



May 1, 2019

Mike Bratcher
Oil Conservation Division, District 2
811 S First St.
Artesia, NM 88210

Crystal Weaver
Bureau of Land Management, CFO
620 E. Green Street
Carlsbad, NM 88220

Closure Report
Unocal HPC Federal #001
API#: 30-015-26774
RP#: 2RP-5043
DOR: October 23, 2018
GPS: 32.4232864, -103.7293396
Unit Letter G, Section 1, Township 22 South, Range 31 East
Eddy County, New Mexico

Mr. Bratcher/Ms. Weaver,

COG Operating, LLC (COG) is pleased to submit the following closure report in response to a release that occurred at the Unocal HPC Federal #001 Tank Battery. The release is located in Unit Letter G, Section 1, Township 22 South and Range 31 East in Eddy County, New Mexico. More specifically the latitude and longitude for the release are 32.4232864 North and -103.7293396 West.

BACKGROUND

The release was discovered on October 23, 2018. A C-141 initial report was submitted to the New Mexico Oil Conservation Division (NMOCD) and the Bureau of Land Management (BLM). The initial C-141 is presented in Appendix A. A tank overflow resulted in the release of approximately forty (40) barrels (bbls) of oil. Vacuum trucks were utilized to recover approximately thirty-six (36) bbls of oil. The fluid remained inside the berms of the battery. A hand auger was utilized to collect soil samples from the impacted area.

GROUNDWATER AND REGULATORY FRAMEWORK

According to the United States Geological Survey (USGS) the nearest water well with measurement data (322333103461401) indicates that groundwater in the project vicinity is approximately one-hundred and twenty-five (125) feet below ground surface (BGS). The water well information is shown in Appendix B.

A risk based evaluation and site determinations were performed in accordance to the New Mexico Oil Conservation Division (NMOCD) Rule (Title 19 Chapter 15 Part 29) for releases on oil and gas development and production in New Mexico (effective August 14, 2018). According to the site characterization evaluation, no other receptors (water wells, playas, karst, water course, lake beds or ordinance boundaries) were located within each specific boundaries or distance from the site. The groundwater data and the site characterization evaluation data is summarized in Appendix B. The delineation and closure criteria are listed below:

GENERAL SITE CHARACTERIZATION AND GROUNDWATER:

Site Characterization	Average Groundwater Depth (ft.)
None Located	>100 feet

DELINEATION AND CLOSURE CRITERIA:

Recommended Remedial Action Levels (RRALs)	
Chlorides	20,000 mg/kg
TPH (GRO and DRO and MRO)	2,500 mg/kg
TPH (GRO and DRO)	1,000 mg/kg
Benzene	10 mg/kg
Total BTEX	50 mg/kg

Remedial Actions

- The impacted area in the vicinity of sample locations AH-1 and AH-3 was excavated to a depth of one (1) foot BGS.
- The impacted area in the vicinity of sample location AH-2 was excavated to a depth of three (3) feet BGS.
- All of the excavated material was hauled to an NMOCD approved solid waste disposal facility.
- Confirmation soil samples were taken from the excavation per NMAC 19.15.29 and the approved sampling plan.

- Upon receipt of acceptable analytical results from the confirmation soil sampling activities the excavation was backfilled with clean “like” material.

SITE RECLAMATION AND RESTORATION

All of the fluid remained on the well pad. No reclamation activities will be required at this site.

CLOSURE REQUEST

COG Operating, LLC respectfully requests that the New Mexico Oil Conservation Division and the Bureau of Land Management grant closure approval for the Unocal HPC Federal #001 incident that occurred on October 23, 2018.

Should you have any questions or concerns please do not hesitate to contact me.

