



March 25, 2020

Bradford Billings
Hydrologist
District 2 Artesia
Oil Conservation Division
Santa Fe, NM 87505
Hobbs, New Mexico, 88240

**Subject: Closure Letter Report
ConocoPhillips
Emerald Federal No. 6 Flowline Release
1RP-4681
Lea County, New Mexico**

Mr. Billings:

On behalf of ConocoPhillips (COP), Tetra Tech, Inc. (Tetra Tech) submits the following Closure Report for review. The ConocoPhillips Emerald Federal No.6 well (API # 30-025-40892) is located approximately 2 miles southwest of Maljamar in Lea County, New Mexico. The coordinates of the well are 32.8369255°, -103.7833252°. The release occurred on the well pad at approximately 32.836998°, -103.783392°.

BACKGROUND

According to the State of New Mexico C-141 Initial Report (Attachment A), on April 17, 2017, a Multi-Skill Operator (MSO) discovered a release from a flowline located on the Emerald Federal No. 6 well pad that resulted in a release of 4 barrels (bbls) of produced water and 2 bbls of oil. Impacted areas were limited to the engineered well pad. The release was reported to the New Mexico Oil Conservation District (NMOCD) later that day. The incident was assigned remediation permit (RP) 1RP-4681.

INITIAL RESPONSE

Per 19.15.29.8 B. (4) NMAC, the responsible party may commence remediation immediately after discovery of a release. According to COP personnel, initial response activities conducted by COP were to excavate approximately 6,500 square feet of visually impacted soil within the release extent to an approximate depth of 1 foot (ft) below ground surface (bgs). The immediate area surrounding the well head and pumping unit were backfilled to minimize hazards to onsite workers. The approximate release area is indicated in Figure 1.

SITE CHARACTERIZATION

A site characterization was performed and no watercourses, lakebeds, sinkholes, playa lakes, residences, schools, hospitals, institutions, churches, springs, private domestic water wells, springs, wetlands, incorporated municipal boundaries, subsurface mines, or floodplains are located within the specified distances and the site is in a low karst potential area.

Based on data from the New Mexico Office of the State Engineer (NMOSE), there are no water wells located in Section 17, Township 17 South, Range 32 East. Water well data from Township 17 South, Range 32 East show an average depth to groundwater of 126 ft. The groundwater data and karst map are shown in Attachment B.

TETRA TECH

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March 25, 2020

A risk-based evaluation was performed for the Site in accordance with the NMOCD guidelines to determine recommended remedial action levels (RRALs) for benzene, toluene, ethylbenzene, and xylene (collectively referred to as BTEX), total petroleum hydrocarbons (TPH), and chlorides in soil. Based on the site characterization, the RRALs for the Site are as follows:

Constituent	RRAL
Chloride (0 – 4 ft bgs)	600 mg/kg
Chloride (>4 ft bgs)	20,000 mg/kg
TPH (GRO+DRO+ORO)	2,500 mg/kg
GRO+DRO	1,000 mg/kg
BTEX	50 mg/kg
Benzene	10 mg/kg

SITE ASSESSMENT ACTIVITIES

On February 13, 2018, COP personnel were onsite to conduct site assessment activities. Three (3) sample location points (PT #1 through PT#3) within the release area were sampled and a total of 21 samples from various depth intervals were collected and submitted to Cardinal Laboratory (Cardinal) in Hobbs, NM for analysis. Selected samples were placed into laboratory provided sample containers, transferred under chain of custody, and analyzed within appropriate holding times by Cardinal. The soil samples were analyzed for Total Petroleum Hydrocarbons (TPH) by Method 8015 modified, chlorides by method SM4500Cl-B, and benzene, toluene, ethylbenzene, and xylene (known collectively as BTEX) by EPA Method 8021B. Copies of the analytical reports and chain-of-custody documentation are included in Attachment C. The sampling results are summarized in Table 1. Sample locations are depicted on Figure 1.

As shown in Table 1, the analytical results associated with these selected samples were below the proposed RRALs for benzene, total BTEX, and TPH. Chloride was detected at a concentration above 600 mg/kg in the PT #1 sample depth interval of 3 - 4 ft bgs (1040 mg/kg), however, the analytical results from the subsequent depth interval 4 - 5 bgs were below 600 mg/kg for chloride.

REMEDIAL ACTIVITIES

In early 2018, COP personnel were onsite to conduct the excavation and remediation activities at the Site. The excavated areas and depths of excavation are shown on Figure 2. The excavated areas ranged from 1.0 to 3.0 feet below ground surface. The excavation widths and depths were guided based on visual observation and the assessment sampling data to properly remove the impacted soils. An attempt to further vertically delineate the eastern area of impact at depth resulted in cross-contamination. The chloride result associated with sample #1-13' (2120 mg/kg) is not representative of in-situ conditions. SP-1A was drilled as an offset confirmation point and the chloride result (288 mg/kg) at the 13' depth was well below the 600 mg/kg threshold.

On April 9 and April 17, 2018, confirmation samples were collected from the sidewalls and floors (bottom) of the excavations to confirm that the impacted materials were properly removed. A total of 11 confirmation samples were collected during the remedial activities. Selected samples were placed into laboratory provided sample containers, transferred under chain of custody, and analyzed within appropriate holding times by Cardinal. The soil samples were analyzed for TPH, chlorides, and BTEX. Copies of the analytical reports and chain-of-custody documentation are included in Attachment C. The confirmation sampling results are summarized in Table 2. Confirmation sample locations are depicted on Figure 2.

As shown in Table 2, the analytical results associated with these selected samples were below the proposed RRALs for chloride, benzene, total BTEX, and TPH. As mentioned above, chloride was previously detected at a concentration above the RRAL in the PT #1 sample depth interval of 3 - 4 ft bgs, however, the analytical results from the subsequent depth interval 4 - 5 bgs were below 600 mg/kg for chloride. In this case, given the depth to groundwater in the area and that the vertical extent contamination

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NMOCD
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is fully delineated, the remaining contaminants will not pose a threat to present or foreseeable beneficial use of fresh water, public health and the environment.

VISUAL SITE INSPECTION

At the request of COP, on October 24, 2019 Tetra Tech personnel conducted a visual site inspection assessment of the release area denoted in the CAP to evaluate current site conditions. Photographic documentation from the visual assessment is included as Attachment D. A list of field observations describing the Site follow:

- No evidence of staining was noted at the point of release or on the surrounding caliche pad.

CONCLUSION

Based on the documented and observed remediation work performed at the site, ConocoPhillips requests closure for this release. The final C-141 form is enclosed in Attachment A.

Should you have any questions or comments regarding this report, please do not hesitate to contact me by telephone at 512-338-2861 or by email at christian.llull@tetrattech.com.

