderately saline

Contributors

Don Sylvester
Dr. Brandon Bestelmeyer

Rangeland health reference sheet

Interpreting Indicators of Rangeland Health is a qualitative assessment protocol used to determine ecosystem condition based on benchmark characteristics described in the Reference Sheet. A suite of 17 (or more) indicators are typically considered in an assessment. The ecological site(s) representative of an assessment location must be known prior to applying the protocol and must be verified based on soils and climate. Current plant community cannot be used to identify the ecological site.

Author(s)/participant(s)	
Contact for lead author	
Date	
Approved by	
Approval date	
Composition (Indicators 10 and 12) based on	Annual Production

Indicators

1. **Number and extent of rills:**

   _____

2. **Presence of water flow patterns:**

   _____

3. **Number and height of erosional pedestals or terracettes:**

   _____

4. **Bare ground from Ecological Site Description or other studies (rock, litter, lichen, moss, plant canopy are not bare ground):**

5. **Number of gullies and erosion associated with gullies:**

6. **Extent of wind scoured, blowouts and/or depositional areas:**

7. **Amount of litter movement (describe size and distance expected to travel):**

8. **Soil surface (top few mm) resistance to erosion (stability values are averages - most sites will show a range of values):**

9. **Soil surface structure and SOM content (include type of structure and A-horizon color and thickness):**

10. **Effect of community phase composition (relative proportion of different functional groups) and spatial distribution on infiltration and runoff:**

11. **Presence and thickness of compaction layer (usually none; describe soil profile features which may be mistaken for compaction on this site):**

12. **Functional/Structural Groups (list in order of descending dominance by above-ground annual-production or live foliar cover using symbols: >>, >, = to indicate much greater than, greater than, and equal to):**

    Dominant:

    Sub-dominant:

    Other:

    Additional:

13. **Amount of plant mortality and decadence (include which functional groups are expected to show mortality or decadence):**

14. **Average percent litter cover (%) and depth (in):**

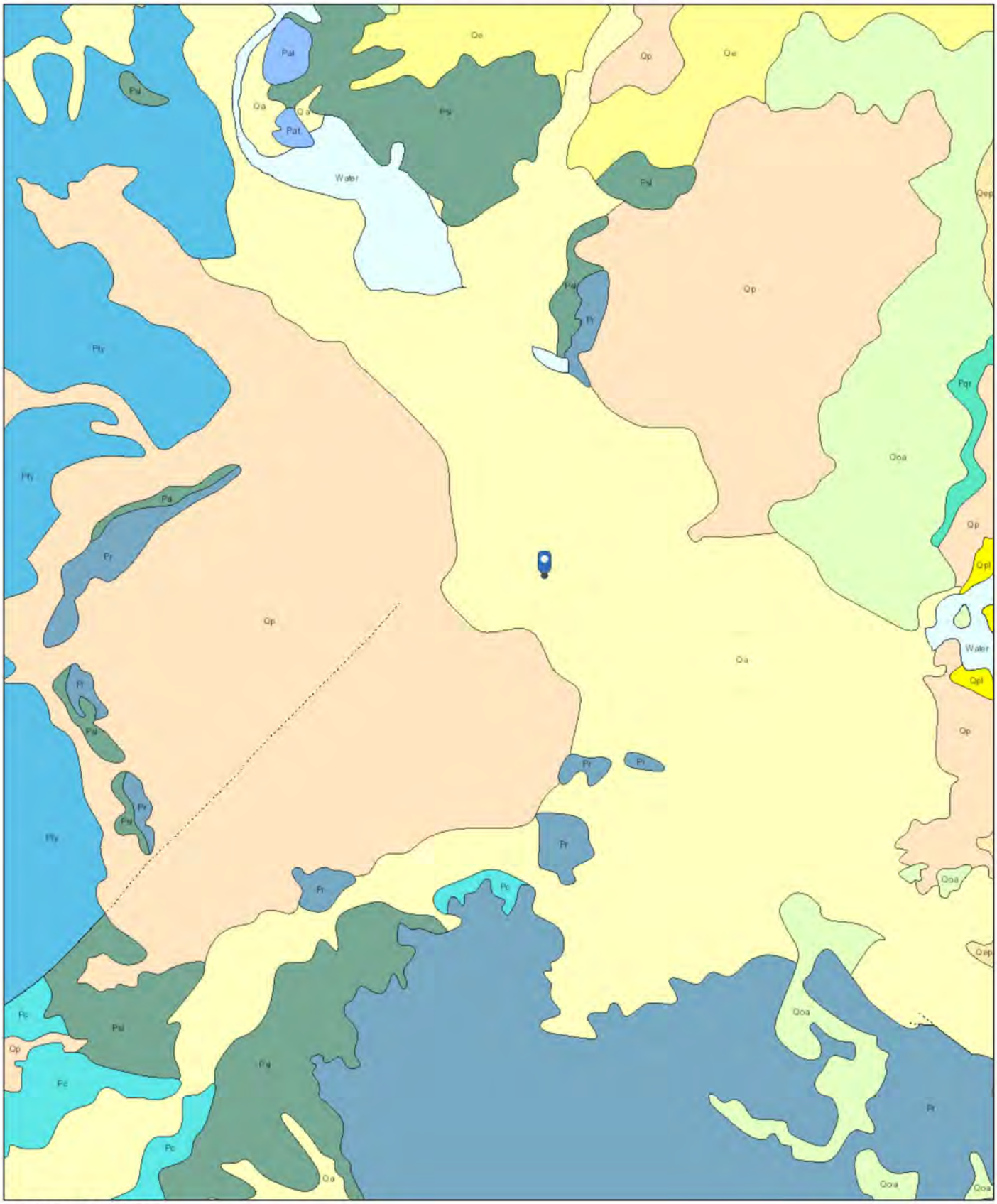
15. **Expected annual annual-production (this is TOTAL above-ground annual-production, not just forage annual-production):**

16. **Potential invasive (including noxious) species (native and non-native). List species which BOTH characterize degraded states and have the potential to become a dominant or co-dominant species on the ecological site if their future establishment and growth is not actively controlled by management interventions. Species that become dominant for only one to several years (e.g., short-term response to drought or wildfire) are not invasive plants. Note that unlike other indicators, we are describing what is NOT expected in the reference state for the ecological site:**

---

17. **Perennial plant reproductive capability:**

Miss Sue 12-23S-27E RB #202H



12/7/2022, 4:31:27 PM

Lithologic Units

- Playa—Alluvium and evaporite deposits (Holocene)
- Water—Perenial standing water
- Qa—Alluvium (Holocene to upper Pleistocene)

1:144,448

0 1.25 2.5 5 mi

0 2.25 4.5 9 km

Esri, NASA, NGA, USGS, USGS The National Map: National Boundaries Dataset, 3DEP Elevation Program, Geographic Names Information System, National Hydrography Dataset, National Land Cover Database, National Structures Dataset, and National Transportation Dataset; USGS Global Ecosystems; U.S. Census

ArcGIS Web AppBuilder

USGS The National Map: National Boundaries Dataset, 3DEP Elevation Program, Geographic Names Information System, National Hydrography Dataset, National Land Cover Database, National Structures Dataset,

ATTACHMENT 6

Monica Peppin

From: Dhugal Hanton <vertexresourcegroupusa@gmail.com>
Sent: January 20, 2023 1:54 PM
To: Enviro, OCD, EMNRD; Arsenio Jones; Clinton Talley
Cc: Monica Peppin
Subject: Confirmatory Sample Notice nAPP2234143030 Miss Sue

All,

Please accept this email as 48-hr notification that Vertex Resource Services has scheduled confirmatory sampling to be conducted for the following release:

nAPP2234143030 DOR: 12/7/2022 Site Name: Miss Sue 12-23S-27E RB #202H

This work will be completed on behalf of San Mateo Midstream

On Thursday, January 26th through Friday January 27, 2023, at approximately 8:00 a.m., Monica Peppin will be on site to conduct continuous confirmatory sampling. She can be reached at 575-361-9880. If you need directions to the site, please do not hesitate to contact her. If you have any questions or concerns regarding this notification, please give me a call at 575-361-9880.

Thank you,

Monica Peppin, A.S.
Project Manager

Vertex Resource Services Inc.
3101 Boyd Drive,
Carlsbad, NM 88220

P 575.725.5001 Ext. 711
C 575.361.9880
F

www.vertex.ca

ATTACHMENT 7

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

December 28, 2022

Monica Peppin

Vertex Resources Services, Inc.
3101 Boyd Drive
Carlsbad, NM 88220
TEL: (505) 506-0040
FAX

RE: Miss Sue OrderNo.: 2212A19

Dear Monica Peppin:

Hall Environmental Analysis Laboratory received 5 sample(s) on 12/16/2022 for the analyses presented in the following report.

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. In order to properly interpret your results, it is imperative that you review this report in its entirety. 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. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

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 **2212A19**
Date Reported: **12/28/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BG22-02 0'
Project: Miss Sue
Collection Date: 12/14/2022 3:00:00 PM
Lab ID: 2212A19-001 **Matrix:** SOIL **Received Date:** 12/16/2022 7:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **NAI**
Chloride	3300	150		mg/Kg	50	12/27/2022 5:24:11 PM

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

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

Analytical Report
Lab Order **2212A19**
Date Reported: **12/28/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BG22-02 1'
Project: Miss Sue
Collection Date: 12/14/2022 3:05:00 PM
Lab ID: 2212A19-002 **Matrix:** SOIL **Received Date:** 12/16/2022 7:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **NAI**
Chloride	4700	300		mg/Kg	100	12/27/2022 5:36:35 PM

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

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

Analytical Report
Lab Order **2212A19**
Date Reported: **12/28/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BG22-02 2'
Project: Miss Sue
Collection Date: 12/14/2022 3:10:00 PM
Lab ID: 2212A19-003 **Matrix:** SOIL **Received Date:** 12/16/2022 7:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **JTT**
Chloride	2200	60		mg/Kg	20	12/23/2022 2:35:14 PM

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

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

Analytical Report
Lab Order **2212A19**
Date Reported: **12/28/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BG22-02 3'
Project: Miss Sue
Collection Date: 12/14/2022 3:15:00 PM
Lab ID: 2212A19-004 **Matrix:** SOIL **Received Date:** 12/16/2022 7:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **JTT**
Chloride	1800	60		mg/Kg	20	12/23/2022 2:47:35 PM

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

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

Analytical Report
Lab Order **2212A19**
Date Reported: **12/28/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BG22-02 4'
Project: Miss Sue
Collection Date: 12/14/2022 3:20:00 PM
Lab ID: 2212A19-005 **Matrix:** SOIL **Received Date:** 12/16/2022 7:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **NAI**
Chloride	2300	150		mg/Kg	50	12/27/2022 5:49:00 PM

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

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#: **2212A19**

28-Dec-22

Client: Vertex Resources Services, Inc.

Project: Miss Sue

Sample ID: **MB-72303**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBS**	Batch ID: **72303**	RunNo: **93531**
Prep Date: **12/23/2022**	Analysis Date: **12/23/2022**	SeqNo: **3374702** Units: **mg/Kg**

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

Sample ID: **LCS-72303**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSS**	Batch ID: **72303**	RunNo: **93531**
Prep Date: **12/23/2022**	Analysis Date: **12/23/2022**	SeqNo: **3374703** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	15	1.5	15.00	0	97.1	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

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: Vertex Resources Services, Inc.

