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 | |
| District RP | |
| Facility ID | |
| Application ID | |

# Release Notification

## Responsible Party

| | |
|---|---|
| Responsible Party: **Enduring Resources** | OGRID: **372286** |
| Contact Name: **Chad Snell** | Contact Telephone: **505-444-0586** |
| Contact email: **csnell@enduringresources.com** | Incident # *(assigned by OCD):* **NCS1909439826** |
| Contact mailing address: **200 Energy Court** | **Farmington, New Mexico 87401** |

## Location of Release Source

Latitude **36.5580174** Longitude **-108.050108**
*(NAD 83 in decimal degrees to 5 decimal places)*

| | |
|---|---|
| Site Name: **Navajo AA # 2** | Site Type: **Wellsite** |
| Date Release Discovered: **3/18/2019** | API# *(if applicable)* **30-045-28751** |

| Unit Letter | Section | Township | Range | County |
|---|---|---|---|---|
| **L** | **19** | **27N** | **11W** | **San Juan** |

NMOCD
MAY 09 2019
DISTRICT III

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

## Nature and Volume of Release

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

| | | |
|---|---|---|
| ☐ Crude Oil | Volume Released (bbls) | Volume Recovered (bbls) |
| ☐ Produced Water | Volume Released (bbls): | Volume Recovered (bbls): |
| | Is the concentration of dissolved chloride in the produced water >10,000 mg/l? | ☐ Yes ☐ No |
| ☒ Condensate | Volume Released (bbls) **5.5bbls** | 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
**On 3/18/2019, a release was discovered at the Navajo AA 2. Liquid had pooled in bermed area and was discovered that it had come from a hole in the burner tube on the tank. All liquids from tank were removed and burner tube was replaced. Clean up activities have taken place and confirmation sampling took place on 3/22/2019.**

State of New Mexico
Oil Conservation Division

| | |
|---|---|
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| | |
|---|---|
| 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? |
| If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)? | |

## Initial Response

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

☒ The source of the release has been stopped.

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

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

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

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

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

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

Printed Name: _____ Title: _____

Signature: _____ Date: _____

email: _____ Telephone: _____

**OCD Only**

Received by: _____ Date: _____

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? | 80ft (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

| | |
|---|---|
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| 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: _____ Title: _____

Signature: _____ Date: _____

email: _____ Telephone: _____

**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: _____ Title: _____

Signature: _____ Date: _____

email: _____ Telephone: _____

**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: **Chad Snell** Title: **HSE Tech**

Signature: Date: 5-6-2019

email: **csnell@enduringresources.com** Telephone: **(505)444-0586**

**OCD Only**

Received by: OCD Date: 5/9/19

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: 6/4/19

Printed Name: Cory Title: Environmental Spec.

**Navajo AA 002 Remediation Narrative**

**3/18/2019**

A release was discovered at the Navajo AA 002. Condensate pooled in bermed area and was later discovered to have come from a hole in the burner tube on the tank. All liquids where immediately removed from the tank to stop the leak and burner tube was replaced. The release was calculated to be 5.5 bbls using the dimensions of the spill in a calculation tool.

**3/20/2019**

Email notification was sent to the NMOCD office that confirmation sampling would take place on March 22 2019 at 1:30pm after clean-up activities had taken place. See attached *"Email Notification"*.

**3/22/2019**

Clean up activities took place. Approximately 12 cubic yards of soil was removed from the impacted area. Closure samples were taken after work was completed. Six samples were collected of the excavated area and sent in for analysis of BTEX, GRO DRO ORO, and chlorides. Each sample taken was under the 200 square foot rule, (North Section: 96 sq. ft., South Section: 80 sq. ft., East Section: 30 sq. ft., North Wall: 20 sq. ft., West Wall: 24 sq. ft., and Tank Wall: 30 sq. ft.). The closure standards for this site was ranked at the most stringent (Benzene: <10ppm, BTEX: <50ppm, TPH: <100ppm, and Chlorides: <100ppm) due to the banks of a nearby wash being less than 300ft away but the bed of wash being over 300ft. see attachted *"Scaled Map"* and *"NMOCD blue line map"*.

**4/2/2019**

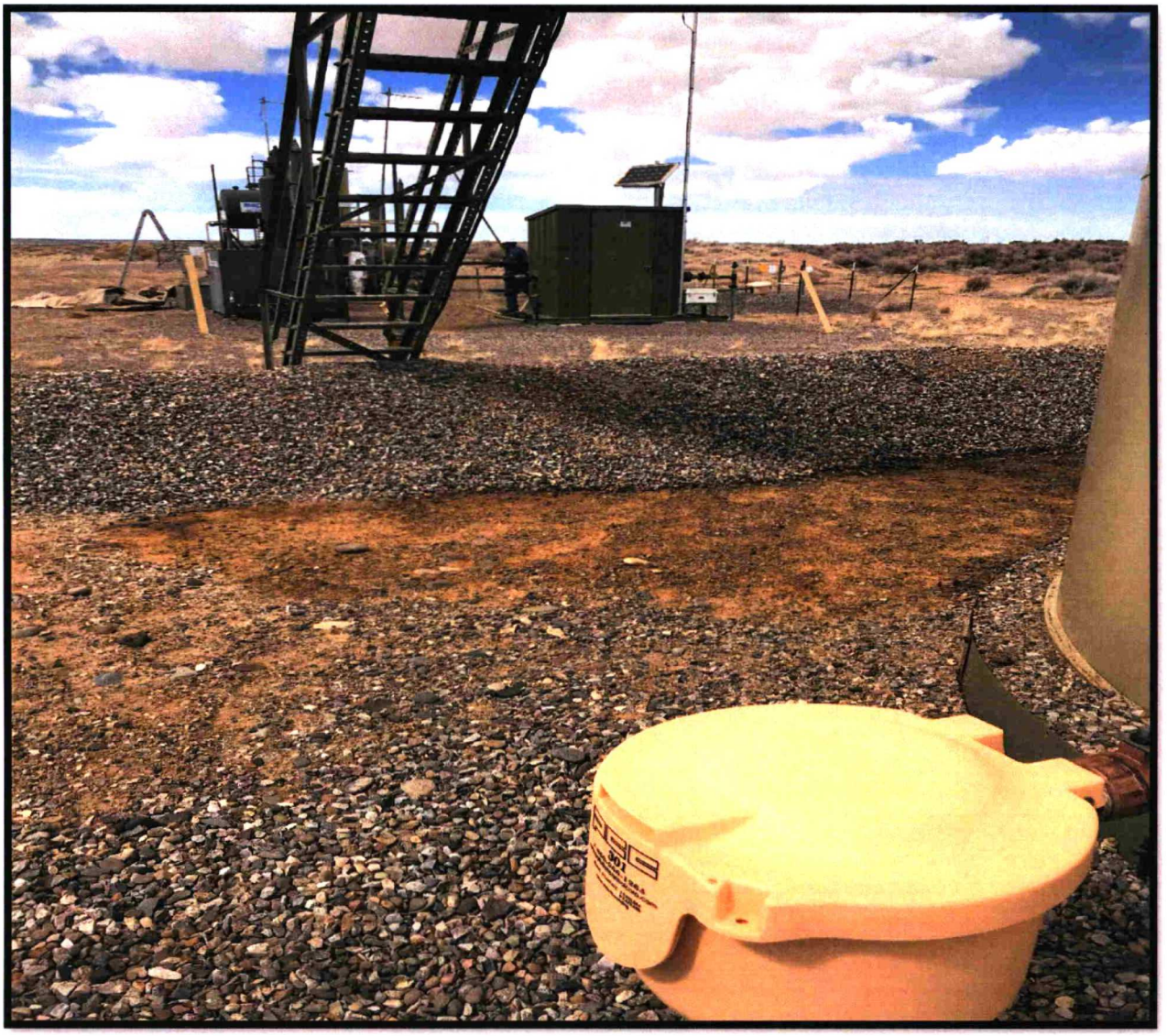
Returned results were below standards and confirmed no further excavation was needed. Please see attached *"Sample Table"* and *"Lab Analysis"*.

Enduring Resources, LLC
Spill Closure Report
Navajo AA #2

Photos: Impacted Area

Enduring Resources, LLC
Spill Closure Report
Navajo AA #2

Enduring Resources, LLC
Spill Closure Report
Navajo AA #2



Enduring Resources, LLC
Spill Closure Report
Navajo AA #2

Photo: After clean-up "South Section"

Enduring Resources, LLC
Spill Closure Report
Navajo AA #2

Photo: After Clean-up "North Section"

Enduring Resources, LLC
Spill Closure Report
Navajo AA #2

Photo: After Clean-up "North Wall"

