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

July 22, 2020

#5E29133-BG13

NMOCD District 1
1625 N. French Drive
Hobbs, New Mexico

SUBJECT: Remediation Closure Report for the Kachina 8 Federal 1 Release (1-RP-5171), Eddy County, New Mexico

To Whom it May Concern:

On behalf of Devon Energy Production Company, Souder, Miller & Associates (SMA) has prepared this Remediation Closure Report that describes the remediation of a release of liquids related to oil and gas production activities at the Kachina 8 Federal 1 site. The site is in Unit C, Section 8, Township 18S, Range 33E, Eddy County, New Mexico, on Federal land. Figure 1 illustrates the vicinity and site location on an USGS 7.5 minute quadrangle map.

Table 1 summarizes release information and Closure Criteria.

| **Table 1: Release Information and Closure Criteria** | | | |
|---|---|---|---|
| Name | Kachina 8 Federal 1 | Company | Devon Energy Company |
| API Number | 30-025-30986 | Location | 32.7673416, -103.6879425 |
| Incident Number | 1RP-5171 | | |
| Estimated Date of Release | 8/02/2018 | Date Reported to NMOCD | 8/23/2018 |
| Land Owner | Federal | Reported To | NMOCD, BLM |
| Source of Release | The produced water line from the heater treater to the water tank developed a leak inside the containment. | | |
| Released Volume | 45 BBLS | Released Material | PW |
| Recovered Volume | 40 BBLS | Net Release | 5 BBLS |
| NMOCD Closure Criteria | 51-100 feet to groundwater | | |
| SMA Response Dates | 3/25/2020, 4/28/2020, 6/24/2020, 7/9/2020 | | |

## 1.0 Background

August 2, 2018, a release was discovered at the Kachina 8 Federal 1 site due to a puncture developed at the base of a storage tank, along with a produced water line developing a leak inside the containment. Initial response activities were conducted by Devon personnel, and included source elimination and site containment activities, which recovered a total of approximately 40 barrels of fluid. Figure 1 illustrates the vicinity and site location; Figure 2 illustrates the release location. The C-141 form is included in Appendix A.

## 2.0 Site Information and Closure Criteria

The Kachina 8 Federal 1 is located approximately 33 miles from Hobbs, New Mexico on Federal (BLM) land at an elevation of approximately 3,938 feet above mean sea level (amsl).

Based upon OSE well data (Appendix B), depth to groundwater in the area is estimated to be 100 feet below grade surface (bgs). There is one known water sources within ½-mile of the location, according to the New Mexico Office of the State Engineer (NMOSE) online water well database (https://gis.ose.state.nm.us/gisapps/ose_pod_locations/; accessed 7/13/2020). The nearest significant watercourse is an unnamed draw, located approximately 7,383 feet to the north west. Figure 2 illustrates the site with 200 and 300-foot radii to indicate that it does not lie within a sensitive area as described in 19.15.29.12.C(4) NMAC.

Based on the information presented herein, the applicable NMOCD Closure Criteria for this site is for a groundwater depth of between 51-100 feet bgs. Table 2 demonstrates the Closure Criteria applicable to this location. Pertinent well data is attached in Appendix B.

## 3.0 Release Characterization and Remediation Activities

On March 25, and April 28, 2020, SMA personnel arrived on site in response to the release associated with Kachina 8 Federal 1. Following figures of the release areas provided by Devon personnel, SMA performed site delineation activities by collecting soil samples around the release site. Soil samples were field-screened for chloride using an electrical conductivity (EC) and for hydrocarbon impacts using a calibrated MiniRAE 3000 photoionization detector (PID) equipped with a 10.6 eV lamp.

A total of nine (9) sample locations (L1-L5 & SW1- SW4) were investigated using a hand-auger, to depths up to two and a half (2.5) feet bgs. A total of 23 samples were collected for laboratory analysis of total chloride using EPA Method 300.0; benzene, toluene, ethylbenzene and total xylenes (BTEX) using EPA Method 8021B; and motor, diesel and gasoline range organics (MRO, DRO, and GRO) by EPA Method 8015D.

As summarized in Table 3, results indicated that an area on the southeast corner of the containment, represented by sample SW3 had been impacted above NMOCD Closure Criteria. The area measured approximately 16 by 21 feet by 1 foot deep had been impacted.

On June 24, and July 9, 2020, SMA returned to the site to guide the excavation of contaminated soil. SMA guided the excavation activities by collecting soil samples for field screening, using the methods above. The walls and base were excavated until field screening results indicated that the NMOCD Closure Criteria would be met. NMOCD was notified on June 22, and July 7, 2020 that closure samples were expected to be collected in two (2) business days.

On June 24, and July 9, 2020 SMA conducted confirmation sampling of the walls and base of the excavation, which measured approximately 17 feet by 21 feet. The area around sample location SW3 was excavated to a depth of one (1) foot bgs.

Confirmation samples were comprised of five-point composites of the base (CS1) and walls (SW1 and SW2).

A total of six (6) samples were collected for laboratory analysis for total chloride using EPA Method 300.0; benzene, toluene, ethylbenzene and total xylenes (BTEX) using EPA Method 8021B; and motor, diesel and gasoline range organics (MRO, DRO, and GRO) by EPA Method 8015D. Laboratory samples were collected in accordance with the sampling protocol included in Appendix C. Samples were placed into laboratory supplied glassware, labeled, and maintained on ice until delivery to Hall Environmental Analysis Laboratory in Albuquerque, New Mexico and Cardinal Laboratories in Hobbs, New Mexico (Appendix D).

Figure 3 shows the extent of the excavation and sample locations, laboratory results are summarized in Table 3. Laboratory reports are included in Appendix D.

Contaminated soils were removed and replaced with clean backfill material to return the surface to previous contours. The contaminated soil was transported and disposed of at R360 Environmental Solutions near Hobbs, NM, an NMOCD permitted disposal facility.

## 5.0 Scope and Limitations

The scope of our services included: assessment sampling; verifying release stabilization; regulatory liaison; remediation; and preparing this closure report. All work has been performed in accordance with generally accepted professional environmental consulting practices for oil and gas releases in the Permian Basin in New Mexico.

If there are any questions regarding this report, please contact either Ashley Maxwell at 505-320-9241 or Shawna Chubbuck at 505-325-7535.

Submitted by:
SOUDER, MILLER & ASSOCIATES

Reviewed by:

Ashley Maxwell
Project Manager

Shawna Chubbuck
Senior Scientist

**ATTACHMENTS:**

**Figures:**

Figure 1: Vicinity and Well Head Protection Map
Figure 2: Surface Water Radius Map
Figure 3: Site and Sample Location Map

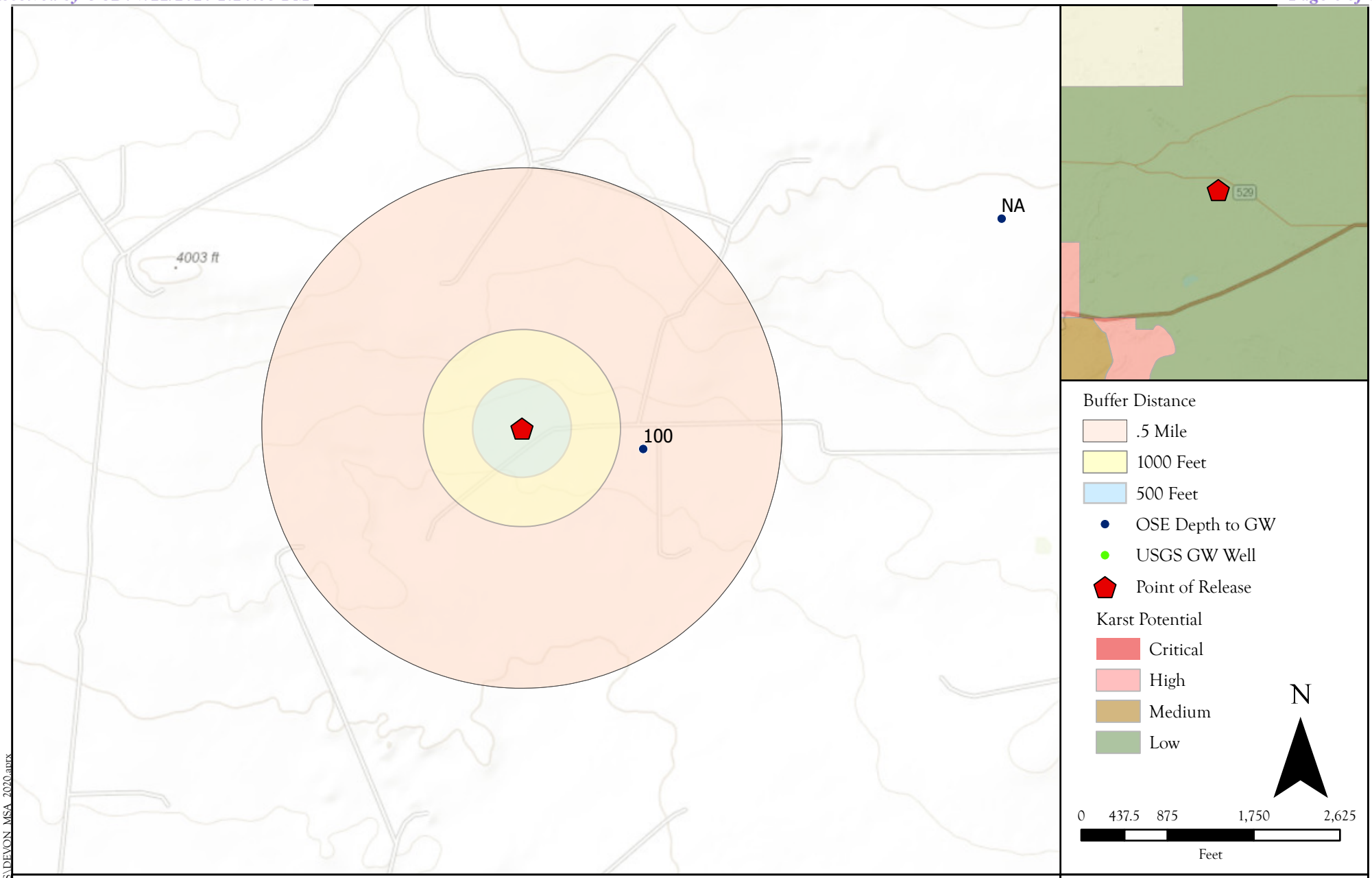
**Tables:**

Table 2: NMOCD Closure Criteria Justification
Table 3: Summary of Sample Results

**Appendices:**

Appendix A: Form C141
Appendix B: NMOSE Wells Report
Appendix C: Sampling Protocol
Appendix D: Laboratory Analytical Reports
Appendix E: Photo Log

# FIGURES




*Site Map*
*Kachina 8 Federal #001- Devon Energy*
*Sec 8 T18S R33E Eddy County, New Mexico*

*Figure 1*

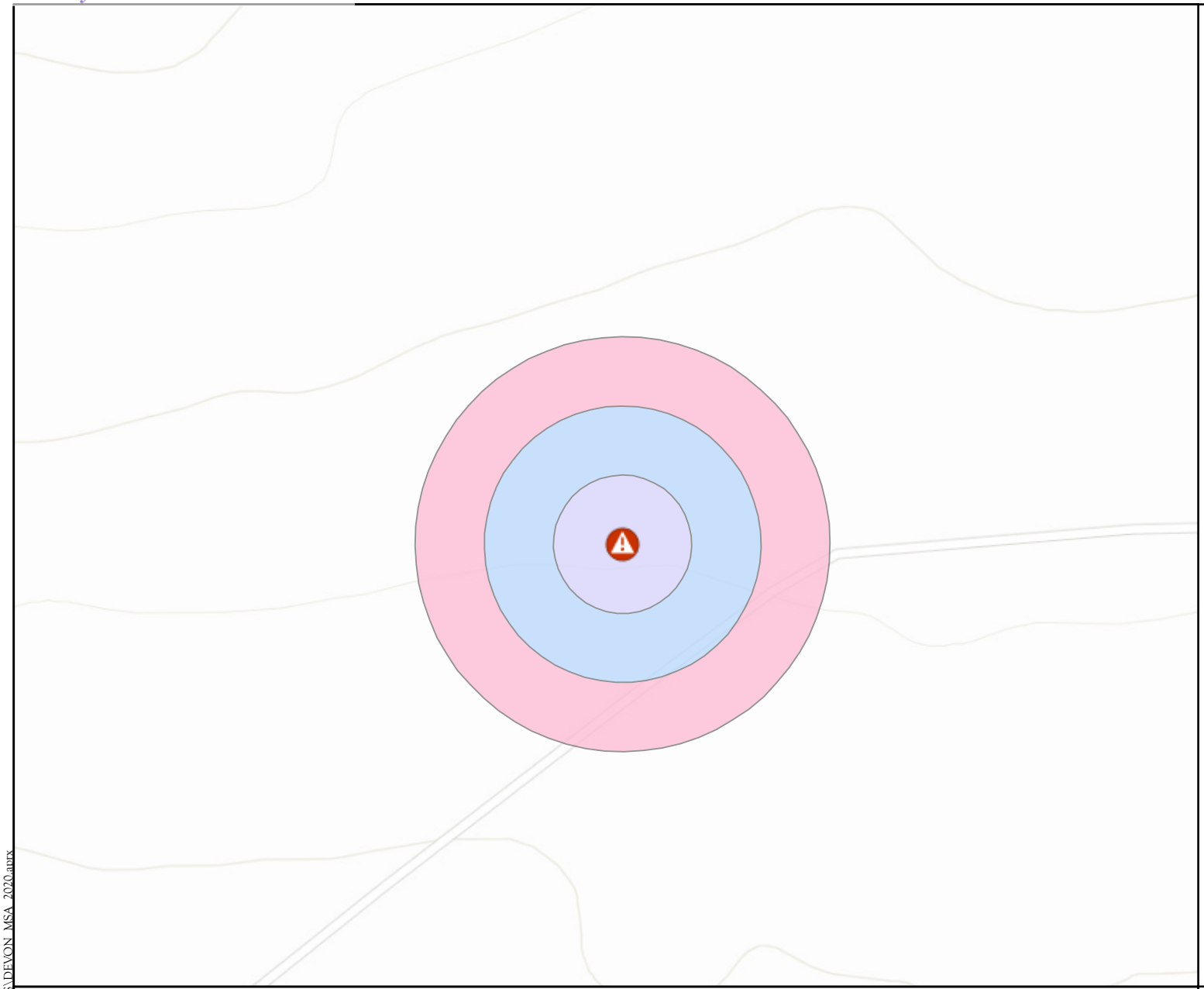
P:\5-Devon MSA 2020 (5E29133)\GIS\DEVON_MSA_2020.mxd
Date Saved: 6/10/2020

Revisions
By: _____ Date: _____ Descr: _____
By: _____ Date: _____ Descr: _____



Drawn Sebastian Orozco
Date 6/22/2020
Checked
Approved

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



Buffer Distance
- 300 Feet
- 200 Feet
- 100 Feet
- Springs & Seeps
- Streams & Canals
- Rivers
- Flowlines SENM
- NM Wetlands
- Lakes & Playas
- FEMA Flood Zones 2011
- Point of Release

N

0 70 140 280 420

Feet

*Surface Water Protection Map*
*Kachina 8 Federal #001- Devon Energy*
*Sec 8 T18S R33E Eddy County, New Mexico*

