



PO Box 1120
Carlsbad, New Mexico 88221
Phone (575) 236-6600

September 20, 2019

NMOCD District 1
1625 N. French Drive
Hobbs, New Mexico 88240

To Whom it May Concern:

M&M Excavating, Inc. (MMX) has prepared this Remediation Plan for Devon Energy Production Company that describes the delineation and proposed remediation of a release of liquids at the Thistle Unit #044H site. The site is in Unit N, Section 33, Township 23S, Range 33E, Latitude 32.254921, Longitude -103.579361, Lea County, New Mexico, on State land. Figure 1 provides the vicinity and site location on an USGS 7.5-minute quadrangle map.

Site Information and Closure Criteria

The Thistle Unit #044H is located approximately thirty (30) miles east of Loving, New Mexico on State land at an elevation of approximately 3,666 feet above mean sea level (amsl).

Based upon well water data. (Appendix B), depth to groundwater in the area is estimated to be between 378 and 384 feet below grade surface (bgs). There are no known water wells within ½ mile of the location, according to the New Mexico Office of the State Engineer (NMOSE) and USGS. The nearest significant watercourse is an unnamed intermittent stream located approximately 5300 feet to the south.

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

| Release Information and Closure Criteria | | | |
|--|--------------------------------------|-----------------|----------------------------|
| Name | Thistle Unit #044H | | |
| API Number | 30-025-41032 | | |
| Incident Number | 1RP-5372 | | |
| Source of Release | Free water knock-out | | |
| Released Material | Produced Water (PW) & Crude Oil (CO) | Released Volume | 18.38 BBLS PW 4 BBLS CO |
| Recovered Volume | 16 BBLS PW 2 BBLS CO | Net Release | 2.38 BBLS PW 2 BBLS CO |
| NMOCD Closure Criteria | >100 feet to groundwater | | |

Release Information

On February 5, 2019, a release was discovered at the Thistle Unit #044H site. The free water knock-out failed, causing 18.38 bbls of produced water and 4 bbls of crude oil to be released onto the pad, flowing under the horizontal separators and surface electrical lines. Initial response activities were conducted by the operator and included source elimination and site containment and stabilization, recovering 16 bbls of produced water and 2 bbls of crude oil. Figures 1 and 2 illustrate the vicinity and site location. Figure 3 illustrates the release location. The C-141 forms are included in Appendix A.

Release Characterization and Remediation Activities

On August 21, 2019, MMX personnel arrived on site in response to the release associated with Thistle Unit #044H. MMX collected soil samples from four (4) sample locations (L1 – L4) around the release site and throughout the visibly stained area from the surface and at one-foot depth. Soil depth in the area is shallow, with refusal being met at one-foot bgs at location L3 and two feet bgs at location L4.

A total of eight (8) samples were collected for laboratory analysis for a combination of total chloride using EPA Method 300.0; benzene, toluene, ethylbenzene and total xylenes (BTEX) using EPA Method 8021B; and motor, diesel and gasoline range organics (MRO, DRO, and GRO) by EPA Method 8015D. Samples were placed into laboratory supplied glassware, labeled, and maintained on ice until delivery to Cardinal Laboratories in Hobbs, New Mexico (Appendix C).

As summarized in Table 3, the TPH levels at sample location L4 at 1-foot bgs exceeded the site's closure criteria. MMX personnel returned to the location on September 6, 2019 to collect a sample at two feet bgs at sample location L4 for TPH.

Laboratory results are summarized in Table 3. All Laboratory reports are included in Appendix C.

On behalf of Devon Energy, MMX requests a deferral for release 1RP-5372 as per 19.15.29.12.C.(2). As illustrated in Figure 3, the release area is directly underneath and bordered by production equipment, tanks and surface and buried lines. Remediation of the release area would be a safety concern and require major facility reconstruction. As detailed above, the release has been delineated to the extent possible and the contamination does not cause an imminent risk to human health, the environment or groundwater.

Submitted by:
M&M Excavating, Inc.

Lupe Carrasco

Lupe Carrasco

ATTACHMENTS:

Figures:

Figure 1: Vicinity and Well Head Protection Map

Figure 2: Surface Water Radius Map

Figure 3: Site and Sample Location Map

Tables:

Table 2: NMOCD Closure Criteria Justification

Table 3: Summary of Sample Results

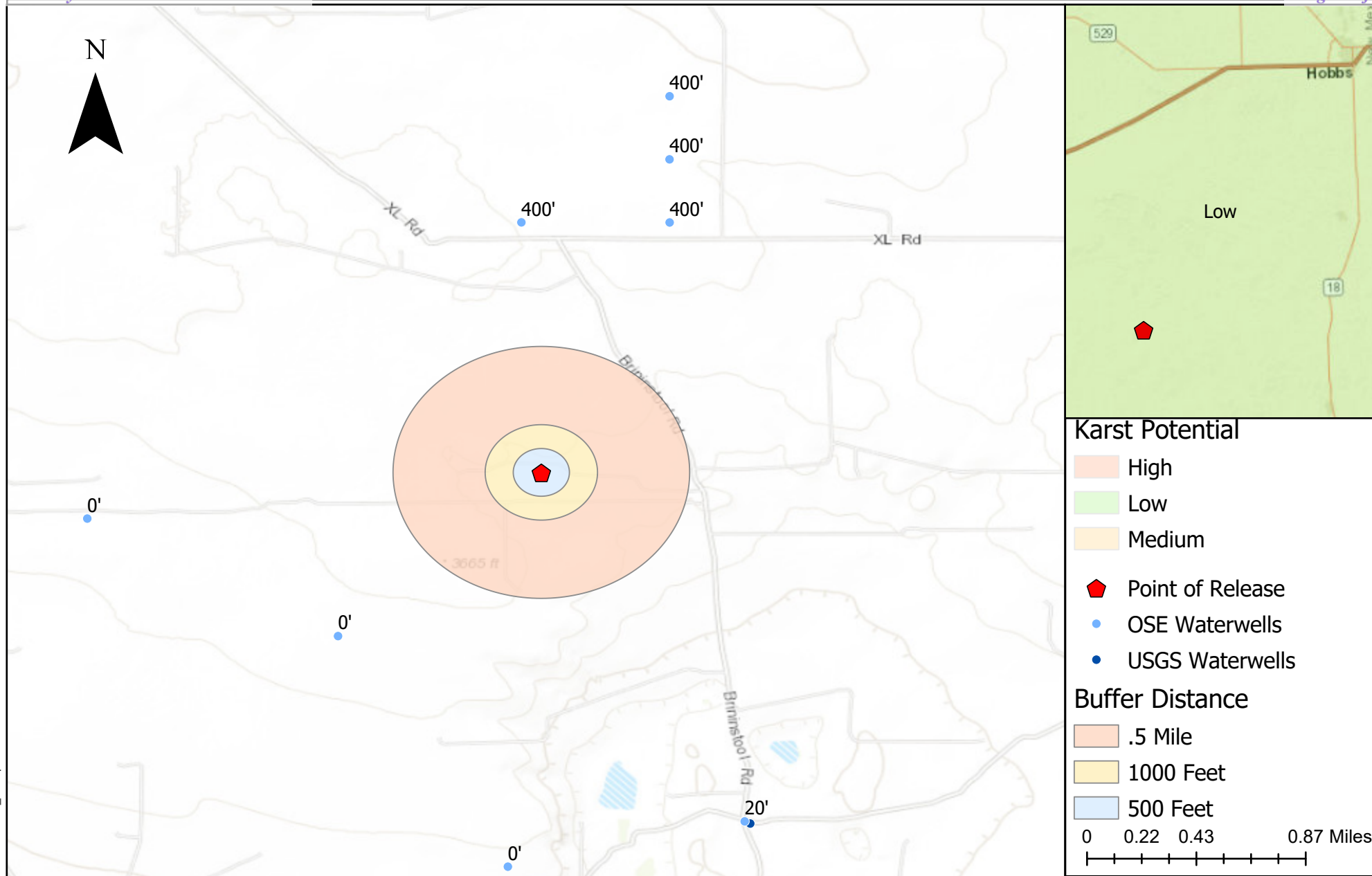
Appendices:

Appendix A: Form C-141

Appendix B: Water Well Data

Appendix C: Laboratory Analytical Reports

Figures



Regional Vicinity & Wellhead Protection Map
 Thistle Unit #004H - Devon Energy
 Sec 33 T23S R33E Lea County, New Mexico