Enduring Resources, LLC
Spill Closure Report
Navajo AA #2

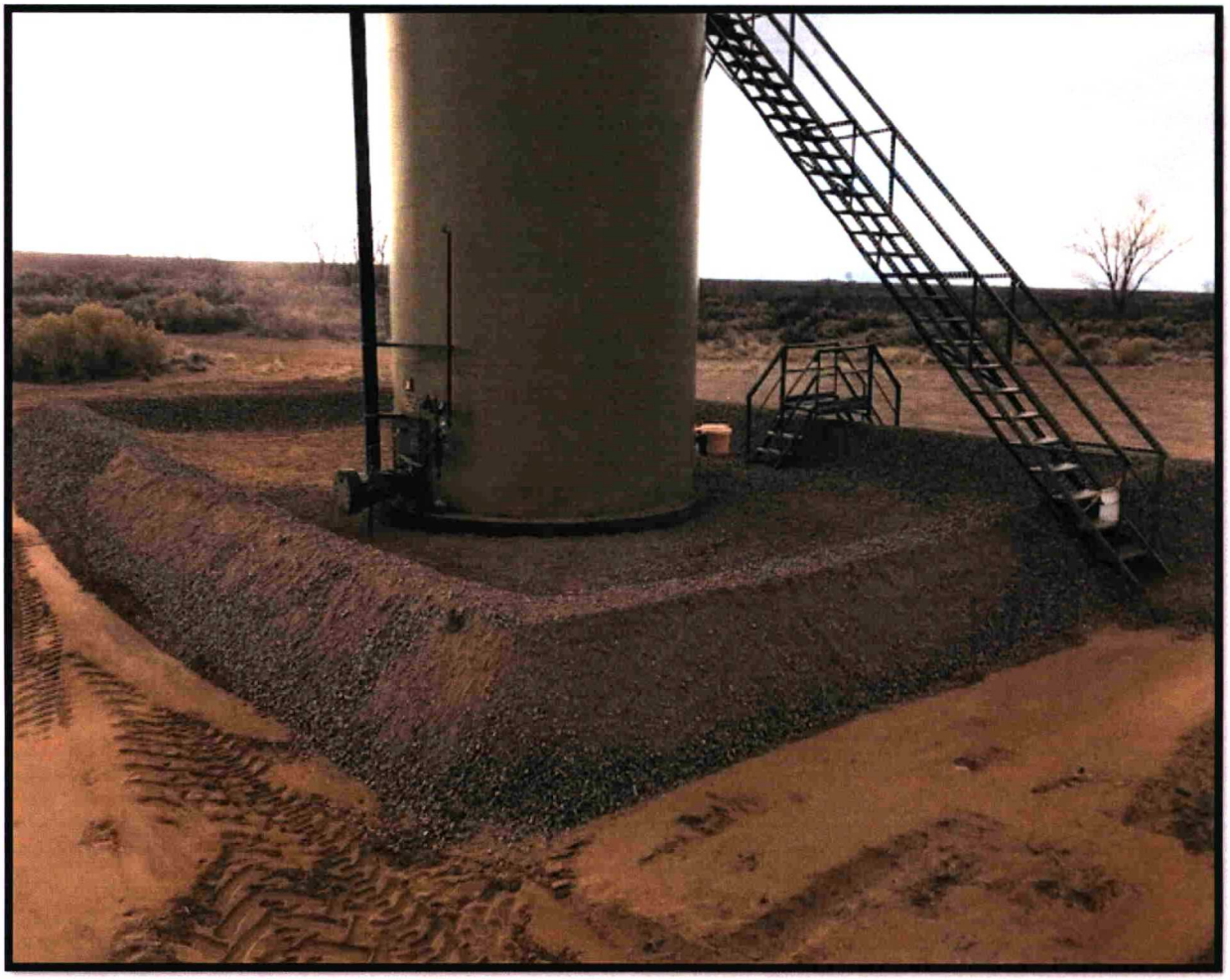
Photo: After Clean-up "East Section"

Enduring Resources, LLC
Spill Closure Report
Navajo AA #2

Photo: After Clean-up "Tank Wall"

Enduring Resources, LLC
Spill Closure Report
Navajo AA #2

Photo: Area Back Filled



## Navajo AA # 2

| Sample Name | Description | Date | Time | DRO | GRO | DRO+GRO | ORO | Total TPH | Benzene | Toluene | Ethylbenzene | Xylenes | Total BTEX | Chlorides | Square Footage |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | NA | NA | 100 | NA | 100 | 10 | NA | NA | NA | 50 | 600 | |
| STANDARD | <300FT to a Wash | NA | NA | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | 200 sq. ft |
| South Section | Composite | 3/22/2019 | 1:50 PM | <4.23 | <0.106 | **<4.336** | 0.16 | **<4.496** | **<0.000528** | <0.00528 | <0.000528 | <0.00158 | **<0.07916** | **432** | **80** |
| North Section | Composite | 3/22/2019 | 1:55pm | 4.95 | 0.183 | **5.133** | <4.28 | **9.413** | **<0.000535** | <0.00535 | <0.000535 | <0.00161 | **<0.00803** | **571** | **96** |
| East Section | Composite | 3/22/2019 | 2:00pm | <4.34 | <0.108 | **<4.448** | <4.34 | **<8.788** | **<0.000542** | <0.00542 | <0.000542 | <0.00163 | **<0.008134** | **418** | **30** |
| North Wall | Composite | 3/22/2019 | 2:05pm | <4.27 | <0.107 | **<4.377** | <4.27 | **<8.647** | **<0.000533** | <0.00533 | <0.000533 | <0.00160 | **<0.07996** | **253** | **20** |
| West Wall | Composite | 3/22/2019 | 2:10pm | <4.26 | <0.106 | **<4.366** | <4.26 | **<8.626** | **<0.000532** | <0.00532 | <0.000532 | <0.00160 | **<0.007984** | **314** | **24** |
| Tank Wall | Composite | 3/23/2019 | 2:15pm | <4.28 | <0.107 | **<4.387** | <4.28 | **<8.667** | **<0.000535** | <0.00535 | <0.000535 | <0.0016 | **<0.00802** | **232** | **30** |

CLOSURE SAMPLES

# National Flood Hazard Layer FIRMette

FEMA


## Legend

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

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

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

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

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

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

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

N

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

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

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 4/23/2019 at 4:17:36 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

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

30-045-06327

**DATA SHEET FOR DEEP GROUND BED CATHODIC PROTECTION WELLS**
**NORTHWESTERN NEW MEXICO**
**(Submit 3 copies to OCD Aztec Office)**

Operator Texaco E&P Inc. Location: Unit P Sec. 19 Twp 27N Rng 11W

Name of Well/Wells or Pipeline Serviced Navajo Tribe "AA" #1

Elevation ____ Completion Date 12/16/78 Total Depth 300' Land Type* ____

Casing, Sizes, Types & Depths 6 3/4" hole to 300'

If Casing is cemented, show amounts & types used Unknown

If Cement or Bentonite Plugs have been placed, show depths & amounts used
Unknown

Depths & thickness of water zones with description of water when possible:
Fresh, Clear, Salty, Sulphur, Etc. See attached log

Depths gas encountered: ____

Type & amount of coke breeze used: ____

Depths anodes placed: See attached log

Depths vent pipes placed: ____

Vent pipe perforations: ____

Remarks: ____

RECEIVED
MAR 2 1992
OIL CON. DIV.
DIST. 3

If any of the above data is unavailable, please indicate so. Copies of all logs, including Drillers Log, Water Analyses & Well Bore Schematics should be submitted when available. Unplugged abandoned wells are to be included.

Land Type may be shown: F-Federal; I-Indian; S-State; P-Fee.
If Federal or Indian, add Lease Number.

# WELL TYPE GROUNDBED DATA

DATA SHEET NO. 1 of 1

COMPANY Texaco Well # 1 JOB No. 9832 DATE: 12-16-98

WELL: Navajo Tribe AA Lease PIPELINE:

LOCATION: SEC. 19 TWP. 27 RGE. 11 CO. San Juan STATE New Mexico

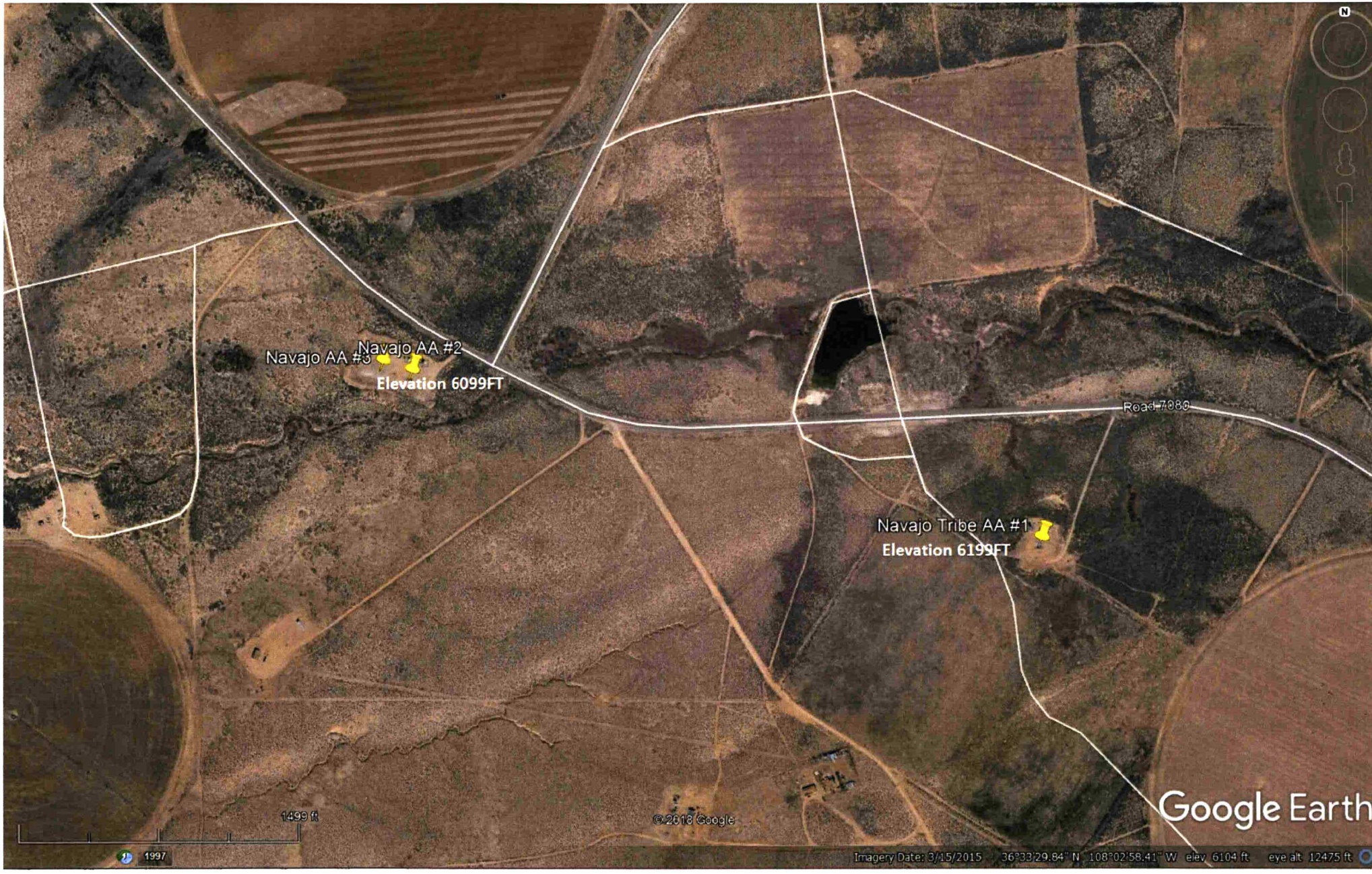
ELEV. _____ FT: ROTARY _____ FT: CABLE TOOL _____ FT: CASING _____ FT.