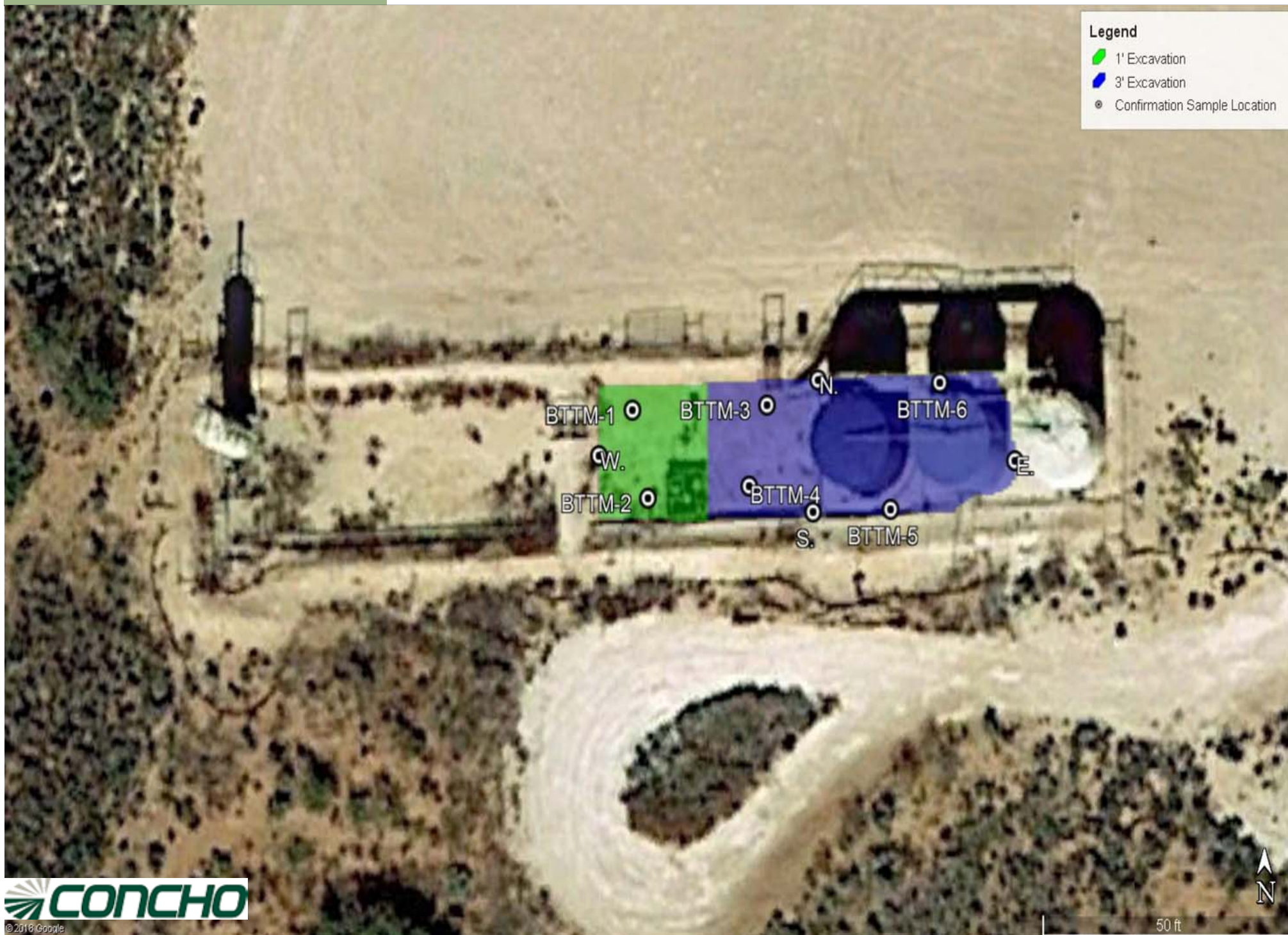
Sincerely,



Sheldon L. Hitchcock
HSE Coordinator
slhitchcock@concho.com

FIGURES

Unocal HPC Federal #001



TABLES

Table 1
COG Operating LLC.
Unocal Federal Oil Battery #001 (10/23/2018)
Eddy County, New Mexico