Figure 1

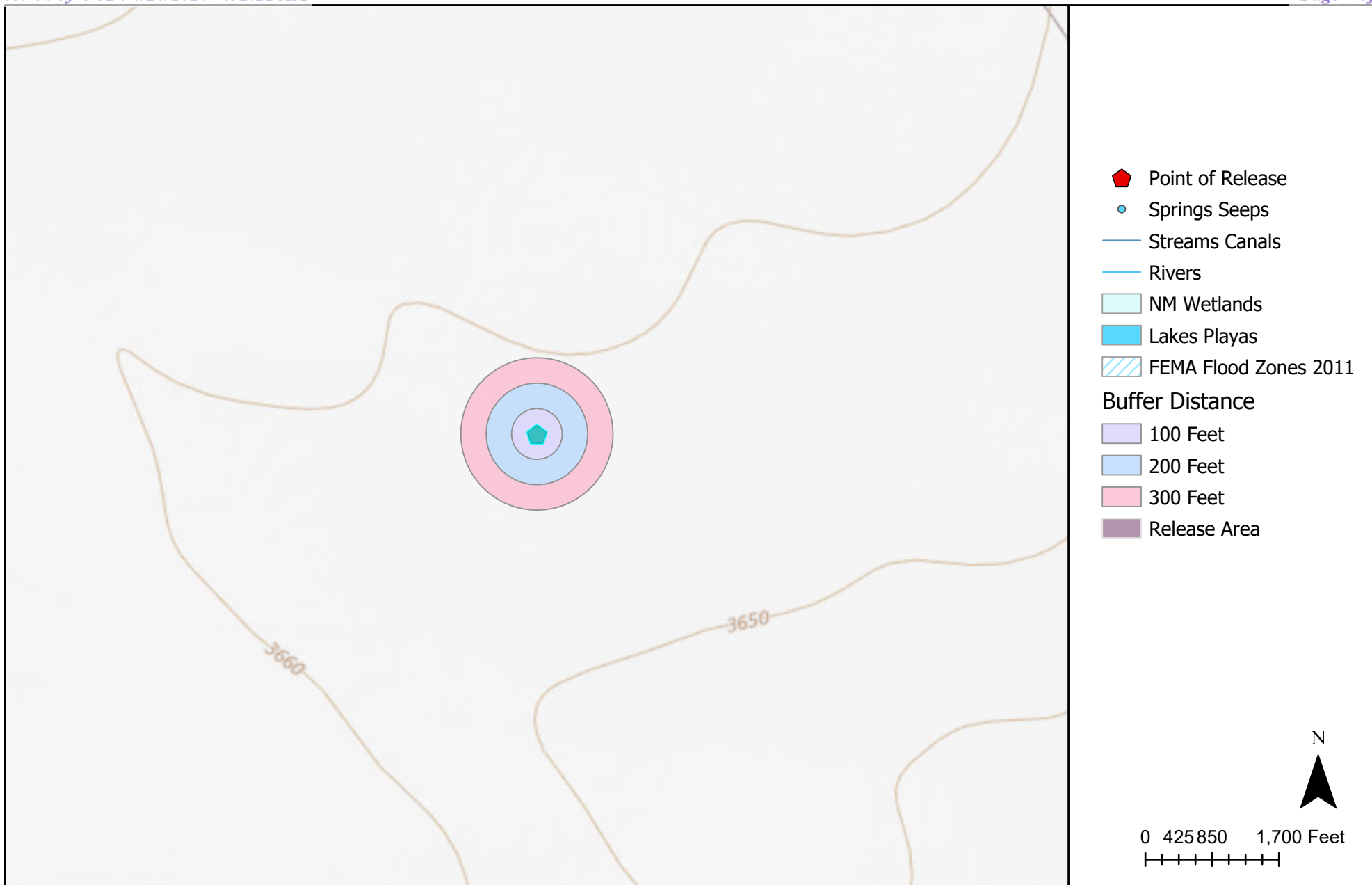
Revisions

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

Drawn _____
 Date 7/18/2019
 Checked _____
 Approved _____



78 Roberson Rd
 Carlsbad, NM 88220
 (575) 230-6600



Surface Water Protection Map
 Thistle Unit #004H - Devon Energy
 Sec 33 T23S R33E Lea County, New Mexico

Figure 2

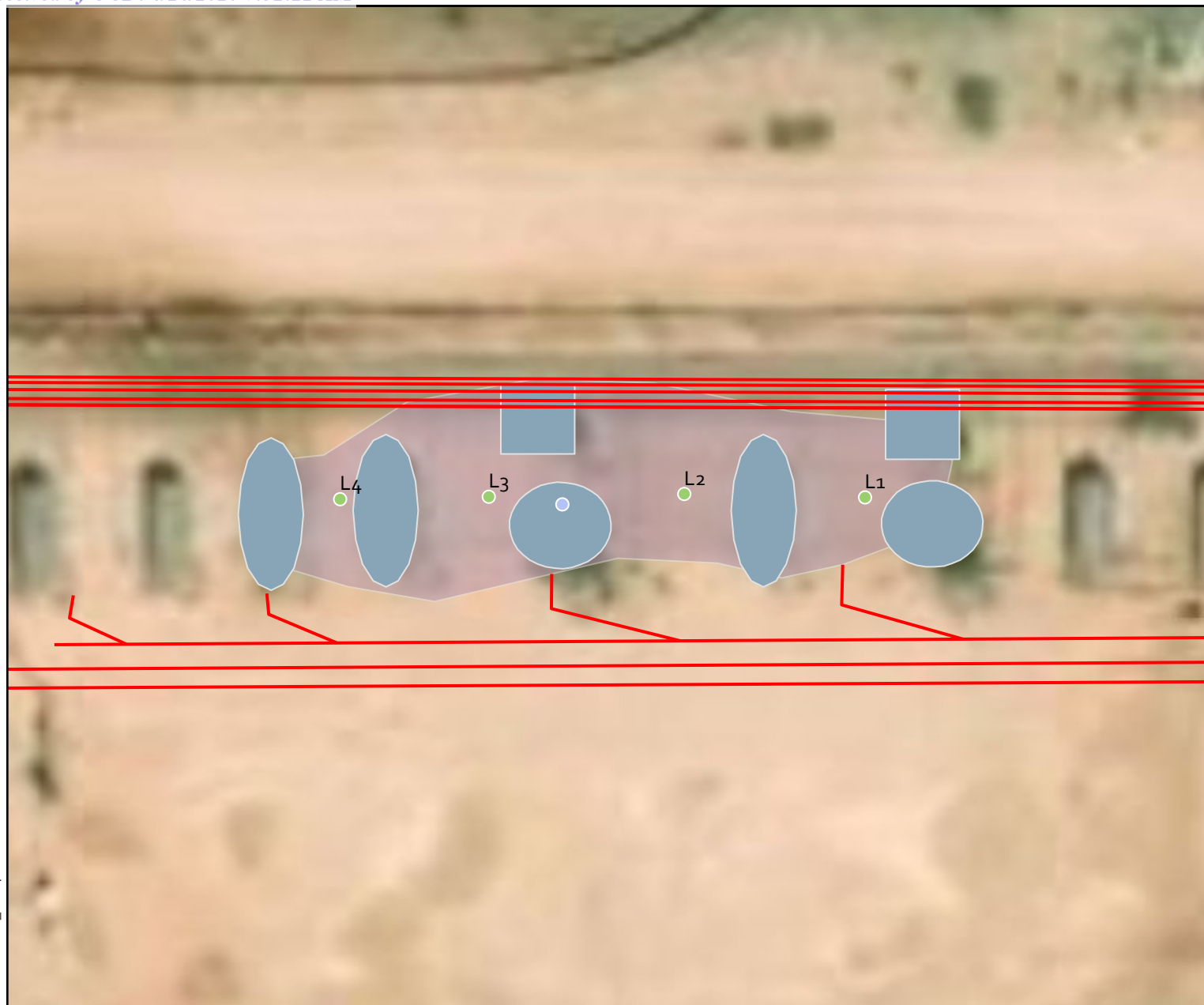
Revisions

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

Drawn LC
 Date 7/18/2019
 Checked _____
 Approved _____



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 Carlsbad, NM 88220
 (575) 236-6600



- Equipment
- Release Area
- Pipelines
- Point of Release
- Sample Locations



38

Feet

Site & Sample Locations
 Thistle Unit #044H - Devon Energy
 Sec. 33 T23S R33E, Lea County, NM

Figure 3

Revisions

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

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Drawn
 Date
 Checked
 Approved

LC

9/20/2019



78 Roberson Rd
 Carlsbad, NM 88220
 (575) 236-6600

Tables



Table 2: NMOCD Closure Criteria

Thistle Unit #044H
Devon Energy Production Company
1RP-5372

| Site Information (19.15.29.11.A(2, 3, and 4) NMAC) | | Source/Notes | |
|---|--|--------------|--|
| Depth to Groundwater (feet bgs) | | 378-384 | NMOSE (Appendix B) |
| Horizontal Distance From All Water Sources Within 1/2 Mile (ft) | | -- | |
| Horizontal Distance to Nearest Significant Watercourse (ft) | | 5300 | Unnamed intermittent stream to the south |

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

Table 3: Summary of Sample Results

Thistle Unit #044H
Devon Energy Production Company
1RP-5372

| Sample ID | Sample Date | Depth (feet bgs) | BTEX mg/Kg | Benzene mg/Kg | GRO mg/Kg | DRO mg/Kg | MRO mg/Kg | Total TPH mg/Kg | CI- mg/Kg |
|------------------------|-------------|------------------|---------------|------------------|--------------|--------------|--------------|-----------------------|--------------|
| NMOCD Closure Criteria | | | 50 | 10 | | | | 2,500 | 20,000 |
| L1 | 8/21/2019 | surface | <0.300 | <0.050 | <10.0 | 2260 | 681 | 2941 | 304 |
| | | 1 | -- | -- | <10.0 | <10.0 | <10.0 | <30.0 | 192 |
| L2 | | surface | 9.43 | <0.050 | 218 | 7,880 | 1700 | 9,798 | 1200 |
| | | 1 | -- | -- | <10.0 | 25.8 | <10.0 | 25.8 | 1330 |
| L3 | | surface | 7.16 | <0.500 | 108 | 8,580 | 1,470 | 10,158 | 128 |
| | | 1 | -- | -- | <10.0 | 257 | 53.9 | 310.9 | 16 |
| L4 | | surface | 56.2 | <0.500 | 757 | 14,000 | 2,660 | 17,417 | 1790 |
| | | 1 | -- | -- | 123 | 3610 | 731 | 4,464 | 160 |
| | 9/6/2019 | 2 | -- | -- | <10.0 | 123 | 25.1 | 148.1 | -- |