Work Order Number: 2212A19

RcptNo: 1

Received By: Tracy Casarrubias 12/16/2022 7:40:00 AM

Completed By: Tracy Casarrubias 12/16/2022 9:09:09 AM

Reviewed By: JH 12-16-22

Chain of Custody

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

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: SRC 12/16/22

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	1.5	Good	Yes			

Chain-of-Custody Record

Client: Vertex

Mailing Address:

Phone #:

email or Fax#:

QA/QC Package:
☐ Standard ☐ Level 4 (Full Validation)

Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time:
☑ Standard ☒ Rush 5 Days

Project Name: Miss Sue

Project #: 22E-04178

Project Manager: Monica Peppin

Sampler: Fernando Rodriguez

On Ice: ☑ Yes ☐ No

# of Coolers: 1

Cooler Temp(including CF): 1.6 - 0.1 = 1.5 (°C)

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2212A19	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)
12/14	15:00	Soil	BG22-02 0	4oz jar	ice	001							✓			
"	15:05	"	BG22-02 1	"	"	002							✓			
"	15:10	"	BG22-02 2	"	"	003							✓			
"	15:15	"	BG22-02 3	"	"	004							✓			
"	15:20	"	BG22-02 4	"	"	005							✓			

Analysis Request

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
12/14	18:00				12/15/22	1000
12/15/22	1900			Courier	12/16/22	7:40

Remarks: San Mateo / Matador

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

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

January 11, 2023

Monica Peppin

Vertex Resources Services, Inc.
3101 Boyd Drive
Carlsbad, NM 88220
TEL: (505) 506-0040
FAX:

RE: Miss Sue OrderNo.: 2212A20

Dear Monica Peppin:

Hall Environmental Analysis Laboratory received 9 sample(s) on 12/16/2022 for the analyses presented in the following report.

This report is a revised report and it replaces the original report issued December 28, 2022.

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

Hall Environmental Analysis Laboratory, Inc.

Analytical Report
Lab Order **2212A20**
Date Reported: **1/11/2023**

CLIENT: Vertex Resources Services, Inc.
Project: Miss Sue
Lab ID: 2212A20-001 **Matrix:** SOIL

Client Sample ID: BH22-01 0'
Collection Date: 12/14/2022 3:25:00 PM
Received Date: 12/16/2022 7:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	12/20/2022 2:08:37 PM
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	12/20/2022 2:08:37 PM
Surr: DNOP	110	21-129		%Rec	1	12/20/2022 2:08:37 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	12/19/2022 5:03:48 PM
Surr: BFB	87.1	37.7-212		%Rec	1	12/19/2022 5:03:48 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.024		mg/Kg	1	12/19/2022 5:03:48 PM
Toluene	ND	0.048		mg/Kg	1	12/19/2022 5:03:48 PM
Ethylbenzene	ND	0.048		mg/Kg	1	12/19/2022 5:03:48 PM
Xylenes, Total	ND	0.097		mg/Kg	1	12/19/2022 5:03:48 PM
Surr: 4-Bromofluorobenzene	87.8	70-130		%Rec	1	12/19/2022 5:03:48 PM
EPA METHOD 300.0: ANIONS						Analyst: **JTT**
Chloride	2800	150		mg/Kg	50	12/23/2022 9:25:07 AM

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

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

Analytical Report
Lab Order **2212A20**
Date Reported: **1/11/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BH22-01 2'
Project: Miss Sue
Collection Date: 12/14/2022 3:30:00 PM
Lab ID: 2212A20-002 **Matrix:** SOIL **Received Date:** 12/16/2022 7:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	12/20/2022 2:29:46 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	12/20/2022 2:29:46 PM
Surr: DNOP	110	21-129		%Rec	1	12/20/2022 2:29:46 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	12/19/2022 5:27:16 PM
Surr: BFB	88.8	37.7-212		%Rec	1	12/19/2022 5:27:16 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.024		mg/Kg	1	12/19/2022 5:27:16 PM
Toluene	ND	0.049		mg/Kg	1	12/19/2022 5:27:16 PM
Ethylbenzene	ND	0.049		mg/Kg	1	12/19/2022 5:27:16 PM
Xylenes, Total	ND	0.098		mg/Kg	1	12/19/2022 5:27:16 PM
Surr: 4-Bromofluorobenzene	89.2	70-130		%Rec	1	12/19/2022 5:27:16 PM
EPA METHOD 300.0: ANIONS						Analyst: **JTT**
Chloride	4600	150		mg/Kg	50	12/23/2022 9:37:32 AM

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 **2212A20**
Date Reported: **1/11/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BH22-01 4'
Project: Miss Sue
Collection Date: 12/14/2022 3:35:00 PM
Lab ID: 2212A20-003 **Matrix:** SOIL **Received Date:** 12/16/2022 7:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	15	H	mg/Kg	1	1/4/2023 3:04:47 PM
Motor Oil Range Organics (MRO)	ND	49	H	mg/Kg	1	1/4/2023 3:04:47 PM
Surr: DNOP	113	21-129	H	%Rec	1	1/4/2023 3:04:47 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**
Gasoline Range Organics (GRO)	ND	4.9	H	mg/Kg	1	1/4/2023 8:32:00 PM
Surr: BFB	111	37.7-212	H	%Rec	1	1/4/2023 8:32:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**
Benzene	ND	0.025	H	mg/Kg	1	1/4/2023 8:32:00 PM
Toluene	ND	0.049	H	mg/Kg	1	1/4/2023 8:32:00 PM
Ethylbenzene	ND	0.049	H	mg/Kg	1	1/4/2023 8:32:00 PM
Xylenes, Total	ND	0.099	H	mg/Kg	1	1/4/2023 8:32:00 PM
Surr: 4-Bromofluorobenzene	124	70-130	H	%Rec	1	1/4/2023 8:32:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **JMT**
Chloride	1900	59		mg/Kg	20	1/4/2023 10:22:00 AM

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 **2212A20**
Date Reported: **1/11/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Project: Miss Sue
Lab ID: 2212A20-004 **Matrix:** SOIL

Client Sample ID: BH22-02 0'
Collection Date: 12/14/2022 3:40:00 PM
Received Date: 12/16/2022 7:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	12/20/2022 2:40:28 PM
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	12/20/2022 2:40:28 PM
Surr: DNOP	125	21-129		%Rec	1	12/20/2022 2:40:28 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	12/19/2022 8:11:35 PM
Surr: BFB	86.9	37.7-212		%Rec	1	12/19/2022 8:11:35 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.024		mg/Kg	1	12/19/2022 8:11:35 PM
Toluene	ND	0.048		mg/Kg	1	12/19/2022 8:11:35 PM
Ethylbenzene	ND	0.048		mg/Kg	1	12/19/2022 8:11:35 PM
Xylenes, Total	ND	0.097		mg/Kg	1	12/19/2022 8:11:35 PM
Surr: 4-Bromofluorobenzene	88.9	70-130		%Rec	1	12/19/2022 8:11:35 PM
EPA METHOD 300.0: ANIONS						Analyst: **JTT**
Chloride	5400	150		mg/Kg	50	12/23/2022 9:49:57 AM

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

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

Analytical Report
Lab Order **2212A20**
Date Reported: **1/11/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BH22-02 2'
Project: Miss Sue
Collection Date: 12/14/2022 3:45:00 PM
Lab ID: 2212A20-005 **Matrix:** SOIL **Received Date:** 12/16/2022 7:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	12/20/2022 2:51:10 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	12/20/2022 2:51:10 PM
Surr: DNOP	108	21-129		%Rec	1	12/20/2022 2:51:10 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	12/19/2022 8:35:00 PM
Surr: BFB	86.9	37.7-212		%Rec	1	12/19/2022 8:35:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.025		mg/Kg	1	12/19/2022 8:35:00 PM
Toluene	ND	0.050		mg/Kg	1	12/19/2022 8:35:00 PM
Ethylbenzene	ND	0.050		mg/Kg	1	12/19/2022 8:35:00 PM
Xylenes, Total	ND	0.099		mg/Kg	1	12/19/2022 8:35:00 PM
Surr: 4-Bromofluorobenzene	88.2	70-130		%Rec	1	12/19/2022 8:35:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **JTT**
Chloride	3700	150		mg/Kg	50	12/23/2022 10:02:22 AM

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 **2212A20**
Date Reported: **1/11/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BH22-02 4'
Project: Miss Sue
Collection Date: 12/14/2022 3:50:00 PM
Lab ID: 2212A20-006 **Matrix:** SOIL
Received Date: 12/16/2022 7:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	15	H	mg/Kg	1	1/5/2023 6:21:37 PM
Motor Oil Range Organics (MRO)	ND	49	H	mg/Kg	1	1/5/2023 6:21:37 PM
Surr: DNOP	118	21-129	H	%Rec	1	1/5/2023 6:21:37 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**
Gasoline Range Organics (GRO)	ND	5.0	H	mg/Kg	1	1/4/2023 9:31:00 PM
Surr: BFB	107	37.7-212	H	%Rec	1	1/4/2023 9:31:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**
Benzene	ND	0.025	H	mg/Kg	1	1/4/2023 9:31:00 PM
Toluene	ND	0.050	H	mg/Kg	1	1/4/2023 9:31:00 PM
Ethylbenzene	ND	0.050	H	mg/Kg	1	1/4/2023 9:31:00 PM
Xylenes, Total	ND	0.099	H	mg/Kg	1	1/4/2023 9:31:00 PM
Surr: 4-Bromofluorobenzene	121	70-130	H	%Rec	1	1/4/2023 9:31:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **JMT**
Chloride	1900	60		mg/Kg	20	1/4/2023 10:34:25 AM

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 **2212A20**
Date Reported: **1/11/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BH22-03 0'
Project: Miss Sue
Collection Date: 12/14/2022 3:55:00 PM
Lab ID: 2212A20-007 **Matrix:** SOIL **Received Date:** 12/16/2022 7:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	12/20/2022 3:01:52 PM
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	12/20/2022 3:01:52 PM
Surr: DNOP	111	21-129		%Rec	1	12/20/2022 3:01:52 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	12/19/2022 8:58:22 PM
Surr: BFB	82.9	37.7-212		%Rec	1	12/19/2022 8:58:22 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.024		mg/Kg	1	12/19/2022 8:58:22 PM
Toluene	ND	0.048		mg/Kg	1	12/19/2022 8:58:22 PM
Ethylbenzene	ND	0.048		mg/Kg	1	12/19/2022 8:58:22 PM
Xylenes, Total	ND	0.097		mg/Kg	1	12/19/2022 8:58:22 PM
Surr: 4-Bromofluorobenzene	85.3	70-130		%Rec	1	12/19/2022 8:58:22 PM
EPA METHOD 300.0: ANIONS						Analyst: **JTT**
Chloride	5200	300		mg/Kg	100	12/23/2022 10:14:46 AM