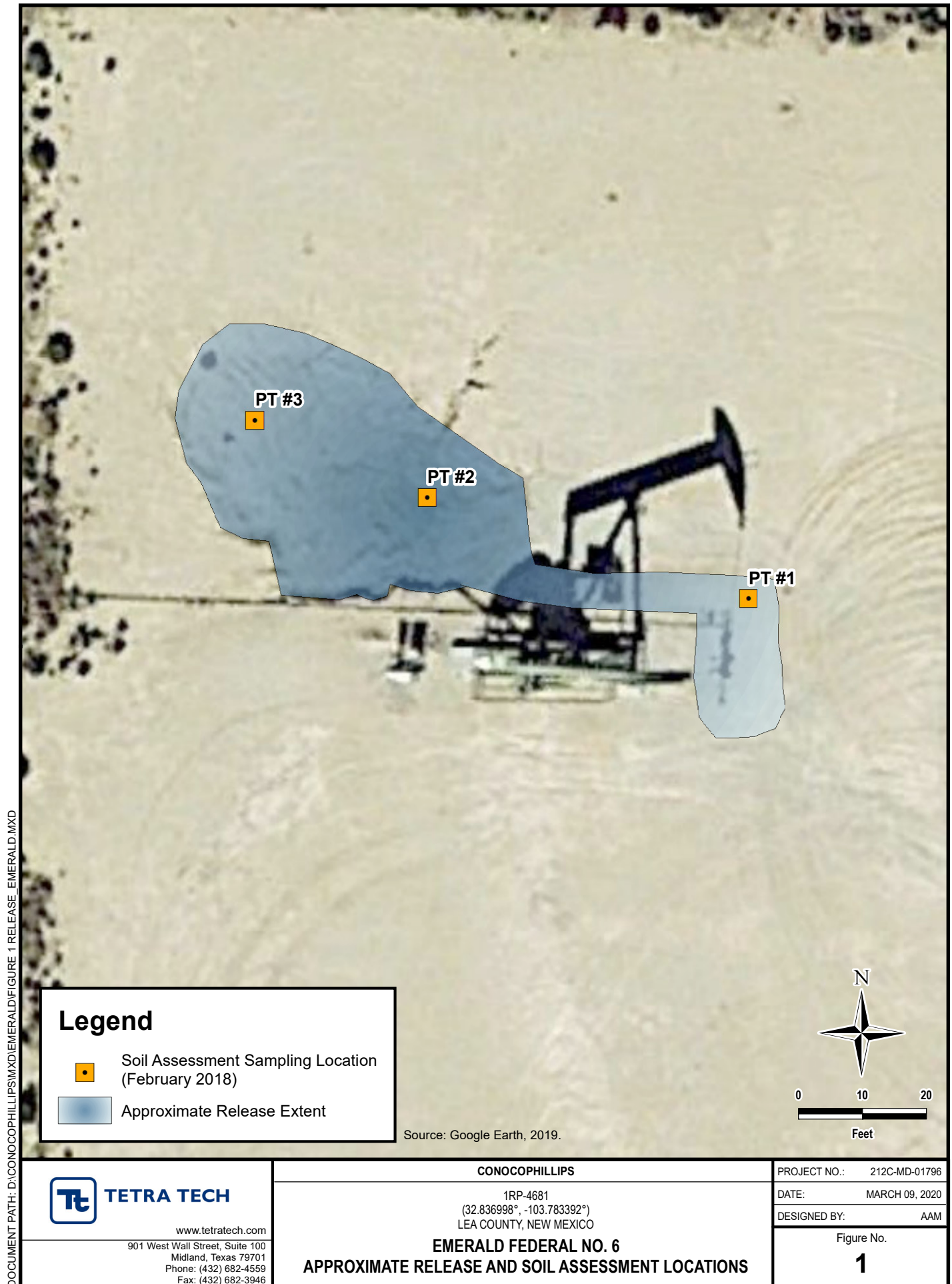
Sincerely,

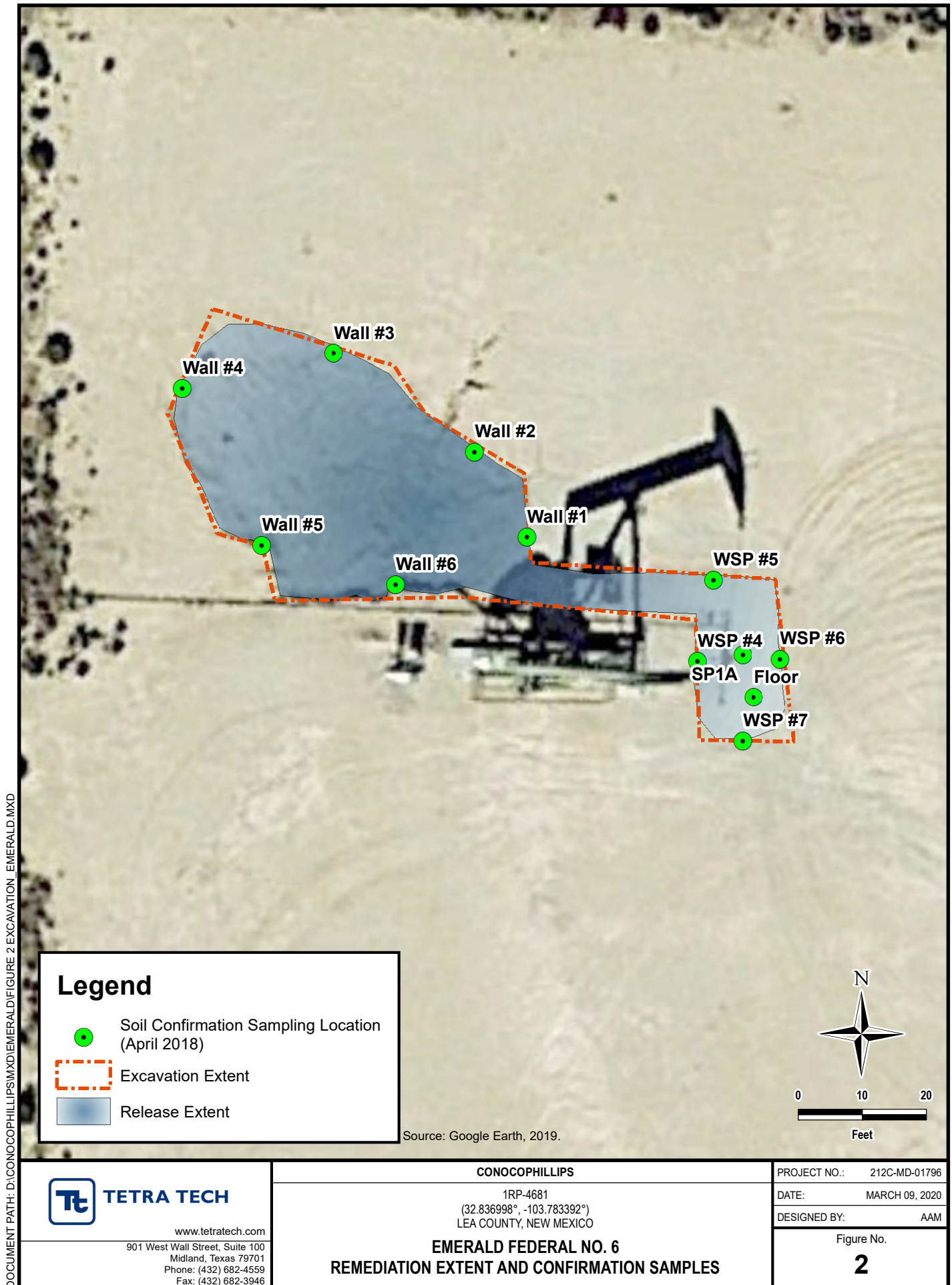


Christian M. Llull
Project Manager
Tetra Tech, Inc.

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FIGURES





TABLES

TABLE 1
SUMMARY OF ANALYTICAL RESULTS
SOIL ASSESSMENT - 1RP-4681
CONOCOPHILLIPS
EMERALD FEDERAL No.6
LEA COUNTY, NEW MEXICO

Sample ID	Sample Date	Sample Depth	Chloride ¹		BTEX ²										TPH ³							
					Benzene		Toluene		Ethylbenzene		Total Xylenes		Total BTEX		GRO		DRO		EXT DRO		TPH	
					mg/kg		mg/kg		mg/kg		mg/kg		mg/kg		C ₆ - C ₁₀		>C ₁₀ - C ₂₈		>C ₂₈ - C ₃₆		C ₆ - C ₃₆	
		ft. bgs	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q
PT #1	02/13/18	1-2	208		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		< 10.0		< 10.0		-	
		3-4	1040		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		< 10.0		< 10.0		-	
		5-6	560		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		< 10.0		< 10.0		-	
		7-8	480		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		< 10.0		< 10.0		-	
		9-10	240		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		< 10.0		< 10.0		-	
		11-12	240		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		< 10.0		< 10.0		-	
		13-14	736		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		< 10.0		< 10.0		-	
PT #2	02/13/18	1-2	16.0		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		< 10.0		< 10.0		-	
		3-4	16.0		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		< 10.0		< 10.0		-	
		5-6	< 16.0		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		< 10.0		< 10.0		-	
		7-8	16.0		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		< 10.0		< 10.0		-	
		9-10	< 16.0		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		< 10.0		< 10.0		-	
		11-12	< 16.0		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		< 10.0		< 10.0		-	
		13-14	< 16.0		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		< 10.0		< 10.0		-	
PT #3	02/13/18	1-2	16.0		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		< 10.0		< 10.0		-	
		3-4	< 16.0		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		< 10.0		< 10.0		-	
		5-6	< 16.0		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		< 10.0		< 10.0		-	
		7-8	256		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		< 10.0		< 10.0		-	
		9-10	96.0		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		< 10.0		< 10.0		-	
		11-12	192		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		< 10.0		< 10.0		-	
		13-14	224		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		< 10.0		< 10.0		-	

NOTES:

ft. Feet

bgs Below ground surface

mg/kg Milligrams per kilogram

TPH Total Petroleum Hydrocarbons

GRO Gasoline Range Organics

DRO Diesel Range Organics

Bold and italicized values indicate exceedance of proposed RRALs

1 Method SM4500Cl-B

2 Method 8021B

3 Method 8015M

TABLE 2
SUMMARY OF ANALYTICAL RESULTS
SOIL CONFIRMATION - 1RP-4681
CONOCOPHILLIPS
EMERALD FEDERAL No.6
LEA COUNTY, NEW MEXICO

Sample ID	Sample Date	Sample Depth	Chloride ¹		BTEX ²										TPH ³							
					Benzene		Toluene		Ethylbenzene		Total Xylenes		Total BTEX		GRO		DRO		EXT DRO		TPH	
					mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	C ₆ - C ₁₀	Q	>C ₁₀ - C ₂₈	Q	>C ₂₈ - C ₃₆	Q	C ₆ - C ₃₆	Q
		ft. bgs	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q
Wall #1	04/09/18	-	96.0		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		15.4		28.8		44.2	
Wall #2	04/09/18	-	336		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		18.5		25.8		44.3	
Wall #3	04/09/18	-	32.0		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		< 10.0		< 10.0		-	
Wall #4	04/09/18	-	16.0		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		< 10.0		< 10.0		-	
Wall #5	04/09/18	-	16.0		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		< 10.0		< 10.0		-	
Wall #6	04/09/18	-	32.0		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		< 10.0		< 10.0		-	
Floor-3'	04/09/18	3	16.0		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		< 10.0		< 10.0		-	
#1-13'	04/09/18	13	2120		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		< 10.0		< 10.0		-	
WSP #4	04/17/18	-	352		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		< 10.0		< 10.0		-	
WSP #5	04/17/18	-	368		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		< 10.0		< 10.0		-	
WSP #6	04/17/18	-	368		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		< 10.0		< 10.0		-	
WSP #7	04/17/18	-	432		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		< 10.0		< 10.0		-	
SP1A-13'	04/17/18	13	288		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		< 10.0		< 10.0		-	
SP1A-15'	04/17/18	15	288		< 0.050		< 0.050		< 0.050		< 0.150		< 0.300		< 10.0		< 10.0		< 10.0		-	

NOTES:

ft. Feet

bgs Below ground surface

mg/kg Milligrams per kilogram

TPH Total Petroleum Hydrocarbons

GRO Gasoline Range Organics

DRO Diesel Range Organics

Bold and italicized values indicate exceedance of proposed RRALs.

1 Method SM4500Cl-B

2 Method 8021B

3 Method 8015M

**ATTACHMENT A
C-141 Forms**

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

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

Form C-141
Revised August 8, 2011

Submit 1 Copy to appropriate District Office in
accordance with 19.15.29 NMAC.

Release Notification and Corrective Action

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company: ConocoPhillips	Contact: Cullen Rosine
Address: 29 Vacuum Complex Lane	Telephone No. 575-391-3133
Facility Name: Emerald Federal 6	Facility Type: Well Site
Surface Owner: Federal	Mineral Owner: N/A
API No. 30-025-40892	

LOCATION OF RELEASE

Unit Letter H	Section 17	Township 17S	Range 32E	Feet from the	North/South Line	Feet from the	East/West Line	County Lea
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Latitude 32.8369255 Longitude -103.7833252

NATURE OF RELEASE

Type of Release: Oil and Produced Water	Volume of Release: 2BO 4BPW	Volume Recovered: 0 BBL
Source of Release: Flow line	Date and Hour of Occurrence 4/17/2017 12:00 AM	Date and Hour of Discovery 5:30AM
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? Shelly Tucker	
By Whom? Cullen Rosine	Date and Hour: 4-17-2017 0820 hours via phone	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.	
If a Watercourse was Impacted, Describe Fully.* N/A		

RECEIVED

By Olivia Yu at 1:24 pm, Apr 17, 2017

Describe Cause of Problem and Remedial Action Taken. While making rounds MSO found a leak coming from a flow line that resulted in 6 BBL of fluid being released. No fluid was recovered. Spill will be remediated per BLM and NMOCD guidelines.

Describe Area Affected and Cleanup Action Taken. *
Area 1 – 126ft x 51ft x 1in

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

Signature: <i>Cullen Rosine</i>		OIL CONSERVATION DIVISION	
Printed Name: Cullen Rosine		Approved by Environmental Specialist: <i>oy</i>	
Title: HSE Specialist	Approval Date: 4/17/2017	Expiration Date:	
E-mail Address: Cullen.J.Rosine@conocophillips.com	Conditions of Approval: see attached directive		Attached <input checked="" type="checkbox"/>
Date: 4-17-2017	Phone: 575-391-3133		

* Attach Additional Sheets If Necessary

1RP-4681

nOY1710748487

pOY1710749103

Incident ID	
District RP	
Facility ID	
Application ID	

Closure

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

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

- ☐ A scaled site and sampling diagram as described in 19.15.29.11 NMAC
- ☐ Photographs of the remediated site prior to backfill or photos of the liner integrity if applicable (Note: appropriate OCD District office must be notified 2 days prior to liner inspection)
- ☐ Laboratory analyses of final sampling (Note: appropriate ODC District office must be notified 2 days prior to final sampling)
- ☐ Description of remediation activities

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

Printed Name: _____ Title: _____

Signature: Charles R Beauvais II Date: _____

email: _____ Telephone: _____

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: Brittany Hall Date: 2/20/2023

Printed Name: Brittany Hall Title: Environmental Specialist

**ATTACHMENT B
NMOSE Groundwater Data
Karst Potential Map**



New Mexico Office of the State Engineer

Water Column/Average Depth to Water

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

(R=POD has been replaced,
O=orphaned,
C=the file is closed)

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

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

(In feet)