Appendix A C141 Forms

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 | OGRID |
| Contact Name | Contact Telephone |
| Contact email | Incident # (assigned by OCD) |
| Contact mailing address | |

Location of Release Source

Latitude _____ Longitude _____
(NAD 83 in decimal degrees to 5 decimal places)

| | |
|-------------------------|----------------------|
| Site Name | Site Type |
| Date Release Discovered | API# (if applicable) |

| Unit Letter | Section | Township | Range | County |
|-------------|---------|----------|-------|--------|
| | | | | |

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)

| | | |
|---|--|--|
| <input type="checkbox"/> Crude Oil | Volume Released (bbls) | Volume Recovered (bbls) |
| <input type="checkbox"/> Produced Water | Volume Released (bbls) | Volume Recovered (bbls) |
| | Is the concentration of total dissolved solids (TDS) in the produced water >10,000 mg/l? | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| <input type="checkbox"/> Condensate | Volume Released (bbls) | Volume Recovered (bbls) |
| <input type="checkbox"/> Natural Gas | Volume Released (Mcf) | Volume Recovered (Mcf) |
| <input type="checkbox"/> Other (describe) | Volume/Weight Released (provide units) | Volume/Weight Recovered (provide units) |

Cause of Release

State of New Mexico
Oil Conservation Division

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

| | |
|--|--|
| Was this a major release as defined by 19.15.29.7(A) NMAC? <input type="checkbox"/> Yes <input type="checkbox"/> 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

| | |
|--|------------------|
| <input type="checkbox"/> The source of the release has been stopped. | |
| <input type="checkbox"/> The impacted area has been secured to protect human health and the environment. | |
| <input type="checkbox"/> Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices. | |
| <input type="checkbox"/> All free liquids and recoverable materials have been removed and managed appropriately. | |
| If all the actions described above have <u>not</u> 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: <u>Kendra DeHoyos</u> | Date: _____ |
| email: _____ | Telephone: _____ |
| <u>OCD Only</u> | |
| Received by: <u>Ana P. Buitrago</u> | Date: _____ |

| | |
|----------------|----------|
| Incident ID | |
| District RP | 1RP-5372 |
| 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? | <u>378</u> (ft bgs) |
| Did this release impact groundwater or surface water? | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse? | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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)? | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church? | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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? | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Are the lateral extents of the release within 1000 feet of any other fresh water well or spring? | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field? | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Are the lateral extents of the release within 300 feet of a wetland? | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Are the lateral extents of the release overlying a subsurface mine? | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Are the lateral extents of the release overlying an unstable area such as karst geology? | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Are the lateral extents of the release within a 100-year floodplain? | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Did the release impact areas not on an exploration, development, production, or storage site? | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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

Page 4

| | |
|----------------|----------|
| Incident ID | |
| District RP | 1RP-5372 |
| 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: Wesley Mathews Title: EHS ProfessionalSignature: Wesley Mathews Date: 2/25/2020email: wesley.mathews@dvn.com Telephone: 575-746-5549**OCD Only**

Received by: _____ Date: _____

| | |
|----------------|----------|
| Incident ID | |
| District RP | 1RP-5372 |
| 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: Wesley Mathews Title: EHS Professional
Signature: Wesley Mathews Date: 2/25/2020
email: wesley.mathews@dvn.com Telephone: 575-746-5549

OCD Only

Received by: _____ Date: _____

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

Signature: _____ Date: _____

Appendix B Water Well Data



New Mexico Office of the State Engineer

Water Column/Average Depth to Water

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

(R=POD has been replaced,

O=orphaned,

C=the file is closed)

(quarters are 1=NW 2=NE 3=SW 4=SE)

(quarters are smallest to largest) (NAD83 UTM in meters)

(In feet)

| POD Number | Code | POD Sub-basin | County | Q 64 | Q 16 | Q 4 | Sec | Tws | Rng | X | Y | Distance | DepthWell | DepthWater | Water Column |
|------------------------------|------|---------------|--------|------|------|-----|-----|-----|-----|--------|----------|----------|-----------|-----------------|--------------|
| C 03591 POD1 | | CUB | LE | 2 | 1 | 4 | 05 | 24S | 33E | 632731 | 3568518 | 1519 | | | |
| C 02279 | | CUB | LE | 3 | 4 | 3 | 28 | 23S | 33E | 633691 | 3571173* | 1600 | 650 | 400 | 250 |
| C 02281 | | CUB | LE | 3 | 4 | 4 | 28 | 23S | 33E | 634495 | 3571183* | 1741 | 545 | 400 | 145 |
| C 02280 | | CUB | LE | 3 | 2 | 4 | 28 | 23S | 33E | 634489 | 3571586* | 2116 | 650 | 400 | 250 |
| C 02308 | | CUB | LE | 1 | 3 | 1 | 10 | 24S | 33E | 634953 | 3567364* | 2487 | 40 | 20 | 20 |
| Average Depth to Water: | | | | | | | | | | | | | | 305 feet | |
| Minimum Depth: | | | | | | | | | | | | | | 20 feet | |
| Maximum Depth: | | | | | | | | | | | | | | 400 feet | |

Record Count: 5

UTM NAD83 Radius Search (in meters):

Easting (X): 633820

Northing (Y): 3569578

Radius: 2500

*UTM location was derived from PLSS - see Help

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.

7/18/19 9:53 AM

WATER COLUMN/ AVERAGE DEPTH TO
WATER

Appendix C Laboratory Analytical Reports



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

September 05, 2019

MELODIE SANJARI

MMX

2737 PECOS HWY

CARLSBAD, NM 88220

RE: 44 H

Enclosed are the results of analyses for samples received by the laboratory on 08/26/19 11:15.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-18-11. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/ga/lab_accred_certif.html.

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

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

Cardinal Laboratories is accredited through the State of New Mexico Environment Department for:

| | |
|------------------|---|
| Method SM 9223-B | Total Coliform and E. coli (Colilert MMO-MUG) |
| Method EPA 524.2 | Regulated VOCs and Total Trihalomethanes (TTHM) |
| Method EPA 552.2 | Total Haloacetic Acids (HAA-5) |

Accreditation applies to public drinking water matrices for State of Colorado and New Mexico.

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

Sincerely,

Celey D. Keene

Lab Director/Quality Manager



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

Analytical Results For:

MMX
2737 PECOS HWY
CARLSBAD NM, 88220

Project: 44 H
Project Number: NONE GIVEN
Project Manager: MELODIE SANJARI
Fax To: (575) 236-6201

Reported:
05-Sep-19 09:14

| Sample ID | Laboratory ID | Matrix | Date Sampled | Date Received |
|---------------|---------------|--------|-----------------|-----------------|
| L 1 - SURFACE | H902929-01 | Soil | 21-Aug-19 06:00 | 26-Aug-19 11:15 |
| L 1 - 1' | H902929-03 | Soil | 21-Aug-19 06:10 | 26-Aug-19 11:15 |
| L 2 - SURFACE | H902929-04 | Soil | 21-Aug-19 07:00 | 26-Aug-19 11:15 |
| L 2 - 1' | H902929-06 | Soil | 21-Aug-19 07:10 | 26-Aug-19 11:15 |
| L 3 - SURFACE | H902929-07 | Soil | 21-Aug-19 08:00 | 26-Aug-19 11:15 |
| L 3 - 1' | H902929-09 | Soil | 21-Aug-19 08:10 | 26-Aug-19 11:15 |
| L 4 - SURFACE | H902929-10 | Soil | 21-Aug-19 09:00 | 26-Aug-19 11:15 |
| L 4 - 1' | H902929-12 | Soil | 21-Aug-19 09:10 | 26-Aug-19 11:15 |

09/04/19 - Client added TPH to samples -03, -06, -09, -12.

09/05/19 - This is the revised report and will replace the one sent on 08/30/19.

