**Armando Martinez**
Operations Lead, Portfolio Operations Central

**INFORMATION ONLY**

October 20, 2021

New Mexico Oil Conservation Division – District I
1625 N. French Drive
Hobbs, New Mexico 88240

**Re: 2021 Soil Assessment Report – NM AB State #2**
**Case No. 1RP-2470**
**Lea County, New Mexico**

Dear Bradford Billings:

Chevron Environmental Management Company (CEMC) submits herein the *2021 Soil Assessment Report* for 1RP-2470, NM AB State #2. The Site is located approximately 2.75 miles south of Buckeye, in Unit P, Section 6, Township 18 South, Range 35 East, Lea County, New Mexico. The Report was prepared by Arcadis U.S., Inc. (Arcadis), on behalf of CEMC. Based on the 2021 soil investigation data, additional assessment activities will be evaluated, and a proposed scope will be included in a Work Plan for review and approval to further delineate chloride impact in soil.

If you have any questions regarding this submittal, please contact Scott Foord of Arcadis at (713) 953-4853 or me at (505) 690 5408.

Respectfully,

Armando Martinez

Encl. 2021 Soil Assessment Report – NM AB State #2

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ARCADIS

Chevron Environmental Management Company

# 2021 Soil Assessment Report

## NM AB State #2
## Case No. 1RP-2470

September 2021

# 2021 Soil Assessment Report

**NM AB State #2**
**Case No. 1RP-2470**

September 2021

**Prepared By:**
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# Contents



# Tables



# Figures



# Appendices

# 1 Introduction

Arcadis U.S., Inc. (Arcadis) prepared this Soil Assessment Report (Report), on behalf of Chevron Environmental Management Company (CEMC), summarizing the 2021 soil assessment activities conducted for the NM AB State #2 (Site).

# 2 Project Summary

The Site is approximately 2.75 miles south of Buckeye, in Unit P, Section 6, Township 18 South, Range 35 East, Lea County, New Mexico. A site location map is included as **Figure 1**.

On March 30, 2010, a grass fire melted a flow line releasing 2 barrels (bbls) of oil and 40 bbls of produced water. The Initial C-141 Form stated a vacuum truck reportedly removed the pooled liquid, recovering approximately 15 bbls of produced water. According to the New Mexico Office of the State Engineers (NMOSE) database, there is a water well approximately 0.20 miles west of the Site with a depth to groundwater of 60 feet below ground surface (bgs). The Initial C-141 Form for this release was submitted to the New Mexico Oil Conservation Division (NMOCD) on April 5, 2010 and approved by NMOCD on April 6, 2010. The release was assigned remediation permit number 1RP-2470. The Initial C-141 Form for this release is included in **Appendix A**.

On October 12-13, 2020, an initial soil assessment was conducted. Arcadis personnel collected soil samples from fifteen locations (SB-1 through SB-15) within the release area. Hand auger refusal was encountered in all soil borings at shallow depths. Analytical results associated with the assessment activities indicate that concentrations of chloride above the restoration screening criteria of 600 milligrams per kilogram (mg/kg) within the top 4 feet (ft) below ground surface (bgs) of the soil column are present in soil in the vicinity of SB-3 and SB-6. Based upon the findings presented in the 2020 report, additional soil assessment activities were recommended to further delineate the chloride impact in soil at the Site. The 2020 Soil Assessment Report was submitted to the NMOCD on August 17, 2021.

# 3 2021 Additional Soil Assessment

On July 13, 2021, Arcadis personnel collected soil samples based on analytical data evaluated from the prior soil assessment. Soil samples were collected from the previous assessed locations (SB-3 and SB-6) and an additional eight step out locations (SB-16 through SB-23) to further delineate the chloride impacts in soil. The soil samples were collected with a backhoe at depths ranging from the surface to approximately 2 ft bgs. Backhoe refusal was encountered within all boring locations. Boring logs were not generated due to the shallow depth of the borings. Each boring location was backfilled with the remaining excavated soil after sample collection. Soil sample locations are presented on **Figure 2**. A photographic log is presented in **Appendix B**. Sample containers (4 oz. glass jars) were supplied by Pace Analytical, and samples were collected and placed on ice for delivery to Pace Analytical in Midland, Texas.

The soil samples were analyzed for:

- Chloride by United States Environmental Protection Agency (USEPA) Method 300

# 4 Soil Analytical Results

The soil analytical results were compared to the revised New Mexico Administration Code (NMAC) screening levels for chloride for depth to groundwater 51-100 ft bgs (revised Rule 19.15.29). A summary of the soil sample

analytical results is presented in **Table 1**. Copies of the certified analytical reports and chain-of-custody documentation from Pace Analytical are presented in **Appendix C**. The soil analytical map is presented in **Figure 3**.

## 4.1 Chloride

- Chloride concentrations were reported below the revised Rule 19.15.29 screening limit of 10,000 mg/kg at all sample locations. However, concentrations did exceed the revised Rule (19.15.29.13) restoration screening criteria of 600 mg/kg within the top 4 ft bgs of the soil column at four sample locations (SB-3, SB-6, SB-22, and SB-23).
  - SB-3
    - (1.5 – 2 ft) at 1,210 mg/kg
  - SB-6
    - (1.5 – 2 ft) at 865 mg/kg
  - SB-22
    - (0 – 0.5 ft) at 685 mg/kg
    - (1.5 – 1.75 ft) at 725 mg/kg
  - SB-23
    - (0 – 0.5 ft) at 1,720 mg/kg
    - (1.5 – 2 ft) at 1,000 mg/kg

# 5 Conclusion

- Analytical results associated with the recent assessment activities indicate that concentrations of chloride above the restoration screening criteria of 600 mg/kg within the top 4 ft bgs of the soil column are present in soil in the vicinity of (SB-3, SB-6, SB-22, and SB-23). During the recent assessment activities horizontal delineation was achieved in the vicinity of (SB-3 and SB-6).
- Based upon the findings presented in this report, additional soil assessment activities are recommended to further delineate the chloride impact in soil in the vicinity of SB-22 and SB-23. The revised C-141 Form is presented in **Appendix D**.

# Tables

Table 1
Summary of Soil Analytical Results
Chevron Environmental Management Company
NM AB State #2
Lea County, New Mexico