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 **2212A20**
Date Reported: **1/11/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BH22-03 2'
Project: Miss Sue
Collection Date: 12/14/2022 4:00:00 PM
Lab ID: 2212A20-008 **Matrix:** SOIL **Received Date:** 12/16/2022 7:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	12/20/2022 3:27:18 PM
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	12/20/2022 3:27:18 PM
Surr: DNOP	113	21-129		%Rec	1	12/20/2022 3:27:18 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	12/19/2022 9:21:41 PM
Surr: BFB	86.5	37.7-212		%Rec	1	12/19/2022 9:21:41 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.024		mg/Kg	1	12/19/2022 9:21:41 PM
Toluene	ND	0.048		mg/Kg	1	12/19/2022 9:21:41 PM
Ethylbenzene	ND	0.048		mg/Kg	1	12/19/2022 9:21:41 PM
Xylenes, Total	ND	0.097		mg/Kg	1	12/19/2022 9:21:41 PM
Surr: 4-Bromofluorobenzene	87.7	70-130		%Rec	1	12/19/2022 9:21:41 PM
EPA METHOD 300.0: ANIONS						Analyst: **JMT**
Chloride	1600	60		mg/Kg	20	12/22/2022 2:00:38 PM

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 **2212A20**
Date Reported: **1/11/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BH22-03 4'
Project: Miss Sue
Collection Date: 12/14/2022 4:05:00 PM
Lab ID: 2212A20-009 **Matrix:** SOIL **Received Date:** 12/16/2022 7:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	13	H	mg/Kg	1	1/5/2023 6:32:03 PM
Motor Oil Range Organics (MRO)	ND	45	H	mg/Kg	1	1/5/2023 6:32:03 PM
Surr: DNOP	118	21-129	H	%Rec	1	1/5/2023 6:32:03 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**
Gasoline Range Organics (GRO)	ND	4.9	H	mg/Kg	1	1/4/2023 10:30:00 PM
Surr: BFB	112	37.7-212	H	%Rec	1	1/4/2023 10:30:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**
Benzene	ND	0.024	H	mg/Kg	1	1/4/2023 10:30:00 PM
Toluene	ND	0.049	H	mg/Kg	1	1/4/2023 10:30:00 PM
Ethylbenzene	ND	0.049	H	mg/Kg	1	1/4/2023 10:30:00 PM
Xylenes, Total	ND	0.098	H	mg/Kg	1	1/4/2023 10:30:00 PM
Surr: 4-Bromofluorobenzene	121	70-130	H	%Rec	1	1/4/2023 10:30:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **JMT**
Chloride	230	60		mg/Kg	20	1/4/2023 10:46:50 AM

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.		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2212A20**

11-Jan-23

Client: Vertex Resources Services, Inc.

Project: Miss Sue

Sample ID: **MB-72277**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **PBS**	Batch ID: **72277**	RunNo: **93518**							
Prep Date: **12/22/2022**	Analysis Date: **12/22/2022**	SeqNo: **3373636**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-72277**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **LCSS**	Batch ID: **72277**	RunNo: **93518**							
Prep Date: **12/22/2022**	Analysis Date: **12/22/2022**	SeqNo: **3373637**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	94.3	90	110			

Sample ID: **MB-72432**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **PBS**	Batch ID: **72432**	RunNo: **93724**							
Prep Date: **1/4/2023**	Analysis Date: **1/4/2023**	SeqNo: **3383193**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-72432**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **LCSS**	Batch ID: **72432**	RunNo: **93724**							
Prep Date: **1/4/2023**	Analysis Date: **1/4/2023**	SeqNo: **3383194**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	93.8	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#: **2212A20**

11-Jan-23

Client: Vertex Resources Services, Inc.

Project: Miss Sue

Sample ID: **LCS-72175**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **72175**	RunNo: **93423**
Prep Date: **12/19/2022**	Analysis Date: **12/20/2022**	SeqNo: **3369400** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	47	15	50.00	0	94.1	64.4	127			
Surr: DNOP	6.2		5.000		123	21	129			

Sample ID: **MB-72175**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **72175**	RunNo: **93423**
Prep Date: **12/19/2022**	Analysis Date: **12/20/2022**	SeqNo: **3369402** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	15								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	12		10.00		115	21	129			

Sample ID: **LCS-72423**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **72423**	RunNo: **93700**
Prep Date: **1/3/2023**	Analysis Date: **1/4/2023**	SeqNo: **3382186** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	48	15	50.00	0	95.2	64.4	127			
Surr: DNOP	6.1		5.000		121	21	129			

Sample ID: **MB-72423**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **72423**	RunNo: **93700**
Prep Date: **1/3/2023**	Analysis Date: **1/4/2023**	SeqNo: **3382188** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	15								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	13		10.00		128	21	129			

Sample ID: **2212A20-003AMS**	SampType: **MS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **BH22-01 4'**	Batch ID: **72423**	RunNo: **93740**
Prep Date: **1/3/2023**	Analysis Date: **1/5/2023**	SeqNo: **3384553** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	46	14	48.03	0	96.6	36.1	154			H
Surr: DNOP	6.0		4.803		125	21	129			H

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.		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2212A20**

11-Jan-23

Client: Vertex Resources Services, Inc.

Project: Miss Sue

Sample ID: **2212A20-003AMSD**	SampType: **MSD**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **BH22-01 4'**	Batch ID: **72423**	RunNo: **93740**
Prep Date: **1/3/2023**	Analysis Date: **1/5/2023**	SeqNo: **3384554** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	44	14	46.55	0	95.4	36.1	154	4.39	33.9	H
Surr: DNOP	5.8		4.655		125	21	129	0	0	H

Sample ID: **LCS-72455**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **72455**	RunNo: **93740**
Prep Date: **1/4/2023**	Analysis Date: **1/5/2023**	SeqNo: **3384611** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	6.9		5.000		139	21	129			S

Sample ID: **LCS-72457**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **72457**	RunNo: **93740**
Prep Date: **1/4/2023**	Analysis Date: **1/6/2023**	SeqNo: **3384612** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	6.7		5.000		134	21	129			S

Sample ID: **MB-72455**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **72455**	RunNo: **93740**
Prep Date: **1/4/2023**	Analysis Date: **1/5/2023**	SeqNo: **3384615** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	12		10.00		124	21	129			

Sample ID: **MB-72457**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **72457**	RunNo: **93740**
Prep Date: **1/4/2023**	Analysis Date: **1/6/2023**	SeqNo: **3384616** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	13		10.00		128	21	129			

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#: **2212A20**

11-Jan-23

Client: Vertex Resources Services, Inc.

Project: Miss Sue

Sample ID: **mb-72156**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**							
Client ID: **PBS**	Batch ID: **72156**	RunNo: **93392**							
Prep Date: **12/16/2022**	Analysis Date: **12/19/2022**	SeqNo: **3368393**	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	900		1000		90.2	37.7	212			

Sample ID: **lcs-72156**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**							
Client ID: **LCSS**	Batch ID: **72156**	RunNo: **93392**							
Prep Date: **12/16/2022**	Analysis Date: **12/19/2022**	SeqNo: **3368394**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	29	5.0	25.00	0	117	72.3	137			
Surr: BFB	3800		1000		377	37.7	212			S

Sample ID: **LCS-72422**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**							
Client ID: **LCSS**	Batch ID: **72422**	RunNo: **93712**							
Prep Date: **1/3/2023**	Analysis Date: **1/4/2023**	SeqNo: **3382639**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	25	5.0	25.00	0	100	72.3	137			
Surr: BFB	2300		1000		233	37.7	212			S

Sample ID: **mb-72422**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**							
Client ID: **PBS**	Batch ID: **72422**	RunNo: **93712**							
Prep Date: **1/3/2023**	Analysis Date: **1/4/2023**	SeqNo: **3382640**	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	1000		1000		105	37.7	212			

Sample ID: **2212A20-003ams**	SampType: **MS**	TestCode: **EPA Method 8015D: Gasoline Range**							
Client ID: **BH22-01 4'**	Batch ID: **72422**	RunNo: **93712**							
Prep Date: **1/3/2023**	Analysis Date: **1/4/2023**	SeqNo: **3382643**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	18	4.9	24.56	0	75.2	70	130			H
Surr: BFB	2000		982.3		205	37.7	212			H

Sample ID: **2212A20-003amsd**	SampType: **MSD**	TestCode: **EPA Method 8015D: Gasoline Range**							
Client ID: **BH22-01 4'**	Batch ID: **72422**	RunNo: **93712**							
Prep Date: **1/3/2023**	Analysis Date: **1/4/2023**	SeqNo: **3382644**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

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#: **2212A20**

11-Jan-23

Client: Vertex Resources Services, Inc.

Project: Miss Sue

Sample ID: **2212A20-003amsd**	SampType: **MSD**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **BH22-01 4'**	Batch ID: **72422**	RunNo: **93712**
Prep Date: **1/3/2023**	Analysis Date: **1/4/2023**	SeqNo: **3382644** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	25	4.9	24.63	0	101	70	130	29.2	20	RH
Surr: BFB	2300		985.2		232	37.7	212	0	0	SH

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.		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2212A20**

11-Jan-23

Client: Vertex Resources Services, Inc.

Project: Miss Sue

Sample ID: **mb-72156**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **72156**	RunNo: **93392**
Prep Date: **12/16/2022**	Analysis Date: **12/19/2022**	SeqNo: **3368422** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.91		1.000		91.1	70	130			

Sample ID: **LCS-72156**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **72156**	RunNo: **93392**
Prep Date: **12/16/2022**	Analysis Date: **12/19/2022**	SeqNo: **3368423** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.89	0.025	1.000	0	89.3	80	120			
Toluene	0.90	0.050	1.000	0	89.6	80	120			
Ethylbenzene	0.88	0.050	1.000	0	88.1	80	120			
Xylenes, Total	2.7	0.10	3.000	0	89.7	80	120			
Surr: 4-Bromofluorobenzene	0.92		1.000		91.9	70	130			

Sample ID: **LCS-72422**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **72422**	RunNo: **93712**
Prep Date: **1/3/2023**	Analysis Date: **1/4/2023**	SeqNo: **3382715** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.1	0.025	1.000	0	111	80	120			
Toluene	1.1	0.050	1.000	0	112	80	120			
Ethylbenzene	1.1	0.050	1.000	0	112	80	120			
Xylenes, Total	3.4	0.10	3.000	0	112	80	120			
Surr: 4-Bromofluorobenzene	1.2		1.000		125	70	130			

Sample ID: **mb-72422**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **72422**	RunNo: **93712**
Prep Date: **1/3/2023**	Analysis Date: **1/4/2023**	SeqNo: **3382716** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.2		1.000		122	70	130			

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#: **2212A20**

11-Jan-23

Client: Vertex Resources Services, Inc.