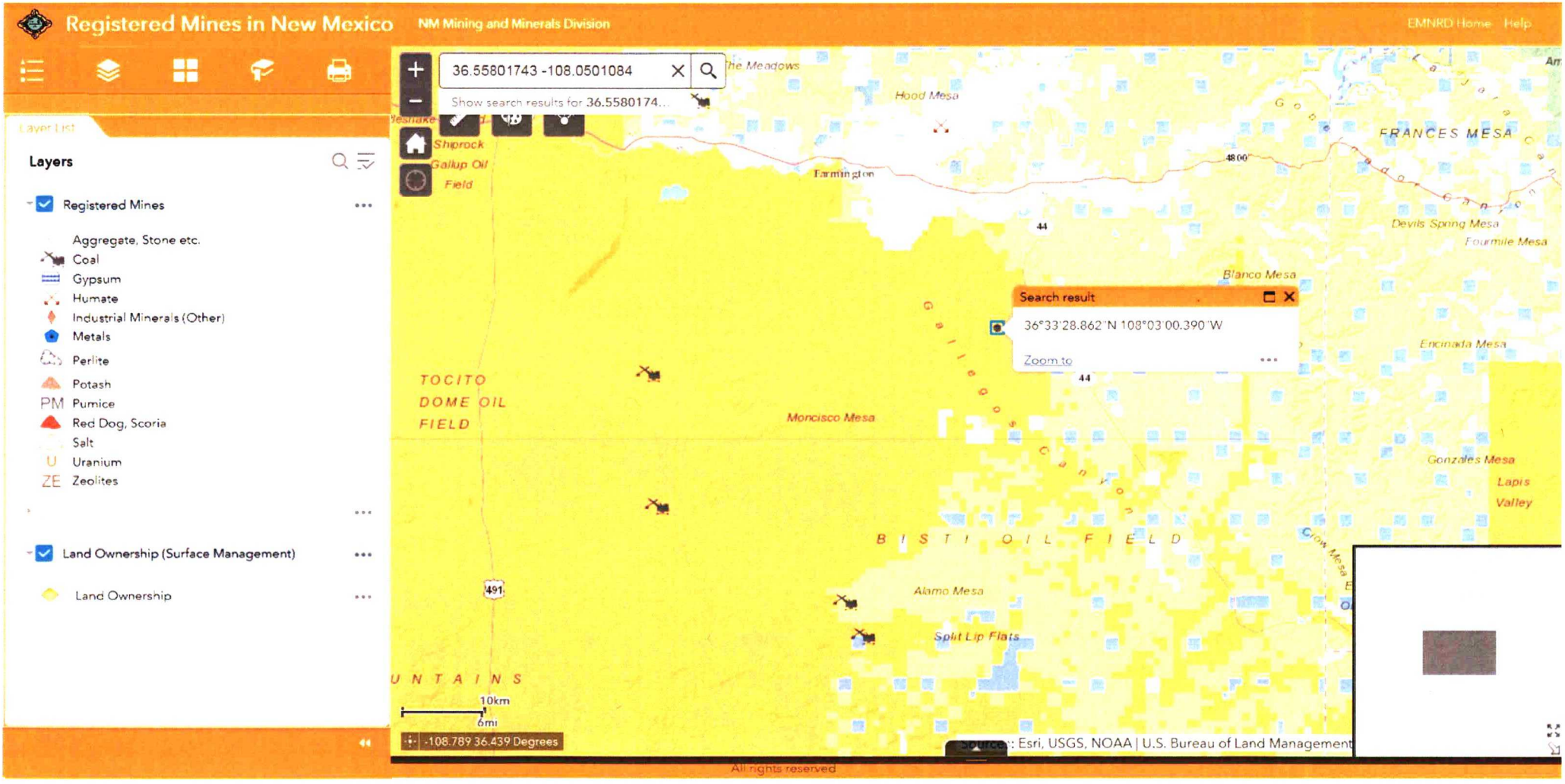
GROUNDBED: DEPTH 300 FT. DIA. 6 3/4 IN. GAB #200 LBS. ANODES 8-D-57 CD

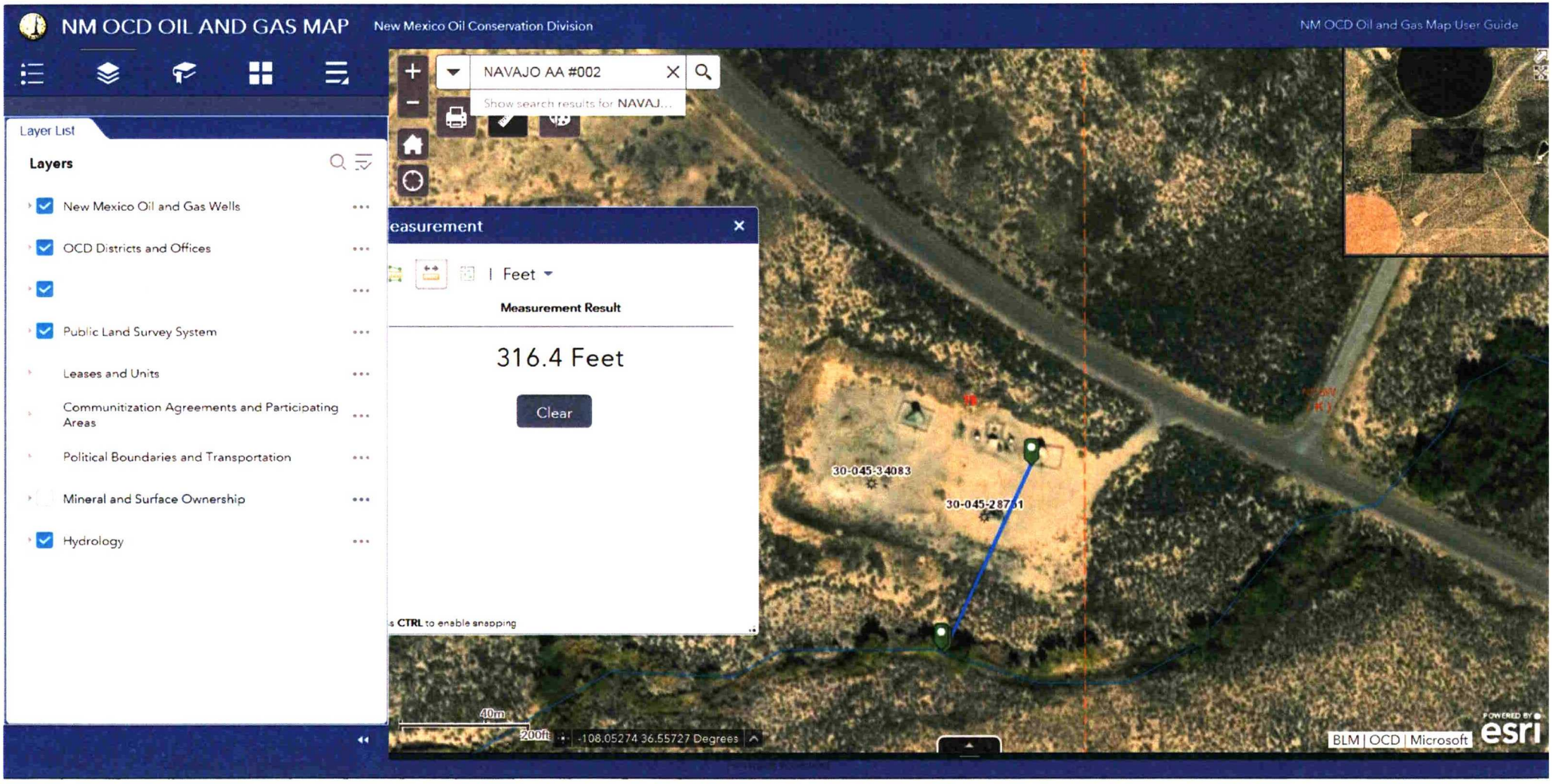
| DEPTH, FT. | DRILLER'S LOG | DRILL PIPE TO STRUCTURE | | | EXPLORING ANODE TO STRUCTURE | | | DEPTH, TOP OF ANODES |
|---|---|---|---|---|---|---|---|---|
| | | E | I | R | E | I | R | |
| 180 | 180' Water | | | | | | 4.2 | |
| 5 | | | | | | | 4.9 | |
| 10 | | | | | | | 5.6 | |
| 5 | | | | | | | 4.0 | |
| 200 | | | | | | 1.4 | 3.2 V | 8.200 |
| 5 | | | | | | | 3.6 | |
| 10 | | | | | | 1.9 | 3.8 V | 7.210 |
| 15 | | | | | | | 4.4 | |
| 20 | | | | | | | 4.6 | |
| 5 | | | | | | 2.1 | 4.4 V | 6.225 |
| 30 | | | | | | | 4.3 | |
| 5 | | | | | | 1.8 | 4.0 V | 5.235 |
| 40 | | | | | | | 2.8 | |
| 5 | | | | | | 1.1 | 2.2 V | 6.245 |
| 50 | | | | | | | 2.1 | |
| 5 | | | | | | 1.2 | 2.0 V | 3.255 |
| 60 | | | | | | | 2.1 | |
| 5 | | | | | | 1.3 | 2.1 V | 2.265 |
| 70 | | | | | | | 2.5 | |
| 5 | | | | | | 2.3 | 2.4 V | 1.275 |
| 80 | | | | | | | 5.1 | |
| 5 | | | | | | | 6.1 | |
| 90 | | | | | | | 5.4 | |
| 5 | | | | | | | 4.9 | |
| 300 | TD 300 | | | | | | 4.8 | |

