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

July 1, 2019

#55E26816-BG16

NMOCD District 2
Mr. Robert Hamlet
811 S. First St.
Artesia, NM 88210

SUBJECT: Remediation Closure Report for the Tom Matthews Tank Battery Release (2RP-4995), Malaga, Eddy County, New Mexico

Dear Mr. Hamlet:

On behalf of Matador Resources, 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 Tom Matthews Tank Battery site. The site is in Unit L, Section 10, Township 24S, Range 28E, Eddy County, New Mexico, on private 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 | Tom Matthews Tank Battery | Company | Matador Resources Company |
| API Number | N/A | Location | 32.229609° -104.083454° |
| Incident Number | 2RP-4995 | | |
| Estimated Date of Release | 9/19/18 | Date Reported to NMOCD | 9/19/18 |
| Landowner | VASQUEZ, MIKE M | Reported To | Jim Griswold, Mike Bratcher, Maria Pruett |
| Source of Release | Equipment Failure | | |
| Released Volume | 920 | Released Material | Produced Water |
| Recovered Volume | 280 | Net Release | 640 |
| NMOCD Closure Criteria | <50 feet to groundwater | | |
| SMA Response Dates | 9/19/2018, 9/21/2018, 12/20/2018, 6/17/2019 | | |

## 1.0 Background

On September 19, 2018, a release was discovered at the Tom Matthews Tank Battery site due to equipment failure. Initial response activities were conducted by operator, and included source elimination and site stabilization activities, which recovered approximately 280 barrels of fluid and approximately 40 cubic yards of contaminated soil, which were hauled to and disposed of at an NMOCD approved facility in NM. Figures 1 and 2 illustrate the vicinity and site location, Figure 3 illustrates the release location. The C-141 forms are included in Appendix A.

## 2.0 Site Information and Closure Criteria

The Tom Matthews Tank Battery is located approximately 0.7 miles west of Malaga, New Mexico on privately-owned land at an elevation of approximately 3,020 feet above mean sea level (amsl).

Based upon the New Mexico Office of the State Engineer (NMOSE) (Appendix B), depth to groundwater in the area is estimated to be 25 feet below grade surface (bgs). There are 4 known water sources within ½-mile of the location, according to the NMOSE online water well database (https://gis.ose.state.nm.us/gisapps/ose_pod_locations/; accessed 1/11/2018). The nearest significant watercourse is Black River, located approximately 0.33 miles north of site. Figure 2 illustrates the site with 200 and 300-foot radii to indicate that it Choose an item. 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 less than 50 feet bgs. The site has been restored to meet the standards of Table I of 19.15.29.12 NMAC. Requesting a deferral per 19.15.29.12.B.(2), to allow the area labeled Deferment in Figure 3 to be deferred due to inaccessibility of soil from the placement of operational equipment. This soil will remain in place until site abonnement which at that point remediation of soils would occur.

Table 2 demonstrates the Closure Criteria applicable to this location. Pertinent well data is attached in Appendix B.

## 3.0 Release Characterization Activities and Findings

On September 21, 2018, SMA personnel arrived on site in response to the release associated with backhoe. SMA performed site delineation activities by collecting soil samples around the release site and throughout the visibly stained area.

A total of eight sample locations (L1-L6, BBG1 and BBG2) were investigated using excavated test pits, to depths up to six feet bgs. A total of 15 samples were collected for laboratory analysis for total chloride using EPA Method 300.0. Table 3 itemizes the samples and results as well as identifying any variances from the typical specification of two samples per boring. Locations for all samples are depicted on Figure 3.

Samples were placed into laboratory supplied glassware, labeled, and maintained on ice until delivery to Hall Environmental Analysis Laboratory in Albuquerque, New Mexico (Appendix D).

As summarized in Table 3, results indicate that an area approximately 2,225 square yards by 1 foot deep and 131 square yards by 2 feet deep had been impacted.

## 4.0 Soil Remediation Summary

SMA returned to the site to oversee the excavation of contaminated soil. After approval from area utilities via 811, SMA guided the excavation activities by collecting soil samples for field screening chloride, using an electrical conductivity (EC) meter. The walls and base were excavated until the NMOCD Closure Criteria would be met.

On December 20, 2019 SMA conducted confirmation sampling of the walls and base of the excavation. The area around sample locations L1-L5 and B2-B12 was excavated to a depth of 1.5 feet bgs and sample location L6 and BH1 was excavated to a depth of 2.5 feet bgs. The confirmation samples were collected from within the excavation. Confirmation samples were comprised of five-point composites of the base (B1-B12) and walls (SW1, S2-S15).

The area that was originally requested for deferment is shown in Figure 3. This area could not be mechanically excavated due to the proximity of the operational equipment in the area. Sample locations S13 and S14 where taken within the deferment area along the pipelines. On May 6, 2019, NMOCD denied the deferral of these two sample locations due to imminent risk to groundwater. SMA returned to the Tom Matthews Tank Battery location on June 17, 2019 to resample the material between the pipelines and the edge of the original excavation by hand. Sample locations S13 and S14 were then recollected. These two sidwall sample locations can be seen isolated in Figure 4.

Figure 3 shows the extent of the excavation and sample locations. All 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 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 Austin Weyant at 575-689-8801 or Shawna Chubbuck at 505-325-7535.

Submitted by:
SOUDER, MILLER & ASSOCIATES

Reviewed by:

Lucas C. Middleton
Staff Scientist

Austin Weyant
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
Figure 4: Sidewall Sample Locations (SW13 & SW14)

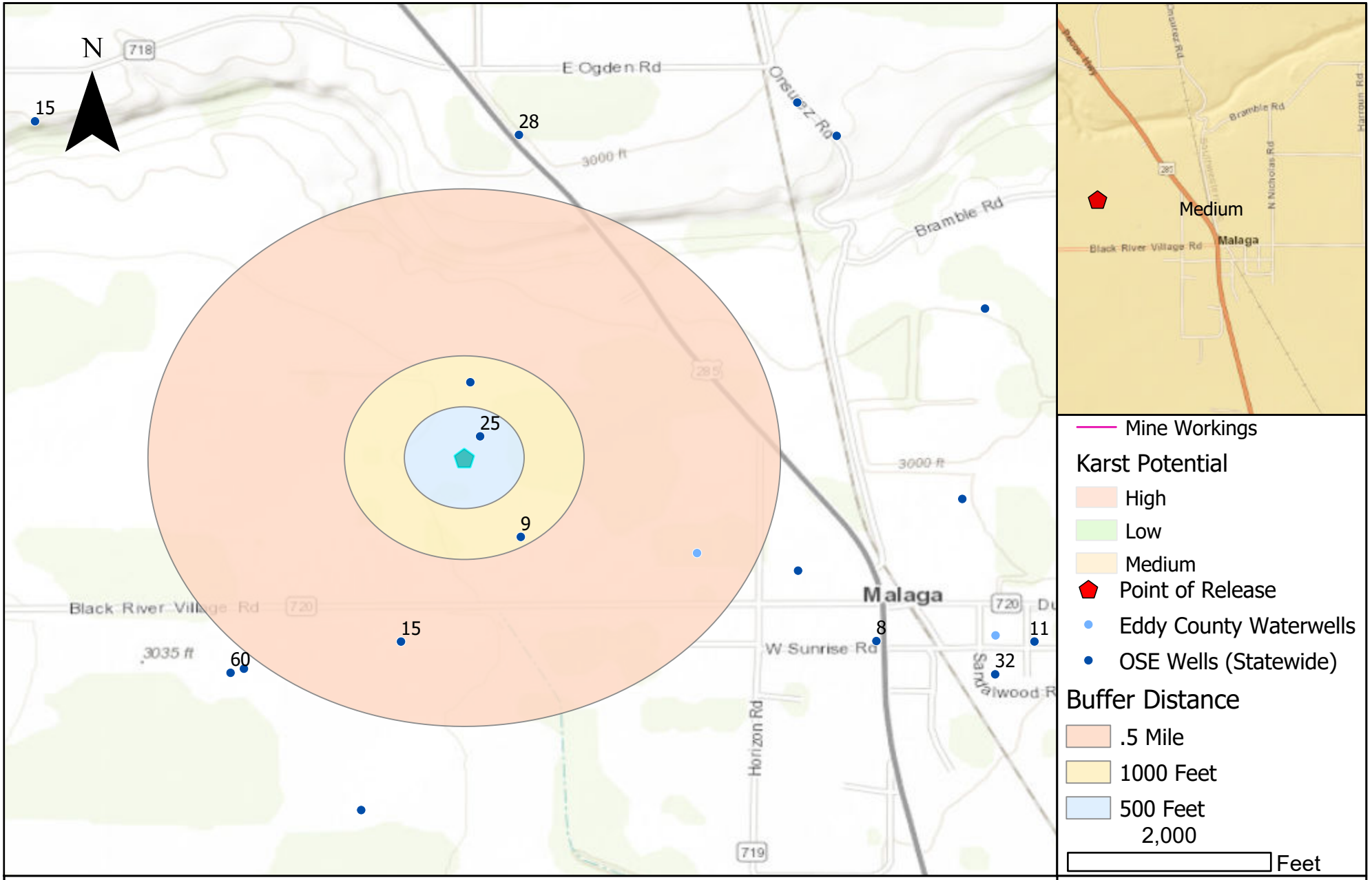
**Tables:**

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

**Appendices:**

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

# FIGURES




*Regional Vicinity & Wellhead Protection Map*
*TOM MATTHEWS TB - Matador Resources*
*Eddy County , NM UL: I S: 10 T24S R28E*

*Figure 1*

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Date Saved: 1/9/2019

Revisions
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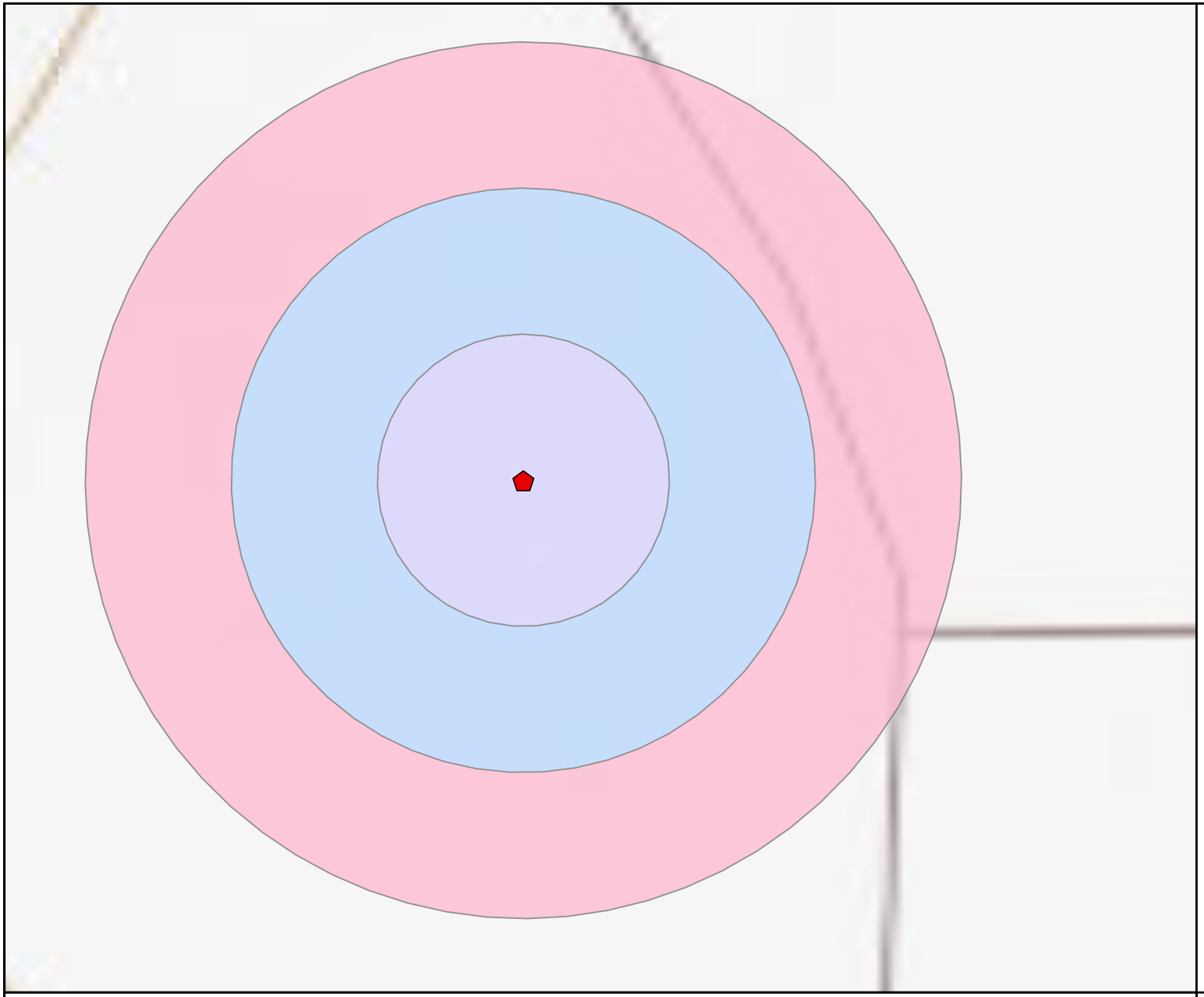
By:_____ Date:_____ Descr:_____



| | |
|---|---|
| Drawn | LCM |
| Date | 1/9/2019 |
| Checked | |
| Approved | |

SMA

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



Springs Seeps
Streams Canals
Rivers
NM Wetlands
Lakes Playas
FEMA Flood Zones 2011

Buffer Distance
100 Feet
200 Feet
300 Feet

N

150 Feet

*Surface Water Protection Map*
*TOM MATTHEWS TB - Matador Resources*
*Eddy County , NM UL: I S: 10 T24S R28E*

*Figure 2*

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Drawn
Date 1/9/2019
Checked
Approved

SMA

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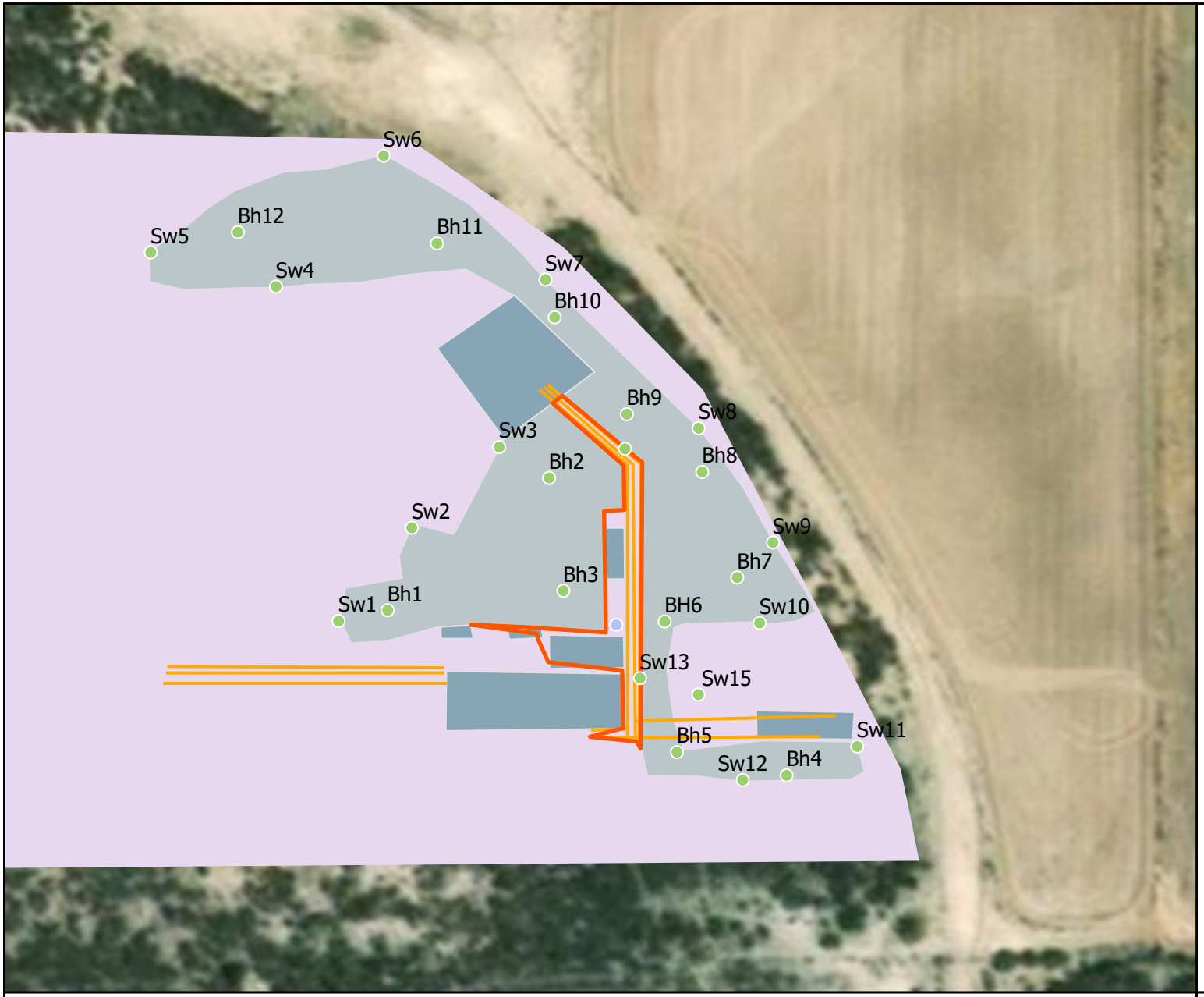


Sample Locations
Point of Release
Pipelines
Excavation
Equipment
Deferment

N

0.02
Miles

*Site and Sample location Map*
*TOM MATTHEWS TB - Matador Resources*
*Eddy County , NM UL: I S: 10 T24S R28E*

*Figure 3*

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Date 1/14/2019
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SMA

