



October 12, 2023

**New Mexico Oil Conservation Division**

New Mexico Energy, Minerals, and Natural Resources Department  
1220 South St. Francis Drive  
Santa Fe, New Mexico 87505

**Re: Closure Request  
MCA 301  
Incident Number NAPP2307558601  
Lea County, New Mexico**

To Whom It May Concern:

Ensolum, LLC (Ensolum), on behalf of Maverick Permian, LLC (Maverick), has prepared this *Closure Request* to document assessment, excavation, and soil sampling activities performed at the MCA 301 (Site). The purpose of the assessment, excavation, and soil sampling activities was to address impacts to soil resulting from a release of produced water at the Site. Based on the excavation activities and laboratory analytical results for the soil sampling events, Maverick is submitting this *Closure Request*, describing remediation that has occurred and requesting closure for Incident Number NAPP2307558601.

**SITE DESCRIPTION AND RELEASE SUMMARY**

The Site is located in Unit J, Section 28, Township 17 South, Range 32 East, in Lea County, New Mexico (32.80370°, -103.76860°) and is associated with oil and gas exploration and production operations on federal land managed by the Bureau of Land Management (BLM).

On February 23, 2023, internal corrosion caused a casing leak on a shut-in injection well, resulting in the release of approximately 6.9 barrels (bbls) of produced water onto the surface of the well pad and into the pasture south of the pad. No released fluids were recovered. Maverick reported the release to the New Mexico Oil Conservation Division (NMOCD) on a Release Notification Form C-141 (Form C-141) on March 16, 2023. The release was assigned Incident Number NAPP2307558601.

**SITE CHARACTERIZATION AND CLOSURE CRITERIA**

The Site was characterized to assess the applicability of Table I, Closure Criteria for Soils Impacted by a Release, of Title 19, Chapter 15, Part 29 (19.15.29) of the New Mexico Administrative Code (NMAC). Results from the characterization desktop review are presented on page 3 of the Form C-141, Site Assessment/Characterization. Potential Site receptors are identified on Figure 1.

There is a network of over 20 monitoring wells within a 0.7-mile radius of the Site indicating depth to groundwater greater than 80 feet below ground surface (bgs). The monitoring wells are used to monitor groundwater impacts from historical releases at the Maljamar Gas Plant (Incident Number NAUTOFGP000196 and AP-115-1) and the MCA 357 (Incident Number NTO1423043689). Monitoring

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wells/NMOSE wells MW-1/RA-12204 POD1, MW-2/RA-12574 POD1, MW-3/RA-12574 POD2, and MW-8/RA-12721-POD3 are located between 800 feet and 975 feet of the Site; however, they are temporary monitoring wells and are not used for domestic or livestock purposes, but solely to monitor existing groundwater impacts originating from historical releases at the Maljamar Gas Plant and MCA 357 locations. The monitoring wells are being sampled on a quarterly or semi-annual basis and results are reported to the NMOCD in annual reports. All wells used for depth to groundwater determination are presented on Figure 1. The referenced well records are included in Appendix A.

Maverick and Ensolum do not believe the monitoring wells located between 800 feet and 975 feet of the Site are sensitive receptors for the subject release. The monitoring wells are not fresh water wells. Water quality documented in monitoring wells MW-1, MW-2, MW-3, and MW-8 characterize an extensive groundwater plume associated with a historical produced water release down- and cross-gradient of the Site. Monitoring wells MW-1, MW-2, and MW-3 have consistently contained greater than 10,000 milligrams per liter (mg/L) total dissolved solids (TDS), a water quality parameter used to define freshwater in 19.15.2 NMAC. The monitoring wells were installed to investigate subsurface impacts and conduct long-term monitoring of affected groundwater. They are not utilized for any beneficial use and will be plugged and abandoned upon completion of corrective action.

As detailed in the below Closure Request, the impacted soil at the Site was excavated to below the most stringent Table I Closure Criteria in the top four feet of the release extent. Additionally, the release was delineated vertically to below the most stringent Table I Closure Criteria at depths ranging from 4 feet to 11 feet bgs. Depth to water is well documented to be greater than 80 feet bgs near the Site, leaving virtually no pathway for chloride impacts in the shallow soil interval between 4 feet and 11 feet bgs to reach groundwater deeper than 80 feet in monitoring wells located over 800 feet away. Based on the documented water quality, use of the monitoring wells, distance between the wells and the release extent, the delineation and remediation activities completed at the Site, and lack of a pathway for the release to encounter groundwater, the monitoring wells are not being considered a sensitive receptor for this Site.

The closest continuously flowing or significant watercourse to the Site is an emergent wetland, located approximately 2,640 feet west of the Site. The Site is greater than 200 feet from a lakebed, sinkhole, or playa lake and greater than 300 feet from an occupied residence, school, hospital, institution, church, or wetland. The Site is greater than 1,000 feet from a spring and is not within a 100-year floodplain or overlying a subsurface mine. The Site is not underlain by unstable geology (low potential karst designation area). Site receptors are identified on Figure 1.

Based on the results of the Site Characterization, the following NMOCD Table I Closure Criteria (Closure Criteria) apply:

- Benzene: 10 milligrams per kilogram (mg/kg)
- Benzene, toluene, ethylbenzene, and total xylenes (BTEX): 50 mg/kg
- Total petroleum hydrocarbons (TPH)-gasoline range organics (GRO) and TPH-diesel range organics (DRO): 1,000 mg/kg
- TPH: 2,500 mg/kg
- Chloride: 10,000 mg/kg

A reclamation requirement of 600 mg/kg chloride and 100 mg/kg TPH applies to the top 4 feet of the pasture area that was impacted by the release, per NMAC 19.15.29.13.D (1) for the top 4 feet of areas that will be reclaimed following remediation.

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## SITE ASSESSMENT ACTIVITIES AND LABORATORY ANALYTICAL RESULTS

Site assessment activities were conducted to evaluate the release extent based on information provided on the Form C-141 and visual observations. Four assessment soil samples (SS01 through SS04) were collected around the visible release extent at a depth of 0.5 feet bgs to confirm the lateral extent of the release. The release extent and soil sample locations were mapped utilizing a handheld Global Positioning System (GPS) unit and are depicted on Figure 2. Photographic documentation was completed during the Site visit and a photographic log is included in Appendix B.

The assessment soil samples were placed directly into pre-cleaned glass jars, labeled with the location, date, time, sampler name, method of analysis, and immediately placed on ice. The soil samples were transported at or below 4 degrees Celsius (°C) under strict chain-of-custody procedures to Cardinal Laboratories for analysis of the following constituents of concern (COC): BTEX following United States Environmental Protection Agency (EPA) Method 8021B; TPH-GRO, TPH-DRO, and TPH-oil range organics (ORO) following EPA Method 8015M/D; and chloride following EPA Method 4500.

Laboratory analytical results for assessment soil samples SS01 through SS04, collected around the release extent, indicated that all COC concentrations were compliant with the most stringent Table I Closure Criteria and provided lateral definition of the release. Based on visible staining in the release area, delineation and excavation activities were warranted.

## EXCAVATION AND DELINEATION ACTIVITIES AND LABORATORY ANALYTICAL RESULTS

Between September 6, 2023 and September 14, 2023, Ensolum personnel were at the Site to oversee excavation of impacted soil resulting from the February 23, 2023 produced water release. To direct excavation activities, soil was field screened for volatile aromatic hydrocarbons (VOCs) utilizing a calibrated photoionization detector (PID) and chloride Hach® chloride QuanTab® test strips. Excavation activities were performed utilizing a track-mounted backhoe and transport vehicles. The excavation was completed to depths ranging from 4 feet to 4.5 feet bgs.

Following removal of impacted soil, 5-point composite soil samples were collected every 200 square feet from the floor and sidewalls of the excavation. The 5-point composite samples were collected by placing five equivalent aliquots of soil into a 1-gallon, resealable plastic bag and homogenizing the samples by thoroughly mixing. Composite soil samples FS01 through FS36, FS11A, and FS17A were collected from the floor of the excavation at depths ranging from 4-feet to 4.5 feet bgs. Composite soil samples SW01 through SW16 were collected from the sidewalls of the excavation at depths ranging from the ground surface to 4 feet bgs. The excavation soil samples were handled and analyzed following the same procedures as described above. The excavation extent and excavation soil sample locations were mapped utilizing a handheld GPS and are presented on Figure 3. Photographic documentation was completed during the Site visits and a photographic log is included in Appendix B.

Five potholes (PH01 through PH05) were advanced within the open excavation to depths ranging from 8 feet to 11 feet bgs. Soil from the potholes was field screened at 1-foot intervals for VOCs and chloride. Final depth of the potholes was determined by field screening results indicating compliance with the most stringent Table I Closure Criteria. Field screening results and observations for the potholes were logged on lithologic soil sampling logs, which are included in Appendix C. Two discrete delineation samples were selected from each pothole for laboratory analysis; the sample with the highest field screening result and the sample from the final pothole depth. The pothole and delineation soil sample locations are presented on Figure 2.

The excavation and delineation soil samples were handled following the same procedures as described above and submitted to Cardinal Laboratories for analysis of BTEX, TPH, and chloride.

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Laboratory analytical results for excavation floor samples FS01 through FS10, FS11A, FS12 through FS16, FS17A, FS18 through FS36 and excavation sidewall samples SW01 through SW16, collected from the final excavation extent, indicated all COC concentrations were compliant with the Site Closure Criteria and reclamation requirements for samples collected in the top four feet. Laboratory analytical results for excavation floor samples FS11 and FS17 initially exceeded the Site Closure Criteria for chloride; additional soil was removed from these areas and subsequent floor samples FS11A and FS17A were compliant.

Laboratory analytical results for the delineation samples collected from potholes PH01 through PH05 indicated all COC concentrations were compliant with the Site Closure Criteria. Additionally, the final depth delineation sample from each pothole, collected at a depth ranging from 8 feet to 11 feet bgs, was compliant with the most stringent Table I Closure Criteria and provided vertical delineation of the release. Laboratory analytical results are summarized on Table 1 and the complete laboratory analytical reports are included as Appendix D.

The excavation measured approximately 6,750 square feet in areal extent. A total of approximately 1,460 cubic yards of impacted soil was removed during the excavation activities. The impacted soil was transported and properly disposed of at the R360 Disposal Facility located in Hobbs, New Mexico. After completion of confirmation sampling, the excavation was secured with fencing.

## CLOSURE REQUEST

Site assessment and excavation activities were conducted at the Site to address the February 23, 2023, release of produced water. Laboratory analytical results for the excavation soil samples, collected from the final excavation extent, indicated all COC concentrations were compliant with the Site Closure Criteria and reclamation requirements, where applicable. Additionally, the release was laterally and vertically delineated to below the most stringent Table I Closure Criteria. Based on the laboratory analytical results, no further remediation is required. Maverick will backfill the excavation with material purchased locally and recontour the Site to match pre-existing conditions.

Excavation of impacted soil has mitigated impacts at this Site. Depth to groundwater is well documented to be greater than 80 feet bgs and no sensitive receptors were identified near the release extent. The impacted soil at the Site was excavated to below the most stringent Table I Closure Criteria in the top four feet of the release extent. Additionally, the release was delineated vertically to below the most stringent Table I Closure Criteria at depths ranging from 4 feet to 11 feet bgs. Although there are four monitoring wells within 1,000 feet of the Site, they do not contain freshwater and are used only to monitor existing groundwater impacts. The groundwater that is present in the monitoring wells is over 70 feet deeper than the vertical extent of this release and over 800 feet away. Based on the documented water quality, use of the monitoring wells, the distance between the wells and the release extent, the delineation and remediation activities completed at the Site, and lack of a pathway for the release to encounter groundwater, the monitoring wells are not being considered a sensitive receptor for this Site.

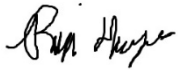
Maverick believes the remedial actions completed are protective of human health, the environment, and groundwater and respectfully requests closure for Incident Number NAPP2307558601. NMOCD notifications are included in Appendix E and the final Form C-141 is included in Appendix F.



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If you have any questions or comments, please contact Ms. Aimee Cole at (720) 384-7365 or [acole@ensolum.com](mailto:acole@ensolum.com).

Sincerely,  
**Ensolum, LLC**



Ronni Hayes  
Assistant Geologist



Aimee Cole  
Senior Managing Scientist

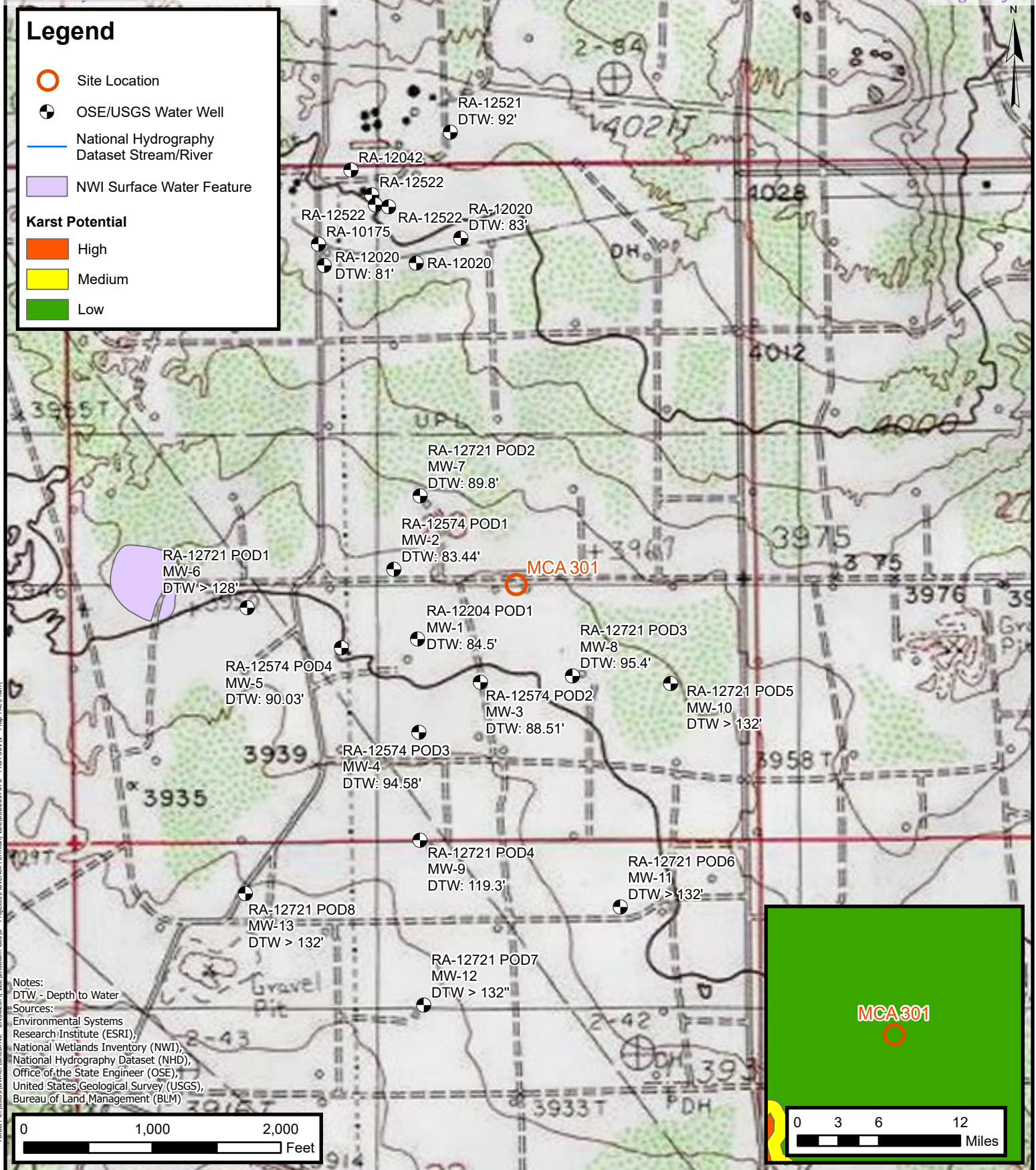
cc: Bryce Wagoner, Maverick Natural Resources  
Bureau of Land Management

Appendices:

Figure 1	Site Receptor Map
Figure 2	Assessment Soil Sample Locations
Figure 3	Excavation and Delineation Soil Sample Locations
Table 1	Soil Sample Analytical Results
Appendix A	Referenced Well Records
Appendix B	Photographic Log
Appendix C	Lithologic Soil Sampling Logs
Appendix D	Laboratory Analytical Reports & Chain of Custody Documentation
Appendix E	NMOCD Notifications
Appendix F	Final C-141



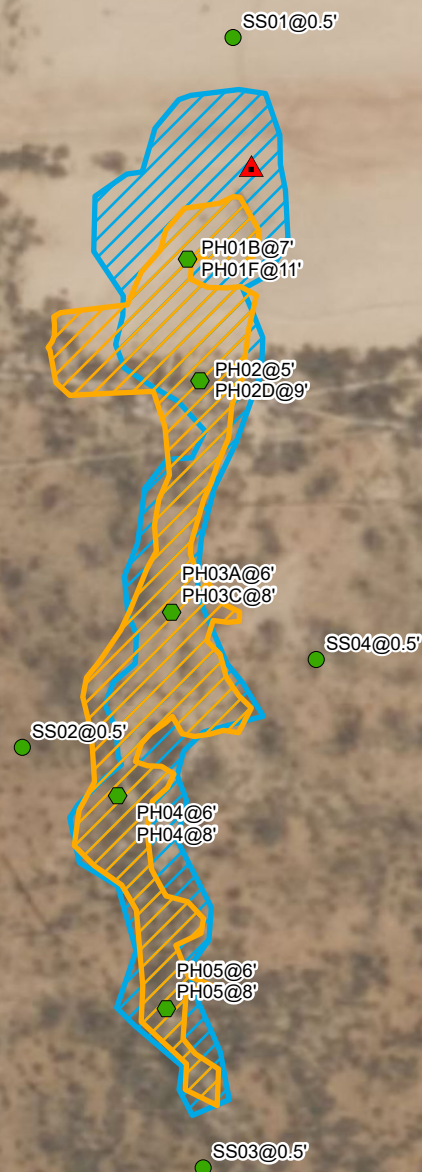
FIGURES





**Legend**

- Assessment Soil Sample in Compliance with Closure Criteria
- ◆ Delineation Soil Sample in Compliance with Closure Criteria
- ▲ Point of Release (POR)
- Release Extent
- Excavation Extent



Notes:  
Sample ID @ Depth Below Ground Surface.

0 12.5 25 50 75 100  
Feet

Sources: Environmental Systems Research Institute (ESRI)

**Assessment and Delineation Soil Sample Locations**

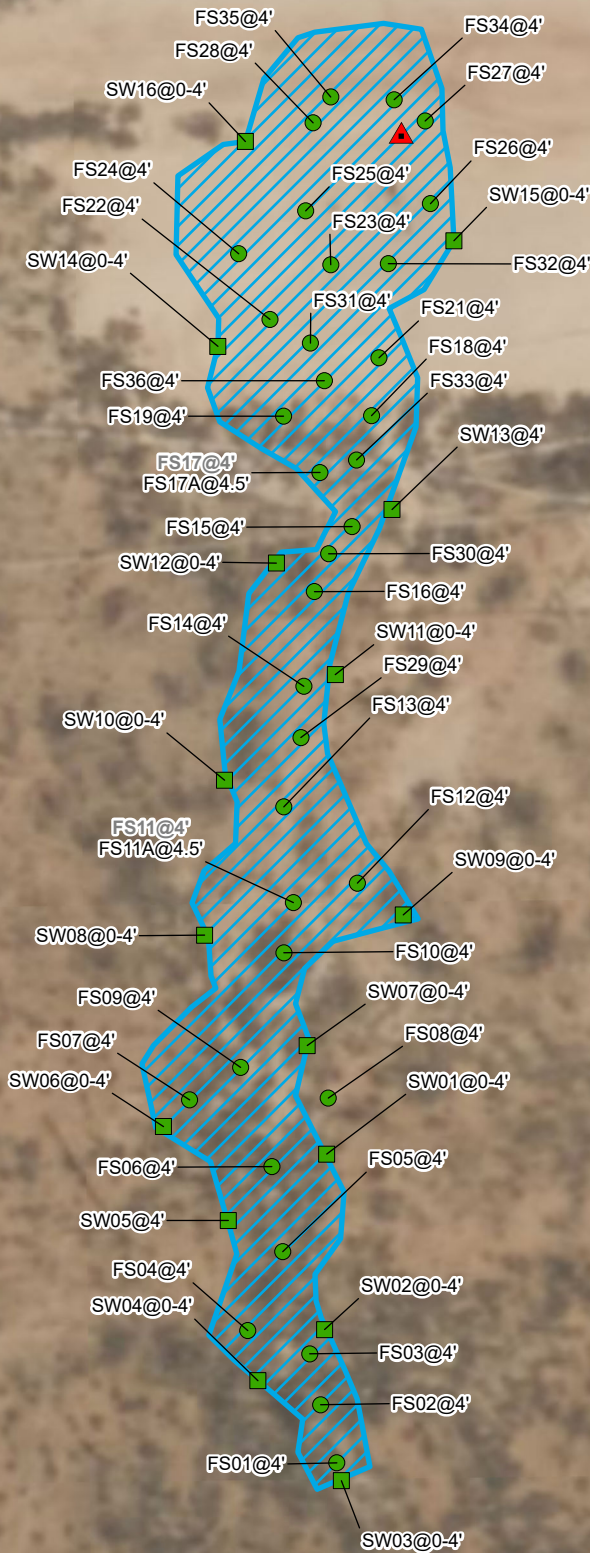
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**FIGURE**  
**2**



**Legend**

- Excavation Floor Sample in Compliance with Closure Criteria
- Excavation Sidewall Sample in Compliance with Closure Criteria
- ▲ Point of Release (POR)
- ▨ Excavation Extent



Notes:  
 Sample ID @ Depth Below Ground Surface.  
 Samples in bold indicate sample exceeded applicable closure criteria.  
 Grey text indicate soil sample was removed during excavation activities.

0 5 10 20 30 40  
 Feet

Sources: Environmental Systems Research Institute (ESRI)

## Excavation Soil Sample Locations

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**FIGURE**

**3**







TABLES



**TABLE 1**  
**SOIL SAMPLE ANALYTICAL RESULTS**  
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Sample Designation	Date	Depth (feet bgs)	Benzene (mg/kg)	Total BTEX (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH ORO (mg/kg)	GRO+DRO (mg/kg)	Total TPH (mg/kg)	Chloride (mg/kg)
NMOCD Table 1 Closure Criteria (NMAC 19.15.29)			10	50	NE	NE	NE	1,000	2,500	10,000
Assessment Soil Samples										
SS01	9/14/2023	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	16.0
SS02	9/14/2023	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	16.0
SS03	9/14/2023	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<16.0
SS04	9/14/2023	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	544
Delineation Soil Samples										
PH01B	9/22/2023	7	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	3,000
PH01F	9/22/2023	11	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	16.0
PH02	9/11/2023	5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	1,120
PH02D	9/11/2023	9	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
PH03A	9/11/2023	6	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	6,400
PH03C	9/11/2023	8	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	64.0
PH04	10/4/2023	6	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	2,200
PH04A	10/4/2023	8	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	112
PH05	10/4/2023	6	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	2,320
PH05A	10/4/2023	8	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	176
Excavation Floor Soil Samples										
FS01	9/6/2023	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
FS02	9/6/2023	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	752
FS03	9/6/2023	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	3,080
FS04	9/6/2023	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	1,760
FS05	9/6/2023	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	1,100
FS06	9/6/2023	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	368
FS07	9/6/2023	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	5,840
FS08	9/8/2023	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	880
FS09	9/8/2023	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	1,720
FS10	9/8/2023	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	1,230



**TABLE 1**  
**SOIL SAMPLE ANALYTICAL RESULTS**  
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**Maverick Natural Resources, LLC**  
**Lea County, New Mexico**

Sample Designation	Date	Depth (feet bgs)	Benzene (mg/kg)	Total BTEX (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH ORO (mg/kg)	GRO+DRO (mg/kg)	Total TPH (mg/kg)	Chloride (mg/kg)
NMOCD Table 1 Closure Criteria (NMAC 19.15.29)			10	50	NE	NE	NE	1,000	2,500	10,000
FS11	9/8/2023	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	18,000
FS11A	9/14/2023	4.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	5,600
FS12	9/8/2023	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	3,000
FS13	9/8/2023	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	1,490
FS14	9/8/2023	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	1,520
FS15	9/8/2023	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	6,960
FS16	9/8/2023	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	768
FS17	9/8/2023	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	18,400
FS17A	9/14/2023	4.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	3,120
FS18	9/8/2023	4	<0.050	<0.300	<10.0	173	126	173	299	8,660
FS19	9/8/2023	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	576
FS20	9/8/2023	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	1,310
FS21	9/8/2023	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	1,520
FS22	9/8/2023	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	1,380
FS23	9/8/2023	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	1,310
FS24	9/11/2023	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	1,220
FS25	9/12/2023	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	1,680
FS26	9/12/2023	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	2,040
FS27	9/12/2023	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	1,740
FS28	9/12/2023	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	9,120
FS29	9/14/2023	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	192
FS30	9/14/2023	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	496
FS31	9/14/2023	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	656
FS32	9/14/2023	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	592
FS33	9/14/2023	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	672
FS34	9/14/2023	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	624
FS35	9/14/2023	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	496
FS36	9/14/2023	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	128



**TABLE 1**  
**SOIL SAMPLE ANALYTICAL RESULTS**  
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Maverick Natural Resources, LLC  
Lea County, New Mexico

Sample Designation	Date	Depth (feet bgs)	Benzene (mg/kg)	Total BTEX (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH ORO (mg/kg)	GRO+DRO (mg/kg)	Total TPH (mg/kg)	Chloride (mg/kg)
NMOCD Table 1 Closure Criteria (NMAC 19.15.29)			10	50	NE	NE	NE	1,000	2,500	10,000
Excavation Sidewall Soil Samples										
SW01*	9/6/2023	0-4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<16.0
SW02*	9/6/2023	0-4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	16.0
SW03*	9/6/2023	0-4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
SW04*	9/6/2023	0-4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
SW05*	9/6/2023	0-4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<16.0
SW06*	9/8/2023	0-4	<0.050	<0.300	<10.0	55.8	41.0	55.8	96.8	192
SW07*	9/8/2023	0-4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	192
SW08*	9/8/2023	0-4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	144
SW09*	9/8/2023	0-4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	432
SW10*	9/8/2023	0-4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	80.0
SW11*	9/8/2023	0-4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	80.0
SW12*	9/8/2023	0-4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	16.0
SW13*	9/8/2023	0-4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
SW14*	9/12/2023	0-4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	208
SW15*	9/12/2023	0-4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	224
SW16*	9/12/2023	0-4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	256

**Notes:**

bgs: below ground surface

mg/kg: milligrams per kilogram

NMOCD: New Mexico Oil Conservation Division

NMAC: New Mexico Administrative Code

BTEX: Benzene, Toluene, Ethylbenzene, and Xylenes

Concentrations in **bold** exceed the NMOCD Table 1 Closure Criteria or reclamation standard where applicable.

GRO: Gasoline Range Organics

DRO: Diesel Range Organics

ORO: Oil Range Organics

TPH: Total Petroleum Hydrocarbon

*Grey* text represents samples that have been excavated

\* indicates sample was collected in area to be reclaimed after remediation is complete; reclamation standard in the top 4 feet is 600 mg/kg for chloride and 100 mg/kg for TPH.



## APPENDIX A

### Referenced Well Records


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# New Mexico Office of the State Engineer

## Point of Diversion Summary

		(quarters are 1=NW 2=NE 3=SW 4=SE)				(quarters are smallest to largest)				(NAD83 UTM in meters)	
Well Tag	POD Number	Q64	Q16	Q4	Sec	Tws	Rng	X	Y		
NA	RA 12721 POD3	2	3	4	28	17S	32E	615417	3629979		
<hr/>											
Driller License: 1456		Driller Company:				WHITE DRILLING COMPANY					
Driller Name: JOHN W WHITE											
Drill Start Date: 04/18/2019		Drill Finish Date:				04/19/2019		Plug Date:			
Log File Date: 05/15/2019		PCW Rcv Date:						Source:		Shallow	
Pump Type:		Pipe Discharge Size:						Estimated Yield:		0 GPM	
Casing Size: 2.00		Depth Well:				115 feet		Depth Water:			
<hr/>											
Water Bearing Stratifications:				Top	Bottom	Description					
				88	111	Sandstone/Gravel/Conglomerate					
				111	112	Shale/Mudstone/Siltstone					
				112	114	Shale/Mudstone/Siltstone					
				114	115	Sandstone/Gravel/Conglomerate					
<hr/>											
Casing Perforations:				Top	Bottom						
				85	115						
<hr/>											

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.

3/13/23 4:07 PM

POINT OF DIVERSION SUMMARY



# WELL RECORD & LOG

OFFICE OF THE STATE ENGINEER

www.ose.state.nm.us

2019 10 25 10:25

1. GENERAL AND WELL LOCATION	OSE POD NO. (WELL NO.) MW-8 <b>POD3</b>		WELL TAG ID NO.		OSE FILE NO(S). RA-12721			
	WELL OWNER NAME(S) ConocoPhillips Company				PHONE (OPTIONAL) 432-258-3451			
	WELL OWNER MAILING ADDRESS 901 W Wall St, Suite 100				CITY Midland	STATE TX	ZIP 79701	
	WELL LOCATION (FROM GPS)	DEGREES 32	MINUTES 48	SECONDS 6.23	N	* ACCURACY REQUIRED: ONE TENTH OF A SECOND		
		LONGITUDE 103	46	2.18	W	* DATUM REQUIRED: WGS 84		
DESCRIPTION RELATING WELL LOCATION TO STREET ADDRESS AND COMMON LANDMARKS - PLSS (SECTION, TOWNSHIP, RANGE) WHERE AVAILABLE MCA 357								
2. DRILLING & CASING INFORMATION	LICENSE NO. WD-1456		NAME OF LICENSED DRILLER John W. White			NAME OF WELL DRILLING COMPANY White Drilling Company, Inc.		
	DRILLING STARTED 04/18/2019		DRILLING ENDED 04/19/2019		DEPTH OF COMPLETED WELL (FT) 115.0		BORE HOLE DEPTH (FT)	
	COMPLETED WELL IS: <input type="checkbox"/> ARTESIAN <input type="checkbox"/> DRY HOLE <input checked="" type="checkbox"/> SHALLOW (UNCONFINED)					DEPTH WATER FIRST ENCOUNTERED (FT) 92.8		
	DRILLING FLUID: <input checked="" type="checkbox"/> AIR <input type="checkbox"/> MUD ADDITIVES - SPECIFY:							
	DRILLING METHOD: <input checked="" type="checkbox"/> ROTARY <input type="checkbox"/> HAMMER <input type="checkbox"/> CABLE TOOL <input type="checkbox"/> OTHER - SPECIFY:							
	DEPTH (feet bgl)		BORE HOLE DIAM. (inches)	CASING MATERIAL AND/OR GRADE (include each casing string, and note sections of screen)	CASING CONNECTION TYPE (add coupling diameter)	CASING INSIDE DIAM. (inches)	CASING WALL THICKNESS (inches)	SLOT SIZE (inches)
	FROM	TO						
	-2.7	85.0	6.0	Sch. 40 PVC	Threads	2.0	1/4"	
	85.0	115.0	6.0	Sch. 40 PVC	Threads	2.0	1/4"	.010
3. ANNULAR MATERIAL	DEPTH (feet bgl)		BORE HOLE DIAM. (inches)	LIST ANNULAR SEAL MATERIAL AND GRAVEL PACK SIZE-RANGE BY INTERVAL	AMOUNT (cubic feet)	METHOD OF PLACEMENT		
	FROM	TO						
	0.0	10.0	6.0	Type 2 Portland Cement w/5% Bentonite	1.963	Pump Mix w/Tremie Pipe		
	10.0	82.0	6.0	Bentonite Chips	21 Bags	Hand Mix		
	82.0	115.0	6.0	20/40 Sand	16 Bags	Hand Mix		

FOR OSE INTERNAL USE

WR-20 WELL RECORD & LOG (Version 04/30/19)

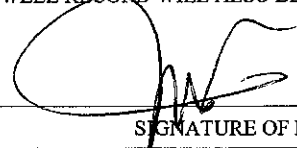
FILE NO. <b>RA-12721</b>	POD NO. <b>3</b>	TRN NO. <b>645505</b>
LOCATION <b>342 TT25 R32E Sec 28</b>	WELL TAG ID NO. <b>NA</b>	PAGE 1 OF 2

4. HYDROGEOLOGIC LOG OF WELL	DEPTH (feet bgl)		THICKNESS (feet)	COLOR AND TYPE OF MATERIAL ENCOUNTERED - INCLUDE WATER-BEARING CAVITIES OR FRACTURE ZONES (attach supplemental sheets to fully describe all units)	WATER BEARING? (YES / NO)	ESTIMATED YIELD FOR WATER- BEARING ZONES (gpm)
	FROM	TO				
	0.0	0.5	0.5	Caliche base	Y    ✓ N	
	0.5	5.5	5.0	Brown sand/clayey sand	Y    ✓ N	
	5.5	22.0	16.5	Caliche	Y    ✓ N	
	22.0	34.0	12.0	Tan brown sand/sandstone	Y    ✓ N	
	34.0	35.0	1.0	Tan brown sand/sandstone gravel	Y    ✓ N	
	35.0	44.0	9.0	Brown sand/sandstone	Y    ✓ N	
	44.0	47.0	3.0	Light brown sand w/gravel	Y    ✓ N	
	47.0	66.0	19.0	Light tan/brown sand/sandstone	Y    ✓ N	
	66.0	67.0	1.0	Brown sand/sandstone	Y    ✓ N	
	67.0	72.0	5.0	Light brown sand/sandstone	Y    ✓ N	
	72.0	83.0	11.0	Green/tan sandstone	Y    ✓ N	
	83.0	86.0	3.0	Yellow/brown and green/brown sandstone	Y    ✓ N	
	86.0	88.0	2.0	Conglomerated green/gray sandstone and gravel	Y    ✓ N	
	88.0	111.0	23.0	Green/gray sandstone	✓ Y    N	
	111.0	112.0	1.0	Gray silty shale	✓ Y    N	
	112.0	114.0	2.0	Dark reddish brown silty shale	✓ Y    N	
	114.0	115.0	1.0	Reddish brown sandstone	✓ Y    N	
	115.0	116.0	1.0	Dark reddish brown silty shale	✓ Y    N	
					Y    N	
					Y    N	
					Y    N	
METHOD USED TO ESTIMATE YIELD OF WATER-BEARING STRATA:					TOTAL ESTIMATED WELL YIELD (gpm):	
<input type="checkbox"/> PUMP <input type="checkbox"/> AIR LIFT <input type="checkbox"/> BAILER <input type="checkbox"/> OTHER - SPECIFY:					0.00	

5. TEST; RIG SUPERVISION	WELL TEST	TEST RESULTS - ATTACH A COPY OF DATA COLLECTED DURING WELL TESTING, INCLUDING DISCHARGE METHOD, START TIME, END TIME, AND A TABLE SHOWING DISCHARGE AND DRAWDOWN OVER THE TESTING PERIOD.
	MISCELLANEOUS INFORMATION:	
	PRINT NAME(S) OF DRILL RIG SUPERVISOR(S) THAT PROVIDED ONSITE SUPERVISION OF WELL CONSTRUCTION OTHER THAN LICENSEE: William B. Atkins	

6. SIGNATURE	BY SIGNING BELOW, I CERTIFY THAT TO THE BEST OF MY KNOWLEDGE AND BELIEF, THE FOREGOING IS A TRUE AND CORRECT RECORD OF THE ABOVE DESCRIBED WELL. I ALSO CERTIFY THAT THE WELL TAG, IF REQUIRED, HAS BEEN INSTALLED AND THAT THIS WELL RECORD WILL ALSO BE FILED WITH THE PERMIT HOLDER WITHIN 30 DAYS AFTER THE COMPLETION OF WELL DRILLING.	
	 SIGNATURE OF DRILLER / PRINT SIGNEE NAME	5/7/2019 DATE

FOR OSE INTERNAL USE


WR-20 WELL RECORD &amp; LOG (Version 04/30/2019)

FILE NO.	RA-12721	POD NO.	3	TRN NO.	645505
LOCATION	342 Sec 28 T17S R32E			WELL TAG ID NO.	PAGE 2 OF 2



# New Mexico Office of the State Engineer

## Point of Diversion Summary

		(quarters are 1=NW 2=NE 3=SW 4=SE) (quarters are smallest to largest)						(NAD83 UTM in meters)	
Well Tag	POD Number	Q64	Q16	Q4	Sec	Tws	Rng	X	Y
NA	RA 12721 POD1	3	2	3	28	17S	32E	614645	3630141 
x									
Driller License:	1456	Driller Company:				WHITE DRILLING COMPANY			
Driller Name:	JOHN W WHITE								
Drill Start Date:	04/18/2019	Drill Finish Date:				04/19/2019		Plug Date:	04/19/2019
Log File Date:	05/15/2019	PCW Rcv Date:				Source:			
Pump Type:		Pipe Discharge Size:				Estimated Yield:			
Casing Size:	2.00	Depth Well:				125 feet		Depth Water:	
x									
Casing Perforations:				Top	Bottom				
				85	125				
x									

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.