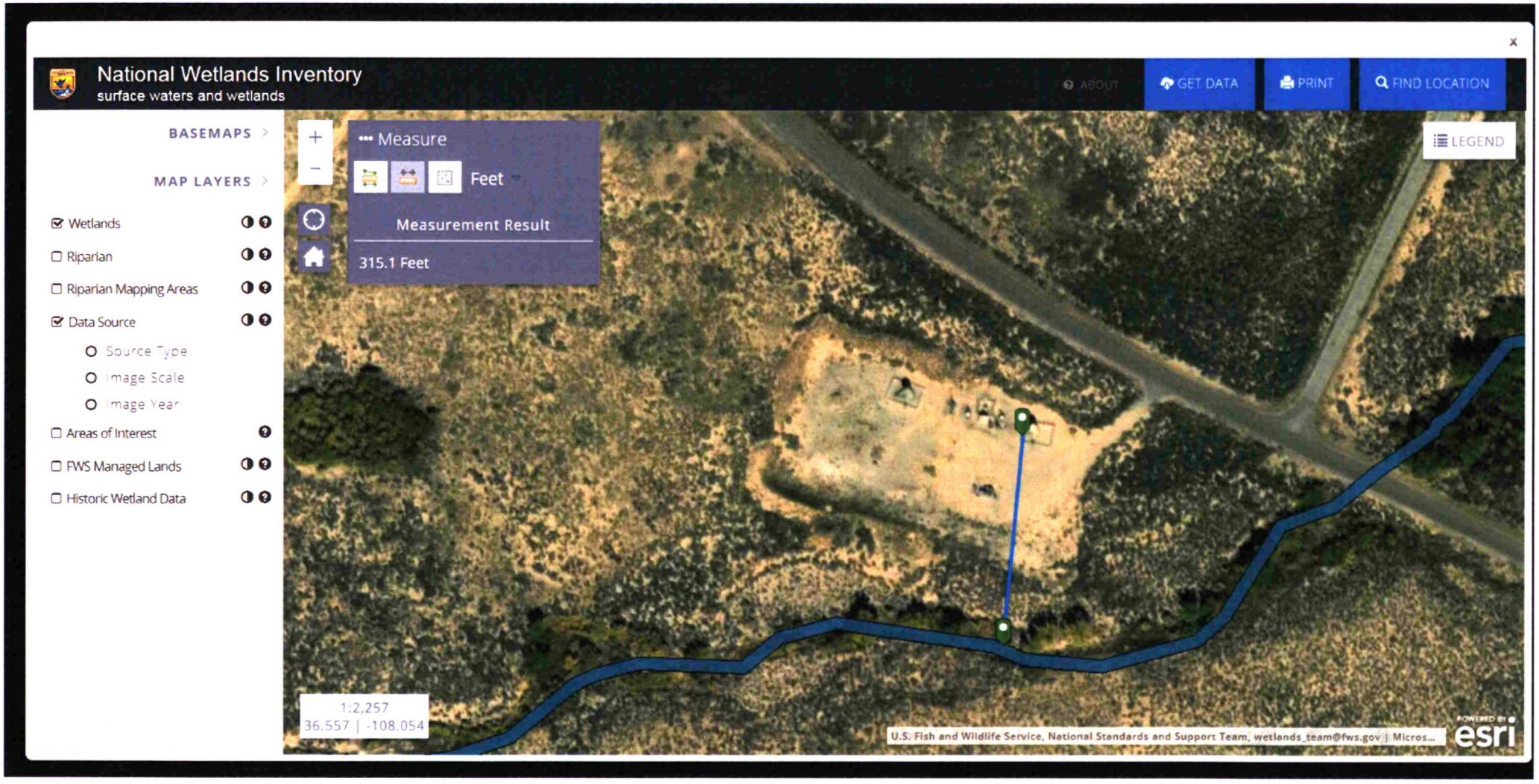
GROUNDBED RESISTANCE: (1) VOLTS _____ ÷ AMPS _____ = _____ OHMS

(2) VIBROGROUND 0.54 OHMS


Navajo AA #3
Navajo AA #2
Elevation 6099FT
Road 7080
Navajo Tribe AA #1
Elevation 6199FT
1499 ft
©2018 Google
Google Earth
1997
Imagery Date: 3/15/2015 36°33'29.84" N 108°02'58.41" W elev 6104 ft eye alt 12475 ft


Registered Mines in New Mexico
NM Mining and Minerals Division
EMNRD Home
Help
Layer List
Layers
Registered Mines
Aggregate, Stone etc.
Coal
Gypsum
Humate
Industrial Minerals (Other)
Metals
Perlite
Potash
Pumice
Red Dog, Scoria
Salt
Uranium
Zeolites
Land Ownership (Surface Management)
Land Ownership
36.55801743 -108.0501084
Show search results for 36.5580174...
Shiprock
Gallup Oil Field
Farmington
Hood Mesa
FRANCES MESA
Devils Spring Mesa
Fourmile Mesa
Blanco Mesa
Encinada Mesa
Search result
36°33'28.862"N 108°03'00.390"W
Zoom to
TOCITO DOME OIL FIELD
Moncisco Mesa
Gonzales Mesa
Lapis Valley
BISTI OIL FIELD
Alamo Mesa
Split Lip Flats
10km
6mi
-108.789 36.439 Degrees
Source: Esri, USGS, NOAA | U.S. Bureau of Land Management
All rights reserved


NM OCD OIL AND GAS MAP
New Mexico Oil Conservation Division
NM OCD Oil and Gas Map User Guide
Layer List
Layers
New Mexico Oil and Gas Wells
OCD Districts and Offices
Public Land Survey System
Leases and Units
Communitization Agreements and Participating Areas
Political Boundaries and Transportation
Mineral and Surface Ownership
Hydrology
NAVAJO AA #002
Show search results for NAVAJ...
easurement
Feet
Measurement Result
316.4 Feet
Clear
s CTRL to enable snapping
30-045-34083
30-045-28751
40m
200ft
-108.05274 36.55727 Degrees
BLM | OCD | Microsoft
esri


National Wetlands Inventory
surface waters and wetlands
ABOUT
GET DATA
PRINT
FIND LOCATION
BASEMAPS
MAP LAYERS
Wetlands
Riparian
Riparian Mapping Areas
Data Source
Source Type
Image Scale
Image Year
Areas of Interest
FWS Managed Lands
Historic Wetland Data
Measure
Feet
Measurement Result
315.1 Feet
LEGEND
1:2,257
36.557 | -108.054
U.S. Fish and Wildlife Service, National Standards and Support Team, wetlands_team@fws.gov | Micros...
esri


North Wall
10'L X 2' T
West Wall
12'L X 2' T
North Section
12'L X 8'L
East Section
10'L X 3'W
Tank Wall
15' L X 2' T
South Section
10'L X 8' W
47 ft
1997
© 2018 Google
Google Earth
Imagery Date: 3/15/2015 36°33'29.77" N 108°03'00.03" W elev 6092 ft eye alt 6311 ft

Pace Analytical®
National Center for Testing & Innovation

# ANALYTICAL REPORT

April 02, 2019

## Enduring Resources

| | |
|---|---|
| Sample Delivery Group: | L1082339 |
| Samples Received: | 03/26/2019 |
| Project Number: | |
| Description: | Navajo AA#2 |

Report To: Chad Snell
200 Energy Court
Farmington, NM 87401

Entire Report Reviewed By: Daphne R Richards

Daphne Richards
Project Manager



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ONE LAB. NATIONWIDE.