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*Carlsbad, New Mexico 88221*
*(575) 689-7040*
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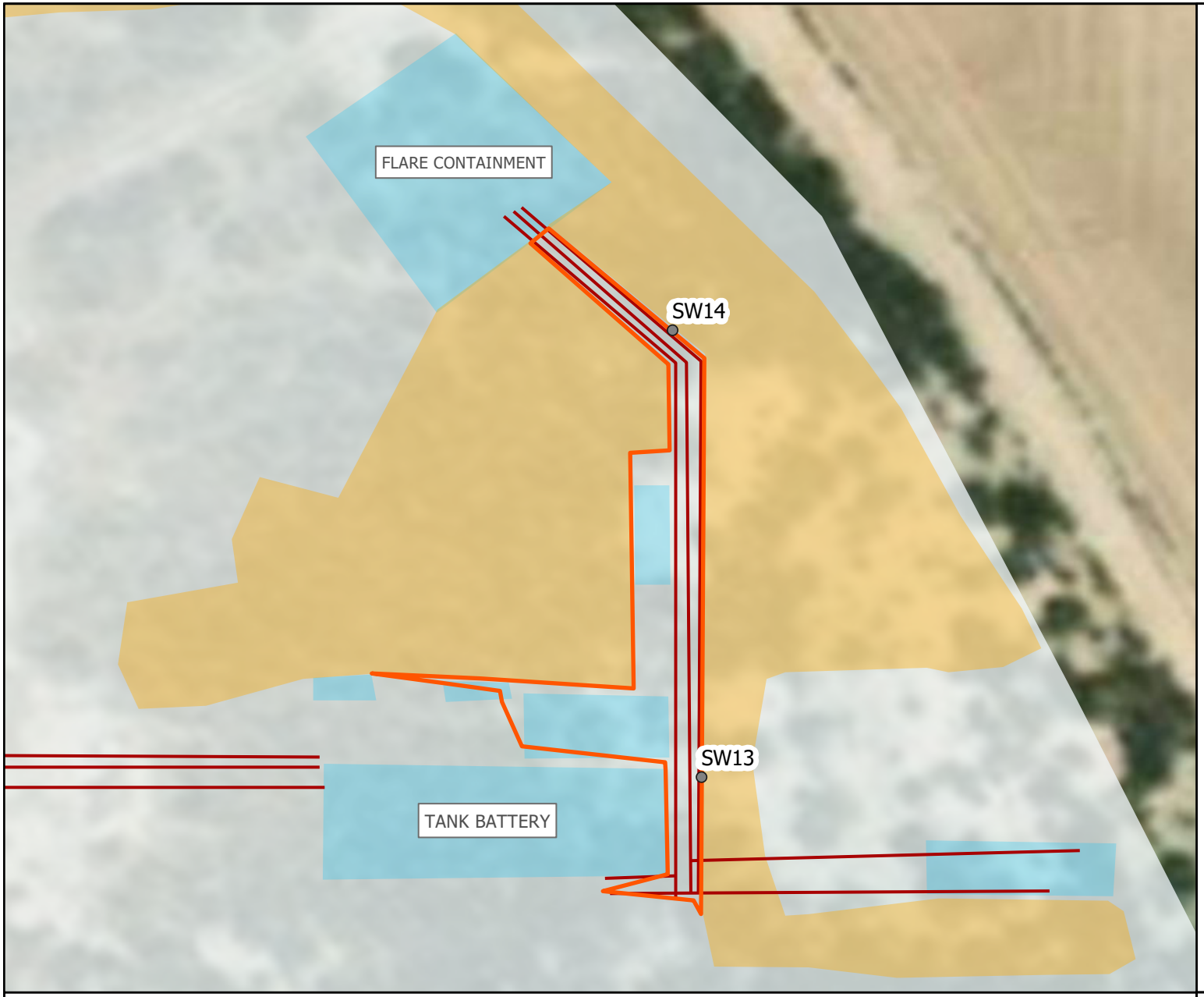


Sidewall Sample Locations
Pipelines
Original Deferrment Area
Release Area
Equipment
Pad

N

60
Feet

*Recollection of Sidewalls*
*Tom Matthews Tank Battery*
*Malaga, New Mexico*

*Figure 3*

P:\5-Matador 2019 MSA (5E27961)\GIS\ARCGIS\MATADOR_MIT.aprx

Date Saved: 6/12/2019

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



Drawn
Date 6/12/2019
Checked
Approved

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

# TABLES

| Site Information (19.15.29.11.A(2, 3, and 4) NMAC) | | Source/Notes |
|---|---|---|
| **Depth to Groundwater (feet bgs)** | ~20-22 | OSE, USGS |
| **Hortizontal Distance From All Water Sources Within 1/2 Mile (ft)** | 6 | OSE, USGS ,USGS7.5 quad Topographic Map |
| **Hortizontal Distance to Nearest Significant Watercourse (ft)** | 1659 | USGS7.5 quad Topographic Map |

| 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 | x | 600 | 100 | | 50 | 10 |
| 51' to 100' | | 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? | YES | | | | | |
| <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) | BTEX mg/Kg | Benzene mg/Kg | GRO mg/Kg | DRO mg/Kg | MRO mg/Kg | Total TPH mg/Kg | Cl- laboratory mg/Kg |
|---|---|---|---|---|---|---|---|---|---|
| NMOCD Closure Criteria | | | 50 | 10 | | | | 100 | 600 |
| SW1 | 12/20/2018 | 1' | <0.225 | <0.025 | <5.0 | <10 | <50 | <65 | 480 |
| S2 | 12/20/2018 | 0.5' | <0.225 | <0.025 | <5.0 | <10 | <50 | <65 | 360 |
| S3 | 12/20/2018 | 0.5' | <0.225 | <0.025 | <5.0 | <10 | <50 | <65 | 230 |
| S4 | 12/20/2018 | 0.5' | <0.225 | <0.025 | <5.0 | <10 | <50 | <65 | 820 |
| S5 | 12/20/2018 | 0.5' | <0.225 | <0.025 | <5.0 | <10 | <50 | <65 | 370 |
| S6 | 12/20/2018 | 0.5' | <0.225 | <0.025 | <5.0 | <10 | <50 | <65 | 99 |
| S7 | 12/20/2018 | 0.5' | <0.225 | <0.025 | <5.0 | <10 | <50 | <65 | 62 |
| S8 | 12/20/2018 | 0.5' | <0.225 | <0.025 | <5.0 | <10 | <50 | <65 | 82 |
| S9 | 12/20/2018 | 0.5' | <0.225 | <0.025 | <5.0 | <10 | <50 | <65 | 41 |
| S10 | 12/20/2018 | 0.5' | <0.225 | <0.025 | <5.0 | <10 | <50 | <65 | <30 |
| S11 | 12/20/2018 | 0.5' | <0.225 | <0.025 | <5.0 | <10 | <50 | <65 | 150 |
| S12 | 12/20/2018 | 0.5' | <0.225 | <0.025 | <5.0 | <10 | <50 | <65 | 47 |
| S13 | 12/20/2018 | 0.5' | <0.025 | <0.025 | <5.0 | 63 | 53 | **116** | **12000** |
| | 6/17/2019 | | -- | -- | <5.0 | <9.6 | <48 | <63 | 75 |
| S14 | 12/20/2018 | 0.5' | <0.225 | <0.025 | <5.0 | <10 | <50 | <65 | **5700** |
| | 6/17/2019 | | -- | -- | -- | -- | -- | -- | 92 |
| S15 | 12/20/2018 | 0.5' | <0.225 | <0.025 | <5.0 | <10 | <50 | <65 | 180 |
| B1 | 12/20/2018 | 2.5' | <0.225 | <0.025 | <5.0 | <10 | <50 | <65 | <30 |
| B2 | 12/20/2018 | 1.5' | <0.225 | <0.025 | <5.0 | <10 | <50 | <65 | 64 |
| B3 | 12/20/2018 | 1.5' | <0.225 | <0.025 | <5.0 | <10 | <50 | <65 | 93 |
| B4 | 12/20/2018 | 1.5' | <0.225 | <0.025 | <5.0 | <10 | <50 | <65 | 400 |
| B5 | 12/20/2018 | 1.5' | <0.225 | <0.025 | <5.0 | <10 | <50 | <65 | 150 |
| B6 | 12/20/2018 | 1.5' | <0.225 | <0.025 | <5.0 | <10 | <50 | <65 | 72 |
| B7 | 12/20/2018 | 1.5' | <0.225 | <0.025 | <5.0 | <10 | <50 | <65 | 380 |
| B8 | 12/20/2018 | 1.5' | <0.225 | <0.025 | <5.0 | <10 | <50 | <65 | 100 |
| B9 | 12/20/2018 | 1.5' | <0.225 | <0.025 | <5.0 | <10 | <50 | <65 | 62 |
| B10 | 12/20/2018 | 1.5' | <0.225 | <0.025 | <5.0 | <10 | <50 | <65 | 79 |
| B11 | 12/20/2018 | 1.5' | <0.225 | <0.025 | <5.0 | <10 | <50 | <65 | 64 |
| B12 | 12/20/2018 | 1.5' | <0.225 | <0.025 | <5.0 | <10 | <50 | <65 | 57 |

"--" = 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 Department

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

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

| | |
|---|---|
| Incident ID | NMAP1828226742 |
| District RP | 2RP-4995 |
| Facility ID | fMAP1828226389 |
| Application ID | pMAP1828226893 |

# Release Notification

## Responsible Party

| | |
|---|---|
| Responsible Party Matador Resources Company | OGRID 228937 |
| Contact Name John Hurt | Contact Telephone 972-371-5200 |
| Contact email JHurt@matadorresources.com | Incident # (assigned by OCD) NMAP1828226742 |
| Contact mailing address5400 LBJ Freeway, Suite 1500 Dallas,TX 75240 | |

## Location of Release Source

Latitude 32.229609° Longitude -104.083454°
(NAD83 in decimal degrees to 5 decimal places)

| | |
|---|---|
| Site Name TOM MATTHEWS TB ( Tank Battery) | Site Type Tank Battery |
| Date Release Discovered 9/19/2018 | API# fMAP1828226389 |

| Unit Letter | Section | Township | Range | County |
|---|---|---|---|---|
| L | 10 | 24S | 28E | Eddy |

Surface Owner: ☐ State ☐ Federal ☐ Tribal ☒ Private (Name: VASQUEZ, MIKE M)

## Nature and Volume of Release

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

| | | |
|---|---|---|
| ☐ Crude Oil | Volume Released (bbls) | Volume Recovered (bbls) |
| ☒ Produced Water | Volume Released (bbls) 920 | Volume Recovered (bbls) 280 |
| | Is the concentration of dissolved chloride in the produced water >10,000 mg/l? | ☒ Yes ☐ No |
| ☐ Condensate | Volume Released (bbls) | Volume Recovered (bbls) |
| ☐ Natural Gas | Volume Released (Mcf) | Volume Recovered (Mcf) |
| ☐ Other (describe) | Volume/Weight Released (provide units) | Volume/Weight Recovered (provide units) |

Cause of Release
Equipment Failure- Transfer Pump failed. Releasing fluids on location north, east and south of tank battery. No fluids left the location

State of New Mexico
Oil Conservation Division

| | |
|---|---|
| Incident ID | NMAP1828226742 |
| District RP | 2RP-4995 |
| Facility ID | fMAP1828226389 |
| Application ID | pMAP1828226893 |

| | |
|---|---|
| Was this a major release as defined by 19.15.29.7(A) NMAC?<br><br>☒ Yes ☐ No | If YES, for what reason(s) does the responsible party consider this a major release?<br>The vacuum truck recovered 280 bbls on 9/19/18 |
| If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)?<br>OCD, Jim Griswold, Mike Bratcher and Maria Pruett, from SMA -Lucas Middleton by email @2;48 pm on 9/19/18 | |

## Initial Response

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

☒ The source of the release has been stopped.

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

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

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

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

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

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

Printed Name: John Hurt Title: RES Specialist
Signature: Date: 10/2/18

email: JHurt@matadorresources.com Telephone: 972-371-5200

OCD Only

Received by: Date: 10/09/2018

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

State of New Mexico
Energy Minerals and Natural Resources Department

Oil Conservation Division
1220 South St. Francis Dr.
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Form C-141
Revised August 24, 2018
Submit to appropriate OCD District office

| | |
|---|---|
| Incident ID | |
| District RP | |
| Facility ID | |
| Application ID | |

# Release Notification

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|---|---|
| Responsible Party Matador Resources Company | OGRID 228937 |
| Contact Name John Hurt | Contact Telephone 972-371-5200 |
| Contact email JHurt@matadorresources.com | Incident # *(assigned by OCD)* |
| Contact mailing address5400 LBJ Freeway, Suite 1500 Dallas,TX 75240 | |

## Location of Release Source

Latitude 32.229609°_____ Longitude -104.083454°_____
*(NAD 83 in decimal degrees to 5 decimal places)*

| | |
|---|---|
| Site Name TOM MATTHEWS TB ( Tank Battery) | Site Type Tank Battery |
| Date Release Discovered 9/19/1928 | API# *(if applicable) n/a* |

| Unit Letter | Section | Township | Range | County |
|---|---|---|---|---|
| L | 10 | 24S | 28E | Eddy |

Surface Owner: ☐ State ☐ Federal ☐ Tribal ☒ Private (*Name:* VASQUEZ, MIKE M)_____)

## Nature and Volume of Release

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

| | | |
|---|---|---|
| ☐ Crude Oil | Volume Released (bbls) | Volume Recovered (bbls) |
| ☒ Produced Water | Volume Released (bbls) 920 | Volume Recovered (bbls) 280 |
| | Is the concentration of dissolved chloride in the produced water >10,000 mg/l? | ☒ Yes ☐ No |
| ☐ Condensate | Volume Released (bbls) | Volume Recovered (bbls) |
| ☐ Natural Gas | Volume Released (Mcf) | Volume Recovered (Mcf) |
| ☐ Other (describe) | Volume/Weight Released (provide units) | Volume/Weight Recovered (provide units) |

Cause of Release
Equipment Failure- Transfer Pump failed. Releasing fluids on location north, east and south of tank battery. No fluids left the location

State of New Mexico
Oil Conservation Division

| | |
|---|---|
| Incident ID | |
| District RP | |
| Facility ID | |
| Application ID | |

# Site Assessment/Characterization

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

| | |
|---|---|
| What is the shallowest depth to groundwater beneath the area affected by the release? | 23 (ft bgs) |
| Did this release impact groundwater or surface water? | ☐ Yes ☒ No |
| Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse? | ☐ Yes ☒ No |
| Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)? | ☐ Yes ☒ No |
| Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church? | ☐ Yes ☒ No |
| Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes? | ☒ Yes ☐ No |
| Are the lateral extents of the release within 1000 feet of any other fresh water well or spring? | ☐ Yes ☒ No |
| Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field? | ☐ Yes ☒ No |
| Are the lateral extents of the release within 300 feet of a wetland? | ☐ Yes ☒ No |
| Are the lateral extents of the release overlying a subsurface mine? | ☐ Yes ☒ No |
| Are the lateral extents of the release overlying an unstable area such as karst geology? | ☐ Yes ☒ No |
| Are the lateral extents of the release within a 100-year floodplain? | ☐ Yes ☒ No |
| Did the release impact areas **not** on an exploration, development, production, or storage site? | ☐ Yes ☒ No |

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

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

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

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

State of New Mexico
Oil Conservation Division

| | |
|---|---|
| Incident ID | |
| District RP | |
| Facility ID | |
| Application ID | |

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

Printed Name: John Hurt Title: RES Specialist
Signature: Date: 1/16/19

email: JHurt@matadorresources.com Telephone: 972-371-5200

**OCD Only**

Received by: Date:

State of New Mexico
Oil Conservation Division

| | |
|---|---|
| Incident ID | |
| District RP | |
| Facility ID | |
| Application ID | |

# Remediation Plan

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

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

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

- ☒ Contamination must be in areas immediately under or around production equipment where remediation could cause a major facility deconstruction.
- ☒ Extents of contamination must be fully delineated.
- ☒ Contamination does not cause an imminent risk to human health, the environment, or groundwater.