Sample ID	Sample Depth (ft)	Sample Date	Soil Status		TPH (mg/kg)						Benzene (mg/kg)	Total BTEX (mg/kg)	Chloride (mg/kg)	
			In-Situ	Removed	GRO	DRO	MRO	Total	GRO	DRO				Total
NMOCD RRAL Limits (mg/kg)					-	-	-	2,500	-	-	1,000	10	50	20,000
BTTM-1	1	3/13/2019	X		<10.0	<10.0	<10.0	0.0	<10.0	<10.0	0.0	<0.050	<0.300	32
BTTM-2	1	3/13/2019	X		<10.0	<10.0	<10.0	0.0	<10.0	<10.0	0.0	<0.050	<0.300	32
BTTM-3	3	3/31/2019	X		<10.0	<10.0	<10.0	0.0	<10.0	<10.0	0.0	<0.050	<0.300	32
BTTM-4	3	3/13/2019	X		<10.0	<10.0	<10.0	0.0	<10.0	<10.0	0.0	<0.050	<0.300	32
BTTM-5	3	3/13/2019	X		<10.0	<10.0	<10.0	0.0	<10.0	<10.0	0.0	<0.050	<0.300	32
BTTM-6	3	3/31/2019	X		<10.0	<10.0	<10.0	0.0	<10.0	<10.0	0.0	<0.050	<0.300	32
NORTH	N/A	3/13/2019	X		<10.0	<10.0	<10.0	0.0	<10.0	<10.0	0.0	<0.050	<0.300	16
SOUTH	N/A	3/13/2019	X		<10.0	<10.0	<10.0	0.0	<10.0	<10.0	0.0	<0.050	<0.300	<16.0
EAST	N/A	3/31/2019	X		<10.0	<10.0	<10.0	0.0	<10.0	<10.0	0.0	<0.050	<0.300	<16.0
WEST	N/A	3/13/2019	X		<10.0	<10.0	<10.0	0.0	<10.0	<10.0	0.0	<0.050	<0.300	<16.0

APPENDIX A

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

State of New Mexico
Energy Minerals and Natural
Resources Department

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

Form C-141
Revised August 24, 2018
Submit to appropriate OCD District office

Incident ID	
District RP	
Facility ID	
Application ID	

Release Notification

Responsible Party

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

Location of Release Source

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

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

Unit Letter	Section	Township	Range	County

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

Nature and Volume of Release

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

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

Cause of Release

Incident ID	
District RP	
Facility ID	
Application ID	

Was this a major release as defined by 19.15.29.7(A) NMAC? <input type="checkbox"/> Yes <input type="checkbox"/> No	If YES, for what reason(s) does the responsible party consider this a major release?
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)?	

Initial Response

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

<input type="checkbox"/> The source of the release has been stopped. <input type="checkbox"/> The impacted area has been secured to protect human health and the environment. <input type="checkbox"/> Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices. <input type="checkbox"/> All free liquids and recoverable materials have been removed and managed appropriately.	
If all the actions described above have <u>not</u> been undertaken, explain why:	
Per 19.15.29.8 B. (4) NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please attach a narrative of actions to date. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see 19.15.29.11(A)(5)(a) NMAC), please attach all information needed for closure evaluation.	
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.	
Printed Name: _____	Title: _____
Signature: <u>Delann Opreant</u>	Date: _____
email: _____	Telephone: _____
<u>OCD Only</u>	
Received by: _____	Date: _____

Incident ID	
District RP	
Facility ID	
Application ID	

Site Assessment/Characterization

This information must be provided to the appropriate district office no later than 90 days after the release discovery date.

What is the shallowest depth to groundwater beneath the area affected by the release?	_____ (ft bgs)
Did this release impact groundwater or surface water?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a wetland?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Are the lateral extents of the release overlying a subsurface mine?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Are the lateral extents of the release overlying an unstable area such as karst geology?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Are the lateral extents of the release within a 100-year floodplain?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Did the release impact areas not on an exploration, development, production, or storage site?	<input type="checkbox"/> Yes <input type="checkbox"/> No

Attach a comprehensive report (electronic submittals in .pdf format are preferred) demonstrating the lateral and vertical extents of soil contamination associated with the release have been determined. Refer to 19.15.29.11 NMAC for specifics.

<p>Characterization Report Checklist: <i>Each of the following items must be included in the report.</i></p> <ul style="list-style-type: none"><input type="checkbox"/> Scaled site map showing impacted area, surface features, subsurface features, delineation points, and monitoring wells.<input type="checkbox"/> Field data<input type="checkbox"/> Data table of soil contaminant concentration data<input type="checkbox"/> Depth to water determination<input type="checkbox"/> Determination of water sources and significant watercourses within ½-mile of the lateral extents of the release<input type="checkbox"/> Boring or excavation logs<input type="checkbox"/> Photographs including date and GIS information<input type="checkbox"/> Topographic/Aerial maps<input type="checkbox"/> Laboratory data including chain of custody
--

If the site characterization report does not include completed efforts at remediation of the release, the report must include a proposed remediation plan. That plan must include the estimated volume of material to be remediated, the proposed remediation technique, proposed sampling plan and methods, anticipated timelines for beginning and completing the remediation. The closure criteria for a release are contained in Table 1 of 19.15.29.12 NMAC, however, use of the table is modified by site- and release-specific parameters.