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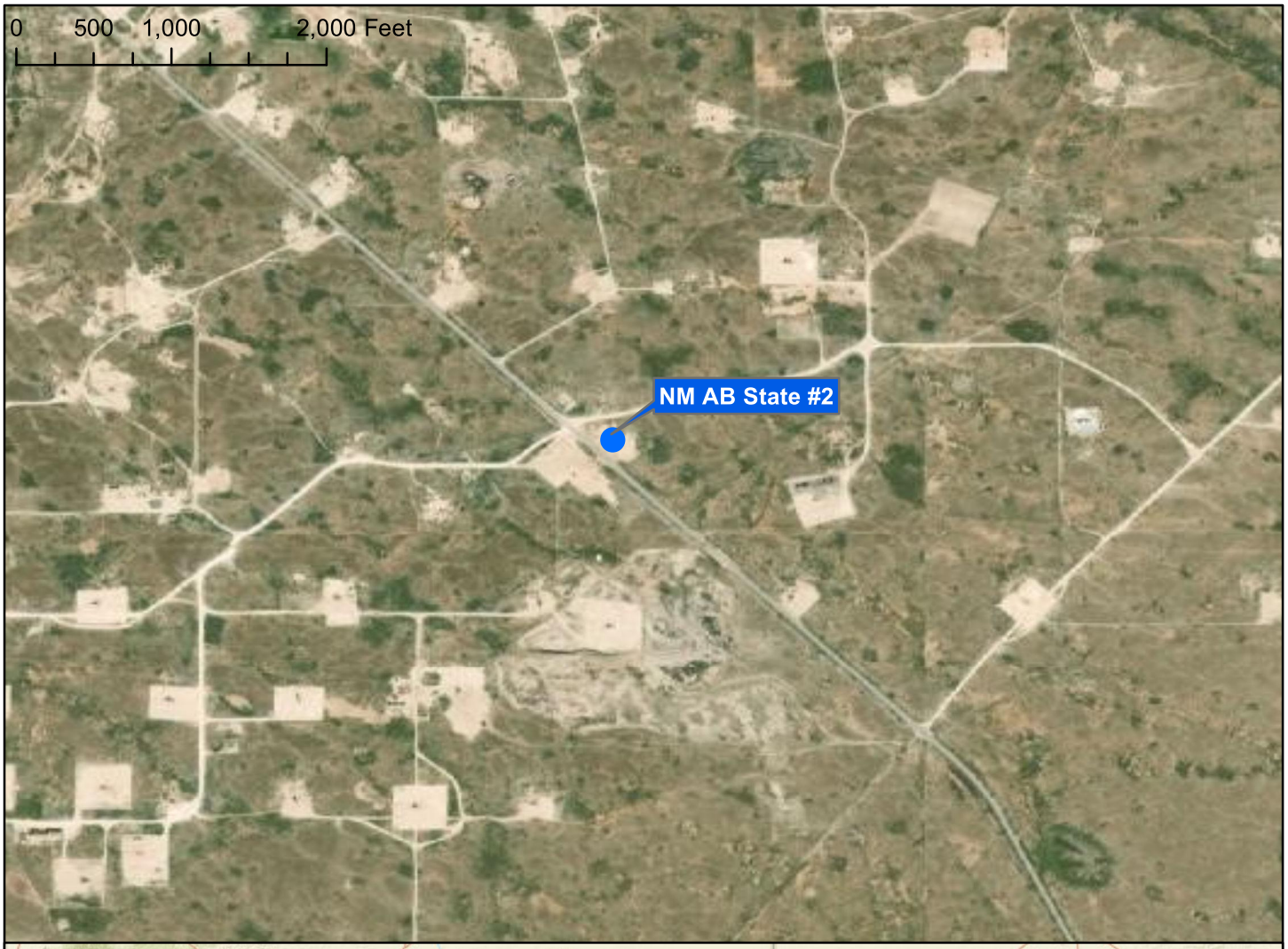
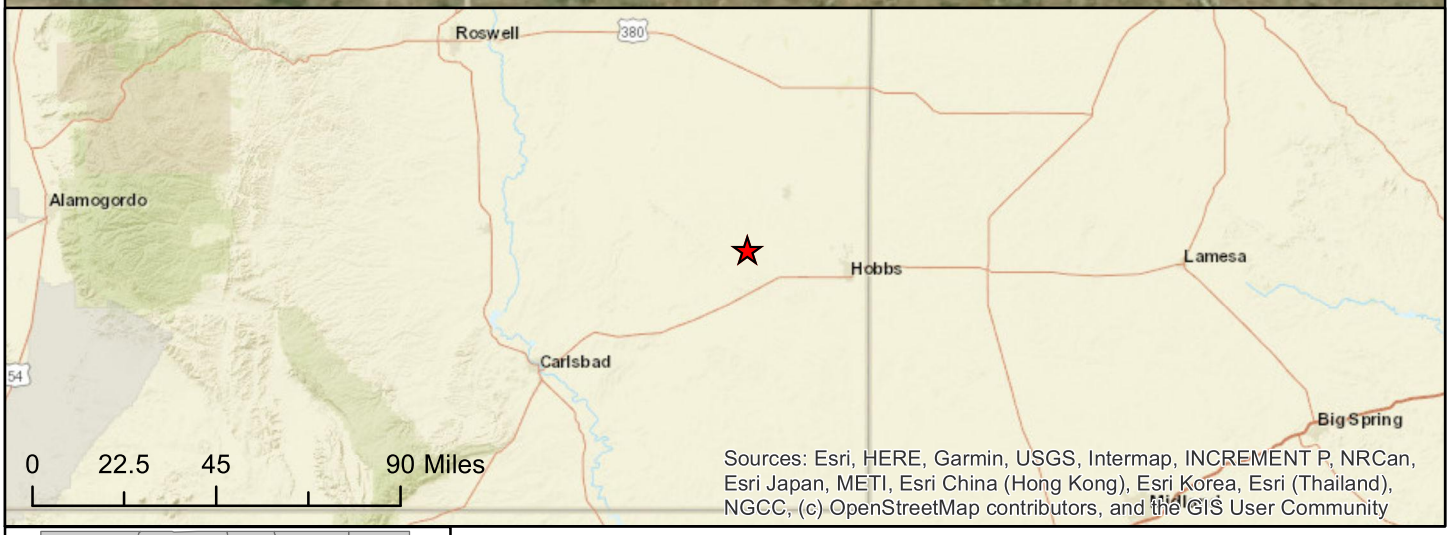
| Sample I.D. No. | Sample Depth (feet bgs) | Date | Benzene | Toluene | Ethylbenzene | Total Xylenes | Total BTEX | TPH - GRO | TPH - DRO | Total GRO + DRO | TPH - MRO | Total TPH | Chloride |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | (mg/kg) | (mg/kg) | (mg/kg) | (mg/kg) | (mg/kg) | (mg/kg) | (mg/kg) | (mg/kg) | (mg/kg) | (mg/kg) | (mg/kg) |
| **NMAC Standards** | | | **10** | -- | -- | -- | **50** | -- | -- | **1,000** | -- | **2,500** | **10,000** |
| **Restoration Requirements** | | | | | | | | | | | | | **600*** |
| SB-1 | 0-0.5' | 10/12/20 | <0.000388 | <0.000459 | <0.000569 | <0.0003470 | <0.0003470 | <10.0 | 58.1 | 58.1 | 32.8 J | 90.9 | 116 |
| SB-2 | 0-0.5' | 10/12/20 | <0.000395 | <0.000468 | <0.000580 | <0.0003530 | <0.0003530 | 11.0 J | 190 J | 201.0 J | 136 | 337.0 | 78.7 |
| SB-3 | 0-0.5' | 10/12/20 | <0.000405 | <0.000479 | <0.000594 | <0.0003620 | <0.0003620 | <10.4 | 240 | 240 | 149 | 389.0 | ***3,760*** |
| | 1.5-2' | 07/13/21 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | ***1,210*** |
| SB-4 | 0-0.5' | 10/12/20 | <0.000389 | <0.000461 | <0.000571 | <0.0003480 | <0.0003480 | 10.5 J | 240 | 250.5 | 186 | 436.5 | 278 |
| SB-5 | 0-0.5' | 10/12/20 | <0.000388 | <0.000459 | <0.000570 | <0.0003470 | <0.0003470 | <10.1 | 67.4 | 67.4 | 42.6 J | 110.0 | 88.0 |
| SB-6 | 0-0.5' | 10/12/20 | <0.000399 | <0.000472 | <0.000585 | <0.0003570 | <0.0003570 | <10.4 | 97.1 | 97.1 | 62.3 | 159.4 | ***2,480*** |
| | 1.5-2' | 07/13/21 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | ***865*** |
| SB-7 | 0-0.5' | 10/12/20 | <0.000385 | <0.000455 | <0.000565 | <0.0003440 | <0.0003440 | 11.5 J | 20.8 J | 32.3 J | 22.4 J | 54.70 | 42.0 |
| SB-8 | 0-0.5' | 10/12/20 | <0.000386 | <0.000457 | <0.000567 | <0.0003460 | <0.0003460 | 20.3 J | 11.7 J | 32 J | 10.2 J | 42.20 J | 13.1 |
| SB-9 | 0-0.5' | 10/12/20 | <0.000386 | <0.000456 | <0.000566 | <0.0003450 | <0.0003450 | 16.7 J | 17.1 J | 33.80 J | 12.0 J | 45.80 J | 12.9 |
| SB-10 | 0-0.5' | 10/12/20 | <0.000386 | <0.000457 | <0.000567 | <0.0003460 | <0.0003460 | 16.4 J | 13.4 J | 29.8 J | 11.4 J | 41.20 J | 15.7 |
| | 1' | 10/12/20 | <0.000394 | <0.000467 | <0.000579 | <0.0003530 | <0.0003530 | 13.7 J | 11.9 J | 25.6 J | 10.7 J | 36.30 J | 11.2 |
| SB-11 | 0-.5' | 10/13/20 | 0.00223 | <0.000668 | 0.00201 | 0.004280 | 0.008520 | <14.7 | <14.7 | <14.7 | <14.7 | <14.70 | 44.6 |
| | 1' | 10/13/20 | 0.000676 | <0.000482 | <0.000597 | 0.001870 | 0.002546 | <10.6 | 11.3 | 11.3 | <10.6 | 11.30 | 8.92 |
| DUP 1 (SB-11) | 1' | 10/13/20 | 0.000906 | 0.00202 | 0.00147 | 0.002273 | 0.006669 | <10.5 | <10.5 | <10.5 | <10.5 | <10.50 | 1.54 |
| SB-12 | 0-.5' | 10/13/20 | 0.000675 | 0.00168 | <0.000569 | 0.001070 | 0.003425 | 13.4 | 15.9 | 29.3 | 10.9 | 40.20 | 11.2 |
| SB-13 | 0-.5' | 10/13/20 | 0.00120 | <0.000466 | 0.00163 | 0.0009610 | 0.003791 | <10.2 | 12.3 | 12.3 | 10.4 | 22.70 | 2.69 |
| | 1' | 10/13/20 | <0.000420 | <0.000497 | 0.00169 | 0.002520 | 0.004210 | <10.8 | <10.8 | <10.8 | <10.8 | <10.80 | 2.69 |
| SB-14 | 0-0.5' | 10/13/20 | 0.00107 | <0.000469 | <0.000582 | <0.0003550 | 0.001070 | <10.3 | <10.3 | <10.3 | <10.3 | <10.30 | 34.6 |
| SB-15 | 0-0.5' | 10/13/20 | 0.00172 | 0.00224 | 0.000705 | 0.0009770 | 0.005642 | <11.3 | 11.8 | 11.8 | <11.3 | 11.80 | 6.84 |
| SB-16 | 0-0.5' | 07/13/21 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 59.5 |
| | 1.5-2' | 07/13/21 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 363 |
| SB-17 | 0-0.5' | 07/13/21 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 186 |
| | 1.5-1.75' | 07/13/21 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 124 |
| SB-18 | 0-0.5' | 07/13/21 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 129 |
| | 1.5-1.75' | 07/13/21 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 287 |
| SB-19 | 0-0.5' | 07/13/21 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 61.6 |
| DUP (SB-19) | 0-0.5' | 07/13/21 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 23.1 J |
| SB-19 | 1.5-2' | 07/13/21 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 67.0 |
| SB-20 | 0-0.5' | 07/13/21 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 48.4 |
| | 1.5-2' | 07/13/21 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 30.7 |
| SB-21 | 0-0.5' | 07/13/21 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 23.6 |
| | 1.5-1.75' | 07/13/21 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 28.5 |
| SB-22 | 0-0.5' | 07/13/21 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | ***685*** |
| | 1.5-1.75' | 07/13/21 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | ***725*** |
| SB-23 | 0-0.5' | 07/13/21 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | ***1,720*** |
| | 1.5-2' | 07/13/21 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | ***1,000*** |

Legend:
***BOLD*** = Analytes exceeding restoration criteria for chloride
'<' indicates the analyte was not detected at or above the Method Detection Limit (MDL)
J = The target analyte was positively identified below the quantitation limit and above the detection limit.
mg/kg: Milligram per Kilogram
BTEX : Benzene, Toluene, Ethylbenzene, and Total Xylenes
NMAC : New Mexico Administration Code
TPH GRO: Total Petroleum Hydrocarbons Gasoline Range Organics
TPH DRO: Total Petroleum Hydrocarbon Diesel Range Organics
TPH MRO: Total Petroluem Hydrocarbons Motor Oil Range Organics
" ' " : Indicates one foot
*Revised screening limit and restoration criteria within the first 4 feet below ground surface per Rule 19.15.29 effective August 14, 2018
DUP : Duplicate sample
NA = not analyzed
Notes:
1. Chloride analyzed by United States Environmental Protection Agency Method 300.0
2. TPH analyzed by USEPA Method SW8015 Mod DRO/MRO
3. BTEX analyzed by USEPA Method 8012B
4. Closure Criteria New Mexico Administrative Code 19.15.29.12.E(2)

# Figures





N

Notes:
1. Datum: D_WGS_1984
2. Site Location: 32.771492, -103.490250

Chevron Environmental Management Company
NM AB State #2
Lea County, New Mexico

# SITE LOCATION MAP

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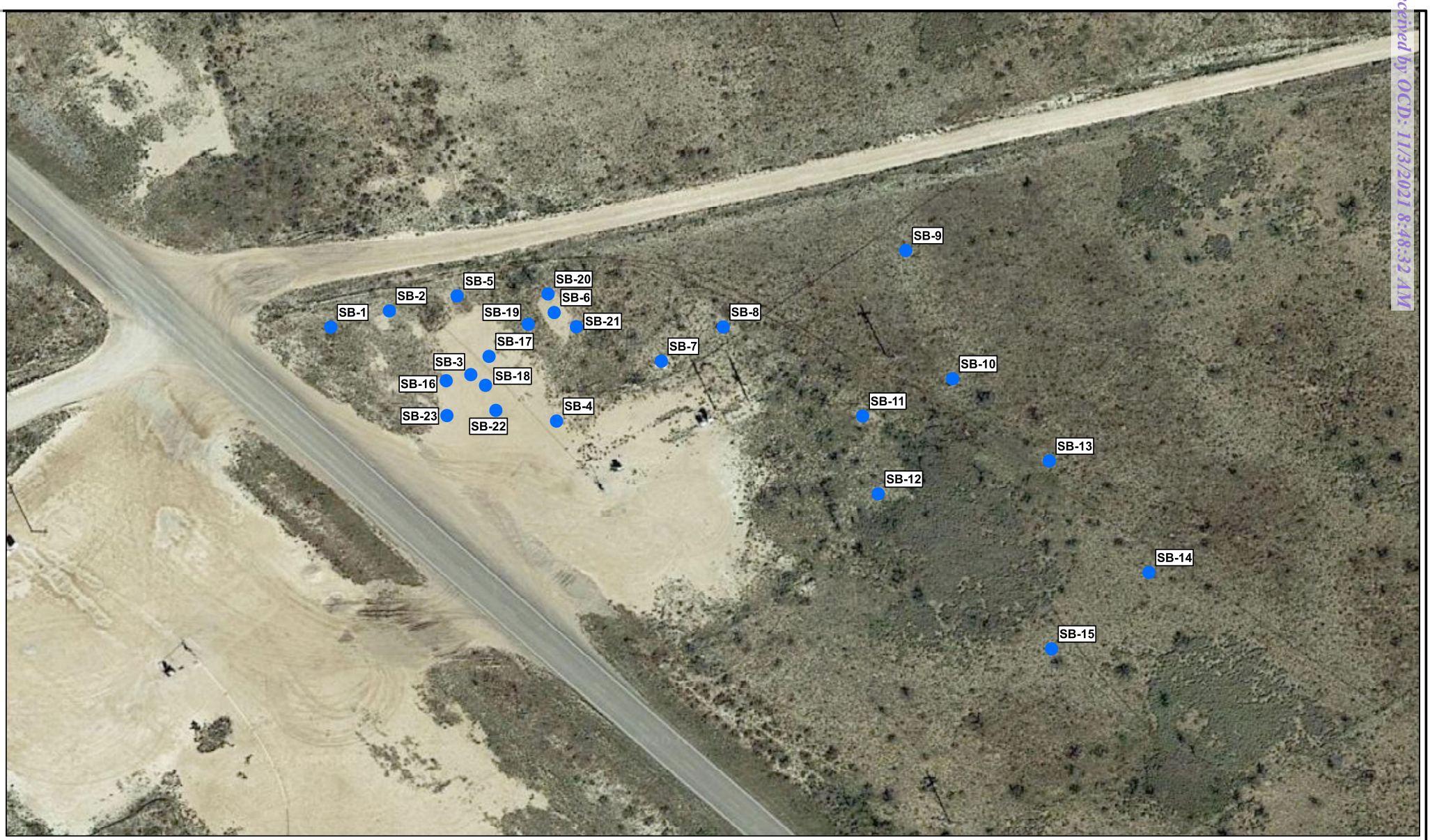
FIGURE
1

