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



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.

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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 SM4500CI-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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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 <u>christian.llull@tetratech.com</u>.

Sincerely,

Christian M. Llull Project Manager Tetra Tech, Inc.

FIGURES





TABLES

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

											ТРН ³										
Sample ID	Sample Date	Sample Depth	Chloride ¹	L	Benzene		Toluene		Ethylbenzene	Total	vlene		Total BTE	,	GRO		DRO		EXT DRO		ТРН
					Denzene		roluciie			Total	yiene.	, ,	Total DTE	TOTAL DIEX			>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 C	mg/k	g	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg
		1-2	208		< 0.050		< 0.050		< 0.050	< 0.1	0		< 0.300		< 10.0		< 10.0		< 10.0		-
		3-4	1040		< 0.050		< 0.050		< 0.050	< 0.1	0		< 0.300		< 10.0		< 10.0		< 10.0		-
		5-6	560		< 0.050		< 0.050		< 0.050	< 0.1	0		< 0.300		< 10.0		< 10.0		< 10.0		-
PT #1	02/13/18	7-8	480		< 0.050		< 0.050		< 0.050	< 0.1	0		< 0.300		< 10.0		< 10.0		< 10.0		-
		9-10	240		< 0.050		< 0.050		< 0.050	< 0.1	0		< 0.300		< 10.0		< 10.0		< 10.0		-
		11-12	240		< 0.050		< 0.050		< 0.050	< 0.1	0		< 0.300		< 10.0		< 10.0		< 10.0		-
		13-14	736		< 0.050		< 0.050		< 0.050	< 0.1	0		< 0.300		< 10.0		< 10.0		< 10.0		-
1-2 16.0 < 0.050 < 0.050 < 0.050 < 0.150 < 0.300 < 10.0 < 10.0 < 10.0 < 10.0 < 10.0 < 10.0 < 10.0 < 10.0 < 10.0 < 10.0 < 10.0 < 10.0 < 10.0 < 10.0 < 10.0 < 10.0 < 10.0 < 10.0 < 10.0 < 10.0 < 10.0 < 10.0 < 10.0 < 10.0 < 10.0 < 10.0 < 10.0 < 10.0 < 10.0 < 10.0 < 10.0 < 10.0 < 10.0 < 10.0 < 10.0 < 10.0 < 10.0 < 10.0 < 10.0 < 10.0 < 10.0 < 10.0 < 10.0 < 10.0 < 10.0 < 10.0 < 10.0 < 10.0 < 10.0 < 10.0 < 10.0 < 10.0 < 10.0 < 10.0 < 10.0 < 10.0 < 10.0 < 10.0 < 10.0 < 10.0 < 10.0 < 10.0 < 10.0 < 10.0 < 10.0 < 10.0 < 10.0 < 10.0 < 10.0 < 10.0 < 10.0 < 10.0 < 10.0 < 10.0 < 10.0 < 10.0 < 10.0 < 10.0<																					
		3-4	16.0		< 0.050		< 0.050		< 0.050	< 0.1			< 0.300				< 10.0		< 10.0		-
		-								-					< 10.0						-
PT #2	02/13/18	5-6 7-8	< 16.0 16.0		< 0.050 < 0.050		< 0.050		< 0.050 < 0.050	< 0.1	-		< 0.300		< 10.0 < 10.0		< 10.0		< 10.0 < 10.0		-
P1 #2	02/13/18									-											-
		9-10	< 16.0		< 0.050		< 0.050		< 0.050	< 0.1			< 0.300		< 10.0		< 10.0		< 10.0		-
		11-12	< 16.0		< 0.050		< 0.050		< 0.050	< 0.1			< 0.300		< 10.0		< 10.0		< 10.0		-
		13-14	< 16.0		< 0.050		< 0.050		< 0.050	< 0.1	0		< 0.300		< 10.0		< 10.0		< 10.0		-
		1-2	16.0		< 0.050		< 0.050		< 0.050	< 0.1	0		< 0.300		< 10.0		< 10.0		< 10.0		-
		3-4	< 16.0		< 0.050		< 0.050		< 0.050	< 0.1	0		< 0.300		< 10.0		< 10.0		< 10.0		-
		5-6	< 16.0		< 0.050		< 0.050		< 0.050	< 0.1	0		< 0.300		< 10.0		< 10.0		< 10.0		-
PT #3	02/13/18	7-8	256		< 0.050		< 0.050		< 0.050	< 0.1	0		< 0.300		< 10.0		< 10.0		< 10.0		-
		9-10	96.0		< 0.050		< 0.050		< 0.050	< 0.1	0		< 0.300		< 10.0		< 10.0		< 10.0		-
		11-12	192		< 0.050		< 0.050		< 0.050	< 0.1	0		< 0.300		< 10.0		< 10.0		< 10.0		-
		13-14	224		< 0.050		< 0.050		< 0.050	< 0.1	0		< 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 SM4500CI-B
- 2 Method 8021B