3/13/23 4:06 PM

POINT OF DIVERSION SUMMARY



# WELL RECORD & LOG

OFFICE OF THE STATE ENGINEER

[www.ose.state.nm.us](http://www.ose.state.nm.us)

2023 OCT 23 11:35:44

1. GENERAL AND WELL LOCATION	OSE POD NO. (WELL NO.) MW-6		WELL TAG ID NO.		OSE FILE NO(S). RA-12721			
	WELL OWNER NAME(S) ConocoPhillips Company				PHONE (OPTIONAL) 432-258-3451			
	WELL OWNER MAILING ADDRESS 901 W Wall St, Suite 100				CITY Midland	STATE TX	ZIP 79701	
	WELL LOCATION (FROM GPS)	DEGREES LATITUDE 32	MINUTES 48	SECONDS 11.78 N	* ACCURACY REQUIRED: ONE TENTH OF A SECOND			
		LONGITUDE 103	46	31.79 W	* DATUM REQUIRED: WGS 84			
DESCRIPTION RELATING WELL LOCATION TO STREET ADDRESS AND COMMON LANDMARKS - PLSS (SECTION, TOWNSHIP, RANGE) WHERE AVAILABLE MCA 357								
2. DRILLING & CASING INFORMATION	LICENSE NO. WD-1456		NAME OF LICENSED DRILLER John W. White			NAME OF WELL DRILLING COMPANY White Drilling Company, Inc.		
	DRILLING STARTED 04/18/2019	DRILLING ENDED 04/19/2019	DEPTH OF COMPLETED WELL (FT) 125.0		BORE HOLE DEPTH (FT)	DEPTH WATER FIRST ENCOUNTERED (FT) Dry		
	COMPLETED WELL IS: <input type="checkbox"/> ARTESIAN <input checked="" type="checkbox"/> DRY HOLE <input type="checkbox"/> SHALLOW (UNCONFINED)					STATIC WATER LEVEL IN COMPLETED WELL (FT) Dry		
	DRILLING FLUID: <input checked="" type="checkbox"/> AIR <input type="checkbox"/> MUD ADDITIVES - SPECIFY:							
	DRILLING METHOD: <input checked="" type="checkbox"/> ROTARY <input type="checkbox"/> HAMMER <input type="checkbox"/> CABLE TOOL <input type="checkbox"/> OTHER - SPECIFY:							
	DEPTH (feet bgl)		BORE HOLE DIAM. (inches)	CASING MATERIAL AND/OR GRADE (include each casing string, and note sections of screen)	CASING CONNECTION TYPE (add coupling diameter)	CASING INSIDE DIAM. (inches)	CASING WALL THICKNESS (inches)	SLOT SIZE (inches)
	FROM	TO						
	-2.7	85.0	6.0	Sch. 40 PVC	Threads	2.0	1/4"	
	85.0	125.0	6.0	Sch. 40 PVC	Threads	2.0	1/4"	.010
3. ANNULAR MATERIAL	DEPTH (feet bgl)		BORE HOLE DIAM. (inches)	LIST ANNULAR SEAL MATERIAL AND GRAVEL PACK SIZE-RANGE BY INTERVAL	AMOUNT (cubic feet)	METHOD OF PLACEMENT		
	FROM	TO						
	0.0	10.0	6.0	Type 2 Portland Cement w/5% Bentonite	1.963	Pump Mix w/Tremie Pipe		
	10.0	82.0	6.0	Bentonite Chips	25 Bags	Hand Mix		
	82.0	125.0	6.0	20/40 Sand	16 Bags	Hand Mix		

FOR OSE INTERNAL USE

WR-20 WELL RECORD & LOG (Version 04/30/19)

FILE NO.	RA-12721	POD NO.		TRN NO.	645505
LOCATION	233 T17S R32E Sec 28	WELL TAG ID NO.	N/A	PAGE 1 OF 2	



Released to Imaging: 2/13/2024 2:26:32 PM

John R. D Antonio, Jr     P.E.  
State Engineer



Roswell Office  
1900 WEST SECOND STREET  
ROSWELL, NM 88201

**STATE OF NEW MEXICO  
OFFICE OF THE STATE ENGINEER**

Trn Nbr:                645505  
File Nbr:              RA 12721  
Well File Nbr: RA 12721 POD1

May. 28, 2019

JULIE EVANS, TETRA TECH AGENT  
CONOCOPHILLIPS COMPANY  
901 W WALL ST SUITE 100  
MIDLAND, TX     79701

Greetings:

The above numbered permit was issued in your name on 04/16/2019.

The Well Record was received in this office on 05/15/2019, stating that it had been completed on 04/19/2019, and was a dry well. The well is to be plugged according to 19.27.4.30 NMAC.

Please note that another well can be drilled under this permit if the well is completed and the well log filed on or before 04/30/2020.

If you have any questions, please feel free to contact us.

Sincerely,

A handwritten signature in black ink, appearing to read "Andrew Dennis".


Andrew Dennis  
(575) 622-6521

drywell



# New Mexico Office of the State Engineer

## Point of Diversion Summary

		(quarters are 1=NW 2=NE 3=SW 4=SE) (quarters are smallest to largest)						(NAD83 UTM in meters)	
Well Tag	POD Number	Q64	Q16	Q4	Sec	Tws	Rng	X	Y
NA	RA 12721 POD4	1	1	2	33	17S	32E	615055	3629589 
<hr/>									
Driller License:	1456	Driller Company:				WHITE DRILLING COMPANY			
Driller Name:	JOHN W WHITE								
Drill Start Date:	04/18/2019	Drill Finish Date:				04/19/2019		Plug Date:	04/19/2019
Log File Date:	05/15/2019	PCW Rcv Date:				Source:			
Pump Type:		Pipe Discharge Size:				Estimated Yield: 0 GPM			
Casing Size:	6.00	Depth Well:				140 feet		Depth Water:	
<hr/>									
		Casing Perforations:			Top	Bottom			
					90	130			
<hr/>									

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.

3/13/23 4:07 PM

POINT OF DIVERSION SUMMARY



# WELL RECORD & LOG

OFFICE OF THE STATE ENGINEER

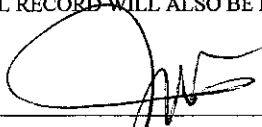
[www.ose.state.nm.us](http://www.ose.state.nm.us)

1. GENERAL AND WELL LOCATION	OSE POD NO. (WELL NO.) MW-9 <b>POD4</b>		WELL TAG ID NO.		OSE FILE NO(S). RA-12721			
	WELL OWNER NAME(S) ConocoPhillips Company				PHONE (OPTIONAL) 432-258-3451			
	WELL OWNER MAILING ADDRESS 901 W Wall St, Suite 100				CITY Midland	STATE TX	ZIP 79701	
	WELL LOCATION (FROM GPS)	DEGREES LATITUDE 32	MINUTES 47	SECONDS 53.70 N	* ACCURACY REQUIRED: ONE TENTH OF A SECOND			
		LONGITUDE 103	46	16.27 W	* DATUM REQUIRED: WGS 84			
DESCRIPTION RELATING WELL LOCATION TO STREET ADDRESS AND COMMON LANDMARKS - PLSS (SECTION, TOWNSHIP, RANGE) WHERE AVAILABLE MCA 357								
2. DRILLING & CASING INFORMATION	LICENSE NO. WD-1456		NAME OF LICENSED DRILLER John W. White			NAME OF WELL DRILLING COMPANY White Drilling Company, Inc.		
	DRILLING STARTED 04/18/2019	DRILLING ENDED 04/19/2019	DEPTH OF COMPLETED WELL (FT) 140.0		BORE HOLE DEPTH (FT)	DEPTH WATER FIRST ENCOUNTERED (FT) Dry		
	COMPLETED WELL IS: <input type="checkbox"/> ARTESIAN <input checked="" type="checkbox"/> DRY HOLE <input type="checkbox"/> SHALLOW (UNCONFINED)					STATIC WATER LEVEL IN COMPLETED WELL (FT) Dry		
	DRILLING FLUID: <input checked="" type="checkbox"/> AIR <input type="checkbox"/> MUD ADDITIVES - SPECIFY:							
	DRILLING METHOD: <input checked="" type="checkbox"/> ROTARY <input type="checkbox"/> HAMMER <input type="checkbox"/> CABLE TOOL <input type="checkbox"/> OTHER - SPECIFY:							
	DEPTH (feet bgl)		BORE HOLE DIAM. (inches)	CASING MATERIAL AND/OR GRADE (include each casing string, and note sections of screen)	CASING CONNECTION TYPE (add coupling diameter)	CASING INSIDE DIAM. (inches)	CASING WALL THICKNESS (inches)	SLOT SIZE (inches)
	FROM	TO						
	-2.7	90.0	6.0	Sch. 40 PVC	Threads	2.0	1/4"	
	90.0	130.0	6.0	Sch. 40 PVC	Threads	2.0	1/4"	.010
3. ANNULAR MATERIAL	DEPTH (feet bgl)		BORE HOLE DIAM. (inches)	LIST ANNULAR SEAL MATERIAL AND GRAVEL PACK SIZE-RANGE BY INTERVAL	AMOUNT (cubic feet)	METHOD OF PLACEMENT		
	FROM	TO						
	0.0	10.0	6.0	Type 2 Portland Cement w/5% Bentonite	1.963	Pump Mix w/Tremie Pipe		
	10.0	85.0	6.0	Bentonite Chips	23 Bags	Hand Mix		
	85.0	130.0	6.0	20/40 Sand	16 Bags	Hand Mix		

FOR OSE INTERNAL USE

WR-20 WELL RECORD & LOG (Version 04/30/19)

FILE NO. <b>RA-12721</b>	POD NO. <b>4</b>	TRN NO. <b>645505</b>
LOCATION <b>121 T17S R32E Sec 33</b>	WELL TAG ID NO. <b>N/A</b>	PAGE 1 OF 2

4. HYDROGEOLOGIC LOG OF WELL	DEPTH (feet bgl)		THICKNESS (feet)	COLOR AND TYPE OF MATERIAL ENCOUNTERED - INCLUDE WATER-BEARING CAVITIES OR FRACTURE ZONES (attach supplemental sheets to fully describe all units)	WATER BEARING? (YES / NO)	ESTIMATED YIELD FOR WATER- BEARING ZONES (gpm)
	FROM	TO				
	0.0	4.5	4.5	Brown sand w/clayey sand	Y    ✓ N	
	4.5	10.0	5.5	Light brown sand	Y    ✓ N	
	10.0	15.0	5.0	Brown sand w/gravel	Y    ✓ N	
	15.0	57.0	42.0	Brown sand/sandstone	Y    ✓ N	
	57.0	59.0	2.0	Light brown sand/sandstone	Y    ✓ N	
	59.0	63.0	4.0	Green/brown sandstone	Y    ✓ N	
	63.0	67.0	4.0	Conglomerated gray /green sandstone w/gravel	Y    ✓ N	
	67.0	72.0	5.0	Green/gray sandstone	Y    ✓ N	
	72.0	75.0	3.0	Dark brown sandstone	Y    ✓ N	
	75.0	93.0	18.0	Layers of brown, green/gray and dark green/gray sandstone	Y    ✓ N	
	93.0	118.0	25.0	Light gray/green sandstone	Y    ✓ N	
	118.0	119.0	1.0	Gray silty shale	Y    ✓ N	
	119.0	136.0	17.0	Red silty shale	Y    ✓ N	
	136.0	137.0	1.0	Gray sandstone	Y    ✓ N	
	137.0	140.0	3.0	Red/brown silty shale	Y    ✓ N	
					Y    N	
					Y    N	
					Y    N	
					Y    N	
					Y    N	
METHOD USED TO ESTIMATE YIELD OF WATER-BEARING STRATA:					TOTAL ESTIMATED WELL YIELD (gpm): 0.00	
<input type="checkbox"/> PUMP <input type="checkbox"/> AIR LIFT <input type="checkbox"/> BAILER <input type="checkbox"/> OTHER - SPECIFY:						
5. TEST; RIG SUPERVISION	WELL TEST	TEST RESULTS - ATTACH A COPY OF DATA COLLECTED DURING WELL TESTING, INCLUDING DISCHARGE METHOD, START TIME, END TIME, AND A TABLE SHOWING DISCHARGE AND DRAWDOWN OVER THE TESTING PERIOD.				
	MISCELLANEOUS INFORMATION: Plugged back from 130-140 w/3 Bags of Bentonite					
	PRINT NAME(S) OF DRILL RIG SUPERVISOR(S) THAT PROVIDED ONSITE SUPERVISION OF WELL CONSTRUCTION OTHER THAN LICENSEE: William B. Atkins					
6. SIGNATURE	BY SIGNING BELOW, I CERTIFY THAT TO THE BEST OF MY KNOWLEDGE AND BELIEF, THE FOREGOING IS A TRUE AND CORRECT RECORD OF THE ABOVE DESCRIBED WELL. I ALSO CERTIFY THAT THE WELL TAG, IF REQUIRED, HAS BEEN INSTALLED AND THAT THIS WELL RECORD WILL ALSO BE FILED WITH THE PERMIT HOLDER WITHIN 30 DAYS AFTER THE COMPLETION OF WELL DRILLING.					
						
	SIGNATURE OF DRILLER / PRINT SIGNEE NAME					
	DATE					

FOR OSE INTERNAL USE

WR-20 WELL RECORD &amp; LOG (Version 04/30/2019)

FILE NO. RA-12721	POD NO. 4	TRN NO. 645505
LOCATION 121 178 R325 Sec 33	WELL TAG ID NO. NA	PAGE 2 OF 2



John R. D Antonio, Jr., P.E.  
State Engineer



Roswell Office  
1900 WEST SECOND STREET  
ROSWELL, NM 88201

**STATE OF NEW MEXICO  
OFFICE OF THE STATE ENGINEER**

Trn Nbr: 645505  
File Nbr: RA 12721  
Well File Nbr: RA 12721 POD4

May. 28, 2019

JULIE EVANS, TETRA TECH AGENT  
CONOCOPHILLIPS COMPANY  
901 W WALL ST SUITE 100  
MIDLAND, TX 79701

Greetings:

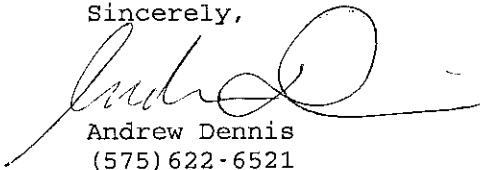
The above numbered permit was issued in your name on 04/16/2019.

The Well Record was received in this office on 05/15/2019, stating that it had been completed on 04/19/2019, and was a dry well. The well is to be plugged according to 19.27.4.30 NMAC.

Please note that another well can be drilled under this permit if the well is completed and the well log filed on or before 04/30/2020.

If you have any questions, please feel free to contact us.

Sincerely,


  
Andrew Dennis  
(575) 622-6521

drywell



# New Mexico Office of the State Engineer

## Point of Diversion Summary

		(quarters are 1=NW 2=NE 3=SW 4=SE) (quarters are smallest to largest)						(NAD83 UTM in meters)	
Well Tag	POD Number	Q64	Q16	Q4	Sec	Tws	Rng	X	Y
NA	RA 12721 POD5	2	4	4	28	17S	32E	615650	3629961 
<hr/>									
Driller License:		1456	Driller Company:			WHITE DRILLING COMPANY			
Driller Name:		WHITE, JOHNNOWN.GENER							
Drill Start Date:		04/27/2020	Drill Finish Date:			04/28/2020	Plug Date:		
Log File Date:		05/18/2020	PCW Rcv Date:			Source:			Shallow
Pump Type:		Pipe Discharge Size:			Estimated Yield:				
Casing Size:		2.00	Depth Well:			130 feet	Depth Water:		124 feet
<hr/>									
Water Bearing Stratifications:				Top	Bottom	Description			
				109	121	Sandstone/Gravel/Conglomerate			
				121	125	Sandstone/Gravel/Conglomerate			
				125	130	Sandstone/Gravel/Conglomerate			
<hr/>									
Casing Perforations:				Top	Bottom				
				90	130				
<hr/>									

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.

3/13/23 4:07 PM

POINT OF DIVERSION SUMMARY



# WELL RECORD & LOG

OFFICE OF THE STATE ENGINEER

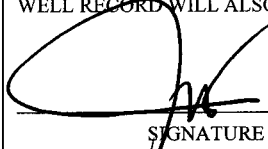
[www.ose.state.nm.us](http://www.ose.state.nm.us)

1. GENERAL AND WELL LOCATION	OSE POD NO. (WELL NO.) MW-10 <b>70DS</b>		WELL TAG ID NO.		OSE FILE NO(S) RA-12721			
	WELL OWNER NAME(S) ConocoPhillips Company				PHONE (OPTIONAL) 432-258-3451			
	WELL OWNER MAILING ADDRESS 901 W Wall St, Suite 100				CITY Midland	STATE TX	ZIP 79701	
	WELL LOCATION (FROM GPS)	DEGREES LATITUDE 32	MINUTES 48	SECONDS 5.56 N	* ACCURACY REQUIRED: ONE TENTH OF A SECOND			
		LONGITUDE 103	45	53.23 W	* DATUM REQUIRED: WGS 84			
DESCRIPTION RELATING WELL LOCATION TO STREET ADDRESS AND COMMON LANDMARKS - PLSS (SECTION, TOWNSHIP, RANGE) WHERE AVAILABLE MCA 357								
2. DRILLING & CASING INFORMATION	LICENSE NO. WD-1456		NAME OF LICENSED DRILLER John W. White			NAME OF WELL DRILLING COMPANY White Drilling Company, Inc.		
	DRILLING STARTED 04/27/2020	DRILLING ENDED 04/28/2020	DEPTH OF COMPLETED WELL (FT) 130.0		BORE HOLE DEPTH (FT)	DEPTH WATER FIRST ENCOUNTERED (FT) 124.25		
	COMPLETED WELL IS: <input type="checkbox"/> ARTESIAN <input type="checkbox"/> DRY HOLE <input checked="" type="checkbox"/> SHALLOW (UNCONFINED)					STATIC WATER LEVEL IN COMPLETED WELL (FT) 124.25		
	DRILLING FLUID: <input checked="" type="checkbox"/> AIR <input type="checkbox"/> MUD ADDITIVES - SPECIFY:							
	DRILLING METHOD: <input checked="" type="checkbox"/> ROTARY <input type="checkbox"/> HAMMER <input type="checkbox"/> CABLE TOOL <input type="checkbox"/> OTHER - SPECIFY:							
	DEPTH (feet bgl)		BORE HOLE DIAM. (inches)	CASING MATERIAL AND/OR GRADE (include each casing string, and note sections of screen)	CASING CONNECTION TYPE (add coupling diameter)	CASING INSIDE DIAM. (inches)	CASING WALL THICKNESS (inches)	SLOT SIZE (inches)
	FROM	TO						
	-2.7	90.0	6.0	Sch. 40 PVC	Threads	2.0	1/4"	
	90.0	130.0	6.0	Sch. 40 PVC	Threads	2.0	1/4"	.010
3. ANNULAR MATERIAL	DEPTH (feet bgl)		BORE HOLE DIAM. (inches)	LIST ANNULAR SEAL MATERIAL AND GRAVEL PACK SIZE-RANGE BY INTERVAL	AMOUNT (cubic feet)	METHOD OF PLACEMENT		
	FROM	TO						
	0.0	10.0	6.0	Type 2 Portland Cement w/5% Bentonite Grout	1.963	Pump Mix w/Tremie Pipe		
	10.0	87.0	6.0	Bentonite Chips	22 Bags	Hand Mix		
	87.0	130.0	6.0	20/40 Sand	16 Bags	Hand Mix		

FOR OSE INTERNAL USE

WR-20 WELL RECORD & LOG (Version 04/30/19)

FILE NO. <b>RA-12721</b>	POD NO. <b>5</b>	TRN NO. <b>670406</b>
LOCATION <b>175.32E.28.442</b>		WELL TAG ID NO. <b>_____</b>
		PAGE 1 OF 2

4. HYDROGEOLOGIC LOG OF WELL	DEPTH (feet bgl)		THICKNESS (feet)	COLOR AND TYPE OF MATERIAL ENCOUNTERED - INCLUDE WATER-BEARING CAVITIES OR FRACTURE ZONES (attach supplemental sheets to fully describe all units)	WATER BEARING? (YES / NO)	ESTIMATED YIELD FOR WATER- BEARING ZONES (gpm)
	FROM	TO				
	0.0	0.5	0.5	Caliche base	Y ✓ N	
	0.5	2.0	1.5	Brown sand/sandstone	Y ✓ N	
	2.0	3.0	1.0	Red/brown sand/sandstone	Y ✓ N	
	3.0	17.0	14.0	Caliche	Y ✓ N	
	17.0	28.0	11.0	Light brown sand/sandstone	Y ✓ N	
	28.0	37.0	9.0	Red/brown sand/sandstone	Y ✓ N	
	37.0	42.0	5.0	Light brown sand/sandstone	Y ✓ N	
	42.0	49.0	7.0	Red/brown silty sandstone	Y ✓ N	
	49.0	52.0	3.0	Gray sandstone	Y ✓ N	
	52.0	60.0	8.0	Purple, gray and light brown layers of sandstone	Y ✓ N	
	60.0	80.0	20.0	Purple/brown sandstone	Y ✓ N	
	80.0	98.0	18.0	Brown and tan sandstone	Y ✓ N	
	98.0	109.0	11.0	Light gray tan sandstone	Y ✓ N	
	109.0	121.0	12.0	Green and brown mixes sandstone	✓ Y N	
	121.0	125.0	4.0	Yellow, brown and gray silty sandstone	✓ Y N	
	125.0	130.0	5.0	Green brown silty sandstone	✓ Y N	
					Y N	
					Y N	
					Y N	
					Y N	
					Y N	
METHOD USED TO ESTIMATE YIELD OF WATER-BEARING STRATA:					TOTAL ESTIMATED WELL YIELD (gpm): 0.00	
<input type="checkbox"/> PUMP <input type="checkbox"/> AIR LIFT <input type="checkbox"/> BAILER <input type="checkbox"/> OTHER - SPECIFY:						
5. TEST; RIG SUPERVISION	WELL TEST	TEST RESULTS - ATTACH A COPY OF DATA COLLECTED DURING WELL TESTING, INCLUDING DISCHARGE METHOD, START TIME, END TIME, AND A TABLE SHOWING DISCHARGE AND DRAWDOWN OVER THE TESTING PERIOD.				
	MISCELLANEOUS INFORMATION:					
	PRINT NAME(S) OF DRILL RIG SUPERVISOR(S) THAT PROVIDED ONSITE SUPERVISION OF WELL CONSTRUCTION OTHER THAN LICENSEE: William B. Atkins					
6. SIGNATURE	BY SIGNING BELOW, I CERTIFY THAT TO THE BEST OF MY KNOWLEDGE AND BELIEF, THE FOREGOING IS A TRUE AND CORRECT RECORD OF THE ABOVE DESCRIBED WELL. I ALSO CERTIFY THAT THE WELL TAG, IF REQUIRED, HAS BEEN INSTALLED AND THAT THIS WELL RECORD WILL ALSO BE FILED WITH THE PERMIT HOLDER WITHIN 30 DAYS AFTER THE COMPLETION OF WELL DRILLING.					
	 SIGNATURE OF DRILLER / PRINT SIGNED NAME				05/11/2020 DATE	

FOR OSE INTERNAL USE


WR-20 WELL RECORD &amp; LOG (Version 04/30/2019)

FILE NO. RA-12721	POD NO. 5	TRN NO. 670406
LOCATION	WELL TAG ID NO.	PAGE 2 OF 2



# New Mexico Office of the State Engineer

## Point of Diversion Summary

		(quarters are 1=NW 2=NE 3=SW 4=SE)							(NAD83 UTM in meters)	
		(quarters are smallest to largest)								
Well Tag	POD Number	Q64	Q16	Q4	Sec	Tws	Rng	X	Y	
NA	RA 12721 POD6	1	2	2	33	17S	32E	615530	3629431	
<hr/>										
<b>Driller License:</b> 1456		<b>Driller Company:</b> WHITE DRILLING COMPANY								
<b>Driller Name:</b> WHITE, JOHNNOWN.GENER										
<b>Drill Start Date:</b> 04/28/2020		<b>Drill Finish Date:</b>			04/28/2020			<b>Plug Date:</b> 04/28/2020		
<b>Log File Date:</b> 05/18/2020		<b>PCW Rcv Date:</b>						<b>Source:</b>		
<b>Pump Type:</b>		<b>Pipe Discharge Size:</b>						<b>Estimated Yield:</b>		
<b>Casing Size:</b>		<b>Depth Well:</b>			130 feet			<b>Depth Water:</b>		

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.

3/13/23 4:07 PM

POINT OF DIVERSION SUMMARY



# WELL RECORD & LOG

OFFICE OF THE STATE ENGINEER

[www.ose.state.nm.us](http://www.ose.state.nm.us)

1. GENERAL AND WELL LOCATION	OSE POD NO. (WELL NO.) MW-11		WELL TAG ID NO.		OSE FILE NO(S). RA-12721			
	WELL OWNER NAME(S) ConocoPhillips Company				PHONE (OPTIONAL) 432-258-3451			
	WELL OWNER MAILING ADDRESS 901 W Wall St, Suite 100				CITY Midland	STATE TX	ZIP 79701	
	WELL LOCATION (FROM GPS)	DEGREES LATITUDE 32	MINUTES 47	SECONDS 48.48 N	* ACCURACY REQUIRED ONE TENTH OF A SECOND			
		LONGITUDE 103	45	58.22 W	* DATUM REQUIRED: WGS 84			
DESCRIPTION RELATING WELL LOCATION TO STREET ADDRESS AND COMMON LANDMARKS - PLSS (SECTION, TOWNSHIP, RANGE) WHERE AVAILABLE MCA 357								
2. DRILLING & CASING INFORMATION	LICENSE NO. WD-1456		NAME OF LICENSED DRILLER John W. White			NAME OF WELL DRILLING COMPANY White Drilling Company, Inc.		
	DRILLING STARTED 04/28/2020	DRILLING ENDED 04/28/2020	DEPTH OF COMPLETED WELL (FT) 130.0	BORE HOLE DEPTH (FT)	DEPTH WATER FIRST ENCOUNTERED (FT) DRY			
	COMPLETED WELL IS: <input type="checkbox"/> ARTESIAN <input checked="" type="checkbox"/> DRY HOLE <input checked="" type="checkbox"/> SHALLOW (UNCONFINED)				STATIC WATER LEVEL IN COMPLETED WELL (FT) DRY			
	DRILLING FLUID: <input checked="" type="checkbox"/> AIR <input checked="" type="checkbox"/> MUD		ADDITIVES - SPECIFY:					
	DRILLING METHOD: <input checked="" type="checkbox"/> ROTARY <input type="checkbox"/> HAMMER <input type="checkbox"/> CABLE TOOL <input type="checkbox"/> OTHER - SPECIFY:							
	DEPTH (feet bgl)		BORE HOLE DIAM. (inches)	CASING MATERIAL AND/OR GRADE (include each casing string, and note sections of screen)	CASING CONNECTION TYPE (add coupling diameter)	CASING INSIDE DIAM. (inches)	CASING WALL THICKNESS (inches)	SLOT SIZE (inches)
	FROM	TO						
	-2.7	90.0	6.0	Sch. 40 PVC	Threads	2.0	1/4"	
	90.0	130.0	6.0	Sch. 40 PVC	Threads	2.0	1/4"	.010
3. ANNULAR MATERIAL	DEPTH (feet bgl)		BORE HOLE DIAM. (inches)	LIST ANNULAR SEAL MATERIAL AND GRAVEL PACK SIZE-RANGE BY INTERVAL	AMOUNT (cubic feet)	METHOD OF PLACEMENT		
	FROM	TO						
	0.0	10.0	6.0	Type 2 Portland Cement w/5% Bentonite Grout	1.963	Pump Mix w/Tremie Pipe		
	10.0	86.0	6.0	Bentonite Chips	22 Bags	Hand Mix		
	86.0	130.0	6.0	20/40 Sand	16 Bags	Hand Mix		

FOR OSE INTERNAL USE

WR-20 WELL RECORD & LOG (Version 04/30/19)

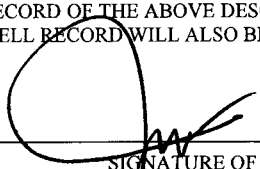
FILE NO.	RA-12721	POD NO.	6	TRN NO.	070404
LOCATION	179.32E.33.221	WELL TAG ID NO.		PAGE 1 OF 2	

4. HYDROGEOLOGIC LOG OF WELL	DEPTH (feet bgl)		THICKNESS (feet)	COLOR AND TYPE OF MATERIAL ENCOUNTERED - INCLUDE WATER-BEARING CAVITIES OR FRACTURE ZONES (attach supplemental sheets to fully describe all units)	WATER BEARING? (YES / NO)	ESTIMATED YIELD FOR WATER- BEARING ZONES (gpm)
	FROM	TO				
	0.0	0.5	0.5	Base caliche	Y ✓ N	
	0.5	13.0	12.5	Brown/red brown sand/sandstone	Y ✓ N	
	13.0	17.0	4.0	Red brown sand/sandstone	Y ✓ N	
	17.0	19.0	2.0	Brown sand/sandstone w/gravel	Y ✓ N	
	19.0	26.0	7.0	Light brown sand/sandstone	Y ✓ N	
	26.0	28.0	2.0	Red/brown sand	Y ✓ N	
	28.0	35.0	7.0	Light brown sand/sandstone	Y ✓ N	
	35.0	52.0	17.0	Red/brown/brown silty sandstone	Y ✓ N	
	52.0	68.0	16.0	Brown sand/sandstone	Y ✓ N	
	68.0	78.0	10.0	Gray sand/sandstone w/purple sandstone mixed	Y ✓ N	
	78.0	100.00	22.0	Light gray/brown sand/sandstone	Y ✓ N	
	100.00	111.00	11.0	Green brown sandstone	Y ✓ N	
	111.0	115.0	4.0	Brown silty sandstone	Y ✓ N	
	115.0	130.0	15.0	Yellow and green brown sandstone	Y ✓ N	
					Y N	
					Y N	
					Y N	
					Y N	
					Y N	
					Y N	
					Y N	
METHOD USED TO ESTIMATE YIELD OF WATER-BEARING STRATA: <input type="checkbox"/> PUMP <input type="checkbox"/> AIR LIFT <input type="checkbox"/> BAILER <input type="checkbox"/> OTHER – SPECIFY:					TOTAL ESTIMATED WELL YIELD (gpm): 0.00	

5. TEST; RIG SUPERVISION	WELL TEST	TEST RESULTS - ATTACH A COPY OF DATA COLLECTED DURING WELL TESTING, INCLUDING DISCHARGE METHOD, START TIME, END TIME, AND A TABLE SHOWING DISCHARGE AND DRAWDOWN OVER THE TESTING PERIOD.
	MISCELLANEOUS INFORMATION:	
	PRINT NAME(S) OF DRILL RIG SUPERVISOR(S) THAT PROVIDED ONSITE SUPERVISION OF WELL CONSTRUCTION OTHER THAN LICENSEE: William B. Atkins	

6. SIGNATURE	BY SIGNING BELOW, I CERTIFY THAT TO THE BEST OF MY KNOWLEDGE AND BELIEF, THE FOREGOING IS A TRUE AND CORRECT RECORD OF THE ABOVE DESCRIBED WELL. I ALSO CERTIFY THAT THE WELL TAG, IF REQUIRED, HAS BEEN INSTALLED AND THAT THIS WELL RECORD WILL ALSO BE FILED WITH THE PERMIT HOLDER WITHIN 30 DAYS AFTER THE COMPLETION OF WELL DRILLING.	
	SIGNATURE OF DRILLER / PRINT SIGNED NAME	DATE
		05/11/2020

FOR USE INTERNAL USE

WR-20 WELL RECORD &amp; LOG (Version 04/30/2019)

FILE NO. RA-12721	POD NO. 66	TRN NO. 670406
LOCATION	WELL TAG ID NO.	PAGE 2 OF 2



# New Mexico Office of the State Engineer

## Point of Diversion Summary

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

Well Tag	POD Number	Q64	Q16	Q4	Sec	Tws	Rng	X	Y
NA	RA 12721 POD7	1	3	2	33	17S	32E	615064	3629198

<b>Driller License:</b>	1456	<b>Driller Company:</b>	WHITE DRILLING COMPANY	
<b>Driller Name:</b>	WHITE, JOHNNOWN.GENER			
<b>Drill Start Date:</b>	04/28/2020	<b>Drill Finish Date:</b>	04/28/2020	<b>Plug Date:</b> 04/28/2020
<b>Log File Date:</b>	05/18/2020	<b>PCW Rcv Date:</b>		<b>Source:</b>
<b>Pump Type:</b>		<b>Pipe Discharge Size:</b>		<b>Estimated Yield:</b>
<b>Casing Size:</b>		<b>Depth Well:</b>	130 feet	<b>Depth Water:</b>

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.