Project: Miss Sue

Sample ID: **2212A20-006ams**	SampType: **MS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **BH22-02 4'**	Batch ID: **72422**	RunNo: **93712**
Prep Date: **1/3/2023**	Analysis Date: **1/4/2023**	SeqNo: **3382720** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.1	0.025	0.9930	0	111	68.8	120			H
Toluene	1.1	0.050	0.9930	0	114	73.6	124			H
Ethylbenzene	1.1	0.050	0.9930	0	114	72.7	129			H
Xylenes, Total	3.4	0.099	2.979	0	114	75.7	126			H
Surr: 4-Bromofluorobenzene	1.2		0.9930		125	70	130			H

Sample ID: **2212A20-006amsd**	SampType: **MSD**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **BH22-02 4'**	Batch ID: **72422**	RunNo: **93712**
Prep Date: **1/3/2023**	Analysis Date: **1/4/2023**	SeqNo: **3382721** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.99	0.025	0.9970	0	98.9	68.8	120	11.3	20	H
Toluene	1.0	0.050	0.9970	0	101	73.6	124	11.9	20	H
Ethylbenzene	1.0	0.050	0.9970	0	101	72.7	129	11.4	20	H
Xylenes, Total	3.0	0.10	2.991	0	101	75.7	126	11.9	20	H
Surr: 4-Bromofluorobenzene	1.2		0.9970		120	70	130	0	0	H

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: Vertex Resources Services, Inc.

Work Order Number: 2212A20

RcptNo: 1

Received By: Tracy Casarrubias 12/16/2022 7:40:00 AM

Completed By: Tracy Casarrubias 12/16/2022 9:14:37 AM

Reviewed By: JS 12-16-22

Chain of Custody

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

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: SCR 12/16/22

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	1.5	Good	Yes			

Chain-of-Custody Record

Client: Vertex

Mailing Address:

Phone #:

email or Fax#:

QA/QC Package:
☐ Standard ☐ Level 4 (Full Validation)

Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time:
☐ Standard ☒ Rush 5 DAY

Project Name: Miss Sue

Project #: 22E-04178

Project Manager: Monica Peppin

Sampler: Fernando Rodriguez

On Ice: ☒ Yes ☐ No

# of Coolers: 1

Cooler Temp(including CF): 1.6 -0.1 = 1.5 (°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. 2212A20	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)
12/14	15:25	Soil	BH22-01 0'	4oz Jar	ice	001	✓	✓					✓			
	15:30		BH22-01 2'			002										
	15:35		BH22-01 4'			003	PLEASE HOLD									
	15:40		BH22-02 0'			004										
	15:45		BH22-02 2'			005										
	15:50		BH22-02 4'			006	PLEASE HOLD									
	15:55		BH22-03 0'			007										
	16:00		BH22-03 2'			008										
	16:05		BH22-03 4'			009	PLEASE HOLD									

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
12/14	18:00				12/15/22	1000
12/15/22	1900				12/16/22	7:40

Remarks: San Mateo / Matador

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

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

December 21, 2022

Monica Peppin
Vertex Resources Services, Inc.
3101 Boyd Drive
Carlsbad, NM 88220
TEL: (505) 506-0040
FAX:

RE: Miss Sue 202H OrderNo.: 2212809

Dear Monica Peppin:

Hall Environmental Analysis Laboratory received 4 sample(s) on 12/14/2022 for the analyses presented in the following report.

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. In order to properly interpret your results, it is imperative that you review this report in its entirety. 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. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

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 **2212809**
Date Reported: **12/21/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BG22-01 0'
Project: Miss Sue 202H
Collection Date: 12/12/2022 11:30:00 AM
Lab ID: 2212809-001 **Matrix:** SOIL **Received Date:** 12/14/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **NAI**
Chloride	370	60		mg/Kg	20	12/16/2022 7:18:23 PM

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 **2212809**
Date Reported: **12/21/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BG22-01 1'
Project: Miss Sue 202H
Collection Date: 12/12/2022 1:35:00 PM
Lab ID: 2212809-002 **Matrix:** SOIL **Received Date:** 12/14/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **CAS**
Chloride	2400	150		mg/Kg	50	12/19/2022 10:14:20 AM

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 **2212809**
Date Reported: **12/21/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BG22-01 2'
Project: Miss Sue 202H
Collection Date: 12/12/2022 1:40:00 PM
Lab ID: 2212809-003 **Matrix:** SOIL **Received Date:** 12/14/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **CAS**
Chloride	2700	150		mg/Kg	50	12/19/2022 10:26:41 AM

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 **2212809**
Date Reported: **12/21/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BG22-01 3'
Project: Miss Sue 202H
Collection Date: 12/12/2022 1:45:00 PM
Lab ID: 2212809-004 **Matrix:** SOIL **Received Date:** 12/14/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **CAS**
Chloride	3000	150		mg/Kg	50	12/19/2022 10:39:02 AM

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.		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2212809**

21-Dec-22

Client: Vertex Resources Services, Inc.

Project: Miss Sue 202H

Sample ID: **MB-72145**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **PBS**	Batch ID: **72145**	RunNo: **93360**							
Prep Date: **12/16/2022**	Analysis Date: **12/16/2022**	SeqNo: **3367791**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-72145**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **LCSS**	Batch ID: **72145**	RunNo: **93360**							
Prep Date: **12/16/2022**	Analysis Date: **12/16/2022**	SeqNo: **3367792**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	15	1.5	15.00	0	97.0	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

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: Vertex Resources Services, Inc.

Work Order Number: 2212809

RcptNo: 1

Received By: **Cheyenne Cason** 12/14/2022 7:30:00 AM

Completed By: **Sean Livingston** 12/14/2022 8:25:03 AM

Reviewed By: TMC 12/14/22

Chain of Custody

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

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 ☐
   Samples not frozen.
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: JA 12-14-22

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	-1.3	Good				

Chain-of-Custody Record

Client: Vertex

Mailing Address:

Phone #:

email or Fax#:

QA/QC Package:
☐ Standard ☐ Level 4 (Full Validation)

Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time:
☒ Standard ☒ Rush 5 Day

Project Name: Miss Sue #202H

Project #: 22E-04178

Project Manager: Monica Peppin

Sampler: MB

On Ice: ☒ Yes ☐ No

# of Coolers: 1

Cooler Temp(Including CF): -1.1-0.2=-1.3 (°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. 2212Y09	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)
12/12	1:30	Soil	BG22-01 0'	2 oz	ice	001							✓			
"	1:35	"	BG22-01 1'	"	"	002							✓			
"	1:40	"	BG22-01 2'	"	"	003							✓			
"	1:45	"	BG22-01 3'	"	"	004							✓			

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
12/13/22	915				12/13/22	915
12/13/22	1900		CMC courier		12/14/22	0730

Remarks: Matador

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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Website: www.hallenvironmental.com

February 15, 2023

Monica Peppin
Vertex Resources Services, Inc.
3101 Boyd Drive
Carlsbad, NM 88220
TEL: (505) 506-0040
FAX:

RE: Miss Sue OrderNo.: 2302142

Dear Monica Peppin:

Hall Environmental Analysis Laboratory received 14 sample(s) on 2/3/2023 for the analyses presented in the following report.

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. In order to properly interpret your results, it is imperative that you review this report in its entirety. 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. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

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

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

Case Narrative

WO#: **2302142**
Date: **2/15/2023**

CLIENT: Vertex Resources Services, Inc.
Project: Miss Sue

Analytical Notes Regarding EPA Method 8021:
The BTEX Laboratory Control Spike (LCS) for the three samples below was low. These three samples were reextracted and reanalyzed past the holding time and confirmed the original results.
WS23-02 0.25'
WS23-03 0.25'
WS23-04 0.25'

Analytical Report
Lab Order **2302142**
Date Reported: **2/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BS23-01 0.25'
Project: Miss Sue
Collection Date: 1/27/2023 9:00:00 AM
Lab ID: 2302142-001 **Matrix:** SOIL **Received Date:** 2/3/2023 7:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**
Diesel Range Organics (DRO)	ND	8.9		mg/Kg	1	2/6/2023 11:34:32 PM
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	2/6/2023 11:34:32 PM
Surr: DNOP	110	69-147		%Rec	1	2/6/2023 11:34:32 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	2/7/2023 5:06:33 AM
Surr: BFB	99.2	37.7-212		%Rec	1	2/7/2023 5:06:33 AM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.025		mg/Kg	1	2/7/2023 5:06:33 AM
Toluene	ND	0.050		mg/Kg	1	2/7/2023 5:06:33 AM
Ethylbenzene	ND	0.050		mg/Kg	1	2/7/2023 5:06:33 AM
Xylenes, Total	ND	0.10		mg/Kg	1	2/7/2023 5:06:33 AM
Surr: 4-Bromofluorobenzene	87.2	70-130		%Rec	1	2/7/2023 5:06:33 AM
EPA METHOD 300.0: ANIONS						Analyst: **NAI**
Chloride	1400	60		mg/Kg	20	2/4/2023 2:15:07 PM

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 **2302142**
Date Reported: **2/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BS23-02 0.25'
Project: Miss Sue
Collection Date: 1/27/2023 9:05:00 AM
Lab ID: 2302142-002 **Matrix:** SOIL **Received Date:** 2/3/2023 7:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	2/6/2023 11:48:29 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	2/6/2023 11:48:29 PM
Surr: DNOP	114	69-147		%Rec	1	2/6/2023 11:48:29 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **CCM**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	2/6/2023 6:26:00 PM
Surr: BFB	95.3	37.7-212		%Rec	1	2/6/2023 6:26:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **CCM**
Benzene	ND	0.024		mg/Kg	1	2/6/2023 6:26:00 PM
Toluene	ND	0.048		mg/Kg	1	2/6/2023 6:26:00 PM
Ethylbenzene	ND	0.048		mg/Kg	1	2/6/2023 6:26:00 PM
Xylenes, Total	ND	0.097		mg/Kg	1	2/6/2023 6:26:00 PM
Surr: 4-Bromofluorobenzene	93.4	70-130		%Rec	1	2/6/2023 6:26:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **NAI**
Chloride	5500	300		mg/Kg	100	2/6/2023 1:06:11 PM

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 **2302142**
Date Reported: **2/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Project: Miss Sue
Lab ID: 2302142-003 **Matrix:** SOIL

Client Sample ID: BS23-03 0.25'
Collection Date: 1/27/2023 9:10:00 AM
Received Date: 2/3/2023 7:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**
Diesel Range Organics (DRO)	11	9.6		mg/Kg	1	2/7/2023 12:02:26 AM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	2/7/2023 12:02:26 AM
Surr: DNOP	119	69-147		%Rec	1	2/7/2023 12:02:26 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **CCM**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	2/6/2023 6:45:00 PM
Surr: BFB	94.6	37.7-212		%Rec	1	2/6/2023 6:45:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **CCM**
Benzene	ND	0.024		mg/Kg	1	2/6/2023 6:45:00 PM
Toluene	ND	0.049		mg/Kg	1	2/6/2023 6:45:00 PM
Ethylbenzene	ND	0.049		mg/Kg	1	2/6/2023 6:45:00 PM
Xylenes, Total	ND	0.097		mg/Kg	1	2/6/2023 6:45:00 PM
Surr: 4-Bromofluorobenzene	91.5	70-130		%Rec	1	2/6/2023 6:45:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **NAI**
Chloride	1700	60		mg/Kg	20	2/4/2023 2:39:56 PM