3 Method 8015M

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

					BTEX ² TPH ³									H ³	3						
Sample ID	Sample Date	Sample Depth	Chloride	1	Benzene		Toluene		Ethylhona	Ethylbenzene			Total BTEX		GRO		DRO		EXT DRO		ТРН
					Delizene	-	roluelle		Ethylbenz	ene	Total Xyler	ies	TOLAT DIE	^	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
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 Method SM4500Cl-B
 Method 8021B

Bold and italicized values indicate exceedance of proposed RRALs.

TPH Total Petroleum Hydrocarbons

- GRO Gasoline Range Organics
- DRO Diesel Range Organics

3 Method 8015M

ATTACHMENT A C-141 Forms

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State of New Mexico Energy Minerals and Natural Resources

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

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Form C-141 Revised August 8, 2011

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

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1220 S. SI. FIAI	icis Di., Salla	a 1°C, 18181 87303	,	Sa	nta F	e, NM 875	05									
			Rele	ease Notific	atio	n and Co	orrective A	ctio	n							
						OPERA '	ГOR		🛛 Initia	al Report		Final Report				
Name of Co	ompany: C	onocoPhilli	ps			Contact: Cu	llen Rosine			1		1				
		Complex L	ane			Telephone No. 575-391-3133										
Facility Nat	me: Emera	ld Federal 6				Facility Type: Well Site										
Surface Ow	ner: Feder	al		Mineral C	wner:	N/A			API No	.30-025-40)892					
				LOCA	TIO	N OF RE	LEASE									
Unit Letter H	Section 17		/South Line	Feet from the	East/	West Line	County Lea									
			Lat	t itude <u>32.8369</u> 2	255	Longitu	le	252								
				NAT	'URE	OF REL										
Type of Rele	ase: Oil an	d Produced	Water	1111	UNL		Release: 2BO 4	BPW	Volume F	Recovered:0	BBL					
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Was Immedi	ate Notice (Yes] No 🗌 Not Re	equired	If YES, To Shelly Tuc										
By Whom?	Cullen Rosi	ne				Date and Hour: 4-17-2017 0820 hours via phone										
Was a Water	course Read	ched?		_			olume Impacting									
			Yes 🗵	No												
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Area 1 – 126	ift x 51ft x 1															
regulations a public health should their or the enviro	Il operators or the environment operations h nment. In a	are required t ronment. The ave failed to a	o report an acceptance adequately OCD accept	e is true and comp nd/or file certain ro- ce of a C-141 repo v investigate and ro- ptance of a C-141	elease r ort by th emediat	notifications a ne NMOCD m te contaminati	nd perform correct arked as "Final R on that pose a thu	ctive ac Report" reat to g	tions for relations for relations for relations for relations and relations for the relationship of the re	eases which ieve the ope c, surface wa	may en rator of ater, hu	ndanger liability man health				
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Printed Nam	e: Cullen Ro	osine			Approved by	Environmental S	Speciali	st:	Q							
Title: HSE S	pecialist					Approval Da	_{te:} 4/17/2017	7	Expiration	Date:						
E-mail Addro	E-mail Address: Cullen.J.Rosine@conocophillips.com						Conditions of Approval: See attached directive Attached Image: A									
Date: 4-17-2	017		Ph	ione:575-391-313	3											
* Attach Addi		ets If Necess			1											
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Page 6

Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

Closure

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

<u>Closure Report Attachment Checklist</u> : Each of the following it	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 OD	C District office must be notified 2 days prior to final sampling)										
Description of remediation activities											
and regulations all operators are required to report and/or file certaid may endanger public health or the environment. The acceptance of should their operations have failed to adequately investigate and rem human health or the environment. In addition, OCD acceptance of compliance with any other federal, state, or local laws and/or regular restore, reclaim, and re-vegetate the impacted surface area to the co- accordance with 19.15.29.13 NMAC including notification to the O	ations. The responsible party acknowledges they must substantially onditions that existed prior to the release or their final land use in OCD when reclamation and re-vegetation are complete.										
Printed Name:	Date:										
email:	Telephone:										
OCD Only											
Received by:	Date:										
	of liability should their operations have failed to adequately investigate and water, human health, or the environment nor does not relieve the responsible for regulations.										
Closure Approved by: Buttan Hall	Date: <u>2/20/2023</u>										
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=PO been re O=orph C=the f closed)	eplaced naned, file is	(quai						IE 3=SW	,	3 UTM in meters)		(In feet	t)
POD Number	:	POD Sub- basin C		Q	Q	Q			0,	X	Y	-	Depth	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					17S		616556	3635929 🥘	160	125	35
RA 12521 POD1		RA	LE					17S		615127	3631271 🥘	105	92	13
location was derived from PL	SS - see			-	-		-	-			-			

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

ved by OCD: 2/16/2023 2.													Page 15
(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)	(quar						IE 3=SW largest)	,	3 UTM in meters)		(In feet	;)
POD Number	POD Sub- Code basin (County	-	Q 16			Tws	Rng	x	Y	-	-	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 f	eet
										Minimum	Depth:	75 f	eet
										Maximum	Depth:	200 f	eet

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.



ATTACHMENT C Laboratory Analytical Data



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 accreditated 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,

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

Celey D.Keine

Celey D. Keene Lab Director/Quality Manager



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: WALL #1 (H800968-01)

BTEX 8021B	mg,	/kg	Analyze	d 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.I	% 72-148							
Chloride, SM4500CI-B	mg/	kg	Analyze	d 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	Analyze	d 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 9	6 41-142							
Surrogate: 1-Chlorooctadecane	73.2 9	6 37.6-147							

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Celey D. Keene, Lab Director/Quality Manager

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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: WALL #2 (H800968-02)

BTEX 8021B	mg,	/kg	Analyze	d 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	Analyze	d 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	Analyze	d 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	7						

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Celey D. Keene, Lab Director/Quality Manager

Page 3 of 11



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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: WALL #3 (H800968-03)

BTEX 8021B	mg,	/kg	Analyze	d 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 5	% 72-148					,		
Chloride, SM4500Cl-B	mg/	kg	Analyze	d 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	Analyze	d 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	79.79	6 41-142				<u></u>			
Surrogate: 1-Chlorooctadecane	71.69	6 37.6-147							

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Celey D. Keene, Lab Director/Quality Manager

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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: WALL #4 (H800968-04)

BTEX 8021B	mg/	/kg	Analyze	d By: MS		<u>.</u>			
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-Bromofluorobensene (PIL	95.7	% 72-148							
Chloride, SM4500Cl-B	mg/	'kg	Analyze	d 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	Analyze	d 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	7						

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Celey D. Keene, Lab Director/Quality Manager



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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: WALL #5 (H800968-05)

BTEX 8021B	mg/	kg	Analyze	d 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 9	% 72-148							
Chioride, SM4500CI-B	mg/	kg	Analyze	d 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	Analyze	d By: MS			<u> </u>		
Anaiyte	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	85.79	6 41-142							
Surrogate: 1-Chlorooctadecane	76.8 %	6 37.6-147	7						