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

Printed Name: John Hurt Title: RES Specialist
Signature: Date: 1/16/19

email: JHurt@matadorresources.com Telephone: 972-371-5200

**OCD Only**

Received by: Date:

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

Signature: Date:

State of New Mexico
Oil Conservation Division

| | |
|---|---|
| Incident ID | |
| District RP | |
| Facility ID | |
| Application ID | |

# Closure

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

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

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

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

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

☒ Description of remediation activities

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

Printed Name: John Hurt Title: RES Specialist
Signature: Date: 1/16/19

email: JHurt@matadorresources.com Telephone: 972-371-5200

**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:

# APPENDIX B
# NMOSE WELLS REPORT

# New Mexico Office of the State Engineer
# Water Right Summary

**WR File Number:** C 00764 **Subbasin:** - **Cross Reference:** -

**Primary Purpose:** IRR IRRIGATION

**Primary Status:** LIC LICENSED

**Total Acres:** 39.3 **Subfile:** 24 28 10 A

**Total Diversion:** 117.9 **Cause/Case:** -

**Owner:** MIKE M. VASQUEZ

## Documents on File

| Trn # | Doc | File/Act | Status 1 | Status 2 | Transaction Desc. | From/ To | Acres | Diversion | Consumptive |
|---|---|---|---|---|---|---|---|---|---|
| 245357 | COWNP | 2002-10-29 | PMT | APR | C 00764 A | F | 6.8 | 20.4 | |
| 228783 | COWNF | 2002-03-18 | CHG | PRC | C 00764 | T | 0 | 0 | |
| 156621 | LIC | 1963-11-22 | LIC | PRC | C-764 | T | 46.1 | 138.3 | |
| 156619 | CLWPP | 1958-08-11 | PMT | APR | C-764 | T | 0 | 0 | |
| 156619 | CLWPP | 1958-08-11 | PMT | APR | C-764 | F | 0 | 0 | |
| 156446 | ALTD | 1957-05-09 | PMT | PBU | 6 & C-764 | T | 57 | 171 | |

## Current Points of Diversion

(NAD83 UTM in meters)

| POD Number | Source | Q 64 | Q 16 | Q 4 | Sec | Tws | Rng | X | Y | Other Location Desc |
|---|---|---|---|---|---|---|---|---|---|---|
| C 00764 | Shallow | 3 | 1 | 3 | 10 | 24S | 28E | 586399 | 3566292* | |
| SP 00006 | | 4 | 1 | 3 | 12 | 21S | 26E | 570265 | 3595078 | AVALON DAM GATE TO CID MAIN CA |
| SP 01927 | | | | 4 | 12 | 24S | 27E | 581032 | 3566097* | BLACK RIVER |

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

## Priority Summary

| Priority | Status | Acres | Diversion | Pod Number | Source |
|---|---|---|---|---|---|
| 03/22/1957 | LIC | 39.3 | 117.9 | C 00764 | Shallow |
| | | | | SP 00006 | |
| | | | | SP 01927 | |

## Place of Use

| Q 256 | Q 64 | Q 16 | Q 4 | Sec | Tws | Rng | Acres | Diversion | CU | Use | Priority | Status | Other Location Desc |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 3 | 10 | 24S | 28E | 16.4 | 19.2 | | IRR | 03/22/1957 | LIC | |
| | 1 | 1 | 3 | 10 | 24S | 28E | 2.2 | 6.6 | | IRR | 03/22/1957 | LIC | |
| | 1 | 4 | 3 | 10 | 24S | 28E | 4.4 | 13.2 | | IRR | 03/22/1957 | LIC | |
| | 2 | 1 | 3 | 10 | 24S | 28E | 2.6 | 7.8 | | IRR | 03/22/1957 | LIC | |
| | 2 | 4 | 3 | 10 | 24S | 28E | 6.6 | 19.8 | | IRR | 03/22/1957 | LIC | |
| | 3 | 1 | 3 | 10 | 24S | 28E | 1.7 | 5.1 | | IRR | 03/22/1957 | LIC | |
| | 4 | 1 | 3 | 10 | 24S | 28E | 9.8 | 29.4 | | IRR | 03/22/1957 | LIC | |

## Source

| Acres | Diversion | CU | Use | Priority | Source Description |
|---|---|---|---|---|---|

-  -

24 28 10 A

-

**Source**

| Acres | Diversion | CU | Use | Priority | Source | Description |
|---|---|---|---|---|---|---|
| 46.1 | 138.3 | | IRR | 03/22/1957 | GW | |
| 39.3 | 117.9 | | IRR | 03/22/1957 | GW | |

# APPENDIX C

# LABORATORY ANALYTICAL REPORTS

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

January 04, 2019

Austin Weyant

Souder, Miller & Associates
201 S Halagueno
Carlsbad, NM 88221
TEL: (575) 689-7040
FAX

RE: Tom Mathews TB OrderNo.: 1812E91

Dear Austin Weyant:

Hall Environmental Analysis Laboratory received 27 sample(s) on 12/29/2018 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

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

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

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Souder, Miller & Associates
**Client Sample ID:** SW 1
**Project:** Tom Mathews TB
**Collection Date:** 12/20/2018 10:30:00 AM
**Lab ID:** 1812E91-001 **Matrix:** SOIL
**Received Date:** 12/29/2018 11:00:00 AM

| Analyses | Result | PQL | Qual | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|
| **EPA METHOD 300.0: ANIONS** | | | | | | Analyst: **smb** | |
| Chloride | 480 | 30 | | mg/Kg | 20 | 1/2/2019 3:19:22 PM | 42398 |
| **EPA METHOD 8015M/D: DIESEL RANGE ORGANICS** | | | | | | Analyst: **lrm** | |
| Diesel Range Organics (DRO) | ND | 9.8 | | mg/Kg | 1 | 1/3/2019 5:44:44 PM | 42388 |
| Motor Oil Range Organics (MRO) | ND | 49 | | mg/Kg | 1 | 1/3/2019 5:44:44 PM | 42388 |
| Surr: DNOP | 112 | 50.6-138 | | %Rec | 1 | 1/3/2019 5:44:44 PM | 42388 |
| **EPA METHOD 8015D: GASOLINE RANGE** | | | | | | Analyst: **NSB** | |
| Gasoline Range Organics (GRO) | ND | 4.8 | | mg/Kg | 1 | 1/2/2019 2:41:26 PM | 42380 |
| Surr: BFB | 99.8 | 73.8-119 | | %Rec | 1 | 1/2/2019 2:41:26 PM | 42380 |
| **EPA METHOD 8021B: VOLATILES** | | | | | | Analyst: **NSB** | |
| Benzene | ND | 0.024 | | mg/Kg | 1 | 1/2/2019 2:41:26 PM | 42380 |
| Toluene | ND | 0.048 | | mg/Kg | 1 | 1/2/2019 2:41:26 PM | 42380 |
| Ethylbenzene | ND | 0.048 | | mg/Kg | 1 | 1/2/2019 2:41:26 PM | 42380 |
| Xylenes, Total | ND | 0.095 | | mg/Kg | 1 | 1/2/2019 2:41:26 PM | 42380 |
| Surr: 4-Bromofluorobenzene | 95.5 | 80-120 | | %Rec | 1 | 1/2/2019 2:41:26 PM | 42380 |

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 Detection Limit |
| S | % Recovery outside of range due to dilution or matrix | W | Sample container temperature is out of limit as specified |

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Souder, Miller & Associates
**Client Sample ID:** S 2
**Project:** Tom Mathews TB
**Collection Date:** 12/20/2018 10:35:00 AM
**Lab ID:** 1812E91-002 **Matrix:** SOIL **Received Date:** 12/29/2018 11:00:00 AM

| Analyses | Result | PQL | Qual | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|
| **EPA METHOD 300.0: ANIONS** | | | | | | Analyst: **smb** | |
| Chloride | 360 | 30 | | mg/Kg | 20 | 1/2/2019 3:31:46 PM | 42398 |
| **EPA METHOD 8015M/D: DIESEL RANGE ORGANICS** | | | | | | Analyst: **lrm** | |
| Diesel Range Organics (DRO) | ND | 9.8 | | mg/Kg | 1 | 1/3/2019 6:06:29 PM | 42388 |
| Motor Oil Range Organics (MRO) | ND | 49 | | mg/Kg | 1 | 1/3/2019 6:06:29 PM | 42388 |
| Surr: DNOP | 134 | 50.6-138 | | %Rec | 1 | 1/3/2019 6:06:29 PM | 42388 |
| **EPA METHOD 8015D: GASOLINE RANGE** | | | | | | Analyst: **NSB** | |
| Gasoline Range Organics (GRO) | ND | 4.6 | | mg/Kg | 1 | 1/2/2019 3:49:36 PM | 42380 |
| Surr: BFB | 88.8 | 73.8-119 | | %Rec | 1 | 1/2/2019 3:49:36 PM | 42380 |
| **EPA METHOD 8021B: VOLATILES** | | | | | | Analyst: **NSB** | |
| Benzene | ND | 0.023 | | mg/Kg | 1 | 1/2/2019 3:49:36 PM | 42380 |
| Toluene | ND | 0.046 | | mg/Kg | 1 | 1/2/2019 3:49:36 PM | 42380 |
| Ethylbenzene | ND | 0.046 | | mg/Kg | 1 | 1/2/2019 3:49:36 PM | 42380 |
| Xylenes, Total | ND | 0.092 | | mg/Kg | 1 | 1/2/2019 3:49:36 PM | 42380 |
| Surr: 4-Bromofluorobenzene | 91.0 | 80-120 | | %Rec | 1 | 1/2/2019 3:49:36 PM | 42380 |

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 Detection Limit |
| S | % Recovery outside of range due to dilution or matrix | W | Sample container temperature is out of limit as specified |

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Souder, Miller & Associates
**Client Sample ID:** S 3
**Project:** Tom Mathews TB
**Collection Date:** 12/20/2018 10:40:00 AM
**Lab ID:** 1812E91-003 **Matrix:** SOIL **Received Date:** 12/29/2018 11:00:00 AM

| Analyses | Result | PQL | Qual | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|
| **EPA METHOD 300.0: ANIONS** | | | | | | Analyst: **smb** | |
| Chloride | 230 | 30 | | mg/Kg | 20 | 1/2/2019 3:44:11 PM | 42398 |
| **EPA METHOD 8015M/D: DIESEL RANGE ORGANICS** | | | | | | Analyst: **lrm** | |
| Diesel Range Organics (DRO) | ND | 9.9 | | mg/Kg | 1 | 1/3/2019 6:28:19 PM | 42388 |
| Motor Oil Range Organics (MRO) | ND | 49 | | mg/Kg | 1 | 1/3/2019 6:28:19 PM | 42388 |
| Surr: DNOP | 115 | 50.6-138 | | %Rec | 1 | 1/3/2019 6:28:19 PM | 42388 |
| **EPA METHOD 8015D: GASOLINE RANGE** | | | | | | Analyst: **NSB** | |
| Gasoline Range Organics (GRO) | ND | 4.9 | | mg/Kg | 1 | 1/2/2019 4:12:18 PM | 42380 |
| Surr: BFB | 88.7 | 73.8-119 | | %Rec | 1 | 1/2/2019 4:12:18 PM | 42380 |
| **EPA METHOD 8021B: VOLATILES** | | | | | | Analyst: **NSB** | |
| Benzene | ND | 0.024 | | mg/Kg | 1 | 1/2/2019 4:12:18 PM | 42380 |
| Toluene | ND | 0.049 | | mg/Kg | 1 | 1/2/2019 4:12:18 PM | 42380 |
| Ethylbenzene | ND | 0.049 | | mg/Kg | 1 | 1/2/2019 4:12:18 PM | 42380 |
| Xylenes, Total | ND | 0.098 | | mg/Kg | 1 | 1/2/2019 4:12:18 PM | 42380 |
| Surr: 4-Bromofluorobenzene | 90.1 | 80-120 | | %Rec | 1 | 1/2/2019 4:12:18 PM | 42380 |

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 Detection Limit |
| S | % Recovery outside of range due to dilution or matrix | W | Sample container temperature is out of limit as specified |

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Souder, Miller & Associates
**Client Sample ID:** S 4
**Project:** Tom Mathews TB
**Collection Date:** 12/20/2018 10:45:00 AM
**Lab ID:** 1812E91-004 **Matrix:** SOIL
**Received Date:** 12/29/2018 11:00:00 AM

| Analyses | Result | PQL | Qual | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|
| **EPA METHOD 300.0: ANIONS** | | | | | | Analyst: **smb** | |
| Chloride | 820 | 30 | | mg/Kg | 20 | 1/2/2019 3:56:35 PM | 42398 |
| **EPA METHOD 8015M/D: DIESEL RANGE ORGANICS** | | | | | | Analyst: **lrm** | |
| Diesel Range Organics (DRO) | ND | 9.9 | | mg/Kg | 1 | 1/3/2019 6:49:58 PM | 42388 |
| Motor Oil Range Organics (MRO) | ND | 49 | | mg/Kg | 1 | 1/3/2019 6:49:58 PM | 42388 |
| Surr: DNOP | 111 | 50.6-138 | | %Rec | 1 | 1/3/2019 6:49:58 PM | 42388 |
| **EPA METHOD 8015D: GASOLINE RANGE** | | | | | | Analyst: **NSB** | |
| Gasoline Range Organics (GRO) | ND | 4.7 | | mg/Kg | 1 | 1/2/2019 6:51:13 PM | 42380 |
| Surr: BFB | 92.4 | 73.8-119 | | %Rec | 1 | 1/2/2019 6:51:13 PM | 42380 |
| **EPA METHOD 8021B: VOLATILES** | | | | | | Analyst: **NSB** | |
| Benzene | ND | 0.023 | | mg/Kg | 1 | 1/2/2019 6:51:13 PM | 42380 |
| Toluene | ND | 0.047 | | mg/Kg | 1 | 1/2/2019 6:51:13 PM | 42380 |
| Ethylbenzene | ND | 0.047 | | mg/Kg | 1 | 1/2/2019 6:51:13 PM | 42380 |
| Xylenes, Total | ND | 0.093 | | mg/Kg | 1 | 1/2/2019 6:51:13 PM | 42380 |
| Surr: 4-Bromofluorobenzene | 96.2 | 80-120 | | %Rec | 1 | 1/2/2019 6:51:13 PM | 42380 |

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 Detection Limit |
| S | % Recovery outside of range due to dilution or matrix | W | Sample container temperature is out of limit as specified |

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Souder, Miller & Associates
**Client Sample ID:** S 5
**Project:** Tom Mathews TB
**Collection Date:** 12/20/2018 10:50:00 AM
**Lab ID:** 1812E91-005 **Matrix:** SOIL **Received Date:** 12/29/2018 11:00:00 AM

| Analyses | Result | PQL | Qual | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|
| **EPA METHOD 300.0: ANIONS** | | | | | | Analyst: **smb** | |
| Chloride | 370 | 30 | | mg/Kg | 20 | 1/2/2019 4:09:00 PM | 42398 |
| **EPA METHOD 8015M/D: DIESEL RANGE ORGANICS** | | | | | | Analyst: **lrm** | |
| Diesel Range Organics (DRO) | ND | 10 | | mg/Kg | 1 | 1/3/2019 7:11:54 PM | 42388 |
| Motor Oil Range Organics (MRO) | ND | 50 | | mg/Kg | 1 | 1/3/2019 7:11:54 PM | 42388 |
| Surr: DNOP | 117 | 50.6-138 | | %Rec | 1 | 1/3/2019 7:11:54 PM | 42388 |
| **EPA METHOD 8015D: GASOLINE RANGE** | | | | | | Analyst: **NSB** | |
| Gasoline Range Organics (GRO) | ND | 4.7 | | mg/Kg | 1 | 1/2/2019 7:13:55 PM | 42380 |
| Surr: BFB | 90.8 | 73.8-119 | | %Rec | 1 | 1/2/2019 7:13:55 PM | 42380 |
| **EPA METHOD 8021B: VOLATILES** | | | | | | Analyst: **NSB** | |
| Benzene | ND | 0.024 | | mg/Kg | 1 | 1/2/2019 7:13:55 PM | 42380 |
| Toluene | ND | 0.047 | | mg/Kg | 1 | 1/2/2019 7:13:55 PM | 42380 |
| Ethylbenzene | ND | 0.047 | | mg/Kg | 1 | 1/2/2019 7:13:55 PM | 42380 |
| Xylenes, Total | ND | 0.094 | | mg/Kg | 1 | 1/2/2019 7:13:55 PM | 42380 |
| Surr: 4-Bromofluorobenzene | 93.0 | 80-120 | | %Rec | 1 | 1/2/2019 7:13:55 PM | 42380 |

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 Detection Limit |
| S | % Recovery outside of range due to dilution or matrix | W | Sample container temperature is out of limit as specified |

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Souder, Miller & Associates
**Client Sample ID:** S 6
**Project:** Tom Mathews TB
**Collection Date:** 12/20/2018 10:55:00 AM
**Lab ID:** 1812E91-006 **Matrix:** SOIL **Received Date:** 12/29/2018 11:00:00 AM

| Analyses | Result | PQL | Qual | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|
| **EPA METHOD 300.0: ANIONS** | | | | | | Analyst: **smb** | |
| Chloride | 99 | 30 | | mg/Kg | 20 | 1/2/2019 4:21:25 PM | 42398 |
| **EPA METHOD 8015M/D: DIESEL RANGE ORGANICS** | | | | | | Analyst: **lrm** | |
| Diesel Range Organics (DRO) | ND | 9.6 | | mg/Kg | 1 | 1/3/2019 7:33:38 PM | 42388 |
| Motor Oil Range Organics (MRO) | ND | 48 | | mg/Kg | 1 | 1/3/2019 7:33:38 PM | 42388 |
| Surr: DNOP | 114 | 50.6-138 | | %Rec | 1 | 1/3/2019 7:33:38 PM | 42388 |
| **EPA METHOD 8015D: GASOLINE RANGE** | | | | | | Analyst: **NSB** | |
| Gasoline Range Organics (GRO) | ND | 4.7 | | mg/Kg | 1 | 1/2/2019 7:36:32 PM | 42380 |
| Surr: BFB | 92.0 | 73.8-119 | | %Rec | 1 | 1/2/2019 7:36:32 PM | 42380 |
| **EPA METHOD 8021B: VOLATILES** | | | | | | Analyst: **NSB** | |
| Benzene | ND | 0.024 | | mg/Kg | 1 | 1/2/2019 7:36:32 PM | 42380 |
| Toluene | ND | 0.047 | | mg/Kg | 1 | 1/2/2019 7:36:32 PM | 42380 |
| Ethylbenzene | ND | 0.047 | | mg/Kg | 1 | 1/2/2019 7:36:32 PM | 42380 |
| Xylenes, Total | ND | 0.094 | | mg/Kg | 1 | 1/2/2019 7:36:32 PM | 42380 |
| Surr: 4-Bromofluorobenzene | 94.5 | 80-120 | | %Rec | 1 | 1/2/2019 7:36:32 PM | 42380 |

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 Detection Limit |
| S | % Recovery outside of range due to dilution or matrix | W | Sample container temperature is out of limit as specified |