*Figure 2*

P:\5-Devon MSA 2020 (5E29133)\GIS\DEVON_MSA_2020.aprx
Date Saved: 3/25/2020

Revisions
By: _____ Date: _____ Descr: _____
By: _____ Date: _____ Descr: _____



Drawn Sebastian Orozco
Date 3/27/2020
Checked
Approved

SMA
201 South Halaguena Street
Carlsbad, New Mexico 88221
(575) 689-7040
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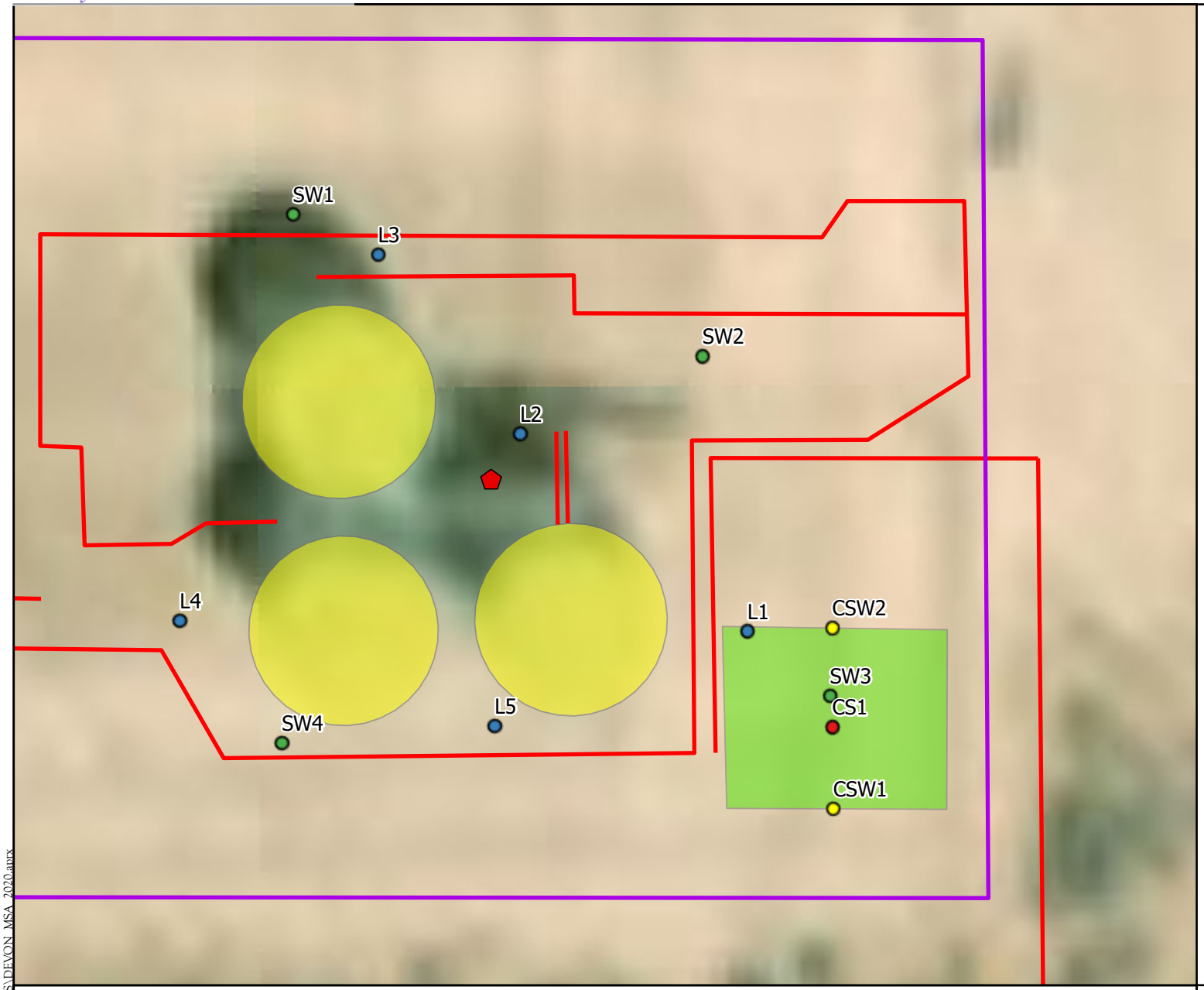



Pipelines
Other
Storage Tanks
Excavation

## Sample Points

Bottom Hole Closure Samples
Side Wall Samples
Initial Soil Samples
Side Wall Closure Samples
Point of Release (1RP-5171)

N

0 4.5 9 18 27

Feet

*Site and Sample Location Map*
*Kachina 8 Federal #001- Devon Energy*
*Sec 8 T18S R33E Eddy County, New Mexico*

*Figure 3*

P:\5-Devon MSA 2020 (5E29133)\GIS\DEVON_MSA_2020.mxs
Date Saved: 7/20/2020

Revisions
By: _____ Date: _____ Descr: _____
By: _____ Date: _____ Descr: _____



Drawn Sebastian Orozco
Date 7/22/2020
Checked
Approved

SMA
201 South Halaguena Street
Carlsbad, New Mexico 88221
(575) 689-7040
Serving the Southwest & Rocky Mountains

# TABLES

Table 2:
NMOCD Closure Criteria

Devon Energy
Kachina 8 Federal 1(1RP-5171)

| Site Information (19.15.29.11.A(2, 3, and 4) NMAC) | | Source/Notes |
|---|---|---|
| **Depth to Groundwater (feet bgs)** | 100 | Office of the State Engineer (OSE) |
| **Hortizontal Distance From All Water Sources Within 1/2 Mile (ft)** | 1,236 | Office of the State Engineer (OSE) |
| **Hortizontal Distance to Nearest Significant Watercourse (ft)** | 7,383 | Unnamed Draw |

| Closure Criteria (19.15.29.12.B(4) and Table 1 NMAC) | | | | | | |
|---|---|---|---|---|---|---|
| **Depth to Groundwater** | | **Closure Criteria (units in mg/kg)** | | | | |
| | | **Chloride** *numerical limit or background, whichever is greater | **TPH** | **GRO + DRO** | **BTEX** | **Benzene** |
| < 50' BGS | | 600 | 100 | | 50 | 10 |
| 51' to 100' | X | 10000 | 2500 | 1000 | 50 | 10 |
| >100' | | 20000 | 2500 | 1000 | 50 | 10 |
| **Surface Water** | **yes or no** | **if yes, then** | | | | |
| <300' from continuously flowing watercourse or other significant watercourse? | No | 600 | 100 | | 50 | 10 |
| <200' from lakebed, sinkhole or playa lake? | No | | | | | |
| **Water Well or Water Source** | | | | | | |
| <500 feet from spring or a private, domestic fresh water well used by less than 5 households for domestic or stock watering purposes? | No | | | | | |
| <1000' from fresh water well or spring? | No | | | | | |
| **Human and Other Areas** | | | | | | |
| <300' from an occupied permanent residence, school, hospital, institution or church? | No | | | | | |
| within incorporated municipal boundaries or within a defined municipal fresh water well field? | No | | | | | |
| <100' from wetland? | No | | | | | |
| within area overlying a subsurface mine | No | | | | | |
| within an unstable area? | No | | | | | |
| within a 100-year floodplain? | No | | | | | |

| Sample ID | Sample Date | Depth (feet bgs) | Proposed Action/ Action Taken | BTEX mg/Kg | Benzene mg/Kg | GRO mg/Kg | DRO mg/Kg | MRO mg/Kg | **Total TPH** mg/Kg | Cl- mg/Kg |
|---|---|---|---|---|---|---|---|---|---|---|
| NMOCD Closure Criteria | | | | 50 | 10 | 1,000 | | | 2,500 | 10,000 |
| L1 | 3/25/2020 | surface | in-situ | <0.208 | <0.023 | <4.6 | 170 | 480 | 650 | 5,800 |
| | | 1 | in-situ | <0.219 | <0.024 | <4.9 | 20 | <49 | 20 | 1,500 |
| | | 2 | in-situ | <0.215 | <0.024 | <4.8 | <10 | <50 | <64.8 | 420 |
| | | 2.5 | in-situ | <0.211 | <0.023 | <4.7 | <9.4 | <47 | <61.1 | 390 |
| L2 | 3/25/2020 | surface | in-situ | <0.215 | <0.024 | <4.8 | 160 | 570 | 730 | 520 |
| | | 1 | in-situ | <0.212 | <0.024 | <4.7 | 200 | 440 | 640 | 2,700 |
| | | 1.5 | in-situ | <0.216 | <0.024 | <4.8 | 350 | 570 | 920 | 960 |
| | | 2 | in-situ | <0.210 | <0.023 | <4.7 | 80 | 200 | 280 | 460 |
| | | 2.5 | in-situ | <0.213 | <0.024 | <4.7 | <8.8 | <44 | <57.5 | 160 |
| L3 | 3/25/2020 | surface | in-situ | <0.207 | <0.023 | <4.6 | <9.4 | <47 | <61 | <60 |
| | | 1 | in-situ | <0.208 | <0.023 | <4.6 | <9.7 | 55 | 55 | <60 |
| L4 | 3/25/2020 | surface | in-situ | <0.219 | <0.024 | <4.9 | 10 | <43 | 10 | 83 |
| | | 1 | in-situ | <0.212 | <0.024 | <4.7 | 8.3 | <37 | 8.3 | <60 |
| L5 | 3/25/2020 | surface | in-situ | <0.210 | <0.023 | <4.7 | 9.4 | <46 | 9.4 | 78 |
| | | 1 | in-situ | <0.211 | <0.023 | <4.7 | 240 | 460 | 700 | 310 |
| | 4/28/2020 | 1.5 | in-situ | - | - | <4.8 | 46 | 180 | 226 | <60 |
| | | 2 | in-situ | - | - | <4.8 | 55 | 210 | 265 | <59 |
| SW1 | 3/25/2020 | surface | in-situ | <0.216 | <0.024 | <4.8 | 35 | 84 | 119 | 380 |
| SW2 | 3/25/2020 | surface | in-situ | <0.208 | <0.023 | <4.6 | 44 | 110 | 154 | <60 |
| SW3 | 3/25/2020 | surface | excavate | <0.217 | <0.024 | <4.8 | 5,900 | 5,000 | 10,900 | 160 |
| | 4/28/2020 | surface | in-situ | <0.211 | <0.023 | <4.7 | <9.6 | <48 | <62.3 | 66 |
| SW4 | 3/25/2020 | surface | in-situ | <0.224 | <0.025 | <5.0 | 300 | 920 | 1,220 | <60 |
| | 4/28/2020 | surface | in-situ | <0.225 | <0.025 | <5.0 | <9.6 | <48 | <62.6 | <60 |
| **Closure Samples** | | | | | | | | | | |
| CS1 | 6/24/2020 | 0.5 | excavated | <0.219 | <0.024 | <4.9 | 1700 | 3200 | 4,900 | 1900 |
| | 7/9/2020 | 1 | in-situ | <0.300 | <0.050 | <10.0 | <10.0 | <10.0 | <30.0 | 272 |
| SW1 | 6/24/2020 | 0-0.5 | excavated | <0.219 | <0.025 | <4.9 | 140 | 260 | 400 | 1000 |
| | 7/9/2020 | 0-1 | in-situ | <0.300 | <0.050 | <10.0 | <10.0 | <10.0 | <30.0 | 160 |
| SW2 | 6/24/2020 | 0-0.5 | excavated | <0.0219 | <0.025 | <4.9 | 140 | 290 | 430 | 1100 |
| | 7/9/2020 | 0-1 | in-situ | <0.300 | <0.050 | <10.0 | <10.0 | <10.0 | <30.0 | 128 |

"--" = Not Analyzed

# APPENDIX A
# FORM C141

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

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

Form C-141
Revised April 3, 2017

Submit 1 Copy to appropriate District Office in accordance with 19.15.29 NMAC.

# Release Notification and Corrective Action

## OPERATOR

☒ Initial Report ☐ Final Report

| | |
|---|---|
| Name of Company Devon Energy Production Company | Contact Steve McGlasson, Production Foreman |
| Address 6488 Seven Rivers Hwy Artesia, NM 88210 | Telephone No. 575-748-3371 |
| Facility Name Kachina 8 Fed 1 | Facility Type Oil |

| | | |
|---|---|---|
| Surface Owner Federal | Mineral Owner Federal | API No. 30-025-30986 |

## LOCATION OF RELEASE

| Unit Letter | Section | Township | Range | Feet from the | North/South Line | Feet from the | East/West Line | County |
|---|---|---|---|---|---|---|---|---|
| C | 8 | 18S | 33E | 660 | FNL | 1830 | FWL | Eddy |

**Latitude**_32.7673416_ **Longitude**_103.6879425_ NAD83

## NATURE OF RELEASE

| | | |
|---|---|---|
| Type of Release<br>Produced Water (PW) | Volume of Release<br>45BBLS PW | Volume Recovered<br>40BBLS PW |
| Source of Release<br>Water dump line | Date and Hour of Occurrence<br>August 2, 2018 @ 3:00 PM MST | Date and Hour of Discovery<br>August 2, 2018 @ 3:00 PM MST |
| Was Immediate Notice Given?<br>☒ Yes ☐ No ☐ Not Required | If YES, To Whom?<br>Olivia Yu, NMOCD<br>Christina Hernandez NMOCD<br>Shelly Tucker, BLM | |
| By Whom?<br>Brett Fulks, EHS Professional | Date and Hour<br>08/03/2018 5:11PM | |
| Was a Watercourse Reached?<br>☐ Yes ☒ No | If YES, Volume Impacting the Watercourse.<br>N/A | |

If a Watercourse was Impacted, Describe Fully.*
N/A

**RECEIVED**
**By CHernandez at 12:14 pm, Aug 23, 2018**

Describe Cause of Problem and Remedial Action Taken.*
The produced water line from the heater to the water tank developed a leak inside the containment. The line was isolated to prevent any further release. Repairs were made.

Describe Area Affected and Cleanup Action Taken.*
Approximately 45bbls of pw was released into unlined secondary containment. Approximately 40bbls of pw was recovered.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD 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 NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD 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.

Signature: Dana DeLaRosa

Printed Name: Dana DeLaRosa

Title: Field Admin Support

E-mail Address: dana.delarosa@dvn.com

Date: Phone: 575.748.3371

## OIL CONSERVATION DIVISION

Approved by Environmental Specialist: EH

Approval Date: 8/23/2018 Expiration Date:

Conditions of Approval:
NMAC 19.15.29 effective August 14, 2018. Complete release characterization before any significant remediation.

Attached ☐

* Attach Additional Sheets If Necessary

1RP-5171

nCH1823545305



pCH1823545532

State of New Mexico
Oil Conservation Division

| | |
|---|---|
| Incident ID | nCH1823545305 |
| District RP | 1RP-5171 |
| Facility ID | |
| Application ID | pCH1823545532 |

# 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? | 100 (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.

Form C-141
Page 4

State of New Mexico
Oil Conservation Division

| | |
|---|---|
| Incident ID | nCH1823545305 |
| District RP | 1RP-5171 |
| Facility ID | |
| Application ID | pCH1823545532 |

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: Tom Bynum Title: EHS Consultant

Signature: Tom Bynum Date: 7/22/2020

email: tom.bynum@dvn.com Telephone: 575-748-0176

**OCD Only**

Received by: _____ Date: _____

State of New Mexico
Oil Conservation Division

| | |
|---|---|
| Incident ID | nCH1823545305 |
| District RP | 1RP-5171 |
| Facility ID | |
| Application ID | pCH1823545532 |

# 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: Tom Bynum Title: EHS Consultant

Signature: Tom Bynum Date: 7/22/2020

email: tom.bynum@dvn.com Telephone: 575-748-0176

**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: _____

# Kachina 8 Fed 1

## 45BBLS PW_8.2.2018

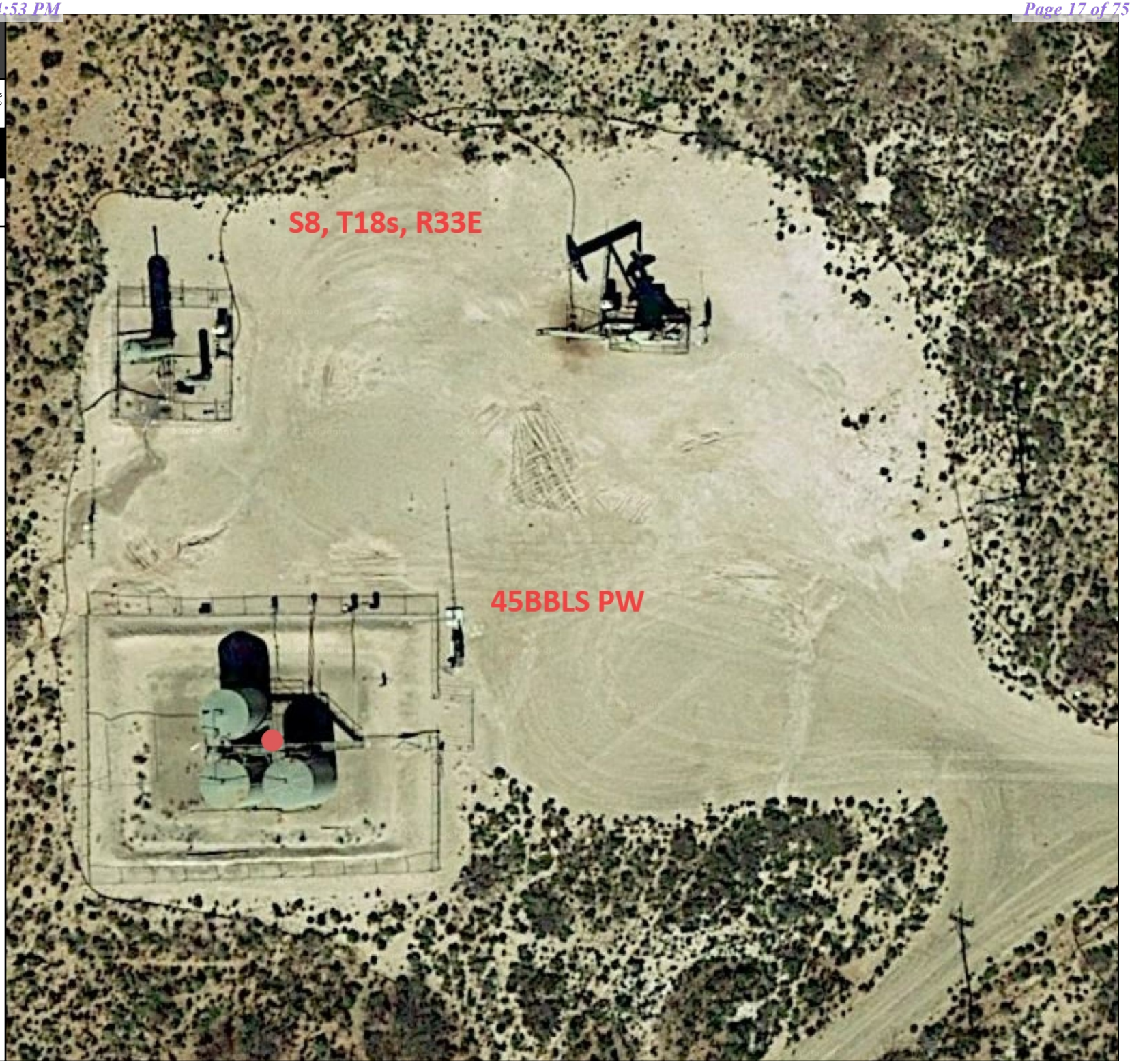
devon

This map is for illustrative purposes only and is neither a legally recorded map nor survey and is not intended to be used as one. Devon makes no warranty, representation, or guarantee of any kind regarding this map.