3/13/23 4:08 PM

POINT OF DIVERSION SUMMARY





# WELL RECORD & LOG

OFFICE OF THE STATE ENGINEER

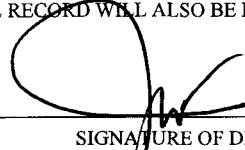
[www.ose.state.nm.us](http://www.ose.state.nm.us)

1. GENERAL AND WELL LOCATION	OSE POD NO. (WELL NO.) MW-12		WELL TAG ID NO.		OSE FILE NO(S) RA-12721			
	WELL OWNER NAME(S) ConocoPhillips Company				PHONE (OPTIONAL) 432-258-3451			
	WELL OWNER MAILING ADDRESS 901 W Wall St, Suite 100				CITY Midland	STATE TX	ZIP 79701	
	WELL LOCATION (FROM GPS)	DEGREES LATITUDE 32	MINUTES 47	SECONDS 40.82 N	* ACCURACY REQUIRED: ONE TENTH OF A SECOND * DATUM REQUIRED: WGS 84			
DESCRIPTION RELATING WELL LOCATION TO STREET ADDRESS AND COMMON LANDMARKS - PLSS (SECTION, TOWNSHIP, RANGE) WHERE AVAILABLE MCA 357								
2. DRILLING & CASING INFORMATION	LICENSE NO WD-1456		NAME OF LICENSED DRILLER John W. White			NAME OF WELL DRILLING COMPANY White Drilling Company, Inc.		
	DRILLING STARTED 04/28/2020	DRILLING ENDED 04/28/2020	DEPTH OF COMPLETED WELL (FT) 130.0	BORE HOLE DEPTH (FT)	DEPTH WATER FIRST ENCOUNTERED (FT) DRY			
	COMPLETED WELL IS: <input type="checkbox"/> ARTESIAN <input type="checkbox"/> DRY HOLE <input checked="" type="checkbox"/> SHALLOW (UNCONFINED)				STATIC WATER LEVEL IN COMPLETED WELL (FT) DRY			
	DRILLING FLUID: <input checked="" type="checkbox"/> AIR <input type="checkbox"/> MUD ADDITIVES - SPECIFY:							
	DRILLING METHOD: <input checked="" type="checkbox"/> ROTARY <input type="checkbox"/> HAMMER <input type="checkbox"/> CABLE TOOL <input type="checkbox"/> OTHER - SPECIFY:							
	DEPTH (feet bgl)		BORE HOLE DIAM (inches)	CASING MATERIAL AND/OR GRADE (include each casing string, and note sections of screen)	CASING CONNECTION TYPE (add coupling diameter)	CASING INSIDE DIAM. (inches)	CASING WALL THICKNESS (inches)	SLOT SIZE (inches)
	FROM	TO						
	-2.7	90.0	6.0	Sch. 40 PVC	Threads	2.0	1/4"	
	90.0	130.0	6.0	Sch. 40 PVC	Threads	2.0	1/4"	.010
3. ANNULAR MATERIAL	DEPTH (feet bgl)		BORE HOLE DIAM. (inches)	LIST ANNULAR SEAL MATERIAL AND GRAVEL PACK SIZE-RANGE BY INTERVAL	AMOUNT (cubic feet)	METHOD OF PLACEMENT		
	FROM	TO						
	0.0	10.0	6.0	Type 2 Portland Cement w/5% Bentonite Grout	1.963	Pump Mix w/Tremie Pipe		
	10.0	86.0	6.0	Bentonite Chips	22 Bags	Hand Mix		
	86.0	130.0	6.0	20/40 Sand	16 Bags	Hand Mix		

FOR OSE INTERNAL USE

WR-20 WELL RECORD & LOG (Version 04/30/19)

FILE NO. RA-12721	POD NO. 7	TRN NO. 670906
LOCATION 175.32E.38.231	WELL TAG ID NO.	PAGE 1 OF 2

4. HYDROGEOLOGIC LOG OF WELL	DEPTH (feet bgl)		THICKNESS (feet)	COLOR AND TYPE OF MATERIAL ENCOUNTERED - INCLUDE WATER-BEARING CAVITIES OR FRACTURE ZONES (attach supplemental sheets to fully describe all units)	WATER BEARING? (YES / NO)	ESTIMATED YIELD FOR WATER- BEARING ZONES (gpm)
	FROM	TO				
	0.0	6.0	6.0	Brown sand	Y ✓ N	
	6.0	15.0	9.0	Caliche w/brown sand	Y ✓ N	
	15.0	45.0	30.0	Red brown sand/sandstone	Y ✓ N	
	45.0	68.0	23.0	Red brown silty sandstone	Y ✓ N	
	68.0	71.0	3.0	Brown sand/sandstone w/gravel	Y ✓ N	
	71.0	74.0	3.0	Green sand/sandstone	Y ✓ N	
	74.0	78.0	4.0	Gray sand/sandstone	Y ✓ N	
	78.0	81.0	3.0	Green brown sand/sandstone	Y ✓ N	
	81.0	84.0	3.0	Streaks of gray, green and brown sandstone	Y ✓ N	
	84.0	88.0	4.0	Firm gray silty limestone	Y ✓ N	
	88.0	90.0	2.0	Green brown sandstone	Y ✓ N	
	90.0	96.0	6.0	Dark green gray sandstone	Y ✓ N	
	96.0	115.0	19.0	Light green gray sandstone	Y ✓ N	
	115.0	117.0	2.0	Dark gray sandstone	Y ✓ N	
	117.0	119.0	2.0	Light gray/green sandstone	Y ✓ N	
	119.0	130.0	11.0	Green brown sandstone	Y ✓ N	
					Y N	
					Y N	
					Y N	
					Y N	
					Y N	
METHOD USED TO ESTIMATE YIELD OF WATER-BEARING STRATA: <input type="checkbox"/> PUMP <input type="checkbox"/> AIR LIFT <input type="checkbox"/> BAILER <input type="checkbox"/> OTHER - SPECIFY:					TOTAL ESTIMATED WELL YIELD (gpm): 0.00	
5. TEST; RIG SUPERVISION	WELL TEST	TEST RESULTS - ATTACH A COPY OF DATA COLLECTED DURING WELL TESTING, INCLUDING DISCHARGE METHOD, START TIME, END TIME, AND A TABLE SHOWING DISCHARGE AND DRAWDOWN OVER THE TESTING PERIOD.				
	MISCELLANEOUS INFORMATION:					
	PRINT NAME(S) OF DRILL RIG SUPERVISOR(S) THAT PROVIDED ONSITE SUPERVISION OF WELL CONSTRUCTION OTHER THAN LICENSEE: William B. Atkins					
6. SIGNATURE	BY SIGNING BELOW, I CERTIFY THAT TO THE BEST OF MY KNOWLEDGE AND BELIEF, THE FOREGOING IS A TRUE AND CORRECT RECORD OF THE ABOVE DESCRIBED WELL. I ALSO CERTIFY THAT THE WELL TAG, IF REQUIRED, HAS BEEN INSTALLED AND THAT THIS WELL RECORD WILL ALSO BE FILED WITH THE PERMIT HOLDER WITHIN 30 DAYS AFTER THE COMPLETION OF WELL DRILLING.					
	 SIGNATURE OF DRILLER / PRINT SIGNEE NAME					05/11/2020 DATE

FOR USE INTERNAL USE


WR-20 WELL RECORD &amp; LOG (Version 04/30/2019)

FILE NO. RA-12721	POD NO. 7	TRN NO. 676406
LOCATION	WELL TAG ID NO.	PAGE 2 OF 2



# New Mexico Office of the State Engineer

## Point of Diversion Summary

		(quarters are 1=NW 2=NE 3=SW 4=SE)				(quarters are smallest to largest)				(NAD83 UTM in meters)	
Well Tag	POD Number	Q64	Q16	Q4	Sec	Tws	Rng	X	Y		
NA	RA 12721 POD8	1	2	1	33	17S	32E	614640	3629463		
<hr/>											
Driller License: 1456		Driller Company:				WHITE DRILLING COMPANY					
Driller Name:		JOHN W WHITE									
Drill Start Date: 09/28/2020		Drill Finish Date:				09/28/2020		Plug Date:			
Log File Date: 10/14/2020		PCW Rcv Date:						Source:		Shallow	
Pump Type:		Pipe Discharge Size:						Estimated Yield:		0 GPM	
Casing Size: 2.00		Depth Well:				130 feet		Depth Water:		108 feet	
<hr/>											
Water Bearing Stratifications:				Top	Bottom	Description					
					106	115	Sandstone/Gravel/Conglomerate				
					115	117	Sandstone/Gravel/Conglomerate				
					117	118	Sandstone/Gravel/Conglomerate				
					118	130	Sandstone/Gravel/Conglomerate				
<hr/>											
Casing Perforations:				Top	Bottom						
					90	130					
<hr/>											

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.

3/13/23 4:08 PM

POINT OF DIVERSION SUMMARY



# WELL RECORD & LOG

OFFICE OF THE STATE ENGINEER

[www.ose.state.nm.us](http://www.ose.state.nm.us)

1. GENERAL AND WELL LOCATION	OSE POD NO. (WELL NO.) RA-12721-POD8 (PMW-13)		WELL TAG ID NO.		OSE FILE NO(S). RA-12721			
	WELL OWNER NAME(S) ConocoPhillips Company				PHONE (OPTIONAL) 432-258-3451			
	WELL OWNER MAILING ADDRESS 1500 City West, Suite 1000				CITY Houston	STATE TX	ZIP 77042	
	WELL LOCATION (FROM GPS)	DEGREES LATITUDE 32	MINUTES 47	SECONDS 49.75 N	* ACCURACY REQUIRED: ONE TENTH OF A SECOND			
		LONGITUDE 103	46	32.26 W	* DATUM REQUIRED: WGS 84			
DESCRIPTION RELATING WELL LOCATION TO STREET ADDRESS AND COMMON LANDMARKS - PLSS (SECTION, TOWNSHIP, RANGE) WHERE AVAILABLE MCA 357								
2. DRILLING & CASING INFORMATION	LICENSE NO. WD-1456		NAME OF LICENSED DRILLER John W. White			NAME OF WELL DRILLING COMPANY White Drilling Company, Inc.		
	DRILLING STARTED 09/28/2020	DRILLING ENDED 09/28/2020	DEPTH OF COMPLETED WELL (FT) 130.0	BORE HOLE DEPTH (FT)	DEPTH WATER FIRST ENCOUNTERED (FT) 108			
	COMPLETED WELL IS: <input type="checkbox"/> ARTESIAN <input type="checkbox"/> DRY HOLE <input checked="" type="checkbox"/> SHALLOW (UNCONFINED)				STATIC WATER LEVEL IN COMPLETED WELL (FT) 116			
	DRILLING FLUID: <input checked="" type="checkbox"/> AIR <input type="checkbox"/> MUD		ADDITIVES - SPECIFY:					
	DRILLING METHOD: <input checked="" type="checkbox"/> ROTARY <input type="checkbox"/> HAMMER <input type="checkbox"/> CABLE TOOL <input type="checkbox"/> OTHER - SPECIFY:							
	DEPTH (feet bgl)		BORE HOLE DIAM. (inches)	CASING MATERIAL AND/OR GRADE (include each casing string, and note sections of screen)	CASING CONNECTION TYPE (add coupling diameter)	CASING INSIDE DIAM. (inches)	CASING WALL THICKNESS (inches)	SLOT SIZE (inches)
	FROM	TO						
	-2.7	90.0	6.0	Sch. 40 PVC	Threads	2.0	1/4"	
	90.0	130.0	6.0	Sch. 40 PVC	Threads	2.0	1/4"	.010
3. ANNULAR MATERIAL	DEPTH (feet bgl)		BORE HOLE DIAM. (inches)	LIST ANNULAR SEAL MATERIAL AND GRAVEL PACK SIZE-RANGE BY INTERVAL	AMOUNT (cubic feet)	METHOD OF PLACEMENT		
	FROM	TO						
	0.0	10.0	6.0	Type 2 Portland Cement w/5% Bentonite Grout	1.963	Pump Mix w/Tremie Pipe		
	10.0	86.0	6.0	Bentonite Chips	26 Bags	Hand Mix		
	86.0	130.0	6.0	20/40 Sand	16 Bags	Hand Mix		

FOR OSE INTERNAL USE

WR-20 WELL RECORD & LOG (Version 04/30/19)

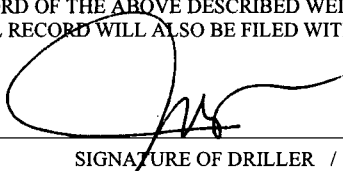
FILE NO. RA-12721	POD NO. 8	TRN NO. 677686
LOCATION 211 T17S R32E Sec 33	WELL TAG ID NO. N/A	PAGE 1 OF 2

4. HYDROGEOLOGIC LOG OF WELL	DEPTH (feet bgl)		THICKNESS (feet)	COLOR AND TYPE OF MATERIAL ENCOUNTERED - INCLUDE WATER-BEARING CAVITIES OR FRACTURE ZONES (attach supplemental sheets to fully describe all units)	WATER BEARING? (YES / NO)	ESTIMATED YIELD FOR WATER- BEARING ZONES (gpm)
	FROM	TO				
	0.0	1.0	1.0	Caliche base	Y    ✓ N	
	1.0	9.0	8.0	Brown sand	Y    ✓ N	
	9.0	13.0	4.0	Light brown sand/sandstone w/gravel "Caliche"	Y    ✓ N	
	13.0	48.0	35.0	Brown and light brown sandstone	Y    ✓ N	
	48.0	59.0	9.0	Brown and red brown sand/sandstone	Y    ✓ N	
	59.0	60.0	1.0	Firm brown sandstone	Y    ✓ N	
	60.0	62.0	2.0	Brown sandstone	Y    ✓ N	
	62.0	73.0	11.0	Gray and green brown sandstone	Y    ✓ N	
	73.0	76.0	3.0	Mixed brown, green, and light brown sandstone	Y    ✓ N	
	76.0	84.0	8.0	Light gray sandstone	Y    ✓ N	
	84.0	92.0	8.0	Light gray sandstone w/brown sandstone mixed	Y    ✓ N	
	92.0	98.0	7.0	Firm brown and gray sandstone	Y    ✓ N	
	98.0	101.0	3.0	Brown sandstone	Y    ✓ N	
	101.0	104.0	3.0	Gray and light brown mixed sandstone	Y    ✓ N	
	104.0	106.0	2.0	Dark gray silty sandstone	Y    ✓ N	
	106.0	115.0	9.0	Green and gray silty sandstone	✓ Y    N	
	115.0	117.0	2.0	Firm gray sandstone	✓ Y    N	
	117.0	118.0	1.0	Mixed gray and brown sandstone	✓ Y    N	
	118.0	130.0	12.0	Dark red/brown siltstone/shale w/molded gray silty sandstone	✓ Y    N	
					Y    N	
					Y    N	
METHOD USED TO ESTIMATE YIELD OF WATER-BEARING STRATA:					TOTAL ESTIMATED WELL YIELD (gpm):	
<input type="checkbox"/> PUMP <input type="checkbox"/> AIR LIFT <input type="checkbox"/> BAILER <input type="checkbox"/> OTHER - SPECIFY:					0.00	

5. TEST; RIG SUPERVISION	WELL TEST	TEST RESULTS - ATTACH A COPY OF DATA COLLECTED DURING WELL TESTING, INCLUDING DISCHARGE METHOD, START TIME, END TIME, AND A TABLE SHOWING DISCHARGE AND DRAWDOWN OVER THE TESTING PERIOD.
	MISCELLANEOUS INFORMATION:	
PRINT NAME(S) OF DRILL RIG SUPERVISOR(S) THAT PROVIDED ONSITE SUPERVISION OF WELL CONSTRUCTION OTHER THAN LICENSEE: William B. Atkins		

6. SIGNATURE	BY SIGNING BELOW, I CERTIFY THAT TO THE BEST OF MY KNOWLEDGE AND BELIEF, THE FOREGOING IS A TRUE AND CORRECT RECORD OF THE ABOVE DESCRIBED WELL. I ALSO CERTIFY THAT THE WELL TAG, IF REQUIRED, HAS BEEN INSTALLED AND THAT THIS WELL RECORD WILL ALSO BE FILED WITH THE PERMIT HOLDER WITHIN 30 DAYS AFTER THE COMPLETION OF WELL DRILLING.	
 SIGNATURE OF DRILLER / PRINT SIGNEE NAME	10/6/2020 DATE	

FOR USE INTERNAL USE

WR-20 WELL RECORD &amp; LOG (Version 04/30/2019)

FILE NO.	RA-12721	POD NO.	8	TRN NO.	677686
LOCATION	211	T175 R32 E Sec33	WELL TAG ID NO.	NA	PAGE 2 OF 2

File No. **RA-12574****NEW MEXICO OFFICE OF THE STATE ENGINEER**
**APPLICATION FOR PERMIT TO DRILL A WELL  
WITH NO CONSUMPTIVE USE OF WATER**


(check applicable box):

For fees, see State Engineer website: <http://www.ose.state.nm.us/>

Purpose:	<input type="checkbox"/> Pollution Control And / Or Recovery	<input type="checkbox"/> Geo-Thermal
<input type="checkbox"/> Exploratory	<input type="checkbox"/> Construction Site De-Watering	<input type="checkbox"/> Other (Describe):
<input checked="" type="checkbox"/> Monitoring	<input type="checkbox"/> Mineral De-Watering	

A separate permit will be required to apply water to beneficial use.

<input type="checkbox"/> Temporary Request - Requested Start Date:	Requested End Date:
--	---------------------

Plugging Plan of Operations Submitted? ☐ Yes ☒ No

2017 OCT 12 AM 11:52  
STATE ENGINEER  
ROSEVILLE, CALIFORNIA

**1. APPLICANT(S)**

Name: <b>ConocoPhillips Company</b>	Name:
Contact or Agent: <b>Todd Wells with Tetra Tech, agent for ConocoPhillips</b> check here if Agent <input checked="" type="checkbox"/>	Contact or Agent: check here if Agent <input type="checkbox"/>
Mailing Address: <b>4000 N. Big Spring St., Suite 401</b>	Mailing Address:
City: <b>Midland</b>	City:
State: <b>TX</b> Zip Code: <b>79705</b>	State: Zip Code:
Phone: <b>(432) 682-4559</b> <input type="checkbox"/> Home <input type="checkbox"/> Cell Phone (Work): <b>(432) 687-8124</b>	Phone: <input type="checkbox"/> Home <input type="checkbox"/> Cell Phone (Work):
E-mail (optional): <b>Todd.Wells@tetrattech.com</b>	E-mail (optional):

FOR OSE INTERNAL USE

Application for Permit, Form wr-07, Rev 4/12/12

File Number: <b>RA-12574</b>	Trn Number: <b>617940</b>
Trans Description (optional): <b>EXPL - PODS 1-4 - monitor</b>	
Sub-Basin: <b>N/A</b>	
PCW/LOG Due Date: <b>1-31-19</b>	

## 2. WELL(S) Describe the well(s) applicable to this application.

Location Required: Coordinate location must be reported in NM State Plane (NAD 83), UTM (NAD 83), or Latitude/Longitude (Lat/Long - WGS84).

District II (Roswell) and District VII (Cimarron) customers, provide a PLSS location in addition to above.

- ☐ NM State Plane (NAD83) (Feet)
 ☐ UTM (NAD83) (Meters)
 ☒ Lat/Long (WGS84) (to the nearest 1/10<sup>th</sup> of second)
- ☐ NM West Zone
 ☐ Zone 12N
- ☐ NM East Zone
 ☐ Zone 13N
- ☐ NM Central Zone

Well Number (if known):	X or Easting or Longitude:	Y or Northing or Latitude:	Provide if known: -Public Land Survey System (PLSS) (Quarters or Halves, Section, Township, Range) OR - Hydrographic Survey Map & Tract; OR - Lot, Block & Subdivision; OR - Land Grant Name
MW-2 <b>RA-12574-P001</b>	w. 103.77177° <b>103,46,18.372</b>	n. 32.80406° <b>32,48,14.616</b>	Sec. 28, T-17S, R-32E <b>NENESW</b>
MW-3 <b>RA-12574-P002</b>	w. 103.76961° <b>103,46,10.596</b>	n. 32.80162° <b>32,48,5.832</b>	Sec. 28, T-17S, R-32E <b>NWSWSE</b>
MW-4 <b>RA-12574-P003</b>	w. 103.77118° <b>103,46,16.248</b>	n. 32.80056° <b>32,48,2.016</b>	Sec. 28, T-17S, R-32E <b>NWSWSE</b>
MW-5 <b>RA-12574-P004</b>	w. 103.77312° <b>103,46,23.232</b>	n. 32.80239° <b>32,48,8.604</b>	Sec. 28, T-17S, R-32E <b>SENE SW</b>
NOTE: If more well locations need to be described, complete form WR-08 (Attachment 1 – POD Descriptions) Additional well descriptions are attached: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If yes, how many _____			
Other description relating well to common landmarks, streets, or other:			
Well is on land owned by: <b>Federal Bureau Of Land Management</b>			
Well Information: NOTE: If more than one (1) well needs to be described, provide attachment. Attached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If yes, how many _____			
Approximate depth of well (feet): <b>120.00</b>		Outside diameter of well casing (inches): <b>2.00</b>	
Driller Name: <b>White Drilling</b>		Driller License Number: <b>1456</b>	

## 3. ADDITIONAL STATEMENTS OR EXPLANATIONS

The proposed monitor wells MW-2, MW-3, MW-4 and MW-5 are on Federal Bureau of Land Management land. On September 14, 2017, Shelly Tucker with the BLM was notified via telephone of the proposed activities. On September 15, 2017, a Sundry Notice was submitted to her via email at her request. The monitor wells will be used for sampling to assess groundwater quality for potential chloride impacts from a flow line release.

FOR OSE INTERNAL USE

Application for Permit, Form wr-07

File Number:

**RA-12574**

Trn Number:

**617940**

Page 2 of 3



**4. SPECIFIC REQUIREMENTS:** The applicant must include the following, as applicable to each type. Please check the appropriate boxes, to indicate the information has been included and/or attached to this application:

<b>Exploratory:</b> <input type="checkbox"/> Include a description of any proposed pump test, if applicable.	<b>Pollution Control and/or Recovery:</b> <input type="checkbox"/> Include a plan for pollution control/recovery, that includes the following: <input type="checkbox"/> A description of the need for the pollution control or recovery operation. <input type="checkbox"/> The estimated maximum period of time for completion of the operation. <input type="checkbox"/> The annual diversion amount. <input type="checkbox"/> The annual consumptive use amount. <input type="checkbox"/> The maximum amount of water to be diverted and injected for the duration of the operation. <input type="checkbox"/> The method and place of discharge.	<b>Construction De-Watering:</b> <input type="checkbox"/> Include a description of the proposed dewatering operation, <input type="checkbox"/> The estimated duration of the operation, <input type="checkbox"/> The maximum amount of water to be diverted, <input type="checkbox"/> A description of the need for the dewatering operation, and, <input type="checkbox"/> A description of how the diverted water will be disposed of.	<b>Mine De-Watering:</b> <input type="checkbox"/> Include a plan for pollution control/recovery, that includes the following: <input type="checkbox"/> A description of the need for mine dewatering. <input type="checkbox"/> The estimated maximum period of time for completion of the operation. <input type="checkbox"/> The source(s) of the water to be diverted. <input type="checkbox"/> The geohydrologic characteristics of the aquifer(s). <input type="checkbox"/> The maximum amount of water to be diverted per annum. <input type="checkbox"/> The maximum amount of water to be diverted for the duration of the operation. <input type="checkbox"/> The quality of the water. <input type="checkbox"/> The method of measurement of water diverted.
<b>Monitoring:</b> <input checked="" type="checkbox"/> Include the reason for the monitoring well, and, <input type="checkbox"/> The duration of the planned monitoring.	<input type="checkbox"/> The method of measurement of water produced and discharged. <input type="checkbox"/> The source of water to be injected. <input type="checkbox"/> The method of measurement of water injected. <input type="checkbox"/> The characteristics of the aquifer. <input type="checkbox"/> The method of determining the resulting annual consumptive use of water and depletion from any related stream system. <input type="checkbox"/> Proof of any permit required from the New Mexico Environment Department. <input type="checkbox"/> An access agreement if the applicant is not the owner of the land on which the pollution plume control or recovery well is to be located.	<b>Geo-Thermal:</b> <input type="checkbox"/> Include a description of the geothermal heat exchange project, <input type="checkbox"/> The amount of water to be diverted and re-injected for the project, <input type="checkbox"/> The time frame for constructing the geothermal heat exchange project, and, <input type="checkbox"/> The duration of the project. <input type="checkbox"/> Preliminary surveys, design data, and additional information shall be included to provide all essential facts relating to the request.	<input type="checkbox"/> The recharge of water to the aquifer. <input type="checkbox"/> Description of the estimated area of hydrologic effect of the project. <input type="checkbox"/> The method and place of discharge. <input type="checkbox"/> An estimation of the effects on surface water rights and underground water rights from the mine dewatering project. <input type="checkbox"/> A description of the methods employed to estimate effects on surface water rights and underground water rights. <input type="checkbox"/> Information on existing wells, rivers, springs, and wetlands within the area of hydrologic effect.

#### ACKNOWLEDGEMENT

I, We (name of applicant(s)), **Todd Wells, Agent for ConocoPhillips Company**  
 Print Name(s)

affirm that the foregoing statements are true to the best of (my, our) knowledge and belief.

Todd Wells  
 Applicant Signature

\_\_\_\_\_  
 Applicant Signature

#### ACTION OF THE STATE ENGINEER

This application is:

☒ approved ☐ partially approved ☐ denied

provided it is not exercised to the detriment of any others having existing rights, and is not contrary to the conservation of water in New Mexico nor detrimental to the public welfare and further subject to the attached conditions of approval.

Witness my hand and seal this 5<sup>th</sup> day of January, 20 18, for the State Engineer,

Tom Blaine, P.E.

\_\_\_\_\_  
 State Engineer

By: Andy Morley  
 Signature

Andy Morley

\_\_\_\_\_  
 Print

Title: District II Manager  
 Print

FOR OSE INTERNAL USE

Application for Permit, Form wr-07

File Number:

RA-12574

Trn Number:

617940



NEW MEXICO STATE ENGINEER OFFICE  
PERMIT TO EXPLORE

SPECIFIC CONDITIONS OF APPROVAL

- 17-1A Depth of the well shall not exceed the thickness of the valley fill.
- 17-4 No water shall be appropriated and beneficially used under this permit.
- 17-7 The Permittee shall utilize the highest and best technology available to ensure conservation of water to the maximum extent practical.
- 17-B The well shall be drilled by a driller licensed in the State of New Mexico in accordance with 72-12-12 NMSA 1978. A licensed driller shall not be required for the construction of a well driven without the use of a drill rig, provided that the casing shall not exceed two and three-eighths (2 3/8) inches outside diameter.
- 17-C The well driller must file the well record with the State Engineer and the applicant within 30 days after the well is drilled or driven. It is the well owner's responsibility to ensure that the well driller files the well record.  
The well driller may obtain the well record form from any District Office or the Office of the State Engineer website.
- 17-P The well shall be constructed, maintained, and operated to prevent inter-aquifer exchange of water and to prevent loss of hydraulic head between hydrogeologic zones.
- 17-Q The State Engineer retains jurisdiction over this permit.

Trn Desc: RA 12574 PODS1-4

File Number: RA 12574

Trn Number: 617940

page: 1

NEW MEXICO STATE ENGINEER OFFICE  
PERMIT TO EXPLORE

SPECIFIC CONDITIONS OF APPROVAL (Continued)

LOG The Point of Diversion RA 12574 POD1 must be completed and the Well Log filed on or before 01/31/2019.

LOG The Point of Diversion RA 12574 POD2 must be completed and the Well Log filed on or before 01/31/2019.

LOG The Point of Diversion RA 12574 POD3 must be completed and the Well Log filed on or before 01/31/2019.

LOG The Point of Diversion RA 12574 POD4 must be completed and the Well Log filed on or before 01/31/2019.

IT IS THE PERMITTEE'S RESPONSIBILITY TO OBTAIN ALL AUTHORIZATIONS AND PERMISSIONS TO DRILL ON PROPERTY OF OTHER OWNERSHIP BEFORE COMMENCING ACTIVITIES UNDER THIS PERMIT.

ACTION OF STATE ENGINEER

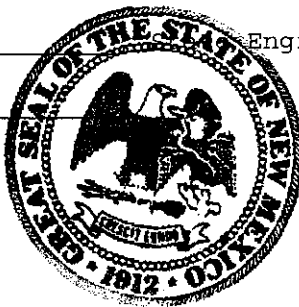
Notice of Intention Rcvd:	Date Rcvd. Corrected:
Formal Application Rcvd: 10/12/2017	Pub. of Notice Ordered:
Date Returned - Correction:	Affidavit of Pub. Filed:

This application is approved provided it is not exercised to the detriment of any others having existing rights, and is not contrary to the conservation of water in New Mexico nor detrimental to the public welfare of the state; and further subject to the specific conditions listed previously.

Witness my hand and seal this 54 day of Jan A.D., 2018

Tom Blaine, P.E. \_\_\_\_\_ Engineer

By: Andy Morley  
ANDY MORLEY



Trn Desc: RA 12574 PODS1-4

File Number: RA 12574

Trn Number: 617940

page: 2

Tom Blaine, P.E.  
State Engineer



Roswell Office  
1900 WEST SECOND STREET  
ROSWELL, NM 88201

**STATE OF NEW MEXICO  
OFFICE OF THE STATE ENGINEER**

Trn Nbr: 617940  
File Nbr: RA 12574

Jan. 05, 2018

TODD WELLS TETRA TECH  
CONOCOPHILLIPS COMPANY  
4000 NORTH BIG SPRING STREET  
SUITE 401  
MIDLAND, TX 79705

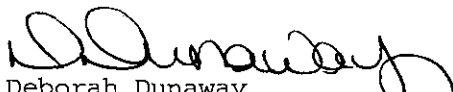
Greetings:

Enclosed is your copy of the above numbered permit that has been approved subject to the conditions set forth on the approval page. In accordance with the conditions of approval, the well(s) are for monitoring purposes and will be monitored for the duration of the project.

A Well Record & Log (OSE Form wr-20) shall be filed in this office within twenty (20) days after completion of drilling, but no later than 01/31/2019.

Appropriate forms can be downloaded from the OSE website [www.ose.state.nm.us](http://www.ose.state.nm.us) or will be mailed upon request.

Sincerely,

  
Deborah Dunaway  
(575) 622-6521

Enclosure

explore





### Coordinates

State Plane - NAD 83 (f) - Zone E

Easting 713883.172

Northing 656705.671

UTM - NAD 83 (m) - Zone 13

Easting 614993.601

Northing 3630232.573

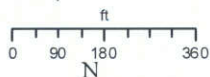
## Degrees Minutes Seconds

Latitude 32 : 48 : 14.616000

Longitude -103 : 46 : 18.372000

NEW MEXICO OFFICE  
OF THE  
STATE ENGINEER

1:4,514



### Image Info

Source: USDA FSA

Date: 5/11/2016

Resolution (m):1

Accuracy (m): 6

## Spatial Information

County: Lea

Groundwater Basin: Roswell

Sub-Basin:

Land Grant: Not in Land Grant

**Restrictions:**

NA

### PLSS Description

SENE SW Qtr of Sec 28 of 017S 032E

Derived from CADNSDI- Qtr Sec. locations are calculated and are only approximations

### POD Information

Owner: CONOCOPHILLIPS COMPANY

File Number: RA-12574 PODS 1-4

POD Status: NoData

Permit Status: NoData

Permit Use: NoData

Purpose: NEW PERMIT

D Dunaway

1/4/2018

Re: asiana life effo rts ha ve been m ade by the New Mexico Office of the State Engineer (OSE) to ver ify that the new maps accurately represent the source data used in the ir preparation, however, a degree of error is inherent in all maps, and if these maps may contain omissions, a nd/or s k in scale, resu lt to n, reification n, position al accuracy, development n methodology, interpretation of source data, and o ther of cumulative nces.



◆ Selected POD

## GIS WATERS PODs

● PEN

OSE District  
Boundary



File No. RA-12204



## NEW MEXICO OFFICE OF THE STATE ENGINEER

APPLICATION FOR PERMIT TO DRILL A WELL  
WITH NO CONSUMPTIVE USE OF WATER

(check applicable box):

2-35312

For fees, see State Engineer website: <http://www.ose.state.nm.us/>

- Purpose:
- ☐ Exploratory ☐ Construction Site De-Watering ☐ Other (Describe):
- ☒ Monitoring ☐ Mineral De-Watering
- ☐ Pollution Control And / Or Recovery ☐ Geo-Thermal

A separate permit will be required to apply water to beneficial use.

☐ Temporary Request - Requested Start Date: Requested End Date:
Plugging Plan of Operations Submitted? ☐ Yes ☐ NoSTATE ENGINEER OFFICE  
ROSWELL, NEW MEXICO  
2014 DEC - 3 AM 11:02

## 1. APPLICANT(S)

Name: White Drilling / Conoco Phillips	Name:
Contact or Agent: Irene M White / White Drilling Co. check here if Agent <input type="checkbox"/>	Contact or Agent: check here if Agent <input type="checkbox"/>
Mailing Address: PO Box 906	Mailing Address:
City: Clyde	City:
State: TX Zip Code: 79510	State: Zip Code:
Phone: 325-370-0713 <input type="checkbox"/> Home <input checked="" type="checkbox"/> Cell Phone (Work): 325-893-2950	Phone: <input type="checkbox"/> Home <input type="checkbox"/> Cell Phone (Work):
E-mail (optional): office@whitedrilling.com	E-mail (optional):

FOR OSE INTERNAL USE

Application for Permit, Form wr-07, Rev 4/12/12

File Number: RA-12204	Trn Number: 559063
Trans Description (optional): PAD 1, monitoring	
Sub-Basin: N/A	
PCW/LOG Due Date: 12-31-2015	

Page 1 of 3

## 2. WELL(S) Describe the well(s) applicable to this application.

Location Required: Coordinate location must be reported in NM State Plane (NAD 83), UTM (NAD 83), or Latitude/Longitude (Lat/Long - WGS84).  
District II (Roswell) and District VII (Cimarron) customers, provide a PLSS location in addition to above.

☐ NM State Plane (NAD83) (Feet)

☐ NM West Zone

☐ NM East Zone

☐ NM Central Zone

☐ UTM (NAD83) (Meters)

☐ Zone 12N

☐ Zone 13N

☐ Lat/Long (WGS84) (to the nearest 1/10<sup>th</sup> of second)

Well Number (if known):	X or Easting or Longitude:	Y or Northing or Latitude:	Provide if known: -Public Land Survey System (PLSS) (Quarters or Halves, Section, Township, Range) OR - Hydrographic Survey Map & Tract; OR - Lot, Block & Subdivision; OR - Land Grant Name
MW-1	32°48'9.222"n	103°46'16.288" w	Section 28, T17S, R32E

NOTE: If more well locations need to be described, complete form WR-08 (Attachment 1 – POD Descriptions)  
Additional well descriptions are attached: ☐ Yes ☐ No If yes, how many \_\_\_\_\_  
Other description relating well to common landmarks, streets, or other: \_\_\_\_\_

Well is on land owned by: BLM

Well Information: NOTE: If more than one (1) well needs to be described, provide attachment. Attached? ☐ Yes ☐ No  
If yes, how many 1

Approximate depth of well (feet): 65t.00 Outside diameter of well casing (inches): 2"

Driller Name: John White Driller License Number: WD-1456

STATE ENGINEER OFFICE  
ROSWELL, NEW MEXICO  
2014 DEC -3 AM 11:02

## 3. ADDITIONAL STATEMENTS OR EXPLANATIONS

Installation of a near-source monitor well (MW-1) for sampling purposes.

See attached NMOCD and BLM approved Corrective Action Plan.