Document Path: C:\E Drive\Pradeep\Projects\Chevron\20201223\NMABState\Chevron_NMABState\Figure 1 - Site Location Map.mxd




**Legend**

- Soil Sample Locations

Note:
1. Datum: GCS_WGS_1984
2. Site Location: 32.771492°, -103.490250°

N

0 30 60 120 Feet

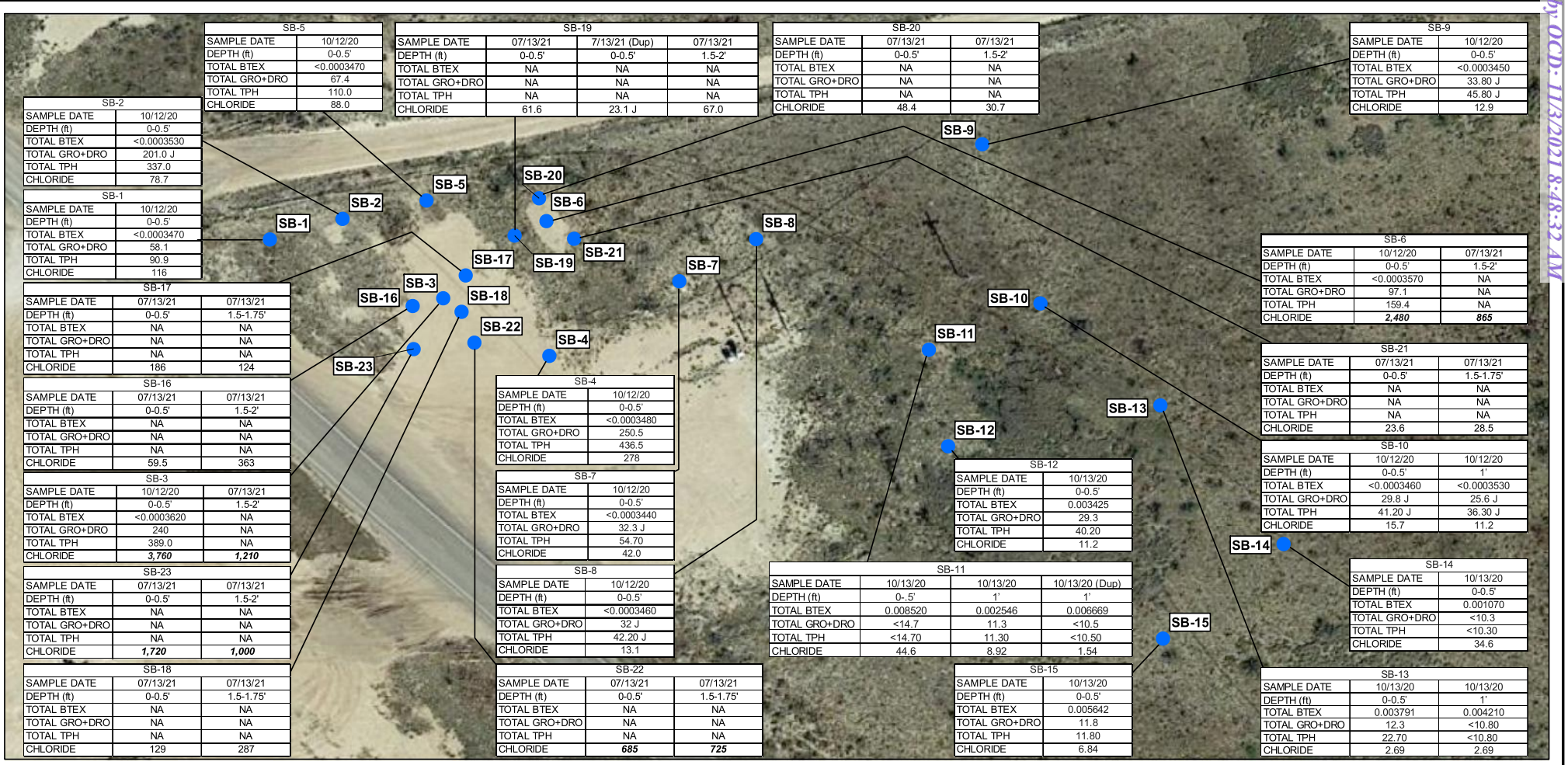
Chevron Environmental Management Company
NM AB State #2
Lea County, New Mexico

**SOIL SAMPLE LOCATIONS MAP**

ARCADIS

FIGURE 2

Document Path: T:_ENV\Chevron_NMABStateMXD\20210818\Figure 2 - Soil Sample Locations.mxd




| SB-5 | |
|---|---|
| SAMPLE DATE | 10/12/20 |
| DEPTH (ft) | 0-0.5' |
| TOTAL BTEX | <0.0003470 |
| TOTAL GRO+DRO | 67.4 |
| TOTAL TPH | 110.0 |
| CHLORIDE | 88.0 |

| SB-19 | | | |
|---|---|---|---|
| SAMPLE DATE | 07/13/21 | 7/13/21 (Dup) | 07/13/21 |
| DEPTH (ft) | 0-0.5' | 0-0.5' | 1.5-2' |
| TOTAL BTEX | NA | NA | NA |
| TOTAL GRO+DRO | NA | NA | NA |
| TOTAL TPH | NA | NA | NA |
| CHLORIDE | 61.6 | 23.1 J | 67.0 |

| SB-20 | | |
|---|---|---|
| SAMPLE DATE | 07/13/21 | 07/13/21 |
| DEPTH (ft) | 0-0.5' | 1.5-2' |
| TOTAL BTEX | NA | NA |
| TOTAL GRO+DRO | NA | NA |
| TOTAL TPH | NA | NA |
| CHLORIDE | 48.4 | 30.7 |

| SB-9 | |
|---|---|
| SAMPLE DATE | 10/12/20 |
| DEPTH (ft) | 0-0.5' |
| TOTAL BTEX | <0.0003450 |
| TOTAL GRO+DRO | 33.80 J |
| TOTAL TPH | 45.80 J |
| CHLORIDE | 12.9 |

| SB-2 | |
|---|---|
| SAMPLE DATE | 10/12/20 |
| DEPTH (ft) | 0-0.5' |
| TOTAL BTEX | <0.0003530 |
| TOTAL GRO+DRO | 201.0 J |
| TOTAL TPH | 337.0 |
| CHLORIDE | 78.7 |

| SB-1 | |
|---|---|
| SAMPLE DATE | 10/12/20 |
| DEPTH (ft) | 0-0.5' |
| TOTAL BTEX | <0.0003470 |
| TOTAL GRO+DRO | 58.1 |
| TOTAL TPH | 90.9 |
| CHLORIDE | 116 |

| SB-17 | | |
|---|---|---|
| SAMPLE DATE | 07/13/21 | 07/13/21 |
| DEPTH (ft) | 0-0.5' | 1.5-1.75' |
| TOTAL BTEX | NA | NA |
| TOTAL GRO+DRO | NA | NA |
| TOTAL TPH | NA | NA |
| CHLORIDE | 186 | 124 |

| SB-16 | | |
|---|---|---|
| SAMPLE DATE | 07/13/21 | 07/13/21 |
| DEPTH (ft) | 0-0.5' | 1.5-2' |
| TOTAL BTEX | NA | NA |
| TOTAL GRO+DRO | NA | NA |
| TOTAL TPH | NA | NA |
| CHLORIDE | 59.5 | 363 |

| SB-3 | | |
|---|---|---|
| SAMPLE DATE | 10/12/20 | 07/13/21 |
| DEPTH (ft) | 0-0.5' | 1.5-2' |
| TOTAL BTEX | <0.0003620 | NA |
| TOTAL GRO+DRO | 240 | NA |
| TOTAL TPH | 389.0 | NA |
| CHLORIDE | ***3,760*** | ***1,210*** |

| SB-23 | | |
|---|---|---|
| SAMPLE DATE | 07/13/21 | 07/13/21 |
| DEPTH (ft) | 0-0.5' | 1.5-2' |
| TOTAL BTEX | NA | NA |
| TOTAL GRO+DRO | NA | NA |
| TOTAL TPH | NA | NA |
| CHLORIDE | ***1,720*** | ***1,000*** |

| SB-18 | | |
|---|---|---|
| SAMPLE DATE | 07/13/21 | 07/13/21 |
| DEPTH (ft) | 0-0.5' | 1.5-1.75' |
| TOTAL BTEX | NA | NA |
| TOTAL GRO+DRO | NA | NA |
| TOTAL TPH | NA | NA |
| CHLORIDE | 129 | 287 |

| SB-4 | |
|---|---|
| SAMPLE DATE | 10/12/20 |
| DEPTH (ft) | 0-0.5' |
| TOTAL BTEX | <0.0003480 |
| TOTAL GRO+DRO | 250.5 |
| TOTAL TPH | 436.5 |
| CHLORIDE | 278 |

| SB-7 | |
|---|---|
| SAMPLE DATE | 10/12/20 |
| DEPTH (ft) | 0-0.5' |
| TOTAL BTEX | <0.0003440 |
| TOTAL GRO+DRO | 32.3 J |
| TOTAL TPH | 54.70 |
| CHLORIDE | 42.0 |

| SB-8 | |
|---|---|
| SAMPLE DATE | 10/12/20 |
| DEPTH (ft) | 0-0.5' |
| TOTAL BTEX | <0.0003460 |
| TOTAL GRO+DRO | 32 J |
| TOTAL TPH | 42.20 J |
| CHLORIDE | 13.1 |

| SB-22 | | |
|---|---|---|
| SAMPLE DATE | 07/13/21 | 07/13/21 |
| DEPTH (ft) | 0-0.5' | 1.5-1.75' |
| TOTAL BTEX | NA | NA |
| TOTAL GRO+DRO | NA | NA |
| TOTAL TPH | NA | NA |
| CHLORIDE | ***685*** | ***725*** |

| SB-6 | | |
|---|---|---|
| SAMPLE DATE | 10/12/20 | 07/13/21 |
| DEPTH (ft) | 0-0.5' | 1.5-2' |
| TOTAL BTEX | <0.0003570 | NA |
| TOTAL GRO+DRO | 97.1 | NA |
| TOTAL TPH | 159.4 | NA |
| CHLORIDE | ***2,480*** | ***865*** |

| SB-21 | | |
|---|---|---|
| SAMPLE DATE | 07/13/21 | 07/13/21 |
| DEPTH (ft) | 0-0.5' | 1.5-1.75' |
| TOTAL BTEX | NA | NA |
| TOTAL GRO+DRO | NA | NA |
| TOTAL TPH | NA | NA |
| CHLORIDE | 23.6 | 28.5 |