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Souder, Miller & Associates
**Client Sample ID:** S 7
**Project:** Tom Mathews TB
**Collection Date:** 12/20/2018 10:57:00 AM
**Lab ID:** 1812E91-007 **Matrix:** SOIL **Received Date:** 12/29/2018 11:00:00 AM

| Analyses | Result | PQL | Qual | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|
| **EPA METHOD 300.0: ANIONS** | | | | | | Analyst: **smb** | |
| Chloride | 62 | 30 | | mg/Kg | 20 | 1/2/2019 4:58:39 PM | 42408 |
| **EPA METHOD 8015M/D: DIESEL RANGE ORGANICS** | | | | | | Analyst: **lrm** | |
| Diesel Range Organics (DRO) | ND | 9.8 | | mg/Kg | 1 | 1/3/2019 7:55:38 PM | 42388 |
| Motor Oil Range Organics (MRO) | ND | 49 | | mg/Kg | 1 | 1/3/2019 7:55:38 PM | 42388 |
| Surr: DNOP | 103 | 50.6-138 | | %Rec | 1 | 1/3/2019 7:55:38 PM | 42388 |
| **EPA METHOD 8015D: GASOLINE RANGE** | | | | | | Analyst: **NSB** | |
| Gasoline Range Organics (GRO) | ND | 4.8 | | mg/Kg | 1 | 1/2/2019 7:59:11 PM | 42380 |
| Surr: BFB | 93.5 | 73.8-119 | | %Rec | 1 | 1/2/2019 7:59:11 PM | 42380 |
| **EPA METHOD 8021B: VOLATILES** | | | | | | Analyst: **NSB** | |
| Benzene | ND | 0.024 | | mg/Kg | 1 | 1/2/2019 7:59:11 PM | 42380 |
| Toluene | ND | 0.048 | | mg/Kg | 1 | 1/2/2019 7:59:11 PM | 42380 |
| Ethylbenzene | ND | 0.048 | | mg/Kg | 1 | 1/2/2019 7:59:11 PM | 42380 |
| Xylenes, Total | ND | 0.096 | | mg/Kg | 1 | 1/2/2019 7:59:11 PM | 42380 |
| Surr: 4-Bromofluorobenzene | 95.1 | 80-120 | | %Rec | 1 | 1/2/2019 7:59:11 PM | 42380 |

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 Detection Limit |
| S | % Recovery outside of range due to dilution or matrix | W | Sample container temperature is out of limit as specified |

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Souder, Miller & Associates
**Client Sample ID:** S 8
**Project:** Tom Mathews TB
**Collection Date:** 12/20/2018 11:00:00 AM
**Lab ID:** 1812E91-008 **Matrix:** SOIL **Received Date:** 12/29/2018 11:00:00 AM

| Analyses | Result | PQL | Qual | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|
| **EPA METHOD 300.0: ANIONS** | | | | | | Analyst: **smb** | |
| Chloride | 82 | 30 | | mg/Kg | 20 | 1/2/2019 6:00:42 PM | 42408 |
| **EPA METHOD 8015M/D: DIESEL RANGE ORGANICS** | | | | | | Analyst: **lrm** | |
| Diesel Range Organics (DRO) | ND | 9.7 | | mg/Kg | 1 | 1/3/2019 8:17:17 PM | 42388 |
| Motor Oil Range Organics (MRO) | ND | 48 | | mg/Kg | 1 | 1/3/2019 8:17:17 PM | 42388 |
| Surr: DNOP | 102 | 50.6-138 | | %Rec | 1 | 1/3/2019 8:17:17 PM | 42388 |
| **EPA METHOD 8015D: GASOLINE RANGE** | | | | | | Analyst: **NSB** | |
| Gasoline Range Organics (GRO) | ND | 4.6 | | mg/Kg | 1 | 1/2/2019 8:21:47 PM | 42380 |
| Surr: BFB | 91.8 | 73.8-119 | | %Rec | 1 | 1/2/2019 8:21:47 PM | 42380 |
| **EPA METHOD 8021B: VOLATILES** | | | | | | Analyst: **NSB** | |
| Benzene | ND | 0.023 | | mg/Kg | 1 | 1/2/2019 8:21:47 PM | 42380 |
| Toluene | ND | 0.046 | | mg/Kg | 1 | 1/2/2019 8:21:47 PM | 42380 |
| Ethylbenzene | ND | 0.046 | | mg/Kg | 1 | 1/2/2019 8:21:47 PM | 42380 |
| Xylenes, Total | ND | 0.092 | | mg/Kg | 1 | 1/2/2019 8:21:47 PM | 42380 |
| Surr: 4-Bromofluorobenzene | 92.8 | 80-120 | | %Rec | 1 | 1/2/2019 8:21:47 PM | 42380 |

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 Detection Limit |
| S | % Recovery outside of range due to dilution or matrix | W | Sample container temperature is out of limit as specified |

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Souder, Miller & Associates
**Client Sample ID:** S 9
**Project:** Tom Mathews TB
**Collection Date:** 12/20/2018 11:03:00 AM
**Lab ID:** 1812E91-009 **Matrix:** SOIL **Received Date:** 12/29/2018 11:00:00 AM

| Analyses | Result | PQL | Qual | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|
| **EPA METHOD 300.0: ANIONS** | | | | | | Analyst: **smb** | |
| Chloride | 41 | 30 | | mg/Kg | 20 | 1/2/2019 6:13:06 PM | 42408 |
| **EPA METHOD 8015M/D: DIESEL RANGE ORGANICS** | | | | | | Analyst: **lrm** | |
| Diesel Range Organics (DRO) | ND | 9.5 | | mg/Kg | 1 | 1/3/2019 8:39:20 PM | 42388 |
| Motor Oil Range Organics (MRO) | ND | 47 | | mg/Kg | 1 | 1/3/2019 8:39:20 PM | 42388 |
| Surr: DNOP | 83.2 | 50.6-138 | | %Rec | 1 | 1/3/2019 8:39:20 PM | 42388 |
| **EPA METHOD 8015D: GASOLINE RANGE** | | | | | | Analyst: **NSB** | |
| Gasoline Range Organics (GRO) | ND | 4.6 | | mg/Kg | 1 | 1/2/2019 8:44:21 PM | 42380 |
| Surr: BFB | 89.8 | 73.8-119 | | %Rec | 1 | 1/2/2019 8:44:21 PM | 42380 |
| **EPA METHOD 8021B: VOLATILES** | | | | | | Analyst: **NSB** | |
| Benzene | ND | 0.023 | | mg/Kg | 1 | 1/2/2019 8:44:21 PM | 42380 |
| Toluene | ND | 0.046 | | mg/Kg | 1 | 1/2/2019 8:44:21 PM | 42380 |
| Ethylbenzene | ND | 0.046 | | mg/Kg | 1 | 1/2/2019 8:44:21 PM | 42380 |
| Xylenes, Total | ND | 0.092 | | mg/Kg | 1 | 1/2/2019 8:44:21 PM | 42380 |
| Surr: 4-Bromofluorobenzene | 90.7 | 80-120 | | %Rec | 1 | 1/2/2019 8:44:21 PM | 42380 |

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 Detection Limit |
| S | % Recovery outside of range due to dilution or matrix | W | Sample container temperature is out of limit as specified |

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Souder, Miller & Associates
**Client Sample ID:** S 10
**Project:** Tom Mathews TB
**Collection Date:** 12/20/2018 11:06:00 AM
**Lab ID:** 1812E91-010 **Matrix:** SOIL **Received Date:** 12/29/2018 11:00:00 AM

| Analyses | Result | PQL | Qual | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|
| **EPA METHOD 300.0: ANIONS** | | | | | | Analyst: **smb** | |
| Chloride | ND | 30 | | mg/Kg | 20 | 1/2/2019 6:25:30 PM | 42408 |
| **EPA METHOD 8015M/D: DIESEL RANGE ORGANICS** | | | | | | Analyst: **lrm** | |
| Diesel Range Organics (DRO) | ND | 9.9 | | mg/Kg | 1 | 1/3/2019 9:01:01 PM | 42388 |
| Motor Oil Range Organics (MRO) | ND | 50 | | mg/Kg | 1 | 1/3/2019 9:01:01 PM | 42388 |
| Surr: DNOP | 81.1 | 50.6-138 | | %Rec | 1 | 1/3/2019 9:01:01 PM | 42388 |
| **EPA METHOD 8015D: GASOLINE RANGE** | | | | | | Analyst: **NSB** | |
| Gasoline Range Organics (GRO) | ND | 4.8 | | mg/Kg | 1 | 1/2/2019 9:06:58 PM | 42380 |
| Surr: BFB | 93.3 | 73.8-119 | | %Rec | 1 | 1/2/2019 9:06:58 PM | 42380 |
| **EPA METHOD 8021B: VOLATILES** | | | | | | Analyst: **NSB** | |
| Benzene | ND | 0.024 | | mg/Kg | 1 | 1/2/2019 9:06:58 PM | 42380 |
| Toluene | ND | 0.048 | | mg/Kg | 1 | 1/2/2019 9:06:58 PM | 42380 |
| Ethylbenzene | ND | 0.048 | | mg/Kg | 1 | 1/2/2019 9:06:58 PM | 42380 |
| Xylenes, Total | ND | 0.097 | | mg/Kg | 1 | 1/2/2019 9:06:58 PM | 42380 |
| Surr: 4-Bromofluorobenzene | 94.3 | 80-120 | | %Rec | 1 | 1/2/2019 9:06:58 PM | 42380 |

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 Detection Limit |
| S | % Recovery outside of range due to dilution or matrix | W | Sample container temperature is out of limit as specified |

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Souder, Miller & Associates
**Client Sample ID:** S 11
**Project:** Tom Mathews TB
**Collection Date:** 12/20/2018 11:10:00 AM
**Lab ID:** 1812E91-011 **Matrix:** SOIL **Received Date:** 12/29/2018 11:00:00 AM

| Analyses | Result | PQL | Qual | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|
| **EPA METHOD 300.0: ANIONS** | | | | | | Analyst: | **smb** |
| Chloride | 150 | 30 | | mg/Kg | 20 | 1/2/2019 6:37:55 PM | 42408 |
| **EPA METHOD 8015M/D: DIESEL RANGE ORGANICS** | | | | | | Analyst: | **lrm** |
| Diesel Range Organics (DRO) | ND | 9.3 | | mg/Kg | 1 | 1/3/2019 9:22:53 PM | 42388 |
| Motor Oil Range Organics (MRO) | ND | 46 | | mg/Kg | 1 | 1/3/2019 9:22:53 PM | 42388 |
| Surr: DNOP | 77.0 | 50.6-138 | | %Rec | 1 | 1/3/2019 9:22:53 PM | 42388 |
| **EPA METHOD 8015D: GASOLINE RANGE** | | | | | | Analyst: | **NSB** |
| Gasoline Range Organics (GRO) | ND | 4.7 | | mg/Kg | 1 | 1/2/2019 9:29:34 PM | 42380 |
| Surr: BFB | 91.8 | 73.8-119 | | %Rec | 1 | 1/2/2019 9:29:34 PM | 42380 |
| **EPA METHOD 8021B: VOLATILES** | | | | | | Analyst: | **NSB** |
| Benzene | ND | 0.024 | | mg/Kg | 1 | 1/2/2019 9:29:34 PM | 42380 |
| Toluene | ND | 0.047 | | mg/Kg | 1 | 1/2/2019 9:29:34 PM | 42380 |
| Ethylbenzene | ND | 0.047 | | mg/Kg | 1 | 1/2/2019 9:29:34 PM | 42380 |
| Xylenes, Total | ND | 0.094 | | mg/Kg | 1 | 1/2/2019 9:29:34 PM | 42380 |
| Surr: 4-Bromofluorobenzene | 94.2 | 80-120 | | %Rec | 1 | 1/2/2019 9:29:34 PM | 42380 |

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 Detection Limit |
| S | % Recovery outside of range due to dilution or matrix | W | Sample container temperature is out of limit as specified |

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Souder, Miller & Associates
**Client Sample ID:** S 12
**Project:** Tom Mathews TB
**Collection Date:** 12/20/2018 11:15:00 AM
**Lab ID:** 1812E91-012 **Matrix:** SOIL
**Received Date:** 12/29/2018 11:00:00 AM

| Analyses | Result | PQL | Qual | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|
| **EPA METHOD 300.0: ANIONS** | | | | | | Analyst: **smb** | |
| Chloride | 47 | 30 | | mg/Kg | 20 | 1/2/2019 6:50:19 PM | 42408 |
| **EPA METHOD 8015M/D: DIESEL RANGE ORGANICS** | | | | | | Analyst: **lrm** | |
| Diesel Range Organics (DRO) | ND | 9.8 | | mg/Kg | 1 | 1/3/2019 9:44:36 PM | 42388 |
| Motor Oil Range Organics (MRO) | ND | 49 | | mg/Kg | 1 | 1/3/2019 9:44:36 PM | 42388 |
| Surr: DNOP | 82.7 | 50.6-138 | | %Rec | 1 | 1/3/2019 9:44:36 PM | 42388 |
| **EPA METHOD 8015D: GASOLINE RANGE** | | | | | | Analyst: **NSB** | |
| Gasoline Range Organics (GRO) | ND | 4.9 | | mg/Kg | 1 | 1/2/2019 9:52:14 PM | 42380 |
| Surr: BFB | 94.1 | 73.8-119 | | %Rec | 1 | 1/2/2019 9:52:14 PM | 42380 |
| **EPA METHOD 8021B: VOLATILES** | | | | | | Analyst: **NSB** | |
| Benzene | ND | 0.024 | | mg/Kg | 1 | 1/2/2019 9:52:14 PM | 42380 |
| Toluene | ND | 0.049 | | mg/Kg | 1 | 1/2/2019 9:52:14 PM | 42380 |
| Ethylbenzene | ND | 0.049 | | mg/Kg | 1 | 1/2/2019 9:52:14 PM | 42380 |
| Xylenes, Total | ND | 0.098 | | mg/Kg | 1 | 1/2/2019 9:52:14 PM | 42380 |
| Surr: 4-Bromofluorobenzene | 95.5 | 80-120 | | %Rec | 1 | 1/2/2019 9:52:14 PM | 42380 |

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 Detection Limit |
| S | % Recovery outside of range due to dilution or matrix | W | Sample container temperature is out of limit as specified |

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Souder, Miller & Associates
**Client Sample ID:** S 13
**Project:** Tom Mathews TB
**Collection Date:** 12/20/2018 11:20:00 AM
**Lab ID:** 1812E91-013 **Matrix:** SOIL **Received Date:** 12/29/2018 11:00:00 AM

| Analyses | Result | PQL | Qual | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|
| **EPA METHOD 300.0: ANIONS** | | | | | | Analyst: **smb** | |
| Chloride | 12000 | 750 | | mg/Kg | 500 | 1/3/2019 4:02:54 PM | 42408 |
| **EPA METHOD 8015M/D: DIESEL RANGE ORGANICS** | | | | | | Analyst: **lrm** | |
| Diesel Range Organics (DRO) | 63 | 9.9 | | mg/Kg | 1 | 1/3/2019 10:06:30 PM | 42388 |
| Motor Oil Range Organics (MRO) | 53 | 50 | | mg/Kg | 1 | 1/3/2019 10:06:30 PM | 42388 |
| Surr: DNOP | 87.1 | 50.6-138 | | %Rec | 1 | 1/3/2019 10:06:30 PM | 42388 |
| **EPA METHOD 8015D: GASOLINE RANGE** | | | | | | Analyst: **NSB** | |
| Gasoline Range Organics (GRO) | ND | 4.9 | | mg/Kg | 1 | 1/2/2019 10:14:48 PM | 42380 |
| Surr: BFB | 95.0 | 73.8-119 | | %Rec | 1 | 1/2/2019 10:14:48 PM | 42380 |
| **EPA METHOD 8021B: VOLATILES** | | | | | | Analyst: **NSB** | |
| Benzene | ND | 0.024 | | mg/Kg | 1 | 1/2/2019 10:14:48 PM | 42380 |
| Toluene | ND | 0.049 | | mg/Kg | 1 | 1/2/2019 10:14:48 PM | 42380 |
| Ethylbenzene | ND | 0.049 | | mg/Kg | 1 | 1/2/2019 10:14:48 PM | 42380 |
| Xylenes, Total | ND | 0.098 | | mg/Kg | 1 | 1/2/2019 10:14:48 PM | 42380 |
| Surr: 4-Bromofluorobenzene | 95.1 | 80-120 | | %Rec | 1 | 1/2/2019 10:14:48 PM | 42380 |

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 Detection Limit |
| S | % Recovery outside of range due to dilution or matrix | W | Sample container temperature is out of limit as specified |

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Souder, Miller & Associates
**Client Sample ID:** S 14
**Project:** Tom Mathews TB
**Collection Date:** 12/20/2018 11:25:00 AM
**Lab ID:** 1812E91-014 **Matrix:** SOIL **Received Date:** 12/29/2018 11:00:00 AM

| Analyses | Result | PQL | Qual | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|
| **EPA METHOD 300.0: ANIONS** | | | | | | Analyst: **smb** | |
| Chloride | 5700 | 300 | | mg/Kg | 200 | 1/3/2019 4:15:19 PM | 42408 |
| **EPA METHOD 8015M/D: DIESEL RANGE ORGANICS** | | | | | | Analyst: **lrm** | |
| Diesel Range Organics (DRO) | ND | 9.7 | | mg/Kg | 1 | 1/2/2019 2:26:22 PM | 42389 |
| Motor Oil Range Organics (MRO) | ND | 49 | | mg/Kg | 1 | 1/2/2019 2:26:22 PM | 42389 |
| Surr: DNOP | 99.4 | 50.6-138 | | %Rec | 1 | 1/2/2019 2:26:22 PM | 42389 |
| **EPA METHOD 8015D: GASOLINE RANGE** | | | | | | Analyst: **NSB** | |
| Gasoline Range Organics (GRO) | ND | 4.8 | | mg/Kg | 1 | 1/2/2019 11:45:09 PM | 42380 |
| Surr: BFB | 92.6 | 73.8-119 | | %Rec | 1 | 1/2/2019 11:45:09 PM | 42380 |
| **EPA METHOD 8021B: VOLATILES** | | | | | | Analyst: **NSB** | |
| Benzene | ND | 0.024 | | mg/Kg | 1 | 1/2/2019 11:45:09 PM | 42380 |
| Toluene | ND | 0.048 | | mg/Kg | 1 | 1/2/2019 11:45:09 PM | 42380 |
| Ethylbenzene | ND | 0.048 | | mg/Kg | 1 | 1/2/2019 11:45:09 PM | 42380 |
| Xylenes, Total | ND | 0.096 | | mg/Kg | 1 | 1/2/2019 11:45:09 PM | 42380 |
| Surr: 4-Bromofluorobenzene | 94.5 | 80-120 | | %Rec | 1 | 1/2/2019 11:45:09 PM | 42380 |

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 Detection Limit |
| S | % Recovery outside of range due to dilution or matrix | W | Sample container temperature is out of limit as specified |