WGS_1984_Web_Mercator_Auxiliary_Sphere
Prepared by: Dana DeLaRosa
Map is current as of: 07-Aug-2018

N

Miles
0 0.00 0.00 0.01 1:445



# APPENDIX B
# NMOSE WELLS REPORT

*New Mexico Office of the State Engineer*

# Water Column/Average Depth to Water

(A CLW##### in the POD suffix indicates the POD has been replaced & no longer serves a water right file.)

(R=POD has been replaced, O=orphaned, C=the file is closed)

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

| POD Number | Code | POD Sub-basin | County | Q 64 | Q 16 | Q 4 | Sec | Tws | Rng | X | Y | Distance | Depth Well | Depth Water | Water Column |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| L 06131 | | L | LE | 3 | 1 | 2 | 08 | 18S | 33E | 623241 | 3626167* | 359 | 194 | 100 | 94 |

Average Depth to Water: **100 feet**

Minimum Depth: **100 feet**

Maximum Depth: **100 feet**

**Record Count:** 1

**UTMNAD83 Radius Search (in meters):**

**Easting (X):** 622892.971 **Northing (Y):** 3626255.944 **Radius:** 805

***UTM location was derived from PLSS - see Help**

# APPENDIX C
# SAMPLING PROTOCOL & FIELD NOTES

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

# Sampling Protocol

Representatives from SMA chose the Judgmental Sampling Method as described in EPA's Final Sampling Guidance for SW-846, 2002 to adequately quantify contaminant concentrations on Cotton Draw Unit #294H Location. The utility of this particular method functions on the sufficient knowledge of the contaminant, which we possess. This design is also useful when identifying the composition of a release, which we have documented. In addition, this sampling design was chosen for this project because of the locations uniform soil type, and the several operational considerations (such as the liner within the battery and the construction of a new facility) that precluded the implementation of a different statistical design.

The soil samples were collected in laboratory supplied containers in accordance with this sampling protocol, immediately placed on ice and sent under standard chain-of-custody protocols to Hall Environmental Analysis Laboratory (HEAL) in Albuquerque, New Mexico for analysis. A total of eight (8) samples were collected for laboratory analysis for total chloride using EPA Method 300.0; benzene, toluene, ethylbenzene and total xylenes (BTEX) using EPA Method 8021B; and motor, diesel and gasoline range organics (MRO, DRO, and GRO) by EPA Method 8015D.

# Sampling Analysis Field Quality Assurance Procedures

A unique sample numbering was used to identify each sample collected and designated for on-site and off-site laboratory analysis. The purpose of this numbering scheme was to provide a tracking system for the retrieval of analytical and field data on each sample. Sample identification numbers were recorded on sample labels or tags, field notes, chain-of-custody records (COC) and all other applicable documentation used during the project. Sample labels were affixed to all sample containers during sampling activities. Information was recorded on each sample container label at the time of sample collection. The information recorded on the labels were as follows: sample identification number; sample type (discrete or composite); site name and area/location number; analysis to be performed; type of chemical preservative present in container; date and time of sample collection; and sample collector's name and initials. All samples were packed in ice in an approved rigid body container, custody sealed signed and shipped to the appropriate laboratory via insured currier service.

COC procedures implemented for the project provided documentation of the handling of each sample from the time of collection until completion of laboratory analysis. A COC form serves as a legal record of possession of the sample. A sample is considered to be under custody if one or more of the following criteria are met: the sample is in the sampler's possession; the sample is in the sampler's view after being in possession; the sample was in the sampler's possession and then was placed into a locked area to prevent tampering; and/or the sample is in a designated secure area. Custody was documented throughout the project field sampling activities by a chain-of custody form initiated each day during which samples are collected. Container custody seals placed on either individual samples or on the rigid body container were used to ensure that no sample tampering occurs between the time the samples are placed into the containers and the time the containers are opened for analysis at the laboratory. Container custody seals were signed and dated by the individual responsible for completing the COC form contained within the container.

# APPENDIX D

# LABORATORY ANALYTICAL REPORTS

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

July 13, 2020

ASHLEY MAXWELL

SOUDER MILLER AND ASSOCIATES

201 S. HALAGUENO

CARLSBAD, NM 88220

RE: KACHINA 8

Enclosed are the results of analyses for samples received by the laboratory on 07/09/20 12:00.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-20-13. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

Cardinal Laboratories is accreditated through the State of Colorado Department of Public Health and Environment for:

| | |
|---|---|
| Method EPA 552.2 | Haloacetic Acids (HAA-5) |
| Method EPA 524.2 | Total Trihalomethanes (TTHM) |
| Method EPA 524.4 | Regulated VOCs (V1, V2, V3) |

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Celey D. Keene

Celey D. Keene

Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

## Analytical Results For:

SOUDER MILLER AND ASSOCIATES
ASHLEY MAXWELL
201 S. HALAGUENO
CARLSBAD NM, 88220
Fax To: NONE

| | | | |
|---|---|---|---|
| Received: | 07/09/2020 | Sampling Date: | 07/09/2020 |
| Reported: | 07/13/2020 | Sampling Type: | Soil |
| Project Name: | KACHINA 8 | Sampling Condition: | ** (See Notes) |
| Project Number: | NONE GIVEN | Sample Received By: | Tamara Oldaker |
| Project Location: | NOT GIVEN | | |

### Sample ID: CS 1 (H001802-01)

**BTEX 8021B** mg/kg Analyzed By: MS

| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
|---|---|---|---|---|---|---|---|---|---|
| Benzene* | <0.050 | 0.050 | 07/10/2020 | ND | 1.85 | 92.6 | 2.00 | 4.67 | |
| Toluene* | <0.050 | 0.050 | 07/10/2020 | ND | 1.86 | 93.1 | 2.00 | 4.79 | |
| Ethylbenzene* | <0.050 | 0.050 | 07/10/2020 | ND | 1.87 | 93.5 | 2.00 | 4.91 | |
| Total Xylenes* | <0.150 | 0.150 | 07/10/2020 | ND | 5.38 | 89.7 | 6.00 | 4.90 | |
| Total BTEX | <0.300 | 0.300 | 07/10/2020 | ND | | | | | |

*Surrogate: 4-Bromofluorobenzene (PID* *95.7 %* *73.3-129*

**Chloride, SM4500Cl-B** mg/kg Analyzed By: GM

| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
|---|---|---|---|---|---|---|---|---|---|
| **Chloride** | **272** | 16.0 | 07/10/2020 | ND | 416 | 104 | 400 | 3.77 | |

**TPH 8015M** mg/kg Analyzed By: MS

| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
|---|---|---|---|---|---|---|---|---|---|
| GRO C6-C10* | <10.0 | 10.0 | 07/09/2020 | ND | 207 | 103 | 200 | 1.29 | |
| DRO >C10-C28* | <10.0 | 10.0 | 07/09/2020 | ND | 240 | 120 | 200 | 14.5 | |
| EXT DRO >C28-C36 | <10.0 | 10.0 | 07/09/2020 | ND | | | | | |

*Surrogate: 1-Chlorooctane* *75.8 %* *44.3-144*

*Surrogate: 1-Chlorooctadecane* *78.0 %* *42.2-156*

Cardinal Laboratories *=Accredited Analyte



Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

## Notes and Definitions

| | |
|---|---|
| QR-03 | The RPD value for the sample duplicate or MS/MSD was outside of QC acceptance limits due to matrix interference. QC batch accepted based on LCS and/or LCSD recovery and/or RPD values. |
| QM-07 | The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery. |
| ND | Analyte NOT DETECTED at or above the reporting limit |
| RPD | Relative Percent Difference |
| ** | Samples not received at proper temperature of 6°C or below. |
| *** | Insufficient time to reach temperature. |
| - | Chloride by SM4500Cl-B does not require samples be received at or below 6°C |
| | Samples reported on an as received basis (wet) unless otherwise noted on report |

Cardinal Laboratories *=Accredited Analyte



Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

# CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

101 East Marland, Hobbs, NM 88240
(575) 393-2326 FAX (575) 393-2476

| | | | |
|---|---|---|---|
| Company Name: Souder Miller & Associates | | **BILL TO** | |
| Project Manager: Ashley Maxwell | | P.O. #: | |
| Address: 201 S Halagueno St | | Company: | |
| City: Carlsbad | State: NM Zip: | Attn: | |
| Phone #: | Fax #: | Address: | |
| Project #: | Project Owner: | City: | |
| Project Name: Kachina 8 | | State: Zip: | |
| Project Location: | | Phone #: | |
| Sampler Name: | | Fax #: | |

| FOR LAB USE ONLY | | | | MATRIX | | | | | | PRESERV. | | | SAMPLING | | ANALYSIS REQUEST | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lab I.D. | Sample I.D. | (G)RAB OR (C)OMP. | # CONTAINERS | GROUNDWATER | WASTEWATER | SOIL | OIL | SLUDGE | OTHER : | ACID/BASE: | ICE / COOL | OTHER : | DATE | TIME | Cl | 8015D | BTEX 8021 | | | | | | | | |
| H001802-1 | CS1 | | | | | X | | | | | X | | 7/9/20 | 9:20 | X | X | X | | | | | | | | |

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising whether based in contract or tort, shall be limited to the amount paid by the client for the analyses. All claims, including those for negligence and any other cause whatsoever, shall be deemed waived unless made in writing and received by Cardinal within 30 days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequental damages including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise.

| | | | |
|---|---|---|---|
| Relinquished By: | Date: 7-9-20 Time: 1200 | Received By: Tamara Oldaker | Phone Result: ☐ Yes ☐ No Add'l Phone #: |
| Relinquished By: | Date: Time: | Received By: | Fax Result: ☐ Yes ☐ No Add'l Fax #: |
| Delivered By: (Circle One) Sampler - UPS - Bus - Other: 2.3°C #113 | Sample Condition Cool: ☑ Yes ☐ No Intact: ☑ Yes ☐ No | CHECKED BY: (Initials) T.O. | REMARKS: |

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

July 13, 2020

ASHLEY MAXWELL

SOUDER MILLER AND ASSOCIATES

201 S. HALAGUENO

CARLSBAD, NM 88220

RE: KACHINA 8

Enclosed are the results of analyses for samples received by the laboratory on 07/09/20 12:00.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-20-13. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

Cardinal Laboratories is accreditated through the State of Colorado Department of Public Health and Environment for:

| | |
|---|---|
| Method EPA 552.2 | Haloacetic Acids (HAA-5) |
| Method EPA 524.2 | Total Trihalomethanes (TTHM) |
| Method EPA 524.4 | Regulated VOCs (V1, V2, V3) |

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Celey D. Keene

Celey D. Keene

Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

## Analytical Results For:

SOUDER MILLER AND ASSOCIATES
ASHLEY MAXWELL
201 S. HALAGUENO
CARLSBAD NM, 88220
Fax To: NONE

| | | | |
|---|---|---|---|
| Received: | 07/09/2020 | Sampling Date: | 07/09/2020 |
| Reported: | 07/13/2020 | Sampling Type: | Soil |
| Project Name: | KACHINA 8 | Sampling Condition: | ** (See Notes) |
| Project Number: | NONE GIVEN | Sample Received By: | Tamara Oldaker |
| Project Location: | NOT GIVEN | | |

### Sample ID: CS 1 (H001802-01)

**BTEX 8021B** mg/kg Analyzed By: MS

| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
|---|---|---|---|---|---|---|---|---|---|
| Benzene* | <0.050 | 0.050 | 07/10/2020 | ND | 1.85 | 92.6 | 2.00 | 4.67 | |
| Toluene* | <0.050 | 0.050 | 07/10/2020 | ND | 1.86 | 93.1 | 2.00 | 4.79 | |
| Ethylbenzene* | <0.050 | 0.050 | 07/10/2020 | ND | 1.87 | 93.5 | 2.00 | 4.91 | |
| Total Xylenes* | <0.150 | 0.150 | 07/10/2020 | ND | 5.38 | 89.7 | 6.00 | 4.90 | |
| Total BTEX | <0.300 | 0.300 | 07/10/2020 | ND | | | | | |

*Surrogate: 4-Bromofluorobenzene (PID* *95.7 %* *73.3-129*

**Chloride, SM4500Cl-B** mg/kg Analyzed By: GM

| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
|---|---|---|---|---|---|---|---|---|---|
| **Chloride** | **272** | 16.0 | 07/10/2020 | ND | 416 | 104 | 400 | 3.77 | |

**TPH 8015M** mg/kg Analyzed By: MS

| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
|---|---|---|---|---|---|---|---|---|---|
| GRO C6-C10* | <10.0 | 10.0 | 07/09/2020 | ND | 207 | 103 | 200 | 1.29 | |
| DRO >C10-C28* | <10.0 | 10.0 | 07/09/2020 | ND | 240 | 120 | 200 | 14.5 | |
| EXT DRO >C28-C36 | <10.0 | 10.0 | 07/09/2020 | ND | | | | | |

*Surrogate: 1-Chlorooctane* *75.8 %* *44.3-144*

*Surrogate: 1-Chlorooctadecane* *78.0 %* *42.2-156*

Cardinal Laboratories *=Accredited Analyte



Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

## Notes and Definitions

| | |
|---|---|
| QR-03 | The RPD value for the sample duplicate or MS/MSD was outside of QC acceptance limits due to matrix interference. QC batch accepted based on LCS and/or LCSD recovery and/or RPD values. |
| QM-07 | The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery. |
| ND | Analyte NOT DETECTED at or above the reporting limit |
| RPD | Relative Percent Difference |
| ** | Samples not received at proper temperature of 6°C or below. |
| *** | Insufficient time to reach temperature. |
| - | Chloride by SM4500Cl-B does not require samples be received at or below 6°C |
| | Samples reported on an as received basis (wet) unless otherwise noted on report |