## SOUTH SECTION L1082339-01 Solid

Collected by: Chad Snell | Collected date/time: 03/22/19 13:50 | Received date/time: 03/26/19 08:45

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Total Solids by Method 2540 G-2011 | WG1257589 | 1 | 03/29/19 14:25 | 03/29/19 14:40 | KDW | Mt. Juliet, TN |
| Wet Chemistry by Method 9056A | WG1256951 | 1 | 03/30/19 09:45 | 03/30/19 18:09 | ST | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method 8015/8021 | WG1256815 | 1 | 03/26/19 16:34 | 03/28/19 17:58 | BMB | Mt. Juliet, TN |
| Semi-Volatile Organic Compounds (GC) by Method 8015 | WG1257020 | 1 | 03/28/19 13:01 | 03/29/19 02:35 | AAT | Mt. Juliet, TN |

## NORTH SECTION L1082339-02 Solid

Collected by: Chad Snell | Collected date/time: 03/22/19 13:55 | Received date/time: 03/26/19 08:45

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Total Solids by Method 2540 G-2011 | WG1257589 | 1 | 03/29/19 14:25 | 03/29/19 14:40 | KDW | Mt. Juliet, TN |
| Wet Chemistry by Method 9056A | WG1256951 | 1 | 03/30/19 09:45 | 03/30/19 18:34 | ST | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method 8015/8021 | WG1256815 | 1 | 03/26/19 16:34 | 03/28/19 18:18 | BMB | Mt. Juliet, TN |
| Semi-Volatile Organic Compounds (GC) by Method 8015 | WG1257020 | 1 | 03/28/19 13:01 | 03/29/19 03:05 | AAT | Mt. Juliet, TN |

## EAST SECTION L1082339-03 Solid

Collected by: Chad Snell | Collected date/time: 03/22/19 14:00 | Received date/time: 03/26/19 08:45

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Total Solids by Method 2540 G-2011 | WG1257589 | 1 | 03/29/19 14:25 | 03/29/19 14:40 | KDW | Mt. Juliet, TN |
| Wet Chemistry by Method 9056A | WG1256951 | 1 | 03/30/19 09:45 | 03/30/19 18:51 | ST | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method 8015/8021 | WG1256815 | 1 | 03/26/19 16:34 | 03/28/19 18:38 | BMB | Mt. Juliet, TN |
| Semi-Volatile Organic Compounds (GC) by Method 8015 | WG1257020 | 1 | 03/28/19 13:01 | 03/29/19 02:50 | AAT | Mt. Juliet, TN |

## NORTH WALL L1082339-04 Solid

Collected by: Chad Snell | Collected date/time: 03/22/19 14:05 | Received date/time: 03/26/19 08:45

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Total Solids by Method 2540 G-2011 | WG1257589 | 1 | 03/29/19 14:25 | 03/29/19 14:40 | KDW | Mt. Juliet, TN |
| Wet Chemistry by Method 9056A | WG1255979 | 1 | 03/29/19 00:45 | 03/29/19 04:03 | ELN | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method 8015/8021 | WG1256815 | 1 | 03/26/19 16:34 | 03/28/19 18:59 | BMB | Mt. Juliet, TN |
| Semi-Volatile Organic Compounds (GC) by Method 8015 | WG1257020 | 1 | 03/28/19 13:01 | 03/29/19 03:22 | AAT | Mt. Juliet, TN |

## WEST WALL L1082339-05 Solid

Collected by: Chad Snell | Collected date/time: 03/22/19 14:10 | Received date/time: 03/26/19 08:45

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Total Solids by Method 2540 G-2011 | WG1257589 | 1 | 03/29/19 14:25 | 03/29/19 14:40 | KDW | Mt. Juliet, TN |
| Wet Chemistry by Method 9056A | WG1255979 | 1 | 03/29/19 00:45 | 03/29/19 04:12 | ELN | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method 8015/8021 | WG1256815 | 1 | 03/26/19 16:34 | 03/28/19 19:19 | BMB | Mt. Juliet, TN |
| Semi-Volatile Organic Compounds (GC) by Method 8015 | WG1257020 | 1 | 03/28/19 13:01 | 03/29/19 03:36 | AAT | Mt. Juliet, TN |

## TANK WALL L1082339-06 Solid

Collected by: Chad Snell | Collected date/time: 03/22/19 14:15 | Received date/time: 03/26/19 08:45

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Total Solids by Method 2540 G-2011 | WG1257589 | 1 | 03/29/19 14:25 | 03/29/19 14:40 | KDW | Mt. Juliet, TN |
| Wet Chemistry by Method 9056A | WG1255979 | 1 | 03/29/19 00:45 | 03/29/19 04:20 | ELN | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method 8015/8021 | WG1256815 | 1 | 03/26/19 16:34 | 03/28/19 19:40 | BMB | Mt. Juliet, TN |
| Semi-Volatile Organic Compounds (GC) by Method 8015 | WG1258133 | 1 | 03/29/19 17:23 | 03/30/19 10:20 | DMW | 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.

Daphne R Richards

Daphne Richards
Project Manager

## Total Solids by Method 2540 G-2011

| Analyte | Result | Qualifier | Dilution | Analysis | Batch |
|---|---|---|---|---|---|
| | % | | | date / time | |
| Total Solids | 94.6 | | 1 | 03/29/2019 14:40 | WG1257589 |

## Wet Chemistry by Method 9056A

| Analyte | Result (dry) | Qualifier | RDL (dry) | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|
| | mg/kg | | mg/kg | | date / time | |
| Chloride | 432 | | 10.6 | 1 | 03/30/2019 18:09 | WG1256951 |

## Volatile Organic Compounds (GC) by Method 8015/8021

| Analyte | Result (dry) | Qualifier | RDL (dry) | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|
| | mg/kg | | mg/kg | | date / time | |
| Benzene | ND | | 0.000528 | 1 | 03/28/2019 17:58 | WG1256815 |
| Toluene | ND | | 0.00528 | 1 | 03/28/2019 17:58 | WG1256815 |
| Ethylbenzene | ND | | 0.000528 | 1 | 03/28/2019 17:58 | WG1256815 |
| Total Xylene | ND | | 0.00158 | 1 | 03/28/2019 17:58 | WG1256815 |
| TPH (GC/FID) Low Fraction | ND | | 0.106 | 1 | 03/28/2019 17:58 | WG1256815 |
| *(S) α,α,α-Trifluorotoluene(FID)* | *101* | | *77.0-120* | | *03/28/2019 17:58* | WG1256815 |
| *(S) α,α,α-Trifluorotoluene(PID)* | *96.2* | | *72.0-128* | | *03/28/2019 17:58* | WG1256815 |

## Semi-Volatile Organic Compounds (GC) by Method 8015

| Analyte | Result (dry) | Qualifier | RDL (dry) | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|
| | mg/kg | | mg/kg | | date / time | |
| C10-C28 Diesel Range | ND | | 4.23 | 1 | 03/29/2019 02:35 | WG1257020 |
| C28-C40 Oil Range | ND | | 4.23 | 1 | 03/29/2019 02:35 | WG1257020 |
| *(S) o-Terphenyl* | *82.6* | | *18.0-148* | | *03/29/2019 02:35* | WG1257020 |

## Total Solids by Method 2540 G-2011

| Analyte | Result | Qualifier | Dilution | Analysis | Batch |
|---|---|---|---|---|---|
| | % | | | date / time | |
| Total Solids | 93.5 | | 1 | 03/29/2019 14:40 | WG1257589 |

## Wet Chemistry by Method 9056A

| Analyte | Result (dry) | Qualifier | RDL (dry) | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|
| | mg/kg | | mg/kg | | date / time | |
| Chloride | 571 | | 10.7 | 1 | 03/30/2019 18:34 | WG1256951 |

## Volatile Organic Compounds (GC) by Method 8015/8021

| Analyte | Result (dry) | Qualifier | RDL (dry) | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|
| | mg/kg | | mg/kg | | date / time | |
| Benzene | ND | | 0.000535 | 1 | 03/28/2019 18:18 | WG1256815 |
| Toluene | ND | | 0.00535 | 1 | 03/28/2019 18:18 | WG1256815 |
| Ethylbenzene | ND | | 0.000535 | 1 | 03/28/2019 18:18 | WG1256815 |
| Total Xylene | ND | | 0.00161 | 1 | 03/28/2019 18:18 | WG1256815 |
| TPH (GC/FID) Low Fraction | 0.183 | B | 0.107 | 1 | 03/28/2019 18:18 | WG1256815 |
| *(S) a,a,a-Trifluorotoluene(FID)* | *101* | | *77.0-120* | | *03/28/2019 18:18* | WG1256815 |
| *(S) a,a,a-Trifluorotoluene(PID)* | *95.6* | | *72.0-128* | | *03/28/2019 18:18* | WG1256815 |

## Semi-Volatile Organic Compounds (GC) by Method 8015

| Analyte | Result (dry) | Qualifier | RDL (dry) | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|
| | mg/kg | | mg/kg | | date / time | |
| C10-C28 Diesel Range | 4.95 | | 4.28 | 1 | 03/29/2019 03:05 | WG1257020 |
| C28-C40 Oil Range | ND | | 4.28 | 1 | 03/29/2019 03:05 | WG1257020 |
| *(S) o-Terphenyl* | *88.5* | | *18.0-148* | | *03/29/2019 03:05* | WG1257020 |

## Total Solids by Method 2540 G-2011

| Analyte | Result | Qualifier | Dilution | Analysis | Batch |
|---|---|---|---|---|---|
| | % | | | date / time | |
| Total Solids | 92.2 | | 1 | 03/29/2019 14:40 | WG1257589 |

## Wet Chemistry by Method 9056A

| Analyte | Result (dry) | Qualifier | RDL (dry) | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|
| | mg/kg | | mg/kg | | date / time | |
| Chloride | 418 | | 10.8 | 1 | 03/30/2019 18:51 | WG1256951 |