POD Number	POD Sub-Code	basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Depth Well	Depth Water	Water Column
L 03980	L	LE		2	2	2	01	17S	32E	620466	3637594*	270	200	70
L 03980 S	L	LE		4	4	4	02	17S	32E	618870	3636170*	255	179	76
L 03980 S2	L	LE		3	2	3	01	17S	32E	619470	3636581*	225	175	50
L 04019	L	LE		4	3	4	02	17S	32E	618468	3636166*	182		
L 04020	L	LE		3	3	4	02	17S	32E	618268	3636166*	200		
L 04021	R	L	LE	3	4	4	02	17S	32E	618670	3636170*	190		
L 04021 POD3	L	LE			3	4	03	17S	32E	616761	3636252*	247		
L 04021 S	L	LE		2	4	4	03	17S	32E	617262	3636354*	260		
L 13047 POD1	L	LE					11	17S	32E	618187	3635254*	140		
L 13050 POD1	L	LE		2	2	1	10	17S	32E	616463	3635945*	156	132	24
RA 08855	RA	LE		4	1	1	10	17S	32E	616061	3635742*	158		
RA 09505	RA	LE		2	2	1	10	17S	32E	616462	3635944	147		
RA 09505 S	RA	LE		2	2	1	10	17S	32E	616463	3635945*	144		
RA 10175	RA	LE			2	1	28	17S	32E	614814	3631005*	158		
RA 11684 POD1	RA	LE		1	1	4	11	17S	32E	618216	3635124	275		
RA 11684 POD2	RA	LE		1	1	4	11	17S	32E	618313	3635248	275		
RA 11684 POD3	RA	LE		3	3	1	11	17S	32E	618262	3635371	275		
RA 11684 POD4	RA	LE		1	3	2	11	17S	32E	618334	3635521	275		
RA 11684 POD5	RA	LE		3	1	4	11	17S	32E	618353	3635047	275		
RA 11734 POD1	RA	LE		2	2	1	10	17S	32E	616556	3635929	165		
RA 11911 POD1	RA	LE		1	3	1	24	17S	32E	619192	3632296	35		
RA 12020 POD1	RA	LE		2	2	1	28	17S	32E	614828	3630954	120	81	39
RA 12020 POD3	RA	LE		2	1	2	28	17S	32E	615152	3631019	112	83	29
RA 12042 POD1	RA	LE		2	2	1	28	17S	32E	614891	3631181	400		
RA 12436 POD1	RA	LE		2	2	1	10	17S	32E	616556	3635929	160	125	35
RA 12521 POD1	RA	LE		3	3	4	21	17S	32E	615127	3631271	105	92	13

*UTM location was derived from PLSS - see Help

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

(R=POD has
been replaced,
O=orphaned,
C=the file is
closed)

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

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

(In feet)

POD Number	POD Sub-Code	basin	County	Q 6	Q 4	Q 16	Sec	Tws	Rng	X	Y	Depth Well	Depth Water	Water Column
RA 12522 POD1	RA	LE		3	3	4	21	17S	32E	614941	3631122	100		
RA 12522 POD2	RA	LE		2	2	1	28	17S	32E	614949	3631098	100		
RA 12522 POD3	RA	LE		4	4	3	28	17S	32E	614980	3631093	100		
RA 12721 POD1	RA	LE		3	2	3	28	17S	32E	614645	3630141	125		
RA 12721 POD2	RA	LE		1	1	4	28	17S	32E	615055	3630407	124	75	49
RA 12721 POD3	RA	LE		2	3	4	28	17S	32E	615417	3629979	115		
RA 12721 POD4	RA	LE		1	1	2	33	17S	32E	615055	3629589	140		

Average Depth to Water: **126 feet**

Minimum Depth: **75 feet**

Maximum Depth: **200 feet**

Record Count: 33

PLSS Search:

Township: 17S

Range: 32E

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.

Karst Potential Map

Emerald Federal #6
1RP-4681
32.836998°, -103.783392°

Legend

- High
- Low
- Medium

Approximate Release Point

Lovington

Lea

Google Earth

20 mi



ATTACHMENT C
Laboratory Analytical Data



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

April 16, 2018

JUSTIN WRIGHT

Conoco Phillips - Hobbs

P. O. BOX 325

Hobbs, NM 88240

RE: EMERALD 006

Enclosed are the results of analyses for samples received by the laboratory on 04/09/18 14:13.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-17-10. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

A handwritten signature in black ink that reads "Coley D. Keene".

Celey D. Keene

Lab Director/Quality Manager



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

Analytical Results For:

Conoco Phillips - Hobbs
 JUSTIN WRIGHT
 P. O. BOX 325
 Hobbs NM, 88240
 Fax To: (575) 297-1477

Received: 04/09/2018
 Reported: 04/16/2018
 Project Name: EMERALD 006
 Project Number: NONE GIVEN
 Project Location: COPC - LEA CO NM

Sampling Date: 04/09/2018
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: WALL #1 (H800968-01)

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	04/11/2018	ND	2.18	109	2.00	0.00399	
Toluene*	<0.050	0.050	04/11/2018	ND	2.19	109	2.00	1.43	
Ethylbenzene*	<0.050	0.050	04/11/2018	ND	2.16	108	2.00	1.20	
Total Xylenes*	<0.150	0.150	04/11/2018	ND	6.64	111	6.00	1.36	
Total BTEX	<0.300	0.300	04/11/2018	ND					

Surrogate: 4-Bromofluorobenzene (PIL) 95.1 % 72-148

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	96.0	16.0	04/12/2018	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	04/14/2018	ND	229	114	200	5.57	
DRO >C10-C28*	15.4	10.0	04/14/2018	ND	227	113	200	9.74	
EXT DRO >C28-C36	28.8	10.0	04/14/2018	ND					

Surrogate: 1-Chlorooctane 81.3 % 41-142

Surrogate: 1-Chlorooctadecane 73.2 % 37.6-147

Cardinal Laboratories

* = Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

Conoco Phillips - Hobbs
 JUSTIN WRIGHT
 P. O. BOX 325
 Hobbs NM, 88240
 Fax To: (575) 297-1477

Received: 04/09/2018
 Reported: 04/16/2018
 Project Name: EMERALD 006
 Project Number: NONE GIVEN
 Project Location: COPC - LEA CO NM

Sampling Date: 04/09/2018
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: WALL #2 (H800968-02)

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	04/11/2018	ND	2.18	109	2.00	0.00399	
Toluene*	<0.050	0.050	04/11/2018	ND	2.19	109	2.00	1.43	
Ethylbenzene*	<0.050	0.050	04/11/2018	ND	2.16	108	2.00	1.20	
Total Xylenes*	<0.150	0.150	04/11/2018	ND	6.64	111	6.00	1.36	
Total BTEX	<0.300	0.300	04/11/2018	ND					

Surrogate: 4-Bromofluorobenzene (PIL) 94.9 % 72-148

Chloride, SM4500Cl-B			mg/kg		Analyzed By: AC				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	336	16.0	04/12/2018	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	04/14/2018	ND	229	114	200	5.57	
DRO >C10-C28*	18.5	10.0	04/14/2018	ND	227	113	200	9.74	
EXT DRO >C28-C36	25.8	10.0	04/14/2018	ND					

Surrogate: 1-Chlorooctane 83.4 % 41-142

Surrogate: 1-Chlorooctadecane 76.0 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

Conoco Phillips - Hobbs
 JUSTIN WRIGHT
 P. O. BOX 325
 Hobbs NM, 88240
 Fax To: (575) 297-1477

Received: 04/09/2018
 Reported: 04/16/2018
 Project Name: EMERALD 006
 Project Number: NONE GIVEN
 Project Location: COPC - LEA CO NM

Sampling Date: 04/09/2018
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: WALL #3 (H800968-03)

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	04/11/2018	ND	2.18	109	2.00	0.00399		
Toluene*	<0.050	0.050	04/11/2018	ND	2.19	109	2.00	1.43		
Ethylbenzene*	<0.050	0.050	04/11/2018	ND	2.16	108	2.00	1.20		
Total Xylenes*	<0.150	0.150	04/11/2018	ND	6.64	111	6.00	1.36		
Total BTEX	<0.300	0.300	04/11/2018	ND						

Surrogate: 4-Bromofluorobenzene (PIL) 96.7 % 72-148

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	04/12/2018	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	04/14/2018	ND	229	114	200	5.57	
DRO >C10-C28*	<10.0	10.0	04/14/2018	ND	227	113	200	9.74	
EXT DRO >C28-C36	<10.0	10.0	04/14/2018	ND					

Surrogate: 1-Chlorooctane 79.7 % 41-142

Surrogate: 1-Chlorooctadecane 71.6 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

Conoco Phillips - Hobbs
 JUSTIN WRIGHT
 P. O. BOX 325
 Hobbs NM, 88240
 Fax To: (575) 297-1477

Received: 04/09/2018
 Reported: 04/16/2018
 Project Name: EMERALD 006
 Project Number: NONE GIVEN
 Project Location: COPC - LEA CO NM

Sampling Date: 04/09/2018
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: WALL #4 (H800968-04)

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	04/11/2018	ND	2.18	109	2.00	0.00399		
Toluene*	<0.050	0.050	04/11/2018	ND	2.19	109	2.00	1.43		
Ethylbenzene*	<0.050	0.050	04/11/2018	ND	2.16	108	2.00	1.20		
Total Xylenes*	<0.150	0.150	04/11/2018	ND	6.64	111	6.00	1.36		
Total BTEX	<0.300	0.300	04/11/2018	ND						

Surrogate: 4-Bromofluorobenzene (PIL) 95.7 % 72-148

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	04/12/2018	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	04/14/2018	ND	229	114	200	5.57	
DRO >C10-C28*	<10.0	10.0	04/14/2018	ND	227	113	200	9.74	
EXT DRO >C28-C36	<10.0	10.0	04/14/2018	ND					

Surrogate: 1-Chlorooctane 80.1 % 41-142

Surrogate: 1-Chlorooctadecane 72.3 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

Conoco Phillips - Hobbs
 JUSTIN WRIGHT
 P. O. BOX 325
 Hobbs NM, 88240
 Fax To: (575) 297-1477

Received: 04/09/2018
 Reported: 04/16/2018
 Project Name: EMERALD 006
 Project Number: NONE GIVEN
 Project Location: COPC - LEA CO NM

Sampling Date: 04/09/2018
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: WALL #5 (H800968-05)

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	04/12/2018	ND	2.07	104	2.00	0.0860	
Toluene*	<0.050	0.050	04/12/2018	ND	2.07	104	2.00	0.108	
Ethylbenzene*	<0.050	0.050	04/12/2018	ND	2.08	104	2.00	1.26	
Total Xylenes*	<0.150	0.150	04/12/2018	ND	6.44	107	6.00	1.37	
Total BTEX	<0.300	0.300	04/12/2018	ND					

Surrogate: 4-Bromofluorobenzene (PIL) 96.4 % 72-148

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	04/12/2018	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	04/14/2018	ND	229	114	200	5.57	
DRO >C10-C28*	<10.0	10.0	04/14/2018	ND	227	113	200	9.74	
EXT DRO >C28-C36	<10.0	10.0	04/14/2018	ND					

Surrogate: 1-Chlorooctane 85.7 % 41-142

Surrogate: 1-Chlorooctadecane 76.8 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

Conoco Phillips - Hobbs
 JUSTIN WRIGHT
 P. O. BOX 325
 Hobbs NM, 88240
 Fax To: (575) 297-1477

Received: 04/09/2018
 Reported: 04/16/2018
 Project Name: EMERALD 006
 Project Number: NONE GIVEN
 Project Location: COPC - LEA CO NM

Sampling Date: 04/09/2018
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: WALL #6 (H800968-06)

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	04/12/2018	ND	2.07	104	2.00	0.0860	
Toluene*	<0.050	0.050	04/12/2018	ND	2.07	104	2.00	0.108	
Ethylbenzene*	<0.050	0.050	04/12/2018	ND	2.08	104	2.00	1.26	
Total Xylenes*	<0.150	0.150	04/12/2018	ND	6.44	107	6.00	1.37	
Total BTEX	<0.300	0.300	04/12/2018	ND					