Cardinal Laboratories

*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence or any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damage including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

MMX
2737 PECOS HWY
CARLSBAD NM, 88220

Project: 44 H
Project Number: NONE GIVEN
Project Manager: MELODIE SANJARI
Fax To: (575) 236-6201

Reported:
05-Sep-19 09:14

L 1 - SURFACE**H902929-01 (Soil)**

| Analyte | Result | MDL | Reporting Limit | Units | Dilution | Batch | Analyst | Analyzed | Method | Notes |
|---------|--------|-----|-----------------|-------|----------|-------|---------|----------|--------|-------|
|---------|--------|-----|-----------------|-------|----------|-------|---------|----------|--------|-------|

Cardinal Laboratories**Inorganic Compounds**

| | | | | | | | | | | |
|-----------------|------------|--|------|-------|---|---------|----|-----------|-----------|--|
| Chloride | 304 | | 16.0 | mg/kg | 4 | 9082815 | CK | 28-Aug-19 | 4500-Cl-B | |
|-----------------|------------|--|------|-------|---|---------|----|-----------|-----------|--|

Volatile Organic Compounds by EPA Method 8021

| | | | | | | | | | |
|----------------|--------|-------|-------|----|---------|----|-----------|-------|--|
| Benzene* | <0.050 | 0.050 | mg/kg | 50 | 9082803 | BF | 28-Aug-19 | 8021B | |
| Toluene* | <0.050 | 0.050 | mg/kg | 50 | 9082803 | BF | 28-Aug-19 | 8021B | |
| Ethylbenzene* | <0.050 | 0.050 | mg/kg | 50 | 9082803 | BF | 28-Aug-19 | 8021B | |
| Total Xylenes* | <0.150 | 0.150 | mg/kg | 50 | 9082803 | BF | 28-Aug-19 | 8021B | |
| Total BTEX | <0.300 | 0.300 | mg/kg | 50 | 9082803 | BF | 28-Aug-19 | 8021B | |

| | | | | | | | | | |
|---------------------------------------|--------|----------|--|--|---------|----|-----------|-------|--|
| Surrogate: 4-Bromofluorobenzene (PID) | 92.5 % | 73.3-129 | | | 9082803 | BF | 28-Aug-19 | 8021B | |
|---------------------------------------|--------|----------|--|--|---------|----|-----------|-------|--|

Petroleum Hydrocarbons by GC FID**S-04**

| | | | | | | | | | |
|------------------|-------|------|-------|---|---------|----|-----------|-------|--|
| GRO C6-C10* | <10.0 | 10.0 | mg/kg | 1 | 9082707 | CK | 27-Aug-19 | 8015B | |
| DRO >C10-C28* | 2260 | 10.0 | mg/kg | 1 | 9082707 | CK | 27-Aug-19 | 8015B | |
| EXT DRO >C28-C36 | 681 | 10.0 | mg/kg | 1 | 9082707 | CK | 27-Aug-19 | 8015B | |

| | | | | | | | | | |
|---------------------------|--------|--------|--|--|---------|----|-----------|-------|--|
| Surrogate: 1-Chlorooctane | 83.2 % | 41-142 | | | 9082707 | CK | 27-Aug-19 | 8015B | |
|---------------------------|--------|--------|--|--|---------|----|-----------|-------|--|

| | | | | | | | | | |
|-------------------------------|-------|----------|--|--|---------|----|-----------|-------|--|
| Surrogate: 1-Chlorooctadecane | 172 % | 37.6-147 | | | 9082707 | CK | 27-Aug-19 | 8015B | |
|-------------------------------|-------|----------|--|--|---------|----|-----------|-------|--|

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

MMX
2737 PECOS HWY
CARLSBAD NM, 88220

Project: 44 H
Project Number: NONE GIVEN
Project Manager: MELODIE SANJARI
Fax To: (575) 236-6201

Reported:
05-Sep-19 09:14

L 1 - 1'**H902929-03 (Soil)**

| Analyte | Result | MDL | Reporting Limit | Units | Dilution | Batch | Analyst | Analyzed | Method | Notes |
|---------|--------|-----|-----------------|-------|----------|-------|---------|----------|--------|-------|
|---------|--------|-----|-----------------|-------|----------|-------|---------|----------|--------|-------|

Cardinal Laboratories**Inorganic Compounds**

| | | | | | | | | | | |
|-----------------|------------|--|------|-------|---|---------|----|-----------|-----------|--|
| Chloride | 192 | | 16.0 | mg/kg | 4 | 9082815 | CK | 28-Aug-19 | 4500-CI-B | |
|-----------------|------------|--|------|-------|---|---------|----|-----------|-----------|--|

Petroleum Hydrocarbons by GC FID

| | | | | | | | | | | |
|-------------------------------|-------|--|--------|----------|---|---------|----|-----------|-------|--|
| GRO C6-C10* | <10.0 | | 10.0 | mg/kg | 1 | 9090401 | MS | 04-Sep-19 | 8015B | |
| DRO >C10-C28* | <10.0 | | 10.0 | mg/kg | 1 | 9090401 | MS | 04-Sep-19 | 8015B | |
| EXT DRO >C28-C36 | <10.0 | | 10.0 | mg/kg | 1 | 9090401 | MS | 04-Sep-19 | 8015B | |
| Surrogate: 1-Chlorooctane | | | 87.7 % | 41-142 | | 9090401 | MS | 04-Sep-19 | 8015B | |
| Surrogate: 1-Chlorooctadecane | | | 90.9 % | 37.6-147 | | 9090401 | MS | 04-Sep-19 | 8015B | |

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Analytical Results For:

MMX
2737 PECOS HWY
CARLSBAD NM, 88220

Project: 44 H
Project Number: NONE GIVEN
Project Manager: MELODIE SANJARI
Fax To: (575) 236-6201

Reported:
05-Sep-19 09:14

L 2 - SURFACE**H902929-04 (Soil)**

| Analyte | Result | MDL | Reporting Limit | Units | Dilution | Batch | Analyst | Analyzed | Method | Notes |
|---------|--------|-----|-----------------|-------|----------|-------|---------|----------|--------|-------|
|---------|--------|-----|-----------------|-------|----------|-------|---------|----------|--------|-------|

Cardinal Laboratories**Inorganic Compounds**

| | | | | | | | | | | |
|-----------------|-------------|--|------|-------|---|---------|----|-----------|-----------|--|
| Chloride | 1200 | | 16.0 | mg/kg | 4 | 9082815 | CK | 28-Aug-19 | 4500-Cl-B | |
|-----------------|-------------|--|------|-------|---|---------|----|-----------|-----------|--|

Volatile Organic Compounds by EPA Method 8021

| | | | | | | | | | | |
|----------------|-------------|--|-------|-------|----|---------|----|-----------|-------|--|
| Benzene* | <0.050 | | 0.050 | mg/kg | 50 | 9082803 | BF | 28-Aug-19 | 8021B | |
| Toluene* | 1.01 | | 0.050 | mg/kg | 50 | 9082803 | BF | 28-Aug-19 | 8021B | |
| Ethylbenzene* | 1.71 | | 0.050 | mg/kg | 50 | 9082803 | BF | 28-Aug-19 | 8021B | |
| Total Xylenes* | 6.71 | | 0.150 | mg/kg | 50 | 9082803 | BF | 28-Aug-19 | 8021B | |
| Total BTEX | 9.43 | | 0.300 | mg/kg | 50 | 9082803 | BF | 28-Aug-19 | 8021B | |

| | | | | | | | | | | |
|---------------------------------------|--|--|-------|----------|--|---------|----|-----------|-------|--|
| Surrogate: 4-Bromofluorobenzene (PID) | | | 125 % | 73.3-129 | | 9082803 | BF | 28-Aug-19 | 8021B | |
|---------------------------------------|--|--|-------|----------|--|---------|----|-----------|-------|--|

Petroleum Hydrocarbons by GC FID**S-04**

| | | | | | | | | | | |
|------------------|-------------|--|------|-------|---|---------|----|-----------|-------|--|
| GRO C6-C10* | 218 | | 10.0 | mg/kg | 1 | 9082707 | CK | 27-Aug-19 | 8015B | |
| DRO >C10-C28* | 7880 | | 10.0 | mg/kg | 1 | 9082707 | CK | 27-Aug-19 | 8015B | |
| EXT DRO >C28-C36 | 1700 | | 10.0 | mg/kg | 1 | 9082707 | CK | 27-Aug-19 | 8015B | |

| | | | | | | | | | | |
|---------------------------|--|--|-------|--------|--|---------|----|-----------|-------|--|
| Surrogate: 1-Chlorooctane | | | 147 % | 41-142 | | 9082707 | CK | 27-Aug-19 | 8015B | |
|---------------------------|--|--|-------|--------|--|---------|----|-----------|-------|--|

| | | | | | | | | | | |
|-------------------------------|--|--|-------|----------|--|---------|----|-----------|-------|--|
| Surrogate: 1-Chlorooctadecane | | | 394 % | 37.6-147 | | 9082707 | CK | 27-Aug-19 | 8015B | |
|-------------------------------|--|--|-------|----------|--|---------|----|-----------|-------|--|

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Analytical Results For:

MMX
2737 PECOS HWY
CARLSBAD NM, 88220

Project: 44 H
Project Number: NONE GIVEN
Project Manager: MELODIE SANJARI
Fax To: (575) 236-6201

Reported:
05-Sep-19 09:14

L 2 - 1'**H902929-06 (Soil)**

| Analyte | Result | MDL | Reporting Limit | Units | Dilution | Batch | Analyst | Analyzed | Method | Notes |
|---------|--------|-----|-----------------|-------|----------|-------|---------|----------|--------|-------|
|---------|--------|-----|-----------------|-------|----------|-------|---------|----------|--------|-------|

Cardinal Laboratories**Inorganic Compounds**

| | | | | | | | | | | |
|-----------------|-------------|--|------|-------|---|---------|----|-----------|-----------|--|
| Chloride | 1330 | | 16.0 | mg/kg | 4 | 9082815 | CK | 28-Aug-19 | 4500-Cl-B | |
|-----------------|-------------|--|------|-------|---|---------|----|-----------|-----------|--|