Cardinal Laboratories *=Accredited Analyte



Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

# CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

101 East Marland, Hobbs, NM 88240
(575) 393-2326 FAX (575) 393-2476

| | | | |
|---|---|---|---|
| Company Name: Souder Miller & Associates | | **BILL TO** | |
| Project Manager: Ashley Maxwell | | P.O. #: | |
| Address: 201 S Halagueno St | | Company: | |
| City: Carlsbad | State: NM Zip: | Attn: | |
| Phone #: | Fax #: | Address: | |
| Project #: | Project Owner: | City: | |
| Project Name: Kachina 8 | | State: Zip: | |
| Project Location: | | Phone #: | |
| Sampler Name: | | Fax #: | |

| FOR LAB USE ONLY | | | | MATRIX | | | | | | PRESERV. | | | SAMPLING | | ANALYSIS REQUEST | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lab I.D. | Sample I.D. | (G)RAB OR (C)OMP. | # CONTAINERS | GROUNDWATER | WASTEWATER | SOIL | OIL | SLUDGE | OTHER : | ACID/BASE: | ICE / COOL | OTHER : | DATE | TIME | Cl | 8015D | BTEX 8021 | | | | | | | | |
| H001802-1 | CS1 | | | | | X | | | | | X | | 7/9/20 | 9:20 | X | X | X | | | | | | | | |

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising whether based in contract or tort, shall be limited to the amount paid by the client for the analyses. All claims, including those for negligence and any other cause whatsoever, shall be deemed waived unless made in writing and received by Cardinal within 30 days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequental damages including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise.

| | | | |
|---|---|---|---|
| Relinquished By: | Date: 7-9-20 Time: 1200 | Received By: Tamara Oldaker | Phone Result: ☐ Yes ☐ No Add'l Phone #: |
| Relinquished By: | Date: Time: | Received By: | Fax Result: ☐ Yes ☐ No Add'l Fax #: |
| Delivered By: (Circle One) Sampler - UPS - Bus - Other: 2.3°C #113 | Sample Condition Cool: ☑ Yes ☐ No Intact: ☑ Yes ☐ No | CHECKED BY: (Initials) T.O. | REMARKS: |

**Analytical Report**
Lab Order **2003C19**
Date Reported:

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Souder, Miller & Associates
**Client Sample ID:** L1- Surface
**Project:** Kachina 8 Federal 001
**Collection Date:** 3/25/2020 10:00:00 AM
**Lab ID:** 2003C19-001 **Matrix:** SOIL
**Received Date:** 3/27/2020 8:25:00 AM

| Analyses | Result | RL | Qual | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|
| **EPA METHOD 300.0: ANIONS** | | | | | | Analyst: **JMT** | |
| Chloride | 5800 | 300 | | mg/Kg | 100 | 3/31/2020 2:13:21 PM | 51424 |
| **EPA METHOD 8015M/D: DIESEL RANGE ORGANICS** | | | | | | Analyst: **BRM** | |
| Diesel Range Organics (DRO) | 170 | 47 | | mg/Kg | 5 | 4/1/2020 3:58:06 PM | 51399 |
| Motor Oil Range Organics (MRO) | 480 | 230 | | mg/Kg | 5 | 4/1/2020 3:58:06 PM | 51399 |
| Surr: DNOP | 89.0 | 55.1-146 | | %Rec | 5 | 4/1/2020 3:58:06 PM | 51399 |
| **EPA METHOD 8015D: GASOLINE RANGE** | | | | | | Analyst: **NSB** | |
| Gasoline Range Organics (GRO) | ND | 4.6 | | mg/Kg | 1 | 3/30/2020 2:24:29 PM | 51394 |
| Surr: BFB | 96.5 | 66.6-105 | | %Rec | 1 | 3/30/2020 2:24:29 PM | 51394 |
| **EPA METHOD 8021B: VOLATILES** | | | | | | Analyst: **NSB** | |
| Benzene | ND | 0.023 | | mg/Kg | 1 | 3/30/2020 2:24:29 PM | 51394 |
| Toluene | ND | 0.046 | | mg/Kg | 1 | 3/30/2020 2:24:29 PM | 51394 |
| Ethylbenzene | ND | 0.046 | | mg/Kg | 1 | 3/30/2020 2:24:29 PM | 51394 |
| Xylenes, Total | ND | 0.093 | | mg/Kg | 1 | 3/30/2020 2:24:29 PM | 51394 |
| Surr: 4-Bromofluorobenzene | 108 | 80-120 | | %Rec | 1 | 3/30/2020 2:24:29 PM | 51394 |

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 | Value above quantitation range |
| 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 range due to dilution or matrix | | |

**Analytical Report**
Lab Order **2003C19**
Date Reported:

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Souder, Miller & Associates
**Client Sample ID:** L1- 1'
**Project:** Kachina 8 Federal 001
**Collection Date:** 3/25/2020 10:05:00 AM
**Lab ID:** 2003C19-002 **Matrix:** SOIL
**Received Date:** 3/27/2020 8:25:00 AM

| Analyses | Result | RL | Qual | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|
| **EPA METHOD 300.0: ANIONS** | | | | | | Analyst: **JMT** | |
| Chloride | 1500 | 60 | | mg/Kg | 20 | 3/30/2020 7:05:56 PM | 51424 |
| **EPA METHOD 8015M/D: DIESEL RANGE ORGANICS** | | | | | | Analyst: **BRM** | |
| Diesel Range Organics (DRO) | 20 | 9.8 | | mg/Kg | 1 | 3/31/2020 1:55:13 PM | 51399 |
| Motor Oil Range Organics (MRO) | ND | 49 | | mg/Kg | 1 | 3/31/2020 1:55:13 PM | 51399 |
| Surr: DNOP | 84.3 | 55.1-146 | | %Rec | 1 | 3/31/2020 1:55:13 PM | 51399 |
| **EPA METHOD 8015D: GASOLINE RANGE** | | | | | | Analyst: **NSB** | |
| Gasoline Range Organics (GRO) | ND | 4.9 | | mg/Kg | 1 | 3/30/2020 3:34:57 PM | 51394 |
| Surr: BFB | 96.7 | 66.6-105 | | %Rec | 1 | 3/30/2020 3:34:57 PM | 51394 |
| **EPA METHOD 8021B: VOLATILES** | | | | | | Analyst: **NSB** | |
| Benzene | ND | 0.024 | | mg/Kg | 1 | 3/30/2020 3:34:57 PM | 51394 |
| Toluene | ND | 0.049 | | mg/Kg | 1 | 3/30/2020 3:34:57 PM | 51394 |
| Ethylbenzene | ND | 0.049 | | mg/Kg | 1 | 3/30/2020 3:34:57 PM | 51394 |
| Xylenes, Total | ND | 0.097 | | mg/Kg | 1 | 3/30/2020 3:34:57 PM | 51394 |
| Surr: 4-Bromofluorobenzene | 109 | 80-120 | | %Rec | 1 | 3/30/2020 3:34:57 PM | 51394 |

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 | Value above quantitation range |
| 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 range due to dilution or matrix | | |

**Analytical Report**
Lab Order **2003C19**
Date Reported:

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Souder, Miller & Associates
**Client Sample ID:** L1- 2'
**Project:** Kachina 8 Federal 001
**Collection Date:** 3/25/2020 12:19:00 PM
**Lab ID:** 2003C19-003 **Matrix:** SOIL
**Received Date:** 3/27/2020 8:25:00 AM

| Analyses | Result | RL | Qual | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|
| **EPA METHOD 300.0: ANIONS** | | | | | | Analyst: | **JMT** |
| Chloride | 420 | 60 | | mg/Kg | 20 | 3/30/2020 7:43:10 PM | 51424 |
| **EPA METHOD 8015M/D: DIESEL RANGE ORGANICS** | | | | | | Analyst: | **BRM** |
| Diesel Range Organics (DRO) | ND | 10 | | mg/Kg | 1 | 3/31/2020 2:19:41 PM | 51399 |
| Motor Oil Range Organics (MRO) | ND | 50 | | mg/Kg | 1 | 3/31/2020 2:19:41 PM | 51399 |
| Surr: DNOP | 88.5 | 55.1-146 | | %Rec | 1 | 3/31/2020 2:19:41 PM | 51399 |
| **EPA METHOD 8015D: GASOLINE RANGE** | | | | | | Analyst: | **NSB** |
| Gasoline Range Organics (GRO) | ND | 4.8 | | mg/Kg | 1 | 3/30/2020 4:45:23 PM | 51394 |
| Surr: BFB | 98.8 | 66.6-105 | | %Rec | 1 | 3/30/2020 4:45:23 PM | 51394 |
| **EPA METHOD 8021B: VOLATILES** | | | | | | Analyst: | **NSB** |
| Benzene | ND | 0.024 | | mg/Kg | 1 | 3/30/2020 4:45:23 PM | 51394 |
| Toluene | ND | 0.048 | | mg/Kg | 1 | 3/30/2020 4:45:23 PM | 51394 |
| Ethylbenzene | ND | 0.048 | | mg/Kg | 1 | 3/30/2020 4:45:23 PM | 51394 |
| Xylenes, Total | ND | 0.095 | | mg/Kg | 1 | 3/30/2020 4:45:23 PM | 51394 |
| Surr: 4-Bromofluorobenzene | 103 | 80-120 | | %Rec | 1 | 3/30/2020 4:45:23 PM | 51394 |

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 | Value above quantitation range |
| 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 range due to dilution or matrix | | |

**Analytical Report**
Lab Order **2003C19**
Date Reported:

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Souder, Miller & Associates
**Client Sample ID:** L1- 2.5'
**Project:** Kachina 8 Federal 001
**Collection Date:** 3/25/2020 12:49:00 PM
**Lab ID:** 2003C19-004 **Matrix:** SOIL
**Received Date:** 3/27/2020 8:25:00 AM

| Analyses | Result | RL | Qual | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|
| **EPA METHOD 300.0: ANIONS** | | | | | | Analyst: **JMT** | |
| Chloride | 390 | 60 | | mg/Kg | 20 | 3/30/2020 7:55:34 PM | 51424 |
| **EPA METHOD 8015M/D: DIESEL RANGE ORGANICS** | | | | | | Analyst: **BRM** | |
| Diesel Range Organics (DRO) | ND | 9.4 | | mg/Kg | 1 | 3/31/2020 2:44:03 PM | 51399 |
| Motor Oil Range Organics (MRO) | ND | 47 | | mg/Kg | 1 | 3/31/2020 2:44:03 PM | 51399 |
| Surr: DNOP | 85.9 | 55.1-146 | | %Rec | 1 | 3/31/2020 2:44:03 PM | 51399 |
| **EPA METHOD 8015D: GASOLINE RANGE** | | | | | | Analyst: **NSB** | |
| Gasoline Range Organics (GRO) | ND | 4.7 | | mg/Kg | 1 | 3/30/2020 5:08:51 PM | 51394 |
| Surr: BFB | 98.6 | 66.6-105 | | %Rec | 1 | 3/30/2020 5:08:51 PM | 51394 |
| **EPA METHOD 8021B: VOLATILES** | | | | | | Analyst: **NSB** | |
| Benzene | ND | 0.023 | | mg/Kg | 1 | 3/30/2020 5:08:51 PM | 51394 |
| Toluene | ND | 0.047 | | mg/Kg | 1 | 3/30/2020 5:08:51 PM | 51394 |
| Ethylbenzene | ND | 0.047 | | mg/Kg | 1 | 3/30/2020 5:08:51 PM | 51394 |
| Xylenes, Total | ND | 0.094 | | mg/Kg | 1 | 3/30/2020 5:08:51 PM | 51394 |
| Surr: 4-Bromofluorobenzene | 104 | 80-120 | | %Rec | 1 | 3/30/2020 5:08:51 PM | 51394 |

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 | Value above quantitation range |
| 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 range due to dilution or matrix | | |

**Analytical Report**
Lab Order **2003C19**
Date Reported:

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Souder, Miller & Associates
**Client Sample ID:** L2- Surface
**Project:** Kachina 8 Federal 001
**Collection Date:** 3/25/2020 10:12:00 AM
**Lab ID:** 2003C19-005 **Matrix:** SOIL
**Received Date:** 3/27/2020 8:25:00 AM

| Analyses | Result | RL | Qual | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|
| **EPA METHOD 300.0: ANIONS** | | | | | | Analyst: **JMT** | |
| Chloride | 520 | 60 | | mg/Kg | 20 | 3/30/2020 8:07:58 PM | 51424 |
| **EPA METHOD 8015M/D: DIESEL RANGE ORGANICS** | | | | | | Analyst: **BRM** | |
| Diesel Range Organics (DRO) | 160 | 39 | | mg/Kg | 5 | 4/1/2020 5:10:58 PM | 51399 |
| Motor Oil Range Organics (MRO) | 570 | 190 | | mg/Kg | 5 | 4/1/2020 5:10:58 PM | 51399 |
| Surr: DNOP | 87.3 | 55.1-146 | | %Rec | 5 | 4/1/2020 5:10:58 PM | 51399 |
| **EPA METHOD 8015D: GASOLINE RANGE** | | | | | | Analyst: **NSB** | |
| Gasoline Range Organics (GRO) | ND | 4.8 | | mg/Kg | 1 | 3/30/2020 6:43:02 PM | 51394 |
| Surr: BFB | 97.2 | 66.6-105 | | %Rec | 1 | 3/30/2020 6:43:02 PM | 51394 |
| **EPA METHOD 8021B: VOLATILES** | | | | | | Analyst: **NSB** | |
| Benzene | ND | 0.024 | | mg/Kg | 1 | 3/30/2020 6:43:02 PM | 51394 |
| Toluene | ND | 0.048 | | mg/Kg | 1 | 3/30/2020 6:43:02 PM | 51394 |
| Ethylbenzene | ND | 0.048 | | mg/Kg | 1 | 3/30/2020 6:43:02 PM | 51394 |
| Xylenes, Total | ND | 0.095 | | mg/Kg | 1 | 3/30/2020 6:43:02 PM | 51394 |
| Surr: 4-Bromofluorobenzene | 102 | 80-120 | | %Rec | 1 | 3/30/2020 6:43:02 PM | 51394 |

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 | Value above quantitation range |
| 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 range due to dilution or matrix | | |

**Analytical Report**
Lab Order **2003C19**
Date Reported:

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Souder, Miller & Associates
**Client Sample ID:** L2- 1'
**Project:** Kachina 8 Federal 001
**Collection Date:** 3/25/2020 10:16:00 AM
**Lab ID:** 2003C19-006 **Matrix:** SOIL
**Received Date:** 3/27/2020 8:25:00 AM

| Analyses | Result | RL | Qual | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|
| **EPA METHOD 300.0: ANIONS** | | | | | | Analyst: **JMT** | |
| Chloride | 2700 | 150 | | mg/Kg | 50 | 3/31/2020 2:25:43 PM | 51424 |
| **EPA METHOD 8015M/D: DIESEL RANGE ORGANICS** | | | | | | Analyst: **BRM** | |
| Diesel Range Organics (DRO) | 200 | 45 | | mg/Kg | 5 | 4/1/2020 5:35:29 PM | 51399 |
| Motor Oil Range Organics (MRO) | 440 | 230 | | mg/Kg | 5 | 4/1/2020 5:35:29 PM | 51399 |
| Surr: DNOP | 88.4 | 55.1-146 | | %Rec | 5 | 4/1/2020 5:35:29 PM | 51399 |
| **EPA METHOD 8015D: GASOLINE RANGE** | | | | | | Analyst: **NSB** | |
| Gasoline Range Organics (GRO) | ND | 4.7 | | mg/Kg | 1 | 3/30/2020 7:06:46 PM | 51394 |
| Surr: BFB | 97.8 | 66.6-105 | | %Rec | 1 | 3/30/2020 7:06:46 PM | 51394 |
| **EPA METHOD 8021B: VOLATILES** | | | | | | Analyst: **NSB** | |
| Benzene | ND | 0.024 | | mg/Kg | 1 | 3/30/2020 7:06:46 PM | 51394 |
| Toluene | ND | 0.047 | | mg/Kg | 1 | 3/30/2020 7:06:46 PM | 51394 |
| Ethylbenzene | ND | 0.047 | | mg/Kg | 1 | 3/30/2020 7:06:46 PM | 51394 |
| Xylenes, Total | ND | 0.094 | | mg/Kg | 1 | 3/30/2020 7:06:46 PM | 51394 |
| Surr: 4-Bromofluorobenzene | 103 | 80-120 | | %Rec | 1 | 3/30/2020 7:06:46 PM | 51394 |

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 | Value above quantitation range |
| 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 range due to dilution or matrix | | |