FOR OSE INTERNAL USE

Application for Permit, Form wr-07

File Number:

RA-12204

Trn Number:

559063

Page 2 of 3



**4. SPECIFIC REQUIREMENTS:** The applicant must include the following, as applicable to each well type. Please check the appropriate boxes, to indicate the information has been included and/or attached to this application:

<b>Exploratory:</b> <input type="checkbox"/> Include a description of any proposed pump test, if applicable.	<b>Pollution Control and/or Recovery:</b> <input type="checkbox"/> Include a plan for pollution control/recovery, that includes the following: <input type="checkbox"/> A description of the need for the pollution control or recovery operation. <input type="checkbox"/> The estimated maximum period of time for completion of the operation. <input type="checkbox"/> The annual diversion amount. <input type="checkbox"/> The annual consumptive use amount. <input type="checkbox"/> The maximum amount of water to be diverted and injected for the duration of the operation. <input type="checkbox"/> The method and place of discharge.	<b>Construction De-Watering:</b> <input type="checkbox"/> Include a description of the proposed dewatering operation, <input type="checkbox"/> The estimated duration of the operation, <input type="checkbox"/> The maximum amount of water to be diverted, <input type="checkbox"/> A description of the need for the dewatering operation, and, <input type="checkbox"/> A description of how the diverted water will be disposed of.	<b>Mine De-Watering:</b> <input type="checkbox"/> Include a plan for pollution control/recovery, that includes the following: <input type="checkbox"/> A description of the need for mine dewatering. <input type="checkbox"/> The estimated maximum period of time for completion of the operation. <input type="checkbox"/> The source(s) of the water to be diverted. <input type="checkbox"/> The geohydrologic characteristics of the aquifer(s). <input type="checkbox"/> The maximum amount of water to be diverted per annum. <input type="checkbox"/> The maximum amount of water to be diverted for the duration of the operation. <input type="checkbox"/> The quality of the water. <input type="checkbox"/> The method of measurement of water diverted.
<b>Monitoring:</b> <input checked="" type="checkbox"/> Include the reason for the monitoring well, and, <input type="checkbox"/> The duration of the planned monitoring.	<input type="checkbox"/> The method of measurement of water produced and discharged. <input type="checkbox"/> The source of water to be injected. <input type="checkbox"/> The method of measurement of water injected. <input type="checkbox"/> The characteristics of the aquifer. <input type="checkbox"/> The method of determining the resulting annual consumptive use of water and depletion from any related stream system. <input type="checkbox"/> Proof of any permit required from the New Mexico Environment Department. <input type="checkbox"/> An access agreement if the applicant is not the owner of the land on which the pollution plume control or recovery well is to be located.	<b>Geo-Thermal:</b> <input type="checkbox"/> Include a description of the geothermal heat exchange project, <input type="checkbox"/> The amount of water to be diverted and re-injected for the project, <input type="checkbox"/> The time frame for constructing the geothermal heat exchange project, and, <input type="checkbox"/> The duration of the project. <input type="checkbox"/> Preliminary surveys, design data, and additional information shall be included to provide all essential facts relating to the request.	<input type="checkbox"/> The recharge of water to the aquifer. <input type="checkbox"/> Description of the estimated area of hydrologic effect of the project. <input type="checkbox"/> The method and place of discharge. <input type="checkbox"/> An estimation of the effects on surface water rights and underground water rights from the mine dewatering project. <input type="checkbox"/> A description of the methods employed to estimate effects on surface water rights and underground water rights. <input type="checkbox"/> Information on existing wells, rivers, springs, and wetlands within the area of hydrologic effect.

### ACKNOWLEDGEMENT

I, We (name of applicant(s)), JOHN W. WHITE

Print Name(s)

affirm that the foregoing statements are true to the best of (my, our) knowledge and belief.

Applicant Signature

Applicant Signature

### ACTION OF THE STATE ENGINEER

This application is:

☐ approved ☐ partially approved ☐ denied

provided it is not exercised to the detriment of any others having existing rights, and is not contrary to the conservation of water in New Mexico nor detrimental to the public welfare and further subject to the attached conditions of approval.

Witness my hand and seal this 9 day of December 20 14, for the State Engineer,

P.E.

State Engineer



By: Andy Morley  
Signature

Print

Andy Morley

Title: District II Manager  
Print

FOR USE INTERNAL USE

Application for Permit, Form wr-07

File Number:

RA-12204

Trn Number:

559063

Page 3 of 3

**NEW MEXICO STATE ENGINEER OFFICE  
PERMIT TO EXPLORE**

**SPECIFIC CONDITIONS OF APPROVAL**

- 1A Depth of the well shall not exceed the thickness of the valley fill.
- 4 No water shall be appropriated and beneficially used under this permit.
- 7 The Permittee shall utilize the highest and best technology available to ensure conservation of water to the maximum extent practical.
- B The well shall be drilled by a driller licensed in the State of New Mexico in accordance with Section 72-12-12 New Mexico Statutes Annotated.
- C Driller's well record must be filed with the State Engineer within 20 days after the well is drilled or driven. Well record forms will be provided by the State Engineer upon request.
- C2 No water shall be diverted from this well except for testing purposes which shall not exceed ten (10) cumulative days, and well shall be plugged or capped on or before , unless a permit to use water from this well is acquired from the Office of the State Engineer.
- P The well shall be constructed, maintained, and operated to prevent inter-aquifer exchange of water and to prevent loss of hydraulic head between geologic zones.
- LOG The Point of Diversion RA 12204 POD1 must be completed and the Well Log filed on or before 12/31/2015.

Trn Desc: RA 12204 POD1

File Number: RA 12204

Trn Number: 559063

page: 1



NEW MEXICO STATE ENGINEER OFFICE  
PERMIT TO EXPLORE

## ACTION OF STATE ENGINEER

Notice of Intention Rcvd:                      Date Rcvd. Corrected:  
Formal Application Rcvd: 12/09/2014      Pub. of Notice Ordered:  
Date Returned - Correction:                  Affidavit of Pub. Filed:

This application is approved provided it is not exercised to the detriment of any others having existing rights, and is not contrary to the conservation of water in New Mexico nor detrimental to the public welfare of the state; and further subject to the specific conditions listed previously.

Witness my hand and seal this 09 day of Dec A.D., 2014

Tom Blaine, P.E., State Engineer

By: *Andy Morley*

ANDY MORLEY



Trn Desc: RA 12204 POD1

File Number: RA 12204

Trn Number: 559063

page: 2

Tom Blaine, P.E.  
State Engineer



Roswell Office  
1900 WEST SECOND STREET  
ROSWELL, NM 88201

**STATE OF NEW MEXICO  
OFFICE OF THE STATE ENGINEER**

Trn Nbr: 559063  
File Nbr: RA 12204

Dec. 09, 2014

IRENE WHITE WHITE DRILLING COMPANY  
CONOCO PHILLIPS  
PO BOX 906  
CLYDE, TX 79510

Greetings:

Enclosed is your copy of the above numbered permit that has been approved subject to the conditions set forth on the approval page. In accordance with the conditions of approval, the well can only be tested for 10 cumulative days, and the well is to be plugged on or before 12/31/2015, unless a permit to use the water is acquired from this office.

A Well Record & Log (OSE Form wr-20) shall be filed in this office within twenty (20) days after completion of drilling, but no later than 12/31/2015.

Appropriate forms can be downloaded from the OSE website [www.ose.state.nm.us](http://www.ose.state.nm.us) or will be mailed upon request.

Sincerely,

A handwritten signature in cursive script that reads "Lisa Fresquez".

Lisa Fresquez  
(575) 622-6521

Enclosure

explore

**Locator Tool Report****General Information:**

Application ID: 29

Date: 12-09-2014

Time: 09:45:42

WR File Number: RA-12204-POD1

Purpose: POINT OF DIVERSION

Applicant First Name: WHITE DRILLING

Applicant Last Name: IRENE M WHITE

GW Basin: ROSWELL ARTESIAN

County: LEA

Critical Management Area Name(s): NONE

Special Condition Area Name(s): NONE

Land Grant Name: NON GRANT

**PLSS Description (New Mexico Principal Meridian):**

SW 1/4 of SW 1/4 of NW 1/4 of SE 1/4 of Section 28, Township 17S, Range 32E.

**Coordinate System Details:****Geographic Coordinates:**

Latitude: 32 Degrees 48 Minutes 9.2 Seconds N  
Longitude: 103 Degrees 46 Minutes 16.3 Seconds W

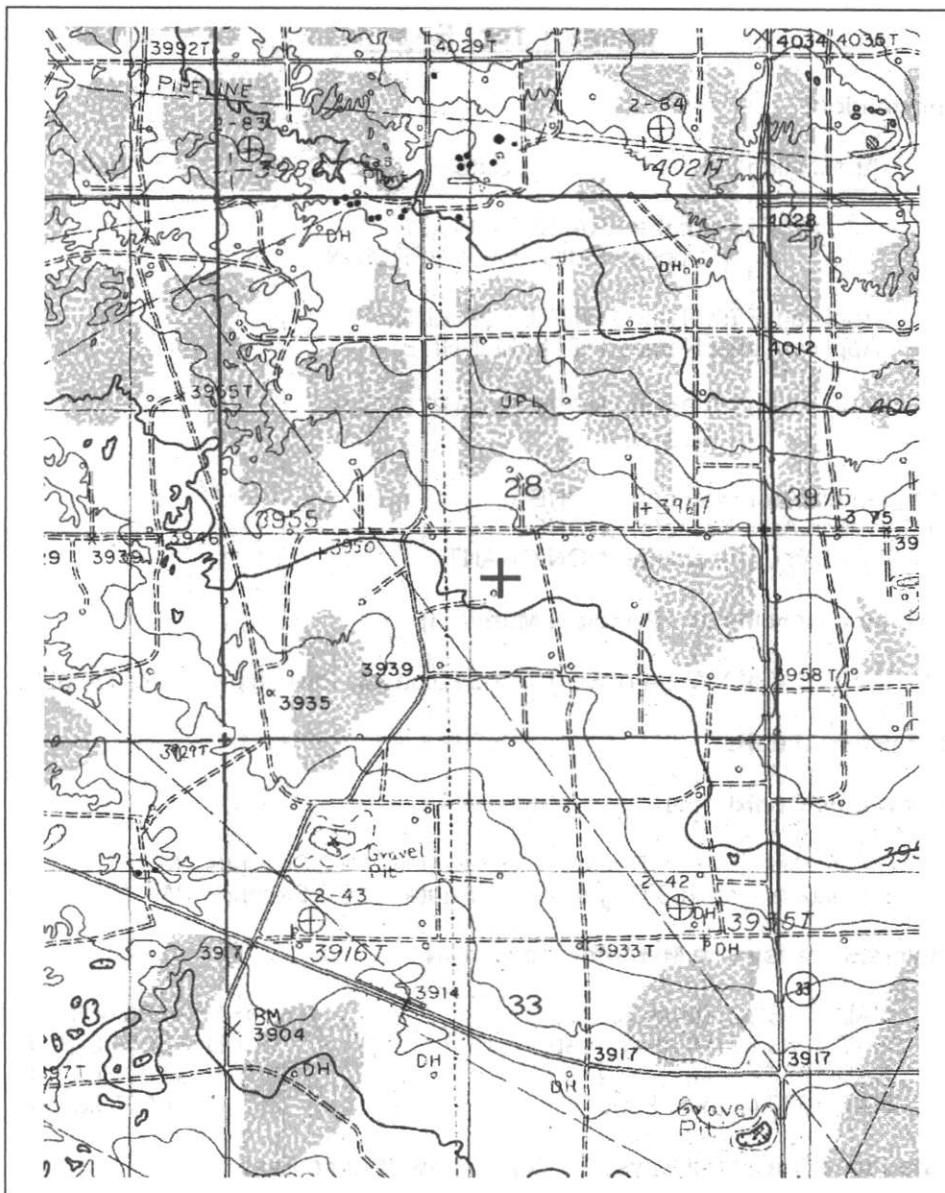
**Universal Transverse Mercator Zone: 13N**

NAD 1983(92) (Meters)	N: 3,630,068	E: 615,049
NAD 1983(92) (Survey Feet)	N: 11,909,647	E: 2,017,874
NAD 1927 (Meters)	N: 3,629,864	E: 615,099
NAD 1927 (Survey Feet)	N: 11,908,980	E: 2,018,037

**State Plane Coordinate System Zone: New Mexico East**

NAD 1983(92) (Meters)	N: 199,999	E: 217,646
NAD 1983(92) (Survey Feet)	N: 656,163	E: 714,062
NAD 1927 (Meters)	N: 199,979	E: 205,095
NAD 1927 (Survey Feet)	N: 656,099	E: 672,883

## Locator Tool Report



GW Basin: Roswell Artesian





PO Box 2948 | Hobbs, NM 88241 | Phone 575.393.2967

October 30<sup>th</sup>, 2014**Dr. Tomáš Oberding, PhD**

Environmental Specialist – New Mexico Oil Conservation Division  
Energy, Minerals and Natural Resources Department  
1625 N. French Dr.  
Hobbs, NM 88240

RE: **Corrective Action Plan**  
**ConocoPhillips MCA Well #357 (1RP-3025)**  
**UL/M sec. 28 T17S R32E**  
**API No. 3002525849**

STATE ENGINEER OFFICE  
ROSWELL, NEW MEXICO  
2014 DEC -3 AM 11:03

Dr. Oberding:

ConocoPhillips (CoP) has retained Rice Environmental Consulting and Safety (RECS) to address potential environmental concerns at the above-referenced site.

### Background and Previous Work

The site is located approximately 3.7 miles south of Maljamar, New Mexico. The initial C-141 states that the release is located in UL/M; however, GPS mapping shows that the release is located in UL/J&K sec. 28 T17S R32E. NM OSE and USGS records indicate that groundwater will likely be encountered at a depth of approximately 65 +/- feet.

On December 17<sup>th</sup>, 2013, CoP discovered a release from a 2 inch flow line. The line degraded due to corrosion and released 24 barrels of produced water over 5,602 square feet of pasture land. None of this fluid was recovered. NMOCD and BLM were notified of the release on December 10<sup>th</sup>, 2013, and an initial C-141 was approved by NMOCD on August 18<sup>th</sup>, 2014 (Appendix A).

RECS personnel were on site beginning on January 7<sup>th</sup>, 2014. The wet material from the release, for a total of 324 cubic yards, was scraped up and sent to a NMOCD approved facility for disposal. The release area was sampled, first by hand augur and then by backhoe. Based on the sampling data from these events, it was evident that the release had moved deeper through the vadose zone than these two sampling techniques could assess. Therefore, three soil bores were installed at the site on June 18<sup>th</sup> and 19<sup>th</sup>, 2014 (Figure 1). The soil bores were advanced to the depth of 65 ft bgs, and soil samples from each bore were taken at regular intervals. The samples were field tested for chlorides and organic vapors, and representative samples were taken to a commercial laboratory for analysis (Appendix B). At 65 ft bgs, all three bores showed elevated laboratory chloride readings, Gasoline Range Organics (GRO), Diesel Range Organics (DRO) and BTEX readings of non-detect, except in SB-3, where there DRO reading was 11.4 mg/kg.



### Corrective Action Plan

Based on the soil bore installation data, it is evident that chlorides may have infiltrated the vadose zone to groundwater. Therefore, the site will need a vadose zone remediation phase and a groundwater remedy phase. In order to remediate the vadose zone, the release area will be excavated to 4 ft bgs. At the base of the excavation, a 20-mil reinforced poly liner will be installed and properly seated.

All excavated soil will be taken to a NMOCD approved facility for disposal, and clean soil will be imported to the site to serve as backfill. A sample of this imported soil will be taken to a commercial laboratory to confirm that the chloride value is below regulatory standards. The site will be backfilled with the imported soil and contoured to the surrounding location. The site will then be seeded with a blend of native vegetation.

Once the excavation is completed, a near-source monitor well (MW-1) will be installed down-gradient from the site (Figure 2). The monitor well will be installed per EPA and NMOCD standards. The monitor well will be sampled quarterly and once appropriate groundwater analysis data has been obtained, a remedy for groundwater will be proposed to NMOCD. Additional monitoring wells may be required to fully delineate groundwater quality.

RECS appreciates the opportunity to work with you on this project. Please call Hack Conder at (575) 393-2967 or me if you have any questions or wish to discuss the site.

Sincerely,



Lara Weinheimer  
Project Scientist  
RECS  
(575) 441-0431

#### Attachments:

- Figure 1 – Soil Bore Installation
- Figure 2 – Proposed MW Installation
- Appendix A – Initial C-141
- Appendix B – Soil Bore Installation Documentation
- Appendix C – Photo Documentation

STATE ENGINEER OFFICE  
ROSWELL, NEW MEXICO  
2014 DEC -3 AM 11: 03

**From:** Hughes, Solomon  
**To:** Kyle Norman  
**Cc:** Oberding, Tomas, EMNRD; Wright, Justin K; Hack Conder; Lara Weinheimer; Laura Flores; Sarah Edwards; Catherine Ursanic  
**Subject:** Re: COP MCA Well #357 (2) CAP  
**Date:** Thursday, October 30, 2014 4:23:31 PM

---

Mr. Norman,

This plan is approved as written.

Bests,  
Sol

**Sol Hughes**

Environmental Protection Division  
Bureau of Land Management  
620 E. Greene St  
Carlsbad, NM

Office: 575.234.5951  
Cell: 575.499.3378

On Thu, Oct 30, 2014 at 3:45 PM, Hughes, Solomon <[shughes@blm.gov](mailto:shughes@blm.gov)> wrote:  
Message received.

Thanks,  
Sol

**Sol Hughes**

Environmental Protection Division  
Bureau of Land Management  
620 E. Greene St  
Carlsbad, NM

Office: 575.234.5951  
Cell: 575.499.3378

On Thu, Oct 30, 2014 at 1:57 PM, Kyle Norman <[knorman@rice-ecs.com](mailto:knorman@rice-ecs.com)> wrote:

Gentlemen, attached is the Corrective Action Plan for the CoP MCA Well 357 (2). If you have any questions, please let us know. Otherwise, we await your approval.

Thanks!

Kyle Norman

Project Lead

419 W. Cain

STATE ENGINEER OFFICE  
ROS WELLS, NEW MEXICO  
2014 DEC -3 AM 11:03

**From:** Oberding, Tomas, EMNRD  
**To:** Kyle Norman; "Hughes, Solomon"  
**Cc:** "Wright, Justin K"; "Hack Conder"; "Lara Weinheimer"; "Laura Flores"; "Sarah Edwards"; "Catherine Ursanic"  
**Subject:** RE: COP MCA Well #357 (2) CAP  
**Date:** Friday, October 31, 2014 8:45:11 AM

---

Aloha Mr. Norman et al,

Thank you for providing this CAP.

Based on the sample results- OCD gives conditional approval for the removal of soils as written. However, further actions must be approved through Santa Fe (with continued agreement from the BLM).

I will forward this to the groundwater specialists and shall provide an updated approval of conditions when I know more information.

Mahalo for your patience, and if there are any questions, please don't hesitate to ask.  
-Doc

Tomáš 'Doc' Oberding, PhD  
Senior Environmental Specialist – New Mexico Oil Conservation Division  
Energy, Minerals and Natural Resources Department  
1625 N. French Dr.  
Hobbs, NM 88240  
(O): (575) 393-6161 ext 111  
(C): 575-370-3180  
(F): (575) 393-0720  
E-Mail: [tomas.oberding@state.nm.us](mailto:tomas.oberding@state.nm.us)  
Website: <http://www.emnrd.state.nm.us/ocd/>

STATE ENGINEER OFFICE  
ROS WELLS, NEW MEXICO  
2014 DEC - 3 AM 11: 03

---

**From:** Kyle Norman [mailto:[knorman@rice-ecs.com](mailto:knorman@rice-ecs.com)]  
**Sent:** Thursday, October 30, 2014 1:58 PM  
**To:** Oberding, Tomas, EMNRD; 'Hughes, Solomon'  
**Cc:** 'Wright, Justin K'; 'Hack Conder'; 'Lara Weinheimer'; 'Laura Flores'; 'Sarah Edwards'; 'Catherine Ursanic'  
**Subject:** COP MCA Well #357 (2) CAP

Gentlemen, attached is the Corrective Action Plan for the CoP MCA Well 357 (2). If you have any questions, please let us know. Otherwise, we await your approval.

Thanks!

Kyle Norman  
Project Lead  
419 W. Cain  
Hobbs NM 88240  
Cell # (575)942-8542  
Fax # (575)393-0293



## APPENDIX B

### Photographic Log

---





**Photographic Log**  
Maverick Permian, LLC  
MCA 301  
NAPP2307558601

Date & Time: Fri, Mar 31, 2023 at 09:21:00 MDT  
Position: +032.803807° / -103.768513° (±15.5ft)  
Altitude: 3968ft (±11.1ft)  
Datum: WGS-84  
Azimuth/Bearing: 079° N79E 1404mils True (±13°)  
Elevation Angle: -14.0°  
Horizon Angle: +00.9°  
Zoom: 0.5X  
spill, NE view staining and well head  
Mariana O Dell



Photograph 1 Date: 03/31/2023  
Description: Release area on the well pad  
View: Northeast

Date & Time: Fri, Mar 31, 2023 at 09:21:13 MDT  
Position: +032.803809° / -103.768501° (±15.5ft)  
Altitude: 3967ft (±11.1ft)  
Datum: WGS-84  
Azimuth/Bearing: 156° S156E 229mils True (±13°)  
Elevation Angle: -26.7°  
Horizon Angle: +05.6°  
Zoom: 0.5X  
spill, SE view staining  
Mariana O Dell



Photograph 2 Date: 03/31/2023  
Description: Release area on the well pad and pasture  
View: Southeast

Date & Time: Fri, Mar 31, 2023 at 15:19:06 MDT  
Position: +032.803321° / -103.768450° (±15.1ft)  
Altitude: 3964ft (±11.6ft)  
Datum: WGS-84  
Azimuth/Bearing: 158° S22E 2809mils True (±12°)  
Elevation Angle: -13.1°  
Horizon Angle: +03.5°  
Zoom: 0.5X  
lower half of spill  
Mariana O Dell



Photograph 3 Date: 03/31/2023  
Description: Release area in the pasture  
View: Southeast



Photograph 4 9/8/2023  
Description: Excavation in progress  
View: North



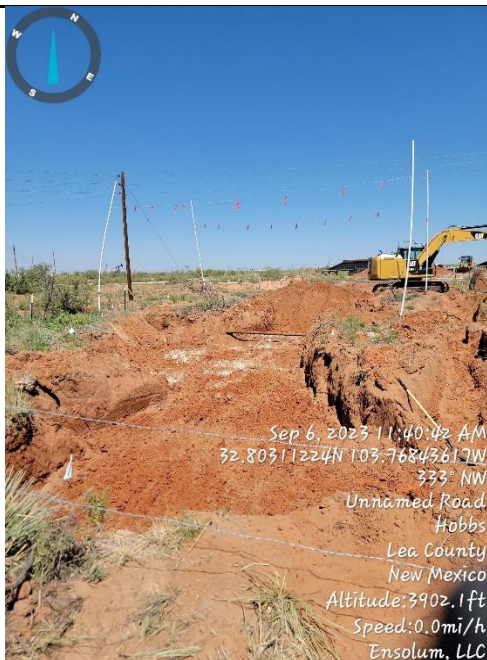


## Photographic Log

Maverick Permian, LLC

MCA 301

NAPP2307558601



Photograph 5

Date: 9/6/2023

Description: Excavation in progress

View: Northwest



Photograph 6

Date: 9/8/2023

Description: Completed in progress

View: Southeast



Photograph 7

Date: 9/8/2023

Description: Completed excavation

View: North



Photograph 8

Date: 9/8/2023

Description: Completed excavation

View: South








## APPENDIX C


### Lithologic Soil Sampling Logs

---


								Sample Name: PH01		Date: 09/11/2023			
								Site Name: MCA 301					
								Incident Number: nAPP2307558601					
								Job Number: 03D2057076					
<b>LITHOLOGIC / SOIL SAMPLING LOG</b>								Logged By: R.Hayes		Method: Hand Auger			
Coordinates: (32.803755, -103.768477)								Hole Diameter: 4"		Total Depth: 11'			
Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. 40% correction factor included.													
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions					
Open excavation 0 - 4'													
Dry	7,392	0.2	N	PH01	-	5	SW-SM	(5') SAND: fine grained, trace amounts of silt, poorly graded, reddish brown to medium brown, no odor, non plastic, non cohesive.					
Dry	1,736	0.0	N	PH01A	-	6	SW-SM	(6') SAND: SAA					
Dry	8,685	0.3	N	PH01B	7	7	SW-SM	(7') SAND: SAA					
Dry	2,721	0.0	N	PH01C	-	8	SW-SM	(8') SAND: fine grained to medium grained, trace amounts of silt and gravel, poorly graded, reddish brown, no odor, non plastic, non cohesive.					
Dry	1,457	0.0	N	PH01D	-	9	SW-SM	(9') SAND: fine grained, trace amounts silt, poorly graded, reddish brown, no odor, non plastic, non cohesive.					
Dry	442	0.2	N	PH01E	-	10	SW-SM	(10') SAND: SAA					
Dry	<168	0.0	N	PH01F	11	11	SW-SM	(11'): SAND: fine to medium grained, trace amounts of silt and medium gravel, poorly graded, reddish brown to tan, no odor, non					
TD reached @ 11' bgs													

								Sample Name: PH02		Date: 09/11/2023	
								Site Name: MCA 301			
								Incident Number: nAPP2307558601			
								Job Number: 03D2057076			
<b>LITHOLOGIC / SOIL SAMPLING LOG</b>								Logged By: R.Hayes		Method: Hand Auger	
Coordinates: (32.803668, -103.768467)								Hole Diameter: 4"		Total Depth: 9'	
Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. 40% correction factor included.											
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions			
Open excavation 0 - 4'											
Dry	3,455	0.0	N	PH02	5	5	SW-SM	(5') SAND: fine grained, trace amounts of silt, poorly graded, reddish brown to medium brown, no odor, non plastic, non cohesive.			
Dry	3,208	0.0	N	PH02A	-	6	SW-SM	(6') SAND: SAA			
Dry	1,024	0.0	N	PH02B	-	7	SW-SM	(7') SAND: fine grained to medium grained, trace amounts of silt and gravel, poorly graded, reddish brown, no odor, non plastic, non cohesive.			
Dry	621	0.1	N	PH02C	-	8	SW-SM	(8') SAND: SAA			
Dry	498	0.0	N	PH02D	9	9	SW-SM	(9') SAND: fine grained, trace amounts silt, poorly graded, reddish brown, no odor, non plastic, non cohesive.			
TD reached @ 9' bgs											

								Sample Name: PH03		Date: 09/11/2023	
								Site Name: MCA 301			
								Incident Number: nAPP2307558601			
								Job Number: 03D2057076			
<b>LITHOLOGIC / SOIL SAMPLING LOG</b>								Logged By: R.Hayes		Method: Hand Auger	
Coordinates: (32.803668, -103.768467)								Hole Diameter: 4"		Total Depth: 8'	
Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. 40% correction factor included.											
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions			
Open excavation 0 - 4'											
Dry	3,208	0.0	N	PH03	-	5	SW-SM	(5') SAND: fine grained, poorly graded, reddish brown, no odor, non plastic, non cohesive.			
Dry	3,634	0.0	N	PH03A	6	6	SW-SM	(6') SAND: fine grained, trace amounts of silt, poorly graded, reddish brown to medium brown, no odor, non plastic, non cohesive.			
Dry	1,108	0.0	N	PH03D	-	7	SW-SM	(7') SAND: SAA			
Dry	263	0.2	N	PH03C	8	8	SW-SM	(8') SAND: fine grained to medium grained, trace amounts of silt and gravel, poorly graded, reddish brown, no odor, non plastic, non cohesive.			
TD reached @ 8' bgs											

								Sample Name: PH04		Date: 10/04/2023					
								Site Name: MCA 301							
								Incident Number: nAPP2307558601							
								Job Number: 03D2057076							
<b>LITHOLOGIC / SOIL SAMPLING LOG</b>								Logged By: J.Falcomata		Method: Hand Auger					
Coordinates: (32.803372, -103.768541)								Hole Diameter: 4"		Total Depth: 8'					
Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. 40% correction factor included.															
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions							
Open Excavation 0 - 4'															
Dry	2,329	0	N	-	-	5	SW-SM	(5') SAND: fine grained, poorly graded, reddish brown, no odor, non plastic, non cohesive.							
Dry	4,864	0.0	N	PH04	6	6	SW-SM	(6') SAND: fine grained, trace amounts of silt, poorly graded, reddish brown, no odor, non plastic, non cohesive.							
Dry	964	0.0	N	-	-	7	SW-SM	(7') SAND: SAA							
Dry	<168	0.0	N	PH04A	8	8	SW-SM	(8') SAND: fine grained to medium grained, trace amounts of silt and gravel, poorly graded, reddish brown, no odor, non plastic, non cohesive.							
TD reached @ 8' bgs															



					Sample Name: PH05		Date: 10/04/2023	
<b>LITHOLOGIC / SOIL SAMPLING LOG</b>					Site Name: MCA 301			
					Incident Number: nAPP2307558601			
					Job Number: 03D2057076			
Coordinates: (32.803219, -103.768502)					Logged By: J.Falcomata		Method: Hand Auger	
					Hole Diameter: 4"		Total Depth: 8'	
Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. 40% correction factor included.								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
Open excavation 0 - 4'								
Dry	592	0	N	-	5		SW-SM	(5') SAND: fine grained, poorly graded, reddish brown, no odor, non plastic, non cohesive.
Dry	822	0.0	N	PH05	6	6	SW-SM	(6') SAND: fine grained, trace amounts of silt, poorly graded, reddish brown, no odor, non plastic, non cohesive.
Dry	645	0.0	N	-	7	-	SW-SM	(7') SAND: fine grained to medium grained, trace amounts of silt and gravel, poorly graded, reddish brown, no odor, non plastic, non cohesive.
Dry	<168	0.0	N	PH05A	8	8	SW-SM	(8') SAND: SAA
TD reached @ 8' bgs								



## APPENDIX D

### Laboratory Analytical Reports & Chain of Custody Documentation

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

September 08, 2023

AIMEE COLE

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: MCA 301

Enclosed are the results of analyses for samples received by the laboratory on 09/06/23 13:56.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-22-15. 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](http://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, flowing style.

Celey D. Keene

Lab Director/Quality Manager



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

**Analytical Results For:**

ENSOLUM  
 AIMEE COLE  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received: 09/06/2023  
 Reported: 09/08/2023  
 Project Name: MCA 301  
 Project Number: 03D2057076  
 Project Location: 32.8037000 -103.7686000

Sampling Date: 09/06/2023  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Dionica Hinojos

**Sample ID: SW 01 @ 0-4' (H234818-01)**

BTEX 8021B		mg/kg		Analyzed By: JH/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/07/2023	ND	2.00	99.9	2.00	0.798	
Toluene*	<0.050	0.050	09/07/2023	ND	1.99	99.4	2.00	6.58	
Ethylbenzene*	<0.050	0.050	09/07/2023	ND	2.09	105	2.00	0.404	
Total Xylenes*	<0.150	0.150	09/07/2023	ND	6.18	103	6.00	1.90	
Total BTEX	<0.300	0.300	09/07/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 115 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	09/07/2023	ND	432	108	400	3.64		

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	09/07/2023	ND	184	92.1	200	0.382	
DRO >C10-C28*	<10.0	10.0	09/07/2023	ND	178	89.0	200	2.29	
EXT DRO >C28-C36	<10.0	10.0	09/07/2023	ND					

Surrogate: 1-Chlorooctane 99.0 % 48.2-134

Surrogate: 1-Chlorooctadecane 113 % 49.1-148

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

**Analytical Results For:**

ENSOLUM  
 AIMEE COLE  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received: 09/06/2023  
 Reported: 09/08/2023  
 Project Name: MCA 301  
 Project Number: 03D2057076  
 Project Location: 32.8037000 -103.7686000

Sampling Date: 09/06/2023  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Dionica Hinojos

**Sample ID: SW 02 @ 0-4' (H234818-02)**

BTEx 8021B		mg/kg		Analyzed By: JH/						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/07/2023	ND	2.00	99.9	2.00	0.798		
Toluene*	<0.050	0.050	09/07/2023	ND	1.99	99.4	2.00	6.58		
Ethylbenzene*	<0.050	0.050	09/07/2023	ND	2.09	105	2.00	0.404		
Total Xylenes*	<0.150	0.150	09/07/2023	ND	6.18	103	6.00	1.90		
Total BTEx	<0.300	0.300	09/07/2023	ND						

Surrogate: 4-Bromofluorobenzene (PID) 113 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	16.0	16.0	09/07/2023	ND	432	108	400	3.64		

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	09/07/2023	ND	184	92.1	200	0.382	
DRO >C10-C28*	<10.0	10.0	09/07/2023	ND	178	89.0	200	2.29	
EXT DRO >C28-C36	<10.0	10.0	09/07/2023	ND					

Surrogate: 1-Chlorooctane 100 % 48.2-134

Surrogate: 1-Chlorooctadecane 111 % 49.1-148

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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:**

ENSOLUM  
 AIMEE COLE  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received: 09/06/2023  
 Reported: 09/08/2023  
 Project Name: MCA 301  
 Project Number: 03D2057076  
 Project Location: 32.8037000 -103.7686000

Sampling Date: 09/06/2023  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Dionica Hinojos

**Sample ID: SW 03 @ 0-4' (H234818-03)**

BTEx 8021B		mg/kg		Analyzed By: JH/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/07/2023	ND	2.00	99.9	2.00	0.798	
Toluene*	<0.050	0.050	09/07/2023	ND	1.99	99.4	2.00	6.58	
Ethylbenzene*	<0.050	0.050	09/07/2023	ND	2.09	105	2.00	0.404	
Total Xylenes*	<0.150	0.150	09/07/2023	ND	6.18	103	6.00	1.90	
Total BTEX	<0.300	0.300	09/07/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 112 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	32.0	16.0	09/07/2023	ND	432	108	400	3.64		

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	09/07/2023	ND	184	92.1	200	0.382	
DRO >C10-C28*	<10.0	10.0	09/07/2023	ND	178	89.0	200	2.29	
EXT DRO >C28-C36	<10.0	10.0	09/07/2023	ND					

Surrogate: 1-Chlorooctane 104 % 48.2-134

Surrogate: 1-Chlorooctadecane 115 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM  
 AIMEE COLE  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received: 09/06/2023  
 Reported: 09/08/2023  
 Project Name: MCA 301  
 Project Number: 03D2057076  
 Project Location: 32.8037000 -103.7686000

Sampling Date: 09/06/2023  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Dionica Hinojos

**Sample ID: SW 04 @ 0-4' (H234818-04)**

BTEx 8021B		mg/kg		Analyzed By: JH/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/07/2023	ND	2.00	99.9	2.00	0.798	
Toluene*	<0.050	0.050	09/07/2023	ND	1.99	99.4	2.00	6.58	
Ethylbenzene*	<0.050	0.050	09/07/2023	ND	2.09	105	2.00	0.404	
Total Xylenes*	<0.150	0.150	09/07/2023	ND	6.18	103	6.00	1.90	
Total BTEx	<0.300	0.300	09/07/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 114 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	09/07/2023	ND	432	108	400	3.64	

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	09/07/2023	ND	184	92.1	200	0.382	
DRO >C10-C28*	<10.0	10.0	09/07/2023	ND	178	89.0	200	2.29	
EXT DRO >C28-C36	<10.0	10.0	09/07/2023	ND					

Surrogate: 1-Chlorooctane 93.2 % 48.2-134

Surrogate: 1-Chlorooctadecane 105 % 49.1-148

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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:**

ENSOLUM  
 AIMEE COLE  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received: 09/06/2023  
 Reported: 09/08/2023  
 Project Name: MCA 301  
 Project Number: 03D2057076  
 Project Location: 32.8037000 -103.7686000