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Celey D. Keene, Lab Director/Quality Manager

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

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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: WALL #6 (H800968-06)

BTEX 8021B	mg/	/kg	Analyze	d 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	Analyze	d 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	Analyze	d 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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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	Analyze	ed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifie
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 9	6 72-148	· · · · · · · · · · · · · · · · · · ·		·· _				
Chloride, SM4500CI-B	mg/l	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/l	(g	Analyze	d 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 %	6 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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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: #1 - 13' (H800968-08)

BTEX 8021B	mg	'kg	Analyze	d 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	93.9	% 72-148							
Chloride, SM4500CI-B	mg	/kg	Analyze	d 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	
трн 8015м	mg,	/kg	Analyze	d 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	% 37.6-142	7						

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Celez Dike

Celey D. Keene, Lab Director/Quality Manager



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.
2	Chloride by SM4500CI-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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Celley D. Keine

Celey D. Keene, Lab Director/Quality Manager

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CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

101 East Marland, Hobbs, NM 88240

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city: Hotels		State: NM	N	Zip: 88,410	8	0			-	Attn:																<u>.</u>					
Phone #: 575-631-9092		Fax #:						ľ	_	ad	Address	"															 				
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FOR LAB USE ONLY	0		Ρ.				MATRIX		4		PRESERV.			SAMPLING	ด็																
Lab I.D. HS10968	Sample I.D.	-	(G)RAB OR (C)OM	# CONTAINERS	GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER:	ACID/BASE: ICE / COOL	OTHER:	OTTIER.	DATE	TIME	Chlorides	BTEX	TPH								ang kalalang san					
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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 accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab accred certif.html.

Cardinal Laboratories is accreditated 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,

Celeg D. Keine

Celey D. Keene Lab Director/Quality Manager



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	Analyze	d 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	94.7	% 72-148							·
Chloride, SM4500CI-B	mg/	kg	Analyze	d 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	Analyze	d 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 9	6 41-142							
Surrogate: 1-Chlorooctadecane	71.09	6 37.6-147							

Cardinal Laboratories

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Celeg D. Keen

Celey D. Keene, Lab Director/Quality Manager

*=Accredited Analyte



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 #5 (H801057-02)

BTEX 8021B	mg,	/kg	Analyze	d By: MS			<u></u>		
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, SM4500CI-B	mg	/kg	Analyze	d 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	Analyze	d 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. I	% 41-142							
Surrogate: 1-Chlorooctadecane	71.0	% 37.6-14	7						

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*=Accredited Analyte

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Celey D.K.

Celey D. Keene, Lab Director/Quality Manager

Page 3 of 7



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 #6 (H801057-03)

BTEX 8021B	mg/	kg	Analyze	ed 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 9	6 72-148							
Chloride, SM4500CI-B	mg/	kg	Analyze	d 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	Analyze	d 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 %	6 41-142							
Surrogate: 1-Chlorooctadecane	69.5 %	6 37.6-147	,						

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Celeg D.Ka

Celey D. Keene, Lab Director/Quality Manager

*=Accredited Analyte



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 #7 (H801057-04)

BTEX 8021B	mg,	/kg	Analyze	d 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	Analyze	d 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	Analyze	d 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	7						

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Celeg D.K.

Celey D. Keene, Lab Director/Quality Manager

*=Accredited Analyte



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 SM4500CI-B does not require samples be received at or below 6°C

Samples reported on an as received basis (wet) unless otherwise noted on report

Cardinal Laboratories

*=Accredited Analyte

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Celleg D. Kuna

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

L	Conoto Phillips		BILL TO		ANAI VOIC	
Project Manager:	Justin Wright		P.O. #:			
Address:			Company: Conco Philling	Pulla		
city: Hobbs	State: NM 2	Zip: 88240	Attn:			
Phone #: 575-			Address:			
Project #:	Project Owner:	COR	City:			
Project Name: En	Emerald le		State: Zin:			
Project Location:	lea County, NM		ŧ			
	Justin Whicht		Fav #			
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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 accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab accredited certif.html.