**Analytical Report**
Lab Order **2003C19**
Date Reported:

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Souder, Miller & Associates
**Client Sample ID:** L2- 1.5'
**Project:** Kachina 8 Federal 001
**Collection Date:** 3/25/2020 12:23:00 PM
**Lab ID:** 2003C19-007 **Matrix:** SOIL
**Received Date:** 3/27/2020 8:25:00 AM

| Analyses | Result | RL | Qual | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|
| **EPA METHOD 300.0: ANIONS** | | | | | | Analyst: | **JMT** |
| Chloride | 960 | 60 | | mg/Kg | 20 | 3/30/2020 8:32:47 PM | 51424 |
| **EPA METHOD 8015M/D: DIESEL RANGE ORGANICS** | | | | | | Analyst: | **BRM** |
| Diesel Range Organics (DRO) | 350 | 47 | | mg/Kg | 5 | 4/1/2020 8:26:36 PM | 51399 |
| Motor Oil Range Organics (MRO) | 570 | 240 | | mg/Kg | 5 | 4/1/2020 8:26:36 PM | 51399 |
| Surr: DNOP | 87.9 | 55.1-146 | | %Rec | 5 | 4/1/2020 8:26:36 PM | 51399 |
| **EPA METHOD 8015D: GASOLINE RANGE** | | | | | | Analyst: | **NSB** |
| Gasoline Range Organics (GRO) | ND | 4.8 | | mg/Kg | 1 | 3/30/2020 7:30:27 PM | 51394 |
| Surr: BFB | 93.8 | 66.6-105 | | %Rec | 1 | 3/30/2020 7:30:27 PM | 51394 |
| **EPA METHOD 8021B: VOLATILES** | | | | | | Analyst: | **NSB** |
| Benzene | ND | 0.024 | | mg/Kg | 1 | 3/30/2020 7:30:27 PM | 51394 |
| Toluene | ND | 0.048 | | mg/Kg | 1 | 3/30/2020 7:30:27 PM | 51394 |
| Ethylbenzene | ND | 0.048 | | mg/Kg | 1 | 3/30/2020 7:30:27 PM | 51394 |
| Xylenes, Total | ND | 0.096 | | mg/Kg | 1 | 3/30/2020 7:30:27 PM | 51394 |
| Surr: 4-Bromofluorobenzene | 99.7 | 80-120 | | %Rec | 1 | 3/30/2020 7:30:27 PM | 51394 |

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 | Value above quantitation range |
| 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 range due to dilution or matrix | | |

**Analytical Report**
Lab Order **2003C19**
Date Reported:

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Souder, Miller & Associates
**Client Sample ID:** L2- 2'
**Project:** Kachina 8 Federal 001
**Collection Date:** 3/25/2020 12:25:00 PM
**Lab ID:** 2003C19-008 **Matrix:** SOIL **Received Date:** 3/27/2020 8:25:00 AM

| Analyses | Result | RL | Qual | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|
| **EPA METHOD 300.0: ANIONS** | | | | | | Analyst: **JMT** | |
| Chloride | 460 | 60 | | mg/Kg | 20 | 3/30/2020 8:45:11 PM | 51424 |
| **EPA METHOD 8015M/D: DIESEL RANGE ORGANICS** | | | | | | Analyst: **BRM** | |
| Diesel Range Organics (DRO) | 80 | 9.6 | | mg/Kg | 1 | 4/1/2020 12:43:10 PM | 51399 |
| Motor Oil Range Organics (MRO) | 200 | 48 | | mg/Kg | 1 | 4/1/2020 12:43:10 PM | 51399 |
| Surr: DNOP | 103 | 55.1-146 | | %Rec | 1 | 4/1/2020 12:43:10 PM | 51399 |
| **EPA METHOD 8015D: GASOLINE RANGE** | | | | | | Analyst: **NSB** | |
| Gasoline Range Organics (GRO) | ND | 4.7 | | mg/Kg | 1 | 3/30/2020 7:54:08 PM | 51394 |
| Surr: BFB | 94.8 | 66.6-105 | | %Rec | 1 | 3/30/2020 7:54:08 PM | 51394 |
| **EPA METHOD 8021B: VOLATILES** | | | | | | Analyst: **NSB** | |
| Benzene | ND | 0.023 | | mg/Kg | 1 | 3/30/2020 7:54:08 PM | 51394 |
| Toluene | ND | 0.047 | | mg/Kg | 1 | 3/30/2020 7:54:08 PM | 51394 |
| Ethylbenzene | ND | 0.047 | | mg/Kg | 1 | 3/30/2020 7:54:08 PM | 51394 |
| Xylenes, Total | ND | 0.093 | | mg/Kg | 1 | 3/30/2020 7:54:08 PM | 51394 |
| Surr: 4-Bromofluorobenzene | 101 | 80-120 | | %Rec | 1 | 3/30/2020 7:54:08 PM | 51394 |

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 | Value above quantitation range |
| 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 range due to dilution or matrix | | |

**Analytical Report**
Lab Order **2003C19**
Date Reported:

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Souder, Miller & Associates
**Client Sample ID:** L2- 2.5'
**Project:** Kachina 8 Federal 001
**Collection Date:** 3/25/2020 12:54:00 PM
**Lab ID:** 2003C19-009 **Matrix:** SOIL
**Received Date:** 3/27/2020 8:25:00 AM

| Analyses | Result | RL | Qual | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|
| **EPA METHOD 300.0: ANIONS** | | | | | | Analyst: **JMT** | |
| Chloride | 160 | 60 | | mg/Kg | 20 | 3/30/2020 8:57:36 PM | 51424 |
| **EPA METHOD 8015M/D: DIESEL RANGE ORGANICS** | | | | | | Analyst: **BRM** | |
| Diesel Range Organics (DRO) | ND | 8.8 | | mg/Kg | 1 | 3/31/2020 4:45:56 PM | 51399 |
| Motor Oil Range Organics (MRO) | ND | 44 | | mg/Kg | 1 | 3/31/2020 4:45:56 PM | 51399 |
| Surr: DNOP | 90.7 | 55.1-146 | | %Rec | 1 | 3/31/2020 4:45:56 PM | 51399 |
| **EPA METHOD 8015D: GASOLINE RANGE** | | | | | | Analyst: **NSB** | |
| Gasoline Range Organics (GRO) | ND | 4.7 | | mg/Kg | 1 | 3/30/2020 8:17:41 PM | 51394 |
| Surr: BFB | 93.5 | 66.6-105 | | %Rec | 1 | 3/30/2020 8:17:41 PM | 51394 |
| **EPA METHOD 8021B: VOLATILES** | | | | | | Analyst: **NSB** | |
| Benzene | ND | 0.024 | | mg/Kg | 1 | 3/30/2020 8:17:41 PM | 51394 |
| Toluene | ND | 0.047 | | mg/Kg | 1 | 3/30/2020 8:17:41 PM | 51394 |
| Ethylbenzene | ND | 0.047 | | mg/Kg | 1 | 3/30/2020 8:17:41 PM | 51394 |
| Xylenes, Total | ND | 0.095 | | mg/Kg | 1 | 3/30/2020 8:17:41 PM | 51394 |
| Surr: 4-Bromofluorobenzene | 99.0 | 80-120 | | %Rec | 1 | 3/30/2020 8:17:41 PM | 51394 |

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 | Value above quantitation range |
| 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 range due to dilution or matrix | | |

**Analytical Report**
Lab Order **2003C19**
Date Reported:

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Souder, Miller & Associates
**Client Sample ID:** L3- Surface
**Project:** Kachina 8 Federal 001
**Collection Date:** 3/25/2020 10:20:00 AM
**Lab ID:** 2003C19-010 **Matrix:** SOIL
**Received Date:** 3/27/2020 8:25:00 AM

| Analyses | Result | RL | Qual | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|
| **EPA METHOD 300.0: ANIONS** | | | | | | Analyst: **JMT** | |
| Chloride | ND | 60 | | mg/Kg | 20 | 3/30/2020 9:10:01 PM | 51424 |
| **EPA METHOD 8015M/D: DIESEL RANGE ORGANICS** | | | | | | Analyst: **BRM** | |
| Diesel Range Organics (DRO) | ND | 9.4 | | mg/Kg | 1 | 4/1/2020 1:07:25 PM | 51399 |
| Motor Oil Range Organics (MRO) | ND | 47 | | mg/Kg | 1 | 4/1/2020 1:07:25 PM | 51399 |
| Surr: DNOP | 107 | 55.1-146 | | %Rec | 1 | 4/1/2020 1:07:25 PM | 51399 |
| **EPA METHOD 8015D: GASOLINE RANGE** | | | | | | Analyst: **NSB** | |
| Gasoline Range Organics (GRO) | ND | 4.6 | | mg/Kg | 1 | 3/30/2020 8:41:15 PM | 51394 |
| Surr: BFB | 94.5 | 66.6-105 | | %Rec | 1 | 3/30/2020 8:41:15 PM | 51394 |
| **EPA METHOD 8021B: VOLATILES** | | | | | | Analyst: **NSB** | |
| Benzene | ND | 0.023 | | mg/Kg | 1 | 3/30/2020 8:41:15 PM | 51394 |
| Toluene | ND | 0.046 | | mg/Kg | 1 | 3/30/2020 8:41:15 PM | 51394 |
| Ethylbenzene | ND | 0.046 | | mg/Kg | 1 | 3/30/2020 8:41:15 PM | 51394 |
| Xylenes, Total | ND | 0.092 | | mg/Kg | 1 | 3/30/2020 8:41:15 PM | 51394 |
| Surr: 4-Bromofluorobenzene | 101 | 80-120 | | %Rec | 1 | 3/30/2020 8:41:15 PM | 51394 |

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 | Value above quantitation range |
| 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 range due to dilution or matrix | | |

**Analytical Report**
Lab Order **2003C19**
Date Reported:

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Souder, Miller & Associates
**Client Sample ID:** L3- 1'
**Project:** Kachina 8 Federal 001
**Collection Date:** 3/25/2020 10:24:00 AM
**Lab ID:** 2003C19-011 **Matrix:** SOIL
**Received Date:** 3/27/2020 8:25:00 AM

| Analyses | Result | RL | Qual | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|
| **EPA METHOD 300.0: ANIONS** | | | | | | Analyst: **JMT** | |
| Chloride | ND | 60 | | mg/Kg | 20 | 3/30/2020 9:22:25 PM | 51424 |
| **EPA METHOD 8015M/D: DIESEL RANGE ORGANICS** | | | | | | Analyst: **BRM** | |
| Diesel Range Organics (DRO) | ND | 9.7 | | mg/Kg | 1 | 3/31/2020 5:34:22 PM | 51399 |
| Motor Oil Range Organics (MRO) | 55 | 49 | | mg/Kg | 1 | 3/31/2020 5:34:22 PM | 51399 |
| Surr: DNOP | 91.1 | 55.1-146 | | %Rec | 1 | 3/31/2020 5:34:22 PM | 51399 |
| **EPA METHOD 8015D: GASOLINE RANGE** | | | | | | Analyst: **NSB** | |
| Gasoline Range Organics (GRO) | ND | 4.6 | | mg/Kg | 1 | 3/30/2020 9:04:43 PM | 51394 |
| Surr: BFB | 97.5 | 66.6-105 | | %Rec | 1 | 3/30/2020 9:04:43 PM | 51394 |
| **EPA METHOD 8021B: VOLATILES** | | | | | | Analyst: **NSB** | |
| Benzene | ND | 0.023 | | mg/Kg | 1 | 3/30/2020 9:04:43 PM | 51394 |
| Toluene | ND | 0.046 | | mg/Kg | 1 | 3/30/2020 9:04:43 PM | 51394 |
| Ethylbenzene | ND | 0.046 | | mg/Kg | 1 | 3/30/2020 9:04:43 PM | 51394 |
| Xylenes, Total | ND | 0.093 | | mg/Kg | 1 | 3/30/2020 9:04:43 PM | 51394 |
| Surr: 4-Bromofluorobenzene | 103 | 80-120 | | %Rec | 1 | 3/30/2020 9:04:43 PM | 51394 |

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 | Value above quantitation range |
| 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 range due to dilution or matrix | | |

**Analytical Report**
Lab Order **2003C19**
Date Reported:

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Souder, Miller & Associates
**Client Sample ID:** L4- Surface
**Project:** Kachina 8 Federal 001
**Collection Date:** 3/25/2020 10:28:00 AM
**Lab ID:** 2003C19-012 **Matrix:** SOIL
**Received Date:** 3/27/2020 8:25:00 AM

| Analyses | Result | RL | Qual | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|
| **EPA METHOD 300.0: ANIONS** | | | | | | Analyst: **JMT** | |
| Chloride | 83 | 61 | | mg/Kg | 20 | 3/30/2020 9:34:50 PM | 51424 |
| **EPA METHOD 8015M/D: DIESEL RANGE ORGANICS** | | | | | | Analyst: **BRM** | |
| Diesel Range Organics (DRO) | 10 | 8.7 | | mg/Kg | 1 | 4/1/2020 1:32:02 PM | 51399 |
| Motor Oil Range Organics (MRO) | ND | 43 | | mg/Kg | 1 | 4/1/2020 1:32:02 PM | 51399 |
| Surr: DNOP | 107 | 55.1-146 | | %Rec | 1 | 4/1/2020 1:32:02 PM | 51399 |
| **EPA METHOD 8015D: GASOLINE RANGE** | | | | | | Analyst: **NSB** | |
| Gasoline Range Organics (GRO) | ND | 4.9 | | mg/Kg | 1 | 3/30/2020 9:28:26 PM | 51394 |
| Surr: BFB | 94.7 | 66.6-105 | | %Rec | 1 | 3/30/2020 9:28:26 PM | 51394 |
| **EPA METHOD 8021B: VOLATILES** | | | | | | Analyst: **NSB** | |
| Benzene | ND | 0.024 | | mg/Kg | 1 | 3/30/2020 9:28:26 PM | 51394 |
| Toluene | ND | 0.049 | | mg/Kg | 1 | 3/30/2020 9:28:26 PM | 51394 |
| Ethylbenzene | ND | 0.049 | | mg/Kg | 1 | 3/30/2020 9:28:26 PM | 51394 |
| Xylenes, Total | ND | 0.097 | | mg/Kg | 1 | 3/30/2020 9:28:26 PM | 51394 |
| Surr: 4-Bromofluorobenzene | 99.7 | 80-120 | | %Rec | 1 | 3/30/2020 9:28:26 PM | 51394 |

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 | Value above quantitation range |
| 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 range due to dilution or matrix | | |

**Analytical Report**
Lab Order **2003C19**
Date Reported:

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Souder, Miller & Associates
**Client Sample ID:** L4- 1'
**Project:** Kachina 8 Federal 001
**Collection Date:** 3/25/2020 10:32:00 AM
**Lab ID:** 2003C19-013 **Matrix:** SOIL **Received Date:** 3/27/2020 8:25:00 AM

| Analyses | Result | RL | Qual | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|
| **EPA METHOD 300.0: ANIONS** | | | | | | Analyst: **JMT** | |
| Chloride | ND | 60 | | mg/Kg | 20 | 3/30/2020 10:12:04 PM | 51424 |
| **EPA METHOD 8015M/D: DIESEL RANGE ORGANICS** | | | | | | Analyst: **BRM** | |
| Diesel Range Organics (DRO) | 8.3 | 7.4 | | mg/Kg | 1 | 4/1/2020 1:56:14 PM | 51399 |
| Motor Oil Range Organics (MRO) | ND | 37 | | mg/Kg | 1 | 4/1/2020 1:56:14 PM | 51399 |
| Surr: DNOP | 104 | 55.1-146 | | %Rec | 1 | 4/1/2020 1:56:14 PM | 51399 |
| **EPA METHOD 8015D: GASOLINE RANGE** | | | | | | Analyst: **NSB** | |
| Gasoline Range Organics (GRO) | ND | 4.7 | | mg/Kg | 1 | 3/30/2020 9:52:16 PM | 51394 |
| Surr: BFB | 96.6 | 66.6-105 | | %Rec | 1 | 3/30/2020 9:52:16 PM | 51394 |
| **EPA METHOD 8021B: VOLATILES** | | | | | | Analyst: **NSB** | |
| Benzene | ND | 0.024 | | mg/Kg | 1 | 3/30/2020 9:52:16 PM | 51394 |
| Toluene | ND | 0.047 | | mg/Kg | 1 | 3/30/2020 9:52:16 PM | 51394 |
| Ethylbenzene | ND | 0.047 | | mg/Kg | 1 | 3/30/2020 9:52:16 PM | 51394 |
| Xylenes, Total | ND | 0.094 | | mg/Kg | 1 | 3/30/2020 9:52:16 PM | 51394 |
| Surr: 4-Bromofluorobenzene | 101 | 80-120 | | %Rec | 1 | 3/30/2020 9:52:16 PM | 51394 |

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 | Value above quantitation range |
| 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 range due to dilution or matrix | | |