## Volatile Organic Compounds (GC) by Method 8015/8021

| Analyte | Result (dry) | Qualifier | RDL (dry) | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|
| | mg/kg | | mg/kg | | date / time | |
| Benzene | ND | | 0.000542 | 1 | 03/28/2019 18:38 | WG1256815 |
| Toluene | ND | | 0.00542 | 1 | 03/28/2019 18:38 | WG1256815 |
| Ethylbenzene | ND | | 0.000542 | 1 | 03/28/2019 18:38 | WG1256815 |
| Total Xylene | ND | | 0.00163 | 1 | 03/28/2019 18:38 | WG1256815 |
| TPH (GC/FID) Low Fraction | ND | | 0.108 | 1 | 03/28/2019 18:38 | WG1256815 |
| *(S) a,a,a-Trifluorotoluene(FID)* | *101* | | *77.0-120* | | *03/28/2019 18:38* | WG1256815 |
| *(S) a,a,a-Trifluorotoluene(PID)* | *95.7* | | *72.0-128* | | *03/28/2019 18:38* | WG1256815 |

## Semi-Volatile Organic Compounds (GC) by Method 8015

| Analyte | Result (dry) | Qualifier | RDL (dry) | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|
| | mg/kg | | mg/kg | | date / time | |
| C10-C28 Diesel Range | ND | | 4.34 | 1 | 03/29/2019 02:50 | WG1257020 |
| C28-C40 Oil Range | ND | | 4.34 | 1 | 03/29/2019 02:50 | WG1257020 |
| *(S) o-Terphenyl* | *74.5* | | *18.0-148* | | *03/29/2019 02:50* | WG1257020 |

## Total Solids by Method 2540 G-2011

| Analyte | Result | Qualifier | Dilution | Analysis | Batch |
|---|---|---|---|---|---|
| | % | | | date / time | |
| Total Solids | 93.7 | | 1 | 03/29/2019 14:40 | WG1257589 |

## Wet Chemistry by Method 9056A

| Analyte | Result (dry) | Qualifier | RDL (dry) | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|
| | mg/kg | | mg/kg | | date / time | |
| Chloride | 253 | | 10.7 | 1 | 03/29/2019 04:03 | WG1255979 |

## Volatile Organic Compounds (GC) by Method 8015/8021

| Analyte | Result (dry) | Qualifier | RDL (dry) | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|
| | mg/kg | | mg/kg | | date / time | |
| Benzene | ND | | 0.000533 | 1 | 03/28/2019 18:59 | WG1256815 |
| Toluene | ND | | 0.00533 | 1 | 03/28/2019 18:59 | WG1256815 |
| Ethylbenzene | ND | | 0.000533 | 1 | 03/28/2019 18:59 | WG1256815 |
| Total Xylene | ND | | 0.00160 | 1 | 03/28/2019 18:59 | WG1256815 |
| TPH (GC/FID) Low Fraction | ND | | 0.107 | 1 | 03/28/2019 18:59 | WG1256815 |
| *(S) a,a,a-Trifluorotoluene(FID)* | *102* | | *77.0-120* | | *03/28/2019 18:59* | WG1256815 |
| *(S) a,a,a-Trifluorotoluene(PID)* | *96.9* | | *72.0-128* | | *03/28/2019 18:59* | WG1256815 |

## Semi-Volatile Organic Compounds (GC) by Method 8015

| Analyte | Result (dry) | Qualifier | RDL (dry) | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|
| | mg/kg | | mg/kg | | date / time | |
| C10-C28 Diesel Range | ND | | 4.27 | 1 | 03/29/2019 03:22 | WG1257020 |
| C28-C40 Oil Range | ND | | 4.27 | 1 | 03/29/2019 03:22 | WG1257020 |
| *(S) o-Terphenyl* | *77.4* | | *18.0-148* | | *03/29/2019 03:22* | WG1257020 |

## Total Solids by Method 2540 G-2011

| Analyte | Result | Qualifier | Dilution | Analysis | Batch |
|---|---|---|---|---|---|
| | % | | | date / time | |
| Total Solids | 94.0 | | 1 | 03/29/2019 14:40 | WG1257589 |

## Wet Chemistry by Method 9056A

| Analyte | Result (dry) | Qualifier | RDL (dry) | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|
| | mg/kg | | mg/kg | | date / time | |
| Chloride | 314 | | 10.6 | 1 | 03/29/2019 04:12 | WG1255979 |

## Volatile Organic Compounds (GC) by Method 8015/8021

| Analyte | Result (dry) | Qualifier | RDL (dry) | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|
| | mg/kg | | mg/kg | | date / time | |
| Benzene | ND | | 0.000532 | 1 | 03/28/2019 19:19 | WG1256815 |
| Toluene | ND | | 0.00532 | 1 | 03/28/2019 19:19 | WG1256815 |
| Ethylbenzene | ND | | 0.000532 | 1 | 03/28/2019 19:19 | WG1256815 |
| Total Xylene | ND | | 0.00160 | 1 | 03/28/2019 19:19 | WG1256815 |
| TPH (GC/FID) Low Fraction | ND | | 0.106 | 1 | 03/28/2019 19:19 | WG1256815 |
| *(S) a,a,a-Trifluorotoluene(FID)* | *102* | | *77.0-120* | | *03/28/2019 19:19* | WG1256815 |
| *(S) a,a,a-Trifluorotoluene(PID)* | *96.2* | | *72.0-128* | | *03/28/2019 19:19* | WG1256815 |

## Semi-Volatile Organic Compounds (GC) by Method 8015

| Analyte | Result (dry) | Qualifier | RDL (dry) | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|
| | mg/kg | | mg/kg | | date / time | |
| C10-C28 Diesel Range | ND | | 4.26 | 1 | 03/29/2019 03:36 | WG1257020 |
| C28-C40 Oil Range | ND | | 4.26 | 1 | 03/29/2019 03:36 | WG1257020 |
| *(S) o-Terphenyl* | *81.3* | | *18.0-148* | | *03/29/2019 03:36* | WG1257020 |

## Total Solids by Method 2540 G-2011

| Analyte | Result | Qualifier | Dilution | Analysis | Batch |
|---|---|---|---|---|---|
| | % | | | date / time | |
| Total Solids | 93.5 | | 1 | 03/29/2019 14:40 | WG1257589 |

## Wet Chemistry by Method 9056A

| Analyte | Result (dry) | Qualifier | RDL (dry) | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|
| | mg/kg | | mg/kg | | date / time | |
| Chloride | 232 | | 10.7 | 1 | 03/29/2019 04:20 | WG1255979 |

## Volatile Organic Compounds (GC) by Method 8015/8021

| Analyte | Result (dry) | Qualifier | RDL (dry) | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|
| | mg/kg | | mg/kg | | date / time | |
| Benzene | ND | | 0.000535 | 1 | 03/28/2019 19:40 | WG1256815 |
| Toluene | ND | | 0.00535 | 1 | 03/28/2019 19:40 | WG1256815 |
| Ethylbenzene | ND | | 0.000535 | 1 | 03/28/2019 19:40 | WG1256815 |
| Total Xylene | ND | | 0.00160 | 1 | 03/28/2019 19:40 | WG1256815 |
| TPH (GC/FID) Low Fraction | ND | | 0.107 | 1 | 03/28/2019 19:40 | WG1256815 |
| *(S) a,a,a-Trifluorotoluene(FID)* | *102* | | *77.0-120* | | *03/28/2019 19:40* | WG1256815 |
| *(S) a,a,a-Trifluorotoluene(PID)* | *96.3* | | *72.0-128* | | *03/28/2019 19:40* | WG1256815 |

## Semi-Volatile Organic Compounds (GC) by Method 8015

| Analyte | Result (dry) | Qualifier | RDL (dry) | Dilution | Analysis | Batch |
|---|---|---|---|---|---|---|
| | mg/kg | | mg/kg | | date / time | |
| C10-C28 Diesel Range | ND | | 4.28 | 1 | 03/30/2019 10:20 | WG1258133 |
| C28-C40 Oil Range | ND | | 4.28 | 1 | 03/30/2019 10:20 | WG1258133 |
| *(S) o-Terphenyl* | *86.0* | | *18.0-148* | | *03/30/2019 10:20* | WG1258133 |

## Method Blank (MB)

(MB) R3396809-1 03/29/19 14:40

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

## L1082339-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1082339-04 03/29/19 14:40 • (DUP) R3396809-3 03/29/19 14:40

| Analyte | Original Result | DUP Result | Dilution | DUP RPD | DUP Qualifier | DUP RPD Limits |
|---|---|---|---|---|---|---|
| | % | % | | % | | % |
| Total Solids | 93.7 | 93.8 | 1 | 0.0978 | | 10 |

## Laboratory Control Sample (LCS)

(LCS) R3396809-2 03/29/19 14:40

| 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) R3396402-1 03/29/19 01:46

| Analyte | MB Result | MB Qualifier | MB MDL | MB RDL |
|---|---|---|---|---|
| | mg/kg | | mg/kg | mg/kg |
| Chloride | 3.31 | J | 0.795 | 10.0 |

## L1081844-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1081844-01 03/29/19 02:22 • (DUP) R3396402-3 03/29/19 02:29

| Analyte | Original Result (dry) | DUP Result (dry) | Dilution | DUP RPD | DUP Qualifier | DUP RPD Limits |
|---|---|---|---|---|---|---|
| | mg/kg | mg/kg | | % | | % |
| Chloride | 16.5 | 32.3 | 1 | 65.0 | P1 | 15 |