Cardinal Laboratories is accreditated 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.Kune

Celey D. Keene Lab Director/Quality Manager



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	Analyze	ed 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 9	6 72-148							·
Chioride, SM4500CI-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/l	(g	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 %	6 41-142							
Surrogate: 1-Chlorooctadecane	68.5 %	37.6-147	7						

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Celez D.Kee

Celey D. Keene, Lab Director/Quality Manager

*=Accredited Analyte

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



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 - 15' (H801059-02)

BTEX 8021B	mg/	kg	Analyze	d 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	96.3 \$	% 72- <i>14</i> 8							
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	8S	% 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 %	6 41-142							
Surrogate: 1-Chlorooctadecane	67.7 9	37.6-14	7						

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Celuz D.Ken

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 SM4500CI-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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CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

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New Mexico Office of the State Engineer Water Column/Average Depth to Water

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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/ga/lab accredited rettif.html.

Cardinal Laboratories is accreditated 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,

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

Celey D. Keine

Celey D. Keene Lab Director/Quality Manager



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		/kg	Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifie
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 9	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	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 %	6 41-142							

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Celeg D. Kee

Celey D. Keene, Lab Director/Quality Manager

*=Accredited Analyte



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)

BTEX 8021B	mg	/kg	Analyze	d 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 9	% 72-148					··· · ·		
Chloride, SM4500Cl-B	mg/	/kg	Analyze	d 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	Analyze	d 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	% 37.6-14%	7						

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*=Accredited Analyte

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Celeg D.Ke



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 - 5' (H800456-03)

BTEX 8021B	mg/	kg	Analyze	ed 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 %	6 72-148							
Chloride, SM4500CI-B	mg/l	kg	Analyze	d 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/l	(g	Analyze	d 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%	6 41-142							
Surrogate: 1-Chlorooctadecane	76.1 %	37.6-147							

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Received:	02/13/2018	40 C	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)

BTEX 8021B	mg/	kg	Analyze	d 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 9	% 72-148							
Chloride, SM4500Cl-B	mg/	kg	Analyze	d 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	Analyze	d 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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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 - 9' (H800456-05)

BTEX 8021B	mg,	/kg	Analyza	ed 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 9	% 72-148							
Chloride, SM4500Cl-B	mg/	kg	Analyze	d 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	Analyze	d 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 9	6 41-142							
Surrogate: 1-Chlorooctadecane	75.7 %	6 37.6-147							

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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 - 11' (H800456-06)

BTEX 8021B	mg,	'kg	Analyze	d 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	Analyze	d 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	Analyze	d 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	37.6-14	7						

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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 - 13' (H800456-07)

BTEX 8021B	mg/	kg	Analyze	ed 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 %	6 72-148							
Chloride, SM4500Cl-B	mg/	kg	Analyze	d 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	Analyze	d 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 %	6 41-142		<u> </u>		<u> </u>			
Surrogate: 1-Chlorooctadecane	92.2 %	6 37.6-147							

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Received:	02/13/2018		Sampling Date:	02/13/2018
Reported:	02/19/2018	83	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 - 1' (H800456-08)

BTEX 8021B	mg/	kg	Analyze	d 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 9	6 72-148							
Chloride, SM4500Cl-B	mg/	kg	Analyze	d By: AC			<u></u>		
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	Analyze	d 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	31
EXT DRO >C28-C36	<10.0	10,0	02/15/2018	ND					
Surrogate: 1-Chlorooctane	93.7 9	6 41-142							
Surrogate: 1-Chlorooctadecane	97.9 9	6 37.6-142	7						

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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	Analyz	ed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifie
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 %	6 72-148		·					
Chloride, SM4500Cl-B	mg/l	cg	Analyze	d 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/k	g	Analyze	d 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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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 - 5' (H800456-10)