Sampling Date: 09/06/2023  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Dionica Hinojos

**Sample ID: SW 05 @ 0-4' (H234818-05)**

BTEx 8021B		mg/kg		Analyzed By: JH/						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/07/2023	ND	2.00	99.9	2.00	0.798		
Toluene*	<0.050	0.050	09/07/2023	ND	1.99	99.4	2.00	6.58		
Ethylbenzene*	<0.050	0.050	09/07/2023	ND	2.09	105	2.00	0.404		
Total Xylenes*	<0.150	0.150	09/07/2023	ND	6.18	103	6.00	1.90		
Total BTEX	<0.300	0.300	09/07/2023	ND						

Surrogate: 4-Bromofluorobenzene (PID) 114 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	09/07/2023	ND	432	108	400	3.64		

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	09/07/2023	ND	184	92.1	200	0.382	
DRO >C10-C28*	<10.0	10.0	09/07/2023	ND	178	89.0	200	2.29	
EXT DRO >C28-C36	<10.0	10.0	09/07/2023	ND					

Surrogate: 1-Chlorooctane 98.4 % 48.2-134

Surrogate: 1-Chlorooctadecane 110 % 49.1-148

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM  
 AIMEE COLE  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received: 09/06/2023  
 Reported: 09/08/2023  
 Project Name: MCA 301  
 Project Number: 03D2057076  
 Project Location: 32.8037000 -103.7686000

Sampling Date: 09/06/2023  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Dionica Hinojos

**Sample ID: FS 01 @ 4' (H234818-06)**

BTX 8021B		mg/kg		Analyzed By: JH/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/07/2023	ND	2.00	99.9	2.00	0.798	
Toluene*	<0.050	0.050	09/07/2023	ND	1.99	99.4	2.00	6.58	
Ethylbenzene*	<0.050	0.050	09/07/2023	ND	2.09	105	2.00	0.404	
Total Xylenes*	<0.150	0.150	09/07/2023	ND	6.18	103	6.00	1.90	
Total BTX	<0.300	0.300	09/07/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 111 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	32.0	16.0	09/07/2023	ND	432	108	400	3.64		

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	09/07/2023	ND	184	92.1	200	0.382	
DRO >C10-C28*	<10.0	10.0	09/07/2023	ND	178	89.0	200	2.29	
EXT DRO >C28-C36	<10.0	10.0	09/07/2023	ND					

Surrogate: 1-Chlorooctane 102 % 48.2-134

Surrogate: 1-Chlorooctadecane 114 % 49.1-148

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM  
 AIMEE COLE  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received: 09/06/2023  
 Reported: 09/08/2023  
 Project Name: MCA 301  
 Project Number: 03D2057076  
 Project Location: 32.8037000 -103.7686000

Sampling Date: 09/06/2023  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Dionica Hinojos

**Sample ID: FS 02 @ 4' (H234818-07)**

BTEx 8021B		mg/kg		Analyzed By: JH/						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/07/2023	ND	2.00	99.9	2.00	0.798		
Toluene*	<0.050	0.050	09/07/2023	ND	1.99	99.4	2.00	6.58		
Ethylbenzene*	<0.050	0.050	09/07/2023	ND	2.09	105	2.00	0.404		
Total Xylenes*	<0.150	0.150	09/07/2023	ND	6.18	103	6.00	1.90		
Total BTEx	<0.300	0.300	09/07/2023	ND						

Surrogate: 4-Bromofluorobenzene (PID) 111 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	752	16.0	09/07/2023	ND	432	108	400	3.64		

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	09/07/2023	ND	184	92.1	200	0.382	
DRO >C10-C28*	<10.0	10.0	09/07/2023	ND	178	89.0	200	2.29	
EXT DRO >C28-C36	<10.0	10.0	09/07/2023	ND					

Surrogate: 1-Chlorooctane 96.5 % 48.2-134

Surrogate: 1-Chlorooctadecane 107 % 49.1-148

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

**Analytical Results For:**

ENSOLUM  
 AIMEE COLE  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received: 09/06/2023  
 Reported: 09/08/2023  
 Project Name: MCA 301  
 Project Number: 03D2057076  
 Project Location: 32.8037000 -103.7686000

Sampling Date: 09/06/2023  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Dionica Hinojos

**Sample ID: FS 03 @ 4' (H234818-08)**

BTX 8021B		mg/kg		Analyzed By: JH/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/07/2023	ND	2.00	99.9	2.00	0.798	
Toluene*	<0.050	0.050	09/07/2023	ND	1.99	99.4	2.00	6.58	
Ethylbenzene*	<0.050	0.050	09/07/2023	ND	2.09	105	2.00	0.404	
Total Xylenes*	<0.150	0.150	09/07/2023	ND	6.18	103	6.00	1.90	
Total BTX	<0.300	0.300	09/07/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 115 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	3080	16.0	09/07/2023	ND	432	108	400	3.64		

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	09/07/2023	ND	184	92.1	200	0.382	
DRO >C10-C28*	<10.0	10.0	09/07/2023	ND	178	89.0	200	2.29	
EXT DRO >C28-C36	<10.0	10.0	09/07/2023	ND					

Surrogate: 1-Chlorooctane 91.6 % 48.2-134

Surrogate: 1-Chlorooctadecane 101 % 49.1-148

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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:**

ENSOLUM  
 AIMEE COLE  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received: 09/06/2023  
 Reported: 09/08/2023  
 Project Name: MCA 301  
 Project Number: 03D2057076  
 Project Location: 32.8037000 -103.7686000

Sampling Date: 09/06/2023  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Dionica Hinojos

**Sample ID: FS 04 @ 4' (H234818-09)**

BTEx 8021B		mg/kg		Analyzed By: JH/						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/07/2023	ND	2.00	99.9	2.00	0.798		
Toluene*	<0.050	0.050	09/07/2023	ND	1.99	99.4	2.00	6.58		
Ethylbenzene*	<0.050	0.050	09/07/2023	ND	2.09	105	2.00	0.404		
Total Xylenes*	<0.150	0.150	09/07/2023	ND	6.18	103	6.00	1.90		
Total BTEx	<0.300	0.300	09/07/2023	ND						

Surrogate: 4-Bromofluorobenzene (PID) 114 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	1760	16.0	09/07/2023	ND	432	108	400	3.64		

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	09/07/2023	ND	184	92.1	200	0.382	
DRO >C10-C28*	<10.0	10.0	09/07/2023	ND	178	89.0	200	2.29	
EXT DRO >C28-C36	<10.0	10.0	09/07/2023	ND					

Surrogate: 1-Chlorooctane 85.3 % 48.2-134

Surrogate: 1-Chlorooctadecane 93.0 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM  
 AIMEE COLE  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received: 09/06/2023  
 Reported: 09/08/2023  
 Project Name: MCA 301  
 Project Number: 03D2057076  
 Project Location: 32.8037000 -103.7686000

Sampling Date: 09/06/2023  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Dionica Hinojos

**Sample ID: FS 05 @ 4' (H234818-10)**

BTEx 8021B		mg/kg		Analyzed By: JH/						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/07/2023	ND	2.00	99.9	2.00	0.798		
Toluene*	<0.050	0.050	09/07/2023	ND	1.99	99.4	2.00	6.58		
Ethylbenzene*	<0.050	0.050	09/07/2023	ND	2.09	105	2.00	0.404		
Total Xylenes*	<0.150	0.150	09/07/2023	ND	6.18	103	6.00	1.90		
Total BTEx	<0.300	0.300	09/07/2023	ND						

Surrogate: 4-Bromofluorobenzene (PID) 113 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	1100	16.0	09/07/2023	ND	432	108	400	3.64		

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	09/07/2023	ND	184	92.1	200	0.382	
DRO >C10-C28*	<10.0	10.0	09/07/2023	ND	178	89.0	200	2.29	
EXT DRO >C28-C36	<10.0	10.0	09/07/2023	ND					

Surrogate: 1-Chlorooctane 91.1 % 48.2-134

Surrogate: 1-Chlorooctadecane 99.9 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM  
 AIMEE COLE  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received: 09/06/2023  
 Reported: 09/08/2023  
 Project Name: MCA 301  
 Project Number: 03D2057076  
 Project Location: 32.8037000 -103.7686000

Sampling Date: 09/06/2023  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Dionica Hinojos

**Sample ID: FS 06 @ 4' (H234818-11)**

BTEx 8021B		mg/kg		Analyzed By: JH/						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/07/2023	ND	2.00	99.9	2.00	0.798		
Toluene*	<0.050	0.050	09/07/2023	ND	1.99	99.4	2.00	6.58		
Ethylbenzene*	<0.050	0.050	09/07/2023	ND	2.09	105	2.00	0.404		
Total Xylenes*	<0.150	0.150	09/07/2023	ND	6.18	103	6.00	1.90		
Total BTEx	<0.300	0.300	09/07/2023	ND						

Surrogate: 4-Bromofluorobenzene (PID) 116 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	368	16.0	09/07/2023	ND	432	108	400	3.64		

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	09/07/2023	ND	184	92.1	200	0.382	
DRO >C10-C28*	<10.0	10.0	09/07/2023	ND	178	89.0	200	2.29	
EXT DRO >C28-C36	<10.0	10.0	09/07/2023	ND					

Surrogate: 1-Chlorooctane 94.3 % 48.2-134

Surrogate: 1-Chlorooctadecane 104 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM  
 AIMEE COLE  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received: 09/06/2023  
 Reported: 09/08/2023  
 Project Name: MCA 301  
 Project Number: 03D2057076  
 Project Location: 32.8037000 -103.7686000

Sampling Date: 09/06/2023  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Dionica Hinojos

**Sample ID: FS 07 @ 4' (H234818-12)**

BTEX 8021B		mg/kg		Analyzed By: JH/						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/07/2023	ND	2.00	99.9	2.00	0.798		
Toluene*	<0.050	0.050	09/07/2023	ND	1.99	99.4	2.00	6.58		
Ethylbenzene*	<0.050	0.050	09/07/2023	ND	2.09	105	2.00	0.404		
Total Xylenes*	<0.150	0.150	09/07/2023	ND	6.18	103	6.00	1.90		
Total BTEX	<0.300	0.300	09/07/2023	ND						

Surrogate: 4-Bromofluorobenzene (PID) 116 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	5840	16.0	09/07/2023	ND	432	108	400	3.64		

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	09/07/2023	ND	184	92.1	200	0.382	
DRO >C10-C28*	<10.0	10.0	09/07/2023	ND	178	89.0	200	2.29	
EXT DRO >C28-C36	<10.0	10.0	09/07/2023	ND					

Surrogate: 1-Chlorooctane 99.3 % 48.2-134

Surrogate: 1-Chlorooctadecane 111 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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### 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

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A handwritten signature in black ink, appearing to read "Celey D. Keene", written over a horizontal line.

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Celey D. Keene, Lab Director/Quality Manager



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

# CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name: <u>Consolum, LLC</u>		P.O. #: <u>A.A.</u>		ANALYSIS REQUEST	
Project Manager: <u>Anna Cole</u>		Company: <u>A.A.</u>			
Address: <u>8122 Nat'l Parks Hwy</u>		Attn: <u></u>			
City: <u>Carlsbad</u>		State: <u>NM</u> Zip: <u>88820</u>			
Phone #: <u>720-854-7345</u>		Fax #: <u>-</u>			
Project #: <u>08D2051016</u>		Project Owner: <u>Maverick</u>			
Project Name: <u>MCA 802</u>		City: <u></u>			
Project Location: <u>(82, 8087000, -108,7686000)</u>		State: <u></u> Zip: <u></u>			
Sampler Name: <u>Julianne Falcone</u>		Phone #: <u></u>			
FOR LAB USE ONLY		Fax #: <u></u>			
Lab I.D. <u>11021818</u>		Sample I.D. <u></u>			
PLEASE NOTE: Liability and Damages: Cardinal's liability and client's exclusive remedy for any claim arising whether based in contract or tort, shall be limited to the amount paid by the client for the analyses. All claims including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within 30 days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates, or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise.		(G)RAB OR (C)OMP.			
		# CONTAINERS			
		GROUNDWATER			
		WASTEWATER			
		SOIL			
		OIL			
		SLUDGE			
		OTHER :			
		ACID/BASE:			
		ICE / COOL			
		OTHER :			
		DATE			
		TIME			
1		SU001 00-4'		1105	
2		SU002 00-4'		1110	
3		SU003 00-4'		1115	
4		SU004 00-4'		1120	
5		SU005 00-4'		1125	
6		FS01 00-4'		1130	
7		FS02 00-4'		1135	
8		FS03 00-4'		1140	
9		FS04 00-4'		1145	
10		FS05 00-4'			
Relinquished By: <u>Falcone</u>		Date: <u>9/6/23</u>		Received By: <u></u>	
Time: <u>13:50</u>		Time: <u></u>		Time: <u></u>	
Delivered By: (Circle One)		Observed Temp. °C <u>41.2</u>		Sample Condition	
Sampler - UPS - Bus - Other:		Corrected Temp. °C <u></u>		Cool <input checked="" type="checkbox"/> Intact <input checked="" type="checkbox"/>	
FORM-006 R-3-4 07/11/23				No <input type="checkbox"/> Yes <input type="checkbox"/>	
CHECKED BY: <u>QA</u>		THERMOMETER ID #140		Correction Factor 0°C	
REMARKS: <u>NAAP 2307 558 602</u>		Standard <input checked="" type="checkbox"/> Rush <input type="checkbox"/>		Bacteria (only) Sample Condition	
All Results are emailed. Please provide Email address: <u>naap@consolum.com, j.falcone@consolum.com</u>		Add'l Phone #:		Cool <input type="checkbox"/> Intact <input type="checkbox"/>	
				Yes <input type="checkbox"/> No <input type="checkbox"/>	
				Observed Temp. °C	
				Corrected Temp. °C	

† Cardinal cannot accept verbal changes. Please email changes to [celey.keene@cardinallabsnm.com](mailto:celey.keene@cardinallabsnm.com)



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

## CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

<b>Company Name:</b> ENSOLUM, LLC <b>Project Manager:</b> Anne Cole <b>Address:</b> 8122 Nat'l Parks Hwy <b>City:</b> Parkersburg <b>State:</b> WV <b>Zip:</b> 26102 <b>Phone #:</b> 720-384-7365 <b>Fax #:</b> - <b>Project #:</b> 0620570716 <b>Project Owner:</b> <b>Project Name:</b> MGA 801 <b>Project Location:</b> (32,8087000 - 108,7686000) <b>Sampler Name:</b> J. Lawrence Falcumata		<b>BILL TO</b> <b>P.O. #:</b> A.A. <b>Company:</b> <b>Attn:</b> <b>Address:</b> <b>City:</b> <b>State:</b> <b>Zip:</b> <b>Phone #:</b> <b>Fax #:</b>	
<b>Lab I.D.</b> H23458		<b>Sample I.D.</b> 11 18 F506 @ 4' F507 @ 4'	
PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising whether based in contract or tort, shall be limited to the amount paid by the client for the analyses. All claims including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within 30 days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of its services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise.		(G)RAB OR (C)OMP.	
		# CONTAINERS GROUNDWATER WASTEWATER SOIL OIL SLUDGE OTHER : ACID/BASE: ICE / COOL OTHER :	
Delivered By: (Circle One) Sampler - UPS - Bus - Other:		Observed Temp. °C 4.12 Corrected Temp. °C Sample Condition Cool <input checked="" type="checkbox"/> Intact <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/>	
Relinquished By: <i>[Signature]</i> Relinquished By:		Received By: <i>[Signature]</i> Received By:	
Date: 13:56 Time:		DATE TIME 9/6/25 11:50 11:55	
Verbal Results: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Add'l Phone #:		Verbal Results: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Add'l Phone #:	
All Results are emailed. Please provide Email address:		All Results are emailed. Please provide Email address:	
REMARKS: MGA @ ensolum.com, falcumata@ensolum.com 11402301558601		REMARKS: BTEX TPH Chlorides	
Turnaround Time: Standard <input checked="" type="checkbox"/> Rush <input type="checkbox"/> Thermometer ID #140 Correction Factor 0°C		Turnaround Time: Standard <input checked="" type="checkbox"/> Rush <input type="checkbox"/> Bacteria (only) Sample Condition Cool <input type="checkbox"/> Intact <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Observed Temp. °C Corrected Temp. °C	

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September 13, 2023

AIMEE COLE

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: MCA 301

Enclosed are the results of analyses for samples received by the laboratory on 09/08/23 15:09.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-22-15. 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](http://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,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is fluid and cursive, with the first letters of the first and last names being capitalized and prominent.

Celey D. Keene

Lab Director/Quality Manager





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

**Analytical Results For:**

ENSOLUM  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220

Project: MCA 301  
Project Number: 03D2057076  
Project Manager: AIMEE COLE  
Fax To:

Reported:  
13-Sep-23 16:39

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
FS 18 @ 4'	H234886-01	Soil	08-Sep-23 10:35	08-Sep-23 15:09
FS 19 @ 4'	H234886-02	Soil	08-Sep-23 10:40	08-Sep-23 15:09
FS 20 @ 4'	H234886-03	Soil	08-Sep-23 13:10	08-Sep-23 15:09
FS 21 @ 4'	H234886-04	Soil	08-Sep-23 13:15	08-Sep-23 15:09
FS 22 @ 4'	H234886-05	Soil	08-Sep-23 13:20	08-Sep-23 15:09
FS 23 @ 4'	H234886-06	Soil	08-Sep-23 13:25	08-Sep-23 15:09
SW 06 @ 0-4'	H234886-07	Soil	08-Sep-23 10:55	08-Sep-23 15:09
SW 07 @ 0-4'	H234886-08	Soil	08-Sep-23 11:00	08-Sep-23 15:09
SW 08 @ 0-4'	H234886-09	Soil	08-Sep-23 11:05	08-Sep-23 15:09
SW 09 @ 0-4'	H234886-10	Soil	08-Sep-23 12:10	08-Sep-23 15:09
FS 08 @ 4'	H234886-11	Soil	08-Sep-23 09:00	08-Sep-23 15:09
FS 09 @ 4'	H234886-12	Soil	08-Sep-23 09:03	08-Sep-23 15:09
FS 10 @ 4'	H234886-13	Soil	08-Sep-23 10:50	08-Sep-23 15:09
FS 11 @ 4'	H234886-14	Soil	08-Sep-23 09:10	08-Sep-23 15:09
FS 12 @ 4'	H234886-15	Soil	08-Sep-23 09:13	08-Sep-23 15:09
FS 13 @ 4'	H234886-16	Soil	08-Sep-23 09:16	08-Sep-23 15:09
FS 14 @ 4'	H234886-17	Soil	08-Sep-23 09:19	08-Sep-23 15:09
FS 15 @ 4'	H234886-18	Soil	08-Sep-23 09:21	08-Sep-23 15:09
FS 16 @ 4'	H234886-19	Soil	08-Sep-23 10:45	08-Sep-23 15:09
FS 17 @ 4'	H234886-20	Soil	08-Sep-23 09:48	08-Sep-23 15:09
SW 10 @ 0-4'	H234886-21	Soil	08-Sep-23 12:15	08-Sep-23 15:09
SW 11 @ 0-4'	H234886-22	Soil	08-Sep-23 12:20	08-Sep-23 15:09
SW 12 @ 0-4'	H234886-23	Soil	08-Sep-23 12:25	08-Sep-23 15:09
SW 13 @ 0-4'	H234886-24	Soil	08-Sep-23 12:30	08-Sep-23 15:09

09/13/23 - Client changed some sample IDs (see COC). This is the revised report and will replace the one sent earlier today, 09/13/23.

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

**Analytical Results For:**

ENSOLUM  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220

Project: MCA 301  
Project Number: 03D2057076  
Project Manager: AIMEE COLE  
Fax To:

Reported:  
13-Sep-23 16:39

**FS 18 @ 4'**  
**H234886-01 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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**Cardinal Laboratories****Inorganic Compounds**

<b>Chloride</b>	<b>8660</b>		16.0	mg/kg	4	3091214	AC	12-Sep-23	4500-Cl-B	
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**Volatile Organic Compounds by EPA Method 8021**

Benzene*	<0.050		0.050	mg/kg	50	3091102	JH	12-Sep-23	8021B	
Toluene*	<0.050		0.050	mg/kg	50	3091102	JH	12-Sep-23	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	3091102	JH	12-Sep-23	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	3091102	JH	12-Sep-23	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	3091102	JH	12-Sep-23	8021B	

Surrogate: 4-Bromofluorobenzene (PID) 98.6 % 71.5-134 3091102 JH 12-Sep-23 8021B

**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0		10.0	mg/kg	1	3090902	MS	11-Sep-23	8015B	
DRO >C10-C28*	173		10.0	mg/kg	1	3090902	MS	11-Sep-23	8015B	
EXT DRO >C28-C36	126		10.0	mg/kg	1	3090902	MS	11-Sep-23	8015B	

Surrogate: 1-Chlorooctane 105 % 48.2-134 3090902 MS 11-Sep-23 8015B

Surrogate: 1-Chlorooctadecane 134 % 49.1-148 3090902 MS 11-Sep-23 8015B

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220

Project: MCA 301  
Project Number: 03D2057076  
Project Manager: AIMEE COLE  
Fax To:

Reported:  
13-Sep-23 16:39

FS 19 @ 4'  
H234886-02 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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**Cardinal Laboratories****Inorganic Compounds**

Chloride	576		16.0	mg/kg	4	3091214	AC	12-Sep-23	4500-Cl-B	
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**Volatile Organic Compounds by EPA Method 8021**

Benzene*	<0.050		0.050	mg/kg	50	3091102	JH	12-Sep-23	8021B	
Toluene*	<0.050		0.050	mg/kg	50	3091102	JH	12-Sep-23	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	3091102	JH	12-Sep-23	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	3091102	JH	12-Sep-23	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	3091102	JH	12-Sep-23	8021B	

Surrogate: 4-Bromofluorobenzene (PID)			110 %	71.5-134		3091102	JH	12-Sep-23	8021B	
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**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0		10.0	mg/kg	1	3090903	MS	11-Sep-23	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	3090903	MS	11-Sep-23	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	3090903	MS	11-Sep-23	8015B	

Surrogate: 1-Chlorooctane			95.3 %	48.2-134		3090903	MS	11-Sep-23	8015B	
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Surrogate: 1-Chlorooctadecane			96.2 %	49.1-148		3090903	MS	11-Sep-23	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:**

ENSOLUM  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220

Project: MCA 301  
Project Number: 03D2057076  
Project Manager: AIMEE COLE  
Fax To:

Reported:  
13-Sep-23 16:39

**FS 20 @ 4'**  
**H234886-03 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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**Cardinal Laboratories****Inorganic Compounds**

<b>Chloride</b>	<b>1310</b>		16.0	mg/kg	4	3091214	AC	12-Sep-23	4500-Cl-B	
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**Volatile Organic Compounds by EPA Method 8021**

Benzene*	<0.050	0.050	mg/kg	50	3091102	JH	12-Sep-23	8021B	
Toluene*	<0.050	0.050	mg/kg	50	3091102	JH	12-Sep-23	8021B	
Ethylbenzene*	<0.050	0.050	mg/kg	50	3091102	JH	12-Sep-23	8021B	
Total Xylenes*	<0.150	0.150	mg/kg	50	3091102	JH	12-Sep-23	8021B	
Total BTEX	<0.300	0.300	mg/kg	50	3091102	JH	12-Sep-23	8021B	

Surrogate: 4-Bromofluorobenzene (PID)	112 %	71.5-134	3091102	JH	12-Sep-23	8021B	
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**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0	10.0	mg/kg	1	3090903	MS	11-Sep-23	8015B	
DRO >C10-C28*	<10.0	10.0	mg/kg	1	3090903	MS	11-Sep-23	8015B	
EXT DRO >C28-C36	<10.0	10.0	mg/kg	1	3090903	MS	11-Sep-23	8015B	

Surrogate: 1-Chlorooctane	84.0 %	48.2-134	3090903	MS	11-Sep-23	8015B	
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Surrogate: 1-Chlorooctadecane	84.6 %	49.1-148	3090903	MS	11-Sep-23	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:**

ENSOLUM  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220

Project: MCA 301  
Project Number: 03D2057076  
Project Manager: AIMEE COLE  
Fax To:

Reported:  
13-Sep-23 16:39

FS 21 @ 4'  
H234886-04 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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**Cardinal Laboratories****Inorganic Compounds**

Chloride	1520		16.0	mg/kg	4	3091214	AC	12-Sep-23	4500-Cl-B	
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**Volatile Organic Compounds by EPA Method 8021**

Benzene*	<0.050		0.050	mg/kg	50	3091103	JH/	12-Sep-23	8021B	
Toluene*	<0.050		0.050	mg/kg	50	3091103	JH/	12-Sep-23	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	3091103	JH/	12-Sep-23	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	3091103	JH/	12-Sep-23	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	3091103	JH/	12-Sep-23	8021B	

Surrogate: 4-Bromofluorobenzene (PID)			116 %		71.5-134	3091103	JH/	12-Sep-23	8021B	
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**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0		10.0	mg/kg	1	3090903	MS	11-Sep-23	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	3090903	MS	11-Sep-23	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	3090903	MS	11-Sep-23	8015B	

Surrogate: 1-Chlorooctane			96.0 %		48.2-134	3090903	MS	11-Sep-23	8015B	
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Surrogate: 1-Chlorooctadecane			96.0 %		49.1-148	3090903	MS	11-Sep-23	8015B	
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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220

Project: MCA 301  
Project Number: 03D2057076  
Project Manager: AIMEE COLE  
Fax To:

Reported:  
13-Sep-23 16:39

FS 22 @ 4'  
H234886-05 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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**Cardinal Laboratories****Inorganic Compounds**

Chloride	1380		16.0	mg/kg	4	3091214	AC	12-Sep-23	4500-Cl-B	
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**Volatile Organic Compounds by EPA Method 8021**

Benzene*	<0.050		0.050	mg/kg	50	3091103	JH/	12-Sep-23	8021B	
Toluene*	<0.050		0.050	mg/kg	50	3091103	JH/	12-Sep-23	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	3091103	JH/	12-Sep-23	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	3091103	JH/	12-Sep-23	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	3091103	JH/	12-Sep-23	8021B	

Surrogate: 4-Bromofluorobenzene (PID)			114 %		71.5-134	3091103	JH/	12-Sep-23	8021B	
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**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0		10.0	mg/kg	1	3090903	MS	11-Sep-23	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	3090903	MS	11-Sep-23	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	3090903	MS	11-Sep-23	8015B	

Surrogate: 1-Chlorooctane			91.3 %		48.2-134	3090903	MS	11-Sep-23	8015B	
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Surrogate: 1-Chlorooctadecane			93.5 %		49.1-148	3090903	MS	11-Sep-23	8015B	
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Celey D. Keene, Lab Director/Quality Manager





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**Analytical Results For:**

ENSOLUM  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220

Project: MCA 301  
Project Number: 03D2057076  
Project Manager: AIMEE COLE  
Fax To:

Reported:  
13-Sep-23 16:39

**FS 23 @ 4'**  
**H234886-06 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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**Cardinal Laboratories****Inorganic Compounds**

<b>Chloride</b>	<b>1310</b>		16.0	mg/kg	4	3091217	AC	12-Sep-23	4500-Cl-B	
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**Volatile Organic Compounds by EPA Method 8021**

Benzene*	<0.050		0.050	mg/kg	50	3091103	JH/	12-Sep-23	8021B	
Toluene*	<0.050		0.050	mg/kg	50	3091103	JH/	12-Sep-23	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	3091103	JH/	12-Sep-23	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	3091103	JH/	12-Sep-23	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	3091103	JH/	12-Sep-23	8021B	

Surrogate: 4-Bromofluorobenzene (PID)			115 %		71.5-134	3091103	JH/	12-Sep-23	8021B	
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**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0		10.0	mg/kg	1	3090903	MS	11-Sep-23	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	3090903	MS	11-Sep-23	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	3090903	MS	11-Sep-23	8015B	

Surrogate: 1-Chlorooctane			92.4 %		48.2-134	3090903	MS	11-Sep-23	8015B	
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Surrogate: 1-Chlorooctadecane			93.3 %		49.1-148	3090903	MS	11-Sep-23	8015B	
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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220

Project: MCA 301  
Project Number: 03D2057076  
Project Manager: AIMEE COLE  
Fax To:

Reported:  
13-Sep-23 16:39

**SW 06 @ 0-4'**  
**H234886-07 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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**Cardinal Laboratories****Inorganic Compounds**

<b>Chloride</b>	<b>192</b>		16.0	mg/kg	4	3091217	AC	12-Sep-23	4500-Cl-B	
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**Volatile Organic Compounds by EPA Method 8021**

Benzene*	<0.050		0.050	mg/kg	50	3091103	JH/	12-Sep-23	8021B	
Toluene*	<0.050		0.050	mg/kg	50	3091103	JH/	12-Sep-23	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	3091103	JH/	12-Sep-23	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	3091103	JH/	12-Sep-23	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	3091103	JH/	12-Sep-23	8021B	

Surrogate: 4-Bromofluorobenzene (PID)		116 %	71.5-134			3091103	JH/	12-Sep-23	8021B	
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**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0		10.0	mg/kg	1	3090903	MS	11-Sep-23	8015B	
DRO >C10-C28*	<b>55.8</b>		10.0	mg/kg	1	3090903	MS	11-Sep-23	8015B	
EXT DRO >C28-C36	<b>41.0</b>		10.0	mg/kg	1	3090903	MS	11-Sep-23	8015B	

Surrogate: 1-Chlorooctane		75.7 %	48.2-134			3090903	MS	11-Sep-23	8015B	
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Surrogate: 1-Chlorooctadecane		78.2 %	49.1-148			3090903	MS	11-Sep-23	8015B	
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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220

Project: MCA 301  
Project Number: 03D2057076  
Project Manager: AIMEE COLE  
Fax To:

Reported:  
13-Sep-23 16:39

**SW 07 @ 0-4'**  
**H234886-08 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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**Cardinal Laboratories****Inorganic Compounds**

<b>Chloride</b>	<b>192</b>		16.0	mg/kg	4	3091217	AC	12-Sep-23	4500-Cl-B	
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**Volatile Organic Compounds by EPA Method 8021**

Benzene*	<0.050		0.050	mg/kg	50	3091103	JH/	12-Sep-23	8021B	
Toluene*	<0.050		0.050	mg/kg	50	3091103	JH/	12-Sep-23	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	3091103	JH/	12-Sep-23	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	3091103	JH/	12-Sep-23	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	3091103	JH/	12-Sep-23	8021B	

Surrogate: 4-Bromofluorobenzene (PID)			115 %		71.5-134	3091103	JH/	12-Sep-23	8021B	
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**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0		10.0	mg/kg	1	3090903	MS	11-Sep-23	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	3090903	MS	11-Sep-23	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	3090903	MS	11-Sep-23	8015B	

Surrogate: 1-Chlorooctane			81.6 %		48.2-134	3090903	MS	11-Sep-23	8015B	
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Surrogate: 1-Chlorooctadecane			82.5 %		49.1-148	3090903	MS	11-Sep-23	8015B	
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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:**

ENSOLUM  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220

Project: MCA 301  
Project Number: 03D2057076  
Project Manager: AIMEE COLE  
Fax To:

Reported:  
13-Sep-23 16:39

**SW 08 @ 0-4'**  
**H234886-09 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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**Cardinal Laboratories****Inorganic Compounds**

<b>Chloride</b>	<b>144</b>		16.0	mg/kg	4	3091217	AC	12-Sep-23	4500-Cl-B	
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**Volatile Organic Compounds by EPA Method 8021**

Benzene*	<0.050	0.050	mg/kg	50	3091103	JH/	12-Sep-23	8021B	
Toluene*	<0.050	0.050	mg/kg	50	3091103	JH/	12-Sep-23	8021B	
Ethylbenzene*	<0.050	0.050	mg/kg	50	3091103	JH/	12-Sep-23	8021B	
Total Xylenes*	<0.150	0.150	mg/kg	50	3091103	JH/	12-Sep-23	8021B	
Total BTEX	<0.300	0.300	mg/kg	50	3091103	JH/	12-Sep-23	8021B	

Surrogate: 4-Bromofluorobenzene (PID)	112 %	71.5-134	3091103	JH/	12-Sep-23	8021B	
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**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0	10.0	mg/kg	1	3090903	MS	11-Sep-23	8015B	
DRO >C10-C28*	<10.0	10.0	mg/kg	1	3090903	MS	11-Sep-23	8015B	
EXT DRO >C28-C36	<10.0	10.0	mg/kg	1	3090903	MS	11-Sep-23	8015B	

Surrogate: 1-Chlorooctane	86.3 %	48.2-134	3090903	MS	11-Sep-23	8015B	
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Surrogate: 1-Chlorooctadecane	86.7 %	49.1-148	3090903	MS	11-Sep-23	8015B	
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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220

Project: MCA 301  
Project Number: 03D2057076  
Project Manager: AIMEE COLE  
Fax To:

Reported:  
13-Sep-23 16:39

**SW 09 @ 0-4'**  
**H234886-10 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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**Cardinal Laboratories****Inorganic Compounds**

<b>Chloride</b>	<b>432</b>		16.0	mg/kg	4	3091217	AC	12-Sep-23	4500-Cl-B	
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**Volatile Organic Compounds by EPA Method 8021**

Benzene*	<0.050		0.050	mg/kg	50	3091103	JH/	12-Sep-23	8021B	
Toluene*	<0.050		0.050	mg/kg	50	3091103	JH/	12-Sep-23	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	3091103	JH/	12-Sep-23	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	3091103	JH/	12-Sep-23	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	3091103	JH/	12-Sep-23	8021B	

Surrogate: 4-Bromofluorobenzene (PID)			116 %		71.5-134	3091103	JH/	12-Sep-23	8021B	
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**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0		10.0	mg/kg	1	3090903	MS	11-Sep-23	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	3090903	MS	11-Sep-23	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	3090903	MS	11-Sep-23	8015B	

Surrogate: 1-Chlorooctane			84.2 %		48.2-134	3090903	MS	11-Sep-23	8015B	
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Surrogate: 1-Chlorooctadecane			85.1 %		49.1-148	3090903	MS	11-Sep-23	8015B	
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Celey D. Keene, Lab Director/Quality Manager





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**Analytical Results For:**

ENSOLUM  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220

Project: MCA 301  
Project Number: 03D2057076  
Project Manager: AIMEE COLE  
Fax To:

Reported:  
13-Sep-23 16:39

**FS 08 @ 4'**  
**H234886-11 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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**Cardinal Laboratories****Inorganic Compounds**

<b>Chloride</b>	<b>880</b>		16.0	mg/kg	4	3091217	AC	12-Sep-23	4500-Cl-B	
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**Volatile Organic Compounds by EPA Method 8021**

Benzene*	<0.050		0.050	mg/kg	50	3091103	JH/	12-Sep-23	8021B	
Toluene*	<0.050		0.050	mg/kg	50	3091103	JH/	12-Sep-23	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	3091103	JH/	12-Sep-23	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	3091103	JH/	12-Sep-23	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	3091103	JH/	12-Sep-23	8021B	

<i>Surrogate: 4-Bromofluorobenzene (PID)</i>			114 %		71.5-134	3091103	JH/	12-Sep-23	8021B	
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**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0		10.0	mg/kg	1	3090903	MS	11-Sep-23	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	3090903	MS	11-Sep-23	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	3090903	MS	11-Sep-23	8015B	