## L1082400-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1082400-01 03/29/19 04:46 • (DUP) R3396402-6 03/29/19 04:54

| Analyte | Original Result (dry) | DUP Result (dry) | Dilution | DUP RPD | DUP Qualifier | DUP RPD Limits |
|---|---|---|---|---|---|---|
| | mg/kg | mg/kg | | % | | % |
| Chloride | 690 | 752 | 1 | 8.50 | | 15 |

## Laboratory Control Sample (LCS)

(LCS) R3396402-2 03/29/19 01:55

| Analyte | Spike Amount | LCS Result | LCS Rec. | Rec. Limits | LCS Qualifier |
|---|---|---|---|---|---|
| | mg/kg | mg/kg | % | % | |
| Chloride | 200 | 204 | 102 | 80.0-120 | |

## L1081896-18 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1081896-18 03/29/19 02:55 • (MS) R3396402-4 03/29/19 03:04 • (MSD) R3396402-5 03/29/19 03:12

| Analyte | Spike Amount (dry) | Original Result (dry) | MS Result (dry) | MSD Result (dry) | MS Rec. | MSD Rec. | Dilution | Rec. Limits | MS Qualifier | MSD Qualifier | RPD | RPD Limits |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | mg/kg | mg/kg | mg/kg | mg/kg | % | % | | % | | | % | % |
| Chloride | 580 | 5.09 | 569 | 562 | 97.2 | 96.1 | 1 | 80.0-120 | | | 1.12 | 15 |

## Method Blank (MB)

(MB) R3396990-1 03/30/19 17:35

| Analyte | MB Result | MB Qualifier | MB MDL | MB RDL |
|---|---|---|---|---|
| | mg/kg | | mg/kg | mg/kg |
| Chloride | 4.51 | J | 0.795 | 10.0 |

## L1082339-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1082339-02 03/30/19 18:34 • (DUP) R3396990-5 03/30/19 18:43

| Analyte | Original Result (dry) | DUP Result (dry) | Dilution | DUP RPD | DUP Qualifier | DUP RPD Limits |
|---|---|---|---|---|---|---|
| | mg/kg | mg/kg | | % | | % |
| Chloride | 571 | 604 | 1 | 5.55 | | 15 |

## L1082964-06 Original Sample (OS) • Duplicate (DUP)

(OS) L1082964-06 03/30/19 20:34 • (DUP) R3396990-6 03/30/19 20:42

| Analyte | Original Result | DUP Result | Dilution | DUP RPD | DUP Qualifier | DUP RPD Limits |
|---|---|---|---|---|---|---|
| | mg/kg | mg/kg | | % | | % |
| Chloride | 77.1 | 75.4 | 1 | 2.19 | | 15 |

## Laboratory Control Sample (LCS)

(LCS) R3396990-2 03/30/19 17:43

| Analyte | Spike Amount | LCS Result | LCS Rec. | Rec. Limits | LCS Qualifier |
|---|---|---|---|---|---|
| | mg/kg | mg/kg | % | % | |
| Chloride | 200 | 186 | 92.9 | 80.0-120 | |

## L1082339-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1082339-01 03/30/19 18:09 • (MS) R3396990-3 03/30/19 18:17 • (MSD) R3396990-4 03/30/19 18:26

| Analyte | Spike Amount (dry) | Original Result (dry) | MS Result (dry) | MSD Result (dry) | MS Rec. | MSD Rec. | Dilution | Rec. Limits | MS Qualifier | MSD Qualifier | RPD | RPD Limits |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | mg/kg | mg/kg | mg/kg | mg/kg | % | % | | % | | | % | % |
| Chloride | 528 | 432 | 1000 | 1030 | 108 | 113 | 1 | 80.0-120 | | | 2.56 | 15 |

## Method Blank (MB)

(MB) R3396097-5 03/28/19 12:35

| Analyte | MB Result | MB Qualifier | MB MDL | MB RDL |
|---|---|---|---|---|
| | mg/kg | | mg/kg | mg/kg |
| Benzene | U | | 0.000120 | 0.000500 |
| Toluene | U | | 0.000150 | 0.00500 |
| Ethylbenzene | U | | 0.000110 | 0.000500 |
| Total Xylene | U | | 0.000460 | 0.00150 |
| TPH (GC/FID) Low Fraction | 0.0270 | J | 0.0217 | 0.100 |
| *(S) a,a,a-Trifluorotoluene(FID)* | *105* | | | *77.0-120* |
| *(S) a,a,a-Trifluorotoluene(PID)* | *100* | | | *72.0-128* |

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3396097-1 03/28/19 10:54 • (LCSD) R3396097-2 03/28/19 11:14

| Analyte | Spike Amount | LCS Result | LCSD Result | LCS Rec. | LCSD Rec. | Rec. Limits | LCS Qualifier | LCSD Qualifier | RPD | RPD Limits |
|---|---|---|---|---|---|---|---|---|---|---|
| | mg/kg | mg/kg | mg/kg | % | % | % | | | % | % |
| Benzene | 0.0500 | 0.0434 | 0.0429 | 86.8 | 85.8 | 76.0-121 | | | 1.20 | 20 |
| Toluene | 0.0500 | 0.0436 | 0.0432 | 87.2 | 86.3 | 80.0-120 | | | 1.02 | 20 |
| Ethylbenzene | 0.0500 | 0.0508 | 0.0506 | 102 | 101 | 80.0-124 | | | 0.378 | 20 |
| Total Xylene | 0.150 | 0.157 | 0.155 | 105 | 103 | 37.0-160 | | | 1.09 | 20 |
| *(S) a,a,a-Trifluorotoluene(FID)* | | | | *105* | *105* | *77.0-120* | | | | |
| *(S) a,a,a-Trifluorotoluene(PID)* | | | | *99.1* | *99.7* | *72.0-128* | | | | |

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3396097-3 03/28/19 11:34 • (LCSD) R3396097-4 03/28/19 11:54

| Analyte | Spike Amount | LCS Result | LCSD Result | LCS Rec. | LCSD Rec. | Rec. Limits | LCS Qualifier | LCSD Qualifier | RPD | RPD Limits |
|---|---|---|---|---|---|---|---|---|---|---|
| | mg/kg | mg/kg | mg/kg | % | % | % | | | % | % |
| TPH (GC/FID) Low Fraction | 5.50 | 6.13 | 5.85 | 111 | 106 | 72.0-127 | | | 4.66 | 20 |
| *(S) a,a,a-Trifluorotoluene(FID)* | | | | *98.9* | *97.9* | *77.0-120* | | | | |
| *(S) a,a,a-Trifluorotoluene(PID)* | | | | *102* | *101* | *72.0-128* | | | | |

## L1081909-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1081909-01 03/28/19 14:35 • (MS) R3396097-6 03/28/19 20:00 • (MSD) R3396097-7 03/28/19 20:20

| Analyte | Spike Amount mg/kg | Original Result mg/kg | MS Result mg/kg | MSD Result mg/kg | MS Rec. % | MSD Rec. % | Dilution | Rec. Limits % | MS Qualifier | MSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | 0.0500 | ND | 1.10 | 1.22 | 85.0 | 94.0 | 26 | 10.0-155 | | | 10.1 | 32 |
| Toluene | 0.0500 | ND | 1.09 | 1.20 | 83.7 | 92.1 | 26 | 10.0-160 | | | 9.60 | 34 |
| Ethylbenzene | 0.0500 | ND | 1.25 | 1.37 | 95.8 | 106 | 26 | 10.0-160 | | | 9.75 | 32 |
| Total Xylene | 0.150 | ND | 3.66 | 4.01 | 93.8 | 103 | 26 | 10.0-160 | | | 9.13 | 32 |
| *(S) a,a,a-Trifluorotoluene(FID)* | | | | | *108* | *106* | | *77.0-120* | | | | |
| *(S) a,a,a-Trifluorotoluene(PID)* | | | | | *99.7* | *100* | | *72.0-128* | | | | |

## L1081909-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1081909-01 03/28/19 14:35 • (MS) R3396097-8 03/28/19 20:41 • (MSD) R3396097-9 03/28/19 21:01

| Analyte | Spike Amount mg/kg | Original Result mg/kg | MS Result mg/kg | MSD Result mg/kg | MS Rec. % | MSD Rec. % | Dilution | Rec. Limits % | MS Qualifier | MSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TPH (GC/FID) Low Fraction | 5.50 | 3.16 | 54.6 | 57.2 | 35.9 | 37.8 | 26 | 10.0-151 | | | 4.76 | 28 |
| *(S) a,a,a-Trifluorotoluene(FID)* | | | | | *103* | *104* | | *77.0-120* | | | | |
| *(S) a,a,a-Trifluorotoluene(PID)* | | | | | *95.8* | *97.1* | | *72.0-128* | | | | |

## Method Blank (MB)

(MB) R3396533-1 03/29/19 01:30

| Analyte | MB Result | MB Qualifier | MB MDL | MB RDL |
|---|---|---|---|---|
| | mg/kg | | mg/kg | mg/kg |
| C10-C28 Diesel Range | U | | 1.61 | 4.00 |
| C28-C40 Oil Range | U | | 0.274 | 4.00 |
| *(S) o-Terphenyl* | *86.2* | | | *18.0-148* |