| SB-10 | | |
|---|---|---|
| SAMPLE DATE | 10/12/20 | 10/12/20 |
| DEPTH (ft) | 0-0.5' | 1' |
| TOTAL BTEX | <0.0003460 | <0.0003530 |
| TOTAL GRO+DRO | 29.8 J | 25.6 J |
| TOTAL TPH | 41.20 J | 36.30 J |
| CHLORIDE | 15.7 | 11.2 |

| SB-12 | |
|---|---|
| SAMPLE DATE | 10/13/20 |
| DEPTH (ft) | 0-0.5' |
| TOTAL BTEX | 0.003425 |
| TOTAL GRO+DRO | 29.3 |
| TOTAL TPH | 40.20 |
| CHLORIDE | 11.2 |

| SB-11 | | | |
|---|---|---|---|
| SAMPLE DATE | 10/13/20 | 10/13/20 | 10/13/20 (Dup) |
| DEPTH (ft) | 0-.5' | 1' | 1' |
| TOTAL BTEX | 0.008520 | 0.002546 | 0.006669 |
| TOTAL GRO+DRO | <14.7 | 11.3 | <10.5 |
| TOTAL TPH | <14.70 | 11.30 | <10.50 |
| CHLORIDE | 44.6 | 8.92 | 1.54 |

| SB-15 | |
|---|---|
| SAMPLE DATE | 10/13/20 |
| DEPTH (ft) | 0-0.5' |
| TOTAL BTEX | 0.005642 |
| TOTAL GRO+DRO | 11.8 |
| TOTAL TPH | 11.80 |
| CHLORIDE | 6.84 |

| SB-14 | |
|---|---|
| SAMPLE DATE | 10/13/20 |
| DEPTH (ft) | 0-0.5' |
| TOTAL BTEX | 0.001070 |
| TOTAL GRO+DRO | <10.3 |
| TOTAL TPH | <10.30 |
| CHLORIDE | 34.6 |

| SB-13 | | |
|---|---|---|
| SAMPLE DATE | 10/13/20 | 10/13/20 |
| DEPTH (ft) | 0-0.5' | 1' |
| TOTAL BTEX | 0.003791 | 0.004210 |
| TOTAL GRO+DRO | 12.3 | <10.80 |
| TOTAL TPH | 22.70 | <10.80 |
| CHLORIDE | 2.69 | 2.69 |

**Legend**

- Soil Sample Locations

Note:
1. Datum: GCS_WGS_1984
2. Site Location: 32.771492°, -103.490250°

N

0 40 80 160 Feet

Notes:
1. ***Bold*** = *Analytes exceeding restoration requirements for Chloride*
2. '<' Indicates the analyte was not detected at or above the Method Detection Limit (MDL).
3. J Indicates Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
4. NMAC Indicates New Mexico Administration Code.
5. All values are in mg/kg (Milligram per Kilogram).
6. '" ' " Indicates one foot.
7. ft = Feet.
8. BTEX Indicates Benzene, Toluene, Ethylbenzene, and Total Xylenes.
9. TPH GRO Indicates Total Petroleum Hydrocarbons Gasoline Range Organics.
10. TPH DRO Indicates Total Petroleum Hydrocarbon Diesel Range Organics.
11. *Revised screening limit and restoration criteria within the first 4 feet below ground surface per Rule 19.15.29 effective August 14, 2018.
12. Dup: Duplicate sample.
13. Chloride analyzed by USEPA Method 300.0.
14. TPH analyzed by USEPA Method SW8015 Mod DRO.
15. BTEX analyzed by USEPA Method 8012B.
16. Closure Criteria New Mexico Administrative Code 19.15.29.12.E(2).
17. NA = Not analyzed

| Analyte | NMAC Standards | Restoration requirements |
|---|---|---|
| BENZENE | 10 | -- |
| TOTAL BTEX | 50 | -- |
| TPH GRO+DRO | 1,000 | -- |
| TOTAL TPH | 2,500 | -- |
| CHLORIDE | 10,000 | 600 |

Chevron Environmental Management Company
NM AB State #2
Lea County, New Mexico

# SOIL ANALYTICAL RESULTS MAP

ARCADIS

FIGURE 3

Document Path: T:_ENV\Chevron_NMABState\MXD\20210818\Figure 3 - Soil Analytical Map.mxd

# Appendix A

## Initial C-141 Form 1RP-2470

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources

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

Form C-141
Revised October 10, 2003

Submit 2 Copies to appropriate District Office in accordance with Rule 116 on back side of form

# Release Notification and Corrective Action

## OPERATOR

X Initial Report ~~Final Report~~

| | |
|---|---|
| Name of Company Chevron USA | Contact Kim Klahsen |
| Address HCR 60 Box 423 Lovington, N.M. 88260 | Telephone No. 505-396-4414 X 228 |
| Facility Name: NM AB State # 2 | Facility Type Oil Well |

| | | |
|---|---|---|
| Surface Owner NM | Mineral Owner NM | ~~Lease~~ No. |

## LOCATION OF RELEASE

| ~~Unit Letter~~ | Section | Township | Range | Feet from the | South Line | Feet from the | East Line | County |
|---|---|---|---|---|---|---|---|---|
| P | 6 | 18 S | 35 E | 633 | | 580 | | Lea |

**Latitude: 32.46.459 / Longitude: -103.29.588**

## NATURE OF RELEASE

**API # 30-025-03085**

| | | |
|---|---|---|
| Type of Release Spill | Volume of Release ~~165 Bbls~~ oil; 40 Bbls water SOIL TO WTP | ~~Volume Recovered~~ 15 Bbls Water |
| Source of Release Flowline release | Date and Hour of Occurrence 3-30-10 1:30 PM | Date and Hour of Discovery 3-31-10 @ 8:00 |
| Was Immediate Notice Given? Yes ☐ No ☐ Not Required | If YES, To Whom? | |
| By Whom? | Date and Hour | |
| Was a Watercourse Reached? ☐ Yes ☒ No | If YES, Volume Impacting the Watercourse. | |

If a Watercourse was Impacted, Describe Fully.* The watercourse was not impacted.

Describe Cause of Problem and Remedial Action Taken.*
**A grass fire melted the flow line causing the release of oil and water.**

Describe Area Affected and Cleanup Action Taken.

**A vacuum truck removed pooled liquids. Soil samples will be collected to determine the extent of contamination. Once the extent of contamination is determined, then we will determine the action necessary to remediate the spill.**

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

| | |
|---|---|
| ~~Signature:~~ | OIL CONSERVATION DIVISION |
| Printed Name: Kim Klahsen | Approved by District Supervisor: ENVIRONMENTAL ENGINEER |
| Title: Operations : HES | Approval Date: 4.6.10 Expiration Date: 6.7.10 |
| E-mail Address KDKL@chevron.com | Conditions of Approval: SUBMIT FINAL C-141 w/DOCS BY Attached ☐ ITR# 10.4.2470 |
| Date: April 5, 2010 Phone: 396-4414 X 228 | |

* Attach Additional Sheets If Necessary

# Appendix B

## Photographic Log

ARCADIS

## PHOTOGRAPHIC LOG

| Property Name: | Location: | Case No. |
|---|---|---|
| NM AB State #2 | Lea County, NM | 1RP-2470 |

| Photo No. | Date: |
|---|---|
| 1 | 7/13/2021 |

**Direction Photo Taken:**

Facing North

**Description:**

Overview from South facing North

ARCADIS

## PHOTOGRAPHIC LOG

| Property Name: | Location: | Case No. |
|---|---|---|
| NM AB State #2 | Lea County, NM | 1RP-2470 |

| Photo No. | Date: |
|---|---|
| 2 | 7/13/2021 |

**Direction Photo Taken:**

Facing North

**Description:**

Near SB-3

ARCADIS

# PHOTOGRAPHIC LOG

| Property Name: | Location: | Case No. |
|---|---|---|
| NM AB State #2 | Lea County, NM | 1RP-2470 |

| Photo No. | Date: |
|---|---|
| 3 | 7/13/2021 |

**Direction Photo Taken:**

Facing North

**Description:**

Near SB-6

ARCADIS

# PHOTOGRAPHIC LOG

| Property Name: | Location: | Case No. |
|---|---|---|
| NM AB State #2 | Lea County, NM | 1RP-2470 |

| Photo No. | Date: |
|---|---|
| 4 | 7/13/2021 |

**Direction Photo Taken:**

Facing West

**Description:**

SB-3, breaking ground

ARCADIS

## PHOTOGRAPHIC LOG

| Property Name: | Location: | Case No. |
|---|---|---|
| NM AB State #2 | Lea County, NM | 1RP-2470 |

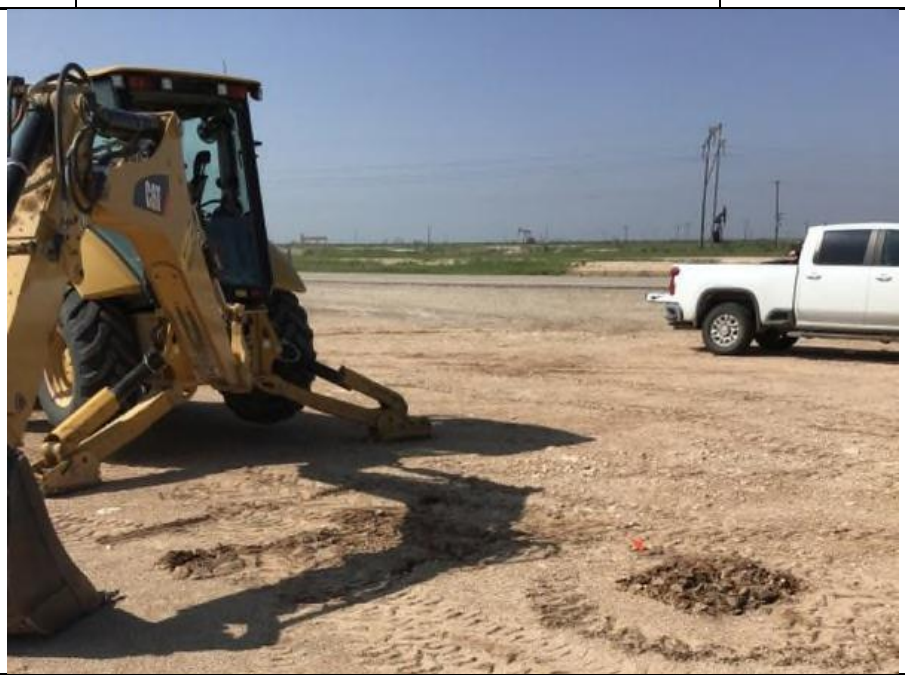
| Photo No. | Date: |
|---|---|
| 5 | 7/13/2021 |