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Souder, Miller & Associates
**Client Sample ID:** S 15
**Project:** Tom Mathews TB
**Collection Date:** 12/20/2018 11:30:00 AM
**Lab ID:** 1812E91-015 **Matrix:** SOIL
**Received Date:** 12/29/2018 11:00:00 AM

| Analyses | Result | PQL | Qual | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|
| **EPA METHOD 300.0: ANIONS** | | | | | | Analyst: **smb** | |
| Chloride | 180 | 30 | | mg/Kg | 20 | 1/2/2019 7:27:32 PM | 42408 |
| **EPA METHOD 8015M/D: DIESEL RANGE ORGANICS** | | | | | | Analyst: **lrm** | |
| Diesel Range Organics (DRO) | ND | 9.4 | | mg/Kg | 1 | 1/2/2019 3:32:25 PM | 42389 |
| Motor Oil Range Organics (MRO) | ND | 47 | | mg/Kg | 1 | 1/2/2019 3:32:25 PM | 42389 |
| Surr: DNOP | 66.6 | 50.6-138 | | %Rec | 1 | 1/2/2019 3:32:25 PM | 42389 |
| **EPA METHOD 8015D: GASOLINE RANGE** | | | | | | Analyst: **NSB** | |
| Gasoline Range Organics (GRO) | ND | 4.8 | | mg/Kg | 1 | 1/3/2019 12:07:54 AM | 42380 |
| Surr: BFB | 92.3 | 73.8-119 | | %Rec | 1 | 1/3/2019 12:07:54 AM | 42380 |
| **EPA METHOD 8021B: VOLATILES** | | | | | | Analyst: **NSB** | |
| Benzene | ND | 0.024 | | mg/Kg | 1 | 1/3/2019 12:07:54 AM | 42380 |
| Toluene | ND | 0.048 | | mg/Kg | 1 | 1/3/2019 12:07:54 AM | 42380 |
| Ethylbenzene | ND | 0.048 | | mg/Kg | 1 | 1/3/2019 12:07:54 AM | 42380 |
| Xylenes, Total | ND | 0.097 | | mg/Kg | 1 | 1/3/2019 12:07:54 AM | 42380 |
| Surr: 4-Bromofluorobenzene | 94.7 | 80-120 | | %Rec | 1 | 1/3/2019 12:07:54 AM | 42380 |

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 Detection Limit |
| S | % Recovery outside of range due to dilution or matrix | W | Sample container temperature is out of limit as specified |

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Souder, Miller & Associates
**Client Sample ID:** B 1
**Project:** Tom Mathews TB
**Collection Date:** 12/20/2018 11:35:00 AM
**Lab ID:** 1812E91-016 **Matrix:** SOIL **Received Date:** 12/29/2018 11:00:00 AM

| Analyses | Result | PQL | Qual | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|
| **EPA METHOD 300.0: ANIONS** | | | | | | Analyst: **smb** | |
| Chloride | ND | 30 | | mg/Kg | 20 | 1/2/2019 8:04:45 PM | 42408 |
| **EPA METHOD 8015M/D: DIESEL RANGE ORGANICS** | | | | | | Analyst: **lrm** | |
| Diesel Range Organics (DRO) | ND | 9.7 | | mg/Kg | 1 | 1/2/2019 3:54:27 PM | 42389 |
| Motor Oil Range Organics (MRO) | ND | 48 | | mg/Kg | 1 | 1/2/2019 3:54:27 PM | 42389 |
| Surr: DNOP | 71.6 | 50.6-138 | | %Rec | 1 | 1/2/2019 3:54:27 PM | 42389 |
| **EPA METHOD 8015D: GASOLINE RANGE** | | | | | | Analyst: **NSB** | |
| Gasoline Range Organics (GRO) | ND | 4.8 | | mg/Kg | 1 | 1/3/2019 12:30:48 AM | 42380 |
| Surr: BFB | 91.8 | 73.8-119 | | %Rec | 1 | 1/3/2019 12:30:48 AM | 42380 |
| **EPA METHOD 8021B: VOLATILES** | | | | | | Analyst: **NSB** | |
| Benzene | ND | 0.024 | | mg/Kg | 1 | 1/3/2019 12:30:48 AM | 42380 |
| Toluene | ND | 0.048 | | mg/Kg | 1 | 1/3/2019 12:30:48 AM | 42380 |
| Ethylbenzene | ND | 0.048 | | mg/Kg | 1 | 1/3/2019 12:30:48 AM | 42380 |
| Xylenes, Total | ND | 0.096 | | mg/Kg | 1 | 1/3/2019 12:30:48 AM | 42380 |
| Surr: 4-Bromofluorobenzene | 93.6 | 80-120 | | %Rec | 1 | 1/3/2019 12:30:48 AM | 42380 |

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 Detection Limit |
| S | % Recovery outside of range due to dilution or matrix | W | Sample container temperature is out of limit as specified |

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Souder, Miller & Associates
**Client Sample ID:** B 2
**Project:** Tom Mathews TB
**Collection Date:** 12/20/2018 11:37:00 AM
**Lab ID:** 1812E91-017 **Matrix:** SOIL **Received Date:** 12/29/2018 11:00:00 AM

| Analyses | Result | PQL | Qual | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|
| **EPA METHOD 300.0: ANIONS** | | | | | | Analyst: **smb** | |
| Chloride | 64 | 30 | | mg/Kg | 20 | 1/2/2019 8:17:10 PM | 42408 |
| **EPA METHOD 8015M/D: DIESEL RANGE ORGANICS** | | | | | | Analyst: **lrm** | |
| Diesel Range Organics (DRO) | ND | 10 | | mg/Kg | 1 | 1/2/2019 4:16:30 PM | 42389 |
| Motor Oil Range Organics (MRO) | ND | 50 | | mg/Kg | 1 | 1/2/2019 4:16:30 PM | 42389 |
| Surr: DNOP | 67.3 | 50.6-138 | | %Rec | 1 | 1/2/2019 4:16:30 PM | 42389 |
| **EPA METHOD 8015D: GASOLINE RANGE** | | | | | | Analyst: **NSB** | |
| Gasoline Range Organics (GRO) | ND | 4.8 | | mg/Kg | 1 | 1/3/2019 12:53:49 AM | 42380 |
| Surr: BFB | 89.1 | 73.8-119 | | %Rec | 1 | 1/3/2019 12:53:49 AM | 42380 |
| **EPA METHOD 8021B: VOLATILES** | | | | | | Analyst: **NSB** | |
| Benzene | ND | 0.024 | | mg/Kg | 1 | 1/3/2019 12:53:49 AM | 42380 |
| Toluene | ND | 0.048 | | mg/Kg | 1 | 1/3/2019 12:53:49 AM | 42380 |
| Ethylbenzene | ND | 0.048 | | mg/Kg | 1 | 1/3/2019 12:53:49 AM | 42380 |
| Xylenes, Total | ND | 0.096 | | mg/Kg | 1 | 1/3/2019 12:53:49 AM | 42380 |
| Surr: 4-Bromofluorobenzene | 91.2 | 80-120 | | %Rec | 1 | 1/3/2019 12:53:49 AM | 42380 |

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 Detection Limit |
| S | % Recovery outside of range due to dilution or matrix | W | Sample container temperature is out of limit as specified |

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Souder, Miller & Associates
**Client Sample ID:** B 3
**Project:** Tom Mathews TB
**Collection Date:** 12/20/2018 11:40:00 AM
**Lab ID:** 1812E91-018 **Matrix:** SOIL
**Received Date:** 12/29/2018 11:00:00 AM

| Analyses | Result | PQL | Qual | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|
| **EPA METHOD 300.0: ANIONS** | | | | | | Analyst: **smb** | |
| Chloride | 93 | 30 | | mg/Kg | 20 | 1/2/2019 8:54:23 PM | 42408 |
| **EPA METHOD 8015M/D: DIESEL RANGE ORGANICS** | | | | | | Analyst: **lrm** | |
| Diesel Range Organics (DRO) | ND | 9.3 | | mg/Kg | 1 | 1/2/2019 4:38:31 PM | 42389 |
| Motor Oil Range Organics (MRO) | ND | 47 | | mg/Kg | 1 | 1/2/2019 4:38:31 PM | 42389 |
| Surr: DNOP | 68.1 | 50.6-138 | | %Rec | 1 | 1/2/2019 4:38:31 PM | 42389 |
| **EPA METHOD 8015D: GASOLINE RANGE** | | | | | | Analyst: **NSB** | |
| Gasoline Range Organics (GRO) | ND | 4.8 | | mg/Kg | 1 | 1/3/2019 1:16:52 AM | 42380 |
| Surr: BFB | 87.9 | 73.8-119 | | %Rec | 1 | 1/3/2019 1:16:52 AM | 42380 |
| **EPA METHOD 8021B: VOLATILES** | | | | | | Analyst: **NSB** | |
| Benzene | ND | 0.024 | | mg/Kg | 1 | 1/3/2019 1:16:52 AM | 42380 |
| Toluene | ND | 0.048 | | mg/Kg | 1 | 1/3/2019 1:16:52 AM | 42380 |
| Ethylbenzene | ND | 0.048 | | mg/Kg | 1 | 1/3/2019 1:16:52 AM | 42380 |
| Xylenes, Total | ND | 0.097 | | mg/Kg | 1 | 1/3/2019 1:16:52 AM | 42380 |
| Surr: 4-Bromofluorobenzene | 89.0 | 80-120 | | %Rec | 1 | 1/3/2019 1:16:52 AM | 42380 |

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 Detection Limit |
| S | % Recovery outside of range due to dilution or matrix | W | Sample container temperature is out of limit as specified |

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Souder, Miller & Associates
**Client Sample ID:** B 4
**Project:** Tom Mathews TB
**Collection Date:** 12/20/2018 11:43:00 AM
**Lab ID:** 1812E91-019 **Matrix:** SOIL **Received Date:** 12/29/2018 11:00:00 AM

| Analyses | Result | PQL | Qual | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|
| **EPA METHOD 300.0: ANIONS** | | | | | | Analyst: **smb** | |
| Chloride | 400 | 30 | | mg/Kg | 20 | 1/2/2019 9:06:47 PM | 42408 |
| **EPA METHOD 8015M/D: DIESEL RANGE ORGANICS** | | | | | | Analyst: **lrm** | |
| Diesel Range Organics (DRO) | ND | 9.9 | | mg/Kg | 1 | 1/2/2019 5:00:31 PM | 42389 |
| Motor Oil Range Organics (MRO) | ND | 49 | | mg/Kg | 1 | 1/2/2019 5:00:31 PM | 42389 |
| Surr: DNOP | 52.8 | 50.6-138 | | %Rec | 1 | 1/2/2019 5:00:31 PM | 42389 |
| **EPA METHOD 8015D: GASOLINE RANGE** | | | | | | Analyst: **NSB** | |
| Gasoline Range Organics (GRO) | ND | 4.7 | | mg/Kg | 1 | 1/2/2019 7:41:43 PM | 42381 |
| Surr: BFB | 89.0 | 73.8-119 | | %Rec | 1 | 1/2/2019 7:41:43 PM | 42381 |
| **EPA METHOD 8021B: VOLATILES** | | | | | | Analyst: **NSB** | |
| Benzene | ND | 0.024 | | mg/Kg | 1 | 1/2/2019 7:41:43 PM | 42381 |
| Toluene | ND | 0.047 | | mg/Kg | 1 | 1/2/2019 7:41:43 PM | 42381 |
| Ethylbenzene | ND | 0.047 | | mg/Kg | 1 | 1/2/2019 7:41:43 PM | 42381 |
| Xylenes, Total | ND | 0.095 | | mg/Kg | 1 | 1/2/2019 7:41:43 PM | 42381 |
| Surr: 4-Bromofluorobenzene | 91.2 | 80-120 | | %Rec | 1 | 1/2/2019 7:41:43 PM | 42381 |

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 Detection Limit |
| S | % Recovery outside of range due to dilution or matrix | W | Sample container temperature is out of limit as specified |

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Souder, Miller & Associates
**Client Sample ID:** B 5
**Project:** Tom Mathews TB
**Collection Date:** 12/20/2018 11:45:00 AM
**Lab ID:** 1812E91-020 **Matrix:** SOIL **Received Date:** 12/29/2018 11:00:00 AM

| Analyses | Result | PQL | Qual | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|
| **EPA METHOD 300.0: ANIONS** | | | | | | Analyst: **smb** | |
| Chloride | 150 | 30 | | mg/Kg | 20 | 1/2/2019 9:19:12 PM | 42408 |
| **EPA METHOD 8015M/D: DIESEL RANGE ORGANICS** | | | | | | Analyst: **lrm** | |
| Diesel Range Organics (DRO) | ND | 9.9 | | mg/Kg | 1 | 1/2/2019 5:22:28 PM | 42389 |
| Motor Oil Range Organics (MRO) | ND | 49 | | mg/Kg | 1 | 1/2/2019 5:22:28 PM | 42389 |
| Surr: DNOP | 62.6 | 50.6-138 | | %Rec | 1 | 1/2/2019 5:22:28 PM | 42389 |
| **EPA METHOD 8015D: GASOLINE RANGE** | | | | | | Analyst: **NSB** | |
| Gasoline Range Organics (GRO) | ND | 4.7 | | mg/Kg | 1 | 1/2/2019 8:05:36 PM | 42381 |
| Surr: BFB | 87.4 | 73.8-119 | | %Rec | 1 | 1/2/2019 8:05:36 PM | 42381 |
| **EPA METHOD 8021B: VOLATILES** | | | | | | Analyst: **NSB** | |
| Benzene | ND | 0.024 | | mg/Kg | 1 | 1/2/2019 8:05:36 PM | 42381 |
| Toluene | ND | 0.047 | | mg/Kg | 1 | 1/2/2019 8:05:36 PM | 42381 |
| Ethylbenzene | ND | 0.047 | | mg/Kg | 1 | 1/2/2019 8:05:36 PM | 42381 |
| Xylenes, Total | ND | 0.095 | | mg/Kg | 1 | 1/2/2019 8:05:36 PM | 42381 |
| Surr: 4-Bromofluorobenzene | 90.3 | 80-120 | | %Rec | 1 | 1/2/2019 8:05:36 PM | 42381 |

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 Detection Limit |
| S | % Recovery outside of range due to dilution or matrix | W | Sample container temperature is out of limit as specified |

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Souder, Miller & Associates
**Client Sample ID:** B 6
**Project:** Tom Mathews TB
**Collection Date:** 12/20/2018 11:50:00 AM
**Lab ID:** 1812E91-021 **Matrix:** SOIL **Received Date:** 12/29/2018 11:00:00 AM

| Analyses | Result | PQL | Qual | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|
| **EPA METHOD 300.0: ANIONS** | | | | | | Analyst: **smb** | |
| Chloride | 72 | 30 | | mg/Kg | 20 | 1/2/2019 9:31:36 PM | 42408 |
| **EPA METHOD 8015M/D: DIESEL RANGE ORGANICS** | | | | | | Analyst: **lrm** | |
| Diesel Range Organics (DRO) | ND | 9.8 | | mg/Kg | 1 | 1/2/2019 5:44:11 PM | 42389 |
| Motor Oil Range Organics (MRO) | ND | 49 | | mg/Kg | 1 | 1/2/2019 5:44:11 PM | 42389 |
| Surr: DNOP | 58.2 | 50.6-138 | | %Rec | 1 | 1/2/2019 5:44:11 PM | 42389 |
| **EPA METHOD 8015D: GASOLINE RANGE** | | | | | | Analyst: **NSB** | |
| Gasoline Range Organics (GRO) | ND | 4.9 | | mg/Kg | 1 | 1/2/2019 8:29:28 PM | 42381 |
| Surr: BFB | 90.1 | 73.8-119 | | %Rec | 1 | 1/2/2019 8:29:28 PM | 42381 |
| **EPA METHOD 8021B: VOLATILES** | | | | | | Analyst: **NSB** | |
| Benzene | ND | 0.025 | | mg/Kg | 1 | 1/2/2019 8:29:28 PM | 42381 |
| Toluene | ND | 0.049 | | mg/Kg | 1 | 1/2/2019 8:29:28 PM | 42381 |
| Ethylbenzene | ND | 0.049 | | mg/Kg | 1 | 1/2/2019 8:29:28 PM | 42381 |
| Xylenes, Total | ND | 0.099 | | mg/Kg | 1 | 1/2/2019 8:29:28 PM | 42381 |
| Surr: 4-Bromofluorobenzene | 92.6 | 80-120 | | %Rec | 1 | 1/2/2019 8:29:28 PM | 42381 |

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 Detection Limit |
| S | % Recovery outside of range due to dilution or matrix | W | Sample container temperature is out of limit as specified |

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Souder, Miller & Associates
**Client Sample ID:** B 7
**Project:** Tom Mathews TB
**Collection Date:** 12/20/2018 11:55:00 AM
**Lab ID:** 1812E91-022 **Matrix:** SOIL **Received Date:** 12/29/2018 11:00:00 AM

| Analyses | Result | PQL | Qual | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|
| **EPA METHOD 300.0: ANIONS** | | | | | | Analyst: **smb** | |
| Chloride | 380 | 30 | | mg/Kg | 20 | 1/2/2019 9:44:00 PM | 42408 |
| **EPA METHOD 8015M/D: DIESEL RANGE ORGANICS** | | | | | | Analyst: **lrm** | |
| Diesel Range Organics (DRO) | ND | 9.8 | | mg/Kg | 1 | 1/2/2019 6:06:10 PM | 42389 |
| Motor Oil Range Organics (MRO) | ND | 49 | | mg/Kg | 1 | 1/2/2019 6:06:10 PM | 42389 |
| Surr: DNOP | 69.2 | 50.6-138 | | %Rec | 1 | 1/2/2019 6:06:10 PM | 42389 |
| **EPA METHOD 8015D: GASOLINE RANGE** | | | | | | Analyst: **NSB** | |
| Gasoline Range Organics (GRO) | ND | 4.8 | | mg/Kg | 1 | 1/2/2019 8:53:24 PM | 42381 |
| Surr: BFB | 85.3 | 73.8-119 | | %Rec | 1 | 1/2/2019 8:53:24 PM | 42381 |
| **EPA METHOD 8021B: VOLATILES** | | | | | | Analyst: **NSB** | |
| Benzene | ND | 0.024 | | mg/Kg | 1 | 1/2/2019 8:53:24 PM | 42381 |
| Toluene | ND | 0.048 | | mg/Kg | 1 | 1/2/2019 8:53:24 PM | 42381 |
| Ethylbenzene | ND | 0.048 | | mg/Kg | 1 | 1/2/2019 8:53:24 PM | 42381 |
| Xylenes, Total | ND | 0.096 | | mg/Kg | 1 | 1/2/2019 8:53:24 PM | 42381 |
| Surr: 4-Bromofluorobenzene | 88.1 | 80-120 | | %Rec | 1 | 1/2/2019 8:53:24 PM | 42381 |