<i>Surrogate: 1-Chlorooctane</i>			87.5 %		48.2-134	3090903	MS	11-Sep-23	8015B	
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<i>Surrogate: 1-Chlorooctadecane</i>			88.7 %		49.1-148	3090903	MS	11-Sep-23	8015B	
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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220

Project: MCA 301  
Project Number: 03D2057076  
Project Manager: AIMEE COLE  
Fax To:

Reported:  
13-Sep-23 16:39

**FS 09 @ 4'**  
**H234886-12 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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**Cardinal Laboratories****Inorganic Compounds**

<b>Chloride</b>	<b>1720</b>		16.0	mg/kg	4	3091217	AC	12-Sep-23	4500-Cl-B	
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**Volatile Organic Compounds by EPA Method 8021**

Benzene*	<0.050		0.050	mg/kg	50	3091103	JH/	12-Sep-23	8021B	
Toluene*	<0.050		0.050	mg/kg	50	3091103	JH/	12-Sep-23	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	3091103	JH/	12-Sep-23	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	3091103	JH/	12-Sep-23	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	3091103	JH/	12-Sep-23	8021B	

Surrogate: 4-Bromofluorobenzene (PID)			111 %	71.5-134		3091103	JH/	12-Sep-23	8021B	
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**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0		10.0	mg/kg	1	3090903	MS	11-Sep-23	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	3090903	MS	11-Sep-23	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	3090903	MS	11-Sep-23	8015B	

Surrogate: 1-Chlorooctane			92.9 %	48.2-134		3090903	MS	11-Sep-23	8015B	
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Surrogate: 1-Chlorooctadecane			92.6 %	49.1-148		3090903	MS	11-Sep-23	8015B	
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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220

Project: MCA 301  
Project Number: 03D2057076  
Project Manager: AIMEE COLE  
Fax To:

Reported:  
13-Sep-23 16:39

**FS 10 @ 4'**  
**H234886-13 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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**Cardinal Laboratories****Inorganic Compounds**

<b>Chloride</b>	<b>1230</b>		16.0	mg/kg	4	3091217	AC	12-Sep-23	4500-Cl-B	
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**Volatile Organic Compounds by EPA Method 8021**

Benzene*	<0.050		0.050	mg/kg	50	3091103	JH/	12-Sep-23	8021B	
Toluene*	<0.050		0.050	mg/kg	50	3091103	JH/	12-Sep-23	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	3091103	JH/	12-Sep-23	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	3091103	JH/	12-Sep-23	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	3091103	JH/	12-Sep-23	8021B	
<i>Surrogate: 4-Bromofluorobenzene (PID)</i>			111 %	71.5-134		3091103	JH/	12-Sep-23	8021B	

**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0		10.0	mg/kg	1	3090903	MS	11-Sep-23	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	3090903	MS	11-Sep-23	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	3090903	MS	11-Sep-23	8015B	
<i>Surrogate: 1-Chlorooctane</i>			87.5 %	48.2-134		3090903	MS	11-Sep-23	8015B	
<i>Surrogate: 1-Chlorooctadecane</i>			88.8 %	49.1-148		3090903	MS	11-Sep-23	8015B	

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220

Project: MCA 301  
Project Number: 03D2057076  
Project Manager: AIMEE COLE  
Fax To:

Reported:  
13-Sep-23 16:39

**FS 11 @ 4'**  
**H234886-14 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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**Cardinal Laboratories****Inorganic Compounds**

<b>Chloride</b>	<b>18000</b>		16.0	mg/kg	4	3091217	AC	12-Sep-23	4500-Cl-B	
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**Volatile Organic Compounds by EPA Method 8021**

Benzene*	<0.050		0.050	mg/kg	50	3091103	JH/	12-Sep-23	8021B	
Toluene*	<0.050		0.050	mg/kg	50	3091103	JH/	12-Sep-23	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	3091103	JH/	12-Sep-23	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	3091103	JH/	12-Sep-23	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	3091103	JH/	12-Sep-23	8021B	
Surrogate: 4-Bromofluorobenzene (PID)			117 %	71.5-134		3091103	JH/	12-Sep-23	8021B	

**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0		10.0	mg/kg	1	3090903	MS	11-Sep-23	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	3090903	MS	11-Sep-23	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	3090903	MS	11-Sep-23	8015B	
Surrogate: 1-Chlorooctane			80.7 %	48.2-134		3090903	MS	11-Sep-23	8015B	
Surrogate: 1-Chlorooctadecane			81.7 %	49.1-148		3090903	MS	11-Sep-23	8015B	

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220

Project: MCA 301  
Project Number: 03D2057076  
Project Manager: AIMEE COLE  
Fax To:

Reported:  
13-Sep-23 16:39

**FS 12 @ 4'**  
**H234886-15 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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**Cardinal Laboratories****Inorganic Compounds**

<b>Chloride</b>	<b>3000</b>		16.0	mg/kg	4	3091217	AC	12-Sep-23	4500-Cl-B	
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**Volatile Organic Compounds by EPA Method 8021**

Benzene*	<0.050		0.050	mg/kg	50	3091103	JH/	12-Sep-23	8021B	
Toluene*	<0.050		0.050	mg/kg	50	3091103	JH/	12-Sep-23	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	3091103	JH/	12-Sep-23	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	3091103	JH/	12-Sep-23	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	3091103	JH/	12-Sep-23	8021B	

Surrogate: 4-Bromofluorobenzene (PID)			115 %	71.5-134		3091103	JH/	12-Sep-23	8021B	
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**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0		10.0	mg/kg	1	3090903	MS	11-Sep-23	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	3090903	MS	11-Sep-23	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	3090903	MS	11-Sep-23	8015B	

Surrogate: 1-Chlorooctane			90.1 %	48.2-134		3090903	MS	11-Sep-23	8015B	
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Surrogate: 1-Chlorooctadecane			91.0 %	49.1-148		3090903	MS	11-Sep-23	8015B	
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Celey D. Keene, Lab Director/Quality Manager





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**Analytical Results For:**

ENSOLUM  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220

Project: MCA 301  
Project Number: 03D2057076  
Project Manager: AIMEE COLE  
Fax To:

Reported:  
13-Sep-23 16:39

**FS 13 @ 4'**  
**H234886-16 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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**Cardinal Laboratories****Inorganic Compounds**

<b>Chloride</b>	<b>1490</b>		16.0	mg/kg	4	3091217	AC	12-Sep-23	4500-Cl-B	
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**Volatile Organic Compounds by EPA Method 8021**

Benzene*	<0.050		0.050	mg/kg	50	3091103	JH/	12-Sep-23	8021B	
Toluene*	<0.050		0.050	mg/kg	50	3091103	JH/	12-Sep-23	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	3091103	JH/	12-Sep-23	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	3091103	JH/	12-Sep-23	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	3091103	JH/	12-Sep-23	8021B	

Surrogate: 4-Bromofluorobenzene (PID)			113 %	71.5-134		3091103	JH/	12-Sep-23	8021B	
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**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0		10.0	mg/kg	1	3090903	MS	11-Sep-23	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	3090903	MS	11-Sep-23	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	3090903	MS	11-Sep-23	8015B	

Surrogate: 1-Chlorooctane			91.2 %	48.2-134		3090903	MS	11-Sep-23	8015B	
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Surrogate: 1-Chlorooctadecane			93.0 %	49.1-148		3090903	MS	11-Sep-23	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:**

ENSOLUM  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220

Project: MCA 301  
Project Number: 03D2057076  
Project Manager: AIMEE COLE  
Fax To:

Reported:  
13-Sep-23 16:39

**FS 14 @ 4'**  
**H234886-17 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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**Cardinal Laboratories****Inorganic Compounds**

<b>Chloride</b>	<b>1520</b>		16.0	mg/kg	4	3091217	AC	12-Sep-23	4500-Cl-B	
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**Volatile Organic Compounds by EPA Method 8021**

Benzene*	<0.050		0.050	mg/kg	50	3091103	JH/	12-Sep-23	8021B	
Toluene*	<0.050		0.050	mg/kg	50	3091103	JH/	12-Sep-23	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	3091103	JH/	12-Sep-23	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	3091103	JH/	12-Sep-23	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	3091103	JH/	12-Sep-23	8021B	
Surrogate: 4-Bromofluorobenzene (PID)			114 %	71.5-134		3091103	JH/	12-Sep-23	8021B	

**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0		10.0	mg/kg	1	3090903	MS	11-Sep-23	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	3090903	MS	11-Sep-23	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	3090903	MS	11-Sep-23	8015B	
Surrogate: 1-Chlorooctane			83.5 %	48.2-134		3090903	MS	11-Sep-23	8015B	
Surrogate: 1-Chlorooctadecane			83.7 %	49.1-148		3090903	MS	11-Sep-23	8015B	

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220

Project: MCA 301  
Project Number: 03D2057076  
Project Manager: AIMEE COLE  
Fax To:

Reported:  
13-Sep-23 16:39

**FS 15 @ 4'**  
**H234886-18 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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**Cardinal Laboratories****Inorganic Compounds**

<b>Chloride</b>	<b>6960</b>		16.0	mg/kg	4	3091217	AC	12-Sep-23	4500-Cl-B	
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**Volatile Organic Compounds by EPA Method 8021**

Benzene*	<0.050		0.050	mg/kg	50	3091103	JH/	12-Sep-23	8021B	
Toluene*	<0.050		0.050	mg/kg	50	3091103	JH/	12-Sep-23	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	3091103	JH/	12-Sep-23	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	3091103	JH/	12-Sep-23	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	3091103	JH/	12-Sep-23	8021B	

Surrogate: 4-Bromofluorobenzene (PID)		113 %		71.5-134		3091103	JH/	12-Sep-23	8021B	
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**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0		10.0	mg/kg	1	3090903	MS	11-Sep-23	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	3090903	MS	11-Sep-23	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	3090903	MS	11-Sep-23	8015B	

Surrogate: 1-Chlorooctane		91.2 %		48.2-134		3090903	MS	11-Sep-23	8015B	
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Surrogate: 1-Chlorooctadecane		92.5 %		49.1-148		3090903	MS	11-Sep-23	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:**

ENSOLUM  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220

Project: MCA 301  
Project Number: 03D2057076  
Project Manager: AIMEE COLE  
Fax To:

Reported:  
13-Sep-23 16:39

**FS 16 @ 4'**  
**H234886-19 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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**Cardinal Laboratories****Inorganic Compounds**

<b>Chloride</b>	<b>768</b>		16.0	mg/kg	4	3091217	AC	12-Sep-23	4500-Cl-B	
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**Volatile Organic Compounds by EPA Method 8021**

Benzene*	<0.050		0.050	mg/kg	50	3091103	JH/	12-Sep-23	8021B	
Toluene*	<0.050		0.050	mg/kg	50	3091103	JH/	12-Sep-23	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	3091103	JH/	12-Sep-23	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	3091103	JH/	12-Sep-23	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	3091103	JH/	12-Sep-23	8021B	

Surrogate: 4-Bromofluorobenzene (PID)			114 %	71.5-134		3091103	JH/	12-Sep-23	8021B	
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**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0		10.0	mg/kg	1	3090903	MS	11-Sep-23	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	3090903	MS	11-Sep-23	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	3090903	MS	11-Sep-23	8015B	

Surrogate: 1-Chlorooctane			89.5 %	48.2-134		3090903	MS	11-Sep-23	8015B	
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Surrogate: 1-Chlorooctadecane			91.3 %	49.1-148		3090903	MS	11-Sep-23	8015B	
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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220

Project: MCA 301  
Project Number: 03D2057076  
Project Manager: AIMEE COLE  
Fax To:

Reported:  
13-Sep-23 16:39

**FS 17 @ 4'**  
**H234886-20 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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**Cardinal Laboratories****Inorganic Compounds**

<b>Chloride</b>	<b>18400</b>		16.0	mg/kg	4	3091217	AC	12-Sep-23	4500-Cl-B	
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**Volatile Organic Compounds by EPA Method 8021**

Benzene*	<0.050		0.050	mg/kg	50	3091103	JH/	12-Sep-23	8021B	
Toluene*	<0.050		0.050	mg/kg	50	3091103	JH/	12-Sep-23	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	3091103	JH/	12-Sep-23	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	3091103	JH/	12-Sep-23	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	3091103	JH/	12-Sep-23	8021B	

<i>Surrogate: 4-Bromofluorobenzene (PID)</i>			116 %	71.5-134		3091103	JH/	12-Sep-23	8021B	
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**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0		10.0	mg/kg	1	3090903	MS	11-Sep-23	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	3090903	MS	11-Sep-23	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	3090903	MS	11-Sep-23	8015B	

<i>Surrogate: 1-Chlorooctane</i>			98.1 %	48.2-134		3090903	MS	11-Sep-23	8015B	
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<i>Surrogate: 1-Chlorooctadecane</i>			98.8 %	49.1-148		3090903	MS	11-Sep-23	8015B	
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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220

Project: MCA 301  
Project Number: 03D2057076  
Project Manager: AIMEE COLE  
Fax To:

Reported:  
13-Sep-23 16:39

**SW 10 @ 0-4'**  
**H234886-21 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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**Cardinal Laboratories****Inorganic Compounds**

<b>Chloride</b>	<b>80.0</b>		16.0	mg/kg	4	3091217	AC	12-Sep-23	4500-Cl-B	
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**Volatile Organic Compounds by EPA Method 8021**

Benzene*	<0.050		0.050	mg/kg	50	3091103	JH/	12-Sep-23	8021B	
Toluene*	<0.050		0.050	mg/kg	50	3091103	JH/	12-Sep-23	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	3091103	JH/	12-Sep-23	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	3091103	JH/	12-Sep-23	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	3091103	JH/	12-Sep-23	8021B	

Surrogate: 4-Bromofluorobenzene (PID)		115 %		71.5-134		3091103	JH/	12-Sep-23	8021B	
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**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0		10.0	mg/kg	1	3090903	MS	11-Sep-23	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	3090903	MS	11-Sep-23	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	3090903	MS	11-Sep-23	8015B	

Surrogate: 1-Chlorooctane		99.6 %		48.2-134		3090903	MS	11-Sep-23	8015B	
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Surrogate: 1-Chlorooctadecane		98.2 %		49.1-148		3090903	MS	11-Sep-23	8015B	
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Celey D. Keene, Lab Director/Quality Manager





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**Analytical Results For:**

ENSOLUM  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220

Project: MCA 301  
Project Number: 03D2057076  
Project Manager: AIMEE COLE  
Fax To:

Reported:  
13-Sep-23 16:39

**SW 11 @ 0-4'**  
**H234886-22 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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**Cardinal Laboratories****Inorganic Compounds**

<b>Chloride</b>	<b>80.0</b>		16.0	mg/kg	4	3091217	AC	12-Sep-23	4500-Cl-B	
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**Volatile Organic Compounds by EPA Method 8021**

Benzene*	<0.050		0.050	mg/kg	50	3091103	JH/	12-Sep-23	8021B	
Toluene*	<0.050		0.050	mg/kg	50	3091103	JH/	12-Sep-23	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	3091103	JH/	12-Sep-23	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	3091103	JH/	12-Sep-23	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	3091103	JH/	12-Sep-23	8021B	
Surrogate: 4-Bromofluorobenzene (PID)			116 %	71.5-134		3091103	JH/	12-Sep-23	8021B	

**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0		10.0	mg/kg	1	3090904	MS	11-Sep-23	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	3090904	MS	11-Sep-23	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	3090904	MS	11-Sep-23	8015B	
Surrogate: 1-Chlorooctane			102 %	48.2-134		3090904	MS	11-Sep-23	8015B	
Surrogate: 1-Chlorooctadecane			110 %	49.1-148		3090904	MS	11-Sep-23	8015B	

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220

Project: MCA 301  
Project Number: 03D2057076  
Project Manager: AIMEE COLE  
Fax To:

Reported:  
13-Sep-23 16:39

**SW 12 @ 0-4'**  
**H234886-23 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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**Cardinal Laboratories****Inorganic Compounds**

<b>Chloride</b>	<b>16.0</b>		16.0	mg/kg	4	3091217	AC	12-Sep-23	4500-Cl-B	
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**Volatile Organic Compounds by EPA Method 8021**

Benzene*	<0.050		0.050	mg/kg	50	3091103	JH/	12-Sep-23	8021B	
Toluene*	<0.050		0.050	mg/kg	50	3091103	JH/	12-Sep-23	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	3091103	JH/	12-Sep-23	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	3091103	JH/	12-Sep-23	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	3091103	JH/	12-Sep-23	8021B	
<i>Surrogate: 4-Bromofluorobenzene (PID)</i>			115 %	71.5-134		3091103	JH/	12-Sep-23	8021B	

**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0		10.0	mg/kg	1	3090904	MS	11-Sep-23	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	3090904	MS	11-Sep-23	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	3090904	MS	11-Sep-23	8015B	
<i>Surrogate: 1-Chlorooctane</i>			107 %	48.2-134		3090904	MS	11-Sep-23	8015B	
<i>Surrogate: 1-Chlorooctadecane</i>			115 %	49.1-148		3090904	MS	11-Sep-23	8015B	

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220

Project: MCA 301  
Project Number: 03D2057076  
Project Manager: AIMEE COLE  
Fax To:

Reported:  
13-Sep-23 16:39

**SW 13 @ 0-4'**  
**H234886-24 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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**Cardinal Laboratories****Inorganic Compounds**

<b>Chloride</b>	<b>32.0</b>		16.0	mg/kg	4	3091217	AC	12-Sep-23	4500-Cl-B	
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**Volatile Organic Compounds by EPA Method 8021**

Benzene*	<0.050		0.050	mg/kg	50	3091113	MS	12-Sep-23	8021B	
Toluene*	<0.050		0.050	mg/kg	50	3091113	MS	12-Sep-23	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	3091113	MS	12-Sep-23	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	3091113	MS	12-Sep-23	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	3091113	MS	12-Sep-23	8021B	

<i>Surrogate: 4-Bromofluorobenzene (PID)</i>			103 %	71.5-134		3091113	MS	12-Sep-23	8021B	
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**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0		10.0	mg/kg	1	3090904	MS	11-Sep-23	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	3090904	MS	11-Sep-23	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	3090904	MS	11-Sep-23	8015B	

<i>Surrogate: 1-Chlorooctane</i>			126 %	48.2-134		3090904	MS	11-Sep-23	8015B	
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<i>Surrogate: 1-Chlorooctadecane</i>			138 %	49.1-148		3090904	MS	11-Sep-23	8015B	
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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220

Project: MCA 301  
Project Number: 03D2057076  
Project Manager: AIMEE COLE  
Fax To:

Reported:  
13-Sep-23 16:39

**Inorganic Compounds - Quality Control****Cardinal Laboratories**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC Limits	RPD	RPD Limit	Notes
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**Batch 3091214 - 1:4 DI Water****Blank (3091214-BLK1)**

Prepared &amp; Analyzed: 12-Sep-23

Chloride	ND	16.0	mg/kg						
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**LCS (3091214-BS1)**

Prepared &amp; Analyzed: 12-Sep-23

Chloride	448	16.0	mg/kg	400	112	80-120			
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**LCS Dup (3091214-BSD1)**

Prepared &amp; Analyzed: 12-Sep-23

Chloride	432	16.0	mg/kg	400	108	80-120	3.64	20	
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**Batch 3091217 - 1:4 DI Water****Blank (3091217-BLK1)**

Prepared &amp; Analyzed: 12-Sep-23

Chloride	ND	16.0	mg/kg						
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**LCS (3091217-BS1)**

Prepared &amp; Analyzed: 12-Sep-23

Chloride	448	16.0	mg/kg	400	112	80-120			
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**LCS Dup (3091217-BSD1)**

Prepared &amp; Analyzed: 12-Sep-23

Chloride	448	16.0	mg/kg	400	112	80-120	0.00	20	
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**Analytical Results For:**

ENSOLUM  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220

Project: MCA 301  
Project Number: 03D2057076  
Project Manager: AIMEE COLE  
Fax To:

Reported:  
13-Sep-23 16:39

**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
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**Batch 3091102 - Volatiles****Blank (3091102-BLK1)**

Prepared &amp; Analyzed: 11-Sep-23

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)	0.0516		mg/kg	0.0500		103	71.5-134			

**LCS (3091102-BS1)**

Prepared &amp; Analyzed: 11-Sep-23

Benzene	1.95	0.050	mg/kg	2.00		97.5	82.8-130			
Toluene	2.26	0.050	mg/kg	2.00		113	86-128			
Ethylbenzene	2.29	0.050	mg/kg	2.00		114	85.9-128			
m,p-Xylene	4.58	0.100	mg/kg	4.00		114	89-129			
o-Xylene	2.31	0.050	mg/kg	2.00		115	86.1-125			
Total Xylenes	6.89	0.150	mg/kg	6.00		115	88.2-128			
Surrogate: 4-Bromofluorobenzene (PID)	0.0543		mg/kg	0.0500		109	71.5-134			

**LCS Dup (3091102-BSD1)**

Prepared &amp; Analyzed: 11-Sep-23

Benzene	1.85	0.050	mg/kg	2.00		92.5	82.8-130	5.18	15.8	
Toluene	2.24	0.050	mg/kg	2.00		112	86-128	1.00	15.9	
Ethylbenzene	2.29	0.050	mg/kg	2.00		114	85.9-128	0.0631	16	
m,p-Xylene	4.56	0.100	mg/kg	4.00		114	89-129	0.466	16.2	
o-Xylene	2.28	0.050	mg/kg	2.00		114	86.1-125	1.40	16.7	
Total Xylenes	6.83	0.150	mg/kg	6.00		114	88.2-128	0.777	16.3	
Surrogate: 4-Bromofluorobenzene (PID)	0.0560		mg/kg	0.0500		112	71.5-134			

**Batch 3091103 - Volatiles****Blank (3091103-BLK1)**

Prepared: 11-Sep-23 Analyzed: 12-Sep-23

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							

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**Analytical Results For:**

ENSOLUM  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220

Project: MCA 301  
Project Number: 03D2057076  
Project Manager: AIMEE COLE  
Fax To:

Reported:  
13-Sep-23 16:39

**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
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**Batch 3091103 - Volatiles****Blank (3091103-BLK1)**

Prepared: 11-Sep-23 Analyzed: 12-Sep-23

Total BTEX	ND	0.300	mg/kg							
Surrogate: 4-Bromofluorobenzene (PID)	0.0563		mg/kg	0.0500		113	71.5-134			

**LCS (3091103-BS1)**

Prepared: 11-Sep-23 Analyzed: 12-Sep-23

Benzene	1.99	0.050	mg/kg	2.00		99.6	82.8-130			
Toluene	1.96	0.050	mg/kg	2.00		98.0	86-128			
Ethylbenzene	2.09	0.050	mg/kg	2.00		105	85.9-128			
m,p-Xylene	4.19	0.100	mg/kg	4.00		105	89-129			
o-Xylene	2.07	0.050	mg/kg	2.00		103	86.1-125			
Total Xylenes	6.25	0.150	mg/kg	6.00		104	88.2-128			
Surrogate: 4-Bromofluorobenzene (PID)	0.0528		mg/kg	0.0500		106	71.5-134			

**LCS Dup (3091103-BS1)**

Prepared: 11-Sep-23 Analyzed: 12-Sep-23

Benzene	1.98	0.050	mg/kg	2.00		98.8	82.8-130	0.807	15.8	
Toluene	1.95	0.050	mg/kg	2.00		97.3	86-128	0.707	15.9	
Ethylbenzene	2.09	0.050	mg/kg	2.00		104	85.9-128	0.0733	16	
m,p-Xylene	4.18	0.100	mg/kg	4.00		105	89-129	0.0187	16.2	
o-Xylene	2.08	0.050	mg/kg	2.00		104	86.1-125	0.619	16.7	
Total Xylenes	6.27	0.150	mg/kg	6.00		104	88.2-128	0.193	16.3	
Surrogate: 4-Bromofluorobenzene (PID)	0.0531		mg/kg	0.0500		106	71.5-134			

**Batch 3091113 - Volatiles****Blank (3091113-BLK1)**

Prepared: 11-Sep-23 Analyzed: 12-Sep-23

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)	0.0518		mg/kg	0.0500		104	71.5-134			

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**Analytical Results For:**

ENSOLUM  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220

Project: MCA 301  
Project Number: 03D2057076  
Project Manager: AIMEE COLE  
Fax To:

Reported:  
13-Sep-23 16:39

**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
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**Batch 3091113 - Volatiles****LCS (3091113-BS1)**

Prepared &amp; Analyzed: 11-Sep-23

Benzene	2.05	0.050	mg/kg	2.00		102	82.8-130			
Toluene	2.09	0.050	mg/kg	2.00		105	86-128			
Ethylbenzene	2.04	0.050	mg/kg	2.00		102	85.9-128			
m,p-Xylene	4.15	0.100	mg/kg	4.00		104	89-129			
o-Xylene	1.95	0.050	mg/kg	2.00		97.7	86.1-125			
Total Xylenes	6.10	0.150	mg/kg	6.00		102	88.2-128			
Surrogate: 4-Bromofluorobenzene (PID)	0.0504		mg/kg	0.0500		101	71.5-134			

**LCS Dup (3091113-BS1)**

Prepared: 11-Sep-23 Analyzed: 12-Sep-23

Benzene	2.07	0.050	mg/kg	2.00		103	82.8-130	0.925	15.8	
Toluene	2.09	0.050	mg/kg	2.00		104	86-128	0.262	15.9	
Ethylbenzene	2.07	0.050	mg/kg	2.00		103	85.9-128	1.17	16	
m,p-Xylene	4.20	0.100	mg/kg	4.00		105	89-129	1.21	16.2	
o-Xylene	2.02	0.050	mg/kg	2.00		101	86.1-125	3.44	16.7	
Total Xylenes	6.22	0.150	mg/kg	6.00		104	88.2-128	1.93	16.3	
Surrogate: 4-Bromofluorobenzene (PID)	0.0500		mg/kg	0.0500		100	71.5-134			

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220

Project: MCA 301  
Project Number: 03D2057076  
Project Manager: AIMEE COLE  
Fax To:

Reported:  
13-Sep-23 16:39

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC Limits	RPD	RPD Limit	Notes
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**Batch 3090902 - General Prep - Organics****Blank (3090902-BLK1)**

Prepared: 09-Sep-23 Analyzed: 11-Sep-23

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	52.6		mg/kg	50.0		105	48.2-134		
Surrogate: 1-Chlorooctadecane	61.1		mg/kg	50.0		122	49.1-148		

**LCS (3090902-BS1)**

Prepared: 09-Sep-23 Analyzed: 11-Sep-23

GRO C6-C10	195	10.0	mg/kg	200		97.5	66.4-123		
DRO >C10-C28	223	10.0	mg/kg	200		112	66.5-118		
Total TPH C6-C28	418	10.0	mg/kg	400		104	77.6-123		
Surrogate: 1-Chlorooctane	56.0		mg/kg	50.0		112	48.2-134		
Surrogate: 1-Chlorooctadecane	61.9		mg/kg	50.0		124	49.1-148		

**LCS Dup (3090902-BS1)**

Prepared: 09-Sep-23 Analyzed: 11-Sep-23

GRO C6-C10	197	10.0	mg/kg	200		98.7	66.4-123	1.24	17.7
DRO >C10-C28	222	10.0	mg/kg	200		111	66.5-118	0.692	21
Total TPH C6-C28	419	10.0	mg/kg	400		105	77.6-123	0.214	18.5
Surrogate: 1-Chlorooctane	55.7		mg/kg	50.0		111	48.2-134		
Surrogate: 1-Chlorooctadecane	61.2		mg/kg	50.0		122	49.1-148		

**Batch 3090903 - General Prep - Organics****Blank (3090903-BLK1)**

Prepared: 09-Sep-23 Analyzed: 11-Sep-23

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	48.5		mg/kg	50.0		96.9	48.2-134		
Surrogate: 1-Chlorooctadecane	52.2		mg/kg	50.0		104	49.1-148		

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**Analytical Results For:**

ENSOLUM  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220

Project: MCA 301  
Project Number: 03D2057076  
Project Manager: AIMEE COLE  
Fax To:

Reported:  
13-Sep-23 16:39

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC Limits	RPD	RPD Limit	Notes
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**Batch 3090903 - General Prep - Organics****LCS (3090903-BS1)**

Prepared: 09-Sep-23 Analyzed: 11-Sep-23

GRO C6-C10	205	10.0	mg/kg	200		102	66.4-123		
DRO >C10-C28	206	10.0	mg/kg	200		103	66.5-118		
Total TPH C6-C28	410	10.0	mg/kg	400		103	77.6-123		
Surrogate: 1-Chlorooctane	52.4		mg/kg	50.0		105	48.2-134		
Surrogate: 1-Chlorooctadecane	57.6		mg/kg	50.0		115	49.1-148		

**LCS Dup (3090903-BS1)**

Prepared: 09-Sep-23 Analyzed: 11-Sep-23

GRO C6-C10	208	10.0	mg/kg	200		104	66.4-123	1.72	17.7
DRO >C10-C28	214	10.0	mg/kg	200		107	66.5-118	3.69	21
Total TPH C6-C28	422	10.0	mg/kg	400		105	77.6-123	2.71	18.5
Surrogate: 1-Chlorooctane	52.1		mg/kg	50.0		104	48.2-134		
Surrogate: 1-Chlorooctadecane	58.2		mg/kg	50.0		116	49.1-148		

**Batch 3090904 - General Prep - Organics****Blank (3090904-BLK1)**

Prepared: 09-Sep-23 Analyzed: 11-Sep-23

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	44.7		mg/kg	50.0		89.3	48.2-134		
Surrogate: 1-Chlorooctadecane	46.7		mg/kg	50.0		93.5	49.1-148		

**LCS (3090904-BS1)**

Prepared: 09-Sep-23 Analyzed: 11-Sep-23

GRO C6-C10	200	10.0	mg/kg	200		100	66.4-123		
DRO >C10-C28	217	10.0	mg/kg	200		109	66.5-118		
Total TPH C6-C28	417	10.0	mg/kg	400		104	77.6-123		
Surrogate: 1-Chlorooctane	46.1		mg/kg	50.0		92.1	48.2-134		
Surrogate: 1-Chlorooctadecane	48.0		mg/kg	50.0		95.9	49.1-148		

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**Analytical Results For:**

ENSOLUM  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220

Project: MCA 301  
Project Number: 03D2057076  
Project Manager: AIMEE COLE  
Fax To:

Reported:  
13-Sep-23 16:39

**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
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**Batch 3090904 - General Prep - Organics****LCS Dup (3090904-BSD1)**

Prepared: 09-Sep-23 Analyzed: 11-Sep-23

GRO C6-C10	196	10.0	mg/kg	200		98.1	66.4-123	1.86	17.7	
DRO >C10-C28	205	10.0	mg/kg	200		103	66.5-118	5.55	21	
Total TPH C6-C28	402	10.0	mg/kg	400		100	77.6-123	3.76	18.5	
Surrogate: 1-Chlorooctane	48.5		mg/kg	50.0		96.9	48.2-134			
Surrogate: 1-Chlorooctadecane	49.9		mg/kg	50.0		99.9	49.1-148			

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### 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

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\*=Accredited Analyte

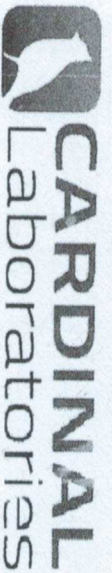
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A handwritten signature in black ink, appearing to read "Celey D. Keene".