**Direction Photo Taken:**

Facing West

**Description:**

SB-18



ARCADIS

## PHOTOGRAPHIC LOG

| Property Name: | Location: | Case No. |
|---|---|---|
| NM AB State #2 | Lea County, NM | 1RP-2470 |

| Photo No. | Date: |
|---|---|
| 6 | 7/13/2021 |

**Direction Photo Taken:**

Facing North

**Description:**

SB-6

ARCADIS

## PHOTOGRAPHIC LOG

| Property Name: | Location: | Case No. |
|---|---|---|
| NM AB State #2 | Lea County, NM | 1RP-2470 |

| Photo No. | Date: |
|---|---|
| 7 | 7/13/2021 |

**Direction Photo Taken:**

Facing Down

**Description:**

SB-6, caliche at 2 foot, refusal with backhoe

ARCADIS

## PHOTOGRAPHIC LOG

| Property Name: | Location: | Case No. |
|---|---|---|
| NM AB State #2 | Lea County, NM | 1RP-2470 |

| Photo No. | Date: |
|---|---|
| 8 | 7/13/2021 |

**Direction Photo Taken:**

Facing Southwest

**Description:**

SB-22 and SB-23, near NM 238 HWY

# Appendix C

## Laboratory Report

# ANALYTICAL REPORT

July 28, 2021



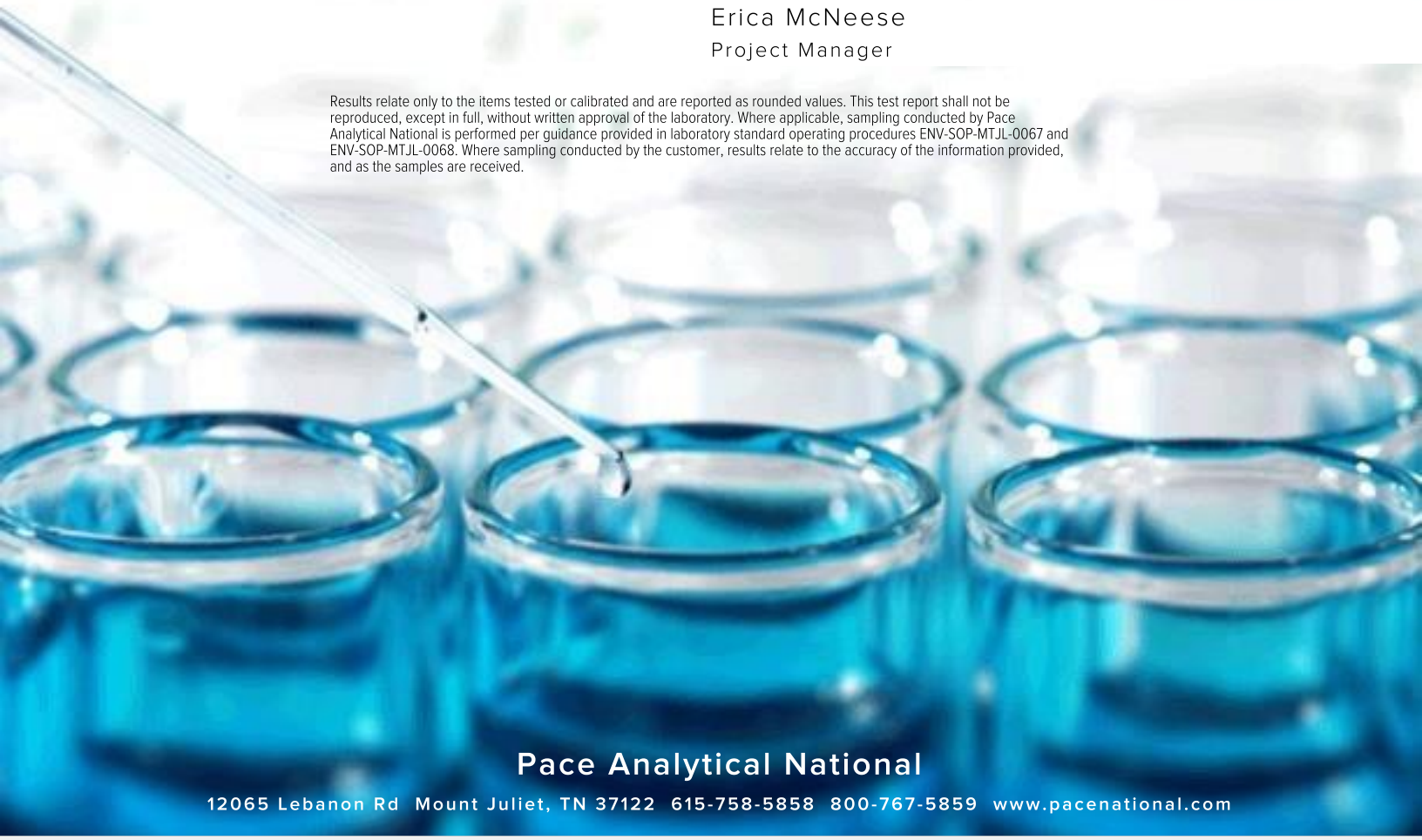
## ARCADIS US - New Mexico

| | |
|---|---|
| Sample Delivery Group: | L1378996 |
| Samples Received: | 07/15/2021 |
| Project Number: | 30091764- 0003B |
| Description: | UEM238 - NM AB State #2 |
| Site: | NM AB STATE #2 |
| Report To: | Scott Foord |
| | 401 East Main Street |
| | Suite 400 |
| | El Paso, TX 79901 |

Entire Report Reviewed By: Erica McNeese

Erica McNeese
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.



Pace Analytical National
12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 www.pacenational.com

# TABLE OF CONTENTS

## SB-3-S-1.5-2-210713 L1378996-01 Solid

Collected by: Justin Steinmann | Collected date/time: 07/13/21 09:23 | Received date/time: 07/15/21 08:30

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Total Solids by Method 2540 G-2011 | WG1707603 | 1 | 07/19/21 13:01 | 07/19/21 13:12 | KDW | Minneapolis, MN |
| Wet Chemistry by Method 300.0 | WG1711291 | 5 | 07/24/21 19:20 | 07/25/21 01:32 | ELN | Mt. Juliet, TN |

## SB-16-S-0-.5-210713 L1378996-02 Solid

Collected by: Justin Steinmann | Collected date/time: 07/13/21 09:30 | Received date/time: 07/15/21 08:30

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Total Solids by Method 2540 G-2011 | WG1707603 | 1 | 07/19/21 13:01 | 07/19/21 13:12 | KDW | Minneapolis, MN |
| Wet Chemistry by Method 300.0 | WG1711291 | 1 | 07/24/21 19:20 | 07/25/21 01:41 | ELN | Mt. Juliet, TN |

## SB-16-S-1.5-2-210713 L1378996-03 Solid

Collected by: Justin Steinmann | Collected date/time: 07/13/21 09:40 | Received date/time: 07/15/21 08:30

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Total Solids by Method 2540 G-2011 | WG1707603 | 1 | 07/19/21 13:01 | 07/19/21 13:12 | KDW | Minneapolis, MN |
| Wet Chemistry by Method 300.0 | WG1711291 | 1 | 07/24/21 19:20 | 07/25/21 01:50 | ELN | Mt. Juliet, TN |

## SB-18-S-0-.5-210713 L1378996-04 Solid

Collected by: Justin Steinmann | Collected date/time: 07/13/21 09:53 | Received date/time: 07/15/21 08:30

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Total Solids by Method 2540 G-2011 | WG1707604 | 1 | 07/20/21 10:17 | 07/20/21 10:24 | KDW | Minneapolis, MN |
| Wet Chemistry by Method 300.0 | WG1711291 | 1 | 07/24/21 19:20 | 07/25/21 02:00 | ELN | Mt. Juliet, TN |

## SB-18-S-1.5-1.75-210713 L1378996-05 Solid

Collected by: Justin Steinmann | Collected date/time: 07/13/21 09:58 | Received date/time: 07/15/21 08:30

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Total Solids by Method 2540 G-2011 | WG1707604 | 1 | 07/20/21 10:17 | 07/20/21 10:24 | KDW | Minneapolis, MN |
| Wet Chemistry by Method 300.0 | WG1711291 | 1 | 07/24/21 19:20 | 07/25/21 02:10 | ELN | Mt. Juliet, TN |

## SB-17-S-0-.5-210713 L1378996-06 Solid

Collected by: Justin Steinmann | Collected date/time: 07/13/21 10:05 | Received date/time: 07/15/21 08:30

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Total Solids by Method 2540 G-2011 | WG1707604 | 1 | 07/20/21 10:17 | 07/20/21 10:24 | KDW | Minneapolis, MN |
| Wet Chemistry by Method 300.0 | WG1711291 | 1 | 07/24/21 19:20 | 07/25/21 02:19 | ELN | Mt. Juliet, TN |

## SB-17-S-1.5-1.75-210713 L1378996-07 Solid

Collected by: Justin Steinmann | Collected date/time: 07/13/21 10:25 | Received date/time: 07/15/21 08:30

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Total Solids by Method 2540 G-2011 | WG1707604 | 1 | 07/20/21 10:17 | 07/20/21 10:24 | KDW | Minneapolis, MN |
| Wet Chemistry by Method 300.0 | WG1711291 | 1 | 07/24/21 19:20 | 07/25/21 02:29 | ELN | Mt. Juliet, TN |

## SB-19-SD-0-.5-210713 L1378996-08 Solid

Collected by: Justin Steinmann | Collected date/time: 07/13/21 00:00 | Received date/time: 07/15/21 08:30

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Total Solids by Method 2540 G-2011 | WG1707604 | 1 | 07/20/21 10:17 | 07/20/21 10:24 | KDW | Minneapolis, MN |
| Wet Chemistry by Method 300.0 | WG1711291 | 1 | 07/24/21 19:20 | 07/25/21 02:38 | ELN | Mt. Juliet, TN |

## SB-19-S-0-.5-210713 L1378996-09 Solid

Collected by: Justin Steinmann | Collected date/time: 07/13/21 10:42 | Received date/time: 07/15/21 08:30

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Total Solids by Method 2540 G-2011 | WG1707604 | 1 | 07/20/21 10:17 | 07/20/21 10:24 | KDW | Minneapolis, MN |
| Wet Chemistry by Method 300.0 | WG1711291 | 1 | 07/24/21 19:20 | 07/25/21 03:07 | ELN | Mt. Juliet, TN |

## SB-19-S-1.5-2-210713 L1378996-10 Solid

Collected by: Justin Steinmann | Collected date/time: 07/13/21 10:50 | Received date/time: 07/15/21 08:30

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Total Solids by Method 2540 G-2011 | WG1707604 | 1 | 07/20/21 10:17 | 07/20/21 10:24 | KDW | Minneapolis, MN |
| Wet Chemistry by Method 300.0 | WG1711291 | 1 | 07/24/21 19:20 | 07/25/21 03:16 | ELN | Mt. Juliet, TN |

## SB-20-S-0-.5-210713 L1378996-11 Solid

Collected by: Justin Steinmann | Collected date/time: 07/13/21 11:01 | Received date/time: 07/15/21 08:30

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Total Solids by Method 2540 G-2011 | WG1707604 | 1 | 07/20/21 10:17 | 07/20/21 10:24 | KDW | Minneapolis, MN |
| Wet Chemistry by Method 300.0 | WG1711291 | 1 | 07/24/21 19:20 | 07/25/21 03:54 | ELN | Mt. Juliet, TN |

## SB-20-S-1.5-2-210713 L1378996-12 Solid

Collected by: Justin Steinmann | Collected date/time: 07/13/21 11:15 | Received date/time: 07/15/21 08:30

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Total Solids by Method 2540 G-2011 | WG1707604 | 1 | 07/20/21 10:17 | 07/20/21 10:24 | KDW | Minneapolis, MN |
| Wet Chemistry by Method 300.0 | WG1711291 | 1 | 07/24/21 19:20 | 07/25/21 04:04 | ELN | Mt. Juliet, TN |

## SB-6-S-1.5-2-210713 L1378996-13 Solid

Collected by: Justin Steinmann | Collected date/time: 07/13/21 11:50 | Received date/time: 07/15/21 08:30

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Total Solids by Method 2540 G-2011 | WG1707604 | 1 | 07/20/21 10:17 | 07/20/21 10:24 | KDW | Minneapolis, MN |
| Wet Chemistry by Method 300.0 | WG1711291 | 1 | 07/24/21 19:20 | 07/25/21 04:13 | ELN | Mt. Juliet, TN |