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 Detection Limit |
| S | % Recovery outside of range due to dilution or matrix | W | Sample container temperature is out of limit as specified |

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Souder, Miller & Associates
**Client Sample ID:** B 8
**Project:** Tom Mathews TB
**Collection Date:** 12/20/2018 11:57:00 AM
**Lab ID:** 1812E91-023 **Matrix:** SOIL **Received Date:** 12/29/2018 11:00:00 AM

| Analyses | Result | PQL | Qual | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|
| **EPA METHOD 300.0: ANIONS** | | | | | | Analyst: **smb** | |
| Chloride | 100 | 30 | | mg/Kg | 20 | 1/2/2019 9:56:25 PM | 42408 |
| **EPA METHOD 8015M/D: DIESEL RANGE ORGANICS** | | | | | | Analyst: **lrm** | |
| Diesel Range Organics (DRO) | ND | 9.5 | | mg/Kg | 1 | 1/2/2019 6:27:55 PM | 42389 |
| Motor Oil Range Organics (MRO) | ND | 48 | | mg/Kg | 1 | 1/2/2019 6:27:55 PM | 42389 |
| Surr: DNOP | 61.1 | 50.6-138 | | %Rec | 1 | 1/2/2019 6:27:55 PM | 42389 |
| **EPA METHOD 8015D: GASOLINE RANGE** | | | | | | Analyst: **NSB** | |
| Gasoline Range Organics (GRO) | ND | 4.7 | | mg/Kg | 1 | 1/2/2019 9:17:12 PM | 42381 |
| Surr: BFB | 88.1 | 73.8-119 | | %Rec | 1 | 1/2/2019 9:17:12 PM | 42381 |
| **EPA METHOD 8021B: VOLATILES** | | | | | | Analyst: **NSB** | |
| Benzene | ND | 0.024 | | mg/Kg | 1 | 1/2/2019 9:17:12 PM | 42381 |
| Toluene | ND | 0.047 | | mg/Kg | 1 | 1/2/2019 9:17:12 PM | 42381 |
| Ethylbenzene | ND | 0.047 | | mg/Kg | 1 | 1/2/2019 9:17:12 PM | 42381 |
| Xylenes, Total | ND | 0.094 | | mg/Kg | 1 | 1/2/2019 9:17:12 PM | 42381 |
| Surr: 4-Bromofluorobenzene | 90.7 | 80-120 | | %Rec | 1 | 1/2/2019 9:17:12 PM | 42381 |

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 Detection Limit |
| S | % Recovery outside of range due to dilution or matrix | W | Sample container temperature is out of limit as specified |

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Souder, Miller & Associates
**Client Sample ID:** B 9
**Project:** Tom Mathews TB
**Collection Date:** 12/20/2018 12:01:00 PM
**Lab ID:** 1812E91-024 **Matrix:** SOIL **Received Date:** 12/29/2018 11:00:00 AM

| Analyses | Result | PQL | Qual | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|
| **EPA METHOD 300.0: ANIONS** | | | | | | Analyst: **smb** | |
| Chloride | 62 | 30 | | mg/Kg | 20 | 1/2/2019 10:33:39 PM | 42408 |
| **EPA METHOD 8015M/D: DIESEL RANGE ORGANICS** | | | | | | Analyst: **lrm** | |
| Diesel Range Organics (DRO) | ND | 10 | | mg/Kg | 1 | 1/2/2019 6:49:39 PM | 42389 |
| Motor Oil Range Organics (MRO) | ND | 50 | | mg/Kg | 1 | 1/2/2019 6:49:39 PM | 42389 |
| Surr: DNOP | 66.9 | 50.6-138 | | %Rec | 1 | 1/2/2019 6:49:39 PM | 42389 |
| **EPA METHOD 8015D: GASOLINE RANGE** | | | | | | Analyst: **NSB** | |
| Gasoline Range Organics (GRO) | ND | 4.8 | | mg/Kg | 1 | 1/2/2019 9:40:57 PM | 42381 |
| Surr: BFB | 89.3 | 73.8-119 | | %Rec | 1 | 1/2/2019 9:40:57 PM | 42381 |
| **EPA METHOD 8021B: VOLATILES** | | | | | | Analyst: **NSB** | |
| Benzene | ND | 0.024 | | mg/Kg | 1 | 1/2/2019 9:40:57 PM | 42381 |
| Toluene | ND | 0.048 | | mg/Kg | 1 | 1/2/2019 9:40:57 PM | 42381 |
| Ethylbenzene | ND | 0.048 | | mg/Kg | 1 | 1/2/2019 9:40:57 PM | 42381 |
| Xylenes, Total | ND | 0.096 | | mg/Kg | 1 | 1/2/2019 9:40:57 PM | 42381 |
| Surr: 4-Bromofluorobenzene | 92.1 | 80-120 | | %Rec | 1 | 1/2/2019 9:40:57 PM | 42381 |

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 Detection Limit |
| S | % Recovery outside of range due to dilution or matrix |
| W | Sample container temperature is out of limit as specified |

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Souder, Miller & Associates
**Client Sample ID:** B 10
**Project:** Tom Mathews TB
**Collection Date:** 12/20/2018 12:05:00 PM
**Lab ID:** 1812E91-025 **Matrix:** SOIL **Received Date:** 12/29/2018 11:00:00 AM

| Analyses | Result | PQL | Qual | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|
| **EPA METHOD 300.0: ANIONS** | | | | | | Analyst: **smb** | |
| Chloride | 79 | 30 | | mg/Kg | 20 | 1/2/2019 10:46:03 PM | 42408 |
| **EPA METHOD 8015M/D: DIESEL RANGE ORGANICS** | | | | | | Analyst: **lrm** | |
| Diesel Range Organics (DRO) | ND | 9.6 | | mg/Kg | 1 | 1/2/2019 7:11:36 PM | 42389 |
| Motor Oil Range Organics (MRO) | ND | 48 | | mg/Kg | 1 | 1/2/2019 7:11:36 PM | 42389 |
| Surr: DNOP | 74.1 | 50.6-138 | | %Rec | 1 | 1/2/2019 7:11:36 PM | 42389 |
| **EPA METHOD 8015D: GASOLINE RANGE** | | | | | | Analyst: **NSB** | |
| Gasoline Range Organics (GRO) | ND | 4.8 | | mg/Kg | 1 | 1/2/2019 10:04:36 PM | 42381 |
| Surr: BFB | 91.3 | 73.8-119 | | %Rec | 1 | 1/2/2019 10:04:36 PM | 42381 |
| **EPA METHOD 8021B: VOLATILES** | | | | | | Analyst: **NSB** | |
| Benzene | ND | 0.024 | | mg/Kg | 1 | 1/2/2019 10:04:36 PM | 42381 |
| Toluene | ND | 0.048 | | mg/Kg | 1 | 1/2/2019 10:04:36 PM | 42381 |
| Ethylbenzene | ND | 0.048 | | mg/Kg | 1 | 1/2/2019 10:04:36 PM | 42381 |
| Xylenes, Total | ND | 0.096 | | mg/Kg | 1 | 1/2/2019 10:04:36 PM | 42381 |
| Surr: 4-Bromofluorobenzene | 93.8 | 80-120 | | %Rec | 1 | 1/2/2019 10:04:36 PM | 42381 |

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 Detection Limit |
| S | % Recovery outside of range due to dilution or matrix | W | Sample container temperature is out of limit as specified |

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Souder, Miller & Associates
**Client Sample ID:** B 11
**Project:** Tom Mathews TB
**Collection Date:** 12/20/2018 12:10:00 PM
**Lab ID:** 1812E91-026 **Matrix:** SOIL **Received Date:** 12/29/2018 11:00:00 AM

| Analyses | Result | PQL | Qual | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|
| **EPA METHOD 300.0: ANIONS** | | | | | | Analyst: **smb** | |
| Chloride | 64 | 30 | | mg/Kg | 20 | 1/2/2019 10:58:28 PM | 42408 |
| **EPA METHOD 8015M/D: DIESEL RANGE ORGANICS** | | | | | | Analyst: **lrm** | |
| Diesel Range Organics (DRO) | ND | 9.8 | | mg/Kg | 1 | 1/2/2019 7:33:26 PM | 42389 |
| Motor Oil Range Organics (MRO) | ND | 49 | | mg/Kg | 1 | 1/2/2019 7:33:26 PM | 42389 |
| Surr: DNOP | 63.5 | 50.6-138 | | %Rec | 1 | 1/2/2019 7:33:26 PM | 42389 |
| **EPA METHOD 8015D: GASOLINE RANGE** | | | | | | Analyst: **NSB** | |
| Gasoline Range Organics (GRO) | ND | 5.0 | | mg/Kg | 1 | 1/2/2019 10:28:09 PM | 42381 |
| Surr: BFB | 88.8 | 73.8-119 | | %Rec | 1 | 1/2/2019 10:28:09 PM | 42381 |
| **EPA METHOD 8021B: VOLATILES** | | | | | | Analyst: **NSB** | |
| Benzene | ND | 0.025 | | mg/Kg | 1 | 1/2/2019 10:28:09 PM | 42381 |
| Toluene | ND | 0.050 | | mg/Kg | 1 | 1/2/2019 10:28:09 PM | 42381 |
| Ethylbenzene | ND | 0.050 | | mg/Kg | 1 | 1/2/2019 10:28:09 PM | 42381 |
| Xylenes, Total | ND | 0.099 | | mg/Kg | 1 | 1/2/2019 10:28:09 PM | 42381 |
| Surr: 4-Bromofluorobenzene | 90.1 | 80-120 | | %Rec | 1 | 1/2/2019 10:28:09 PM | 42381 |

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 Detection Limit |
| S | % Recovery outside of range due to dilution or matrix | W | Sample container temperature is out of limit as specified |

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Souder, Miller & Associates
**Client Sample ID:** B 12
**Project:** Tom Mathews TB
**Collection Date:** 12/20/2018 12:15:00 PM
**Lab ID:** 1812E91-027 **Matrix:** SOIL **Received Date:** 12/29/2018 11:00:00 AM

| Analyses | Result | PQL | Qual | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|
| **EPA METHOD 300.0: ANIONS** | | | | | | Analyst: **smb** | |
| Chloride | 57 | 30 | | mg/Kg | 20 | 1/3/2019 10:15:27 AM | 42421 |
| **EPA METHOD 8015M/D: DIESEL RANGE ORGANICS** | | | | | | Analyst: **lrm** | |
| Diesel Range Organics (DRO) | ND | 9.3 | | mg/Kg | 1 | 1/2/2019 7:55:17 PM | 42389 |
| Motor Oil Range Organics (MRO) | ND | 47 | | mg/Kg | 1 | 1/2/2019 7:55:17 PM | 42389 |
| Surr: DNOP | 55.8 | 50.6-138 | | %Rec | 1 | 1/2/2019 7:55:17 PM | 42389 |
| **EPA METHOD 8015D: GASOLINE RANGE** | | | | | | Analyst: **NSB** | |
| Gasoline Range Organics (GRO) | ND | 4.8 | | mg/Kg | 1 | 1/2/2019 10:51:40 PM | 42381 |
| Surr: BFB | 91.7 | 73.8-119 | | %Rec | 1 | 1/2/2019 10:51:40 PM | 42381 |
| **EPA METHOD 8021B: VOLATILES** | | | | | | Analyst: **NSB** | |
| Benzene | ND | 0.024 | | mg/Kg | 1 | 1/2/2019 10:51:40 PM | 42381 |
| Toluene | ND | 0.048 | | mg/Kg | 1 | 1/2/2019 10:51:40 PM | 42381 |
| Ethylbenzene | ND | 0.048 | | mg/Kg | 1 | 1/2/2019 10:51:40 PM | 42381 |
| Xylenes, Total | ND | 0.097 | | mg/Kg | 1 | 1/2/2019 10:51:40 PM | 42381 |
| Surr: 4-Bromofluorobenzene | 94.1 | 80-120 | | %Rec | 1 | 1/2/2019 10:51:40 PM | 42381 |

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 Detection Limit |
| S | % Recovery outside of range due to dilution or matrix | W | Sample container temperature is out of limit as specified |

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: **1812E91**

***04-Jan-19***

**Client:** Souder, Miller & Associates

**Project:** Tom Mathews TB

| Sample ID | **MB-42398** | SampType: | **MBLK** | | TestCode: | **EPA Method 300.0: Anions** | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | **PBS** | Batch ID: | **42398** | | RunNo: | **56726** | | | | |
| Prep Date: | **1/2/2019** | Analysis Date: | **1/2/2019** | | SeqNo: | **1898555** | Units: | **mg/Kg** | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Chloride | ND | 1.5 | | | | | | | | |

| Sample ID | **LCS-42398** | SampType: | **LCS** | | TestCode: | **EPA Method 300.0: Anions** | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | **LCSS** | Batch ID: | **42398** | | RunNo: | **56726** | | | | |
| Prep Date: | **1/2/2019** | Analysis Date: | **1/2/2019** | | SeqNo: | **1898556** | Units: | **mg/Kg** | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Chloride | 14 | 1.5 | 15.00 | 0 | 93.6 | 90 | 110 | | | |

| Sample ID | **MB-42408** | SampType: | **MBLK** | | TestCode: | **EPA Method 300.0: Anions** | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | **PBS** | Batch ID: | **42408** | | RunNo: | **56726** | | | | |
| Prep Date: | **1/2/2019** | Analysis Date: | **1/2/2019** | | SeqNo: | **1898585** | Units: | **mg/Kg** | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Chloride | ND | 1.5 | | | | | | | | |

| Sample ID | **LCS-42408** | SampType: | **LCS** | | TestCode: | **EPA Method 300.0: Anions** | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | **LCSS** | Batch ID: | **42408** | | RunNo: | **56726** | | | | |
| Prep Date: | **1/2/2019** | Analysis Date: | **1/2/2019** | | SeqNo: | **1898586** | Units: | **mg/Kg** | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Chloride | 14 | 1.5 | 15.00 | 0 | 95.3 | 90 | 110 | | | |

| Sample ID | **MB-42421** | SampType: | **MBLK** | | TestCode: | **EPA Method 300.0: Anions** | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | **PBS** | Batch ID: | **42421** | | RunNo: | **56759** | | | | |
| Prep Date: | **1/3/2019** | Analysis Date: | **1/3/2019** | | SeqNo: | **1899399** | Units: | **mg/Kg** | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Chloride | ND | 1.5 | | | | | | | | |

| Sample ID | **LCS-42421** | SampType: | **LCS** | | TestCode: | **EPA Method 300.0: Anions** | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | **LCSS** | Batch ID: | **42421** | | RunNo: | **56759** | | | | |
| Prep Date: | **1/3/2019** | Analysis Date: | **1/3/2019** | | SeqNo: | **1899400** | Units: | **mg/Kg** | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Chloride | 14 | 1.5 | 15.00 | 0 | 95.0 | 90 | 110 | | | |

**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 Detection Limit |
| S | % Recovery outside of range due to dilution or matrix | W | Sample container temperature is out of limit as specified |

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: **1812E91**

***04-Jan-19***

**Client:** Souder, Miller & Associates

**Project:** Tom Mathews TB

| Sample ID | **LCS-42389** | SampType: | **LCS** | | TestCode: | **EPA Method 8015M/D: Diesel Range Organics** | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | **LCSS** | Batch ID: | **42389** | | RunNo: | **56697** | | | | |
| Prep Date: | **12/31/2018** | Analysis Date: | **1/2/2019** | | SeqNo: | **1898357** | Units: | **mg/Kg** | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Diesel Range Organics (DRO) | 49 | 10 | 50.00 | 0 | 97.5 | 70 | 130 | | | |
| Surr: DNOP | 4.0 | | 5.000 | | 79.3 | 50.6 | 138 | | | |

| Sample ID | **MB-42389** | SampType: | **MBLK** | | TestCode: | **EPA Method 8015M/D: Diesel Range Organics** | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | **PBS** | Batch ID: | **42389** | | RunNo: | **56697** | | | | |
| Prep Date: | **12/31/2018** | Analysis Date: | **1/2/2019** | | SeqNo: | **1898358** | Units: | **mg/Kg** | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Diesel Range Organics (DRO) | ND | 10 | | | | | | | | |
| Motor Oil Range Organics (MRO) | ND | 50 | | | | | | | | |
| Surr: DNOP | 10 | | 10.00 | | 100 | 50.6 | 138 | | | |

| Sample ID | **1812E91-014AMS** | SampType: | **MS** | | TestCode: | **EPA Method 8015M/D: Diesel Range Organics** | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | **S 14** | Batch ID: | **42389** | | RunNo: | **56697** | | | | |
| Prep Date: | **12/31/2018** | Analysis Date: | **1/2/2019** | | SeqNo: | **1898360** | Units: | **mg/Kg** | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Diesel Range Organics (DRO) | 58 | 9.7 | 48.69 | 0 | 119 | 53.5 | 126 | | | |
| Surr: DNOP | 2.6 | | 4.869 | | 53.3 | 50.6 | 138 | | | |

| Sample ID | **1812E91-014AMSD** | SampType: | **MSD** | | TestCode: | **EPA Method 8015M/D: Diesel Range Organics** | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | **S 14** | Batch ID: | **42389** | | RunNo: | **56697** | | | | |
| Prep Date: | **12/31/2018** | Analysis Date: | **1/2/2019** | | SeqNo: | **1898361** | Units: | **mg/Kg** | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Diesel Range Organics (DRO) | 57 | 9.7 | 48.64 | 0 | 116 | 53.5 | 126 | 2.23 | 21.7 | |
| Surr: DNOP | 3.4 | | 4.864 | | 69.8 | 50.6 | 138 | 0 | 0 | |

| Sample ID | **LCS-42388** | SampType: | **LCS** | | TestCode: | **EPA Method 8015M/D: Diesel Range Organics** | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | **LCSS** | Batch ID: | **42388** | | RunNo: | **56732** | | | | |
| Prep Date: | **12/31/2018** | Analysis Date: | **1/3/2019** | | SeqNo: | **1898879** | Units: | **mg/Kg** | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Diesel Range Organics (DRO) | 57 | 10 | 50.00 | 0 | 114 | 70 | 130 | | | |
| Surr: DNOP | 5.1 | | 5.000 | | 102 | 50.6 | 138 | | | |