Incident ID	
District RP	
Facility ID	
Application ID	

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

Printed Name: _____ Title: _____

Signature: Sheldon Nitan Date: _____

email: _____ Telephone: _____

OCD Only

Received by: _____ Date: _____

Incident ID	
District RP	
Facility ID	
Application ID	

Remediation Plan

Remediation Plan Checklist: *Each of the following items must be included in the plan.*

- ☐ Detailed description of proposed remediation technique
- ☐ Scaled sitemap with GPS coordinates showing delineation points
- ☐ Estimated volume of material to be remediated
- ☐ Closure criteria is to Table 1 specifications subject to 19.15.29.12(C)(4) NMAC
- ☐ Proposed schedule for remediation (note if remediation plan timeline is more than 90 days OCD approval is required)

Deferral Requests Only: *Each of the following items must be confirmed as part of any request for deferral of remediation.*

- ☐ Contamination must be in areas immediately under or around production equipment where remediation could cause a major facility deconstruction.
- ☐ Extents of contamination must be fully delineated.
- ☐ Contamination does not cause an imminent risk to human health, the environment, or groundwater.

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

Printed Name: _____ Title: _____

Signature: Sheldon Gitan Date: _____

email: _____ Telephone: _____

OCD Only

Received by: _____ Date: _____

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

Signature: _____ Date: _____

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: Sheldon Hittman 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.