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

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

Analytical Report
Lab Order **2302142**
Date Reported: **2/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BS23-04 0.25'
Project: Miss Sue
Collection Date: 1/27/2023 9:15:00 AM
Lab ID: 2302142-004 **Matrix:** SOIL **Received Date:** 2/3/2023 7:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	2/7/2023 12:16:28 AM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	2/7/2023 12:16:28 AM
Surr: DNOP	113	69-147		%Rec	1	2/7/2023 12:16:28 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **CCM**
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	2/6/2023 7:05:00 PM
Surr: BFB	94.0	37.7-212		%Rec	1	2/6/2023 7:05:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **CCM**
Benzene	ND	0.023		mg/Kg	1	2/6/2023 7:05:00 PM
Toluene	ND	0.046		mg/Kg	1	2/6/2023 7:05:00 PM
Ethylbenzene	ND	0.046		mg/Kg	1	2/6/2023 7:05:00 PM
Xylenes, Total	ND	0.092		mg/Kg	1	2/6/2023 7:05:00 PM
Surr: 4-Bromofluorobenzene	94.4	70-130		%Rec	1	2/6/2023 7:05:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **JMT**
Chloride	650	60		mg/Kg	20	2/7/2023 4:49:25 PM

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 **2302142**
Date Reported: **2/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BS23-05 0.25'
Project: Miss Sue
Collection Date: 1/27/2023 9:20:00 AM
Lab ID: 2302142-005 **Matrix:** SOIL **Received Date:** 2/3/2023 7:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	2/7/2023 12:30:30 AM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	2/7/2023 12:30:30 AM
Surr: DNOP	108	69-147		%Rec	1	2/7/2023 12:30:30 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **CCM**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	2/6/2023 7:25:00 PM
Surr: BFB	91.6	37.7-212		%Rec	1	2/6/2023 7:25:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **CCM**
Benzene	ND	0.025		mg/Kg	1	2/6/2023 7:25:00 PM
Toluene	ND	0.050		mg/Kg	1	2/6/2023 7:25:00 PM
Ethylbenzene	ND	0.050		mg/Kg	1	2/6/2023 7:25:00 PM
Xylenes, Total	ND	0.10		mg/Kg	1	2/6/2023 7:25:00 PM
Surr: 4-Bromofluorobenzene	90.1	70-130		%Rec	1	2/6/2023 7:25:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **JMT**
Chloride	840	60		mg/Kg	20	2/7/2023 5:01:50 PM

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 **2302142**
Date Reported: **2/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BS23-06 0.25'
Project: Miss Sue
Collection Date: 1/27/2023 9:25:00 AM
Lab ID: 2302142-006 **Matrix:** SOIL **Received Date:** 2/3/2023 7:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	2/7/2023 12:44:31 AM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	2/7/2023 12:44:31 AM
Surr: DNOP	117	69-147		%Rec	1	2/7/2023 12:44:31 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **CCM**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	2/6/2023 7:44:00 PM
Surr: BFB	93.8	37.7-212		%Rec	1	2/6/2023 7:44:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **CCM**
Benzene	ND	0.024		mg/Kg	1	2/6/2023 7:44:00 PM
Toluene	0.079	0.048		mg/Kg	1	2/6/2023 7:44:00 PM
Ethylbenzene	ND	0.048		mg/Kg	1	2/6/2023 7:44:00 PM
Xylenes, Total	ND	0.097		mg/Kg	1	2/6/2023 7:44:00 PM
Surr: 4-Bromofluorobenzene	92.6	70-130		%Rec	1	2/6/2023 7:44:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **JMT**
Chloride	140	60		mg/Kg	20	2/7/2023 5:14:15 PM

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 **2302142**
Date Reported: **2/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Project: Miss Sue
Lab ID: 2302142-007 **Matrix:** SOIL

Client Sample ID: BS23-07 0.25'
Collection Date: 1/27/2023 9:30:00 AM
Received Date: 2/3/2023 7:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	2/7/2023 12:58:32 AM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	2/7/2023 12:58:32 AM
Surr: DNOP	117	69-147		%Rec	1	2/7/2023 12:58:32 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **CCM**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	2/6/2023 8:04:00 PM
Surr: BFB	90.6	37.7-212		%Rec	1	2/6/2023 8:04:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **CCM**
Benzene	ND	0.024		mg/Kg	1	2/6/2023 8:04:00 PM
Toluene	ND	0.049		mg/Kg	1	2/6/2023 8:04:00 PM
Ethylbenzene	ND	0.049		mg/Kg	1	2/6/2023 8:04:00 PM
Xylenes, Total	ND	0.097		mg/Kg	1	2/6/2023 8:04:00 PM
Surr: 4-Bromofluorobenzene	88.1	70-130		%Rec	1	2/6/2023 8:04:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **JMT**
Chloride	530	60		mg/Kg	20	2/7/2023 5:26:40 PM

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 **2302142**
Date Reported: **2/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Project: Miss Sue
Lab ID: 2302142-008 **Matrix:** SOIL

Client Sample ID: BS23-08 0.25'
Collection Date: 1/27/2023 9:35:00 AM
Received Date: 2/3/2023 7:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	2/7/2023 1:11:37 AM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	2/7/2023 1:11:37 AM
Surr: DNOP	121	69-147		%Rec	1	2/7/2023 1:11:37 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **CCM**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	2/6/2023 8:24:00 PM
Surr: BFB	92.4	37.7-212		%Rec	1	2/6/2023 8:24:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **CCM**
Benzene	ND	0.024		mg/Kg	1	2/6/2023 8:24:00 PM
Toluene	ND	0.048		mg/Kg	1	2/6/2023 8:24:00 PM
Ethylbenzene	ND	0.048		mg/Kg	1	2/6/2023 8:24:00 PM
Xylenes, Total	ND	0.097		mg/Kg	1	2/6/2023 8:24:00 PM
Surr: 4-Bromofluorobenzene	92.5	70-130		%Rec	1	2/6/2023 8:24:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **NAI**
Chloride	5100	300		mg/Kg	100	2/8/2023 9:27:12 AM

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 **2302142**
Date Reported: **2/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Project: Miss Sue
Lab ID: 2302142-009 **Matrix:** SOIL

Client Sample ID: BS23-09 0.25'
Collection Date: 1/27/2023 9:40:00 AM
Received Date: 2/3/2023 7:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	2/7/2023 1:24:34 AM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	2/7/2023 1:24:34 AM
Surr: DNOP	118	69-147		%Rec	1	2/7/2023 1:24:34 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **CCM**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	2/6/2023 8:43:00 PM
Surr: BFB	91.6	37.7-212		%Rec	1	2/6/2023 8:43:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **CCM**
Benzene	ND	0.025		mg/Kg	1	2/6/2023 8:43:00 PM
Toluene	ND	0.050		mg/Kg	1	2/6/2023 8:43:00 PM
Ethylbenzene	ND	0.050		mg/Kg	1	2/6/2023 8:43:00 PM
Xylenes, Total	ND	0.099		mg/Kg	1	2/6/2023 8:43:00 PM
Surr: 4-Bromofluorobenzene	91.5	70-130		%Rec	1	2/6/2023 8:43:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **NAI**
Chloride	3500	150		mg/Kg	50	2/8/2023 9:39:37 AM

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

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

Analytical Report
Lab Order **2302142**
Date Reported: **2/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Project: Miss Sue
Lab ID: 2302142-010 **Matrix:** SOIL

Client Sample ID: BS23-10 0.25'
Collection Date: 1/27/2023 9:45:00 AM
Received Date: 2/3/2023 7:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	2/7/2023 1:37:25 AM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	2/7/2023 1:37:25 AM
Surr: DNOP	119	69-147		%Rec	1	2/7/2023 1:37:25 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **CCM**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	2/6/2023 9:03:00 PM
Surr: BFB	90.3	37.7-212		%Rec	1	2/6/2023 9:03:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **CCM**
Benzene	ND	0.025		mg/Kg	1	2/6/2023 9:03:00 PM
Toluene	ND	0.050		mg/Kg	1	2/6/2023 9:03:00 PM
Ethylbenzene	ND	0.050		mg/Kg	1	2/6/2023 9:03:00 PM
Xylenes, Total	ND	0.099		mg/Kg	1	2/6/2023 9:03:00 PM
Surr: 4-Bromofluorobenzene	92.1	70-130		%Rec	1	2/6/2023 9:03:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **JMT**
Chloride	2000	60		mg/Kg	20	2/7/2023 6:08:39 PM

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

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

Analytical Report
Lab Order **2302142**
Date Reported: **2/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Project: Miss Sue
Lab ID: 2302142-011 **Matrix:** SOIL

Client Sample ID: WS23-01 0.25'
Collection Date: 1/27/2023 9:50:00 AM
Received Date: 2/3/2023 7:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	2/7/2023 1:50:20 AM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	2/7/2023 1:50:20 AM
Surr: DNOP	112	69-147		%Rec	1	2/7/2023 1:50:20 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **CCM**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	2/6/2023 9:23:00 PM
Surr: BFB	91.2	37.7-212		%Rec	1	2/6/2023 9:23:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **CCM**
Benzene	ND	0.024		mg/Kg	1	2/6/2023 9:23:00 PM
Toluene	ND	0.048		mg/Kg	1	2/6/2023 9:23:00 PM
Ethylbenzene	ND	0.048		mg/Kg	1	2/6/2023 9:23:00 PM
Xylenes, Total	ND	0.096		mg/Kg	1	2/6/2023 9:23:00 PM
Surr: 4-Bromofluorobenzene	93.0	70-130		%Rec	1	2/6/2023 9:23:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **JMT**
Chloride	880	60		mg/Kg	20	2/7/2023 6:21:04 PM

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 **2302142**
Date Reported: **2/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: WS23-02 0.25'
Project: Miss Sue
Collection Date: 1/27/2023 9:55:00 AM
Lab ID: 2302142-012 **Matrix:** SOIL **Received Date:** 2/3/2023 7:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	2/8/2023 12:39:52 AM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	2/8/2023 12:39:52 AM
Surr: DNOP	100	69-147		%Rec	1	2/8/2023 12:39:52 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	2/9/2023 4:52:48 PM
Surr: BFB	101	37.7-212		%Rec	1	2/9/2023 4:52:48 PM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.025		mg/Kg	1	2/9/2023 4:52:48 PM
Toluene	ND	0.050		mg/Kg	1	2/9/2023 4:52:48 PM
Ethylbenzene	ND	0.050		mg/Kg	1	2/9/2023 4:52:48 PM
Xylenes, Total	ND	0.099		mg/Kg	1	2/9/2023 4:52:48 PM
Surr: 4-Bromofluorobenzene	87.5	70-130		%Rec	1	2/9/2023 4:52:48 PM
EPA METHOD 300.0: ANIONS						Analyst: **NAI**
Chloride	5500	300		mg/Kg	100	2/8/2023 9:52:01 AM

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 **2302142**
Date Reported: **2/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: WS23-03 0.25'
Project: Miss Sue
Collection Date: 1/27/2023 10:00:00 AM
Lab ID: 2302142-013 **Matrix:** SOIL **Received Date:** 2/3/2023 7:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	2/8/2023 1:19:01 AM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	2/8/2023 1:19:01 AM
Surr: DNOP	100	69-147		%Rec	1	2/8/2023 1:19:01 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	2/9/2023 6:03:37 PM
Surr: BFB	99.9	37.7-212		%Rec	1	2/9/2023 6:03:37 PM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.025		mg/Kg	1	2/9/2023 6:03:37 PM
Toluene	ND	0.050		mg/Kg	1	2/9/2023 6:03:37 PM
Ethylbenzene	ND	0.050		mg/Kg	1	2/9/2023 6:03:37 PM
Xylenes, Total	ND	0.099		mg/Kg	1	2/9/2023 6:03:37 PM
Surr: 4-Bromofluorobenzene	86.8	70-130		%Rec	1	2/9/2023 6:03:37 PM
EPA METHOD 300.0: ANIONS						Analyst: **JMT**
Chloride	870	60		mg/Kg	20	2/7/2023 6:45:55 PM