**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 Detection Limit |
| S | % Recovery outside of range due to dilution or matrix | W | Sample container temperature is out of limit as specified |

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: **1812E91**

***04-Jan-19***

**Client:** Souder, Miller & Associates

**Project:** Tom Mathews TB

| Sample ID | **MB-42388** | SampType: | **MBLK** | | TestCode: | **EPA Method 8015M/D: Diesel Range Organics** | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | **PBS** | Batch ID: | **42388** | | RunNo: | **56732** | | | | |
| Prep Date: | **12/31/2018** | Analysis Date: | **1/3/2019** | | SeqNo: | **1898880** | 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 | 9.6 | | 10.00 | | 95.6 | 50.6 | 138 | | | |

| Sample ID | **1812E91-013AMS** | SampType: | **MS** | | TestCode: | **EPA Method 8015M/D: Diesel Range Organics** | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | **S 13** | Batch ID: | **42388** | | RunNo: | **56732** | | | | |
| Prep Date: | **12/31/2018** | Analysis Date: | **1/3/2019** | | SeqNo: | **1899393** | Units: | **mg/Kg** | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Diesel Range Organics (DRO) | 99 | 10 | 49.90 | 63.22 | 70.9 | 53.5 | 126 | | | |
| Surr: DNOP | 4.6 | | 4.990 | | 92.9 | 50.6 | 138 | | | |

| Sample ID | **1812E91-013AMSD** | SampType: | **MSD** | | TestCode: | **EPA Method 8015M/D: Diesel Range Organics** | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | **S 13** | Batch ID: | **42388** | | RunNo: | **56732** | | | | |
| Prep Date: | **12/31/2018** | Analysis Date: | **1/3/2019** | | SeqNo: | **1899394** | Units: | **mg/Kg** | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Diesel Range Organics (DRO) | 100 | 9.9 | 49.55 | 63.22 | 82.3 | 53.5 | 126 | 5.34 | 21.7 | |
| Surr: DNOP | 4.8 | | 4.955 | | 97.0 | 50.6 | 138 | 0 | 0 | |

**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 Detection Limit |
| S | % Recovery outside of range due to dilution or matrix | W | Sample container temperature is out of limit as specified |

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: **1812E91**

***04-Jan-19***

**Client:** Souder, Miller & Associates

**Project:** Tom Mathews TB

| Sample ID | **MB-42379** | SampType: **MBLK** | | | TestCode: **EPA Method 8015D: Gasoline Range** | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | **PBS** | Batch ID: **42379** | | | RunNo: **56715** | | | | | |
| Prep Date: | **12/31/2018** | Analysis Date: **1/2/2019** | | | SeqNo: **1897980** | | Units: **%Rec** | | | |
| Analyte | | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Surr: BFB | | 880 | | 1000 | | 88.4 | 73.8 | 119 | | | |

| Sample ID | **LCS-42379** | SampType: **LCS** | | | TestCode: **EPA Method 8015D: Gasoline Range** | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | **LCSS** | Batch ID: **42379** | | | RunNo: **56715** | | | | | |
| Prep Date: | **12/31/2018** | Analysis Date: **1/2/2019** | | | SeqNo: **1897988** | | Units: **%Rec** | | | |
| Analyte | | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Surr: BFB | | 1000 | | 1000 | | 104 | 73.8 | 119 | | | |

| Sample ID | **MB-42381** | SampType: **MBLK** | | | TestCode: **EPA Method 8015D: Gasoline Range** | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | **PBS** | Batch ID: **42381** | | | RunNo: **56715** | | | | | |
| Prep Date: | **12/31/2018** | Analysis Date: **1/2/2019** | | | SeqNo: **1898027** | | 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 | | 880 | | 1000 | | 88.3 | 73.8 | 119 | | | |

| Sample ID | **LCS-42381** | SampType: **LCS** | | | TestCode: **EPA Method 8015D: Gasoline Range** | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | **LCSS** | Batch ID: **42381** | | | RunNo: **56715** | | | | | |
| Prep Date: | **12/31/2018** | Analysis Date: **1/2/2019** | | | SeqNo: **1898028** | | Units: **mg/Kg** | | | |
| Analyte | | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Gasoline Range Organics (GRO) | | 26 | 5.0 | 25.00 | 0 | 104 | 80.1 | 123 | | | |
| Surr: BFB | | 980 | | 1000 | | 98.3 | 73.8 | 119 | | | |

| Sample ID | **1812E91-019AMS** | SampType: **MS** | | | TestCode: **EPA Method 8015D: Gasoline Range** | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | **B 4** | Batch ID: **42381** | | | RunNo: **56715** | | | | | |
| Prep Date: | **12/31/2018** | Analysis Date: **1/2/2019** | | | SeqNo: **1898030** | | Units: **mg/Kg** | | | |
| Analyte | | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Gasoline Range Organics (GRO) | | 25 | 4.7 | 23.41 | 0 | 105 | 77.8 | 128 | | | |
| Surr: BFB | | 960 | | 936.3 | | 103 | 73.8 | 119 | | | |

| Sample ID | **1812E91-019AMSD** | SampType: **MSD** | | | TestCode: **EPA Method 8015D: Gasoline Range** | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | **B 4** | Batch ID: **42381** | | | RunNo: **56715** | | | | | |
| Prep Date: | **12/31/2018** | Analysis Date: **1/2/2019** | | | SeqNo: **1898031** | | Units: **mg/Kg** | | | |
| Analyte | | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Gasoline Range Organics (GRO) | | 26 | 4.8 | 23.76 | 0 | 108 | 77.8 | 128 | 3.92 | 20 | |
| Surr: BFB | | 970 | | 950.6 | | 102 | 73.8 | 119 | 0 | 0 | |

**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 Detection Limit |
| S | % Recovery outside of range due to dilution or matrix | W | Sample container temperature is out of limit as specified |

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: **1812E91**

***04-Jan-19***

**Client:** Souder, Miller & Associates

**Project:** Tom Mathews TB

| Sample ID | **MB-42380** | SampType: | **MBLK** | TestCode: | **EPA Method 8015D: Gasoline Range** | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | **PBS** | Batch ID: | **42380** | RunNo: | **56716** | | | | | |
| Prep Date: | **12/31/2018** | Analysis Date: | **1/2/2019** | SeqNo: | **1898095** | 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 | 870 | | 1000 | | 87.2 | 73.8 | 119 | | | |

| Sample ID | **LCS-42380** | SampType: | **LCS** | TestCode: | **EPA Method 8015D: Gasoline Range** | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | **LCSS** | Batch ID: | **42380** | RunNo: | **56716** | | | | | |
| Prep Date: | **12/31/2018** | Analysis Date: | **1/2/2019** | SeqNo: | **1898096** | Units: | **mg/Kg** | | | |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics (GRO) | 24 | 5.0 | 25.00 | 0 | 95.5 | 80.1 | 123 | | | |
| Surr: BFB | 990 | | 1000 | | 98.5 | 73.8 | 119 | | | |

**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 Detection Limit |
| S | % Recovery outside of range due to dilution or matrix | W | Sample container temperature is out of limit as specified |

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: **1812E91**

***04-Jan-19***

**Client:** Souder, Miller & Associates

**Project:** Tom Mathews TB

| Sample ID | **MB-42379** | SampType: **MBLK** | | | TestCode: **EPA Method 8021B: Volatiles** | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Client ID: | **PBS** | Batch ID: **42379** | | | RunNo: **56715** | | | | |
| Prep Date: | **12/31/2018** | Analysis Date: **1/2/2019** | | | SeqNo: **1898052** | Units: **%Rec** | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Surr: 4-Bromofluorobenzene | 0.91 | | 1.000 | | 91.1 | 80 | 120 | | | |

| Sample ID | **LCS-42379** | SampType: **LCS** | | | TestCode: **EPA Method 8021B: Volatiles** | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Client ID: | **LCSS** | Batch ID: **42379** | | | RunNo: **56715** | | | | |
| Prep Date: | **12/31/2018** | Analysis Date: **1/2/2019** | | | SeqNo: **1898053** | Units: **%Rec** | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Surr: 4-Bromofluorobenzene | 0.97 | | 1.000 | | 97.4 | 80 | 120 | | | |

| Sample ID | **MB-42381** | SampType: **MBLK** | | | TestCode: **EPA Method 8021B: Volatiles** | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Client ID: | **PBS** | Batch ID: **42381** | | | RunNo: **56715** | | | | |
| Prep Date: | **12/31/2018** | Analysis Date: **1/2/2019** | | | SeqNo: **1898065** | Units: **mg/Kg** | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Benzene | ND | 0.025 | | | | | | | | |
| Toluene | ND | 0.050 | | | | | | | | |
| Ethylbenzene | ND | 0.050 | | | | | | | | |
| Xylenes, Total | ND | 0.10 | | | | | | | | |
| Surr: 4-Bromofluorobenzene | 0.90 | | 1.000 | | 89.9 | 80 | 120 | | | |

| Sample ID | **LCS-42381** | SampType: **LCS** | | | TestCode: **EPA Method 8021B: Volatiles** | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Client ID: | **LCSS** | Batch ID: **42381** | | | RunNo: **56715** | | | | |
| Prep Date: | **12/31/2018** | Analysis Date: **1/2/2019** | | | SeqNo: **1898066** | Units: **mg/Kg** | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Benzene | 0.95 | 0.025 | 1.000 | 0 | 94.6 | 80 | 120 | | | |
| Toluene | 0.99 | 0.050 | 1.000 | 0 | 98.9 | 80 | 120 | | | |
| Ethylbenzene | 0.97 | 0.050 | 1.000 | 0 | 97.3 | 80 | 120 | | | |
| Xylenes, Total | 3.0 | 0.10 | 3.000 | 0 | 99.3 | 80 | 120 | | | |
| Surr: 4-Bromofluorobenzene | 0.95 | | 1.000 | | 94.5 | 80 | 120 | | | |

| Sample ID | **1812E91-020AMS** | SampType: **MS** | | | TestCode: **EPA Method 8021B: Volatiles** | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Client ID: | **B 5** | Batch ID: **42381** | | | RunNo: **56715** | | | | |
| Prep Date: | **12/31/2018** | Analysis Date: **1/2/2019** | | | SeqNo: **1898069** | Units: **mg/Kg** | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Benzene | 0.83 | 0.025 | 0.9843 | 0 | 84.5 | 63.9 | 127 | | | |
| Toluene | 0.91 | 0.049 | 0.9843 | 0.009280 | 91.6 | 69.9 | 131 | | | |
| Ethylbenzene | 0.92 | 0.049 | 0.9843 | 0 | 93.9 | 71 | 132 | | | |
| Xylenes, Total | 2.8 | 0.098 | 2.953 | 0.02633 | 94.3 | 71.8 | 131 | | | |

**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 Detection Limit |
| S | % Recovery outside of range due to dilution or matrix | W | Sample container temperature is out of limit as specified |

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: **1812E91**

***04-Jan-19***

**Client:** Souder, Miller & Associates

**Project:** Tom Mathews TB

| Sample ID | **1812E91-020AMS** | SampType: **MS** | | | TestCode: **EPA Method 8021B: Volatiles** | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | **B 5** | Batch ID: **42381** | | | RunNo: **56715** | | | | | |
| Prep Date: | **12/31/2018** | Analysis Date: **1/2/2019** | | | SeqNo: **1898069** | | Units: **mg/Kg** | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Surr: 4-Bromofluorobenzene | 0.89 | | 0.9843 | | 90.6 | 80 | 120 | | | |

| Sample ID | **1812E91-020AMSD** | SampType: **MSD** | | | TestCode: **EPA Method 8021B: Volatiles** | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | **B 5** | Batch ID: **42381** | | | RunNo: **56715** | | | | | |
| Prep Date: | **12/31/2018** | Analysis Date: **1/2/2019** | | | SeqNo: **1898070** | | Units: **mg/Kg** | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Benzene | 0.81 | 0.023 | 0.9251 | 0 | 87.9 | 63.9 | 127 | 2.23 | 20 | |
| Toluene | 0.85 | 0.046 | 0.9251 | 0.009280 | 91.1 | 69.9 | 131 | 6.75 | 20 | |
| Ethylbenzene | 0.85 | 0.046 | 0.9251 | 0 | 92.2 | 71 | 132 | 7.98 | 20 | |
| Xylenes, Total | 2.6 | 0.093 | 2.775 | 0.02633 | 92.5 | 71.8 | 131 | 8.04 | 20 | |
| Surr: 4-Bromofluorobenzene | 0.83 | | 0.9251 | | 89.3 | 80 | 120 | 0 | 0 | |

| Sample ID | **MB-42380** | SampType: **MBLK** | | | TestCode: **EPA Method 8021B: Volatiles** | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | **PBS** | Batch ID: **42380** | | | RunNo: **56716** | | | | | |
| Prep Date: | **12/31/2018** | Analysis Date: **1/2/2019** | | | SeqNo: **1898133** | | Units: **mg/Kg** | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Benzene | ND | 0.025 | | | | | | | | |
| Toluene | ND | 0.050 | | | | | | | | |
| Ethylbenzene | ND | 0.050 | | | | | | | | |
| Xylenes, Total | ND | 0.10 | | | | | | | | |
| Surr: 4-Bromofluorobenzene | 0.91 | | 1.000 | | 91.2 | 80 | 120 | | | |

| Sample ID | **LCS-42380** | SampType: **LCS** | | | TestCode: **EPA Method 8021B: Volatiles** | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | **LCSS** | Batch ID: **42380** | | | RunNo: **56716** | | | | | |
| Prep Date: | **12/31/2018** | Analysis Date: **1/2/2019** | | | SeqNo: **1898134** | | Units: **mg/Kg** | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Benzene | 0.81 | 0.025 | 1.000 | 0 | 81.3 | 80 | 120 | | | |
| Toluene | 0.86 | 0.050 | 1.000 | 0 | 85.8 | 80 | 120 | | | |
| Ethylbenzene | 0.90 | 0.050 | 1.000 | 0 | 90.1 | 80 | 120 | | | |
| Xylenes, Total | 2.8 | 0.10 | 3.000 | 0 | 91.9 | 80 | 120 | | | |
| Surr: 4-Bromofluorobenzene | 0.92 | | 1.000 | | 92.3 | 80 | 120 | | | |

| Sample ID | **1812E91-001AMS** | SampType: **MS** | | | TestCode: **EPA Method 8021B: Volatiles** | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | **SW 1** | Batch ID: **42380** | | | RunNo: **56716** | | | | | |
| Prep Date: | **12/31/2018** | Analysis Date: **1/2/2019** | | | SeqNo: **1898137** | | Units: **mg/Kg** | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |

**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 Detection Limit |
| S | % Recovery outside of range due to dilution or matrix | W | Sample container temperature is out of limit as specified |

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: **1812E91**

***04-Jan-19***

**Client:** Souder, Miller & Associates

**Project:** Tom Mathews TB

| Sample ID | **1812E91-001AMS** | SampType: | **MS** | | TestCode: | **EPA Method 8021B: Volatiles** | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | **SW 1** | Batch ID: | **42380** | | RunNo: | **56716** | | | | |
| Prep Date: | **12/31/2018** | Analysis Date: | **1/2/2019** | | SeqNo: | **1898137** | Units: | **mg/Kg** | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Benzene | 0.81 | 0.025 | 0.9862 | 0.009895 | 81.0 | 63.9 | 127 | | | |
| Toluene | 0.85 | 0.049 | 0.9862 | 0.008321 | 85.4 | 69.9 | 131 | | | |
| Ethylbenzene | 0.90 | 0.049 | 0.9862 | 0.008073 | 90.2 | 71 | 132 | | | |
| Xylenes, Total | 2.7 | 0.099 | 2.959 | 0.01650 | 90.9 | 71.8 | 131 | | | |
| Surr: 4-Bromofluorobenzene | 0.91 | | 0.9862 | | 92.4 | 80 | 120 | | | |

| Sample ID | **1812E91-001AMSD** | SampType: | **MSD** | | TestCode: | **EPA Method 8021B: Volatiles** | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | **SW 1** | Batch ID: | **42380** | | RunNo: | **56716** | | | | |
| Prep Date: | **12/31/2018** | Analysis Date: | **1/2/2019** | | SeqNo: | **1898139** | Units: | **mg/Kg** | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Benzene | 0.80 | 0.023 | 0.9363 | 0.009895 | 83.9 | 63.9 | 127 | 1.60 | 20 | |
| Toluene | 0.88 | 0.047 | 0.9363 | 0.008321 | 93.3 | 69.9 | 131 | 3.62 | 20 | |
| Ethylbenzene | 0.91 | 0.047 | 0.9363 | 0.008073 | 96.8 | 71 | 132 | 1.87 | 20 | |
| Xylenes, Total | 2.7 | 0.094 | 2.809 | 0.01650 | 94.6 | 71.8 | 131 | 1.15 | 20 | |
| Surr: 4-Bromofluorobenzene | 0.90 | | 0.9363 | | 96.6 | 80 | 120 | 0 | 0 | |