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3396533-2 03/29/19 01:46 • (LCSD) R3396533-3 03/29/19 02:03

| Analyte | Spike Amount | LCS Result | LCSD Result | LCS Rec. | LCSD Rec. | Rec. Limits | LCS Qualifier | LCSD Qualifier | RPD | RPD Limits |
|---|---|---|---|---|---|---|---|---|---|---|
| | mg/kg | mg/kg | mg/kg | % | % | % | | | % | % |
| Extractable Petroleum Hydrocarbon | 50.0 | 31.8 | 29.1 | 63.6 | 58.2 | 50.0-150 | | | 8.87 | 20 |
| C10-C28 Diesel Range | 50.0 | 34.6 | 31.8 | 69.2 | 63.6 | 50.0-150 | | | 8.43 | 20 |
| *(S) o-Terphenyl* | | | | *99.2* | *89.2* | *18.0-148* | | | | |

## L1083134-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1083134-01 03/29/19 04:22 • (MS) R3396533-4 03/29/19 04:36 • (MSD) R3396533-5 03/29/19 04:52

| Analyte | Spike Amount | Original Result | MS Result | MSD Result | MS Rec. | MSD Rec. | Dilution | Rec. Limits | MS Qualifier | MSD Qualifier | RPD | RPD Limits |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | mg/kg | mg/kg | mg/kg | mg/kg | % | % | | % | | | % | % |
| Extractable Petroleum Hydrocarbon | 50.0 | ND | 36.7 | 33.4 | 73.4 | 66.8 | 1 | 50.0-150 | | | 9.42 | 20 |
| C10-C28 Diesel Range | 50.0 | ND | 37.0 | 33.9 | 70.2 | 64.0 | 1 | 50.0-150 | | | 8.74 | 20 |
| *(S) o-Terphenyl* | | | | | *102* | *90.4* | | *18.0-148* | | | | |

## Method Blank (MB)

(MB) R3396812-1 03/30/19 08:28

| Analyte | MB Result | MB Qualifier | MB MDL | MB RDL |
|---|---|---|---|---|
| | mg/kg | | mg/kg | mg/kg |
| C10-C28 Diesel Range | U | | 1.61 | 4.00 |
| C28-C40 Oil Range | U | | 0.274 | 4.00 |
| *(S) o-Terphenyl* | *71.5* | | | *18.0-148* |

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3396812-2 03/30/19 08:43 • (LCSD) R3396812-3 03/30/19 08:59

| Analyte | Spike Amount | LCS Result | LCSD Result | LCS Rec. | LCSD Rec. | Rec. Limits | LCS Qualifier | LCSD Qualifier | RPD | RPD Limits |
|---|---|---|---|---|---|---|---|---|---|---|
| | mg/kg | mg/kg | mg/kg | % | % | % | | | % | % |
| C10-C28 Diesel Range | 50.0 | 35.2 | 39.5 | 70.4 | 79.0 | 50.0-150 | | | 11.5 | 20 |
| *(S) o-Terphenyl* | | | | *97.0* | *111* | *18.0-148* | | | | |

## 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.

## 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. |
| ND | Not detected at the Reporting Limit (or MDL where applicable). |
| RDL | Reported Detection Limit. |
| RDL (dry) | Reported Detection Limit. |
| Rec. | Recovery. |
| RPD | Relative Percent Difference. |
| SDG | Sample Delivery Group. |
| (S) | Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media. |
| 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 |
|---|---|
| B | The same analyte is found in the associated blank. |
| J | The identification of the analyte is acceptable; the reported value is an estimate. |
| P1 | RPD value not applicable for sample concentrations less than 5 times the reporting limit. |

# ACCREDITATIONS & LOCATIONS

ONE LAB. NATIONWIDE.

Pace National is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our one location design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be YOUR LAB OF CHOICE.
* 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 National.

Cp
Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

## State Accreditations

| | | | |
|---|---|---|---|
| Alabama | 40660 | Nebraska | NE-OS-15-05 |
| Alaska | 17-026 | Nevada | TN-03-2002-34 |
| Arizona | AZ0612 | New Hampshire | 2975 |
| Arkansas | 88-0469 | New Jersey–NELAP | TN002 |
| California | 2932 | New Mexico [1] | n/a |
| 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 | LA000356 |
| Kentucky [1 6] | 90010 | South Carolina | 84004 |
| Kentucky [2] | 16 | South Dakota | n/a |
| Louisiana | AI30792 | Tennessee [1 4] | 2006 |
| Louisiana [1] | LA180010 | Texas | T104704245-18-15 |
| Maine | TN0002 | Texas [5] | LAB0152 |
| Maryland | 324 | Utah | TN00003 |
| Massachusetts | M-TN003 | Vermont | VT2006 |
| Michigan | 9958 | Virginia | 460132 |
| Minnesota | 047-999-395 | Washington | C847 |
| Mississippi | TN00003 | West Virginia | 233 |
| Missouri | 340 | Wisconsin | 9980939910 |
| Montana | CERT0086 | Wyoming | A2LA |

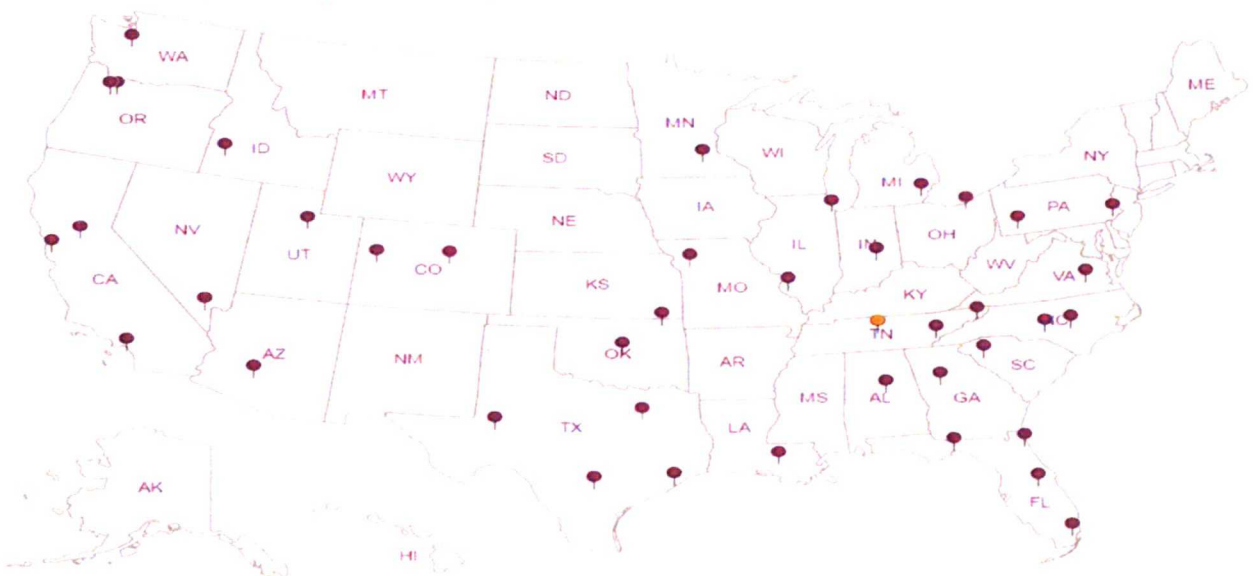
## Third Party Federal Accreditations

| | | | |
|---|---|---|---|
| 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

## Our Locations

Pace National has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. Pace National performs all testing at our central laboratory.



**Enduring Resources**

200 Energy Court
Farmington, NM 87401

Billing Information:
James McDaniel
200 Energy Court
Farmington, NM 87401

Pres Chk

Analysis / Container / Preservative

Chain of Custody Page ___ of ___

Pace Analytical®
National Center for Testing & Innovation

12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

Report to: Chad Snell

Email To: CSnell@enduringresources.com

Project Description: Navajo AA #2

City/State Collected: NM

Phone: 505-636-9731
Fax:

Client Project #

Lab Project #

L# L1082339
C048

Collected by (print): Chad Snell

Site/Facility ID #

P.O. #

Acctnum: ENDRESANM

Collected by (signature):

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

Template:

Prelogin:

TSR: 288 - Daphne Richards

PB:

Immediately
Packed on Ice N___ Y X

Shipped Via:

| Sample ID | Comp/Grab | Matrix * | Depth | Date | Time | No. of Cntrs | 8021 (BTEX) | 8015 (GRO/DRO/ORO) | Chlorides | Remarks | Sample # (lab only) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| South Section | Comp | SS | | 3-22-19 | 1:50pm | 1 | X | X | X | | -01 |
| North Section | Comp | SS | | 3-22-19 | 1:55pm | | X | X | X | | -02 |
| East Section | Comp | SS | | 3-22-19 | 2:00pm | | X | X | X | | -03 |
| North Wall | Comp | SS | | 3-22-19 | 2:05pm | | X | X | X | | -04 |
| West Wall | Comp | SS | | 3-22-19 | 2:10pm | | X | X | X | | -05 |
| Tank Wall | Comp | SS | | 3-22-19 | 2:15pm | | X | X | X | | -06 |
| | | | | | | CL | | | | | |

B.C SCREEN: <0.5 mR/hr

* 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 # Fedex 4744 8830 0311

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

| Relinquished by : (Signature) | Date: | Time: | Received by: (Signature) | Trip Blank Received: Yes (No) HCL / MeoH TBR |
|---|---|---|---|---|
| | 3-25-19 | 6:00am | | 0 |

| Relinquished by : (Signature) | Date: | Time: | Received by: (Signature) | Temp: °C | Bottles Received: | If preservation required by Login: Date/Time |
|---|---|---|---|---|---|---|
| | | | | 1.2+0.2 | 6 | |

| Relinquished by : (Signature) | Date: | Time: | Received for lab by: (Signature) | Date: | Time: | Hold: | Condition: NCF / OK |
|---|---|---|---|---|---|---|---|
| | | | | 3/26/19 | 8:45 | | |