## SB-21-S-0-.5-210713 L1378996-14 Solid

Collected by: Justin Steinmann | Collected date/time: 07/13/21 13:15 | Received date/time: 07/15/21 08:30

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Total Solids by Method 2540 G-2011 | WG1707605 | 1 | 07/20/21 10:06 | 07/20/21 10:14 | KDW | Minneapolis, MN |
| Wet Chemistry by Method 300.0 | WG1711291 | 1 | 07/24/21 19:20 | 07/25/21 04:23 | ELN | Mt. Juliet, TN |

## SB-21-S-1.5-1.75-210713 L1378996-15 Solid

Collected by: Justin Steinmann | Collected date/time: 07/13/21 13:20 | Received date/time: 07/15/21 08:30

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Total Solids by Method 2540 G-2011 | WG1707605 | 1 | 07/20/21 10:06 | 07/20/21 10:14 | KDW | Minneapolis, MN |
| Wet Chemistry by Method 300.0 | WG1711291 | 1 | 07/24/21 19:20 | 07/25/21 04:32 | ELN | Mt. Juliet, TN |

## SB-22-S-0-.5-210713 L1378996-16 Solid

Collected by: Justin Steinmann | Collected date/time: 07/13/21 13:48 | Received date/time: 07/15/21 08:30

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Total Solids by Method 2540 G-2011 | WG1707605 | 1 | 07/20/21 10:06 | 07/20/21 10:14 | KDW | Minneapolis, MN |
| Wet Chemistry by Method 300.0 | WG1711291 | 1 | 07/24/21 19:20 | 07/25/21 05:01 | ELN | Mt. Juliet, TN |

## SB-22-S-1.5-1.75-210713 L1378996-17 Solid

Collected by: Justin Steinmann | Collected date/time: 07/13/21 13:56 | Received date/time: 07/15/21 08:30

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Total Solids by Method 2540 G-2011 | WG1707605 | 1 | 07/20/21 10:06 | 07/20/21 10:14 | KDW | Minneapolis, MN |
| Wet Chemistry by Method 300.0 | WG1711291 | 1 | 07/24/21 19:20 | 07/25/21 05:10 | ELN | Mt. Juliet, TN |

## SB-23-S-0-.5-210713 L1378996-18 Solid

Collected by: Justin Steinmann | Collected date/time: 07/13/21 14:20 | Received date/time: 07/15/21 08:30

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Total Solids by Method 2540 G-2011 | WG1707605 | 1 | 07/20/21 10:06 | 07/20/21 10:14 | KDW | Minneapolis, MN |
| Wet Chemistry by Method 300.0 | WG1711291 | 5 | 07/24/21 19:20 | 07/25/21 05:20 | ELN | Mt. Juliet, TN |

## SB-23-S-1.5-2-210713 L1378996-19 Solid

Collected by: Justin Steinmann | Collected date/time: 07/13/21 14:30 | Received date/time: 07/15/21 08:30

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Total Solids by Method 2540 G-2011 | WG1707605 | 1 | 07/20/21 10:06 | 07/20/21 10:14 | KDW | Minneapolis, MN |
| Wet Chemistry by Method 300.0 | WG1711291 | 1 | 07/24/21 19:20 | 07/25/21 05:29 | ELN | Mt. Juliet, TN |

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

Erica McNeese
Project Manager

## Total Solids by Method 2540 G-2011

| Analyte | Result | Qualifier | Dilution | Analysis | Batch |
|---|---|---|---|---|---|
| | % | | | date / time | |
| Total Solids | 91.1 | | 1 | 07/19/2021 13:12 | WG1707603 |

## Wet Chemistry by Method 300.0

| Analyte | Result (dry) | Qualifier | MDL (dry) | RDL (dry) | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | mg/kg | | mg/kg | mg/kg | | date / time | |
| Chloride | 1210 | | 50.5 | 110 | 5 | 07/25/2021 01:32 | WG1711291 |

## Total Solids by Method 2540 G-2011

| Analyte | Result | Qualifier | Dilution | Analysis | Batch |
|---|---|---|---|---|---|
| | % | | | date / time | |
| Total Solids | 77.9 | | 1 | 07/19/2021 13:12 | WG1707603 |

## Wet Chemistry by Method 300.0

| Analyte | Result (dry) | Qualifier | MDL (dry) | RDL (dry) | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | mg/kg | | mg/kg | mg/kg | | date / time | |
| Chloride | 59.5 | | 11.8 | 25.7 | 1 | 07/25/2021 01:41 | WG1711291 |

## Total Solids by Method 2540 G-2011

| Analyte | Result | Qualifier | Dilution | Analysis | Batch |
|---|---|---|---|---|---|
| | % | | | date / time | |
| Total Solids | 92.2 | | 1 | 07/19/2021 13:12 | WG1707603 |

## Wet Chemistry by Method 300.0

| Analyte | Result (dry) | Qualifier | MDL (dry) | RDL (dry) | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | mg/kg | | mg/kg | mg/kg | | date / time | |
| Chloride | 363 | | 9.98 | 21.7 | 1 | 07/25/2021 01:50 | WG1711291 |

## Total Solids by Method 2540 G-2011

| Analyte | Result | Qualifier | Dilution | Analysis | Batch |
|---|---|---|---|---|---|
| | % | | | date / time | |
| Total Solids | 80.5 | | 1 | 07/20/2021 10:24 | WG1707604 |

## Wet Chemistry by Method 300.0

| Analyte | Result (dry) | Qualifier | MDL (dry) | RDL (dry) | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | mg/kg | | mg/kg | mg/kg | | date / time | |
| Chloride | 129 | | 11.4 | 24.9 | 1 | 07/25/2021 02:00 | WG1711291 |

## Total Solids by Method 2540 G-2011

| Analyte | Result | Qualifier | Dilution | Analysis | Batch |
|---|---|---|---|---|---|
| | % | | | date / time | |
| Total Solids | 82.1 | | 1 | 07/20/2021 10:24 | WG1707604 |

## Wet Chemistry by Method 300.0

| Analyte | Result (dry) | Qualifier | MDL (dry) | RDL (dry) | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | mg/kg | | mg/kg | mg/kg | | date / time | |
| Chloride | 287 | | 11.2 | 24.3 | 1 | 07/25/2021 02:10 | WG1711291 |

## Total Solids by Method 2540 G-2011

| Analyte | Result | Qualifier | Dilution | Analysis | Batch |
|---|---|---|---|---|---|
| | % | | | date / time | |
| Total Solids | 76.4 | | 1 | 07/20/2021 10:24 | WG1707604 |

## Wet Chemistry by Method 300.0

| Analyte | Result (dry) | Qualifier | MDL (dry) | RDL (dry) | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | mg/kg | | mg/kg | mg/kg | | date / time | |
| Chloride | 186 | | 12.0 | 26.2 | 1 | 07/25/2021 02:19 | WG1711291 |

## Total Solids by Method 2540 G-2011

| Analyte | Result | Qualifier | Dilution | Analysis | Batch |
|---|---|---|---|---|---|
| | % | | | date / time | |
| Total Solids | 77.5 | | 1 | 07/20/2021 10:24 | WG1707604 |

## Wet Chemistry by Method 300.0

| Analyte | Result (dry) | Qualifier | MDL (dry) | RDL (dry) | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | mg/kg | | mg/kg | mg/kg | | date / time | |
| Chloride | 124 | | 11.9 | 25.8 | 1 | 07/25/2021 02:29 | WG1711291 |

## Total Solids by Method 2540 G-2011

| Analyte | Result | Qualifier | Dilution | Analysis | Batch |
|---|---|---|---|---|---|
| | % | | | date / time | |
| Total Solids | 82.4 | | 1 | 07/20/2021 10:24 | WG1707604 |

## Wet Chemistry by Method 300.0

| Analyte | Result (dry) | Qualifier | MDL (dry) | RDL (dry) | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | mg/kg | | mg/kg | mg/kg | | date / time | |
| Chloride | 23.1 | J | 11.2 | 24.3 | 1 | 07/25/2021 02:38 | WG1711291 |

## Total Solids by Method 2540 G-2011

| Analyte | Result | Qualifier | Dilution | Analysis | Batch |
|---|---|---|---|---|---|
| | % | | | date / time | |
| Total Solids | 75.0 | | 1 | 07/20/2021 10:24 | WG1707604 |

## Wet Chemistry by Method 300.0

| Analyte | Result (dry) | Qualifier | MDL (dry) | RDL (dry) | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | mg/kg | | mg/kg | mg/kg | | date / time | |
| Chloride | 61.6 | | 12.3 | 26.7 | 1 | 07/25/2021 03:07 | WG1711291 |

## Total Solids by Method 2540 G-2011

| Analyte | Result | Qualifier | Dilution | Analysis | Batch |
|---|---|---|---|---|---|
| | % | | | date / time | |
| Total Solids | 79.8 | | 1 | 07/20/2021 10:24 | WG1707604 |

## Wet Chemistry by Method 300.0

| Analyte | Result (dry) | Qualifier | MDL (dry) | RDL (dry) | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | mg/kg | | mg/kg | mg/kg | | date / time | |
| Chloride | 67.0 | | 11.5 | 25.1 | 1 | 07/25/2021 03:16 | WG1711291 |

SB-20-S-0.5-210713
Collected date/time: 07/13/21 11:01

## Total Solids by Method 2540 G-2011

| Analyte | Result | Qualifier | Dilution | Analysis | Batch |
|---|---|---|---|---|---|
| | % | | | date / time | |
| Total Solids | 74.2 | | 1 | 07/20/2021 10:24 | WG1707604 |

## Wet Chemistry by Method 300.0

| Analyte | Result (dry) | Qualifier | MDL (dry) | RDL (dry) | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | mg/kg | | mg/kg | mg/kg | | date / time | |
| Chloride | 48.4 | | 12.4 | 26.9 | 1 | 07/25/2021 03:54 | WG1711291 |

SB-20-S-1.5-2-210713
Collected date/time: 07/13/21 11:15
L1378996

## Total Solids by Method 2540 G-2011

| Analyte | Result | Qualifier | Dilution | Analysis | Batch |
|---|---|---|---|---|---|
| | % | | | date / time | |
| Total Solids | 84.5 | | 1 | 07/20/2021 10:24 | WG1707604 |

## Wet Chemistry by Method 300.0

| Analyte | Result (dry) | Qualifier | MDL (dry) | RDL (dry) | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | mg/kg | | mg/kg | mg/kg | | date / time | |
| Chloride | 30.7 | | 10.9 | 23.7 | 1 | 07/25/2021 04:04 | WG1711291 |

## Total Solids by Method 2540 G-2011

| Analyte | Result | Qualifier | Dilution | Analysis | Batch |
|---|---|---|---|---|---|
| | % | | | date / time | |
| Total Solids | 87.5 | | 1 | 07/20/2021 10:24 | WG1707604 |

## Wet Chemistry by Method 300.0

| Analyte | Result (dry) | Qualifier | MDL (dry) | RDL (dry) | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | mg/kg | | mg/kg | mg/kg | | date / time | |
| Chloride | 865 | | 10.5 | 22.9 | 1 | 07/25/2021 04:13 | WG1711291 |

## Total Solids by Method 2540 G-2011

| Analyte | Result | Qualifier | Dilution | Analysis | Batch |
|---|---|---|---|---|---|
| | % | | | date / time | |
| Total Solids | 88.5 | | 1 | 07/20/2021 10:14 | WG1707605 |