**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 Detection Limit |
| S | % Recovery outside of range due to dilution or matrix | W | Sample container temperature is out of limit as specified |

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: **1812E91** RcptNo: **1**

Received By: **Andy Freeman** **12/29/2018 11:00:00 AM**

Completed By: **Erin Melendrez** **12/31/2018 8:43:32 AM**

Reviewed By: DAD 12/31/18

LB: JAB 12/31/18

## 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. VOA vials have zero headspace? | Yes ☐ | No ☐ | No VOA Vials ☑ |
| 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: JAB 12/31/18

## Special Handling (if applicable)

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

Person Notified: _____ Date: _____

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

Regarding: _____

Client Instructions: _____

16. Additional remarks:

17. **Cooler Information**

| Cooler No | Temp °C | Condition | Seal Intact | Seal No | Seal Date | Signed By |
|---|---|---|---|---|---|---|
| 1 | 1.7 | Good | Yes | | | |

# Chain-of-Custody Record

Client: SMA - CBAP

Mailing Address:

Phone #:

email or Fax#:

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

Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time: 5 day turn
☐ Standard ☐ Rush

Project Name: Tom Mathews TB

Project #:

Project Manager: A. Weyant

Sampler: LCM

On Ice: ☒ Yes ☐ No

# of Coolers: 1

Cooler Temp (including CF): 1.7 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. 1817E91 | BTEX / MTBE / TMB's (8021) | TPH 8015D(GRO / DRO / MRO) | 8081 Pesticides/8082 PCB's | EDB (Method 504.1) | PAHs by 8310 or 8270SIMS | RCRA 8 Metals | Cl, F, Br, $NO_3$, $NO_2$, $PO_4$, $SO_4$ | 8260 (VOA) | 8270 (Semi-VOA) | Total Coliform (Present/Absent) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 12.20 | 10:30 | Soil | SW 1 | 4oz | | -001 | X | X | | | | | X | | | |
| | 10:35 | | S 2 | | | -002 | X | X | | | | | X | | | |
| | 10:40 | | S 3 | | | -003 | X | X | | | | | X | | | |
| | 10:45 | | S 4 | | | -004 | X | X | | | | | X | | | |
| | 10:50 | | S 5 | | | -005 | X | X | | | | | X | | | |
| | 10:55 | | S 6 | | | -006 | X | X | | | | | X | | | |
| | 10:57 | | S 7 | | | -007 | X | X | | | | | X | | | |
| | 11:00 | | S 8 | | | -008 | X | X | | | | | X | | | |
| | 11:03 | | S 9 | | | -009 | X | X | | | | | X | | | |
| | 11:06 | | S 10 | | | -010 | X | X | | | | | X | | | |
| | 11:10 | | S 11 | | | -011 | X | X | | | | | X | | | |
| | 11:15 | | S 12 | | | -012 | X | X | | | | | X | | | |

| Date | Time | Relinquished by: | Received by: | Via: | Date | Time |
|---|---|---|---|---|---|---|
| 12.26 | 12:00 | Samantha Watson | | | 12/27/18 | 1400 |
| 12/27/18 | 1900 | | | | 12/29/18 | 1100 |

Remarks: Matador

1 of 3

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

# Chain-of-Custody Record

Client: SMA - CBAD

Mailing Address:

Phone #:

email or Fax#:

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

Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time: 5 day turn
☐ Standard ☐ Rush

Project Name: Tom Mathews TB

Project #:

Project Manager: A. Weyant

Sampler: LCM

On Ice: ☒ Yes ☐ No

# of Coolers: 1

Cooler Temp (including CF): 1.7 C


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4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107


| Date | Time | Matrix | Sample Name | Container Type and # | Preservative Type | HEAL No. 1812E91 | BTEX / MTBE / TMB's (8021) | TPH:8015D(GRO / DRO / MRO) | 8081 Pesticides/8082 PCB's | EDB (Method 504.1) | PAHs by 8310 or 8270SIMS | RCRA 8 Metals | Cl, F, Br, $NO_3$, $NO_2$, $PO_4$, $SO_4$ | 8260 (VOA) | 8270 (Semi-VOA) | Total Coliform (Present/Absent) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 12/20 | 11:20 | soil | S 13 | 4oz | | -013 | X | X | | | | | X | | | |
| | 11:25 | | S 14 | | | -014 | X | X | | | | | X | | | |
| | 11:30 | | S 15 | | | -015 | X | X | | | | | X | | | |
| | 11:35 | | B 1 | | | -016 | X | X | | | | | X | | | |
| | 11:37 | | B 2 | | | -017 | X | X | | | | | X | | | |
| | 11:40 | | B 3 | | | -018 | X | X | | | | | X | | | |
| | 11:43 | | B 4 | | | -019 | X | X | | | | | X | | | |
| | 11:45 | | B 5 | | | -020 | X | X | | | | | X | | | |
| | 11:50 | | B 6 | | | -021 | X | X | | | | | X | | | |
| | 11:55 | | B 7 | | | -022 | X | X | | | | | X | | | |
| | 11:57 | | B 8 | | | -023 | X | X | | | | | X | | | |
| | 12:01 | | B 9 | | | -024 | X | X | | | | | X | | | |

| Date | Time | Relinquished by: | Received by: | Via: | Date | Time |
|---|---|---|---|---|---|---|
| 12/26 | 12:00 | Samantha Watson | | | | |
| 12/28/18 | 1900 | | | | 12/29/18 | 1100 |

Remarks: Matador

2 of 3

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

# Chain-of-Custody Record

Client: SMA CBAP

Mailing Address:

Phone #:

email or Fax#:

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

Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time: 5 day turn
☐ Standard ☐ Rush

Project Name: Tom Mathews TB

Project #:

Project Manager: A. Weyant

Sampler: LCM

On Ice: ☒ Yes ☐ No

# of Coolers: 1, 7°

Cooler Temp(including CF): 1 cooler


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


**Analysis Request**

| Date | Time | Matrix | Sample Name | Container Type and # | Preservative Type | HEAL No. 1812E91 | BTEX / MTBE / TMB's (8021) | TPH:8015D(GRO / DRO / MRO) | 8081 Pesticides/8082 PCB's | EDB (Method 504.1) | PAHs by 8310 or 8270SIMS | RCRA 8 Metals | Cl, F, Br, $NO_3$, $NO_2$, $PO_4$, $SO_4$ | 8260 (VOA) | 8270 (Semi-VOA) | Total Coliform (Present/Absent) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 12/20 | 12:05 | soil | B10 | 4oz | | -025 | X | X | | | | | X | | | |
| ↓ | 12:10 | ↓ | B11 | ↓ | | -026 | X | X | | | | | X | | | |
| ↓ | 12:15 | ↓ | B12 | ↓ | | -027 | X | X | | | | | X | | | |

| Date | Time | Relinquished by: | Received by: | Via: | Date | Time |
|---|---|---|---|---|---|---|
| 12/26 | 12:00 | Samantha Watson | | | 12/27/18 | 1400 |
| 12/27/18 | 1900 | | | | 12/29/18 | 1100 |

Remarks: Matador

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

July 01, 2019

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

RE: Tom Matthews OrderNo.: 1906928

Dear Melodie Sanjari:

Hall Environmental Analysis Laboratory received 2 sample(s) on 6/18/2019 for the analyses presented in the following report.

This report is a revised report and it replaces the original report issued June 25, 2019.

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

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

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Souder, Miller & Associates
**Client Sample ID:** SW 13
**Project:** Tom Matthews
**Collection Date:** 6/17/2019 2:00:00 PM
**Lab ID:** 1906928-001 **Matrix:** SOIL **Received Date:** 6/18/2019 9:15:00 AM

| Analyses | Result | RL | Qual | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|
| **EPA METHOD 300.0: ANIONS** | | | | | | Analyst: **CJS** | |
| Chloride | 75 | 60 | | mg/Kg | 20 | 6/24/2019 6:15:40 PM | 45776 |
| **EPA METHOD 8015M/D: DIESEL RANGE ORGANICS** | | | | | | Analyst: **JME** | |
| Diesel Range Organics (DRO) | ND | 9.6 | | mg/Kg | 1 | 6/27/2019 1:15:26 PM | 45842 |
| Motor Oil Range Organics (MRO) | ND | 48 | | mg/Kg | 1 | 6/27/2019 1:15:26 PM | 45842 |
| Surr: DNOP | 95.9 | 70-130 | | %Rec | 1 | 6/27/2019 1:15:26 PM | 45842 |
| **EPA METHOD 8015D: GASOLINE RANGE** | | | | | | Analyst: **NSB** | |
| Gasoline Range Organics (GRO) | ND | 5.0 | | mg/Kg | 1 | 6/28/2019 2:42:47 AM | 45839 |
| Surr: BFB | 90.2 | 73.8-119 | | %Rec | 1 | 6/28/2019 2:42:47 AM | 45839 |

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, Inc.

**CLIENT:** Souder, Miller & Associates
**Client Sample ID:** SW 14
**Project:** Tom Matthews
**Collection Date:** 6/17/2019 1:40:00 PM
**Lab ID:** 1906928-002 **Matrix:** SOIL **Received Date:** 6/18/2019 9:15:00 AM

| Analyses | Result | RL | Qual | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|
| **EPA METHOD 300.0: ANIONS** | | | | | | Analyst: **CJS** | |
| Chloride | 92 | 60 | | mg/Kg | 20 | 6/24/2019 6:28:04 PM | 45776 |

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#: **1906928**

***01-Jul-19***

**Client:** Souder, Miller & Associates

**Project:** Tom Matthews

| Sample ID: **MB-45776** | SampType: **mblk** | TestCode: **EPA Method 300.0: Anions** |
|---|---|---|
| Client ID: **PBS** | Batch ID: **45776** | RunNo: **60890** |
| Prep Date: **6/24/2019** | Analysis Date: **6/24/2019** | SeqNo: **2061472** Units: **mg/Kg** |

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

| Sample ID: **LCS-45776** | SampType: **lcs** | TestCode: **EPA Method 300.0: Anions** |
|---|---|---|
| Client ID: **LCSS** | Batch ID: **45776** | RunNo: **60890** |
| Prep Date: **6/24/2019** | Analysis Date: **6/24/2019** | SeqNo: **2061473** Units: **mg/Kg** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 14 | 1.5 | 15.00 | 0 | 95.4 | 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 |

# APPENDIX D
# PHOTO LOG

Photo 1: Looking West

Photo 2: Looking North

Photo 3: Looking East

Photo 4: Looking South

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

WO#: **1906928**
***01-Jul-19***

**Client:** Souder, Miller & Associates
**Project:** Tom Matthews

| Sample ID: **MB-45842** | SampType: **MBLK** | TestCode: **EPA Method 8015M/D: Diesel Range Organics** |
|---|---|---|
| Client ID: **PBS** | Batch ID: **45842** | RunNo: **60970** |
| Prep Date: **6/26/2019** | Analysis Date: **6/27/2019** | SeqNo: **2064828** 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 | 9.7 | | 10.00 | | 97.3 | 70 | 130 | | | |

| Sample ID: **LCS-45842** | SampType: **LCS** | TestCode: **EPA Method 8015M/D: Diesel Range Organics** |
|---|---|---|
| Client ID: **LCSS** | Batch ID: **45842** | RunNo: **60970** |
| Prep Date: **6/26/2019** | Analysis Date: **6/27/2019** | SeqNo: **2064829** Units: **mg/Kg** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Diesel Range Organics (DRO) | 51 | 10 | 50.00 | 0 | 101 | 63.9 | 124 | | | |
| Surr: DNOP | 4.9 | | 5.000 | | 98.2 | 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#: **1906928**

***01-Jul-19***

**Client:** Souder, Miller & Associates

**Project:** Tom Matthews

| Sample ID: **MB-45834** | SampType: **MBLK** | TestCode: **EPA Method 8015D: Gasoline Range** |
|---|---|---|
| Client ID: **PBS** | Batch ID: **45834** | RunNo: **60991** |
| Prep Date: **6/26/2019** | Analysis Date: **6/27/2019** | SeqNo: **2065169** Units: **%Rec** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Surr: BFB | 890 | | 1000 | | 88.9 | 73.8 | 119 | | | |

| Sample ID: **LCS-45834** | SampType: **LCS** | TestCode: **EPA Method 8015D: Gasoline Range** |
|---|---|---|
| Client ID: **LCSS** | Batch ID: **45834** | RunNo: **60991** |
| Prep Date: **6/26/2019** | Analysis Date: **6/27/2019** | SeqNo: **2065170** Units: **%Rec** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Surr: BFB | 1000 | | 1000 | | 102 | 73.8 | 119 | | | |

| Sample ID: **MB-45839** | SampType: **MBLK** | TestCode: **EPA Method 8015D: Gasoline Range** |
|---|---|---|
| Client ID: **PBS** | Batch ID: **45839** | RunNo: **60991** |
| Prep Date: **6/26/2019** | Analysis Date: **6/28/2019** | SeqNo: **2065185** 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 | 910 | | 1000 | | 90.8 | 73.8 | 119 | | | |

| Sample ID: **LCS-45839** | SampType: **LCS** | TestCode: **EPA Method 8015D: Gasoline Range** |
|---|---|---|
| Client ID: **LCSS** | Batch ID: **45839** | RunNo: **60991** |
| Prep Date: **6/26/2019** | Analysis Date: **6/28/2019** | SeqNo: **2065186** 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 | 91.2 | 80.1 | 123 | | | |
| Surr: BFB | 1000 | | 1000 | | 104 | 73.8 | 119 | | | |

| Sample ID: **1906928-001AMS** | SampType: **MS** | TestCode: **EPA Method 8015D: Gasoline Range** |
|---|---|---|
| Client ID: **SW 13** | Batch ID: **45839** | RunNo: **60991** |
| Prep Date: **6/26/2019** | Analysis Date: **6/28/2019** | SeqNo: **2065188** Units: **mg/Kg** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics (GRO) | 24 | 5.0 | 24.90 | 0 | 96.6 | 69.1 | 142 | | | |
| Surr: BFB | 1000 | | 996.0 | | 104 | 73.8 | 119 | | | |

| Sample ID: **1906928-001AMSD** | SampType: **MSD** | TestCode: **EPA Method 8015D: Gasoline Range** |
|---|---|---|
| Client ID: **SW 13** | Batch ID: **45839** | RunNo: **60991** |
| Prep Date: **6/26/2019** | Analysis Date: **6/28/2019** | SeqNo: **2065189** Units: **mg/Kg** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics (GRO) | 24 | 5.0 | 24.95 | 0 | 94.3 | 69.1 | 142 | 2.19 | 20 | |
| Surr: BFB | 1000 | | 998.0 | | 105 | 73.8 | 119 | 0 | 0 | |

**Qualifiers:**

| | |
|---|---|
| * | Value exceeds Maximum Contaminant Level. |
| D | Sample Diluted Due to Matrix |
| H | Holding times for preparation or analysis exceeded |
| ND | Not Detected at the Reporting Limit |
| PQL | Practical Quanitative Limit |
| S | % Recovery outside of 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#: **1906928**

***01-Jul-19***

**Client:** Souder, Miller & Associates

**Project:** Tom Matthews

| Sample ID: **LCS-45847** | SampType: **LCS** | TestCode: **EPA Method 8015D: Gasoline Range** |
|---|---|---|
| Client ID: **LCSS** | Batch ID: **45847** | RunNo: **61030** |
| Prep Date: **6/26/2019** | Analysis Date: **6/28/2019** | SeqNo: **2066672** Units: **%Rec** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Surr: BFB | 1000 | | 1000 | | 104 | 73.8 | 119 | | | |

| Sample ID: **MB-45847** | SampType: **MBLK** | TestCode: **EPA Method 8015D: Gasoline Range** |
|---|---|---|
| Client ID: **PBS** | Batch ID: **45847** | RunNo: **61030** |
| Prep Date: **6/26/2019** | Analysis Date: **6/28/2019** | SeqNo: **2066673** Units: **%Rec** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Surr: BFB | 910 | | 1000 | | 91.4 | 73.8 | 119 | | | |

**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: **1906928** RcptNo: 1

Received By: **Jevon Campisi** **6/18/2019 9:15:00 AM** Jevon Campisi

Completed By: **Leah Baca** **6/18/2019 11:41:23 AM** Leah SBaca

Reviewed By: Y G 6/18/19

## Chain of Custody

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

## Log In

| | | | |
|---|---|---|---|
| 3. Was an attempt made to cool the samples? | Yes ☑ | No ☐ | NA ☐ |
| 4. Were all samples received at a temperature of >0° C to 6.0°C | Yes ☑ | No ☐ | NA ☐ |
| 5. Sample(s) in proper container(s)? | Yes ☑ | No ☐ | |
| 6. Sufficient sample volume for indicated test(s)? | Yes ☑ | No ☐ | |
| 7. Are samples (except VOA and ONG) properly preserved? | Yes ☑ | No ☐ | |
| 8. Was preservative added to bottles? | Yes ☐ | No ☑ | NA ☐ |
| 9. VOA vials have zero headspace? | Yes ☐ | No ☐ | No VOA Vials ☑ |
| 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: ENM 6/18/19

## 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 | 0.0 | Good | Yes | | | |

# Chain-of-Custody Record

Client: SMA Carlsbad

Mailing Address:

Phone #:

email or Fax#:

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

Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time:
☐ Standard ☒ Rush 5 day rush

Project Name: Tom Matthews

Project #:

Project Manager: M. Sanjari

Sampler: MB

On Ice: ☑ Yes ☐ No

# of Coolers: 1

Cooler Temp(including CF): 0.3°C - 0.3°C = 0.0°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. 1906928 | 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) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 6.17.19 | 2:00 | Soil | SW 13 | 4oz | | -001 | | | | | | | X | | | |
| " | 1:40 | " | SW 14 | " | | -002 | | | | | | | X | | | |

| Date: | Time: | Relinquished by: | Received by: | Via: | Date | Time |
|---|---|---|---|---|---|---|
| 6.17.19 | 2:30 | Samantha Watson | | | 6/17/19 | 1500 |
| 6/17/19 | 1900 | | | Courier | 6.18.19 | 9:15 |

Remarks: Matador

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