Petroleum Hydrocarbons by GC FID

| | | | | | | | | | | |
|-------------------------|-------------|--|------|-------|---|---------|----|-----------|-------|--|
| GRO C6-C10* | <10.0 | | 10.0 | mg/kg | 1 | 9090401 | MS | 04-Sep-19 | 8015B | |
| DRO >C10-C28* | 25.8 | | 10.0 | mg/kg | 1 | 9090401 | MS | 04-Sep-19 | 8015B | |
| EXT DRO >C28-C36 | <10.0 | | 10.0 | mg/kg | 1 | 9090401 | MS | 04-Sep-19 | 8015B | |

Surrogate: 1-Chlorooctane 83.9 % 41-142 9090401 MS 04-Sep-19 8015B

Surrogate: 1-Chlorooctadecane 87.4 % 37.6-147 9090401 MS 04-Sep-19 8015B

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Analytical Results For:

MMX
2737 PECOS HWY
CARLSBAD NM, 88220

Project: 44 H
Project Number: NONE GIVEN
Project Manager: MELODIE SANJARI
Fax To: (575) 236-6201

Reported:
05-Sep-19 09:14

L 3 - SURFACE**H902929-07 (Soil)**

| Analyte | Result | MDL | Reporting Limit | Units | Dilution | Batch | Analyst | Analyzed | Method | Notes |
|---------|--------|-----|-----------------|-------|----------|-------|---------|----------|--------|-------|
|---------|--------|-----|-----------------|-------|----------|-------|---------|----------|--------|-------|

Cardinal Laboratories**Inorganic Compounds**

| | | | | | | | | | | |
|----------|-----|--|------|-------|---|---------|----|-----------|-----------|--|
| Chloride | 128 | | 16.0 | mg/kg | 4 | 9082815 | CK | 28-Aug-19 | 4500-Cl-B | |
|----------|-----|--|------|-------|---|---------|----|-----------|-----------|--|

Volatile Organic Compounds by EPA Method 8021

| | | | | | | | | | | |
|----------------|--------|--|-------|-------|-----|---------|----|-----------|-------|--|
| Benzene* | <0.500 | | 0.500 | mg/kg | 500 | 9082803 | BF | 28-Aug-19 | 8021B | |
| Toluene* | 0.606 | | 0.500 | mg/kg | 500 | 9082803 | BF | 28-Aug-19 | 8021B | |
| Ethylbenzene* | 1.19 | | 0.500 | mg/kg | 500 | 9082803 | BF | 28-Aug-19 | 8021B | |
| Total Xylenes* | 5.36 | | 1.50 | mg/kg | 500 | 9082803 | BF | 28-Aug-19 | 8021B | |
| Total BTEX | 7.16 | | 3.00 | mg/kg | 500 | 9082803 | BF | 28-Aug-19 | 8021B | |

| | | | | | | | | | | |
|---------------------------------------|--|--|--------|----------|--|---------|----|-----------|-------|--|
| Surrogate: 4-Bromofluorobenzene (PID) | | | 93.3 % | 73.3-129 | | 9082803 | BF | 28-Aug-19 | 8021B | |
|---------------------------------------|--|--|--------|----------|--|---------|----|-----------|-------|--|

Petroleum Hydrocarbons by GC FID**S-04**

| | | | | | | | | | | |
|------------------|------|--|------|-------|---|---------|----|-----------|-------|-------|
| GRO C6-C10* | 108 | | 10.0 | mg/kg | 1 | 9082806 | CK | 29-Aug-19 | 8015B | |
| DRO >C10-C28* | 8580 | | 10.0 | mg/kg | 1 | 9082806 | CK | 29-Aug-19 | 8015B | QM-07 |
| EXT DRO >C28-C36 | 1470 | | 10.0 | mg/kg | 1 | 9082806 | CK | 29-Aug-19 | 8015B | |

| | | | | | | | | | | |
|---------------------------|--|--|--------|--------|--|---------|----|-----------|-------|--|
| Surrogate: 1-Chlorooctane | | | 92.2 % | 41-142 | | 9082806 | CK | 29-Aug-19 | 8015B | |
|---------------------------|--|--|--------|--------|--|---------|----|-----------|-------|--|

| | | | | | | | | | | |
|-------------------------------|--|--|-------|----------|--|---------|----|-----------|-------|--|
| Surrogate: 1-Chlorooctadecane | | | 295 % | 37.6-147 | | 9082806 | CK | 29-Aug-19 | 8015B | |
|-------------------------------|--|--|-------|----------|--|---------|----|-----------|-------|--|

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Analytical Results For:

MMX
2737 PECOS HWY
CARLSBAD NM, 88220

Project: 44 H
Project Number: NONE GIVEN
Project Manager: MELODIE SANJARI
Fax To: (575) 236-6201

Reported:
05-Sep-19 09:14

L 3 - 1'**H902929-09 (Soil)**

| Analyte | Result | MDL | Reporting Limit | Units | Dilution | Batch | Analyst | Analyzed | Method | Notes |
|---------|--------|-----|-----------------|-------|----------|-------|---------|----------|--------|-------|
|---------|--------|-----|-----------------|-------|----------|-------|---------|----------|--------|-------|

Cardinal Laboratories**Inorganic Compounds**

| | | | | | | | | | | |
|-----------------|-------------|--|------|-------|---|---------|----|-----------|-----------|--|
| Chloride | 16.0 | | 16.0 | mg/kg | 4 | 9082815 | CK | 28-Aug-19 | 4500-Cl-B | |
|-----------------|-------------|--|------|-------|---|---------|----|-----------|-----------|--|

Petroleum Hydrocarbons by GC FID

| | | | | | | | | | | |
|-------------------------------|-------------|--|--------|----------|---|---------|----|-----------|-------|--|
| GRO C6-C10* | <10.0 | | 10.0 | mg/kg | 1 | 9090401 | MS | 04-Sep-19 | 8015B | |
| DRO >C10-C28* | 257 | | 10.0 | mg/kg | 1 | 9090401 | MS | 04-Sep-19 | 8015B | |
| EXT DRO >C28-C36 | 53.9 | | 10.0 | mg/kg | 1 | 9090401 | MS | 04-Sep-19 | 8015B | |
| Surrogate: 1-Chlorooctane | | | 76.0 % | 41-142 | | 9090401 | MS | 04-Sep-19 | 8015B | |
| Surrogate: 1-Chlorooctadecane | | | 83.3 % | 37.6-147 | | 9090401 | MS | 04-Sep-19 | 8015B | |

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Analytical Results For:

MMX
2737 PECOS HWY
CARLSBAD NM, 88220

Project: 44 H
Project Number: NONE GIVEN
Project Manager: MELODIE SANJARI
Fax To: (575) 236-6201

Reported:
05-Sep-19 09:14

L 4 - SURFACE**H902929-10 (Soil)**

| Analyte | Result | MDL | Reporting Limit | Units | Dilution | Batch | Analyst | Analyzed | Method | Notes |
|---------|--------|-----|-----------------|-------|----------|-------|---------|----------|--------|-------|
|---------|--------|-----|-----------------|-------|----------|-------|---------|----------|--------|-------|

Cardinal Laboratories**Inorganic Compounds**

| | | | | | | | | | | |
|----------|------|--|------|-------|---|---------|----|-----------|-----------|--|
| Chloride | 1790 | | 16.0 | mg/kg | 4 | 9082815 | CK | 28-Aug-19 | 4500-Cl-B | |
|----------|------|--|------|-------|---|---------|----|-----------|-----------|--|

Volatile Organic Compounds by EPA Method 8021

| | | | | | | | | | | |
|----------------|--------|--|-------|-------|-----|---------|----|-----------|-------|--|
| Benzene* | <0.500 | | 0.500 | mg/kg | 500 | 9082803 | BF | 28-Aug-19 | 8021B | |
| Toluene* | 5.92 | | 0.500 | mg/kg | 500 | 9082803 | BF | 28-Aug-19 | 8021B | |
| Ethylbenzene* | 9.12 | | 0.500 | mg/kg | 500 | 9082803 | BF | 28-Aug-19 | 8021B | |
| Total Xylenes* | 41.2 | | 1.50 | mg/kg | 500 | 9082803 | BF | 28-Aug-19 | 8021B | |
| Total BTEX | 56.2 | | 3.00 | mg/kg | 500 | 9082803 | BF | 28-Aug-19 | 8021B | |

Surrogate: 4-Bromofluorobenzene (PID) 107 % 73.3-129 9082803 BF 28-Aug-19 8021B

Petroleum Hydrocarbons by GC FID**S-06**

| | | | | | | | | | | |
|------------------|-------|--|------|-------|---|---------|----|-----------|-------|--|
| GRO C6-C10* | 757 | | 50.0 | mg/kg | 5 | 9082806 | CK | 29-Aug-19 | 8015B | |
| DRO >C10-C28* | 14000 | | 50.0 | mg/kg | 5 | 9082806 | CK | 29-Aug-19 | 8015B | |
| EXT DRO >C28-C36 | 2660 | | 50.0 | mg/kg | 5 | 9082806 | CK | 29-Aug-19 | 8015B | |

Surrogate: 1-Chlorooctane 250 % 41-142 9082806 CK 29-Aug-19 8015B

Surrogate: 1-Chlorooctadecane 436 % 37.6-147 9082806 CK 29-Aug-19 8015B

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

MMX
2737 PECOS HWY
CARLSBAD NM, 88220

Project: 44 H
Project Number: NONE GIVEN
Project Manager: MELODIE SANJARI
Fax To: (575) 236-6201