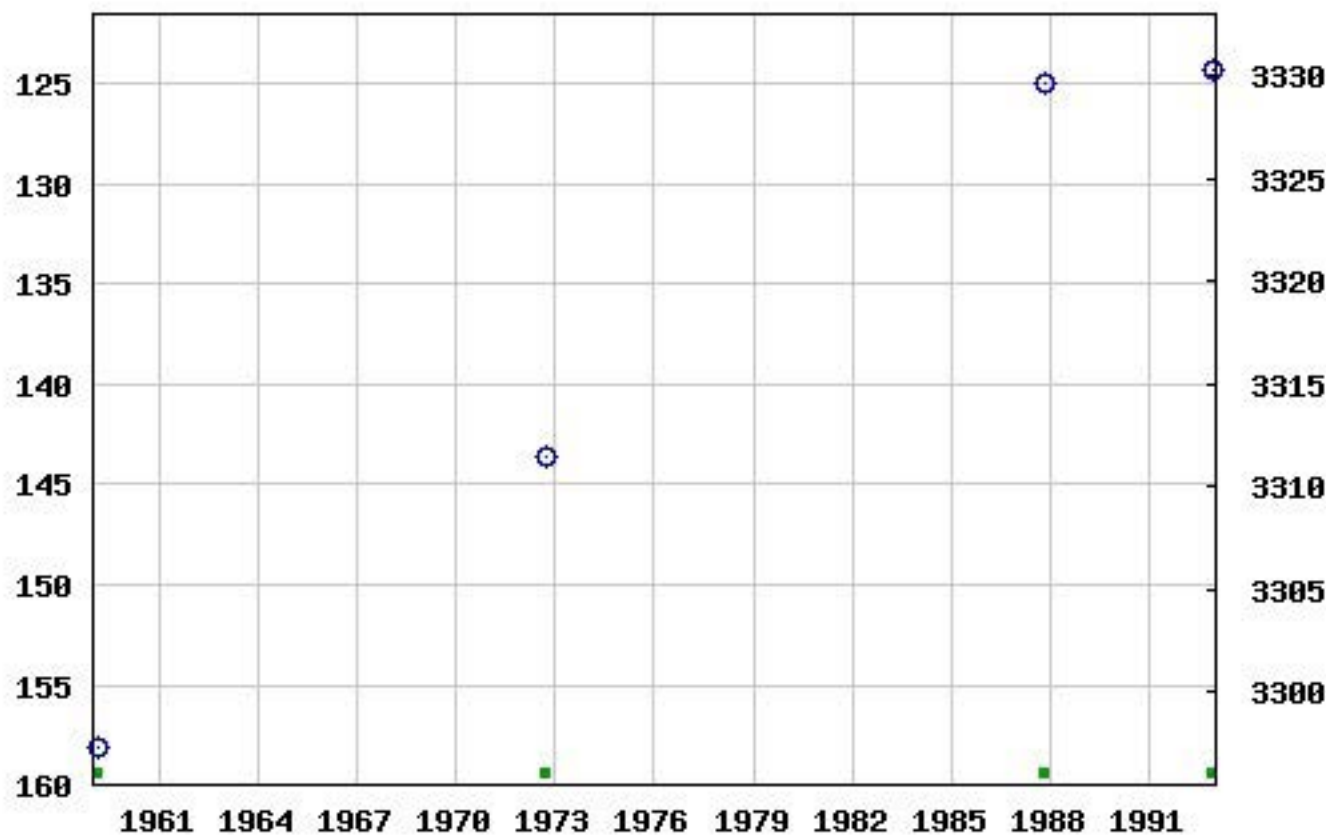
Closure Approved by: _____ Date: _____

Printed Name: _____ Title: _____

APPENDIX B

USGS 322333103461401 22S.31E.15.13214

Depth to water level, feet below land surface



Groundwater level above NAVD 1988, feet

Period of approved data

Legend


 Karst Critical Resource Area

Karst Occurance Areas


 High


 Low

 Medium

 Counties

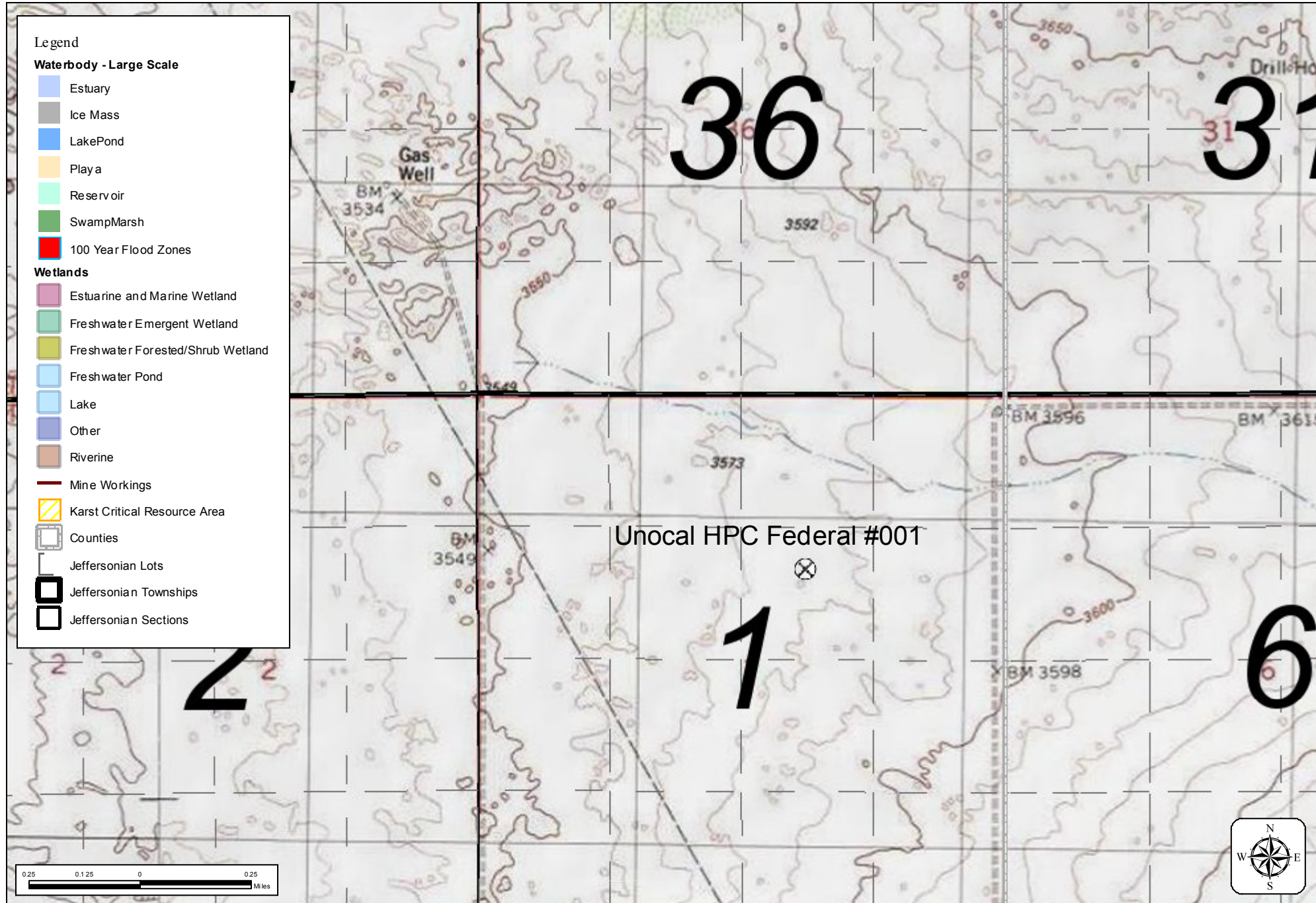
 Jeffersonian Lots

 Jeffersonian Townships

 Jeffersonian Sections

Unocal HPC Federal #001





APPENDIX C

March 20, 2019

DAKOTA NEEL

COG OPERATING

P. O. BOX 1630

ARTESIA, NM 88210

RE: UNOCAL - HPC FEDERAL #1

Enclosed are the results of analyses for samples received by the laboratory on 03/14/19 10:20.

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

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,



Celey D. Keene

Lab Director/Quality Manager

Analytical Results For:

COG OPERATING
DAKOTA NEEL
P. O. BOX 1630
ARTESIA NM, 88210
Fax To: NONE

Received:	03/14/2019	Sampling Date:	03/13/2019
Reported:	03/20/2019	Sampling Type:	Soil
Project Name:	UNOCAL - HPC FEDERAL #1	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: BOTTOM - 1 (H901007-01)

BTX 8021B			mg/kg		Analyzed By: MS				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/15/2019	ND	2.00	100	2.00	5.23	
Toluene*	<0.050	0.050	03/15/2019	ND	2.13	107	2.00	0.349	
Ethylbenzene*	<0.050	0.050	03/15/2019	ND	2.27	113	2.00	1.03	
Total Xylenes*	<0.150	0.150	03/15/2019	ND	6.68	111	6.00	1.96	
Total BTX	<0.300	0.300	03/15/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 117 % 73.3-129

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	03/15/2019	ND	400	100	400	3.92	