BTEX 8021B	mg/	kg	Analyze	d 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 9	6 72-148	1						
Chloride, SM4500CI-B	mg/	kg	Analyze	d 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	Analyze	d 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	37.6-14	7						

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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 - 7' (H800456-11)

BTEX 8021B	mg/	kg	Analyz	ed 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 %	5 72-148							
Chloride, SM4500Cl-B	mg/k	g	Analyze	ed 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/k	g	Analyze	d 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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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 - 9' (H800456-12)

BTEX 8021B	mg/	kg	Analyze	d 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 9	6 72-148							
Chloride, SM4500Cl-B	mg/	kg	Analyze	d By: AC	<u>.</u>				
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	Analyze	d 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 9	% 41-142							
Surrogate: 1-Chlorooctadecane	81.7 9	37.6-14	7						

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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	Analyz	ed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifie
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 %	6 72-148				·			
Chloride, SM4500CI-B	mg/l	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/l	(g	Analyze	d 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 %	<i>41-142</i>			<u> </u>				
Surrogate: 1-Chlorooctadecane	76.9 %	37.6-147							

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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 - 13' (H800456-14)

BTEX 8021B	mg	/kg	Analyze	d 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, SM4500CI-B	mg,	/kg	Analyze	d 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	Analyze	d 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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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	Analyz	ed 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 %	6 72-148							
Chloride, SM4500CI-B	mg/	kg a	Analyze	d 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/l	۷g	Analyze	d 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 %	5 41-142							
Surrogate: 1-Chlorooctadecane	84.6%	37.6-147							

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Received:	02/13/2018	Sampling Date:		02/13/2018
Reported:	02/19/2018	Sampling Type:		Soil
Project Name:	EMERALD #6	Sampling Condition:	24	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:		Tamara Oldaker
Project Location:	COPC - LEA CO NM			

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

BTEX 8021B	mg	/kg	Analyze	d 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 9	% 72-148							
Chloride, SM4500CI-B	mg/	'kg	Analyze	d 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	Analyze	d 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 9	% 41-142							
Surrogate: 1-Chlorooctadecane	93.8 9	% 37.6-147	,						

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Celey D. Keene, Lab Director/Quality Manager

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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 - 5' (H800456-17)

BTEX 8021B	mg	'kg	Analyze	ed 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 9	6 72-148							
Chloride, SM4500Cl-B	mg/	kg	Апајуze	d 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	Analyze	d 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	91.99	6 41-142				-			
Surrogate: 1-Chlorooctadecane	87.1 9	6 37.6-147							

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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 - 7' (H800456-18)

BTEX 8021B	mg	/kg	Analyze	d 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 9	% 72-148							
Chloride, SM4500Cl-B	mg/	/kg	Analyze	d 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	Analyze	d 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	% 37.6-142	7						

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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	Analyze	ed 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 9	6 72-148					<u> </u>		
Chloride, SM4500CI-B	mg/	kg	Analyze	d 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	Analyze	d By: MS				2	
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 %	6 41-142	· ·						
Surrogate: 1-Chlorooctadecane	85.6%	6 37.6-147							

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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 - 11' (H800456-20)

BTEX 8021B	mg/	kg	Analyze	d 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 9	6 72-148							
Chloride, SM4500Cl-B	mg/	kg	Analyze	d 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	Analyze	d 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	37.6-14	7						

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*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

Page 21 of 26



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 - 13' (H800456-21)

BTEX 8021B	mg/	kg	Analyz	ed 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	99.69	6 72-148							
Chioride, SM4500CI-B	mg/l	(g	Analyze	d 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/k	g	Analyze	d 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		<u> </u>					. <u> </u>
Surrogate: 1-Chlorooctadecane	89.1 %	37.6-147							

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

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

Celez D.1 See



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

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ATTACHMENT D Photographic Documentation



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



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



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



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



TETRA TECH, INC. PROJECT NO.	DESCRIPTION	View east of the well pad south of the well head.	5
212C-MD-01796	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

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

CONDITIONS

Created By		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

Action 187323