Reported:
05-Sep-19 09:14

L 4 - 1'**H902929-12 (Soil)**

| Analyte | Result | MDL | Reporting Limit | Units | Dilution | Batch | Analyst | Analyzed | Method | Notes |
|---------|--------|-----|-----------------|-------|----------|-------|---------|----------|--------|-------|
|---------|--------|-----|-----------------|-------|----------|-------|---------|----------|--------|-------|

Cardinal Laboratories**Inorganic Compounds**

| | | | | | | | | | | |
|-----------------|------------|--|------|-------|---|---------|----|-----------|-----------|--|
| Chloride | 160 | | 16.0 | mg/kg | 4 | 9082815 | CK | 28-Aug-19 | 4500-Cl-B | |
|-----------------|------------|--|------|-------|---|---------|----|-----------|-----------|--|

Petroleum Hydrocarbons by GC FID**S-04**

| | | | | | | | | | | |
|----------------------------|-------------|--|------|-------|---|---------|----|-----------|-------|--|
| GRO C6-C10* | 123 | | 10.0 | mg/kg | 1 | 9090401 | MS | 04-Sep-19 | 8015B | |
| DRO >C10-C28* | 3610 | | 10.0 | mg/kg | 1 | 9090401 | MS | 04-Sep-19 | 8015B | |
| EXT DRO >C28-C36 | 731 | | 10.0 | mg/kg | 1 | 9090401 | MS | 04-Sep-19 | 8015B | |

| | | | | | | | | | | |
|----------------------------------|--|--|-------|--------|--|---------|----|-----------|-------|--|
| <i>Surrogate: 1-Chlorooctane</i> | | | 115 % | 41-142 | | 9090401 | MS | 04-Sep-19 | 8015B | |
|----------------------------------|--|--|-------|--------|--|---------|----|-----------|-------|--|

| | | | | | | | | | | |
|--------------------------------------|--|--|-------|----------|--|---------|----|-----------|-------|--|
| <i>Surrogate: 1-Chlorooctadecane</i> | | | 186 % | 37.6-147 | | 9090401 | MS | 04-Sep-19 | 8015B | |
|--------------------------------------|--|--|-------|----------|--|---------|----|-----------|-------|--|

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

MMX
2737 PECOS HWY
CARLSBAD NM, 88220

Project: 44 H
Project Number: NONE GIVEN
Project Manager: MELODIE SANJARI
Fax To: (575) 236-6201

Reported:
05-Sep-19 09:14

Inorganic Compounds - Quality Control**Cardinal Laboratories**

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC Limits | RPD | RPD Limit | Notes |
|-------------------------------------|--------|--------------------|-------|----------------|--------------------------------|----------------|--------|--------------|-------|
| Batch 9082815 - 1:4 DI Water | | | | | | | | | |
| Blank (9082815-BLK1) | | | | | Prepared & Analyzed: 28-Aug-19 | | | | |
| Chloride | ND | 16.0 | mg/kg | | | | | | |
| LCS (9082815-BS1) | | | | | Prepared & Analyzed: 28-Aug-19 | | | | |
| Chloride | 432 | 16.0 | mg/kg | 400 | | 108 | 80-120 | | |
| LCS Dup (9082815-BSD1) | | | | | Prepared & Analyzed: 28-Aug-19 | | | | |
| Chloride | 400 | 16.0 | mg/kg | 400 | | 100 | 80-120 | 7.69 | 20 |

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*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

MMX
2737 PECOS HWY
CARLSBAD NM, 88220

Project: 44 H
Project Number: NONE GIVEN
Project Manager: MELODIE SANJARI
Fax To: (575) 236-6201

Reported:
05-Sep-19 09:14

Volatile Organic Compounds by EPA Method 8021 - Quality Control**Cardinal Laboratories**

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---------|--------|-----------------|-------|-------------|---------------|------|-------------|-----|-----------|-------|
|---------|--------|-----------------|-------|-------------|---------------|------|-------------|-----|-----------|-------|

Batch 9082803 - Volatiles**Blank (9082803-BLK1)**

Prepared & Analyzed: 28-Aug-19

| | | | | | | | | | | |
|---------------------------------------|--------|-------|-------|-------|--|------|----------|--|--|--|
| Benzene | ND | 0.050 | mg/kg | | | | | | | |
| Toluene | ND | 0.050 | mg/kg | | | | | | | |
| Ethylbenzene | ND | 0.050 | mg/kg | | | | | | | |
| Total Xylenes | ND | 0.150 | mg/kg | | | | | | | |
| Total BTEX | ND | 0.300 | mg/kg | | | | | | | |
| Surrogate: 4-Bromofluorobenzene (PID) | 0.0887 | | mg/kg | 0.100 | | 88.7 | 73.3-129 | | | |

LCS (9082803-BS1)

Prepared & Analyzed: 28-Aug-19

| | | | | | | | | | | |
|---------------------------------------|--------|-------|-------|-------|--|------|----------|--|--|--|
| Benzene | 1.77 | 0.050 | mg/kg | 2.00 | | 88.6 | 72.2-131 | | | |
| Toluene | 1.95 | 0.050 | mg/kg | 2.00 | | 97.5 | 71.7-126 | | | |
| Ethylbenzene | 2.09 | 0.050 | mg/kg | 2.00 | | 105 | 68.9-126 | | | |
| Total Xylenes | 6.27 | 0.150 | mg/kg | 6.00 | | 104 | 71.4-125 | | | |
| Surrogate: 4-Bromofluorobenzene (PID) | 0.0889 | | mg/kg | 0.100 | | 88.9 | 73.3-129 | | | |

LCS Dup (9082803-BSD1)

Prepared & Analyzed: 28-Aug-19

| | | | | | | | | | | |
|---------------------------------------|--------|-------|-------|-------|--|------|----------|------|------|--|
| Benzene | 1.68 | 0.050 | mg/kg | 2.00 | | 83.9 | 72.2-131 | 5.48 | 6.91 | |
| Toluene | 1.86 | 0.050 | mg/kg | 2.00 | | 92.8 | 71.7-126 | 4.88 | 7.12 | |
| Ethylbenzene | 2.01 | 0.050 | mg/kg | 2.00 | | 101 | 68.9-126 | 4.00 | 7.88 | |
| Total Xylenes | 6.05 | 0.150 | mg/kg | 6.00 | | 101 | 71.4-125 | 3.52 | 7.46 | |
| Surrogate: 4-Bromofluorobenzene (PID) | 0.0873 | | mg/kg | 0.100 | | 87.3 | 73.3-129 | | | |

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

MMX
2737 PECOS HWY
CARLSBAD NM, 88220

Project: 44 H
Project Number: NONE GIVEN
Project Manager: MELODIE SANJARI
Fax To: (575) 236-6201

Reported:
05-Sep-19 09:14

Petroleum Hydrocarbons by GC FID - Quality Control**Cardinal Laboratories**

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---------|--------|-----------------|-------|-------------|---------------|------|-------------|-----|-----------|-------|
|---------|--------|-----------------|-------|-------------|---------------|------|-------------|-----|-----------|-------|

Batch 9082707 - General Prep - Organics**Blank (9082707-BLK1)**

Prepared & Analyzed: 27-Aug-19

| | | | | | | | | | | |
|-------------------------------|------|------|-------|------|--|-----|----------|--|--|--|
| GRO C6-C10 | ND | 10.0 | mg/kg | | | | | | | |
| DRO >C10-C28 | ND | 10.0 | mg/kg | | | | | | | |
| EXT DRO >C28-C36 | ND | 10.0 | mg/kg | | | | | | | |
| Surrogate: 1-Chlorooctane | 50.2 | | mg/kg | 50.0 | | 100 | 41-142 | | | |
| Surrogate: 1-Chlorooctadecane | 55.5 | | mg/kg | 50.0 | | 111 | 37.6-147 | | | |

LCS (9082707-BS1)

Prepared & Analyzed: 27-Aug-19

| | | | | | | | | | | |
|-------------------------------|------|------|-------|------|--|-----|----------|--|--|--|
| GRO C6-C10 | 218 | 10.0 | mg/kg | 200 | | 109 | 76.5-133 | | | |
| DRO >C10-C28 | 229 | 10.0 | mg/kg | 200 | | 114 | 72.9-138 | | | |
| Total TPH C6-C28 | 447 | 10.0 | mg/kg | 400 | | 112 | 78-132 | | | |
| Surrogate: 1-Chlorooctane | 53.1 | | mg/kg | 50.0 | | 106 | 41-142 | | | |
| Surrogate: 1-Chlorooctadecane | 57.2 | | mg/kg | 50.0 | | 114 | 37.6-147 | | | |

LCS Dup (9082707-BS1)

Prepared & Analyzed: 27-Aug-19

| | | | | | | | | | | |
|-------------------------------|------|------|-------|------|--|-----|----------|------|------|--|
| GRO C6-C10 | 206 | 10.0 | mg/kg | 200 | | 103 | 76.5-133 | 5.82 | 20.6 | |
| DRO >C10-C28 | 213 | 10.0 | mg/kg | 200 | | 106 | 72.9-138 | 7.12 | 20.6 | |
| Total TPH C6-C28 | 419 | 10.0 | mg/kg | 400 | | 105 | 78-132 | 6.48 | 18 | |
| Surrogate: 1-Chlorooctane | 50.9 | | mg/kg | 50.0 | | 102 | 41-142 | | | |
| Surrogate: 1-Chlorooctadecane | 53.6 | | mg/kg | 50.0 | | 107 | 37.6-147 | | | |