## Wet Chemistry by Method 300.0

| Analyte | Result (dry) | Qualifier | MDL (dry) | RDL (dry) | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | mg/kg | | mg/kg | mg/kg | | date / time | |
| Chloride | 23.6 | | 10.4 | 22.6 | 1 | 07/25/2021 04:23 | WG1711291 |

## Total Solids by Method 2540 G-2011

| Analyte | Result | Qualifier | Dilution | Analysis | Batch |
|---|---|---|---|---|---|
| | % | | | date / time | |
| Total Solids | 84.6 | | 1 | 07/20/2021 10:14 | WG1707605 |

## Wet Chemistry by Method 300.0

| Analyte | Result (dry) | Qualifier | MDL (dry) | RDL (dry) | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | mg/kg | | mg/kg | mg/kg | | date / time | |
| Chloride | 28.5 | | 10.9 | 23.6 | 1 | 07/25/2021 04:32 | WG1711291 |

SB-22-S-0.5-210713
Collected date/time: 07/13/21 13:48

## Total Solids by Method 2540 G-2011

| Analyte | Result | Qualifier | Dilution | Analysis | Batch |
|---|---|---|---|---|---|
| | % | | | date / time | |
| Total Solids | 79.6 | | 1 | 07/20/2021 10:14 | WG1707605 |

## Wet Chemistry by Method 300.0

| Analyte | Result (dry) | Qualifier | MDL (dry) | RDL (dry) | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | mg/kg | | mg/kg | mg/kg | | date / time | |
| Chloride | 685 | | 11.6 | 25.1 | 1 | 07/25/2021 05:01 | WG1711291 |

SB-22-3-1.5-1.75-210713
Collected date/time: 07/13/21 13:56
L1378996

## Total Solids by Method 2540 G-2011

| Analyte | Result | Qualifier | Dilution | Analysis | Batch |
|---|---|---|---|---|---|
| | % | | | date / time | |
| Total Solids | 78.7 | | 1 | 07/20/2021 10:14 | WG1707605 |

## Wet Chemistry by Method 300.0

| Analyte | Result (dry) | Qualifier | MDL (dry) | RDL (dry) | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | mg/kg | | mg/kg | mg/kg | | date / time | |
| Chloride | 725 | | 11.7 | 25.4 | 1 | 07/25/2021 05:10 | WG1711291 |

## Total Solids by Method 2540 G-2011

| Analyte | Result | Qualifier | Dilution | Analysis | Batch |
|---|---|---|---|---|---|
| | % | | | date / time | |
| Total Solids | 76.2 | | 1 | 07/20/2021 10:14 | WG1707605 |

## Wet Chemistry by Method 300.0

| Analyte | Result (dry) | Qualifier | MDL (dry) | RDL (dry) | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | mg/kg | | mg/kg | mg/kg | | date / time | |
| Chloride | 1720 | | 60.4 | 131 | 5 | 07/25/2021 05:20 | WG1711291 |

## Total Solids by Method 2540 G-2011

| Analyte | Result | Qualifier | Dilution | Analysis | Batch |
|---|---|---|---|---|---|
| | % | | | date / time | |
| Total Solids | 81.1 | | 1 | 07/20/2021 10:14 | WG1707605 |

## Wet Chemistry by Method 300.0

| Analyte | Result (dry) | Qualifier | MDL (dry) | RDL (dry) | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|---|
| | mg/kg | | mg/kg | mg/kg | | date / time | |
| Chloride | 1000 | | 11.3 | 24.7 | 1 | 07/25/2021 05:29 | WG1711291 |

# QUALITY CONTROL SUMMARY

L1378996-01,02,03

## Method Blank (MB)

(MB) R3681386-1 07/19/21 13:12

| Analyte | MB Result % | MB Qualifier | MB MDL % | MB RDL % |
|---|---|---|---|---|
| Total Solids | 0.000 | | | |

## L1378958-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1378958-02 07/19/21 13:12 • (DUP) R3681386-3 07/19/21 13:12

| Analyte | Original Result % | DUP Result % | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| Total Solids | 83.0 | 82.2 | 1 | 1.00 | | 10 |

## Laboratory Control Sample (LCS)

(LCS) R3681386-2 07/19/21 13:12

| Analyte | Spike Amount % | LCS Result % | LCS Rec. % | Rec. Limits % | LCS Qualifier |
|---|---|---|---|---|---|
| Total Solids | 50.0 | 50.0 | 100 | 85.0-115 | |

# QUALITY CONTROL SUMMARY

L1378996-04,05,06,07,08,09,10,11,12,13

## Method Blank (MB)

(MB) R3681878-1 07/20/21 10:24

| Analyte | MB Result % | MB Qualifier | MB MDL % | MB RDL % |
|---|---|---|---|---|
| Total Solids | 0.000 | | | |

## L1378996-09 Original Sample (OS) • Duplicate (DUP)

(OS) L1378996-09 07/20/21 10:24 • (DUP) R3681878-3 07/20/21 10:24

| Analyte | Original Result % | DUP Result % | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| Total Solids | 75.0 | 75.4 | 1 | 0.539 | | 10 |

## Laboratory Control Sample (LCS)

(LCS) R3681878-2 07/20/21 10:24

| Analyte | Spike Amount % | LCS Result % | LCS Rec. % | Rec. Limits % | LCS Qualifier |
|---|---|---|---|---|---|
| Total Solids | 50.0 | 50.0 | 100 | 85.0-115 | |

# QUALITY CONTROL SUMMARY

L1378996-14,15,16,17,18,19

## Method Blank (MB)

(MB) R3681877-1 07/20/21 10:14

| Analyte | MB Result % | MB Qualifier | MB MDL % | MB RDL % |
|---|---|---|---|---|
| Total Solids | 0.000 | | | |

## L1379000-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1379000-01 07/20/21 10:14 • (DUP) R3681877-3 07/20/21 10:14

| Analyte | Original Result % | DUP Result % | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| Total Solids | 88.6 | 87.2 | 1 | 1.55 | | 10 |

## Laboratory Control Sample (LCS)

(LCS) R3681877-2 07/20/21 10:14

| Analyte | Spike Amount % | LCS Result % | LCS Rec. % | Rec. Limits % | LCS Qualifier |
|---|---|---|---|---|---|
| Total Solids | 50.0 | 50.0 | 100 | 85.0-115 | |

## Method Blank (MB)

(MB) R3683759-1 07/24/21 23:26

| Analyte | MB Result mg/kg | MB Qualifier | MB MDL mg/kg | MB RDL mg/kg |
|---|---|---|---|---|
| Chloride | U | | 9.20 | 20.0 |

## L1378996-10 Original Sample (OS) • Duplicate (DUP)

(OS) L1378996-10 07/25/21 03:16 • (DUP) R3683759-3 07/25/21 03:26

| Analyte | Original Result (dry) mg/kg | DUP Result (dry) mg/kg | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| Chloride | 67.0 | 61.6 | 1 | 8.40 | | 20 |

## L1378996-19 Original Sample (OS) • Duplicate (DUP)

(OS) L1378996-19 07/25/21 05:29 • (DUP) R3683759-6 07/25/21 05:39

| Analyte | Original Result (dry) mg/kg | DUP Result (dry) mg/kg | Dilution | DUP RPD % | DUP Qualifier | DUP RPD Limits % |
|---|---|---|---|---|---|---|
| Chloride | 1000 | 1130 | 1 | 12.1 | | 20 |

## Laboratory Control Sample (LCS)

(LCS) R3683759-2 07/24/21 23:36

| Analyte | Spike Amount mg/kg | LCS Result mg/kg | LCS Rec. % | Rec. Limits % | LCS Qualifier |
|---|---|---|---|---|---|
| Chloride | 200 | 193 | 96.6 | 90.0-110 | |

## L1378996-10 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1378996-10 07/25/21 03:16 • (MS) R3683759-4 07/25/21 03:35 • (MSD) R3683759-5 07/25/21 03:45

| Analyte | Spike Amount (dry) mg/kg | Original Result (dry) mg/kg | MS Result (dry) mg/kg | MSD Result (dry) mg/kg | MS Rec. % | MSD Rec. % | Dilution | Rec. Limits % | MS Qualifier | MSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 627 | 67.0 | 652 | 655 | 93.4 | 93.8 | 1 | 80.0-120 | | | 0.386 | 20 |

## Guide to Reading and Understanding Your Laboratory Report

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

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

## Abbreviations and Definitions

| | |
|---|---|
| (dry) | Results are reported based on the dry weight of the sample. [this will only be present on a dry report basis for soils]. |
| MDL | Method Detection Limit. |
| MDL (dry) | Method Detection Limit. |
| RDL | Reported Detection Limit. |
| RDL (dry) | Reported Detection Limit. |
| Rec. | Recovery. |
| RPD | Relative Percent Difference. |
| SDG | Sample Delivery Group. |
| U | Not detected at the Reporting Limit (or MDL where applicable). |
| Analyte | The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported. |
| Dilution | If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor. |
| Limits | These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges. |
| Original Sample | The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG. |
| Qualifier | This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable. |
| Result | The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state “ND” (Not Detected) or “BDL” (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte. |
| Uncertainty (Radiochemistry) | Confidence level of 2 sigma. |
| Case Narrative (Cn) | A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report. |
| Quality Control Summary (Qc) | This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material. |
| Sample Chain of Custody (Sc) | This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis. |
| Sample Results (Sr) | This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported. |
| Sample Summary (Ss) | This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis. |

| Qualifier | Description |
|---|---|
| J | The identification of the analyte is acceptable; the reported value is an estimate. |

## Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

| | | | |
|---|---|---|---|
| Alabama | 40660 | Nebraska | NE-OS-15-05 |
| Alaska | 17-026 | Nevada | TN000032021-1 |
| Arizona | AZ0612 | New Hampshire | 2975 |
| Arkansas | 88-0469 | New Jersey–NELAP | TN002 |
| California | 2932 | New Mexico [1] | TN00003 |
| Colorado | TN00003 | New York | 11742 |
| Connecticut | PH-0197 | North Carolina | Env375 |
| Florida | E87487 | North Carolina [1] | DW21704 |
| Georgia | NELAP | North Carolina [3] | 41 |
| Georgia [1] | 923 | North Dakota | R-140 |
| Idaho | TN00003 | Ohio–VAP | CL0069 |
| Illinois | 200008 | Oklahoma | 9915 |
| Indiana | C-TN-01 | Oregon | TN200002 |
| Iowa | 364 | Pennsylvania | 68-02979 |
| Kansas | E-10277 | Rhode Island | LAO00356 |
| Kentucky [1 6] | KY90010 | South Carolina | 84004002 |
| Kentucky [2] | 16 | South Dakota | n/a |
| Louisiana | AI30792 | Tennessee [1 4] | 2006 |
| Louisiana | LA018 | Texas | T104704245-20-18 |
| Maine | TN00003 | Texas [5] | LAB0152 |
| Maryland | 324 | Utah | TN000032021-11 |
| Massachusetts | M-TN003 | Vermont | VT2006 |
| Michigan | 9958 | Virginia | 110033 |
| Minnesota | 047-999-395 | Washington | C847 |
| Mississippi | TN00003 | West Virginia | 233 |
| Missouri | 340 | Wisconsin | 998093910 |
| Montana | CERT0086 | Wyoming | A2LA |
| A2LA – ISO 17025 | 1461.01 | AIHA-LAP,LLC EMLAP | 100789 |
| A2LA – ISO 17025 [5] | 1461.02 | DOD | 1461.01 |
| Canada | 1461.01 | USDA | P330-15-00234 |
| EPA–Crypto | TN00003 | | |

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

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

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.