TPH 8015M			mg/kg		Analyzed By: MS				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/15/2019	ND	164	81.8	200	2.99	
DRO >C10-C28*	<10.0	10.0	03/15/2019	ND	199	99.5	200	5.21	
EXT DRO >C28-C36	<10.0	10.0	03/15/2019	ND					

Surrogate: 1-Chlorooctane 101 % 41-142

Surrogate: 1-Chlorooctadecane 101 % 37.6-147

Cardinal Laboratories

*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential 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 the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

COG OPERATING
DAKOTA NEEL
P. O. BOX 1630
ARTESIA NM, 88210
Fax To: NONE

Received: 03/14/2019
Reported: 03/20/2019
Project Name: UNOCAL - HPC FEDERAL #1
Project Number: NONE GIVEN
Project Location: NOT GIVEN

Sampling Date: 03/13/2019
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: BOTTOM - 2 (H901007-02)

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	03/19/2019	ND	2.07	103	2.00	5.00	
Toluene*	<0.050	0.050	03/19/2019	ND	1.89	94.5	2.00	5.88	
Ethylbenzene*	<0.050	0.050	03/19/2019	ND	2.00	100	2.00	7.29	
Total Xylenes*	<0.150	0.150	03/19/2019	ND	6.14	102	6.00	7.36	
Total BTEx	<0.300	0.300	03/19/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 93.2 % 73.3-129

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	03/15/2019	ND	400	100	400	3.92	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/15/2019	ND	164	81.8	200	2.99	
DRO >C10-C28*	<10.0	10.0	03/15/2019	ND	199	99.5	200	5.21	
EXT DRO >C28-C36	<10.0	10.0	03/15/2019	ND					

Surrogate: 1-Chlorooctane 93.3 % 41-142

Surrogate: 1-Chlorooctadecane 94.6 % 37.6-147

Cardinal Laboratories

*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential 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 the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