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 **2302142**
Date Reported: **2/15/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: WS23-04 0.25'
Project: Miss Sue
Collection Date: 1/27/2023 10:05:00 AM
Lab ID: 2302142-014 **Matrix:** SOIL **Received Date:** 2/3/2023 7:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	14		mg/Kg	1	2/8/2023 1:31:50 AM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	2/8/2023 1:31:50 AM
Surr: DNOP	98.2	69-147		%Rec	1	2/8/2023 1:31:50 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	2/9/2023 7:14:07 PM
Surr: BFB	97.6	37.7-212		%Rec	1	2/9/2023 7:14:07 PM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.024		mg/Kg	1	2/9/2023 7:14:07 PM
Toluene	ND	0.048		mg/Kg	1	2/9/2023 7:14:07 PM
Ethylbenzene	ND	0.048		mg/Kg	1	2/9/2023 7:14:07 PM
Xylenes, Total	ND	0.096		mg/Kg	1	2/9/2023 7:14:07 PM
Surr: 4-Bromofluorobenzene	85.0	70-130		%Rec	1	2/9/2023 7:14:07 PM
EPA METHOD 300.0: ANIONS						Analyst: **JMT**
Chloride	1300	59		mg/Kg	20	2/7/2023 7:23:08 PM

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.		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2302142**

15-Feb-23

Client: Vertex Resources Services, Inc.

Project: Miss Sue

Sample ID: **MB-73001**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **PBS**	Batch ID: **73001**	RunNo: **94417**							
Prep Date: **2/4/2023**	Analysis Date: **2/4/2023**	SeqNo: **3411144**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-73001**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **LCSS**	Batch ID: **73001**	RunNo: **94417**							
Prep Date: **2/4/2023**	Analysis Date: **2/4/2023**	SeqNo: **3411145**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	93.7	90	110			

Sample ID: **MB-73052**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **PBS**	Batch ID: **73052**	RunNo: **94463**							
Prep Date: **2/7/2023**	Analysis Date: **2/7/2023**	SeqNo: **3413430**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-73052**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **LCSS**	Batch ID: **73052**	RunNo: **94463**							
Prep Date: **2/7/2023**	Analysis Date: **2/7/2023**	SeqNo: **3413432**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	15	1.5	15.00	0	98.2	90	110			

Sample ID: **MB-73043**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **PBS**	Batch ID: **73043**	RunNo: **94445**							
Prep Date: **2/7/2023**	Analysis Date: **2/7/2023**	SeqNo: **3413497**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-73043**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **LCSS**	Batch ID: **73043**	RunNo: **94445**							
Prep Date: **2/7/2023**	Analysis Date: **2/7/2023**	SeqNo: **3413498**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	92.8	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#: **2302142**

15-Feb-23

Client: Vertex Resources Services, Inc.

Project: Miss Sue

Sample ID: **LCS-72997**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **72997**	RunNo: **94419**
Prep Date: **2/3/2023**	Analysis Date: **2/6/2023**	SeqNo: **3411232** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	40	10	50.00	0	79.4	61.9	130			
Surr: DNOP	4.3		5.000		86.2	69	147			

Sample ID: **MB-72997**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **72997**	RunNo: **94419**
Prep Date: **2/3/2023**	Analysis Date: **2/6/2023**	SeqNo: **3411234** 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	8.8		10.00		87.7	69	147			

Sample ID: **MB-73009**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **73009**	RunNo: **94448**
Prep Date: **2/6/2023**	Analysis Date: **2/7/2023**	SeqNo: **3413655** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	15								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	11		10.00		111	69	147			

Sample ID: **LCS-73009**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **73009**	RunNo: **94448**
Prep Date: **2/6/2023**	Analysis Date: **2/7/2023**	SeqNo: **3413656** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	61	15	50.00	0	122	61.9	130			
Surr: DNOP	5.6		5.000		112	69	147			

Sample ID: **MB-73030**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **73030**	RunNo: **94448**
Prep Date: **2/6/2023**	Analysis Date: **2/7/2023**	SeqNo: **3413657** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	10		10.00		101	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#: **2302142**

15-Feb-23

Client: Vertex Resources Services, Inc.

Project: Miss Sue

Sample ID: **LCS-73030**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **73030**	RunNo: **94448**
Prep Date: **2/6/2023**	Analysis Date: **2/7/2023**	SeqNo: **3413658** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	4.9		5.000		97.8	69	147			

Sample ID: **2302142-012AMS**	SampType: **MS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **WS23-02 0.25'**	Batch ID: **73009**	RunNo: **94448**
Prep Date: **2/6/2023**	Analysis Date: **2/8/2023**	SeqNo: **3414702** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	54	15	50.20	10.22	87.1	54.2	135			
Surr: DNOP	5.1		5.020		102	69	147			

Sample ID: **2302142-012AMSD**	SampType: **MSD**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **WS23-02 0.25'**	Batch ID: **73009**	RunNo: **94448**
Prep Date: **2/6/2023**	Analysis Date: **2/8/2023**	SeqNo: **3414703** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	55	15	49.90	10.22	89.1	54.2	135	1.38	29.2	
Surr: DNOP	5.4		4.990		108	69	147	0	0	

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#: **2302142**

15-Feb-23

Client: Vertex Resources Services, Inc.

Project: Miss Sue

Sample ID: **lcs-72992**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **72992**	RunNo: **94414**
Prep Date: **2/3/2023**	Analysis Date: **2/6/2023**	SeqNo: **3411909** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	27	5.0	25.00	0	108	72.3	137			
Surr: BFB	1100		1000		113	37.7	212			

Sample ID: **mb-72992**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **72992**	RunNo: **94414**
Prep Date: **2/3/2023**	Analysis Date: **2/6/2023**	SeqNo: **3411910** 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	1000		1000		103	37.7	212			

Sample ID: **lcs-72998**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **72998**	RunNo: **94497**
Prep Date: **2/3/2023**	Analysis Date: **2/9/2023**	SeqNo: **3415623** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	27	5.0	25.00	0	110	72.3	137			
Surr: BFB	1100		1000		112	37.7	212			

Sample ID: **mb-72998**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **72998**	RunNo: **94497**
Prep Date: **2/3/2023**	Analysis Date: **2/9/2023**	SeqNo: **3415624** 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	1000		1000		101	37.7	212			

Sample ID: **2302142-012ams**	SampType: **MS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **WS23-02 0.25'**	Batch ID: **72998**	RunNo: **94497**
Prep Date: **2/3/2023**	Analysis Date: **2/9/2023**	SeqNo: **3416304** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	24	4.9	24.56	0	98.9	70	130			
Surr: BFB	1100		982.3		111	37.7	212			

Sample ID: **2302142-012amsd**	SampType: **MSD**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **WS23-02 0.25'**	Batch ID: **72998**	RunNo: **94497**
Prep Date: **2/3/2023**	Analysis Date: **2/9/2023**	SeqNo: **3416305** Units: **mg/Kg**

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

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#: **2302142**

15-Feb-23

Client: Vertex Resources Services, Inc.

Project: Miss Sue

Sample ID: **2302142-012amsd**	SampType: **MSD**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **WS23-02 0.25'**	Batch ID: **72998**	RunNo: **94497**
Prep Date: **2/3/2023**	Analysis Date: **2/9/2023**	SeqNo: **3416305** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	24	5.0	24.88	0	94.6	70	130	3.14	20	
Surr: BFB	1100		995.0		110	37.7	212	0	0	

Sample ID: **lcs-73127**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **73127**	RunNo: **94574**
Prep Date: **2/10/2023**	Analysis Date: **2/13/2023**	SeqNo: **3418792** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	2000		1000		199	37.7	212			

Sample ID: **mb-73127**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **73127**	RunNo: **94574**
Prep Date: **2/10/2023**	Analysis Date: **2/14/2023**	SeqNo: **3418793** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	950		1000		95.0	37.7	212			

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#: **2302142**

15-Feb-23

Client: Vertex Resources Services, Inc.

Project: Miss Sue

Sample ID: **LCS-72992**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **72992**	RunNo: **94414**
Prep Date: **2/3/2023**	Analysis Date: **2/6/2023**	SeqNo: **3412014** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.85	0.025	1.000	0	84.8	80	120			
Toluene	0.86	0.050	1.000	0	85.9	80	120			
Ethylbenzene	0.85	0.050	1.000	0	84.7	80	120			
Xylenes, Total	2.6	0.10	3.000	0	85.3	80	120			
Surr: 4-Bromofluorobenzene	0.90		1.000		90.5	70	130			

Sample ID: **mb-72992**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **72992**	RunNo: **94414**
Prep Date: **2/3/2023**	Analysis Date: **2/6/2023**	SeqNo: **3412015** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.90		1.000		90.1	70	130			

Sample ID: **lcs-73131**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **73131**	RunNo: **94574**
Prep Date: **2/10/2023**	Analysis Date: **2/13/2023**	SeqNo: **3418828** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	0.95		1.000		94.8	70	130			

Sample ID: **mb-73131**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **73131**	RunNo: **94574**
Prep Date: **2/10/2023**	Analysis Date: **2/13/2023**	SeqNo: **3418829** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	0.92		1.000		91.7	70	130			

Sample ID: **LCS-73127**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **73127**	RunNo: **94574**
Prep Date: **2/10/2023**	Analysis Date: **2/13/2023**	SeqNo: **3418867** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	0.89		1.000		88.8	70	130			

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#: **2302142**

15-Feb-23

Client: Vertex Resources Services, Inc.

Project: Miss Sue

Sample ID: **mb-73127**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **73127**	RunNo: **94574**
Prep Date: **2/10/2023**	Analysis Date: **2/14/2023**	SeqNo: **3418868** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	0.90		1.000		90.2	70	130			

Sample ID: **2302142-013ams**	SampType: **MS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **WS23-03 0.25'**	Batch ID: **72998**	RunNo: **94497**
Prep Date: **2/3/2023**	Analysis Date: **2/9/2023**	SeqNo: **3420588** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.64	0.025	0.9843	0	65.5	68.8	120			S
Toluene	0.74	0.049	0.9843	0	75.1	73.6	124			
Ethylbenzene	0.75	0.049	0.9843	0	76.7	72.7	129			
Xylenes, Total	2.3	0.098	2.953	0	77.0	75.7	126			
Surr: 4-Bromofluorobenzene	0.88		0.9843		89.2	70	130			

Sample ID: **2302142-013amsd**	SampType: **MSD**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **WS23-03 0.25'**	Batch ID: **72998**	RunNo: **94497**
Prep Date: **2/3/2023**	Analysis Date: **2/9/2023**	SeqNo: **3420589** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.71	0.025	0.9843	0	72.3	68.8	120	11.2	20	
Toluene	0.76	0.049	0.9843	0	77.7	73.6	124	9.53	20	
Ethylbenzene	0.77	0.049	0.9843	0	78.5	72.7	129	9.41	20	
Xylenes, Total	2.3	0.098	2.953	0	79.2	75.7	126	8.74	20	
Surr: 4-Bromofluorobenzene	0.87		0.9843		87.9	70	130	0	0	

Sample ID: **LCS-72998**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **72998**	RunNo: **94497**
Prep Date: **2/3/2023**	Analysis Date: **2/9/2023**	SeqNo: **3420591** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.78	0.025	1.000	0	77.8	80	120			S
Toluene	0.79	0.050	1.000	0	79.4	80	120			S
Ethylbenzene	0.79	0.050	1.000	0	79.2	80	120			S
Xylenes, Total	2.4	0.10	3.000	0	79.5	80	120			S
Surr: 4-Bromofluorobenzene	0.91		1.000		90.7	70	130			

Sample ID: **mb-72998**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **72998**	RunNo: **94497**
Prep Date: **2/3/2023**	Analysis Date: **2/9/2023**	SeqNo: **3420592** Units: **mg/Kg**

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

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#: **2302142**

15-Feb-23

Client: Vertex Resources Services, Inc.