Company Name/Address:
**ARCADIS US - New Mexico**
401 East Main Street
Suite 400
El Paso. TX 79901

Billing Information:
Accounts Payable
401 East Main Street
Suite 400
El Paso, TX 79901

Pres Chk

Report to: Scott Foord

Email To: william.foord@arcadis.com;douglas.jordan@arc

Project Description: UEM238 - NM AB State #2

City/State Collected: Hobbs, NM

Please Circle: PT MT CT ET

Phone: 915-747-3902

Client Project # 30091764- 0003B

Lab Project # CHEVARCNM-NMABSTATE2

Collected by (print): Justin Steinmann

Site/Facility ID # NM AB STATE #2

P.O. #

Collected by (signature): Justin Steinmann

Immediately Packed on Ice N ___ Y ✓

*Rush?* (Lab MUST Be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Quote #

Date Results Needed

Analysis / Container / Preservative

Chain of Custody Page 1 of 2

Pace Analytical

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Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: https://info.pacelabs.com/hubfs/pas-standard-terms.pdf

SDG # L1378996
J170

Acctnum: CHEVARCNM
Template: T190067
Prelogin: P856323
PM: 526 - Chris McCord
PB:
Shipped Via:

| Sample ID | Comp/Grab | Matrix * | Depth | Date | Time | No. of Cntrs | CHLORIDE-300 4ozClr-NoPres | Remarks | Sample # (lab only) |
|---|---|---|---|---|---|---|---|---|---|
| SB-3-S-1.5-2-210713 | G | SS | 1.5-2 | 7/13/21 | 0923 | 1 | X | | -01 |
| SB-16-S-0-.5-210713 | G | SS | 0-.5 | | 0930 | 1 | X | | 02 |
| SB-16-S-1.5-2-210713 | G | SS | 1.5-2 | | 0940 | 1 | X | | 03 |
| SB-18-S-0-.5-210713 | G | SS | 0-.5 | | 0953 | 1 | X | | 04 |
| SB-18-S-1.5-1.75-210713 | G | SS | 1.5-1.75 | | 0958 | 1 | X | | 05 |
| SB-17-S-0-.5-210713 | G | SS | 0-.5 | | 1001 | 1 | X | | 06 |
| SB-17-S-1.5-1.75-210713 | G | SS | 1.5-1.75 | | 1025 | 1 | X | | 07 |
| SB-19-SD-0-.5-210713 | G | SS | 0-.5 | | — | 1 | X | | 08 |
| SB-19-S-0-.5-210713 | G | SS | 0-.5 | | 1042 | 1 | X | | 09 |
| SB-19-S-1.5-2-210713 | G | SS | 1.5-2 | | 1050 | 1 | X | | 10 |

* Matrix:
SS - Soil AIR - Air F - Filter
GW - Groundwater B - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

Remarks:

pH _____ Temp _____

Flow _____ Other _____

Samples returned via:
__ UPS __ FedEx __ Courier _____

Tracking #

Sample Receipt Checklist
COC Seal Present/Intact: NP Y N
COC Signed/Accurate: Y N
Bottles arrive intact: Y N
Correct bottles used: Y N
Sufficient volume sent: Y N
If Applicable
VOA Zero Headspace: Y N
Preservation Correct/Checked: Y N
RAD Screen <0.5 mR/hr: Y N

| Relinquished by : (Signature) | Date: | Time: | Received by: (Signature) | Trip Blank Received: Yes / No HCL / MeoH TBR |
|---|---|---|---|---|
| | 7/14/21 | 1110 | | |
| Relinquished by : (Signature) | Date: | Time: | Received by: (Signature) | Temp: °C Bottles Received: |
| | 7-14-21 | 1600 | | 1.2+1-1.3 19 |
| Relinquished by : (Signature) | Date: | Time: | Received for lab by: (Signature) | Date: Time: |
| | | | | 7/15/21 0830 |

If preservation required by Login: Date/Time

Hold:

Condition: NCF / OK

Company Name/Address:
**ARCADIS US - New Mexico**
401 East Main Street
Suite 400
El Paso. TX 79901

Billing Information:
Accounts Payable
401 East Main Street
Suite 400
El Paso, TX 79901

Pres Chk

Report to: **Scott Foord**

Email To: william.foord@arcadis.com;douglas.jordan@arc

Project Description: **UEM238 - NM AB State #2**

City/State Collected: Hobbs, NM

Please Circle: PT (MT) CT ET

Phone: **915-747-3902**

Client Project # **30091764- 0003B**

Lab Project # **CHEVARCNM-NMABSTATE2**

Collected by (print): **Justin Steinmann**

Site/Facility ID # **NM AB STATE #2**

P.O. #

Collected by (signature):

Quote #

Immediately Packed on Ice N ___ Y ✓

*Rush?* (Lab MUST Be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Date Results Needed

Analysis / Container / Preservative

| Sample ID | Comp/Grab | Matrix * | Depth | Date | Time | No. of Cntrs | CHLORIDE-300 4ozClr-NoPres | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SB-20-S-0-.5-210713 | G | SS | 0-.5 | 7/13/21 | 1101 | 1 | X | | | | | | | | | | -11 |
| SB-20-S-1.5-2-210713 | G | SS | 1.5-2 | | 1115 | 1 | X | | | | | | | | | | 12 |
| SB-6-S-1.5-2-210713 | G | SS | 1.5-2 | | 1150 | 1 | X | | | | | | | | | | 13 |
| SB-21-S-0-.5-210713 | G | SS | 0-.5 | | 1315 | 1 | X | | | | | | | | | | 14 |
| SB-21-S-1.5-1.75-210713 | G | SS | 1.5-1.75 | | 1320 | 1 | X | | | | | | | | | | 15 |
| SB-22-S-0-.5-210713 | G | SS | 0-.5 | | 1348 | 1 | X | | | | | | | | | | 16 |
| SB-22-S-1.5-1.75-210713 | G | SS | 1.5-1.75 | | 1356 | 1 | X | | | | | | | | | | 17 |
| SB-23-S-0-.5-210713 | G | SS | 0-.5 | | 1420 | 1 | X | | | | | | | | | | 18 |
| SB-23-S-1.5-2-210713 | G | SS | 1.5-2 | | 1430 | 1 | X | | | | | | | | | | 19 |
| ~~SB-6-S-1.5-2-210713~~ | ~~G~~ | ~~SS~~ | ~~1.5-2~~ | | ~~1150~~ | ~~1~~ | ~~X~~ | | | | | | | | | | |

Chain of Custody Page 2 of 2

Pace Analytical

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Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: https://info.pacelabs.com/hubfs/pas-standard-terms.pdf

SDG # 1378996

Table #

Acctnum: **CHEVARCNM**

Template: **T190067**

Prelogin: **P856323**

PM: **526 - Chris McCord**

PB:

Shipped Via:

Remarks | Sample # (lab only)

* Matrix:
SS - Soil AIR - Air F - Filter
GW - Groundwater B - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

**Remarks:**

pH _____ Temp _____

Flow _____ Other _____

Samples returned via:
__ UPS __ FedEx __ Courier _____

Tracking #

Sample Receipt Checklist

| | | |
|---|---|---|
| COC Seal Present/Intact: | NP | Y N |
| COC Signed/Accurate: | | Y N |
| Bottles arrive intact: | | Y N |
| Correct bottles used: | | Y N |
| Sufficient volume sent: | | Y N |
| If Applicable | | |
| VOA Zero Headspace: | | Y N |
| Preservation Correct/Checked: | | Y N |
| RAD Screen <0.5 mR/hr: | | Y N |

| | Date: | Time: | | |
|---|---|---|---|---|
| Relinquished by : (Signature) | 7/14/21 | 1110 | Received by: (Signature) | Trip Blank Received: Yes / No HCL / MeoH TBR |
| Relinquished by : (Signature) | 7.14.21 | 16:00 | Received by: (Signature) | Temp: 4.2 0.1 °C 1.2.4.3 Bottles Received: 19 |
| Relinquished by : (Signature) | Date: | Time: | Received for lab by: (Signature) | Date: 7/15/21 Time: 0830 |

If preservation required by Login: Date/Time

Hold:

Condition: NCF (OK)

# Appendix D

## Revised C-141 Form 1RP-2470

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 | NLWJ1009639651 |
| District RP | 1RP-2470 |
| Facility ID | NA |
| Application ID | NA |

# Release Notification

## Responsible Party

| | |
|---|---|
| Responsible Party: Chevron USA | OGRID: 4323 |
| Contact Name: Armando Martinez | Contact Telephone: 505-690-5408 |
| Contact email: amarti@chevron.com | Incident # *(assigned by OCD)* NLWJ1009639651 |
| Contact mailing address: | |

## Location of Release Source

Latitude 32.77149 Longitude -103.49025
*(NAD 83 in decimal degrees to 5 decimal places)*

| | |
|---|---|
| Site Name: NM AB State #2 | Site Type: Produced water release |
| Date Release Discovered: 03/10/2010 | API# *(if applicable):* 30-025-03085 |

| Unit Letter | Section | Township | Range | County |
|---|---|---|---|---|
| P | 6 | 18S | 35E | Lea |

Surface Owner: ☒ State ☐ Federal ☐ Tribal ☐ Private

## 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): 2 | Volume Recovered (bbls): |
| ☒ Produced Water | Volume Released (bbls): 40 | Volume Recovered (bbls): 15 |
| | 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: A grass fire melted a flow line. | | |

Form C-141
Page 2

State of New Mexico
Oil Conservation Division

| | |
|---|---|
| Incident ID | NLWJ1009639651 |
| District RP | 1RP-2470 |
| Facility ID | NA |
| Application ID | NA |

| | |
|---|---|
| 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? **Release was greater than 25 barrels.** |
| If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)? **Initial C-141 Form was submitted on April 5, 2010.** | |

| | |
|---|---|
| Incident ID | NLWJ1009639651 |
| District RP | 1RP-2470 |
| Facility ID | NA |
| Application ID | NA |

# 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? | 60 (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. **Attached.**
Field data: **Attached.**
Data table of soil contaminant concentration data: **Attached.**
Depth to water determination: **51-100 feet bgs**
Determination of water sources and significant watercourses within ½-mile of the lateral extents of the release: **None identified.**
Boring or excavation logs: **Shallow refusal was encountered.**
Photographs including date and GIS information: **Photographic log attached.**
Topographic/Aerial maps; **Topographic map attached.**
Laboratory data including chain of custody: **Attached.**

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

Form C-141
Page 4

State of New Mexico
Oil Conservation Division

| | |
|---|---|
| Incident ID | NLWJ1009639651 |
| District RP | 1RP-2470 |
| Facility ID | NA |
| Application ID | NA |

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: Armando Martinez Title: Environmental Project Manager

Signature:_____ _____ Date: _10/20/21_____

email: ____ amarti@chevron.com _____ Telephone: 505-690-5408_____

**OCD Only**

Received by: _____ Date: _____

Arcadis U.S., Inc.
10205 Westheimer Road, Suite 800
Houston
Texas 77042
Phone: 713 953 4800
Fax: 713 977 4620
www.arcadis.com

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

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

CONDITIONS

Action 59735

## CONDITIONS

| | |
|---|---|
| Operator:<br>CHEVRON U S A INC<br>6301 Deauville Blvd<br>Midland, TX 79706 | OGRID:<br>4323 |
| | Action Number:<br>59735 |
| | Action Type:<br>[C-141] Release Corrective Action (C-141) |

**CONDITIONS**

| Created By | Condition | Condition Date |
|---|---|---|
| amaxwell | Accepted for information only. | 2/24/2023 |
| amaxwell | Proceed with additional delineation. | 2/24/2023 |
| amaxwell | Submit a report via the OCD permitting portal by 6/2/2023. | 2/24/2023 |