---

Celey D. Keene, Lab Director/Quality Manager



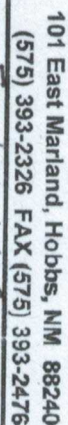


101 East Marland, Hobbs, NM 88240  
(575) 393-2326 FAX (575) 393-2476

# CHAIN-OF CUSTODY AND ANALYSIS REQUEST

<b>Company Name:</b> Ensolum LLC <b>Project Manager:</b> Anne Cole <b>Address:</b> 3122 Natural Park Hwy <b>City:</b> Carlsbad <b>State:</b> NM <b>Zip:</b> 88220 <b>Phone #:</b> 720-364-7365 <b>Fax #:</b> <b>Project #:</b> 63D2057076 <b>Project Owner:</b> Mardich <b>Project Name:</b> MCA 301 <b>Project Location:</b> 32.86370, -103.716860 <b>Sampler Name:</b> Ronn Huges		<b>BILL TO</b> <b>P.O. #:</b> <b>Company:</b> <b>Attn:</b> Anne Cole <b>Address:</b> <b>City:</b> <b>State:</b> <b>Zip:</b> <b>Phone #:</b> <b>Fax #:</b>		<b>ANALYSIS REQUEST</b>	
<b>FOR LAB USE ONLY</b> <b>Lab I.D.</b>		<b>Sample I.D.</b>		<b>Matrix</b> GROUNDWATER WASTEWATER SOIL OIL SLUDGE OTHER:	
1 2 3 4 5 6 7 8 9 10		ES18 @ 4' * ES19 @ 4' ES20 @ 4' ES21 @ 4' ES22 @ 4' ES23 @ 4' SW06 @ 0-4' SW07 @ 0-4' SW08 @ 0-4' SW09 @ 0-4' SW09 @ 0-4'		(G)RAB OR (C)OMP. # CONTAINERS MATRIX PRESERV. SAMPLING	
Date: 9/8/23 Time: 15:05 Relinquished By: [Signature] Received By: [Signature]		DATE TIME		BTEX TPH CI-	
Delivered By: (Circle One) Sampler - UPS - Bus - Other:		Observed Temp. °C: 15.62 Corrected Temp. °C:		Turnaround Time: Standard <input checked="" type="checkbox"/> Rush <input type="checkbox"/> Bacteria (only) Sample Condition: Cool Intact <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Observed Temp. °C: 15.62 Corrected Temp. °C:	
REMARKS: * Customer requested ID changes.		Verbal Result: <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Add'l Phone #:		All Results are emailed. Please provide Email address:	





## Page 36 of 37

Released to Imaging: 2/13/2024 2:26:32 PM





Released to Imaging: 2/13/2024 2:26:32 PM





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

September 14, 2023

AIMEE COLE

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: MCA 301

Enclosed are the results of analyses for samples received by the laboratory on 09/12/23 11:33.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-22-15. 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](http://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:**

ENSOLUM  
 AIMEE COLE  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received:	09/12/2023	Sampling Date:	09/12/2023
Reported:	09/14/2023	Sampling Type:	Soil
Project Name:	MCA 301	Sampling Condition:	Cool & Intact
Project Number:	03D2057076	Sample Received By:	Tamara Oldaker
Project Location:	MAVERICK ( 32.80370-103.76860 )		

**Sample ID: FS 25 @ 4' (H234918-01)**

BTX 8021B			mg/kg		Analyzed By: MS				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/12/2023	ND	1.91	95.6	2.00	2.45	
Toluene*	<0.050	0.050	09/12/2023	ND	1.96	98.1	2.00	1.70	
Ethylbenzene*	<0.050	0.050	09/12/2023	ND	1.99	99.3	2.00	2.88	
Total Xylenes*	<0.150	0.150	09/12/2023	ND	5.86	97.7	6.00	2.99	
Total BTX	<0.300	0.300	09/12/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 115 % 71.5-134

Chloride, SM4500Cl-B			mg/kg		Analyzed By: AC				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1680	16.0	09/13/2023	ND	432	108	400	0.00	

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	09/12/2023	ND	191	95.5	200	3.61	
DRO >C10-C28*	<10.0	10.0	09/12/2023	ND	202	101	200	1.82	
EXT DRO >C28-C36	<10.0	10.0	09/12/2023	ND					

Surrogate: 1-Chlorooctane 102 % 48.2-134

Surrogate: 1-Chlorooctadecane 107 % 49.1-148

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM  
 AIMEE COLE  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received:	09/12/2023	Sampling Date:	09/12/2023
Reported:	09/14/2023	Sampling Type:	Soil
Project Name:	MCA 301	Sampling Condition:	Cool & Intact
Project Number:	03D2057076	Sample Received By:	Tamara Oldaker
Project Location:	MAVERICK ( 32.80370-103.76860 )		

**Sample ID: FS 26 @ 4' (H234918-02)**

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/12/2023	ND	1.91	95.6	2.00	2.45		
Toluene*	<0.050	0.050	09/12/2023	ND	1.96	98.1	2.00	1.70		
Ethylbenzene*	<0.050	0.050	09/12/2023	ND	1.99	99.3	2.00	2.88		
Total Xylenes*	<0.150	0.150	09/12/2023	ND	5.86	97.7	6.00	2.99		
Total BTEx	<0.300	0.300	09/12/2023	ND						

Surrogate: 4-Bromofluorobenzene (PID) 117 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	2040	16.0	09/13/2023	ND	432	108	400	0.00		

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	09/12/2023	ND	191	95.5	200	3.61	
DRO >C10-C28*	<10.0	10.0	09/12/2023	ND	202	101	200	1.82	
EXT DRO >C28-C36	<10.0	10.0	09/12/2023	ND					

Surrogate: 1-Chlorooctane 80.1 % 48.2-134

Surrogate: 1-Chlorooctadecane 84.1 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM  
 AIMEE COLE  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received:	09/12/2023	Sampling Date:	09/12/2023
Reported:	09/14/2023	Sampling Type:	Soil
Project Name:	MCA 301	Sampling Condition:	Cool & Intact
Project Number:	03D2057076	Sample Received By:	Tamara Oldaker
Project Location:	MAVERICK ( 32.80370-103.76860 )		

**Sample ID: FS 27 @ 4' (H234918-03)**

BTX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/12/2023	ND	1.91	95.6	2.00	2.45		
Toluene*	<0.050	0.050	09/12/2023	ND	1.96	98.1	2.00	1.70		
Ethylbenzene*	<0.050	0.050	09/12/2023	ND	1.99	99.3	2.00	2.88		
Total Xylenes*	<0.150	0.150	09/12/2023	ND	5.86	97.7	6.00	2.99		
Total BTX	<0.300	0.300	09/12/2023	ND						

Surrogate: 4-Bromofluorobenzene (PID) 110 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	1740	16.0	09/13/2023	ND	432	108	400	0.00		

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	09/12/2023	ND	191	95.5	200	3.61	
DRO >C10-C28*	<10.0	10.0	09/12/2023	ND	202	101	200	1.82	
EXT DRO >C28-C36	<10.0	10.0	09/12/2023	ND					

Surrogate: 1-Chlorooctane 82.0 % 48.2-134

Surrogate: 1-Chlorooctadecane 86.7 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager





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**Analytical Results For:**

ENSOLUM  
 AIMEE COLE  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received:	09/12/2023	Sampling Date:	09/12/2023
Reported:	09/14/2023	Sampling Type:	Soil
Project Name:	MCA 301	Sampling Condition:	Cool & Intact
Project Number:	03D2057076	Sample Received By:	Tamara Oldaker
Project Location:	MAVERICK ( 32.80370-103.76860 )		

**Sample ID: FS 28 @ 4' (H234918-04)**

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/12/2023	ND	1.91	95.6	2.00	2.45		
Toluene*	<0.050	0.050	09/12/2023	ND	1.96	98.1	2.00	1.70		
Ethylbenzene*	<0.050	0.050	09/12/2023	ND	1.99	99.3	2.00	2.88		
Total Xylenes*	<0.150	0.150	09/12/2023	ND	5.86	97.7	6.00	2.99		
Total BTEx	<0.300	0.300	09/12/2023	ND						

Surrogate: 4-Bromofluorobenzene (PID) 116 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	9120	16.0	09/13/2023	ND	432	108	400	0.00		

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	09/12/2023	ND	191	95.5	200	3.61	
DRO >C10-C28*	<10.0	10.0	09/12/2023	ND	202	101	200	1.82	
EXT DRO >C28-C36	<10.0	10.0	09/12/2023	ND					

Surrogate: 1-Chlorooctane 80.7 % 48.2-134

Surrogate: 1-Chlorooctadecane 83.0 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM  
 AIMEE COLE  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received:	09/12/2023	Sampling Date:	09/12/2023
Reported:	09/14/2023	Sampling Type:	Soil
Project Name:	MCA 301	Sampling Condition:	Cool & Intact
Project Number:	03D2057076	Sample Received By:	Tamara Oldaker
Project Location:	MAVERICK ( 32.80370-103.76860 )		

**Sample ID: SW 14 @ 0-4' (H234918-05)**

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/12/2023	ND	1.91	95.6	2.00	2.45		
Toluene*	<0.050	0.050	09/12/2023	ND	1.96	98.1	2.00	1.70		
Ethylbenzene*	<0.050	0.050	09/12/2023	ND	1.99	99.3	2.00	2.88		
Total Xylenes*	<0.150	0.150	09/12/2023	ND	5.86	97.7	6.00	2.99		
Total BTEX	<0.300	0.300	09/12/2023	ND						

Surrogate: 4-Bromofluorobenzene (PID) 115 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	208	16.0	09/13/2023	ND	432	108	400	0.00		

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	09/12/2023	ND	191	95.5	200	3.61	
DRO >C10-C28*	<10.0	10.0	09/12/2023	ND	202	101	200	1.82	
EXT DRO >C28-C36	<10.0	10.0	09/12/2023	ND					

Surrogate: 1-Chlorooctane 81.5 % 48.2-134

Surrogate: 1-Chlorooctadecane 83.2 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM  
 AIMEE COLE  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received:	09/12/2023	Sampling Date:	09/12/2023
Reported:	09/14/2023	Sampling Type:	Soil
Project Name:	MCA 301	Sampling Condition:	Cool & Intact
Project Number:	03D2057076	Sample Received By:	Tamara Oldaker
Project Location:	MAVERICK ( 32.80370-103.76860 )		

**Sample ID: SW 15 @ 0-4' (H234918-06)**

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/12/2023	ND	1.91	95.6	2.00	2.45		
Toluene*	<0.050	0.050	09/12/2023	ND	1.96	98.1	2.00	1.70		
Ethylbenzene*	<0.050	0.050	09/12/2023	ND	1.99	99.3	2.00	2.88		
Total Xylenes*	<0.150	0.150	09/12/2023	ND	5.86	97.7	6.00	2.99		
Total BTEX	<0.300	0.300	09/12/2023	ND						

Surrogate: 4-Bromofluorobenzene (PID) 114 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	224	16.0	09/13/2023	ND	432	108	400	0.00		

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	09/12/2023	ND	191	95.5	200	3.61	
DRO >C10-C28*	<10.0	10.0	09/12/2023	ND	202	101	200	1.82	
EXT DRO >C28-C36	<10.0	10.0	09/12/2023	ND					

Surrogate: 1-Chlorooctane 85.1 % 48.2-134

Surrogate: 1-Chlorooctadecane 86.1 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM  
 AIMEE COLE  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received:	09/12/2023	Sampling Date:	09/12/2023
Reported:	09/14/2023	Sampling Type:	Soil
Project Name:	MCA 301	Sampling Condition:	Cool & Intact
Project Number:	03D2057076	Sample Received By:	Tamara Oldaker
Project Location:	MAVERICK ( 32.80370-103.76860 )		

**Sample ID: SW 16 @ 0-4' (H234918-07)**

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/12/2023	ND	1.91	95.6	2.00	2.45		
Toluene*	<0.050	0.050	09/12/2023	ND	1.96	98.1	2.00	1.70		
Ethylbenzene*	<0.050	0.050	09/12/2023	ND	1.99	99.3	2.00	2.88		
Total Xylenes*	<0.150	0.150	09/12/2023	ND	5.86	97.7	6.00	2.99		
Total BTEX	<0.300	0.300	09/12/2023	ND						

Surrogate: 4-Bromofluorobenzene (PID) 113 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	256	16.0	09/13/2023	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/12/2023	ND	191	95.5	200	3.61	
DRO >C10-C28*	<10.0	10.0	09/12/2023	ND	202	101	200	1.82	
EXT DRO >C28-C36	<10.0	10.0	09/12/2023	ND					

Surrogate: 1-Chlorooctane 83.3 % 48.2-134

Surrogate: 1-Chlorooctadecane 84.7 % 49.1-148

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

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### Notes and Definitions

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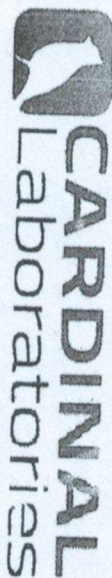
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A handwritten signature in black ink, appearing to read "C. D. Keene".

---

Celey D. Keene, Lab Director/Quality Manager





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

## CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

<b>Company Name:</b> ENSOLUM LLC						<b>BILL TO</b>						<b>ANALYSIS REQUEST</b>					
<b>Project Manager:</b> Anne Cole						<b>P.O. #:</b>											
<b>Address:</b> 3122 National Parks Hwy						<b>Company:</b>											
<b>City:</b> Carlisle						<b>Attn:</b> Anne Cole											
<b>Phone #:</b> 720-384-7365						<b>State:</b> NM						<b>Zip:</b> 88220					
<b>Project #:</b> 03D2057676						<b>Project Owner:</b> Maxwell											
<b>Project Name:</b> MCA 3d1						<b>City:</b>											
<b>Project Location:</b> 32, 80370, -103, 76, 800						<b>State:</b>						<b>Zip:</b>					
<b>Sampler Name:</b> Ron Hynes						<b>Phone #:</b>											
<b>FOR LAB USE ONLY</b>						<b>Fax #:</b>											
<b>Lab I.D.</b>	<b>Sample I.D.</b>	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX GROUNDWATER WASTEWATER SOIL OIL SLUDGE OTHER :		ACID/BASE: ICE / COOL OTHER :	DATE	TIME									
H234918	FS25 @ 4'	C	1	X			9/12/03	0925	X	X	X						
	FS26 @ 4'							0950									
	FS27 @ 4'							1005									
	FS28 @ 4'							0955									
	SU14 @ 0-4'							1010									
	SU15 @ 0-4'							1015									
	SU16 @ 0-4'																
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<b>Relinquished By:</b> [Signature]						<b>Received By:</b> [Signature]						<b>Verbal Result:</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			<b>Add'l Phone #:</b>		
<b>Date:</b> 9-12-23						<b>Date:</b> 9-12-23						<b>All Results are emailed. Please provide Email address:</b>					
<b>Time:</b>						<b>Time:</b>						<b>REMARKS:</b>					
<b>Delivered By: (Circle One)</b>						<b>Observed Temp. °C:</b> 4.3						<b>Turnaround Time:</b>					
<b>Sampler - UPS - Bus - Other:</b>						<b>Corrected Temp. °C:</b>						<b>Standard</b> <input checked="" type="checkbox"/> <b>Rush</b> <input type="checkbox"/>					
<b>Cardinal cannot accept verbal changes. Please email changes to cardinal@ensolum.com</b>						<b>Sample Condition</b> <input checked="" type="checkbox"/> Cool <input type="checkbox"/> Intact <input type="checkbox"/> Yes <input type="checkbox"/> No						<b>Checked BY: (Initials)</b> [Signature]					
<b>Thermometer ID #140</b>						<b>Thermometer Factor 0°C</b>						<b>Bacteria (only) Sample Condition</b> <input type="checkbox"/> Cool <input type="checkbox"/> Intact <input type="checkbox"/> Yes <input type="checkbox"/> No					
<b>Corrected Temp. °C:</b>						<b>Observed Temp. °C:</b>						<b>Corrected Temp. °C:</b>					





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---

September 20, 2023

AIMEE COLE

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: MCA 301

Enclosed are the results of analyses for samples received by the laboratory on 09/15/23 14:32.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-22-15. 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](http://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".

Celey D. Keene

Lab Director/Quality Manager



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

**Analytical Results For:**

ENSOLUM  
 AIMEE COLE  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received:	09/15/2023	Sampling Date:	09/14/2023
Reported:	09/20/2023	Sampling Type:	Soil
Project Name:	MCA 301	Sampling Condition:	Cool & Intact
Project Number:	03D2057076	Sample Received By:	Dionica Hinojos
Project Location:	MAVERICK ( 32.80370-103.76860 )		

**Sample ID: FS 11 A @ 4.5' (H235009-01)**

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/18/2023	ND	1.85	92.4	2.00	1.08	
Toluene*	<0.050	0.050	09/18/2023	ND	1.91	95.6	2.00	1.80	
Ethylbenzene*	<0.050	0.050	09/18/2023	ND	1.92	96.2	2.00	0.837	
Total Xylenes*	<0.150	0.150	09/18/2023	ND	5.84	97.4	6.00	0.854	
Total BTEX	<0.300	0.300	09/18/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 115 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	5600	16.0	09/18/2023	ND	400	100	400	3.92	

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	09/18/2023	ND	192	95.8	200	1.67	
DRO >C10-C28*	<10.0	10.0	09/18/2023	ND	204	102	200	5.36	
EXT DRO >C28-C36	<10.0	10.0	09/18/2023	ND					

Surrogate: 1-Chlorooctane 91.5 % 48.2-134

Surrogate: 1-Chlorooctadecane 95.1 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM  
 AIMEE COLE  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received: 09/15/2023

Reported: 09/20/2023

Project Name: MCA 301

Project Number: 03D2057076

Project Location: MAVERICK ( 32.80370-103.76860 )

Sampling Date: 09/14/2023

Sampling Type: Soil

Sampling Condition: Cool &amp; Intact

Sample Received By: Dionica Hinojos

**Sample ID: FS 17 A @ 4.5' (H235009-02)**

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/18/2023	ND	1.85	92.4	2.00	1.08		
Toluene*	<0.050	0.050	09/18/2023	ND	1.91	95.6	2.00	1.80		
Ethylbenzene*	<0.050	0.050	09/18/2023	ND	1.92	96.2	2.00	0.837		
Total Xylenes*	<0.150	0.150	09/18/2023	ND	5.84	97.4	6.00	0.854		
Total BTEx	<0.300	0.300	09/18/2023	ND						

Surrogate: 4-Bromofluorobenzene (PID) 115 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	3120	16.0	09/18/2023	ND	400	100	400	3.92		

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	09/18/2023	ND	192	95.8	200	1.67	
DRO >C10-C28*	<10.0	10.0	09/18/2023	ND	204	102	200	5.36	
EXT DRO >C28-C36	<10.0	10.0	09/18/2023	ND					

Surrogate: 1-Chlorooctane 83.2 % 48.2-134

Surrogate: 1-Chlorooctadecane 89.9 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM  
 AIMEE COLE  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received:	09/15/2023	Sampling Date:	09/14/2023
Reported:	09/20/2023	Sampling Type:	Soil
Project Name:	MCA 301	Sampling Condition:	Cool & Intact
Project Number:	03D2057076	Sample Received By:	Dionica Hinojos
Project Location:	MAVERICK ( 32.80370-103.76860 )		

**Sample ID: FS 29 @ 4' (H235009-03)**

BTX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/18/2023	ND	1.85	92.4	2.00	1.08		
Toluene*	<0.050	0.050	09/18/2023	ND	1.91	95.6	2.00	1.80		
Ethylbenzene*	<0.050	0.050	09/18/2023	ND	1.92	96.2	2.00	0.837		
Total Xylenes*	<0.150	0.150	09/18/2023	ND	5.84	97.4	6.00	0.854		
Total BTX	<0.300	0.300	09/18/2023	ND						

Surrogate: 4-Bromofluorobenzene (PID) 114 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	192	16.0	09/18/2023	ND	400	100	400	3.92		

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	09/18/2023	ND	192	95.8	200	1.67	
DRO >C10-C28*	<10.0	10.0	09/18/2023	ND	204	102	200	5.36	
EXT DRO >C28-C36	<10.0	10.0	09/18/2023	ND					

Surrogate: 1-Chlorooctane 70.6 % 48.2-134

Surrogate: 1-Chlorooctadecane 73.5 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM  
 AIMEE COLE  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received:	09/15/2023	Sampling Date:	09/14/2023
Reported:	09/20/2023	Sampling Type:	Soil
Project Name:	MCA 301	Sampling Condition:	Cool & Intact
Project Number:	03D2057076	Sample Received By:	Dionica Hinojos
Project Location:	MAVERICK ( 32.80370-103.76860 )		

**Sample ID: FS 30 @ 4' (H235009-04)**

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/18/2023	ND	1.85	92.4	2.00	1.08	
Toluene*	<0.050	0.050	09/18/2023	ND	1.91	95.6	2.00	1.80	
Ethylbenzene*	<0.050	0.050	09/18/2023	ND	1.92	96.2	2.00	0.837	
Total Xylenes*	<0.150	0.150	09/18/2023	ND	5.84	97.4	6.00	0.854	
Total BTX	<0.300	0.300	09/18/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 118 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	496	16.0	09/18/2023	ND	400	100	400	3.92	

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	09/18/2023	ND	192	95.8	200	1.67	
DRO >C10-C28*	<10.0	10.0	09/18/2023	ND	204	102	200	5.36	
EXT DRO >C28-C36	<10.0	10.0	09/18/2023	ND					

Surrogate: 1-Chlorooctane 88.5 % 48.2-134

Surrogate: 1-Chlorooctadecane 94.1 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM  
 AIMEE COLE  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received:	09/15/2023	Sampling Date:	09/14/2023
Reported:	09/20/2023	Sampling Type:	Soil
Project Name:	MCA 301	Sampling Condition:	Cool & Intact
Project Number:	03D2057076	Sample Received By:	Dionica Hinojos
Project Location:	MAVERICK ( 32.80370-103.76860 )		

**Sample ID: FS 31 @ 4' (H235009-05)**

BTX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/18/2023	ND	1.85	92.4	2.00	1.08		
Toluene*	<0.050	0.050	09/18/2023	ND	1.91	95.6	2.00	1.80		
Ethylbenzene*	<0.050	0.050	09/18/2023	ND	1.92	96.2	2.00	0.837		
Total Xylenes*	<0.150	0.150	09/18/2023	ND	5.84	97.4	6.00	0.854		
Total BTX	<0.300	0.300	09/18/2023	ND						

Surrogate: 4-Bromofluorobenzene (PID) 118 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	656	16.0	09/18/2023	ND	400	100	400	3.92		

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	09/18/2023	ND	192	95.8	200	1.67	
DRO >C10-C28*	<10.0	10.0	09/18/2023	ND	204	102	200	5.36	
EXT DRO >C28-C36	<10.0	10.0	09/18/2023	ND					

Surrogate: 1-Chlorooctane 87.1 % 48.2-134

Surrogate: 1-Chlorooctadecane 91.2 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager





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**Analytical Results For:**

ENSOLUM  
 AIMEE COLE  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received:	09/15/2023	Sampling Date:	09/14/2023
Reported:	09/20/2023	Sampling Type:	Soil
Project Name:	MCA 301	Sampling Condition:	Cool & Intact
Project Number:	03D2057076	Sample Received By:	Dionica Hinojos
Project Location:	MAVERICK ( 32.80370-103.76860 )		

**Sample ID: FS 32 @ 4' (H235009-06)**

BTX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/18/2023	ND	1.85	92.4	2.00	1.08		
Toluene*	<0.050	0.050	09/18/2023	ND	1.91	95.6	2.00	1.80		
Ethylbenzene*	<0.050	0.050	09/18/2023	ND	1.92	96.2	2.00	0.837		
Total Xylenes*	<0.150	0.150	09/18/2023	ND	5.84	97.4	6.00	0.854		
Total BTX	<0.300	0.300	09/18/2023	ND						

Surrogate: 4-Bromofluorobenzene (PID) 115 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	592	16.0	09/18/2023	ND	400	100	400	3.92		

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	09/18/2023	ND	192	95.8	200	1.67	
DRO >C10-C28*	<10.0	10.0	09/18/2023	ND	204	102	200	5.36	
EXT DRO >C28-C36	<10.0	10.0	09/18/2023	ND					

Surrogate: 1-Chlorooctane 88.9 % 48.2-134

Surrogate: 1-Chlorooctadecane 93.3 % 49.1-148

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM  
 AIMEE COLE  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received:	09/15/2023	Sampling Date:	09/14/2023
Reported:	09/20/2023	Sampling Type:	Soil
Project Name:	MCA 301	Sampling Condition:	Cool & Intact
Project Number:	03D2057076	Sample Received By:	Dionica Hinojos
Project Location:	MAVERICK ( 32.80370-103.76860 )		

**Sample ID: FS 33 @ 4' (H235009-07)**

BTX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/18/2023	ND	1.85	92.4	2.00	1.08		
Toluene*	<0.050	0.050	09/18/2023	ND	1.91	95.6	2.00	1.80		
Ethylbenzene*	<0.050	0.050	09/18/2023	ND	1.92	96.2	2.00	0.837		
Total Xylenes*	<0.150	0.150	09/18/2023	ND	5.84	97.4	6.00	0.854		
Total BTX	<0.300	0.300	09/18/2023	ND						

Surrogate: 4-Bromofluorobenzene (PID) 116 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	672	16.0	09/18/2023	ND	416	104	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/18/2023	ND	192	95.8	200	1.67	
DRO >C10-C28*	<10.0	10.0	09/18/2023	ND	204	102	200	5.36	
EXT DRO >C28-C36	<10.0	10.0	09/18/2023	ND					

Surrogate: 1-Chlorooctane 88.4 % 48.2-134

Surrogate: 1-Chlorooctadecane 93.5 % 49.1-148

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM  
 AIMEE COLE  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received: 09/15/2023

Reported: 09/20/2023

Project Name: MCA 301

Project Number: 03D2057076

Project Location: MAVERICK ( 32.80370-103.76860 )

Sampling Date: 09/14/2023

Sampling Type: Soil

Sampling Condition: Cool &amp; Intact

Sample Received By: Dionica Hinojos

**Sample ID: FS 34 @ 4' (H235009-08)**

BTX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/18/2023	ND	1.94	97.2	2.00	1.00		
Toluene*	<0.050	0.050	09/18/2023	ND	2.00	99.9	2.00	1.83		
Ethylbenzene*	<0.050	0.050	09/18/2023	ND	1.93	96.5	2.00	0.549		
Total Xylenes*	<0.150	0.150	09/18/2023	ND	5.80	96.7	6.00	1.40		
Total BTX	<0.300	0.300	09/18/2023	ND						

Surrogate: 4-Bromofluorobenzene (PID) 109 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	624	16.0	09/18/2023	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/18/2023	ND	192	95.8	200	1.67	
DRO >C10-C28*	<10.0	10.0	09/18/2023	ND	204	102	200	5.36	
EXT DRO >C28-C36	<10.0	10.0	09/18/2023	ND					

Surrogate: 1-Chlorooctane 93.3 % 48.2-134

Surrogate: 1-Chlorooctadecane 99.3 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM  
 AIMEE COLE  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received:	09/15/2023	Sampling Date:	09/14/2023
Reported:	09/20/2023	Sampling Type:	Soil
Project Name:	MCA 301	Sampling Condition:	Cool & Intact
Project Number:	03D2057076	Sample Received By:	Dionica Hinojos
Project Location:	MAVERICK ( 32.80370-103.76860 )		

**Sample ID: FS 35 @ 4' (H235009-09)**

BTX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/18/2023	ND	1.94	97.2	2.00	1.00		
Toluene*	<0.050	0.050	09/18/2023	ND	2.00	99.9	2.00	1.83		
Ethylbenzene*	<0.050	0.050	09/18/2023	ND	1.93	96.5	2.00	0.549		
Total Xylenes*	<0.150	0.150	09/18/2023	ND	5.80	96.7	6.00	1.40		
Total BTX	<0.300	0.300	09/18/2023	ND						

Surrogate: 4-Bromofluorobenzene (PID) 108 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	496	16.0	09/18/2023	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/18/2023	ND	192	95.8	200	1.67	
DRO >C10-C28*	<10.0	10.0	09/18/2023	ND	204	102	200	5.36	
EXT DRO >C28-C36	<10.0	10.0	09/18/2023	ND					

Surrogate: 1-Chlorooctane 89.0 % 48.2-134

Surrogate: 1-Chlorooctadecane 94.0 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM  
 AIMEE COLE  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received:	09/15/2023	Sampling Date:	09/14/2023
Reported:	09/20/2023	Sampling Type:	Soil
Project Name:	MCA 301	Sampling Condition:	Cool & Intact
Project Number:	03D2057076	Sample Received By:	Dionica Hinojos
Project Location:	MAVERICK ( 32.80370-103.76860 )		

**Sample ID: FS 36 @ 4' (H235009-10)**

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/18/2023	ND	1.94	97.2	2.00	1.00		
Toluene*	<0.050	0.050	09/18/2023	ND	2.00	99.9	2.00	1.83		
Ethylbenzene*	<0.050	0.050	09/18/2023	ND	1.93	96.5	2.00	0.549		
Total Xylenes*	<0.150	0.150	09/18/2023	ND	5.80	96.7	6.00	1.40		
Total BTEx	<0.300	0.300	09/18/2023	ND						

Surrogate: 4-Bromofluorobenzene (PID) 110 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	128	16.0	09/18/2023	ND	416	104	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/18/2023	ND	192	95.8	200	1.67	
DRO >C10-C28*	<10.0	10.0	09/18/2023	ND	204	102	200	5.36	
EXT DRO >C28-C36	<10.0	10.0	09/18/2023	ND					

Surrogate: 1-Chlorooctane 87.5 % 48.2-134

Surrogate: 1-Chlorooctadecane 90.5 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager





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**Analytical Results For:**

ENSOLUM  
 AIMEE COLE  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received:	09/15/2023	Sampling Date:	09/14/2023
Reported:	09/20/2023	Sampling Type:	Soil
Project Name:	MCA 301	Sampling Condition:	Cool & Intact
Project Number:	03D2057076	Sample Received By:	Dionica Hinojos
Project Location:	MAVERICK ( 32.80370-103.76860 )		

**Sample ID: SS 01 @ 0.5' (H235009-11)**

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/18/2023	ND	1.94	97.2	2.00	1.00		
Toluene*	<0.050	0.050	09/18/2023	ND	2.00	99.9	2.00	1.83		
Ethylbenzene*	<0.050	0.050	09/18/2023	ND	1.93	96.5	2.00	0.549		
Total Xylenes*	<0.150	0.150	09/18/2023	ND	5.80	96.7	6.00	1.40		
Total BTEx	<0.300	0.300	09/18/2023	ND						

Surrogate: 4-Bromofluorobenzene (PID) 108 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	16.0	16.0	09/18/2023	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/18/2023	ND	192	95.8	200	1.67	
DRO >C10-C28*	<10.0	10.0	09/18/2023	ND	204	102	200	5.36	
EXT DRO >C28-C36	<10.0	10.0	09/18/2023	ND					

Surrogate: 1-Chlorooctane 68.0 % 48.2-134

Surrogate: 1-Chlorooctadecane 72.8 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM  
 AIMEE COLE  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received:	09/15/2023	Sampling Date:	09/14/2023
Reported:	09/20/2023	Sampling Type:	Soil
Project Name:	MCA 301	Sampling Condition:	Cool & Intact
Project Number:	03D2057076	Sample Received By:	Dionica Hinojos
Project Location:	MAVERICK ( 32.80370-103.76860 )		

**Sample ID: SS 02 @ 0.5' (H235009-12)**

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/18/2023	ND	1.94	97.2	2.00	1.00		
Toluene*	<0.050	0.050	09/18/2023	ND	2.00	99.9	2.00	1.83		
Ethylbenzene*	<0.050	0.050	09/18/2023	ND	1.93	96.5	2.00	0.549		
Total Xylenes*	<0.150	0.150	09/18/2023	ND	5.80	96.7	6.00	1.40		
Total BTEX	<0.300	0.300	09/18/2023	ND						

Surrogate: 4-Bromofluorobenzene (PID) 106 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	16.0	16.0	09/18/2023	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/18/2023	ND	192	95.8	200	1.67	
DRO >C10-C28*	<10.0	10.0	09/18/2023	ND	204	102	200	5.36	
EXT DRO >C28-C36	<10.0	10.0	09/18/2023	ND					

Surrogate: 1-Chlorooctane 90.1 % 48.2-134

Surrogate: 1-Chlorooctadecane 93.7 % 49.1-148

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**Analytical Results For:**

ENSOLUM  
 AIMEE COLE  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received:	09/15/2023	Sampling Date:	09/14/2023
Reported:	09/20/2023	Sampling Type:	Soil
Project Name:	MCA 301	Sampling Condition:	Cool & Intact
Project Number:	03D2057076	Sample Received By:	Dionica Hinojos
Project Location:	MAVERICK ( 32.80370-103.76860 )		

**Sample ID: SS 03 @ 0.5' (H235009-13)**

BTX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/18/2023	ND	1.94	97.2	2.00	1.00		
Toluene*	<0.050	0.050	09/18/2023	ND	2.00	99.9	2.00	1.83		
Ethylbenzene*	<0.050	0.050	09/18/2023	ND	1.93	96.5	2.00	0.549		
Total Xylenes*	<0.150	0.150	09/18/2023	ND	5.80	96.7	6.00	1.40		
Total BTX	<0.300	0.300	09/18/2023	ND						

Surrogate: 4-Bromofluorobenzene (PID) 107 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	09/18/2023	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/18/2023	ND	192	95.8	200	1.67	
DRO >C10-C28*	<10.0	10.0	09/18/2023	ND	204	102	200	5.36	
EXT DRO >C28-C36	<10.0	10.0	09/18/2023	ND					

Surrogate: 1-Chlorooctane 91.4 % 48.2-134

Surrogate: 1-Chlorooctadecane 96.1 % 49.1-148

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**Analytical Results For:**

ENSOLUM  
 AIMEE COLE  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received:	09/15/2023	Sampling Date:	09/14/2023
Reported:	09/20/2023	Sampling Type:	Soil
Project Name:	MCA 301	Sampling Condition:	Cool & Intact
Project Number:	03D2057076	Sample Received By:	Dionica Hinojos
Project Location:	MAVERICK ( 32.80370-103.76860 )		

**Sample ID: SS 04 @ 0.5' (H235009-14)**

BTX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/18/2023	ND	1.94	97.2	2.00	1.00		
Toluene*	<0.050	0.050	09/18/2023	ND	2.00	99.9	2.00	1.83		
Ethylbenzene*	<0.050	0.050	09/18/2023	ND	1.93	96.5	2.00	0.549		
Total Xylenes*	<0.150	0.150	09/18/2023	ND	5.80	96.7	6.00	1.40		
Total BTX	<0.300	0.300	09/18/2023	ND						

Surrogate: 4-Bromofluorobenzene (PID) 108 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	544	16.0	09/18/2023	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/18/2023	ND	192	95.8	200	1.67	
DRO >C10-C28*	<10.0	10.0	09/18/2023	ND	204	102	200	5.36	
EXT DRO >C28-C36	<10.0	10.0	09/18/2023	ND					

Surrogate: 1-Chlorooctane 77.7 % 48.2-134

Surrogate: 1-Chlorooctadecane 81.9 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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### Notes and Definitions

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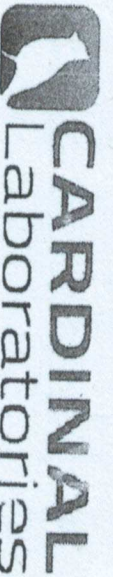
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A handwritten signature in black ink, appearing to read "C. D. Keene".

Celey D. Keene, Lab Director/Quality Manager





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

# CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

<b>Company Name:</b> Ensolum LLC <b>Project Manager:</b> Anne Cole <b>Address:</b> 3122 Marshall Parks Hwy <b>City:</b> Carlsbad <b>State:</b> NM <b>Zip:</b> 88220 <b>Phone #:</b> 720 3847365 <b>Fax #:</b> <b>Project #:</b> 03D2057076 <b>Project Owner:</b> Murell <b>Project Name:</b> MCA301 <b>Project Location:</b> 32.86370, -103.76860 <b>Sampler Name:</b> Roni Hines <b>FOR LAB USE ONLY</b>		<b>BILL TO</b> <b>P.O. #:</b> <b>Company:</b> <b>Attn:</b> Anne Cole <b>Address:</b> <b>City:</b> <b>State:</b> <b>Zip:</b> <b>Phone #:</b> <b>Fax #:</b>		<b>ANALYSIS REQUEST</b>	
<b>Lab I.D.</b> <b>Sample I.D.</b>		<b>MATRIX</b> (G)RAB OR (C)OMP. # CONTAINERS GROUNDWATER WASTEWATER SOIL OIL SLUDGE OTHER : ACID/BASE: ICE / COOL OTHER :		<b>PRESERV</b> <b>SAMPLING</b>	
H235209 FS11A @ 4.5' FS17A @ 4.5' FS29 @ 4' FS30 @ 4' FS31 @ 4' FS32 @ 4' FS33 @ 4' FS34 @ 4' FS35 @ 4' FS36 @ 4'		C 1 X X X X X X X X X		9/14/23 1508 1510 1512 1514 1516 1518 1520 1522 1524 1526	
BTEX TPH CI-					

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**Relinquished By:** [Signature] **Date:** 9/15/23 **Received By:** [Signature] **Date:** 9/15/23

**Time:** 14:30 **Received By:** [Signature] **Date:** 9/15/23

**Time:** **Received By:**

**Delivered By:** (Circle One) **Observed Temp. °C:** 2.92 **Corrected Temp. °C:**

**Sampler - UPS - Bus - Other:** **Sample Condition:** Cool ☒ Intact ☐ Yes ☐ No ☐ Yes ☐ No **Checked By:** (Initials) [Signature]

**Turnaround Time:** **Standard** ☒ **Backlog (only) Sample Condition:** Cool ☒ Intact ☐ Yes ☐ No ☐ Yes ☐ No **Observed Temp. °C:** **Corrected Temp. °C:**

**Thermometer ID #140** **Correction Factor 0°C**

**REMARKS:** acde@ensolum.com, jh@ensolum.com

**Verbal Result:** ☐ Yes ☐ No **Add'l Phone #:**

**All Results are emailed. Please provide Email address:**

† Cardinal cannot accept verbal changes. Please email changes to celey.keene@cardinallabsnm.com





## ANALYSIS REQUEST

<sup>†</sup> Cardinal cannot accept verbal changes. Please email changes to [celey.keene@cardinallabsnm.com](mailto:celey.keene@cardinallabsnm.com)



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

---

October 02, 2023

AIMEE COLE

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: MCA 301

Enclosed are the results of analyses for samples received by the laboratory on 09/11/23 14:26.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-22-15. 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](http://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,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is fluid and cursive, with the first letters of the first and last names being capitalized and prominent.

Celey D. Keene

Lab Director/Quality Manager



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

**Analytical Results For:**

ENSOLUM  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220

Project: MCA 301  
Project Number: 03D2057076  
Project Manager: AIMEE COLE  
Fax To:

Reported:  
02-Oct-23 15:06

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
PH 02 @ 5'	H234903-03	Soil	11-Sep-23 10:15	11-Sep-23 14:26
PH 02D @ 9'	H234903-04	Soil	11-Sep-23 11:00	11-Sep-23 14:26
PH 03A @ 6'	H234903-05	Soil	11-Sep-23 10:35	11-Sep-23 14:26
PH 03C @ 8'	H234903-06	Soil	11-Sep-23 11:05	11-Sep-23 14:26
FS 24 @ 4'	H234903-07	Soil	11-Sep-23 12:15	11-Sep-23 14:26

10/02/23 - Client requested removal of samples -01 and -02. This is the revised report and will replace the one sent on 09/14/23.