**Analytical Report**
Lab Order **2003C19**
Date Reported:

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Souder, Miller & Associates
**Client Sample ID:** L5- Surface
**Project:** Kachina 8 Federal 001
**Collection Date:** 3/25/2020 10:40:00 AM
**Lab ID:** 2003C19-014 **Matrix:** SOIL
**Received Date:** 3/27/2020 8:25:00 AM

| Analyses | Result | RL | Qual | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|
| **EPA METHOD 300.0: ANIONS** | | | | | | Analyst: **JMT** | |
| Chloride | 78 | 60 | | mg/Kg | 20 | 3/30/2020 10:24:28 PM | 51424 |
| **EPA METHOD 8015M/D: DIESEL RANGE ORGANICS** | | | | | | Analyst: **BRM** | |
| Diesel Range Organics (DRO) | 9.4 | 9.1 | | mg/Kg | 1 | 4/2/2020 3:32:16 PM | 51399 |
| Motor Oil Range Organics (MRO) | ND | 46 | | mg/Kg | 1 | 4/2/2020 3:32:16 PM | 51399 |
| Surr: DNOP | 82.6 | 55.1-146 | | %Rec | 1 | 4/2/2020 3:32:16 PM | 51399 |
| **EPA METHOD 8015D: GASOLINE RANGE** | | | | | | Analyst: **NSB** | |
| Gasoline Range Organics (GRO) | ND | 4.7 | | mg/Kg | 1 | 3/30/2020 10:16:06 PM | 51394 |
| Surr: BFB | 96.2 | 66.6-105 | | %Rec | 1 | 3/30/2020 10:16:06 PM | 51394 |
| **EPA METHOD 8021B: VOLATILES** | | | | | | Analyst: **NSB** | |
| Benzene | ND | 0.023 | | mg/Kg | 1 | 3/30/2020 10:16:06 PM | 51394 |
| Toluene | ND | 0.047 | | mg/Kg | 1 | 3/30/2020 10:16:06 PM | 51394 |
| Ethylbenzene | ND | 0.047 | | mg/Kg | 1 | 3/30/2020 10:16:06 PM | 51394 |
| Xylenes, Total | ND | 0.093 | | mg/Kg | 1 | 3/30/2020 10:16:06 PM | 51394 |
| Surr: 4-Bromofluorobenzene | 102 | 80-120 | | %Rec | 1 | 3/30/2020 10:16:06 PM | 51394 |

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 | Value above quantitation range |
| 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 range due to dilution or matrix | | |

**Analytical Report**
Lab Order **2003C19**
Date Reported:

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Souder, Miller & Associates
**Client Sample ID:** L5- 1'
**Project:** Kachina 8 Federal 001
**Collection Date:** 3/25/2020 10:45:00 AM
**Lab ID:** 2003C19-015 **Matrix:** SOIL **Received Date:** 3/27/2020 8:25:00 AM

| Analyses | Result | RL | Qual | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|
| **EPA METHOD 300.0: ANIONS** | | | | | | Analyst: **JMT** | |
| Chloride | 310 | 60 | | mg/Kg | 20 | 3/30/2020 10:36:53 PM | 51424 |
| **EPA METHOD 8015M/D: DIESEL RANGE ORGANICS** | | | | | | Analyst: **BRM** | |
| Diesel Range Organics (DRO) | 240 | 20 | | mg/Kg | 2 | 4/1/2020 8:50:59 PM | 51399 |
| Motor Oil Range Organics (MRO) | 460 | 100 | | mg/Kg | 2 | 4/1/2020 8:50:59 PM | 51399 |
| Surr: DNOP | 97.6 | 55.1-146 | | %Rec | 2 | 4/1/2020 8:50:59 PM | 51399 |
| **EPA METHOD 8015D: GASOLINE RANGE** | | | | | | Analyst: **NSB** | |
| Gasoline Range Organics (GRO) | ND | 4.7 | | mg/Kg | 1 | 3/30/2020 11:51:02 PM | 51394 |
| Surr: BFB | 97.6 | 66.6-105 | | %Rec | 1 | 3/30/2020 11:51:02 PM | 51394 |
| **EPA METHOD 8021B: VOLATILES** | | | | | | Analyst: **NSB** | |
| Benzene | ND | 0.023 | | mg/Kg | 1 | 3/30/2020 11:51:02 PM | 51394 |
| Toluene | ND | 0.047 | | mg/Kg | 1 | 3/30/2020 11:51:02 PM | 51394 |
| Ethylbenzene | ND | 0.047 | | mg/Kg | 1 | 3/30/2020 11:51:02 PM | 51394 |
| Xylenes, Total | ND | 0.094 | | mg/Kg | 1 | 3/30/2020 11:51:02 PM | 51394 |
| Surr: 4-Bromofluorobenzene | 102 | 80-120 | | %Rec | 1 | 3/30/2020 11:51:02 PM | 51394 |

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 | Value above quantitation range |
| 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 range due to dilution or matrix | | |

**Analytical Report**
Lab Order **2003C19**
Date Reported:

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Souder, Miller & Associates
**Client Sample ID:** SW1
**Project:** Kachina 8 Federal 001
**Collection Date:** 3/25/2020 2:44:00 PM
**Lab ID:** 2003C19-016 **Matrix:** SOIL **Received Date:** 3/27/2020 8:25:00 AM

| Analyses | Result | RL | Qual | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|
| **EPA METHOD 300.0: ANIONS** | | | | | | Analyst: **JMT** | |
| Chloride | 380 | 60 | | mg/Kg | 20 | 3/30/2020 10:49:17 PM | 51424 |
| **EPA METHOD 8015M/D: DIESEL RANGE ORGANICS** | | | | | | Analyst: **BRM** | |
| Diesel Range Organics (DRO) | 35 | 8.8 | | mg/Kg | 1 | 4/1/2020 2:44:56 PM | 51399 |
| Motor Oil Range Organics (MRO) | 84 | 44 | | mg/Kg | 1 | 4/1/2020 2:44:56 PM | 51399 |
| Surr: DNOP | 103 | 55.1-146 | | %Rec | 1 | 4/1/2020 2:44:56 PM | 51399 |
| **EPA METHOD 8015D: GASOLINE RANGE** | | | | | | Analyst: **NSB** | |
| Gasoline Range Organics (GRO) | ND | 4.8 | | mg/Kg | 1 | 3/31/2020 12:14:46 AM | 51394 |
| Surr: BFB | 96.0 | 66.6-105 | | %Rec | 1 | 3/31/2020 12:14:46 AM | 51394 |
| **EPA METHOD 8021B: VOLATILES** | | | | | | Analyst: **NSB** | |
| Benzene | ND | 0.024 | | mg/Kg | 1 | 3/31/2020 12:14:46 AM | 51394 |
| Toluene | ND | 0.048 | | mg/Kg | 1 | 3/31/2020 12:14:46 AM | 51394 |
| Ethylbenzene | ND | 0.048 | | mg/Kg | 1 | 3/31/2020 12:14:46 AM | 51394 |
| Xylenes, Total | ND | 0.096 | | mg/Kg | 1 | 3/31/2020 12:14:46 AM | 51394 |
| Surr: 4-Bromofluorobenzene | 100 | 80-120 | | %Rec | 1 | 3/31/2020 12:14:46 AM | 51394 |

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 | Value above quantitation range |
| 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 range due to dilution or matrix | | |

**Analytical Report**
Lab Order **2003C19**
Date Reported:

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Souder, Miller & Associates
**Client Sample ID:** SW2
**Project:** Kachina 8 Federal 001
**Collection Date:** 3/25/2020 3:32:00 PM
**Lab ID:** 2003C19-017 **Matrix:** SOIL **Received Date:** 3/27/2020 8:25:00 AM

| Analyses | Result | RL | Qual | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|
| **EPA METHOD 300.0: ANIONS** | | | | | | Analyst: **JMT** | |
| Chloride | ND | 60 | | mg/Kg | 20 | 3/30/2020 11:01:41 PM | 51424 |
| **EPA METHOD 8015M/D: DIESEL RANGE ORGANICS** | | | | | | Analyst: **BRM** | |
| Diesel Range Organics (DRO) | 44 | 8.6 | | mg/Kg | 1 | 4/1/2020 3:09:27 PM | 51399 |
| Motor Oil Range Organics (MRO) | 110 | 43 | | mg/Kg | 1 | 4/1/2020 3:09:27 PM | 51399 |
| Surr: DNOP | 102 | 55.1-146 | | %Rec | 1 | 4/1/2020 3:09:27 PM | 51399 |
| **EPA METHOD 8015D: GASOLINE RANGE** | | | | | | Analyst: **NSB** | |
| Gasoline Range Organics (GRO) | ND | 4.6 | | mg/Kg | 1 | 3/31/2020 12:38:28 AM | 51394 |
| Surr: BFB | 95.1 | 66.6-105 | | %Rec | 1 | 3/31/2020 12:38:28 AM | 51394 |
| **EPA METHOD 8021B: VOLATILES** | | | | | | Analyst: **NSB** | |
| Benzene | ND | 0.023 | | mg/Kg | 1 | 3/31/2020 12:38:28 AM | 51394 |
| Toluene | ND | 0.046 | | mg/Kg | 1 | 3/31/2020 12:38:28 AM | 51394 |
| Ethylbenzene | ND | 0.046 | | mg/Kg | 1 | 3/31/2020 12:38:28 AM | 51394 |
| Xylenes, Total | ND | 0.093 | | mg/Kg | 1 | 3/31/2020 12:38:28 AM | 51394 |
| Surr: 4-Bromofluorobenzene | 99.6 | 80-120 | | %Rec | 1 | 3/31/2020 12:38:28 AM | 51394 |

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 | Value above quantitation range |
| 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 range due to dilution or matrix | | |

**Analytical Report**
Lab Order **2003C19**
Date Reported:

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Souder, Miller & Associates
**Client Sample ID:** SW3
**Project:** Kachina 8 Federal 001
**Collection Date:** 3/25/2020 3:59:00 PM
**Lab ID:** 2003C19-018 **Matrix:** SOIL **Received Date:** 3/27/2020 8:25:00 AM

| Analyses | Result | RL | Qual | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|
| **EPA METHOD 300.0: ANIONS** | | | | | | Analyst: **JMT** | |
| Chloride | 160 | 60 | | mg/Kg | 20 | 3/30/2020 11:14:05 PM | 51424 |
| **EPA METHOD 8015M/D: DIESEL RANGE ORGANICS** | | | | | | Analyst: **BRM** | |
| Diesel Range Organics (DRO) | 5900 | 360 | | mg/Kg | 50 | 3/31/2020 8:24:18 PM | 51399 |
| Motor Oil Range Organics (MRO) | 5000 | 1800 | | mg/Kg | 50 | 3/31/2020 8:24:18 PM | 51399 |
| Surr: DNOP | 0 | 55.1-146 | S | %Rec | 50 | 3/31/2020 8:24:18 PM | 51399 |
| **EPA METHOD 8015D: GASOLINE RANGE** | | | | | | Analyst: **NSB** | |
| Gasoline Range Organics (GRO) | ND | 4.8 | | mg/Kg | 1 | 3/31/2020 1:02:07 AM | 51394 |
| Surr: BFB | 97.6 | 66.6-105 | | %Rec | 1 | 3/31/2020 1:02:07 AM | 51394 |
| **EPA METHOD 8021B: VOLATILES** | | | | | | Analyst: **NSB** | |
| Benzene | ND | 0.024 | | mg/Kg | 1 | 3/31/2020 1:02:07 AM | 51394 |
| Toluene | ND | 0.048 | | mg/Kg | 1 | 3/31/2020 1:02:07 AM | 51394 |
| Ethylbenzene | ND | 0.048 | | mg/Kg | 1 | 3/31/2020 1:02:07 AM | 51394 |
| Xylenes, Total | ND | 0.097 | | mg/Kg | 1 | 3/31/2020 1:02:07 AM | 51394 |
| Surr: 4-Bromofluorobenzene | 102 | 80-120 | | %Rec | 1 | 3/31/2020 1:02:07 AM | 51394 |

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 | Value above quantitation range |
| 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 range due to dilution or matrix | | |

**Analytical Report**
Lab Order **2003C19**
Date Reported:

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Souder, Miller & Associates
**Client Sample ID:** SW4
**Project:** Kachina 8 Federal 001
**Collection Date:** 3/25/2020 4:25:00 PM
**Lab ID:** 2003C19-019 **Matrix:** SOIL
**Received Date:** 3/27/2020 8:25:00 AM

| Analyses | Result | RL | Qual | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|
| **EPA METHOD 300.0: ANIONS** | | | | | | Analyst: | **JMT** |
| Chloride | ND | 60 | | mg/Kg | 20 | 3/31/2020 2:38:04 PM | 51440 |
| **EPA METHOD 8015M/D: DIESEL RANGE ORGANICS** | | | | | | Analyst: | **BRM** |
| Diesel Range Organics (DRO) | 300 | 87 | | mg/Kg | 10 | 4/1/2020 9:15:32 PM | 51399 |
| Motor Oil Range Organics (MRO) | 920 | 440 | | mg/Kg | 10 | 4/1/2020 9:15:32 PM | 51399 |
| Surr: DNOP | 0 | 55.1-146 | S | %Rec | 10 | 4/1/2020 9:15:32 PM | 51399 |
| **EPA METHOD 8015D: GASOLINE RANGE** | | | | | | Analyst: | **NSB** |
| Gasoline Range Organics (GRO) | ND | 5.0 | | mg/Kg | 1 | 3/31/2020 1:25:45 AM | 51394 |
| Surr: BFB | 93.5 | 66.6-105 | | %Rec | 1 | 3/31/2020 1:25:45 AM | 51394 |
| **EPA METHOD 8021B: VOLATILES** | | | | | | Analyst: | **NSB** |
| Benzene | ND | 0.025 | | mg/Kg | 1 | 3/31/2020 1:25:45 AM | 51394 |
| Toluene | ND | 0.050 | | mg/Kg | 1 | 3/31/2020 1:25:45 AM | 51394 |
| Ethylbenzene | ND | 0.050 | | mg/Kg | 1 | 3/31/2020 1:25:45 AM | 51394 |
| Xylenes, Total | ND | 0.099 | | mg/Kg | 1 | 3/31/2020 1:25:45 AM | 51394 |
| Surr: 4-Bromofluorobenzene | 99.0 | 80-120 | | %Rec | 1 | 3/31/2020 1:25:45 AM | 51394 |

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 | Value above quantitation range |
| 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 range due to dilution or matrix | | |

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*

May 04, 2020

Ashley Maxwell
Souder, Miller & Associates
201 S Halagueno
Carlsbad, NM 88221
TEL:
FAX:

RE: Kachina 8 State 1 OrderNo.: 2004C20

Dear Ashley Maxwell:

Hall Environmental Analysis Laboratory received 4 sample(s) on 4/30/2020 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 **2004C20**
Date Reported: **5/4/2020**

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Souder, Miller & Associates
**Client Sample ID:** SW 3
**Project:** Kachina 8 State 1
**Collection Date:** 4/28/2020 2:45:00 PM
**Lab ID:** 2004C20-001 **Matrix:** SOIL
**Received Date:** 4/30/2020 9:00:00 AM

| Analyses | Result | RL | Qual | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|
| **EPA METHOD 300.0: ANIONS** | | | | | | Analyst: **MRA** | |
| Chloride | 66 | 60 | | mg/Kg | 20 | 5/1/2020 4:36:25 PM | 52216 |
| **EPA METHOD 8015M/D: DIESEL RANGE ORGANICS** | | | | | | Analyst: **JME** | |
| Diesel Range Organics (DRO) | ND | 9.6 | | mg/Kg | 1 | 5/1/2020 5:13:24 PM | 52197 |
| Motor Oil Range Organics (MRO) | ND | 48 | | mg/Kg | 1 | 5/1/2020 5:13:24 PM | 52197 |
| Surr: DNOP | 78.6 | 55.1-146 | | %Rec | 1 | 5/1/2020 5:13:24 PM | 52197 |
| **EPA METHOD 8015D: GASOLINE RANGE** | | | | | | Analyst: **RAA** | |
| Gasoline Range Organics (GRO) | ND | 4.7 | | mg/Kg | 1 | 5/2/2020 7:29:10 AM | 52191 |
| Surr: BFB | 101 | 66.6-105 | | %Rec | 1 | 5/2/2020 7:29:10 AM | 52191 |
| **EPA METHOD 8021B: VOLATILES** | | | | | | Analyst: **RAA** | |
| Benzene | ND | 0.023 | | mg/Kg | 1 | 5/2/2020 7:29:10 AM | 52191 |
| Toluene | ND | 0.047 | | mg/Kg | 1 | 5/2/2020 7:29:10 AM | 52191 |
| Ethylbenzene | ND | 0.047 | | mg/Kg | 1 | 5/2/2020 7:29:10 AM | 52191 |
| Xylenes, Total | ND | 0.094 | | mg/Kg | 1 | 5/2/2020 7:29:10 AM | 52191 |
| Surr: 4-Bromofluorobenzene | 96.6 | 80-120 | | %Rec | 1 | 5/2/2020 7:29:10 AM | 52191 |