COG OPERATING
DAKOTA NEEL
P. O. BOX 1630
ARTESIA NM, 88210
Fax To: NONE

Received: 03/14/2019
Reported: 03/20/2019
Project Name: UNOCAL - HPC FEDERAL #1
Project Number: NONE GIVEN
Project Location: NOT GIVEN

Sampling Date: 03/13/2019
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: BOTTOM - 3 (H901007-03)

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	03/19/2019	ND	2.07	103	2.00	5.00	
Toluene*	<0.050	0.050	03/19/2019	ND	1.89	94.5	2.00	5.88	
Ethylbenzene*	<0.050	0.050	03/19/2019	ND	2.00	100	2.00	7.29	
Total Xylenes*	<0.150	0.150	03/19/2019	ND	6.14	102	6.00	7.36	
Total BTEx	<0.300	0.300	03/19/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 93.0 % 73.3-129

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	03/15/2019	ND	400	100	400	3.92	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/15/2019	ND	164	81.8	200	2.99	
DRO >C10-C28*	<10.0	10.0	03/15/2019	ND	199	99.5	200	5.21	
EXT DRO >C28-C36	<10.0	10.0	03/15/2019	ND					

Surrogate: 1-Chlorooctane 97.8 % 41-142

Surrogate: 1-Chlorooctadecane 97.7 % 37.6-147

Cardinal Laboratories

*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential 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 the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

COG OPERATING
DAKOTA NEEL
P. O. BOX 1630
ARTESIA NM, 88210
Fax To: NONE

Received: 03/14/2019
Reported: 03/20/2019
Project Name: UNOCAL - HPC FEDERAL #1
Project Number: NONE GIVEN
Project Location: NOT GIVEN

Sampling Date: 03/13/2019
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: BOTTOM - 4 (H901007-04)

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	03/19/2019	ND	2.07	103	2.00	5.00	
Toluene*	<0.050	0.050	03/19/2019	ND	1.89	94.5	2.00	5.88	
Ethylbenzene*	<0.050	0.050	03/19/2019	ND	2.00	100	2.00	7.29	
Total Xylenes*	<0.150	0.150	03/19/2019	ND	6.14	102	6.00	7.36	
Total BTEx	<0.300	0.300	03/19/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 92.9 % 73.3-129

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	03/15/2019	ND	400	100	400	3.92	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/15/2019	ND	164	81.8	200	2.99	
DRO >C10-C28*	<10.0	10.0	03/15/2019	ND	199	99.5	200	5.21	
EXT DRO >C28-C36	<10.0	10.0	03/15/2019	ND					

Surrogate: 1-Chlorooctane 93.7 % 41-142

Surrogate: 1-Chlorooctadecane 95.1 % 37.6-147

Cardinal Laboratories

*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential 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 the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

 COG OPERATING
 DAKOTA NEEL
 P. O. BOX 1630
 ARTESIA NM, 88210
 Fax To: NONE

 Received: 03/14/2019
 Reported: 03/20/2019
 Project Name: UNOCAL - HPC FEDERAL #1
 Project Number: NONE GIVEN
 Project Location: NOT GIVEN

 Sampling Date: 03/13/2019
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: BOTTOM - 5 (H901007-05)

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	03/19/2019	ND	2.07	103	2.00	5.00	
Toluene*	<0.050	0.050	03/19/2019	ND	1.89	94.5	2.00	5.88	
Ethylbenzene*	<0.050	0.050	03/19/2019	ND	2.00	100	2.00	7.29	
Total Xylenes*	<0.150	0.150	03/19/2019	ND	6.14	102	6.00	7.36	
Total BTEx	<0.300	0.300	03/19/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 94.2 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	03/15/2019	ND	400	100	400	3.92	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/15/2019	ND	164	81.8	200	2.99	
DRO >C10-C28*	<10.0	10.0	03/15/2019	ND	199	99.5	200	5.21	
EXT DRO >C28-C36	<10.0	10.0	03/15/2019	ND					

Surrogate: 1-Chlorooctane 99.5 % 41-142

Surrogate: 1-Chlorooctadecane 101 % 37.6-147

Cardinal Laboratories

*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential 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 the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