Surrogate: 4-Bromofluorobenzene (PIL) 95.9 % 72-148

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	04/12/2018	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	04/14/2018	ND	229	114	200	5.57	
DRO >C10-C28*	<10.0	10.0	04/14/2018	ND	227	113	200	9.74	
EXT DRO >C28-C36	<10.0	10.0	04/14/2018	ND					

Surrogate: 1-Chlorooctane 81.9 % 41-142

Surrogate: 1-Chlorooctadecane 72.2 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

Conoco Phillips - Hobbs
JUSTIN WRIGHT
P. O. BOX 325
Hobbs NM, 88240
Fax To: (575) 297-1477

Received:	04/09/2018	Sampling Date:	04/09/2018
Reported:	04/16/2018	Sampling Type:	Soil
Project Name:	EMERALD 006	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	COPC - LEA CO NM		

Sample ID: FLOOR 3' (H800968-07)

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	04/12/2018	ND	2.07	104	2.00	0.0860	
Toluene*	<0.050	0.050	04/12/2018	ND	2.07	104	2.00	0.108	
Ethylbenzene*	<0.050	0.050	04/12/2018	ND	2.08	104	2.00	1.26	
Total Xylenes*	<0.150	0.150	04/12/2018	ND	6.44	107	6.00	1.37	
Total BTEX	<0.300	0.300	04/12/2018	ND					

Surrogate: 4-Bromofluorobenzene (PIL) 96.0 % 72-148

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	04/12/2018	ND	416	104	400	3.77	
TPH 8015M		mg/kg		Analyzed By: MS					

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	04/14/2018	ND	229	114	200	5.57	
DRO >C10-C28*	<10.0	10.0	04/14/2018	ND	227	113	200	9.74	
EXT DRO >C28-C36	<10.0	10.0	04/14/2018	ND					

Surrogate: 1-Chlorooctane 81.3 % 41-142

Surrogate: 1-Chlorooctadecane 72.7 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

Conoco Phillips - Hobbs
 JUSTIN WRIGHT
 P. O. BOX 325
 Hobbs NM, 88240
 Fax To: (575) 297-1477

Received: 04/09/2018
 Reported: 04/16/2018
 Project Name: EMERALD 006
 Project Number: NONE GIVEN
 Project Location: COPC - LEA CO NM

Sampling Date: 04/09/2018
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: #1 - 13' (H800968-08)

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	04/12/2018	ND	2.07	104	2.00	0.0860	
Toluene*	<0.050	0.050	04/12/2018	ND	2.07	104	2.00	0.108	
Ethylbenzene*	<0.050	0.050	04/12/2018	ND	2.08	104	2.00	1.26	
Total Xylenes*	<0.150	0.150	04/12/2018	ND	6.44	107	6.00	1.37	
Total BTEX	<0.300	0.300	04/12/2018	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 93.9 % 72-148

Chloride, SM4500Cl-B			mg/kg		Analyzed By: AC				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2120	16.0	04/12/2018	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	04/14/2018	ND	229	114	200	5.57	
DRO >C10-C28*	<10.0	10.0	04/14/2018	ND	227	113	200	9.74	
EXT DRO >C28-C36	<10.0	10.0	04/14/2018	ND					

Surrogate: 1-Chlorooctane 78.9 % 41-142

Surrogate: 1-Chlorooctadecane 70.6 % 37.6-147

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Caley D. Keene, Lab Director/Quality Manager



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

Notes and Definitions

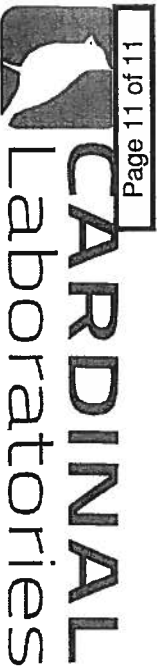
- QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
- ND Analyte NOT DETECTED at or above the reporting limit
- RPD Relative Percent Difference
- ** Samples not received at proper temperature of 6°C or below.
- *** Insufficient 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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Celey D. Keene, Lab Director/Quality Manager



CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Company Name: Conoco Phillips		P.O. #:		ANALYSIS REQUEST													
Project Manager: Justin Wright		City: Hobbs		State: NM		Zip: 88240		Attn: Justin Wright		Address: 101 East Marland		City: Hobbs		State: NM		Zip: 88240	
Phone #: 575-631-9098		Fax #: 575-631-9098		Project Owner: Emerald 2016		Project Name: Lea County, NM		Project Location: Lea County, NM		Project #: 480068		Project #: 480068		Project #: 480068		Project #: 480068	
Sampler Name: Justin Wright		Fax #: 575-631-9098		Matrix: GROUNDWATER		Matrix: WASTEWATER		Matrix: SOIL		Matrix: OIL		Matrix: SLUDGE		Matrix: OTHER:		Matrix: ACID/BASE:	
FOR LAB USE ONLY		DATE		TIME		DATE		TIME		DATE		TIME		DATE		TIME	
Lab I.D.		Sample I.D.		(G)RAB OR (C)OMP.		# CONTAINERS		GROUNDWATER		WASTEWATER		SOIL		OIL		SLUDGE	
1 Lab #1		1 Lab #1		6		6		✓		✓		✓		✓		✓	
2 Lab #2		2 Lab #2		6		6		✓		✓		✓		✓		✓	
3 Lab #3		3 Lab #3		6		6		✓		✓		✓		✓		✓	
4 Lab #4		4 Lab #4		6		6		✓		✓		✓		✓		✓	
5 Lab #5		5 Lab #5		6		6		✓		✓		✓		✓		✓	
6 Lab #6		6 Lab #6		6		6		✓		✓		✓		✓		✓	
7 Floor 3'		7 Floor 3'		6		6		✓		✓		✓		✓		✓	
8 #1-13'		8 #1-13'		6		6		✓		✓		✓		✓		✓	
Relinquished By: Justin Wright		Date: 2-9-18		Time: 2:13 PM		Received By: Justin Wright		Date: 2-9-18		Time: 2:13 PM		CHECKED BY: Justin Wright		Phone Result: <input type="checkbox"/> Yes <input type="checkbox"/> No		Fax Result: <input type="checkbox"/> Yes <input type="checkbox"/> No	
Delivered By: (Circle One) 2.46		Sample Condition: Cool Intact		CHECKED BY: Justin Wright		Phone Result: <input type="checkbox"/> Yes <input type="checkbox"/> No		Fax Result: <input type="checkbox"/> Yes <input type="checkbox"/> No		Add'l Phone #: 575-631-9098		Add'l Fax #: 575-631-9098		REMARKS:		REMARKS:	



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

April 23, 2018

JUSTIN WRIGHT

Conoco Phillips - Hobbs

P. O. BOX 325

Hobbs, NM 88240

RE: EMERALD #6

Enclosed are the results of analyses for samples received by the laboratory on 04/18/18 10:00.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-17-10. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

Celey D. Keene

Lab Director/Quality Manager



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

Analytical Results For:

Conoco Phillips - Hobbs
 JUSTIN WRIGHT
 P. O. BOX 325
 Hobbs NM, 88240
 Fax To: (575) 297-1477

Received:	04/18/2018	Sampling Date:	04/17/2018
Reported:	04/23/2018	Sampling Type:	Soil
Project Name:	EMERALD #6	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	COPC - LEA CO NM		

Sample ID: WSP #4 (H801057-01)

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	04/20/2018	ND	2.04	102	2.00	6.31	
Toluene*	<0.050	0.050	04/20/2018	ND	2.01	100	2.00	6.39	
Ethylbenzene*	<0.050	0.050	04/20/2018	ND	1.94	96.9	2.00	6.54	
Total Xylenes*	<0.150	0.150	04/20/2018	ND	5.91	98.5	6.00	5.97	
Total BTEX	<0.300	0.300	04/20/2018	ND					

Surrogate: 4-Bromofluorobenzene (PII) 94.7 % 72-148

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	352	16.0	04/23/2018	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	04/21/2018	ND	197	98.6	200	2.26	
DRO >C10-C28*	<10.0	10.0	04/21/2018	ND	207	103	200	3.38	
EXT DRO >C28-C36	<10.0	10.0	04/21/2018	ND					

Surrogate: 1-Chlorooctane 87.3 % 41-142

Surrogate: 1-Chlorooctadecane 71.0 % 37.6-147

Cardinal Laboratories

* = Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

Conoco Phillips - Hobbs
 JUSTIN WRIGHT
 P. O. BOX 325
 Hobbs NM, 88240
 Fax To: (575) 297-1477

Received: 04/18/2018
 Reported: 04/23/2018
 Project Name: EMERALD #6
 Project Number: NONE GIVEN
 Project Location: COPC - LEA CO NM

Sampling Date: 04/17/2018
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

Sample ID: WSP #5 (H801057-02)

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	04/20/2018	ND	2.04	102	2.00	6.31		
Toluene*	<0.050	0.050	04/20/2018	ND	2.01	100	2.00	6.39		
Ethylbenzene*	<0.050	0.050	04/20/2018	ND	1.94	96.9	2.00	6.54		
Total Xylenes*	<0.150	0.150	04/20/2018	ND	5.91	98.5	6.00	5.97		
Total BTEX	<0.300	0.300	04/20/2018	ND						

Surrogate: 4-Bromofluorobenzene (PIL) 93.8 % 72-148

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	368	16.0	04/23/2018	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	04/21/2018	ND	197	98.6	200	2.26	
DRO >C10-C28*	<10.0	10.0	04/21/2018	ND	207	103	200	3.38	
EXT DRO >C28-C36	<10.0	10.0	04/21/2018	ND					

Surrogate: 1-Chlorooctane 90.1 % 41-142

Surrogate: 1-Chlorooctadecane 71.0 % 37.6-147

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

Conoco Phillips - Hobbs
 JUSTIN WRIGHT
 P. O. BOX 325
 Hobbs NM, 88240
 Fax To: (575) 297-1477

Received: 04/18/2018
 Reported: 04/23/2018
 Project Name: EMERALD #6
 Project Number: NONE GIVEN
 Project Location: COPC - LEA CO NM

Sampling Date: 04/17/2018
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

Sample ID: WSP #6 (H801057-03)

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	04/20/2018	ND	2.04	102	2.00	6.31	
Toluene*	<0.050	0.050	04/20/2018	ND	2.01	100	2.00	6.39	
Ethylbenzene*	<0.050	0.050	04/20/2018	ND	1.94	96.9	2.00	6.54	
Total Xylenes*	<0.150	0.150	04/20/2018	ND	5.91	98.5	6.00	5.97	
Total BTEX	<0.300	0.300	04/20/2018	ND					

Surrogate: 4-Bromofluorobenzene (PIL) 92.9 % 72-148

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	368	16.0	04/23/2018	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	04/21/2018	ND	197	98.6	200	2.26	
DRO >C10-C28*	<10.0	10.0	04/21/2018	ND	207	103	200	3.38	
EXT DRO >C28-C36	<10.0	10.0	04/21/2018	ND					

Surrogate: 1-Chlorooctane 88.5 % 41-142

Surrogate: 1-Chlorooctadecane 69.5 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

Conoco Phillips - Hobbs
 JUSTIN WRIGHT
 P. O. BOX 325
 Hobbs NM, 88240
 Fax To: (575) 297-1477

Received: 04/18/2018
 Reported: 04/23/2018
 Project Name: EMERALD #6
 Project Number: NONE GIVEN
 Project Location: COPC - LEA CO NM

Sampling Date: 04/17/2018
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

Sample ID: WSP #7 (H801057-04)