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 | Value above quantitation range |
| 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 range due to dilution or matrix | | |

**Analytical Report**
Lab Order **2004C20**
Date Reported: **5/4/2020**

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Souder, Miller & Associates
**Client Sample ID:** SW 4
**Project:** Kachina 8 State 1
**Collection Date:** 4/28/2020 2:09:00 PM
**Lab ID:** 2004C20-002 **Matrix:** SOIL
**Received Date:** 4/30/2020 9:00:00 AM

| Analyses | Result | RL | Qual | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|
| **EPA METHOD 300.0: ANIONS** | | | | | | Analyst: **MRA** | |
| Chloride | ND | 60 | | mg/Kg | 20 | 5/1/2020 5:13:39 PM | 52216 |
| **EPA METHOD 8015M/D: DIESEL RANGE ORGANICS** | | | | | | Analyst: **JME** | |
| Diesel Range Organics (DRO) | ND | 9.6 | | mg/Kg | 1 | 5/1/2020 5:37:57 PM | 52197 |
| Motor Oil Range Organics (MRO) | ND | 48 | | mg/Kg | 1 | 5/1/2020 5:37:57 PM | 52197 |
| Surr: DNOP | 81.5 | 55.1-146 | | %Rec | 1 | 5/1/2020 5:37:57 PM | 52197 |
| **EPA METHOD 8015D: GASOLINE RANGE** | | | | | | Analyst: **RAA** | |
| Gasoline Range Organics (GRO) | ND | 5.0 | | mg/Kg | 1 | 5/2/2020 7:52:41 AM | 52191 |
| Surr: BFB | 101 | 66.6-105 | | %Rec | 1 | 5/2/2020 7:52:41 AM | 52191 |
| **EPA METHOD 8021B: VOLATILES** | | | | | | Analyst: **RAA** | |
| Benzene | ND | 0.025 | | mg/Kg | 1 | 5/2/2020 7:52:41 AM | 52191 |
| Toluene | ND | 0.050 | | mg/Kg | 1 | 5/2/2020 7:52:41 AM | 52191 |
| Ethylbenzene | ND | 0.050 | | mg/Kg | 1 | 5/2/2020 7:52:41 AM | 52191 |
| Xylenes, Total | ND | 0.10 | | mg/Kg | 1 | 5/2/2020 7:52:41 AM | 52191 |
| Surr: 4-Bromofluorobenzene | 96.6 | 80-120 | | %Rec | 1 | 5/2/2020 7:52:41 AM | 52191 |

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 | Value above quantitation range |
| 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 range due to dilution or matrix | | |

**Analytical Report**
Lab Order **2004C20**
Date Reported: **5/4/2020**

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Souder, Miller & Associates
**Client Sample ID:** SW 5 - 1.5'
**Project:** Kachina 8 State 1
**Collection Date:** 4/28/2020 2:16:00 PM
**Lab ID:** 2004C20-003 **Matrix:** SOIL
**Received Date:** 4/30/2020 9:00:00 AM

| Analyses | Result | RL | Qual | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|
| **EPA METHOD 300.0: ANIONS** | | | | | | Analyst: **MRA** | |
| Chloride | ND | 60 | | mg/Kg | 20 | 5/1/2020 5:26:03 PM | 52216 |
| **EPA METHOD 8015M/D: DIESEL RANGE ORGANICS** | | | | | | Analyst: **JME** | |
| Diesel Range Organics (DRO) | 46 | 9.5 | | mg/Kg | 1 | 5/1/2020 11:20:18 PM | 52197 |
| Motor Oil Range Organics (MRO) | 180 | 48 | | mg/Kg | 1 | 5/1/2020 11:20:18 PM | 52197 |
| Surr: DNOP | 101 | 55.1-146 | | %Rec | 1 | 5/1/2020 11:20:18 PM | 52197 |
| **EPA METHOD 8015D: GASOLINE RANGE** | | | | | | Analyst: **RAA** | |
| Gasoline Range Organics (GRO) | ND | 4.8 | | mg/Kg | 1 | 5/2/2020 8:16:11 AM | 52191 |
| Surr: BFB | 103 | 66.6-105 | | %Rec | 1 | 5/2/2020 8:16:11 AM | 52191 |

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 | Value above quantitation range |
| 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 range due to dilution or matrix | | |

**Analytical Report**
Lab Order **2004C20**
Date Reported: **5/4/2020**

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Souder, Miller & Associates
**Client Sample ID:** SW 5 - 2'
**Project:** Kachina 8 State 1
**Collection Date:** 4/28/2020 2:20:00 PM
**Lab ID:** 2004C20-004 **Matrix:** SOIL
**Received Date:** 4/30/2020 9:00:00 AM

| Analyses | Result | RL | Qual | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|
| **EPA METHOD 300.0: ANIONS** | | | | | | Analyst: **MRA** | |
| Chloride | ND | 59 | | mg/Kg | 20 | 5/1/2020 6:03:16 PM | 52216 |
| **EPA METHOD 8015M/D: DIESEL RANGE ORGANICS** | | | | | | Analyst: **JME** | |
| Diesel Range Organics (DRO) | 55 | 9.0 | | mg/Kg | 1 | 5/2/2020 12:08:55 AM | 52197 |
| Motor Oil Range Organics (MRO) | 210 | 45 | | mg/Kg | 1 | 5/2/2020 12:08:55 AM | 52197 |
| Surr: DNOP | 112 | 55.1-146 | | %Rec | 1 | 5/2/2020 12:08:55 AM | 52197 |
| **EPA METHOD 8015D: GASOLINE RANGE** | | | | | | Analyst: **RAA** | |
| Gasoline Range Organics (GRO) | ND | 4.8 | | mg/Kg | 1 | 5/2/2020 8:39:40 AM | 52191 |
| Surr: BFB | 102 | 66.6-105 | | %Rec | 1 | 5/2/2020 8:39:40 AM | 52191 |

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 | Value above quantitation range |
| 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 range due to dilution or matrix | | |

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: **2004C20**

***04-May-20***

**Client:** Souder, Miller & Associates

**Project:** Kachina 8 State 1

Sample ID: **MB-52216** SampType: **mblk** TestCode: **EPA Method 300.0: Anions**

Client ID: **PBS** Batch ID: **52216** RunNo: **68572**

Prep Date: **5/1/2020** Analysis Date: **5/1/2020** SeqNo: **2374259** Units: **mg/Kg**

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

Sample ID: **LCS-52216** SampType: **lcs** TestCode: **EPA Method 300.0: Anions**

Client ID: **LCSS** Batch ID: **52216** RunNo: **68572**

Prep Date: **5/1/2020** Analysis Date: **5/1/2020** SeqNo: **2374260** Units: **mg/Kg**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 14 | 1.5 | 15.00 | 0 | 93.4 | 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 range due to dilution or matrix |
| B | Analyte detected in the associated Method Blank |
| E | Value above quantitation range |
| J | Analyte detected below quantitation limits |
| P | Sample pH Not In Range |
| RL | Reporting Limit |

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: **2004C20**

***04-May-20***

**Client:** Souder, Miller & Associates

**Project:** Kachina 8 State 1

Sample ID: **MB-52208** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**

Client ID: **PBS** Batch ID: **52208** RunNo: **68568**

Prep Date: **5/1/2020** Analysis Date: **5/1/2020** SeqNo: **2372797** Units: **%Rec**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Surr: DNOP | 8.9 | | 10.00 | | 89.2 | 55.1 | 146 | | | |

Sample ID: **LCS-52208** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**

Client ID: **LCSS** Batch ID: **52208** RunNo: **68568**

Prep Date: **5/1/2020** Analysis Date: **5/1/2020** SeqNo: **2372798** Units: **%Rec**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Surr: DNOP | 4.1 | | 5.000 | | 82.1 | 55.1 | 146 | | | |

Sample ID: **MB-52197** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**

Client ID: **PBS** Batch ID: **52197** RunNo: **68568**

Prep Date: **4/30/2020** Analysis Date: **5/1/2020** SeqNo: **2373953** 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 | 9.9 | | 10.00 | | 99.1 | 55.1 | 146 | | | |

Sample ID: **LCS-52197** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**

Client ID: **LCSS** Batch ID: **52197** RunNo: **68568**

Prep Date: **4/30/2020** Analysis Date: **5/1/2020** SeqNo: **2373954** Units: **mg/Kg**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Diesel Range Organics (DRO) | 44 | 10 | 50.00 | 0 | 87.7 | 70 | 130 | | | |
| Surr: DNOP | 4.4 | | 5.000 | | 87.0 | 55.1 | 146 | | | |

**Qualifiers:**

| | |
|---|---|
| * | Value exceeds Maximum Contaminant Level. |
| D | Sample Diluted Due to Matrix |
| H | Holding times for preparation or analysis exceeded |
| ND | Not Detected at the Reporting Limit |
| PQL | Practical Quanitative Limit |
| S | % Recovery outside of range due to dilution or matrix |
| B | Analyte detected in the associated Method Blank |
| E | Value above quantitation range |
| J | Analyte detected below quantitation limits |
| P | Sample pH Not In Range |
| RL | Reporting Limit |

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: **2004C20**

***04-May-20***

**Client:** Souder, Miller & Associates

**Project:** Kachina 8 State 1

| Sample ID: **lcs-52195** | SampType: **LCS** | TestCode: **EPA Method 8015D: Gasoline Range** |
|---|---|---|
| Client ID: **LCSS** | Batch ID: **52195** | RunNo: **68583** |
| Prep Date: **4/30/2020** | Analysis Date: **5/1/2020** | SeqNo: **2372944** Units: **%Rec** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Surr: BFB | 1100 | | 1000 | | 105 | 66.6 | 105 | | | S |

| Sample ID: **mb-52195** | SampType: **MBLK** | TestCode: **EPA Method 8015D: Gasoline Range** |
|---|---|---|
| Client ID: **PBS** | Batch ID: **52195** | RunNo: **68583** |
| Prep Date: **4/30/2020** | Analysis Date: **5/1/2020** | SeqNo: **2372945** Units: **%Rec** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Surr: BFB | 1000 | | 1000 | | 101 | 66.6 | 105 | | | |

| Sample ID: **lcs-52191** | SampType: **LCS** | TestCode: **EPA Method 8015D: Gasoline Range** |
|---|---|---|
| Client ID: **LCSS** | Batch ID: **52191** | RunNo: **68583** |
| Prep Date: **4/30/2020** | Analysis Date: **5/1/2020** | SeqNo: **2373046** Units: **mg/Kg** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics (GRO) | 23 | 5.0 | 25.00 | 0 | 90.1 | 80 | 120 | | | |
| Surr: BFB | 1100 | | 1000 | | 112 | 66.6 | 105 | | | S |

| Sample ID: **mb-52191** | SampType: **MBLK** | TestCode: **EPA Method 8015D: Gasoline Range** |
|---|---|---|
| Client ID: **PBS** | Batch ID: **52191** | RunNo: **68583** |
| Prep Date: **4/30/2020** | Analysis Date: **5/1/2020** | SeqNo: **2373048** 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 | 66.6 | 105 | | | |

**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 range due to dilution or matrix |
| B | Analyte detected in the associated Method Blank |
| E | Value above quantitation range |
| J | Analyte detected below quantitation limits |
| P | Sample pH Not In Range |
| RL | Reporting Limit |

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: **2004C20**

***04-May-20***

**Client:** Souder, Miller & Associates

**Project:** Kachina 8 State 1

Sample ID: **LCS-52195** SampType: **LCS** TestCode: **EPA Method 8021B: Volatiles**

Client ID: **LCSS** Batch ID: **52195** RunNo: **68583**

Prep Date: **4/30/2020** Analysis Date: **5/1/2020** SeqNo: **2372949** Units: **%Rec**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Surr: 4-Bromofluorobenzene | 0.99 | | 1.000 | | 99.0 | 80 | 120 | | | |

Sample ID: **mb-52195** SampType: **MBLK** TestCode: **EPA Method 8021B: Volatiles**

Client ID: **PBS** Batch ID: **52195** RunNo: **68583**

Prep Date: **4/30/2020** Analysis Date: **5/1/2020** SeqNo: **2372950** Units: **%Rec**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Surr: 4-Bromofluorobenzene | 0.97 | | 1.000 | | 97.2 | 80 | 120 | | | |

Sample ID: **LCS-52191** SampType: **LCS** TestCode: **EPA Method 8021B: Volatiles**

Client ID: **LCSS** Batch ID: **52191** RunNo: **68583**

Prep Date: **4/30/2020** Analysis Date: **5/1/2020** SeqNo: **2373083** Units: **mg/Kg**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | 0.94 | 0.025 | 1.000 | 0 | 94.1 | 80 | 120 | | | |
| Toluene | 0.98 | 0.050 | 1.000 | 0 | 97.9 | 80 | 120 | | | |
| Ethylbenzene | 0.98 | 0.050 | 1.000 | 0 | 98.3 | 80 | 120 | | | |
| Xylenes, Total | 2.9 | 0.10 | 3.000 | 0 | 97.7 | 80 | 120 | | | |
| Surr: 4-Bromofluorobenzene | 1.0 | | 1.000 | | 100 | 80 | 120 | | | |

Sample ID: **mb-52191** SampType: **MBLK** TestCode: **EPA Method 8021B: Volatiles**

Client ID: **PBS** Batch ID: **52191** RunNo: **68583**

Prep Date: **4/30/2020** Analysis Date: **5/1/2020** SeqNo: **2373085** 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 | 0.99 | | 1.000 | | 99.4 | 80 | 120 | | | |

**Qualifiers:**

| | |
|---|---|
| * | Value exceeds Maximum Contaminant Level. |
| D | Sample Diluted Due to Matrix |
| H | Holding times for preparation or analysis exceeded |
| ND | Not Detected at the Reporting Limit |
| PQL | Practical Quanitative Limit |
| S | % Recovery outside of range due to dilution or matrix |
| B | Analyte detected in the associated Method Blank |
| E | Value above quantitation range |
| 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: **SMA-CARLSBAD** Work Order Number: **2004C20** RcptNo: **1**

Received By: **Juan Rojas** **4/30/2020 9:00:00 AM** Juan Rojas

Completed By: **Desiree Dominguez** **4/30/2020 9:05:03 AM** DD

Reviewed By: DAD 4/30/20

## Chain of Custody

| | | | |
|---|---|---|---|
| 1. Is Chain of Custody sufficiently 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: JR 4/30/20

## 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 | 2.7 | Good | Not Present | | | |

# Chain-of-Custody Record

Client: SMA

Mailing Address:

Phone #:

email or Fax#:

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

Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time: 3 day
☑ ~~Standard~~ ST ☐ Rush

Project Name: Kachina 8 State 1

Project #:

Project Manager: Ashley Maxwell

Sampler: SO

On Ice: ☑ Yes ☐ No

# of Coolers: 1

Cooler Temp(including CF): 2.7+0=2.7 (°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. 2004C20 | 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) | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4/28/20 | 2:45 | Soil | SW3 | 4oz | Cool | -001 | X | X | | | | | X | | | | | | | | | |
| | 2:09 | | SW4 | | | -002 | X | X | | | | | X | | | | | | | | | |
| | 2:16 | | S5-1.5' | | | -003 | | X | | | | | X | | | | | | | | | |
| | 2:20 | | S5-2' | | | -004 | | X | | | | | X | | | | | | | | | |

| Date: | Time: | Relinquished by: | Received by: | Via: | Date | Time |
|---|---|---|---|---|---|---|
| 4/29/20 | 1000 | Sebastian Orozco | | | 4/29/20 | 1000 |
| 4/28/20 | 1900 | | | courier | 4/30/20 | 9:00 |

Remarks: Bill Devon Directly

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: clients.hallenvironmental.com*

July 01, 2020

Ashley Maxwell

Souder, Miller & Associates
201 S Halagueno
Carlsbad, NM 88221
TEL:
FAX

RE: Kachina 8 Fed 1 OrderNo.: 2006E34

Dear Ashley Maxwell:

Hall Environmental Analysis Laboratory received 3 sample(s) on 6/27/2020 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 **2006E34**
Date Reported: **7/1/2020**

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Souder, Miller & Associates
**Client Sample ID:** CS1
**Project:** Kachina 8 Fed 1
**Collection Date:** 6/24/2020 10:05:00 AM
**Lab ID:** 2006E34-001 **Matrix:** SOIL **Received Date:** 6/27/2020 8:40:00 AM

| Analyses | Result | RL | Qual | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|
| **EPA METHOD 300.0: ANIONS** | | | | | | Analyst: **CAS** | |
| Chloride | 1900 | 60 | | mg/Kg | 20 | 6/29/2020 12:07:28 PM | 53383 |
| **EPA METHOD 8015D MOD: GASOLINE RANGE** | | | | | | Analyst: **JMR** | |
| Gasoline Range Organics (GRO) | ND | 4.9 | | mg/Kg | 1 | 6/30/2020 2:39:22 AM | 53369 |
| Surr: BFB | 99.5 | 70-130 | | %Rec | 1 | 6/30/2020 2:39:22 AM | 53369 |
| **EPA METHOD 8015M/D: DIESEL RANGE ORGANICS** | | | | | | Analyst: **BRM** | |
| Diesel Range Organics (DRO) | 1700 | 180 | | mg/Kg | 20 | 6/29/2020 11:18:54 AM | 53370 |
| Motor Oil Range Organics (MRO) | 3200 | 900 | | mg/Kg | 20 | 6/29/2020 11:18:54 AM | 53370 |
| Surr: DNOP | 0 | 55.1-146 | S | %Rec | 20 | 6/29/2020 11:18:54 AM | 53370 |
| **EPA METHOD 8260B: VOLATILES SHORT LIST** | | | | | | Analyst: **JMR** | |
| Benzene | ND | 0.024 | | mg/Kg | 1 | 6/30/2020 2:39:22 AM | 53369 |
| Toluene | ND | 0.049 | | mg/Kg | 1 | 6/30/2020 2:39:22 AM | 53369 |
| Ethylbenzene | ND | 0.049 | | mg/Kg | 1 | 6/30/2020 2:39:22 AM | 53369 |
| Xylenes, Total | ND | 0.097 | | mg/Kg | 1 | 6/30/2020 2:39:22 AM | 53369 |
| Surr: 1,2-Dichloroethane-d4 | 106 | 70-130 | | %Rec | 1 | 6/30/2020 2:39:22 AM | 53369 |
| Surr: 4-Bromofluorobenzene | 95.1 | 70-130 | | %Rec | 1 | 6/30/2020 2:39:22 AM | 53369 |
| Surr: Dibromofluoromethane | 104 | 70-130 | | %Rec | 1 | 6/30/2020 2:39:22 AM | 53369 |
| Surr: Toluene-d8 | 102 | 70-130 | | %Rec | 1 | 6/30/2020 2:39:22 AM | 53369 |

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 | Value above quantitation range |
| 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 range due to dilution or matrix | | |

**Analytical Report**
Lab Order **2006E34**
Date Reported: **7/1/2020**

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Souder, Miller & Associates
**Client Sample ID:** SW1
**Project:** Kachina 8 Fed 1
**Collection Date:** 6/24/2020 10:10:00 AM
**Lab ID:** 2006E34-002 **Matrix:** SOIL
**Received Date:** 6/27/2020 8:40:00 AM

| Analyses | Result | RL | Qual | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|
| **EPA METHOD 300.0: ANIONS** | | | | | | Analyst: **CAS** | |
| Chloride | 1000 | 61 | | mg/Kg | 20 | 6/29/2020 12:19:49 PM | 53383 |
| **EPA METHOD 8015D MOD: GASOLINE RANGE** | | | | | | Analyst: **JMR** | |
| Gasoline Range Organics (GRO) | ND | 4.9 | | mg/Kg | 1 | 6/30/2020 3:07:54 AM | 53369 |
| Surr: BFB | 98.6 | 70-130 | | %Rec | 1 | 6/30/2020 3:07:54 AM | 53369 |
| **EPA METHOD 8015M/D: DIESEL RANGE ORGANICS** | | | | | | Analyst: **BRM** | |
| Diesel Range Organics (DRO) | 140 | 9.5 | | mg/Kg | 1 | 6/29/2020 12:20:23 PM | 53370 |
| Motor Oil Range Organics (MRO) | 260 | 48 | | mg/Kg | 1 | 6/29/2020 12:20:23 PM | 53370 |
| Surr: DNOP | 118 | 55.1-146 | | %Rec | 1 | 6/29/2020 12:20:23 PM | 53370 |
| **EPA METHOD 8260B: VOLATILES SHORT LIST** | | | | | | Analyst: **JMR** | |
| Benzene | ND | 0.025 | | mg/Kg | 1 | 6/30/2020 3:07:54 AM | 53369 |
| Toluene | ND | 0.049 | | mg/Kg | 1 | 6/30/2020 3:07:54 AM | 53369 |
| Ethylbenzene | ND | 0.049 | | mg/Kg | 1 | 6/30/2020 3:07:54 AM | 53369 |
| Xylenes, Total | ND | 0.098 | | mg/Kg | 1 | 6/30/2020 3:07:54 AM | 53369 |
| Surr: 1,2-Dichloroethane-d4 | 104 | 70-130 | | %Rec | 1 | 6/30/2020 3:07:54 AM | 53369 |
| Surr: 4-Bromofluorobenzene | 91.5 | 70-130 | | %Rec | 1 | 6/30/2020 3:07:54 AM | 53369 |
| Surr: Dibromofluoromethane | 103 | 70-130 | | %Rec | 1 | 6/30/2020 3:07:54 AM | 53369 |
| Surr: Toluene-d8 | 105 | 70-130 | | %Rec | 1 | 6/30/2020 3:07:54 AM | 53369 |

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 | Value above quantitation range |
| 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 range due to dilution or matrix | | |

**Analytical Report**
Lab Order **2006E34**
Date Reported: **7/1/2020**

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Souder, Miller & Associates
**Client Sample ID:** SW2
**Project:** Kachina 8 Fed 1
**Collection Date:** 6/24/2020 10:15:00 AM
**Lab ID:** 2006E34-003 **Matrix:** SOIL
**Received Date:** 6/27/2020 8:40:00 AM

| Analyses | Result | RL | Qual | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|
| **EPA METHOD 300.0: ANIONS** | | | | | | Analyst: **CAS** | |
| Chloride | 1100 | 60 | | mg/Kg | 20 | 6/29/2020 12:32:09 PM | 53383 |
| **EPA METHOD 8015D MOD: GASOLINE RANGE** | | | | | | Analyst: **JMR** | |
| Gasoline Range Organics (GRO) | ND | 4.9 | | mg/Kg | 1 | 6/30/2020 3:36:22 AM | 53369 |
| Surr: BFB | 98.9 | 70-130 | | %Rec | 1 | 6/30/2020 3:36:22 AM | 53369 |
| **EPA METHOD 8015M/D: DIESEL RANGE ORGANICS** | | | | | | Analyst: **BRM** | |
| Diesel Range Organics (DRO) | 140 | 8.9 | | mg/Kg | 1 | 6/29/2020 12:30:37 PM | 53370 |
| Motor Oil Range Organics (MRO) | 290 | 45 | | mg/Kg | 1 | 6/29/2020 12:30:37 PM | 53370 |
| Surr: DNOP | 115 | 55.1-146 | | %Rec | 1 | 6/29/2020 12:30:37 PM | 53370 |
| **EPA METHOD 8260B: VOLATILES SHORT LIST** | | | | | | Analyst: **JMR** | |
| Benzene | ND | 0.025 | | mg/Kg | 1 | 6/30/2020 3:36:22 AM | 53369 |
| Toluene | ND | 0.049 | | mg/Kg | 1 | 6/30/2020 3:36:22 AM | 53369 |
| Ethylbenzene | ND | 0.049 | | mg/Kg | 1 | 6/30/2020 3:36:22 AM | 53369 |
| Xylenes, Total | ND | 0.098 | | mg/Kg | 1 | 6/30/2020 3:36:22 AM | 53369 |
| Surr: 1,2-Dichloroethane-d4 | 105 | 70-130 | | %Rec | 1 | 6/30/2020 3:36:22 AM | 53369 |
| Surr: 4-Bromofluorobenzene | 90.8 | 70-130 | | %Rec | 1 | 6/30/2020 3:36:22 AM | 53369 |
| Surr: Dibromofluoromethane | 110 | 70-130 | | %Rec | 1 | 6/30/2020 3:36:22 AM | 53369 |
| Surr: Toluene-d8 | 101 | 70-130 | | %Rec | 1 | 6/30/2020 3:36:22 AM | 53369 |

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 | Value above quantitation range |
| 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 range due to dilution or matrix | | |

# QC SUMMARY REPORT
## Hall Environmental Analysis Laboratory, Inc.

WO#: **2006E34**
***01-Jul-20***

**Client:** Souder, Miller & Associates
**Project:** Kachina 8 Fed 1

Sample ID: **MB-53383** SampType: **mblk** TestCode: **EPA Method 300.0: Anions**
Client ID: **PBS** Batch ID: **53383** RunNo: **70007**
Prep Date: **6/29/2020** Analysis Date: **6/29/2020** SeqNo: **2432186** Units: **mg/Kg**

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

Sample ID: **LCS-53383** SampType: **lcs** TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSS** Batch ID: **53383** RunNo: **70007**
Prep Date: **6/29/2020** Analysis Date: **6/29/2020** SeqNo: **2432187** Units: **mg/Kg**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 14 | 1.5 | 15.00 | 0 | 93.0 | 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 range due to dilution or matrix |
| B | Analyte detected in the associated Method Blank |
| E | Value above quantitation range |
| J | Analyte detected below quantitation limits |
| P | Sample pH Not In Range |
| RL | Reporting Limit |

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: **2006E34**

***01-Jul-20***

**Client:** Souder, Miller & Associates

**Project:** Kachina 8 Fed 1

Sample ID: **LCS-53370** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**

Client ID: **LCSS** Batch ID: **53370** RunNo: **69983**

Prep Date: **6/28/2020** Analysis Date: **6/29/2020** SeqNo: **2431104** Units: **mg/Kg**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Diesel Range Organics (DRO) | 61 | 10 | 50.00 | 0 | 122 | 70 | 130 | | | |
| Surr: DNOP | 5.8 | | 5.000 | | 115 | 55.1 | 146 | | | |

Sample ID: **MB-53370** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**

Client ID: **PBS** Batch ID: **53370** RunNo: **69983**

Prep Date: **6/28/2020** Analysis Date: **6/29/2020** SeqNo: **2431105** 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 | 14 | | 10.00 | | 136 | 55.1 | 146 | | | |

**Qualifiers:**

| | |
|---|---|
| * | Value exceeds Maximum Contaminant Level. |
| D | Sample Diluted Due to Matrix |
| H | Holding times for preparation or analysis exceeded |
| ND | Not Detected at the Reporting Limit |
| PQL | Practical Quanitative Limit |
| S | % Recovery outside of range due to dilution or matrix |
| B | Analyte detected in the associated Method Blank |
| E | Value above quantitation range |
| J | Analyte detected below quantitation limits |
| P | Sample pH Not In Range |
| RL | Reporting Limit |

# QC SUMMARY REPORT
## Hall Environmental Analysis Laboratory, Inc.

WO#: **2006E34**
***01-Jul-20***

**Client:** Souder, Miller & Associates
**Project:** Kachina 8 Fed 1

Sample ID: **mb-53369** SampType: **MBLK** TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **PBS** Batch ID: **53369** RunNo: **69997**
Prep Date: **6/28/2020** Analysis Date: **6/29/2020** SeqNo: **2431673** 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: 1,2-Dichloroethane-d4 | 0.54 | | 0.5000 | | 108 | 70 | 130 | | | |
| Surr: 4-Bromofluorobenzene | 0.49 | | 0.5000 | | 98.0 | 70 | 130 | | | |
| Surr: Dibromofluoromethane | 0.56 | | 0.5000 | | 112 | 70 | 130 | | | |
| Surr: Toluene-d8 | 0.52 | | 0.5000 | | 105 | 70 | 130 | | | |

Sample ID: **lcs-53369** SampType: **LCS4** TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **BatchQC** Batch ID: **53369** RunNo: **69997**
Prep Date: **6/28/2020** Analysis Date: **6/29/2020** SeqNo: **2431674** 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 | 1.0 | 0.050 | 1.000 | 0 | 102 | 80 | 120 | | | |
| Ethylbenzene | 1.0 | 0.050 | 1.000 | 0 | 104 | 80 | 120 | | | |
| Xylenes, Total | 3.2 | 0.10 | 3.000 | 0 | 106 | 80 | 120 | | | |
| Surr: 1,2-Dichloroethane-d4 | 0.53 | | 0.5000 | | 106 | 70 | 130 | | | |
| Surr: 4-Bromofluorobenzene | 0.47 | | 0.5000 | | 94.8 | 70 | 130 | | | |
| Surr: Dibromofluoromethane | 0.54 | | 0.5000 | | 108 | 70 | 130 | | | |
| Surr: Toluene-d8 | 0.52 | | 0.5000 | | 104 | 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 range due to dilution or matrix |
| B | Analyte detected in the associated Method Blank |
| E | Value above quantitation range |
| J | Analyte detected below quantitation limits |
| P | Sample pH Not In Range |
| RL | Reporting Limit |

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: **2006E34**

***01-Jul-20***

**Client:** Souder, Miller & Associates

**Project:** Kachina 8 Fed 1

Sample ID: **mb-53369** SampType: **MBLK** TestCode: **EPA Method 8015D Mod: Gasoline Range**

Client ID: **PBS** Batch ID: **53369** RunNo: **69997**

Prep Date: **6/28/2020** Analysis Date: **6/29/2020** SeqNo: **2431702** 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 | 490 | | 500.0 | | 98.4 | 70 | 130 | | | |

Sample ID: **lcs-53369** SampType: **LCS** TestCode: **EPA Method 8015D Mod: Gasoline Range**

Client ID: **LCSS** Batch ID: **53369** RunNo: **69997**

Prep Date: **6/28/2020** Analysis Date: **6/29/2020** SeqNo: **2431703** Units: **mg/Kg**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics (GRO) | 19 | 5.0 | 25.00 | 0 | 76.4 | 70 | 130 | | | |
| Surr: BFB | 480 | | 500.0 | | 96.3 | 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 range due to dilution or matrix |
| B | Analyte detected in the associated Method Blank |
| E | Value above quantitation range |
| 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: clients.hallenvironmental.com*

# Sample Log-In Check List

Client Name: **Souder, Miller & Associates** Work Order Number: **2006E34** RcptNo: 1

Received By: **Desiree Dominguez** **6/27/2020 8:40:00 AM** DD

Completed By: **Desiree Dominguez** **6/27/2020 8:57:39 AM** DD

Reviewed By: DF 6/27/2020

## 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: DAD 6/27/20

## Special Handling (if applicable)

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

Person Notified: _____ Date: _____

By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

16. Additional remarks:

17. **Cooler Information**

| Cooler No | Temp °C | Condition | Seal Intact | Seal No | Seal Date | Signed By |
|---|---|---|---|---|---|---|
| 1 | 0.2 | Good | Not Present | | | |

# Chain-of-Custody Record

Client: SMA

Mailing Address:

Phone #:

email or Fax#:

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

Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time: 3day
☐ Standard ☑ Rush

Project Name: Kachina 8 Fed 1

Project #:

Project Manager: Ashley Maxwell

Sampler: SO

On Ice: ☑ Yes ☐ No

# of Coolers: 1

Cooler Temp(including CF): 0.3-0.1=0.2 (°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. 2006E34 | 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) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 6/24/20 | 10:05 | Soil | CS1 | 4oz | Cool | -001 | X | X | | | | | X | | | |
| | 10:10 | | SW1 | | | -002 | X | X | | | | | X | | | |
| | 10:15 | | SW2 | | | -003 | X | X | | | | | X | | | |

| Date | Time | Relinquished by | Received by | Via | Date | Time |
|---|---|---|---|---|---|---|
| 6/26/20 | 1200 | Relinquished by: | Received by: | Via: | 6/26/20 | 1200 |
| 6/26/20 | 1910 | Relinquished by: | Received by: | Via: courier | 6/27/20 | 8:40 |

Remarks: Bill Devon WO#: 20715698

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.

# KAPPENDIX E
# PHOTO LOG