Project: Miss Sue

Sample ID: **mb-72998**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **72998**	RunNo: **94497**
Prep Date: **2/3/2023**	Analysis Date: **2/9/2023**	SeqNo: **3420592** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.87		1.000		87.3	70	130			

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: Vertex Resources Services, Inc.

Work Order Number: 2302142

RcptNo: 1

Received By: Tracy Casarrubias 2/3/2023 7:25:00 AM

Completed By: Tracy Casarrubias 2/3/2023 8:16:20 AM

Reviewed By: JM 2/3/23

Chain of Custody

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

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 2/3/23

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	4.1	Good	Yes	Morty		

Chain-of-Custody Record

Client: ~~Matador (Vertex)~~ Vertex

Mailing Address: On File

Phone #:

email or Fax#:

QA/QC Package:
☐ Standard ☐ Level 4 (Full Validation)

Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time:
☒ Standard ☐ Rush 5 Day

Project Name: Miss Sue

Project #: 22E-04178

Project Manager: Monica Peppin

Sampler: H.K.

On Ice: ☒ Yes ☐ No marty

# of Coolers: 1

Cooler Temp(including CF): 4.3+0.2=4.1 (°C)

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2302142	(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)
1/27/23	9:00	Soil	BS23-01 0.25'	4oz	Ice	001	X	X					X			
	9:05		BS23-02 0.25'			002	X	X					X			
	9:10		BS23-03 0.25'			003	X	X					X			
	9:15		BS23-04 0.25'			004	X	X					X			
	9:20		BS23-05 0.25'			005	X	X					X			
	9:25		BS23-06 0.25'			006	X	X					X			
	9:30		BS23-07 0.25'			007	X	X					X			
	9:35		BS23-08 0.25'			008	X	X					X			
	9:40		BS23-09 0.25'			009	X	X					X			
	9:45		BS23-10 0.25'			010	X	X					X			
	9:50		WS23-01 0.25'			011	X	X					X			
	9:55		WS23-02 0.25'			012	X	X					X			

Analysis Request

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
2/2/23	900	Hunter Klein	CCummings		2/2/23	900
2/2/23	1900	CCummings	CCummings		2/3/23	7:05

Remarks: (Matador) CC Monica Peppin.

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

Chain-of-Custody Record

Client: ~~Matador~~ Vertex

Vertex

Mailing Address: On File

Phone #:

email or Fax#:

QA/QC Package:

☐ Standard ☐ Level 4 (Full Validation)

Accreditation: ☐ Az Compliance

☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time:

☒ Standard ☐ Rush 5 Day

Project Name: Miss Sue

Project #: 22E-04178

Project Manager: Monica Peppin

Sampler: A.K.

On Ice: ☑ Yes ☐ No marty

# of Coolers: 1

Cooler Temp(including CF): 4.3-0.2=4.1 (°C)

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Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2302142	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)
1/27/23	10:00	Soil	WS23-03 @ 0.25'	4oz	Ice	013	X	X					X			
1/27/23	10:05	Soil	WS23-04 @ 0.25'	4oz	Ice	014	X	X					X			

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
2/2/23	900	Hunter Klein			2/2/23	900
2/2/23	1900			Courier	2/3/23	7:25

Remarks: (Matador) CC Monica Peppin

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

APPENDIX D:
CORRESPONDENCE

Hamlet, Robert, EMNRD

To:Monica Peppin

Cc:Clinton Talley;Jason Touchet;Bratcher, Michael, EMNRD

Thu 8/8/2024 7:40 AM

Hi Monica,

A Spill Rule Clarification document was put on the OCD website a few years ago to outline the procedure for collecting background samples. I believe it is part 7 that tries to clarify what needs to be accomplished as far as background sampling is concerned.

XII. **OBTAINING BACKGROUND DATA:**

The rule speaks of "background" chloride concentrations in three places: 19.15.29.11(A)(5)(c) NMAC regarding unknown or large volume releases, as a footnote to Table I, and in 19.15.29.13(D)(1) NMAC regarding reclamation. How would a responsible party obtain information to determine background? A grab, not composite, sample(s) should be gathered in areas undisturbed by oil and gas activities, nominally uphill from the release area, and no closer than 50 feet but no farther than 100 feet from the lateral and horizontal extents of a release's impact. The background sampling should be representative of the entire horizontal and vertical extent of the release. Other means may be acceptable to OCD, but only after review and a written determination.

Generally, the OCD likes to see at least 3 background samples obtained. As far as the part about being "representative of the entire horizontal and vertical extent of the release", the depth of the contaminants should be used as a gauge. If you believe the contaminants are estimated to be 4 feet deep, collect samples for chlorides in 1 foot increments down to 4 feet. The three background numbers at a depth of 1 foot should be averaged. The three background numbers at a depth of 2 feet should be averaged and so on. The composite numbers will be used for the final background numbers.

If you have any questions, please let me know.

Regards,

Robert Hamlet ● Environmental Specialist - Advanced

Environmental Bureau

EMNRD - Oil Conservation Division

506 W. Texas Ave.| Artesia, NM 88210

575.909.0302 | robert.hamlet@state.nm.us

http://www.emnrd.state.nm.us/OCD/

From: Monica Peppin <Monica.Peppin@soudermiller.com>
Sent: Wednesday, August 7, 2024 8:02 AM

To: Hamlet, Robert, EMNRD <Robert.Hamlet@emnrd.nm.gov>
Cc: Clinton Talley <clinton.talley@matadorresources.com>; Jason Touchet <jason.touchet@matadorresources.com>
Subject: [EXTERNAL] Miss Sue 12-23S-27E# RB #202H Incident nAPP2234143030

> You don't often get email from monica.peppin@soudermiller.com. Learn why this is important

CAUTION: This email originated outside of our organization. Exercise caution prior to clicking on links or opening attachments.

Robert,

Here is the response from you for the Miss Sue and my questions to get it to the finish line are below it.

The OCD has rejected the submitted *Application for administrative approval of a release notification and corrective action* (C-141), for incident ID (n#) nAPP2234143030,
for the following reasons:

- **The Closure Report is denied. Please continue to horizontally delineate the release area until it meets closure criteria standards. Sidewall/Edge samples should be delineated/excavated to 600 mg/kg for chlorides and 100 mg/kg for TPH to define the edge of the release. Please make sure the C-141 Page 6 Closure Page is signed and dated at the time of submittal.**

The rejected C-141 can be found in the OCD Online: Permitting - Action Status, under the Application ID: 202400.
Please review and make the required correction(s) prior to resubmitting.
If you have any questions why this application was rejected or believe it was rejected in error, please contact me prior to submitting an additional C-141.

Questions:

I have reviewed your denial along with the closure report for Matador and wanted to touch base with you on obtaining final closure on it. The Miss Sue is located in an area where the backgrounds obtain a natural elevated level of chlorides vastly higher than the 600 limit. Before I complete a site visit can we clarify exactly what data I need to collect in additional will support background samples already collected and comply with closure criteria?

My approach with this is to collect four sample points, North, East, South, and West at depth intervals ranging 0-4 feet bgs that are delineated to match what background sample levels are for that area. In addition to the samples collected with laboratory analysis, supporting photos, schematic, and closure report, will it be required to collect more background samples and submit any remediation plan, variance request, or further confirmation sampling/notification from Matador for this release?

Will we need to resubmit the whole closure report again or can we submit a supplmental supportive report for closure?

I appreciate your help.

Monica

Monica Peppin, A.S.

Project Manager

Stronger Communities by Design

Direct/Mobile: 806.228.5281

Office: 575.689.7040

201 S Halagueno St.

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Oil Conservation Division
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Santa Fe, NM 87505

QUESTIONS

Action 395398

QUESTIONS

Operator: MATADOR PRODUCTION COMPANY One Lincoln Centre Dallas, TX 75240	OGRID: 228937
	Action Number: 395398
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Prerequisites	
Incident ID (n#)	**nAPP2234143030**
Incident Name	**NAPP2234143030 MISS SUE BOOSTER STATION @ 30-015-44433**
Incident Type	**Produced Water Release**
Incident Status	**Remediation Closure Report Received**
Incident Well	**[30-015-44433] MISS SUE 12 23S 27E RB #202H**

Location of Release Source	
Please answer all the questions in this group.	
Site Name	MISS SUE BOOSTER STATION
Date Release Discovered	12/06/2022
Surface Owner	Private

Incident Details	
Please answer all the questions in this group.	
Incident Type	Produced Water Release
Did this release result in a fire or is the result of a fire	No
Did this release result in any injuries	No
Has this release reached or does it have a reasonable probability of reaching a watercourse	No
Has this release endangered or does it have a reasonable probability of endangering public health	No
Has this release substantially damaged or will it substantially damage property or the environment	No
Is this release of a volume that is or may with reasonable probability be detrimental to fresh water	No

Nature and Volume of Release	
Material(s) released, please answer all that apply below. Any calculations or specific justifications for the volumes provided should be attached to the follow-up C-141 submission.	
Crude Oil Released (bbls) Details	*Not answered.*
Produced Water Released (bbls) Details	Cause: Normal Operations | Valve | Produced Water | Released: 10 BBL | Recovered: 6 BBL | Lost: 4 BBL.
Is the concentration of chloride in the produced water >10,000 mg/l	No
Condensate Released (bbls) Details	*Not answered.*
Natural Gas Vented (Mcf) Details	*Not answered.*
Natural Gas Flared (Mcf) Details	*Not answered.*
Other Released Details	*Not answered.*
Are there additional details for the questions above (i.e. any answer containing Other, Specify, Unknown, and/or Fire, or any negative lost amounts)	Vave failed causing release. 10 bbls released, 6 bbls recovered.

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QUESTIONS (continued)

Operator: MATADOR PRODUCTION COMPANY One Lincoln Centre Dallas, TX 75240	OGRID: 228937
	Action Number: 395398
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Nature and Volume of Release (continued)	
Is this a gas only submission (i.e. only significant Mcf values reported)	**No, according to supplied volumes this does not appear to be a "gas only" report.**
Was this a major release as defined by Subsection A of 19.15.29.7 NMAC	**No**
Reasons why this would be considered a submission for a notification of a major release	*Unavailable.*
With the implementation of the 19.15.27 NMAC (05/25/2021), venting and/or flaring of natural gas (i.e. gas only) are to be submitted on the C-129 form.	