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	04/20/2018	ND	2.04	102	2.00	6.31	
Toluene*	<0.050	0.050	04/20/2018	ND	2.01	100	2.00	6.39	
Ethylbenzene*	<0.050	0.050	04/20/2018	ND	1.94	96.9	2.00	6.54	
Total Xylenes*	<0.150	0.150	04/20/2018	ND	5.91	98.5	6.00	5.97	
Total BTEX	<0.300	0.300	04/20/2018	ND					

Surrogate: 4-Bromofluorobenzene (PIL) 96.2 % 72-148

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	432	16.0	04/23/2018	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	04/21/2018	ND	197	98.6	200	2.26	
DRO >C10-C28*	<10.0	10.0	04/21/2018	ND	207	103	200	3.38	
EXT DRO >C28-C36	<10.0	10.0	04/21/2018	ND					

Surrogate: 1-Chlorooctane 85.2 % 41-142

Surrogate: 1-Chlorooctadecane 66.9 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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Notes and Definitions

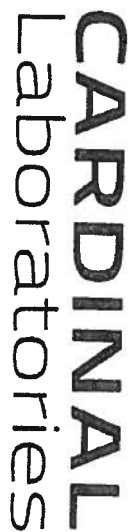
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C
	Samples reported on an as received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

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Celey D. Keene, Lab Director/Quality Manager



CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name: <u>Conoco Phillips</u> Project Manager: <u>Justin Wright</u> Address: City: <u>Hobbs</u> State: <u>NM</u> Zip: <u>88400</u> Phone #: <u>575-631-9092</u> Fax #: Project #: Project Name: <u>Emerald 4</u> Project Location: <u>Lea County, NM</u> Sampler Name: <u>Justin Wright</u> FOR LAB USE ONLY				P.O. #: Company: <u>Conoco Phillips</u> Attn: Address: City: State: <u>NM</u> Zip: Phone #: Fax #:																																																																																				
Lab I.D. <u>HD01057</u> Sample I.D. <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th></th> <th>(G)RAB OR (C)OMP.</th> <th># CONTAINERS</th> <th colspan="6">MATRIX</th> <th>PRESERV</th> <th>SAMPLING</th> </tr> <tr> <th></th> <th></th> <th></th> <th>GROUNDWATER</th> <th>WASTEWATER</th> <th>SOIL</th> <th>OIL</th> <th>SLUDGE</th> <th>OTHER :</th> <th>ACID/BASE:</th> <th>ICE / COOL</th> <th>OTHER :</th> <th>DATE</th> <th>TIME</th> </tr> <tr> <td>1</td> <td>WSP #4</td> <td>6</td> <td></td> <td></td> <td>✓</td> <td></td> <td></td> <td></td> <td></td> <td>✓</td> <td></td> <td>4-17</td> <td>2:35</td> </tr> <tr> <td>2</td> <td>WSP #5</td> <td>6</td> <td></td> <td></td> <td>✓</td> <td></td> <td></td> <td></td> <td></td> <td>✓</td> <td></td> <td>4-17</td> <td>2:41</td> </tr> <tr> <td>3</td> <td>WSP #6</td> <td>6</td> <td></td> <td></td> <td>✓</td> <td></td> <td></td> <td></td> <td></td> <td>✓</td> <td></td> <td>4-17</td> <td>2:45</td> </tr> <tr> <td>4</td> <td>WSP #7</td> <td>6</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table>					(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX						PRESERV	SAMPLING				GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:	ICE / COOL	OTHER :	DATE	TIME	1	WSP #4	6			✓					✓		4-17	2:35	2	WSP #5	6			✓					✓		4-17	2:41	3	WSP #6	6			✓					✓		4-17	2:45	4	WSP #7	6												BTEX TPH Chlorides			
					(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX						PRESERV	SAMPLING																																																																										
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1	WSP #4	6			✓					✓		4-17	2:35																																																																											
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PLEASE NOTE: Liability and Damages. Cardholder's liability and doesn't exonerate liability for any claim arising whether based in contract or tort, shall be limited to the amount paid by the client for the services. All claims including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardholder within 30 days after completion of the applicable services. In no event shall Cardholder 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 Cardholder, regardless of whether such claim is based upon any of the above stated theories or otherwise.																																																																																								
Relinquished By: <u>John Morgan</u> Received By: <u>John Morgan</u> Date: <u>4/18/00</u> Time: <u>10:00</u> Relinquished By: <u>John Morgan</u> Received By: <u>John Morgan</u> Date: <u>4/18/00</u> Time: <u>10:00</u>				Sample Condition Checked By: <u>John Morgan</u> Delivered By: <u>John Morgan</u> Phone Result: <u>Yes</u> Sampler - UPS - Bus - Other: <u>Other</u> Fax Result: <u>No</u> REMARKS:																																																																																				



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

April 24, 2018

JUSTIN WRIGHT

Conoco Phillips - Hobbs

P. O. BOX 325

Hobbs, NM 88240

RE: EMERALD #6

Enclosed are the results of analyses for samples received by the laboratory on 04/18/18 10:00.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-17-10. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

Celey D. Keene

Lab Director/Quality Manager



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

Analytical Results For:

Conoco Phillips - Hobbs
JUSTIN WRIGHT
P. O. BOX 325
Hobbs NM, 88240
Fax To: (575) 297-1477

Received:	04/18/2018	Sampling Date:	04/17/2018
Reported:	04/24/2018	Sampling Type:	Soil
Project Name:	EMERALD #6	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	COPC - LEA CO NM		

Sample ID: SP 1A - 13' (H801059-01)

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	04/20/2018	ND	2.04	102	2.00	6.31	
Toluene*	<0.050	0.050	04/20/2018	ND	2.01	100	2.00	6.39	
Ethylbenzene*	<0.050	0.050	04/20/2018	ND	1.94	96.9	2.00	6.54	
Total Xylenes*	<0.150	0.150	04/20/2018	ND	5.91	98.5	6.00	5.97	
Total BTEx	<0.300	0.300	04/20/2018	ND					

Surrogate: 4-Bromofluorobenzene (PIL) 93.3 % 72-148

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	288	16.0	04/24/2018	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	04/21/2018	ND	197	98.6	200	2.26	
DRO >C10-C28*	<10.0	10.0	04/21/2018	ND	207	103	200	3.38	
EXT DRO >C28-C36	<10.0	10.0	04/21/2018	ND					

Surrogate: 1-Chlorooctane 88.4 % 41-142

Surrogate: 1-Chlorooctadecane 68.5 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

Conoco Phillips - Hobbs
 JUSTIN WRIGHT
 P. O. BOX 325
 Hobbs NM, 88240
 Fax To: (575) 297-1477

Received: 04/18/2018
 Reported: 04/24/2018
 Project Name: EMERALD #6
 Project Number: NONE GIVEN
 Project Location: COPC - LEA CO NM

Sampling Date: 04/17/2018
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

Sample ID: SP 1A - 15' (H801059-02)

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	04/20/2018	ND	2.04	102	2.00	6.31		
Toluene*	<0.050	0.050	04/20/2018	ND	2.01	100	2.00	6.39		
Ethylbenzene*	<0.050	0.050	04/20/2018	ND	1.94	96.9	2.00	6.54		
Total Xylenes*	<0.150	0.150	04/20/2018	ND	5.91	98.5	6.00	5.97		
Total BTEX	<0.300	0.300	04/20/2018	ND						

Surrogate: 4-Bromofluorobenzene (PIE) 96.3 % 72-148

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	272	16.0	04/24/2018	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	04/21/2018	ND	197	98.6	200	2.26	
DRO >C10-C28*	<10.0	10.0	04/21/2018	ND	207	103	200	3.38	
EXT DRO >C28-C36	<10.0	10.0	04/21/2018	ND					

Surrogate: 1-Chlorooctane 88.4 % 41-142

Surrogate: 1-Chlorooctadecane 67.7 % 37.6-147

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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

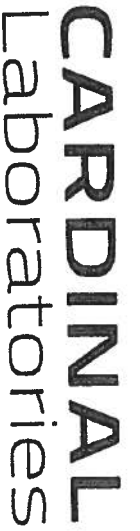
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Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager



CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

ANALYSIS REQUEST

Company Name: Conoco Phillips

Project Manager: Justin W. Light

Address:

City: Hobbs **State:** NM **Zip:** 88240

Phone #: 575-631-9092 **Fax #:**

Project #:

Project Name: Emerald &

Project Location: Lea County, NM

Sampler Name: Justin W. Light

FOR LAB USE ONLY

P.O. #:

Company: Conoco Phillips

Attn:

Address:

City:

State: Zip:

Phone #:

Fax #:

Lab I.D. **Sample I.D.**

Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX						PRESERV.	SAMPLING	DATE	TIME	BTEX	TPH	Chlorides
				GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :							
HS01059	SP1A-13'	G				✓						4-17	2:30 PM	✓	✓	✓
	2-SP1A-15'	G										4-17	4:31 PM	✓	✓	✓

Delivered By: (Circle One) #79 **Sample Condition:** ☒ Cool ☐ Intact ☐ Yes ☐ No

Sampler - UPS - Bus - Other: -3.5°C / -3.55°C ☐ No ☐ Yes

Received By: John Jensen **Checked By:** (Signature)

Time: 4:18:00 **Date:** 4/18/00

Relinquished By: (Signature) **Phone Result:** ☐ Yes ☐ No **Add'l Phone #:**

REMARKS:



New Mexico Office of the State Engineer

Water Column/Average Depth to Water

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

(R=POD has been replaced,
O=orphaned,
C=the file is closed)

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

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

(In feet)

POD Number	Code	Sub-basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Distance	Depth	Well	Depth	Water	Column
<u>RA 12042 POD1</u>		RA	LE	2	2	1	28	17S	32E	614891	3631181	2878		400			
<u>RA 08855</u>		RA	LE	4	1	1	10	17S	32E	616061	3635742*	2884		158			
<u>RA 10175</u>		RA	LE		2	1	28	17S	32E	614814	3631005*	3019		158			
<u>RA 12020 POD1</u>		RA	LE	2	2	1	28	17S	32E	614828	3630954	3071		120		81	39
<u>RA 09505</u>		RA	LE	2	2	1	10	17S	32E	616462	3635944	3322		147			
<u>L 13050 POD1</u>		L	LE	2	2	1	10	17S	32E	616463	3635945*	3323		156		132	24
<u>RA 09505 S</u>		RA	LE	2	2	1	10	17S	32E	616463	3635945*	3323		144			
<u>RA 11734 POD1</u>		RA	LE	2	2	1	10	17S	32E	616556	3635929	3387		165			

Average Depth to Water: 106 feet

Minimum Depth: 81 feet

Maximum Depth: 132 feet

Record Count: 8

UTM NAD83 Radius Search (in meters):

Easting (X): 613865.82

Northing (Y): 3633871.35

Radius: 3700

*UTM location was derived from PLSS - see Help

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

1/22/19 12:46 PM

WATER COLUMN/ AVERAGE DEPTH TO WATER



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

February 19, 2018

JUSTIN WRIGHT

Conoco Phillips - Hobbs

P. O. BOX 325

Hobbs, NM 88240

RE: EMERALD #6

Enclosed are the results of analyses for samples received by the laboratory on 02/13/18 16:40.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-17-10. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

Celey D. Keene

Lab Director/Quality Manager



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

Analytical Results For:

Conoco Phillips - Hobbs
JUSTIN WRIGHT
P. O. BOX 325
Hobbs NM, 88240
Fax To: (575) 297-1477