Batch 9082806 - General Prep - Organics**Blank (9082806-BLK1)**

Prepared: 28-Aug-19 Analyzed: 29-Aug-19

| | | | | | | | | | | |
|-------------------------------|------|------|-------|------|--|------|----------|--|--|--|
| GRO C6-C10 | ND | 10.0 | mg/kg | | | | | | | |
| DRO >C10-C28 | ND | 10.0 | mg/kg | | | | | | | |
| EXT DRO >C28-C36 | ND | 10.0 | mg/kg | | | | | | | |
| Surrogate: 1-Chlorooctane | 42.8 | | mg/kg | 50.0 | | 85.6 | 41-142 | | | |
| Surrogate: 1-Chlorooctadecane | 45.9 | | mg/kg | 50.0 | | 91.8 | 37.6-147 | | | |

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

MMX
2737 PECOS HWY
CARLSBAD NM, 88220

Project: 44 H
Project Number: NONE GIVEN
Project Manager: MELODIE SANJARI
Fax To: (575) 236-6201

Reported:
05-Sep-19 09:14

Petroleum Hydrocarbons by GC FID - Quality Control**Cardinal Laboratories**

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC Limits | RPD | RPD Limit | Notes |
|---------|--------|--------------------|-------|----------------|------------------|----------------|-----|--------------|-------|
|---------|--------|--------------------|-------|----------------|------------------|----------------|-----|--------------|-------|

Batch 9082806 - General Prep - Organics**LCS (9082806-BS1)**

Prepared: 28-Aug-19 Analyzed: 29-Aug-19

| | | | | | | | | | |
|-------------------------------|------|------|-------|------|--|------|----------|--|--|
| GRO C6-C10 | 195 | 10.0 | mg/kg | 200 | | 97.6 | 76.5-133 | | |
| DRO >C10-C28 | 199 | 10.0 | mg/kg | 200 | | 99.3 | 72.9-138 | | |
| Total TPH C6-C28 | 394 | 10.0 | mg/kg | 400 | | 98.5 | 78-132 | | |
| Surrogate: 1-Chlorooctane | 44.4 | | mg/kg | 50.0 | | 88.8 | 41-142 | | |
| Surrogate: 1-Chlorooctadecane | 45.0 | | mg/kg | 50.0 | | 90.0 | 37.6-147 | | |

LCS Dup (9082806-BS1)

Prepared: 28-Aug-19 Analyzed: 29-Aug-19

| | | | | | | | | | |
|-------------------------------|------|------|-------|------|--|------|----------|-------|------|
| GRO C6-C10 | 197 | 10.0 | mg/kg | 200 | | 98.3 | 76.5-133 | 0.686 | 20.6 |
| DRO >C10-C28 | 190 | 10.0 | mg/kg | 200 | | 95.1 | 72.9-138 | 4.30 | 20.6 |
| Total TPH C6-C28 | 387 | 10.0 | mg/kg | 400 | | 96.7 | 78-132 | 1.80 | 18 |
| Surrogate: 1-Chlorooctane | 47.1 | | mg/kg | 50.0 | | 94.2 | 41-142 | | |
| Surrogate: 1-Chlorooctadecane | 49.3 | | mg/kg | 50.0 | | 98.5 | 37.6-147 | | |

Batch 9090401 - General Prep - Organics**Blank (9090401-BLK1)**

Prepared & Analyzed: 04-Sep-19

| | | | | | | | | | |
|-------------------------------|------|------|-------|------|--|------|----------|--|--|
| GRO C6-C10 | ND | 10.0 | mg/kg | | | | | | |
| DRO >C10-C28 | ND | 10.0 | mg/kg | | | | | | |
| EXT DRO >C28-C36 | ND | 10.0 | mg/kg | | | | | | |
| Surrogate: 1-Chlorooctane | 41.4 | | mg/kg | 50.0 | | 82.8 | 41-142 | | |
| Surrogate: 1-Chlorooctadecane | 43.5 | | mg/kg | 50.0 | | 87.0 | 37.6-147 | | |

LCS (9090401-BS1)

Prepared & Analyzed: 04-Sep-19

| | | | | | | | | | |
|-------------------------------|------|------|-------|------|--|------|----------|--|--|
| GRO C6-C10 | 203 | 10.0 | mg/kg | 200 | | 101 | 76.5-133 | | |
| DRO >C10-C28 | 211 | 10.0 | mg/kg | 200 | | 105 | 72.9-138 | | |
| Total TPH C6-C28 | 414 | 10.0 | mg/kg | 400 | | 103 | 78-132 | | |
| Surrogate: 1-Chlorooctane | 44.9 | | mg/kg | 50.0 | | 89.8 | 41-142 | | |
| Surrogate: 1-Chlorooctadecane | 45.0 | | mg/kg | 50.0 | | 90.0 | 37.6-147 | | |

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

MMX
2737 PECOS HWY
CARLSBAD NM, 88220

Project: 44 H
Project Number: NONE GIVEN
Project Manager: MELODIE SANJARI
Fax To: (575) 236-6201

Reported:
05-Sep-19 09:14

Petroleum Hydrocarbons by GC FID - Quality Control**Cardinal Laboratories**

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---------|--------|--------------------|-------|----------------|------------------|------|----------------|-----|--------------|-------|
|---------|--------|--------------------|-------|----------------|------------------|------|----------------|-----|--------------|-------|

Batch 9090401 - General Prep - Organics**LCS Dup (9090401-BSD1)**

Prepared & Analyzed: 04-Sep-19

| | | | | | | | | | | |
|-------------------------------|------|------|-------|------|--|------|----------|------|------|--|
| GRO C6-C10 | 199 | 10.0 | mg/kg | 200 | | 99.3 | 76.5-133 | 2.19 | 20.6 | |
| DRO >C10-C28 | 204 | 10.0 | mg/kg | 200 | | 102 | 72.9-138 | 3.43 | 20.6 | |
| Total TPH C6-C28 | 402 | 10.0 | mg/kg | 400 | | 101 | 78-132 | 2.82 | 18 | |
| Surrogate: 1-Chlorooctane | 44.8 | | mg/kg | 50.0 | | 89.5 | 41-142 | | | |
| Surrogate: 1-Chlorooctadecane | 44.5 | | mg/kg | 50.0 | | 89.0 | 37.6-147 | | | |

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Notes and Definitions

| | |
|-------|--|
| S-06 | The recovery of this surrogate is outside control limits due to sample dilution required from high analyte concentration and/or matrix interference's. |
| S-04 | The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect. |
| QM-07 | The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery. |
| ND | Analyte NOT DETECTED at or above the reporting limit |
| RPD | Relative Percent Difference |
| ** | Samples not received at proper temperature of 6°C or below. |
| *** | Insufficient time to reach temperature. |
| - | Chloride by SM4500Cl-B does not require samples be received at or below 6°C Samples reported on an as received basis (wet) unless otherwise noted on report |

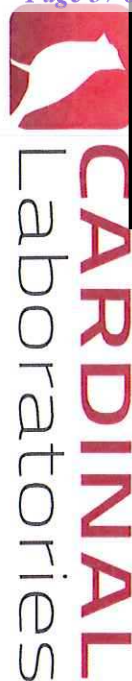
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A handwritten signature in cursive script, reading "Celey D. Keene".