Initial Response	
The responsible party must undertake the following actions immediately unless they could create a safety hazard that would result in injury.	
The source of the release has been stopped	True
The impacted area has been secured to protect human health and the environment	True
Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices	True
All free liquids and recoverable materials have been removed and managed appropriately	True
If all the actions described above have not been undertaken, explain why	*Not answered.*
Per Paragraph (4) of Subsection B of 19.15.29.8 NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please prepare and attach a narrative of actions to date in the follow-up C-141 submission. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see Subparagraph (a) of Paragraph (5) of Subsection A of 19.15.29.11 NMAC), please prepare and attach all information needed for closure evaluation in the follow-up C-141 submission.	

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

I hereby agree and sign off to the above statement	Name: Jason Touchet Title: EHS Field Rep Email: jason.touchet@matadorresources.com Date: 10/24/2024

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QUESTIONS (continued)

Operator: MATADOR PRODUCTION COMPANY One Lincoln Centre Dallas, TX 75240	OGRID: 228937
	Action Number: 395398
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Site Characterization	
Please answer all the questions in this group (only required when seeking remediation plan approval and beyond). This information must be provided to the appropriate district office no later than 90 days after the release discovery date.	
What is the shallowest depth to groundwater beneath the area affected by the release in feet below ground surface (ft bgs)	Between 75 and 100 (ft.)
What method was used to determine the depth to ground water	U.S. Geological Survey
Did this release impact groundwater or surface water	No
What is the minimum distance, between the closest lateral extents of the release and the following surface areas:	
A continuously flowing watercourse or any other significant watercourse	Greater than 5 (mi.)
Any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)	Greater than 5 (mi.)
An occupied permanent residence, school, hospital, institution, or church	Between 500 and 1000 (ft.)
A spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes	Between ½ and 1 (mi.)
Any other fresh water well or spring	Between ½ and 1 (mi.)
Incorporated municipal boundaries or a defined municipal fresh water well field	Between 1 and 5 (mi.)
A wetland	Between ½ and 1 (mi.)
A subsurface mine	Greater than 5 (mi.)
An (non-karst) unstable area	Greater than 5 (mi.)
Categorize the risk of this well / site being in a karst geology	Medium
A 100-year floodplain	Greater than 5 (mi.)
Did the release impact areas not on an exploration, development, production, or storage site	No

Remediation Plan	
Please answer all the questions that apply or are indicated. This information must be provided to the appropriate district office no later than 90 days after the release discovery date.	
Requesting a remediation plan approval with this submission	Yes
Attach a comprehensive report demonstrating the lateral and vertical extents of soil contamination associated with the release have been determined, pursuant to 19.15.29.11 NMAC and 19.15.29.13 NMAC.	
Have the lateral and vertical extents of contamination been fully delineated	Yes
Was this release entirely contained within a lined containment area	No
Soil Contamination Sampling: (Provide the highest observable value for each, in milligrams per kilograms.)	
Chloride (EPA 300.0 or SM4500 Cl B)	5500
TPH (GRO+DRO+MRO) (EPA SW-846 Method 8015M)	11
GRO+DRO (EPA SW-846 Method 8015M)	11
BTEX (EPA SW-846 Method 8021B or 8260B)	0
Benzene (EPA SW-846 Method 8021B or 8260B)	0
Per Subsection B of 19.15.29.11 NMAC unless the site characterization report includes completed efforts at remediation, the report must include a proposed remediation plan in accordance with 19.15.29.12 NMAC, which includes the anticipated timelines for beginning and completing the remediation.	
On what estimated date will the remediation commence	01/23/2023
On what date will (or did) the final sampling or liner inspection occur	01/27/2023
On what date will (or was) the remediation complete(d)	01/27/2023
What is the estimated surface area (in square feet) that will be reclaimed	1950
What is the estimated volume (in cubic yards) that will be reclaimed	18
What is the estimated surface area (in square feet) that will be remediated	1950
What is the estimated volume (in cubic yards) that will be remediated	18
These estimated dates and measurements are recognized to be the best guess or calculation at the time of submission and may (be) change(d) over time as more remediation efforts are completed.	
The OCD recognizes that proposed remediation measures may have to be minimally adjusted in accordance with the physical realities encountered during remediation. If the responsible party has any need to significantly deviate from the remediation plan proposed, then it should consult with the division to determine if another remediation plan submission is required.	

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QUESTIONS (continued)

Operator: MATADOR PRODUCTION COMPANY One Lincoln Centre Dallas, TX 75240	OGRID: 228937
	Action Number: 395398
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Remediation Plan (continued)	
Please answer all the questions that apply or are indicated. This information must be provided to the appropriate district office no later than 90 days after the release discovery date.	
This remediation will (or is expected to) utilize the following processes to remediate / reduce contaminants:	
(Select all answers below that apply.)	
(Ex Situ) Excavation and **off-site** disposal (i.e. dig and haul, hydrovac, etc.)	Yes
Which OCD approved facility will be used for **off-site** disposal	*Not answered.*
OR which OCD approved well (API) will be used for **off-site** disposal	*Not answered.*
OR is the **off-site** disposal site, to be used, out-of-state	*Not answered.*
OR is the **off-site** disposal site, to be used, an NMED facility	Yes
What is the name of the NMED facility	R360 Hobbs NM
(Ex Situ) Excavation and **on-site** remediation (i.e. On-Site Land Farms)	*Not answered.*
(In Situ) Soil Vapor Extraction	*Not answered.*
(In Situ) Chemical processing (i.e. Soil Shredding, Potassium Permanganate, etc.)	*Not answered.*
(In Situ) Biological processing (i.e. Microbes / Fertilizer, etc.)	*Not answered.*
(In Situ) Physical processing (i.e. Soil Washing, Gypsum, Disking, etc.)	*Not answered.*
Ground Water Abatement pursuant to 19.15.30 NMAC	*Not answered.*
OTHER (Non-listed remedial process)	*Not answered.*
Per Subsection B of 19.15.29.11 NMAC unless the site characterization report includes completed efforts at remediation, the report must include a proposed remediation plan in accordance with 19.15.29.12 NMAC, which includes the anticipated timelines for beginning and completing the remediation.	
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.	
I hereby agree and sign off to the above statement	Name: Jason Touchet Title: EHS Field Rep Email: jason.touchet@matadorresources.com Date: 10/24/2024
The OCD recognizes that proposed remediation measures may have to be minimally adjusted in accordance with the physical realities encountered during remediation. If the responsible party has any need to significantly deviate from the remediation plan proposed, then it should consult with the division to determine if another remediation plan submission is required.	

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QUESTIONS (continued)

Operator: MATADOR PRODUCTION COMPANY One Lincoln Centre Dallas, TX 75240	OGRID: 228937
	Action Number: 395398
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Deferral Requests Only *Only answer the questions in this group if seeking a deferral upon approval this submission. Each of the following items must be confirmed as part of any request for deferral of remediation.*	
Requesting a deferral of the remediation closure due date with the approval of this submission	No

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QUESTIONS (continued)

Operator: MATADOR PRODUCTION COMPANY One Lincoln Centre Dallas, TX 75240	OGRID: 228937
	Action Number: 395398
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Sampling Event Information	
Last sampling notification (C-141N) recorded	**395477**
Sampling date pursuant to Subparagraph (a) of Paragraph (1) of Subsection D of 19.15.29.12 NMAC	**01/27/2023**
What was the (estimated) number of samples that were to be gathered	**14**
What was the sampling surface area in square feet	**1950**

Remediation Closure Request	
Only answer the questions in this group if seeking remediation closure for this release because all remediation steps have been completed.	
Requesting a remediation closure approval with this submission	Yes
Have the lateral and vertical extents of contamination been fully delineated	**Yes**
Was this release entirely contained within a lined containment area	**No**
All areas reasonably needed for production or subsequent drilling operations have been stabilized, returned to the sites existing grade, and have a soil cover that prevents ponding of water, minimizing dust and erosion	Yes
What was the total surface area (in square feet) remediated	1950
What was the total volume (cubic yards) remediated	18
All areas not reasonably needed for production or subsequent drilling operations have been reclaimed to contain a minimum of four feet of non-waste contain earthen material with concentrations less than 600 mg/kg chlorides, 100 mg/kg TPH, 50 mg/kg BTEX, and 10 mg/kg Benzene	Yes
What was the total surface area (in square feet) reclaimed	1950
What was the total volume (in cubic yards) reclaimed	18
Summarize any additional remediation activities not included by answers (above)	Additional BG sampling for denied closure

The responsible party must attach information demonstrating they have complied with all applicable closure requirements and any conditions or directives of the OCD. This demonstration should be in the form of a comprehensive report (in .pdf format) including a scaled site map, sampling diagrams, relevant field notes, photographs of any excavation prior to backfilling, laboratory data including chain of custody documents of final sampling, and a narrative of the remedial activities. Refer to 19.15.29.12 NMAC.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations. The responsible party acknowledges they must substantially restore, reclaim, and re-vegetate the impacted surface area to the conditions that existed prior to the release or their final land use in accordance with 19.15.29.13 NMAC including notification to the OCD when reclamation and re-vegetation are complete.

I hereby agree and sign off to the above statement	Name: Jason Touchet Title: EHS Field Rep Email: jason.touchet@matadorresources.com Date: 10/24/2024

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QUESTIONS (continued)

Operator: MATADOR PRODUCTION COMPANY One Lincoln Centre Dallas, TX 75240	OGRID: 228937
	Action Number: 395398
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Reclamation Report	
Only answer the questions in this group if all reclamation steps have been completed.	
Requesting a reclamation approval with this submission	No

District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720
District III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

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

CONDITIONS

Action 395398

CONDITIONS

Operator:	OGRID:
MATADOR PRODUCTION COMPANY One Lincoln Centre Dallas, TX 75240	228937
	Action Number: 395398
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

CONDITIONS

Created By	Condition	Condition Date
amaxwell	Remediation plan approved. OCD agrees that there are elevated chlorides due to agriculture activities or natural occurring within the general area.	10/24/2024
amaxwell	A reclamation report will not be accepted until reclamation of the release area, including areas reasonably needed for production or drilling activities, is complete and meet the requirements of 19.15.29.13 NMAC. Areas not reasonably needed for production or drilling activities will still need to be reclaimed and revegetated as early as practicable.	10/24/2024
amaxwell	The reclamation report will need to include: Executive Summary of the reclamation activities; Scaled Site Map including sampling locations; Analytical results including, but not limited to, results showing that any remaining impacts meet the reclamation standards and results to prove the backfill is non-waste containing; At least one (1) representative 5-point composite sample will need to be collected from the backfill material that will be used for the reclamation of the top four feet of the excavation. OCD reserves the right to request additional sampling if needed; pictures of the backfilled areas showing that the area is back, as nearly as practical, to the original condition or the final land use and maintain those areas to control dust and minimize erosion to the extent practical; pictures of the top layer, which is either the background thickness of topsoil or one foot of suitable material to establish vegetation at the site, whichever is greater; and a revegetation plan.	10/24/2024