Received:	02/13/2018	Sampling Date:	02/13/2018
Reported:	02/19/2018	Sampling Type:	Soil
Project Name:	EMERALD #6	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	COPC - LEA CO NM		

Sample ID: PT #1 - 1' (H800456-01)

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	02/15/2018	ND	2.21	110	2.00	12.2	
Toluene*	<0.050	0.050	02/15/2018	ND	2.18	109	2.00	14.2	
Ethylbenzene*	<0.050	0.050	02/15/2018	ND	2.16	108	2.00	13.5	
Total Xylenes*	<0.150	0.150	02/15/2018	ND	6.29	105	6.00	12.7	
Total BTEX	<0.300	0.300	02/15/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID) 101 % 72-148

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	02/15/2018	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	02/15/2018	ND	198	98.8	200	6.18	
DRO >C10-C28*	<10.0	10.0	02/15/2018	ND	213	106	200	7.09	
EXT DRO >C28-C36	<10.0	10.0	02/15/2018	ND					

Surrogate: 1-Chlorooctane 90.2 % 41-142

Surrogate: 1-Chlorooctadecane 83.5 % 37.6-147

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Celestine D. Keene

Celestine D. Keene, Lab Director/Quality Manager



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Analytical Results For:

Conoco Phillips - Hobbs
JUSTIN WRIGHT
P. O. BOX 325
Hobbs NM, 88240
Fax To: (575) 297-1477

Received:	02/13/2018	Sampling Date:	02/13/2018
Reported:	02/19/2018	Sampling Type:	Soil
Project Name:	EMERALD #6	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	COPC - LEA CO NM		

Sample ID: PT #1 - 3' (H800456-02)

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	02/15/2018	ND	2.21	110	2.00	12.2	
Toluene*	<0.050	0.050	02/15/2018	ND	2.18	109	2.00	14.2	
Ethylbenzene*	<0.050	0.050	02/15/2018	ND	2.16	108	2.00	13.5	
Total Xylenes*	<0.150	0.150	02/15/2018	ND	6.29	105	6.00	12.7	
Total BTX	<0.300	0.300	02/15/2018	ND					

Surrogate: 4-Bromofluorobenzene (PIL) 101 % 72-148

Chloride, SM4500Cl-B			mg/kg		Analyzed By: AC				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1040	16.0	02/15/2018	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	02/15/2018	ND	198	98.8	200	6.18	
DRO >C10-C28*	<10.0	10.0	02/15/2018	ND	213	106	200	7.09	
EXT DRO >C28-C36	<10.0	10.0	02/15/2018	ND					

Surrogate: 1-Chlorooctane 86.8 % 41-142

Surrogate: 1-Chlorooctadecane 79.3 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

Conoco Phillips - Hobbs
 JUSTIN WRIGHT
 P. O. BOX 325
 Hobbs NM, 88240
 Fax To: (575) 297-1477

Received: 02/13/2018
 Reported: 02/19/2018
 Project Name: EMERALD #6
 Project Number: NONE GIVEN
 Project Location: COPC - LEA CO NM

Sampling Date: 02/13/2018
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: PT #1 - 5' (H800456-03)

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	02/15/2018	ND	2.21	110	2.00	12.2	
Toluene*	<0.050	0.050	02/15/2018	ND	2.18	109	2.00	14.2	
Ethylbenzene*	<0.050	0.050	02/15/2018	ND	2.16	108	2.00	13.5	
Total Xylenes*	<0.150	0.150	02/15/2018	ND	6.29	105	6.00	12.7	
Total BTEX	<0.300	0.300	02/15/2018	ND					

Surrogate: 4-Bromofluorobenzene (PIL) 100 % 72-148

Chloride, SM4500Cl-B		mg/kg	Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	560	16.0	02/15/2018	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	02/15/2018	ND	198	98.8	200	6.18	
DRO >C10-C28*	<10.0	10.0	02/15/2018	ND	213	106	200	7.09	
EXT DRO >C28-C36	<10.0	10.0	02/15/2018	ND					

Surrogate: 1-Chlorooctane 84.6 % 41-142

Surrogate: 1-Chlorooctadecane 76.1 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

Conoco Phillips - Hobbs
JUSTIN WRIGHT
P. O. BOX 325
Hobbs NM, 88240
Fax To: (575) 297-1477

Received:	02/13/2018	Sampling Date:	02/13/2018
Reported:	02/19/2018	Sampling Type:	Soil
Project Name:	EMERALD #6	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	COPC - LEA CO NM		

Sample ID: PT #1 - 7' (H800456-04)

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	02/15/2018	ND	2.21	110	2.00	12.2	
Toluene*	<0.050	0.050	02/15/2018	ND	2.18	109	2.00	14.2	
Ethylbenzene*	<0.050	0.050	02/15/2018	ND	2.16	108	2.00	13.5	
Total Xylenes*	<0.150	0.150	02/15/2018	ND	6.29	105	6.00	12.7	
Total BTX	<0.300	0.300	02/15/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID) 101 % 72-148

Chloride, SM4500Cl-B			mg/kg		Analyzed By: AC				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	480	16.0	02/15/2018	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	02/15/2018	ND	198	98.8	200	6.18	
DRO >C10-C28*	<10.0	10.0	02/15/2018	ND	213	106	200	7.09	
EXT DRO >C28-C36	<10.0	10.0	02/15/2018	ND					

Surrogate: 1-Chlorooctane 86.4 % 41-142

Surrogate: 1-Chlorooctadecane 79.6 % 37.6-147

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Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

Conoco Phillips - Hobbs
 JUSTIN WRIGHT
 P. O. BOX 325
 Hobbs NM, 88240
 Fax To: (575) 297-1477

Received: 02/13/2018
 Reported: 02/19/2018
 Project Name: EMERALD #6
 Project Number: NONE GIVEN
 Project Location: COPC - LEA CO NM

Sampling Date: 02/13/2018
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: PT #1 - 9' (H800456-05)

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	02/15/2018	ND	2.21	110	2.00	12.2	
Toluene*	<0.050	0.050	02/15/2018	ND	2.18	109	2.00	14.2	
Ethylbenzene*	<0.050	0.050	02/15/2018	ND	2.16	108	2.00	13.5	
Total Xylenes*	<0.150	0.150	02/15/2018	ND	6.29	105	6.00	12.7	
Total BTEX	<0.300	0.300	02/15/2018	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 101 % 72-148

Chloride, SM4500Cl-B		mg/kg	Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	240	16.0	02/15/2018	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	02/15/2018	ND	198	98.8	200	6.18	
DRO >C10-C28*	<10.0	10.0	02/15/2018	ND	213	106	200	7.09	
EXT DRO >C28-C36	<10.0	10.0	02/15/2018	ND					

Surrogate: 1-Chlorooctane 83.1 % 41-142

Surrogate: 1-Chlorooctadecane 75.7 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

Conoco Phillips - Hobbs
 JUSTIN WRIGHT
 P. O. BOX 325
 Hobbs NM, 88240
 Fax To: (575) 297-1477

Received: 02/13/2018
 Reported: 02/19/2018
 Project Name: EMERALD #6
 Project Number: NONE GIVEN
 Project Location: COPC - LEA CO NM

Sampling Date: 02/13/2018
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: PT #1 - 11' (H800456-06)

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	02/15/2018	ND	2.21	110	2.00	12.2	
Toluene*	<0.050	0.050	02/15/2018	ND	2.18	109	2.00	14.2	
Ethylbenzene*	<0.050	0.050	02/15/2018	ND	2.16	108	2.00	13.5	
Total Xylenes*	<0.150	0.150	02/15/2018	ND	6.29	105	6.00	12.7	
Total BTX	<0.300	0.300	02/15/2018	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 101 % 72-148

Chloride, SM4500Cl-B			mg/kg		Analyzed By: AC				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	240	16.0	02/15/2018	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	02/15/2018	ND	198	98.8	200	6.18	
DRO >C10-C28*	<10.0	10.0	02/15/2018	ND	213	106	200	7.09	
EXT DRO >C28-C36	<10.0	10.0	02/15/2018	ND					

Surrogate: 1-Chlorooctane 92.3 % 41-142

Surrogate: 1-Chlorooctadecane 85.1 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

Conoco Phillips - Hobbs
 JUSTIN WRIGHT
 P. O. BOX 325
 Hobbs NM, 88240
 Fax To: (575) 297-1477

Received: 02/13/2018
 Reported: 02/19/2018
 Project Name: EMERALD #6
 Project Number: NONE GIVEN
 Project Location: COPC - LEA CO NM

Sampling Date: 02/13/2018
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: PT #1 - 13' (H800456-07)

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	02/15/2018	ND	2.21	110	2.00	12.2	
Toluene*	<0.050	0.050	02/15/2018	ND	2.18	109	2.00	14.2	
Ethylbenzene*	<0.050	0.050	02/15/2018	ND	2.16	108	2.00	13.5	
Total Xylenes*	<0.150	0.150	02/15/2018	ND	6.29	105	6.00	12.7	
Total BTEX	<0.300	0.300	02/15/2018	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 100 % 72-148

Chloride, SM4500Cl-B		mg/kg	Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	736	16.0	02/15/2018	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	02/15/2018	ND	198	98.8	200	6.18	
DRO >C10-C28*	<10.0	10.0	02/15/2018	ND	213	106	200	7.09	
EXT DRO >C28-C36	<10.0	10.0	02/15/2018	ND					

Surrogate: 1-Chlorooctane 93.0 % 41-142

Surrogate: 1-Chlorooctadecane 92.2 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

Conoco Phillips - Hobbs
 JUSTIN WRIGHT
 P. O. BOX 325
 Hobbs NM, 88240
 Fax To: (575) 297-1477

Received: 02/13/2018
 Reported: 02/19/2018
 Project Name: EMERALD #6
 Project Number: NONE GIVEN
 Project Location: COPC - LEA CO NM

Sampling Date: 02/13/2018
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: PT #2 - 1' (H800456-08)

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	02/15/2018	ND	2.21	110	2.00	12.2	
Toluene*	<0.050	0.050	02/15/2018	ND	2.18	109	2.00	14.2	
Ethylbenzene*	<0.050	0.050	02/15/2018	ND	2.16	108	2.00	13.5	
Total Xylenes*	<0.150	0.150	02/15/2018	ND	6.29	105	6.00	12.7	
Total BTX	<0.300	0.300	02/15/2018	ND					

Surrogate: 4-Bromofluorobenzene (PIL) 101 % 72-148

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	02/15/2018	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	02/15/2018	ND	197	98.6	200	5.05	
DRO >C10-C28*	<10.0	10.0	02/15/2018	ND	216	108	200	24.8	
EXT DRO >C28-C36	<10.0	10.0	02/15/2018	ND					

Surrogate: 1-Chlorooctane 93.7 % 41-142

Surrogate: 1-Chlorooctadecane 97.9 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

Conoco Phillips - Hobbs
JUSTIN WRIGHT
P. O. BOX 325
Hobbs NM, 88240
Fax To: (575) 297-1477

Received:	02/13/2018	Sampling Date:	02/13/2018
Reported:	02/19/2018	Sampling Type:	Soil
Project Name:	EMERALD #6	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	COPC - LEA CO NM		

Sample ID: PT #2 - 3' (H800456-09)

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	02/15/2018	ND	2.21	110	2.00	12.2	
Toluene*	<0.050	0.050	02/15/2018	ND	2.18	109	2.00	14.2	
Ethylbenzene*	<0.050	0.050	02/15/2018	ND	2.16	108	2.00	13.5	
Total Xylenes*	<0.150	0.150	02/15/2018	ND	6.29	105	6.00	12.7	
Total BTEX	<0.300	0.300	02/15/2018	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 101 % 72-148