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220

Project: MCA 301  
Project Number: 03D2057076  
Project Manager: AIMEE COLE  
Fax To:

Reported:  
02-Oct-23 15:06

**PH 02 @ 5'**  
**H234903-03 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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**Cardinal Laboratories****Inorganic Compounds**

<b>Chloride</b>	<b>1120</b>		16.0	mg/kg	4	3091324	AC	13-Sep-23	4500-Cl-B	
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**Volatile Organic Compounds by EPA Method 8021**

Benzene*	<0.050	0.050	mg/kg	50	3091205	JH/	12-Sep-23	8021B	
Toluene*	<0.050	0.050	mg/kg	50	3091205	JH/	12-Sep-23	8021B	
Ethylbenzene*	<0.050	0.050	mg/kg	50	3091205	JH/	12-Sep-23	8021B	
Total Xylenes*	<0.150	0.150	mg/kg	50	3091205	JH/	12-Sep-23	8021B	
Total BTEX	<0.300	0.300	mg/kg	50	3091205	JH/	12-Sep-23	8021B	

Surrogate: 4-Bromofluorobenzene (PID)	115 %	71.5-134	3091205	JH/	12-Sep-23	8021B	
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**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0	10.0	mg/kg	1	3091215	MS	12-Sep-23	8015B	
DRO >C10-C28*	<10.0	10.0	mg/kg	1	3091215	MS	12-Sep-23	8015B	
EXT DRO >C28-C36	<10.0	10.0	mg/kg	1	3091215	MS	12-Sep-23	8015B	

Surrogate: 1-Chlorooctane	95.8 %	48.2-134	3091215	MS	12-Sep-23	8015B	
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Surrogate: 1-Chlorooctadecane	106 %	49.1-148	3091215	MS	12-Sep-23	8015B	
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Cardinal Laboratories

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Celey D. Keene, Lab Director/Quality Manager





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**Analytical Results For:**

ENSOLUM  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220

Project: MCA 301  
Project Number: 03D2057076  
Project Manager: AIMEE COLE  
Fax To:

Reported:  
02-Oct-23 15:06

**PH 02D @ 9'**  
**H234903-04 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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**Cardinal Laboratories****Inorganic Compounds**

<b>Chloride</b>	<b>32.0</b>		16.0	mg/kg	4	3091324	AC	13-Sep-23	4500-Cl-B	
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**Volatile Organic Compounds by EPA Method 8021**

Benzene*	<0.050		0.050	mg/kg	50	3091205	JH/	12-Sep-23	8021B	
Toluene*	<0.050		0.050	mg/kg	50	3091205	JH/	12-Sep-23	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	3091205	JH/	12-Sep-23	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	3091205	JH/	12-Sep-23	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	3091205	JH/	12-Sep-23	8021B	

<i>Surrogate: 4-Bromofluorobenzene (PID)</i>			112 %	71.5-134		3091205	JH/	12-Sep-23	8021B	
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**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0		10.0	mg/kg	1	3091215	MS	12-Sep-23	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	3091215	MS	12-Sep-23	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	3091215	MS	12-Sep-23	8015B	

<i>Surrogate: 1-Chlorooctane</i>			106 %	48.2-134		3091215	MS	12-Sep-23	8015B	
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<i>Surrogate: 1-Chlorooctadecane</i>			116 %	49.1-148		3091215	MS	12-Sep-23	8015B	
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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220

Project: MCA 301  
Project Number: 03D2057076  
Project Manager: AIMEE COLE  
Fax To:

Reported:  
02-Oct-23 15:06

**PH 03A @ 6'**  
**H234903-05 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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**Cardinal Laboratories****Inorganic Compounds**

<b>Chloride</b>	<b>6400</b>		16.0	mg/kg	4	3091324	AC	13-Sep-23	4500-Cl-B	
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**Volatile Organic Compounds by EPA Method 8021**

Benzene*	<0.050		0.050	mg/kg	50	3091205	JH/	12-Sep-23	8021B	
Toluene*	<0.050		0.050	mg/kg	50	3091205	JH/	12-Sep-23	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	3091205	JH/	12-Sep-23	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	3091205	JH/	12-Sep-23	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	3091205	JH/	12-Sep-23	8021B	

<i>Surrogate: 4-Bromofluorobenzene (PID)</i>			114 %		71.5-134	3091205	JH/	12-Sep-23	8021B	
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**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0		10.0	mg/kg	1	3091215	MS	12-Sep-23	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	3091215	MS	12-Sep-23	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	3091215	MS	12-Sep-23	8015B	

<i>Surrogate: 1-Chlorooctane</i>			100 %		48.2-134	3091215	MS	12-Sep-23	8015B	
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<i>Surrogate: 1-Chlorooctadecane</i>			112 %		49.1-148	3091215	MS	12-Sep-23	8015B	
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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220

Project: MCA 301  
Project Number: 03D2057076  
Project Manager: AIMEE COLE  
Fax To:

Reported:  
02-Oct-23 15:06

**PH 03C @ 8'**  
**H234903-06 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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**Cardinal Laboratories****Inorganic Compounds**

<b>Chloride</b>	<b>64.0</b>		16.0	mg/kg	4	3091324	AC	13-Sep-23	4500-Cl-B	
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**Volatile Organic Compounds by EPA Method 8021**

Benzene*	<0.050		0.050	mg/kg	50	3091205	JH/	12-Sep-23	8021B	
Toluene*	<0.050		0.050	mg/kg	50	3091205	JH/	12-Sep-23	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	3091205	JH/	12-Sep-23	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	3091205	JH/	12-Sep-23	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	3091205	JH/	12-Sep-23	8021B	

Surrogate: 4-Bromofluorobenzene (PID)			113 %	71.5-134		3091205	JH/	12-Sep-23	8021B	
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**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0		10.0	mg/kg	1	3091215	MS	12-Sep-23	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	3091215	MS	12-Sep-23	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	3091215	MS	12-Sep-23	8015B	

Surrogate: 1-Chlorooctane			107 %	48.2-134		3091215	MS	12-Sep-23	8015B	
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Surrogate: 1-Chlorooctadecane			119 %	49.1-148		3091215	MS	12-Sep-23	8015B	
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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220

Project: MCA 301  
Project Number: 03D2057076  
Project Manager: AIMEE COLE  
Fax To:

Reported:  
02-Oct-23 15:06

**FS 24 @ 4'**  
**H234903-07 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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**Cardinal Laboratories****Inorganic Compounds**

<b>Chloride</b>	<b>1220</b>		16.0	mg/kg	4	3091324	AC	13-Sep-23	4500-Cl-B	
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**Volatile Organic Compounds by EPA Method 8021**

Benzene*	<0.050		0.050	mg/kg	50	3091205	JH/	12-Sep-23	8021B	
Toluene*	<0.050		0.050	mg/kg	50	3091205	JH/	12-Sep-23	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	3091205	JH/	12-Sep-23	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	3091205	JH/	12-Sep-23	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	3091205	JH/	12-Sep-23	8021B	

Surrogate: 4-Bromofluorobenzene (PID)			114 %	71.5-134		3091205	JH/	12-Sep-23	8021B	
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**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0		10.0	mg/kg	1	3091215	MS	12-Sep-23	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	3091215	MS	12-Sep-23	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	3091215	MS	12-Sep-23	8015B	

Surrogate: 1-Chlorooctane			104 %	48.2-134		3091215	MS	12-Sep-23	8015B	
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Surrogate: 1-Chlorooctadecane			116 %	49.1-148		3091215	MS	12-Sep-23	8015B	
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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220

Project: MCA 301  
Project Number: 03D2057076  
Project Manager: AIMEE COLE  
Fax To:

Reported:  
02-Oct-23 15:06

**Inorganic Compounds - Quality Control****Cardinal Laboratories**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC Limits	RPD	RPD Limit	Notes
<b>Batch 3091324 - 1:4 DI Water</b>									
<b>Blank (3091324-BLK1)</b>				Prepared & Analyzed: 13-Sep-23					
Chloride	ND	16.0	mg/kg						
<b>LCS (3091324-BS1)</b>				Prepared & Analyzed: 13-Sep-23					
Chloride	432	16.0	mg/kg	400		108	80-120		
<b>LCS Dup (3091324-BSD1)</b>				Prepared & Analyzed: 13-Sep-23					
Chloride	432	16.0	mg/kg	400		108	80-120	0.00	20

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Celey D. Keene, Lab Director/Quality Manager





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**Analytical Results For:**

ENSOLUM  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220

Project: MCA 301  
Project Number: 03D2057076  
Project Manager: AIMEE COLE  
Fax To:

Reported:  
02-Oct-23 15:06

**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
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**Batch 3091205 - Volatiles****Blank (3091205-BLK1)**

Prepared &amp; Analyzed: 12-Sep-23

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)	0.0566		mg/kg	0.0500		113	71.5-134			

**LCS (3091205-BS1)**

Prepared &amp; Analyzed: 12-Sep-23

Benzene	1.92	0.050	mg/kg	2.00		96.2	82.8-130			
Toluene	1.92	0.050	mg/kg	2.00		96.2	86-128			
Ethylbenzene	2.04	0.050	mg/kg	2.00		102	85.9-128			
m,p-Xylene	4.09	0.100	mg/kg	4.00		102	89-129			
o-Xylene	2.02	0.050	mg/kg	2.00		101	86.1-125			
Total Xylenes	6.11	0.150	mg/kg	6.00		102	88.2-128			
Surrogate: 4-Bromofluorobenzene (PID)	0.0527		mg/kg	0.0500		105	71.5-134			

**LCS Dup (3091205-BSD1)**

Prepared &amp; Analyzed: 12-Sep-23

Benzene	1.91	0.050	mg/kg	2.00		95.7	82.8-130	0.485	15.8	
Toluene	1.92	0.050	mg/kg	2.00		96.0	86-128	0.168	15.9	
Ethylbenzene	2.04	0.050	mg/kg	2.00		102	85.9-128	0.114	16	
m,p-Xylene	4.07	0.100	mg/kg	4.00		102	89-129	0.441	16.2	
o-Xylene	2.00	0.050	mg/kg	2.00		100	86.1-125	0.687	16.7	
Total Xylenes	6.07	0.150	mg/kg	6.00		101	88.2-128	0.522	16.3	
Surrogate: 4-Bromofluorobenzene (PID)	0.0528		mg/kg	0.0500		106	71.5-134			

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

**Analytical Results For:**

ENSOLUM  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220

Project: MCA 301  
Project Number: 03D2057076  
Project Manager: AIMEE COLE  
Fax To:

Reported:  
02-Oct-23 15:06

**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
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**Batch 3091215 - General Prep - Organics****Blank (3091215-BLK1)**

Prepared &amp; Analyzed: 12-Sep-23

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	45.9		mg/kg	50.0		91.8	48.2-134			
Surrogate: 1-Chlorooctadecane	51.7		mg/kg	50.0		103	49.1-148			

**LCS (3091215-BS1)**

Prepared &amp; Analyzed: 12-Sep-23

GRO C6-C10	218	10.0	mg/kg	200		109	66.4-123			
DRO >C10-C28	208	10.0	mg/kg	200		104	66.5-118			
Total TPH C6-C28	426	10.0	mg/kg	400		106	77.6-123			
Surrogate: 1-Chlorooctane	48.2		mg/kg	50.0		96.4	48.2-134			
Surrogate: 1-Chlorooctadecane	57.3		mg/kg	50.0		115	49.1-148			

**LCS Dup (3091215-BSD1)**

Prepared &amp; Analyzed: 12-Sep-23

GRO C6-C10	216	10.0	mg/kg	200		108	66.4-123	0.933	17.7	
DRO >C10-C28	213	10.0	mg/kg	200		106	66.5-118	2.27	21	
Total TPH C6-C28	429	10.0	mg/kg	400		107	77.6-123	0.641	18.5	
Surrogate: 1-Chlorooctane	46.3		mg/kg	50.0		92.5	48.2-134			
Surrogate: 1-Chlorooctadecane	54.5		mg/kg	50.0		109	49.1-148			

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Celey D. Keene, Lab Director/Quality Manager



---

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---

### 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

---

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

---

Celey D. Keene, Lab Director/Quality Manager



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---

September 25, 2023

AIMEE COLE

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: MCA 301

Enclosed are the results of analyses for samples received by the laboratory on 09/22/23 11:15.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-22-15. 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](http://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, flowing style.

Celey D. Keene

Lab Director/Quality Manager



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

**Analytical Results For:**

ENSOLUM  
 AIMEE COLE  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received:	09/22/2023	Sampling Date:	09/22/2023
Reported:	09/25/2023	Sampling Type:	Soil
Project Name:	MCA 301	Sampling Condition:	Cool & Intact
Project Number:	03D2057076	Sample Received By:	Tamara Oldaker
Project Location:	MAVERICK ( 32.80370-103.76860 )		

**Sample ID: PH 01 B @ 7' (H235160-01)**

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/23/2023	ND	1.90	95.1	2.00	3.62	
Toluene*	<0.050	0.050	09/23/2023	ND	1.95	97.3	2.00	4.99	
Ethylbenzene*	<0.050	0.050	09/23/2023	ND	1.94	97.2	2.00	4.52	
Total Xylenes*	<0.150	0.150	09/23/2023	ND	5.89	98.2	6.00	5.15	
Total BTEx	<0.300	0.300	09/23/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 106 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	3000	16.0	09/25/2023	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/23/2023	ND	222	111	200	0.390	
DRO >C10-C28*	<10.0	10.0	09/23/2023	ND	216	108	200	1.43	
EXT DRO >C28-C36	<10.0	10.0	09/23/2023	ND					

Surrogate: 1-Chlorooctane 105 % 48.2-134

Surrogate: 1-Chlorooctadecane 119 % 49.1-148

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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:**

ENSOLUM  
 AIMEE COLE  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received:	09/22/2023	Sampling Date:	09/22/2023
Reported:	09/25/2023	Sampling Type:	Soil
Project Name:	MCA 301	Sampling Condition:	Cool & Intact
Project Number:	03D2057076	Sample Received By:	Tamara Oldaker
Project Location:	MAVERICK ( 32.80370-103.76860 )		

**Sample ID: PH 01 F @ 11' (H235160-02)**

BTX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/23/2023	ND	1.90	95.1	2.00	3.62		
Toluene*	<0.050	0.050	09/23/2023	ND	1.95	97.3	2.00	4.99		
Ethylbenzene*	<0.050	0.050	09/23/2023	ND	1.94	97.2	2.00	4.52		
Total Xylenes*	<0.150	0.150	09/23/2023	ND	5.89	98.2	6.00	5.15		
Total BTX	<0.300	0.300	09/23/2023	ND						

Surrogate: 4-Bromofluorobenzene (PID) 107 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	16.0	16.0	09/25/2023	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/23/2023	ND	222	111	200	0.390	
DRO >C10-C28*	<10.0	10.0	09/23/2023	ND	216	108	200	1.43	
EXT DRO >C28-C36	<10.0	10.0	09/23/2023	ND					

Surrogate: 1-Chlorooctane 97.6 % 48.2-134

Surrogate: 1-Chlorooctadecane 108 % 49.1-148

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

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---

### 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

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Cardinal Laboratories

\*=Accredited Analyte

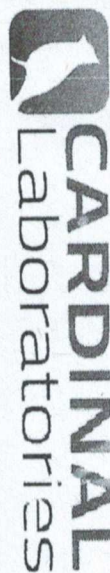
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A handwritten signature in black ink, appearing to read "Celey D. Keene".

---

Celey D. Keene, Lab Director/Quality Manager





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

## CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

[illegible]



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

October 09, 2023

AIMEE COLE

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: MCA 301

Enclosed are the results of analyses for samples received by the laboratory on 10/04/23 15:04.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-22-15. 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](http://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 fluid and cursive, with the first name "Celey" and last name "Keene" clearly distinguishable.

Celey D. Keene

Lab Director/Quality Manager





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

**Analytical Results For:**

ENSOLUM  
 AIMEE COLE  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received:	10/04/2023	Sampling Date:	10/04/2023
Reported:	10/09/2023	Sampling Type:	Soil
Project Name:	MCA 301	Sampling Condition:	Cool & Intact
Project Number:	03D2057076	Sample Received By:	Tamara Oldaker
Project Location:	MAVERICK ( 32.80370-103.76860 )		

**Sample ID: PH 04 @ 6' (H235405-01)**

BTEX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	10/06/2023	ND	2.20	110	2.00	3.64		
Toluene*	<0.050	0.050	10/06/2023	ND	2.08	104	2.00	3.05		
Ethylbenzene*	<0.050	0.050	10/06/2023	ND	2.12	106	2.00	4.06		
Total Xylenes*	<0.150	0.150	10/06/2023	ND	6.18	103	6.00	3.51		
Total BTEX	<0.300	0.300	10/06/2023	ND						

Surrogate: 4-Bromofluorobenzene (PID) 113 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	2200	16.0	10/06/2023	ND	432	108	400	3.64		

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	10/05/2023	ND	211	106	200	1.77	
DRO >C10-C28*	<10.0	10.0	10/05/2023	ND	228	114	200	1.93	
EXT DRO >C28-C36	<10.0	10.0	10/05/2023	ND					

Surrogate: 1-Chlorooctane 85.8 % 48.2-134

Surrogate: 1-Chlorooctadecane 101 % 49.1-148

Cardinal Laboratories

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Celey D. Keene, Lab Director/Quality Manager





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**Analytical Results For:**

ENSOLUM  
 AIMEE COLE  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received:	10/04/2023	Sampling Date:	10/04/2023
Reported:	10/09/2023	Sampling Type:	Soil
Project Name:	MCA 301	Sampling Condition:	Cool & Intact
Project Number:	03D2057076	Sample Received By:	Tamara Oldaker
Project Location:	MAVERICK ( 32.80370-103.76860 )		

**Sample ID: PH 04A @ 8' (H235405-02)**

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	10/06/2023	ND	2.20	110	2.00	3.64		
Toluene*	<0.050	0.050	10/06/2023	ND	2.08	104	2.00	3.05		
Ethylbenzene*	<0.050	0.050	10/06/2023	ND	2.12	106	2.00	4.06		
Total Xylenes*	<0.150	0.150	10/06/2023	ND	6.18	103	6.00	3.51		
Total BTEx	<0.300	0.300	10/06/2023	ND						

Surrogate: 4-Bromofluorobenzene (PID) 114 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	112	16.0	10/06/2023	ND	432	108	400	3.64		

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	10/05/2023	ND	211	106	200	1.77	
DRO >C10-C28*	<10.0	10.0	10/05/2023	ND	228	114	200	1.93	
EXT DRO >C28-C36	<10.0	10.0	10/05/2023	ND					

Surrogate: 1-Chlorooctane 86.0 % 48.2-134

Surrogate: 1-Chlorooctadecane 99.9 % 49.1-148

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

**Analytical Results For:**

ENSOLUM  
 AIMEE COLE  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received:	10/04/2023	Sampling Date:	10/04/2023
Reported:	10/09/2023	Sampling Type:	Soil
Project Name:	MCA 301	Sampling Condition:	Cool & Intact
Project Number:	03D2057076	Sample Received By:	Tamara Oldaker
Project Location:	MAVERICK ( 32.80370-103.76860 )		

**Sample ID: PH 05 @ 6' (H235405-03)**

BTX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	10/06/2023	ND	2.20	110	2.00	3.64		
Toluene*	<0.050	0.050	10/06/2023	ND	2.08	104	2.00	3.05		
Ethylbenzene*	<0.050	0.050	10/06/2023	ND	2.12	106	2.00	4.06		
Total Xylenes*	<0.150	0.150	10/06/2023	ND	6.18	103	6.00	3.51		
Total BTX	<0.300	0.300	10/06/2023	ND						

Surrogate: 4-Bromofluorobenzene (PID) 118 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	2320	16.0	10/06/2023	ND	432	108	400	3.64		

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	10/05/2023	ND	211	106	200	1.77	
DRO >C10-C28*	<10.0	10.0	10/05/2023	ND	228	114	200	1.93	
EXT DRO >C28-C36	<10.0	10.0	10/05/2023	ND					

Surrogate: 1-Chlorooctane 78.3 % 48.2-134

Surrogate: 1-Chlorooctadecane 92.5 % 49.1-148

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

**Analytical Results For:**

ENSOLUM  
 AIMEE COLE  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received:	10/04/2023	Sampling Date:	10/04/2023
Reported:	10/09/2023	Sampling Type:	Soil
Project Name:	MCA 301	Sampling Condition:	Cool & Intact
Project Number:	03D2057076	Sample Received By:	Tamara Oldaker
Project Location:	MAVERICK ( 32.80370-103.76860 )		

**Sample ID: PH 05 @ 8' (H235405-04)**

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	10/06/2023	ND	2.20	110	2.00	3.64		
Toluene*	<0.050	0.050	10/06/2023	ND	2.08	104	2.00	3.05		
Ethylbenzene*	<0.050	0.050	10/06/2023	ND	2.12	106	2.00	4.06		
Total Xylenes*	<0.150	0.150	10/06/2023	ND	6.18	103	6.00	3.51		
Total BTEX	<0.300	0.300	10/06/2023	ND						

Surrogate: 4-Bromofluorobenzene (PID) 111 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	176	16.0	10/06/2023	ND	432	108	400	3.64		

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	10/05/2023	ND	211	106	200	1.77	
DRO >C10-C28*	<10.0	10.0	10/05/2023	ND	228	114	200	1.93	
EXT DRO >C28-C36	<10.0	10.0	10/05/2023	ND					

Surrogate: 1-Chlorooctane 75.6 % 48.2-134

Surrogate: 1-Chlorooctadecane 89.0 % 49.1-148

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", is written over a horizontal line.

---

Celey D. Keene, Lab Director/Quality Manager



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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

BILL TO

ANALYSIS REQUEST

Company Name: ERSOLUM LLC

Project Manager: Aimee Bell

Address: 6121 Nat'l Parks Hwy

City:  Lordsburg State: NM Zip: 88220

Phone #: 720-384-7365 Fax #: -

Project #: 03D2051076 Project Owner: Maverick

Project Name: MQA 801

Project Location: 32,8037, -103,7686

Sampler Name: Sulanna Falconmaka

FOR LAB USE ONLY

P.O. #: A.A.

Company:

Attn:

Address:

City: State: Zip:

Phone #:

Fax #:

Lab I.D.

Sample I.D.

H235405  
1 PH04 006'  
2 PH04A 008'  
3 PH05 006'  
4 PH05 008'

(G)RAB OR (C)OMP.

# CONTAINERS

GROUNDWATER

WASTEWATER

SOIL

OIL

SLUDGE

OTHER :

ACID/BASE:

ICE / COOL

OTHER :

DATE TIME

10/4/23 1030

1035

1040

1045

BTEX  
TPH  
Chlorides

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

Relinquished By: [Signature] Date: 10-4-23 Received By: [Signature]

Relinquished By: [Signature] Date: 10-4-23 Received By: [Signature]

Time:

Delivered By: (Circle One)

Sampler - UPS - Bus - Other:

Observed Temp. °C 4.8

Sample Condition  
Cool Intact ☒ Yes ☐ No

CHECKED BY: (Initials)

Turnaround Time: Thermometer ID #140 Correction Factor 0°C.

Standard Rush

Bacteria (only) Sample Condition  
Cool Intact ☒ Yes ☐ No  
Observed Temp. °C  
Corrected Temp. °C

Verbal Result: ☐ Yes ☒ No Add'l Phone #:

REMARKS: All Results are emailed. Please provide Email address: maurice.ersolum@ersolum.com

FORM-000-R-24-07-11-23

† Cardinal cannot accept verbal changes. Please email changes to celey.keene@cardinallabsnm.com





## APPENDIX E

### NMOCD Notifications

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APPENDIX F  
Final C-141

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	NAPP2307558601
District RP	
Facility ID	
Application ID	

## Release Notification

### Responsible Party

Responsible Party <b>Maverick Permian, LLC</b>	OGRID <b>331199</b>
Contact Name <b>Bryce Wagoner</b>	Contact Telephone <b>928-241-1862</b>
Contact email <b>Bryce.Wagoner@mavresources.com</b>	Incident # (assigned by OCD) <b>NAPP2307558601</b>
Contact mailing address <b>1410 NW County Road, Hobbs, NM 88240</b>	

### Location of Release Source

Latitude 32.80370 Longitude -103.76860  
(NAD 83 in decimal degrees to 5 decimal places)

Site Name <b>MCA 301</b>	Site Type
Date Release Discovered <b>2/23/2023</b>	API# (if applicable) <b>30-025-24226</b>

Unit Letter	Section	Township	Range	County
<b>J</b>	<b>28</b>	<b>17S</b>	<b>32E</b>	<b>Lea</b>

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 checked="" type="checkbox"/> Produced Water	Volume Released (bbls) <b>6.9</b>	Volume Recovered (bbls) <b>0 bbls</b>
	Is the concentration of dissolved chloride 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: Internal corrosion caused a casing leak to develop on a shut-in injection well. The release migrated south from the well head (POR) into the southern pasture. The released occurred on and off pad. The source of the release has been stopped and the impacted area has been secured.

Incident ID	NAPP2307558601
District RP	
Facility ID	
Application ID	

<p>Was this a major release as defined by 19.15.29.7(A) NMAC?</p> <p><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>	<p>If YES, for what reason(s) does the responsible party consider this a major release?</p>
<p>If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)?</p>	

## Initial Response

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

<p><input checked="" type="checkbox"/> The source of the release has been stopped.</p> <p><input checked="" type="checkbox"/> The impacted area has been secured to protect human health and the environment.</p> <p><input checked="" type="checkbox"/> Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices.</p> <p><input checked="" type="checkbox"/> All free liquids and recoverable materials have been removed and managed appropriately.</p>	
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: <u>Bryce Wagoner</u>	Title: <u>Permian HSE Specialist II</u>
Signature: <u></u>	Date: <u>3/16/2023</u>
email: <u>Bryce.Wagoner@mavresources.com</u>	Telephone: <u>928-241-1862</u>
<b><u>OCD Only</u></b>	
Received by: <u>Jocelyn Harimon</u>	Date: <u>03/20/2023</u>

NAPP2307558601

Pooled Fluids on the Surface								
	Depth (in.)	# of Boundaries <i>*edges of pool where depth is 0. don't count shared boundaries</i>	Oil-Water Ratio (%)	Pooled Area (ft <sup>2</sup> )	Estimated Average Depth (ft.)	Pooled Volume (bbl.)	Volume of Oil in Subsurface (bbl.)	Volume of Water in Subsurface (bbl.)
Rectangle A			0.00	0.0	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Rectangle B				0.0	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Rectangle C				0.000	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Rectangle D				0.000	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Rectangle E				0.000	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Total Volume (bbls):						0.00	0.00	0.00

Subsurface Fluids								
	Depth (in.)	Saturation (%) <i>*10% in consolidated sediments after rain to 50% in sand with no precipitation</i>	Oil-Water Ratio (%)	Area (ft <sup>2</sup> )	Volume (bbl.)	Estimated Volume in Subsurface (bbl.)	Volume of Oil in Subsurface (bbl.)	Volume of Water in Subsurface (bbl.)
Rectangle A	0.3	0.30	0.00	355.0	1.3	0.4	0.00	0.4
Rectangle B	0.5	0.30	0.00	175.0	1.3	0.4	0.00	0.4
Rectangle C	1.0	0.30	0.00	480.0	7.1	2.1	0.00	2.1
Rectangle D	0.5	0.30	0.00	745.0	5.5	1.7	0.00	1.7
Rectangle E	0.3	0.30	0.00	655.0	2.4	0.7	0.00	0.7
Rectangle F	0.3	0.30	0.00	1205.0	4.5	1.3	0.00	1.3
Rectangle G	0.1	0.30	0.00	315.0	0.3	0.1	0.00	0.1
Rectangle H	0.0	0.30	0.00	1000.0	0.5	0.1	0.00	0.1
Rectangle I				0.0	0.0	0.0	0.00	0.0
Rectangle J				0.0	0.0	0.0	0.00	0.0
Total Volume (bbls):						6.87	0.00	6.87

ASE VOLUME (bbls):	6.9
--------------------	-----



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

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

CONDITIONS  
  
Action 198120

CONDITIONS

Operator:  Maverick Permian LLC 1111 Bagby Street Suite 1600 Houston, TX 77002	OGRID:  331199
	Action Number:  198120
	Action Type:  [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
jharimon	None	3/20/2023

Incident ID	NAPP2307558601
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?	<u>51-100</u> (feet 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 <b>not</b> on an exploration, development, production, or storage site?	<input checked="" type="checkbox"/> Yes <input 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	NAPP2307558601
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: Bryce WagonerTitle: Permian HSE SpecialistSignature: Date: 10/12/2023email: bryce.wagoner@mavresources.comTelephone: 928-241-1862**OCD Only**

Received by: \_\_\_\_\_

Date: \_\_\_\_\_

Incident ID	NAPP2307558601
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: Bryce Wagoner

Title: Permian HSE Specialist

Signature: 

Date: 10/12/2023

email: Bryce.Wagoner@mavresources.com

Telephone: 928-241-1862

**OCD Only**

Received by: \_\_\_\_\_

Date: \_\_\_\_\_

Closure approval by the OCD does not relieve the responsible party of liability should their operations have failed to adequately investigate and remediate contamination that poses a threat to groundwater, surface water, human health, or the environment nor does not relieve the responsible party of compliance with any other federal, state, or local laws and/or regulations.

Closure Approved by: \_\_\_\_\_ Date: \_\_\_\_\_

Printed Name: \_\_\_\_\_

Title: \_\_\_\_\_

**From:** [Aimee Cole](#)  
**To:** ["ocd.enviro@state.nm.us"](mailto:ocd.enviro@state.nm.us)  
**Subject:** Maverick - Sampling Notification (Week of 8/28/2023)  
**Date:** Wednesday, August 23, 2023 12:48:00 PM  
**Attachments:** [image001.png](#)  
[image002.png](#)  
[image003.png](#)  
[image004.png](#)

---

Maverick Permian, LLC plans to complete sampling activities at the following sites the week of August 28, 2023.

- MCA 409 Flowline/ NAPP2318846991
  - Sampling Dates: 8/28/2023 – 8/29/2023
- ABO 3 Battery / nAPP2314448299
  - Sampling Dates: 8/28/2023 – 8/29/2023
- Grayburg Eumont Strawn Battery / NAPP2302036818
  - Sampling Dates: 8/28/2023
- MCA 95 / NAPP2306757137
  - Sampling Dates: 8/28/2023 – 9/1/2023
- MCA 301 / NAPP2307558601
  - Sampling Dates: 8/31/2023 – 9/1/2023

Thank you,



**Aimee Cole**  
Senior Managing Scientist  
720-384-7365  
**Ensolum, LLC**





**From:** [Wells, Shelly, EMNRD](#)  
**To:** [Aimee Cole](#)  
**Cc:** [Bratcher, Michael, EMNRD](#); [Velez, Nelson, EMNRD](#)  
**Subject:** RE: [EXTERNAL] Maverick - Sampling Notification (Week of 9/4/2023)  
**Date:** Wednesday, August 30, 2023 2:02:54 PM  
**Attachments:** [image001.png](#)  
[image002.png](#)  
[image003.png](#)  
[image004.png](#)

---

[ \*\*EXTERNAL EMAIL\*\* ]

Good afternoon Aimee,

The OCD has received your notification. When reporting sampling at multiple locations it is required to provide the date and time for each location. Include a copy of this and all notifications in the remedial and/or closure reports to ensure the notifications are documented in the project file.

Thank you,

Shelly

[Shelly Wells](#) \* Environmental Specialist-Advanced  
Environmental Bureau  
EMNRD-Oil Conservation Division  
1220 S. St. Francis Drive | Santa Fe, NM 87505  
(505)469-7520 | [Shelly.Wells@emnrd.nm.gov](mailto:Shelly.Wells@emnrd.nm.gov)  
<http://www.emnrd.state.nm.us/OCD/>

---

**From:** Aimee Cole <[acole@ensolum.com](mailto:acole@ensolum.com)>  
**Sent:** Wednesday, August 30, 2023 2:28 PM  
**To:** Enviro, OCD, EMNRD <[OCD.Enviro@emnrd.nm.gov](mailto:OCD.Enviro@emnrd.nm.gov)>  
**Subject:** [EXTERNAL] Maverick - Sampling Notification (Week of 9/4/2023)

CAUTION: This email originated outside of our organization. Exercise caution prior to clicking on links or opening attachments.

Maverick Permian, LLC plans to complete sampling activities at the following sites the week of September 4, 2023.

- MCA 409 Flowline/ NAPP2318846991
  - Sampling Date: 9/5/2023
- ABO 3 Battery / nAPP2314448299
  - Sampling Date: 9/5/2023

- Grayburg Eumont Strawn Battery / NAPP2302036818
  - Sampling Date: 9/6/2023
- MCA 301 / NAPP2307558601
  - Sampling Dates: 9/5/2023 – 9/8/2023

Thank you,



**Aimee Cole**

Senior Managing Scientist

720-384-7365

**Ensolum, LLC**



**From:** [Buchanan, Michael, EMNRD](#)  
**To:** [Aimee Cole](#); [Enviro, OCD, EMNRD](#)  
**Cc:** [Bratcher, Michael, EMNRD](#); [Velez, Nelson, EMNRD](#)  
**Subject:** RE: [EXTERNAL] Maverick - Sampling Notification (Week of 9/11/2023)  
**Date:** Wednesday, September 6, 2023 3:53:29 PM  
**Attachments:** [image001.png](#)  
[image002.png](#)  
[image003.png](#)  
[image004.png](#)

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You don't often get email from michael.buchanan@emnrd.nm.gov. [Learn why this is important](#)

[ \*\*EXTERNAL EMAIL\*\* ]

Hi Aimee,

The OCD has received your notification. Include a copy of this and all notifications in the remedial and/or closure reports to ensure the notifications are documented in the project file.

Thank you,

---

**From:** Aimee Cole <acole@ensolum.com>  
**Sent:** Wednesday, September 6, 2023 2:32 PM  
**To:** Enviro, OCD, EMNRD <OCD.Enviro@emnrd.nm.gov>  
**Subject:** [EXTERNAL] Maverick - Sampling Notification (Week of 9/11/2023)

CAUTION: This email originated outside of our organization. Exercise caution prior to clicking on links or opening attachments.

Maverick Permian, LLC plans to complete sampling activities at the following sites the week of September 11, 2023.

- MCA 301 / NAPP2307558601
  - Sampling Dates: 9/11/2023 – 9/12/2023
- MCA 95 / NAPP2306757137
  - Sampling Dates: 9/12/2023 – 9/15/2023

Thank you,

| **Aimee Cole**



Senior Managing Scientist

720-384-7365

**Ensolum, LLC**



**District I**  
1625 N. French Dr., Hobbs, NM 88240  
Phone:(575) 393-6161 Fax:(575) 393-0720

**District II**  
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Phone:(575) 748-1283 Fax:(575) 748-9720

**District III**  
1000 Rio Brazos Rd., Aztec, NM 87410  
Phone:(505) 334-6178 Fax:(505) 334-6170

**District IV**  
1220 S. St Francis Dr., Santa Fe, NM 87505  
Phone:(505) 476-3470 Fax:(505) 476-3462

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

CONDITIONS

Action 278346

CONDITIONS

Operator: Maverick Permian LLC 1000 Main Street, Suite 2900 Houston, TX 77002	OGRID: 331199
	Action Number: 278346
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
scwells	None	2/13/2024