Celey D. Keene, Lab Director/Quality Manager



CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

| | | | | | | | |
|---|--|---------------------|--|-------------------|--|------------------|--|
| Company Name: MMX | | BILL TO | | P.O. #: | | ANALYSIS REQUEST | |
| Project Manager: Melodre Sanjani | | Company: MMX | | Attn: Lupe | | | |
| Address: | | City: | | State: | | Zip: | |
| Phone #: | | Fax #: | | City: | | State: | |
| Project #: | | Project Owner: | | City: | | State: | |
| Project Name: 44H | | Project Location: | | Phone #: | | Zip: | |
| Sampler Name: MES | | FOR LAB USE ONLY | | Fax #: | | | |
| Lab I.D. | | Sample I.D. | | (G)RAB OR (C)OMP. | | # CONTAINERS | |
| H902989 | | L1-Surf | | | | | |
| 1 | | L1-0.5' | | | | | |
| 2 | | L1-1' | | | | | |
| 3 | | L2-Surf | | | | | |
| 4 | | L2-0.5' | | | | | |
| 5 | | L2-1' | | | | | |
| 6 | | L3-Surf | | | | | |
| 7 | | L3-0.5' | | | | | |
| 8 | | L3-1' | | | | | |
| 9 | | L4-Surf | | | | | |
| 10 | | | | | | | |
| DATE | | TIME | | BTEX | | TPH | |
| 8/21 | | 6:00 | | ✓ | | ✓ | |
| 6:05 | | ✓ | | ✓ | | ✓ | |
| 6:10 | | ✓ | | ✓ | | ✓ | |
| 7:00 | | ✓ | | ✓ | | ✓ | |
| 7:05 | | ✓ | | ✓ | | ✓ | |
| 7:10 | | ✓ | | ✓ | | ✓ | |
| 8:00 | | ✓ | | ✓ | | ✓ | |
| 8:05 | | ✓ | | ✓ | | ✓ | |
| 8:10 | | ✓ | | ✓ | | ✓ | |
| 9:00 | | ✓ | | ✓ | | ✓ | |
| 9:05 | | ✓ | | ✓ | | ✓ | |
| 9:10 | | ✓ | | ✓ | | ✓ | |
| 9:15 | | ✓ | | ✓ | | ✓ | |
| 9:20 | | ✓ | | ✓ | | ✓ | |
| 9:25 | | ✓ | | ✓ | | ✓ | |
| 9:30 | | ✓ | | ✓ | | ✓ | |
| 9:35 | | ✓ | | ✓ | | ✓ | |
| 9:40 | | ✓ | | ✓ | | ✓ | |
| 9:45 | | ✓ | | ✓ | | ✓ | |
| 9:50 | | ✓ | | ✓ | | ✓ | |
| 9:55 | | ✓ | | ✓ | | ✓ | |
| 10:00 | | ✓ | | ✓ | | ✓ | |
| 10:05 | | ✓ | | ✓ | | ✓ | |
| 10:10 | | ✓ | | ✓ | | ✓ | |
| 10:15 | | ✓ | | ✓ | | ✓ | |
| 10:20 | | ✓ | | ✓ | | ✓ | |
| 10:25 | | ✓ | | ✓ | | ✓ | |
| 10:30 | | ✓ | | ✓ | | ✓ | |
| 10:35 | | ✓ | | ✓ | | ✓ | |
| 10:40 | | ✓ | | ✓ | | ✓ | |
| 10:45 | | ✓ | | ✓ | | ✓ | |
| 10:50 | | ✓ | | ✓ | | ✓ | |
| 10:55 | | ✓ | | ✓ | | ✓ | |
| 11:00 | | ✓ | | ✓ | | ✓ | |
| 11:05 | | ✓ | | ✓ | | ✓ | |
| 11:10 | | ✓ | | ✓ | | ✓ | |
| 11:15 | | ✓ | | ✓ | | ✓ | |
| 11:20 | | ✓ | | ✓ | | ✓ | |
| 11:25 | | ✓ | | ✓ | | ✓ | |
| 11:30 | | ✓ | | ✓ | | ✓ | |
| 11:35 | | ✓ | | ✓ | | ✓ | |
| 11:40 | | ✓ | | ✓ | | ✓ | |
| 11:45 | | ✓ | | ✓ | | ✓ | |
| 11:50 | | ✓ | | ✓ | | ✓ | |
| 11:55 | | ✓ | | ✓ | | ✓ | |
| 12:00 | | ✓ | | ✓ | | ✓ | |
| 12:05 | | ✓ | | ✓ | | ✓ | |
| 12:10 | | ✓ | | ✓ | | ✓ | |
| 12:15 | | ✓ | | ✓ | | ✓ | |
| 12:20 | | ✓ | | ✓ | | ✓ | |
| 12:25 | | ✓ | | ✓ | | ✓ | |
| 12:30 | | ✓ | | ✓ | | ✓ | |
| 12:35 | | ✓ | | ✓ | | ✓ | |
| 12:40 | | ✓ | | ✓ | | ✓ | |
| 12:45 | | ✓ | | ✓ | | ✓ | |
| 12:50 | | ✓ | | ✓ | | ✓ | |
| 12:55 | | ✓ | | ✓ | | ✓ | |
| 1:00 | | ✓ | | ✓ | | ✓ | |
| 1:05 | | ✓ | | ✓ | | ✓ | |
| 1:10 | | ✓ | | ✓ | | ✓ | |
| 1:15 | | ✓ | | ✓ | | ✓ | |
| 1:20 | | ✓ | | ✓ | | ✓ | |
| 1:25 | | ✓ | | ✓ | | ✓ | |
| 1:30 | | ✓ | | ✓ | | ✓ | |
| 1:35 | | ✓ | | ✓ | | ✓ | |
| 1:40 | | ✓ | | ✓ | | ✓ | |
| 1:45 | | ✓ | | ✓ | | ✓ | |
| 1:50 | | ✓ | | ✓ | | ✓ | |
| 1:55 | | ✓ | | ✓ | | ✓ | |
| 2:00 | | ✓ | | ✓ | | ✓ | |
| 2:05 | | ✓ | | ✓ | | ✓ | |
| 2:10 | | ✓ | | ✓ | | ✓ | |
| 2:15 | | ✓ | | ✓ | | ✓ | |
| 2:20 | | ✓ | | ✓ | | ✓ | |
| 2:25 | | ✓ | | ✓ | | ✓ | |
| 2:30 | | ✓ | | ✓ | | ✓ | |
| 2:35 | | ✓ | | ✓ | | ✓ | |
| 2:40 | | ✓ | | ✓ | | ✓ | |
| 2:45 | | ✓ | | ✓ | | ✓ | |
| 2:50 | | ✓ | | ✓ | | ✓ | |
| 2:55 | | ✓ | | ✓ | | ✓ | |
| 3:00 | | ✓ | | ✓ | | ✓ | |
| 3:05 | | ✓ | | ✓ | | ✓ | |
| 3:10 | | ✓ | | ✓ | | ✓ | |
| 3:15 | | ✓ | | ✓ | | ✓ | |
| 3:20 | | ✓ | | ✓ | | ✓ | |
| 3:25 | | ✓ | | ✓ | | ✓ | |
| 3:30 | | ✓ | | ✓ | | ✓ | |
| 3:35 | | ✓ | | ✓ | | ✓ | |
| 3:40 | | ✓ | | ✓ | | ✓ | |
| 3:45 | | ✓ | | ✓ | | ✓ | |
| 3:50 | | ✓ | | ✓ | | ✓ | |
| 3:55 | | ✓ | | ✓ | | ✓ | |
| 4:00 | | ✓ | | ✓ | | ✓ | |
| 4:05 | | ✓ | | ✓ | | ✓ | |
| 4:10 | | ✓ | | ✓ | | ✓ | |
| 4:15 | | ✓ | | ✓ | | ✓ | |
| 4:20 | | ✓ | | ✓ | | ✓ | |
| 4:25 | | ✓ | | ✓ | | ✓ | |
| 4:30 | | ✓ | | ✓ | | ✓ | |
| 4:35 | | ✓ | | ✓ | | ✓ | |
| 4:40 | | ✓ | | ✓ | | ✓ | |
| 4:45 | | ✓ | | ✓ | | ✓ | |
| 4:50 | | ✓ | | ✓ | | ✓ | |
| 4:55 | | ✓ | | ✓ | | ✓ | |
| 5:00 | | ✓ | | ✓ | | ✓ | |
| 5:05 | | ✓ | | ✓ | | ✓ | |
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CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

101 East Marland, Hobbs, NM 88240

(575) 393-2326 FAX (575) 393-2476

[illegible]



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

September 11, 2019

MELODIE SANJARI

MMX

2737 PECOS HWY

CARLSBAD, NM 88220

RE: 44 H

Enclosed are the results of analyses for samples received by the laboratory on 09/09/19 10:00.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-18-11. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive style with a large, stylized 'C' and 'K'.

Celey D. Keene

Lab Director/Quality Manager



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

Analytical Results For:

MMX
 MELODIE SANJARI
 2737 PECOS HWY
 CARLSBAD NM, 88220
 Fax To: (575) 236-6201

Received: 09/09/2019
 Reported: 09/11/2019
 Project Name: 44 H
 Project Number: NONE GIVEN
 Project Location: MMX

Sampling Date: 09/06/2019
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: L 4 - 2' (H903097-01)

| TPH 8015M | | mg/kg | | Analyzed By: MS | | | | | |
|----------------------------|-------------|-----------------|------------|-----------------|-----|------------|---------------|------|-----------|
| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
| GRO C6-C10* | <10.0 | 10.0 | 09/10/2019 | ND | 207 | 103 | 200 | 2.73 | |
| DRO >C10-C28* | 123 | 10.0 | 09/10/2019 | ND | 215 | 107 | 200 | 2.83 | |
| EXT DRO >C28-C36 | 25.1 | 10.0 | 09/10/2019 | ND | | | | | |

Surrogate: 1-Chlorooctane 89.9 % 41-142

Surrogate: 1-Chlorooctadecane 98.5 % 37.6-147

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

Notes and Definitions

| | |
|-----|--|
| ND | Analyte NOT DETECTED at or above the reporting limit |
| RPD | Relative Percent Difference |
| ** | Samples not received at proper temperature of 6°C or below. |
| *** | Insufficient time to reach temperature. |
| - | Chloride by SM4500Cl-B does not require samples be received at or below 6°C Samples reported on an as received basis (wet) unless otherwise noted on report |

Cardinal Laboratories

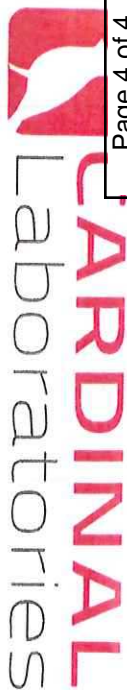
*=Accredited Analyte

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A handwritten signature in black ink, appearing to read "Celey D. Keene".

Celey D. Keene, Lab Director/Quality Manager

Page 4 of 4



CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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