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	02/15/2018	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	02/15/2018	ND	197	98.6	200	5.05	
DRO >C10-C28*	<10.0	10.0	02/15/2018	ND	216	108	200	24.8	
EXT DRO >C28-C36	<10.0	10.0	02/15/2018	ND					

Surrogate: 1-Chlorooctane 101 % 41-142

Surrogate: 1-Chlorooctadecane 99.3 % 37.6-147

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Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

Conoco Phillips - Hobbs
JUSTIN WRIGHT
P. O. BOX 325
Hobbs NM, 88240
Fax To: (575) 297-1477

Received: 02/13/2018
Reported: 02/19/2018
Project Name: EMERALD #6
Project Number: NONE GIVEN
Project Location: COPC - LEA CO NM

Sampling Date: 02/13/2018
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: PT #2 - 5' (H800456-10)

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	02/15/2018	ND	2.21	110	2.00	12.2	
Toluene*	<0.050	0.050	02/15/2018	ND	2.18	109	2.00	14.2	
Ethylbenzene*	<0.050	0.050	02/15/2018	ND	2.16	108	2.00	13.5	
Total Xylenes*	<0.150	0.150	02/15/2018	ND	6.29	105	6.00	12.7	
Total BTEX	<0.300	0.300	02/15/2018	ND					

Surrogate: 4-Bromofluorobenzene (PIL) 102 % 72-148

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	02/15/2018	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	02/15/2018	ND	197	98.6	200	5.05	
DRO >C10-C28*	<10.0	10.0	02/15/2018	ND	216	108	200	24.8	
EXT DRO >C28-C36	<10.0	10.0	02/15/2018	ND					

Surrogate: 1-Chlorooctane 86.5 % 41-142

Surrogate: 1-Chlorooctadecane 84.8 % 37.6-147

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Coley D. Keene

Coley D. Keene, Lab Director/Quality Manager



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Analytical Results For:

Conoco Phillips - Hobbs
 JUSTIN WRIGHT
 P. O. BOX 325
 Hobbs NM, 88240
 Fax To: (575) 297-1477

Received: 02/13/2018
 Reported: 02/19/2018
 Project Name: EMERALD #6
 Project Number: NONE GIVEN
 Project Location: COPC - LEA CO NM

Sampling Date: 02/13/2018
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: PT #2 - 7' (H800456-11)

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	02/15/2018	ND	2.21	110	2.00	12.2	
Toluene*	<0.050	0.050	02/15/2018	ND	2.18	109	2.00	14.2	
Ethylbenzene*	<0.050	0.050	02/15/2018	ND	2.16	108	2.00	13.5	
Total Xylenes*	<0.150	0.150	02/15/2018	ND	6.29	105	6.00	12.7	
Total BTEX	<0.300	0.300	02/15/2018	ND					

Surrogate: 4-Bromofluorobenzene (PIL) 102 % 72-148

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	02/15/2018	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	02/15/2018	ND	197	98.6	200	5.05	
DRO >C10-C28*	<10.0	10.0	02/15/2018	ND	216	108	200	24.8	
EXT DRO >C28-C36	<10.0	10.0	02/15/2018	ND					

Surrogate: 1-Chlorooctane 89.3 % 41-142

Surrogate: 1-Chlorooctadecane 83.9 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

Conoco Phillips - Hobbs
JUSTIN WRIGHT
P. O. BOX 325
Hobbs NM, 88240
Fax To: (575) 297-1477

Received: 02/13/2018
Reported: 02/19/2018
Project Name: EMERALD #6
Project Number: NONE GIVEN
Project Location: COPC - LEA CO NM

Sampling Date: 02/13/2018
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: PT #2 - 9' (H800456-12)

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	02/15/2018	ND	2.21	110	2.00	12.2	
Toluene*	<0.050	0.050	02/15/2018	ND	2.18	109	2.00	14.2	
Ethylbenzene*	<0.050	0.050	02/15/2018	ND	2.16	108	2.00	13.5	
Total Xylenes*	<0.150	0.150	02/15/2018	ND	6.29	105	6.00	12.7	
Total BTX	<0.300	0.300	02/15/2018	ND					

Surrogate: 4-Bromofluorobenzene (PIC) 101 % 72-148

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	02/15/2018	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	02/15/2018	ND	197	98.6	200	5.05	
DRO >C10-C28*	<10.0	10.0	02/15/2018	ND	216	108	200	24.8	
EXT DRO >C28-C36	<10.0	10.0	02/15/2018	ND					

Surrogate: 1-Chlorooctane 88.1 % 41-142

Surrogate: 1-Chlorooctadecane 81.7 % 37.6-147

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CELEY D. KEENE

CELEY D. KEENE, Lab Director/Quality Manager



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Analytical Results For:

Conoco Phillips - Hobbs
JUSTIN WRIGHT
P. O. BOX 325
Hobbs NM, 88240
Fax To: (575) 297-1477

Received:	02/13/2018	Sampling Date:	02/13/2018
Reported:	02/19/2018	Sampling Type:	Soil
Project Name:	EMERALD #6	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	COPC - LEA CO NM		

Sample ID: PT #2 - 11' (H800456-13)

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	02/15/2018	ND	2.21	110	2.00	12.2	
Toluene*	<0.050	0.050	02/15/2018	ND	2.18	109	2.00	14.2	
Ethylbenzene*	<0.050	0.050	02/15/2018	ND	2.16	108	2.00	13.5	
Total Xylenes*	<0.150	0.150	02/15/2018	ND	6.29	105	6.00	12.7	
Total BTEX	<0.300	0.300	02/15/2018	ND					

Surrogate: 4-Bromofluorobenzene (PIL) 101 % 72-148

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	02/15/2018	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	02/15/2018	ND	197	98.6	200	5.05	
DRO >C10-C28*	<10.0	10.0	02/15/2018	ND	216	108	200	24.8	
EXT DRO >C28-C36	<10.0	10.0	02/15/2018	ND					

Surrogate: 1-Chlorooctane 83.0 % 41-142

Surrogate: 1-Chlorooctadecane 76.9 % 37.6-147

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Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

Conoco Phillips - Hobbs
 JUSTIN WRIGHT
 P. O. BOX 325
 Hobbs NM, 88240
 Fax To: (575) 297-1477

Received: 02/13/2018
 Reported: 02/19/2018
 Project Name: EMERALD #6
 Project Number: NONE GIVEN
 Project Location: COPC - LEA CO NM

Sampling Date: 02/13/2018
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: PT #2 - 13' (H800456-14)

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	02/15/2018	ND	2.21	110	2.00	12.2		
Toluene*	<0.050	0.050	02/15/2018	ND	2.18	109	2.00	14.2		
Ethylbenzene*	<0.050	0.050	02/15/2018	ND	2.16	108	2.00	13.5		
Total Xylenes*	<0.150	0.150	02/15/2018	ND	6.29	105	6.00	12.7		
Total BTX	<0.300	0.300	02/15/2018	ND						

Surrogate: 4-Bromofluorobenzene (PIL) 101 % 72-148

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	02/15/2018	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	02/15/2018	ND	197	98.6	200	5.05	
DRO >C10-C28*	<10.0	10.0	02/15/2018	ND	216	108	200	24.8	
EXT DRO >C28-C36	<10.0	10.0	02/15/2018	ND					

Surrogate: 1-Chlorooctane 97.8 % 41-142

Surrogate: 1-Chlorooctadecane 94.6 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

Conoco Phillips - Hobbs
 JUSTIN WRIGHT
 P. O. BOX 325
 Hobbs NM, 88240
 Fax To: (575) 297-1477

Received:	02/13/2018	Sampling Date:	02/13/2018
Reported:	02/19/2018	Sampling Type:	Soil
Project Name:	EMERALD #6	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	COPC - LEA CO NM		

Sample ID: PT #3 - 1' (H800456-15)

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	02/15/2018	ND	2.21	110	2.00	12.2	
Toluene*	<0.050	0.050	02/15/2018	ND	2.18	109	2.00	14.2	
Ethylbenzene*	<0.050	0.050	02/15/2018	ND	2.16	108	2.00	13.5	
Total Xylenes*	<0.150	0.150	02/15/2018	ND	6.29	105	6.00	12.7	
Total BTEX	<0.300	0.300	02/15/2018	ND					

Surrogate: 4-Bromofluorobenzene (PIL) 102 % 72-148

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	02/15/2018	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	02/15/2018	ND	197	98.6	200	5.05	
DRO >C10-C28*	<10.0	10.0	02/15/2018	ND	216	108	200	24.8	
EXT DRO >C28-C36	<10.0	10.0	02/15/2018	ND					

Surrogate: 1-Chlorooctane 90.2 % 41-142

Surrogate: 1-Chlorooctadecane 84.6 % 37.6-147

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Clay D. Keene

Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

Conoco Phillips - Hobbs
 JUSTIN WRIGHT
 P. O. BOX 325
 Hobbs NM, 88240
 Fax To: (575) 297-1477

Received: 02/13/2018
 Reported: 02/19/2018
 Project Name: EMERALD #6
 Project Number: NONE GIVEN
 Project Location: COPC - LEA CO NM

Sampling Date: 02/13/2018
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: PT #3 - 3' (H800456-16)

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	02/15/2018	ND	2.21	110	2.00	12.2	
Toluene*	<0.050	0.050	02/15/2018	ND	2.18	109	2.00	14.2	
Ethylbenzene*	<0.050	0.050	02/15/2018	ND	2.16	108	2.00	13.5	
Total Xylenes*	<0.150	0.150	02/15/2018	ND	6.29	105	6.00	12.7	
Total BTX	<0.300	0.300	02/15/2018	ND					

Surrogate: 4-Bromofluorobenzene (PIL) 103 % 72-148

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	02/15/2018	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	02/15/2018	ND	197	98.6	200	5.05	
DRO >C10-C28*	<10.0	10.0	02/15/2018	ND	216	108	200	24.8	
EXT DRO >C28-C36	<10.0	10.0	02/15/2018	ND					

Surrogate: 1-Chlorooctane 98.2 % 41-142

Surrogate: 1-Chlorooctadecane 93.8 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

Conoco Phillips - Hobbs
 JUSTIN WRIGHT
 P. O. BOX 325
 Hobbs NM, 88240
 Fax To: (575) 297-1477

Received: 02/13/2018
 Reported: 02/19/2018
 Project Name: EMERALD #6
 Project Number: NONE GIVEN
 Project Location: COPC - LEA CO NM

Sampling Date: 02/13/2018
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: PT #3 - 5' (H800456-17)

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	02/15/2018	ND	2.21	110	2.00	12.2	
Toluene*	<0.050	0.050	02/15/2018	ND	2.18	109	2.00	14.2	
Ethylbenzene*	<0.050	0.050	02/15/2018	ND	2.16	108	2.00	13.5	
Total Xylenes*	<0.150	0.150	02/15/2018	ND	6.29	105	6.00	12.7	
Total BTEX	<0.300	0.300	02/15/2018	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 101 % 72-148

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	02/15/2018	ND	432	108	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	02/15/2018	ND	197	98.6	200	5.05	
DRO >C10-C28*	<10.0	10.0	02/15/2018	ND	216	108	200	24.8	
EXT DRO >C28-C36	<10.0	10.0	02/15/2018	ND					

Surrogate: 1-Chlorooctane 91.9 % 41-142

Surrogate: 1-Chlorooctadecane 87.1 % 37.6-147

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Analytical Results For:

Conoco Phillips - Hobbs
 JUSTIN WRIGHT
 P. O. BOX 325
 Hobbs NM, 88240
 Fax To: (575) 297-1477

Received: 02/13/2018
 Reported: 02/19/2018
 Project Name: EMERALD #6
 Project Number: NONE GIVEN
 Project Location: COPC - LEA CO NM

Sampling Date: 02/13/2018
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: PT #3 - 7' (H800456-18)

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	02/15/2018	ND	2.21	110	2.00	12.2	
Toluene*	<0.050	0.050	02/15/2018	ND	2.18	109	2.00	14.2	
Ethylbenzene*	<0.050	0.050	02/15/2018	ND	2.16	108	2.00	13.5	
Total Xylenes*	<0.150	0.150	02/15/2018	ND	6.29	105	6.00	12.7	
Total BTX	<0.300	0.300	02/15/2018	ND					

Surrogate: 4-Bromofluorobenzene (PIL) 101 % 72-148

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	02/15/2018	ND	432	108	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	02/15/2018	ND	197	98.6	200	5.05	
DRO >C10-C28*	<10.0	10.0	02/15/2018	ND	216	108	200	24.8	
EXT DRO >C28-C36	<10.0	10.0	02/15/2018	ND					

Surrogate: 1-Chlorooctane 90.3 % 41-142

Surrogate: 1-Chlorooctadecane 85.9 % 37.6-147

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Analytical Results For:

Conoco Phillips - Hobbs
 JUSTIN WRIGHT
 P. O. BOX 325
 Hobbs NM, 88240
 Fax To: (575) 297-1477

Received:	02/13/2018	Sampling Date:	02/13/2018
Reported:	02/19/2018	Sampling Type:	Soil
Project Name:	EMERALD #6	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	COPC - LEA CO NM		

Sample ID: PT #3 - 9' (H800456-19)

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	02/15/2018	ND	2.21	110	2.00	12.2	
Toluene*	<0.050	0.050	02/15/2018	ND	2.18	109	2.00	14.2	
Ethylbenzene*	<0.050	0.050	02/15/2018	ND	2.16	108	2.00	13.5	
Total Xylenes*	<0.150	0.150	02/15/2018	ND	6.29	105	6.00	12.7	
Total BTEX	<0.300	0.300	02/15/2018	ND					

Surrogate: 4-Bromofluorobenzene (PIL) 103 % 72-148

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	96.0	16.0	02/15/2018	ND	432	108	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	02/15/2018	ND	197	98.6	200	5.05	
DRO >C10-C28*	<10.0	10.0	02/15/2018	ND	216	108	200	24.8	
EXT DRO >C28-C36	<10.0	10.0	02/15/2018	ND					

Surrogate: 1-Chlorooctane 89.6 % 41-142

Surrogate: 1-Chlorooctadecane 85.6 % 37.6-147

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Analytical Results For:

Conoco Phillips - Hobbs
 JUSTIN WRIGHT
 P. O. BOX 325
 Hobbs NM, 88240
 Fax To: (575) 297-1477

Received: 02/13/2018
 Reported: 02/19/2018
 Project Name: EMERALD #6
 Project Number: NONE GIVEN
 Project Location: COPC - LEA CO NM

Sampling Date: 02/13/2018
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: PT #3 - 11' (H800456-20)

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	02/15/2018	ND	2.00	100	2.00	0.112	
Toluene*	<0.050	0.050	02/15/2018	ND	1.99	99.3	2.00	0.452	
Ethylbenzene*	<0.050	0.050	02/15/2018	ND	1.99	99.3	2.00	0.916	
Total Xylenes*	<0.150	0.150	02/15/2018	ND	5.77	96.1	6.00	1.08	
Total BTEx	<0.300	0.300	02/15/2018	ND					

Surrogate: 4-Bromofluorobenzene (PIL) 113 % 72-148

Chloride, SM4500Cl-B			mg/kg		Analyzed By: AC				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	192	16.0	02/15/2018	ND	432	108	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	02/15/2018	ND	197	98.6	200	5.05	
DRO >C10-C28*	<10.0	10.0	02/15/2018	ND	216	108	200	24.8	
EXT DRO >C28-C36	<10.0	10.0	02/15/2018	ND					

Surrogate: 1-Chlorooctane 87.8 % 41-142

Surrogate: 1-Chlorooctadecane 82.4 % 37.6-147

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Analytical Results For:

Conoco Phillips - Hobbs
 JUSTIN WRIGHT
 P. O. BOX 325
 Hobbs NM, 88240
 Fax To: (575) 297-1477

Received: 02/13/2018
 Reported: 02/19/2018
 Project Name: EMERALD #6
 Project Number: NONE GIVEN
 Project Location: COPC - LEA CO NM

Sampling Date: 02/13/2018
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: PT #3 - 13' (H800456-21)

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	02/16/2018	ND	1.93	96.4	2.00	0.257	
Toluene*	<0.050	0.050	02/16/2018	ND	1.87	93.4	2.00	1.08	
Ethylbenzene*	<0.050	0.050	02/16/2018	ND	1.86	92.9	2.00	0.341	
Total Xylenes*	<0.150	0.150	02/16/2018	ND	5.51	91.8	6.00	0.357	
Total BTEX	<0.300	0.300	02/16/2018	ND					

Surrogate: 4-Bromofluorobenzene (PIL) 99.6 % 72-148

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	02/15/2018	ND	432	108	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	02/15/2018	ND	197	98.6	200	5.05	
DRO >C10-C28*	<10.0	10.0	02/15/2018	ND	216	108	200	24.8	
EXT DRO >C28-C36	<10.0	10.0	02/15/2018	ND					

Surrogate: 1-Chlorooctane 93.6 % 41-142

Surrogate: 1-Chlorooctadecane 89.1 % 37.6-147

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Received by OCD: 2/16/2023 2:42:00 PM

Released to Imaging: 2/20/2023 8:03:06 AM



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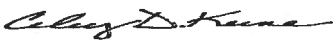
Notes and Definitions

- QR-02 The RPD result exceeded the QC control limits; however, both percent recoveries were acceptable. Sample results for the QC batch were accepted based on percent recoveries and completeness of QC data.
- 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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101 East Marland, Hobbs, NM 88240
(575) 393-2326 Fax (575) 393-2476

Page 1 of 3

Company Name: <u>Conoco Phillips</u>		P.O. #:		BILL TO																																					
Project Manager: <u>Justin Wright</u>		Company: <u>CDR</u>		ANALYSIS REQUEST																																					
Address:		Attn:																																							
City: <u>Hobbs</u>		State: <u>NM</u> Zip: <u>88240</u>																																							
Phone #: <u>575-431-4000</u>		Fax #:																																							
Project #:		Project Owner: <u>CDR</u>																																							
Project Name: <u>Emerald #16</u>		City:																																							
Project Location: <u>Lea County, NM</u>		State: Zip:																																							
Sampler Name: <u>Justin Wright</u>		Phone #:																																							
For Lab Use Only:		Fax #:																																							
Lab I.D.		Sample I.D.		(G)RAB OR (C)OMP.		# CONTAINERS		MATRIX		PRESERV.		SAMPLING																													
				GROUNDWATER		WASTEWATER		SOIL		OIL		SLUDGE		OTHER:		ACID/BASE		ICE / COOL		OTHER		DATE		TIME																	
H800456		PT#1-1'		✓		✓		✓		✓		✓		✓		✓		✓		✓		2-13-18		✓		TPH		BTEX		Chlorides											
1		PT#1-3'		✓		✓		✓		✓		✓		✓		✓		✓		✓		2-13-18		✓																	
2		PT#1-5'		✓		✓		✓		✓		✓		✓		✓		✓		✓		2-13-18		✓																	
3		PT#1-7'		✓		✓		✓		✓		✓		✓		✓		✓		✓		2-13-18		✓																	
4		PT#1-9'		✓		✓		✓		✓		✓		✓		✓		✓		✓		2-13-18		✓																	
5		PT#1-11'		✓		✓		✓		✓		✓		✓		✓		✓		✓		2-13-18		✓																	
6		PT#1-13'		✓		✓		✓		✓		✓		✓		✓		✓		✓		2-13-18		✓																	
7		PT#2-1'		✓		✓		✓		✓		✓		✓		✓		✓		✓		2-13-18		✓																	
8		PT#2-3'		✓		✓		✓		✓		✓		✓		✓		✓		✓		2-13-18		✓																	
9		PT#2-5'		✓		✓		✓		✓		✓		✓		✓		✓		✓		2-13-18		✓																	
10		PT#2-7'		✓		✓		✓		✓		✓		✓		✓		✓		✓		2-13-18		✓																	

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising under this contract 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 accidental or consequential damages, including without limitation, business interruption, 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 rendered by Cardinal. Regardless of whether such claim is based upon any of the above stated reasons or otherwise.

Terms and Conditions: Invoices will be charged on all accounts more than 30 days past due at the rate of 24% per annum from the original date of invoice, and all costs of collection, including attorney's fees.

Sampler Relinquished: Justin Wright Date: 2-13-18 Received By: Justina Wright Date: 2-13-18 Time: 9:40

Relinquished By: Justin Wright Date: 2-13-18 Received By: Justina Wright Date: 2-13-18 Time: 9:40

Delivered By: (Circle One) 2.38 Temp. 2.38 Sample Condition Yes ☒ Yes ☐ No ☐ No 72.45 CHECKED BY: Justina Wright (Initials)

Sampler - UPS - Bus - Other: Delivered 2.38

REMARKS: Phone Result: ☐ Fax Result: ☐ Add'l Phone #: Add'l Fax #:

† Cardinal cannot accept verbal changes. Please fax written changes to 575-393-2476.



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

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[illegible]

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ATTACHMENT D

Photographic Documentation



TETRA TECH, INC. PROJECT NO. 212C-MD-01796	DESCRIPTION	View southeast of formerly impacted surface area.	1
	SITE NAME	Emerald Federal No. 6 Flowline Release	10/24/2019



TETRA TECH, INC. PROJECT NO. 212C-MD-01796	DESCRIPTION	View south of formerly impacted surface area.	2
	SITE NAME	Emerald Federal No. 6 Flowline Release	10/24/2019



TETRA TECH, INC. PROJECT NO. 212C-MD-01796	DESCRIPTION	View southwest of the former impacted surface area, facing northwest.	3
	SITE NAME	Emerald Federal No. 6 Flowline Release	10/24/2019



TETRA TECH, INC. PROJECT NO. 212C-MD-01796	DESCRIPTION	View northeast of the former impacted surface area. Impacted area was on north side of pipe.	4
	SITE NAME	Emerald Federal No. 6 Flowline Release	10/24/2019



TETRA TECH, INC. PROJECT NO. 212C-MD-01796	DESCRIPTION	View east of the well pad south of the well head.	5
	SITE NAME	Emerald Federal No. 6 Flowline Release	10/24/2019



TETRA TECH, INC. PROJECT NO. 212C-MD-01796	DESCRIPTION	View east of the well pad.	6
	SITE NAME	Emerald Federal No. 6 Flowline Release	10/24/2019

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 187323

CONDITIONS

Operator: Maverick Permian LLC 1111 Bagby Street Suite 1600 Houston, TX 77002	OGRID: 331199
	Action Number: 187323
	Action Type: [IM-SD] Incident File Support Doc (ENV) (IM-BNF)

CONDITIONS

Created By	Condition	Condition Date
bhall	Depth to groundwater determination is inadequate but all samples meet the most stringent standards of Table I. Closure approved.	2/20/2023