COG OPERATING
DAKOTA NEEL
P. O. BOX 1630
ARTESIA NM, 88210
Fax To: NONE

Received: 03/14/2019
Reported: 03/20/2019
Project Name: UNOCAL - HPC FEDERAL #1
Project Number: NONE GIVEN
Project Location: NOT GIVEN

Sampling Date: 03/13/2019
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: BOTTOM - 6 (H901007-06)

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	03/19/2019	ND	2.07	103	2.00	5.00	
Toluene*	<0.050	0.050	03/19/2019	ND	1.89	94.5	2.00	5.88	
Ethylbenzene*	<0.050	0.050	03/19/2019	ND	2.00	100	2.00	7.29	
Total Xylenes*	<0.150	0.150	03/19/2019	ND	6.14	102	6.00	7.36	
Total BTEx	<0.300	0.300	03/19/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 92.6 % 73.3-129

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	03/15/2019	ND	400	100	400	3.92	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/15/2019	ND	164	81.8	200	2.99	
DRO >C10-C28*	<10.0	10.0	03/15/2019	ND	199	99.5	200	5.21	
EXT DRO >C28-C36	<10.0	10.0	03/15/2019	ND					

Surrogate: 1-Chlorooctane 92.7 % 41-142

Surrogate: 1-Chlorooctadecane 93.1 % 37.6-147

Cardinal Laboratories

*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential 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 the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

COG OPERATING
DAKOTA NEEL
P. O. BOX 1630
ARTESIA NM, 88210
Fax To: NONE

Received: 03/14/2019
Reported: 03/20/2019
Project Name: UNOCAL - HPC FEDERAL #1
Project Number: NONE GIVEN
Project Location: NOT GIVEN

Sampling Date: 03/13/2019
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: NORTH (H901007-07)

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	03/19/2019	ND	2.07	103	2.00	5.00	
Toluene*	<0.050	0.050	03/19/2019	ND	1.89	94.5	2.00	5.88	
Ethylbenzene*	<0.050	0.050	03/19/2019	ND	2.00	100	2.00	7.29	
Total Xylenes*	<0.150	0.150	03/19/2019	ND	6.14	102	6.00	7.36	
Total BTEX	<0.300	0.300	03/19/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 92.4 % 73.3-129

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	03/15/2019	ND	400	100	400	3.92	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/15/2019	ND	193	96.5	200	7.41	
DRO >C10-C28*	<10.0	10.0	03/15/2019	ND	197	98.3	200	14.2	
EXT DRO >C28-C36	<10.0	10.0	03/15/2019	ND					

Surrogate: 1-Chlorooctane 93.1 % 41-142

Surrogate: 1-Chlorooctadecane 94.8 % 37.6-147

Cardinal Laboratories

*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential 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 the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

COG OPERATING
DAKOTA NEEL
P. O. BOX 1630
ARTESIA NM, 88210
Fax To: NONE

Received: 03/14/2019
Reported: 03/20/2019
Project Name: UNOCAL - HPC FEDERAL #1
Project Number: NONE GIVEN
Project Location: NOT GIVEN

Sampling Date: 03/13/2019
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: SOUTH (H901007-08)

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	03/19/2019	ND	2.07	103	2.00	5.00	
Toluene*	<0.050	0.050	03/19/2019	ND	1.89	94.5	2.00	5.88	
Ethylbenzene*	<0.050	0.050	03/19/2019	ND	2.00	100	2.00	7.29	
Total Xylenes*	<0.150	0.150	03/19/2019	ND	6.14	102	6.00	7.36	
Total BTEx	<0.300	0.300	03/19/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 92.9 % 73.3-129

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	03/15/2019	ND	400	100	400	3.92	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/15/2019	ND	193	96.5	200	7.41	
DRO >C10-C28*	<10.0	10.0	03/15/2019	ND	197	98.3	200	14.2	
EXT DRO >C28-C36	<10.0	10.0	03/15/2019	ND					

Surrogate: 1-Chlorooctane 98.5 % 41-142

Surrogate: 1-Chlorooctadecane 100 % 37.6-147

Cardinal Laboratories

*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential 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 the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

COG OPERATING
DAKOTA NEEL
P. O. BOX 1630
ARTESIA NM, 88210
Fax To: NONE

Received: 03/14/2019
Reported: 03/20/2019
Project Name: UNOCAL - HPC FEDERAL #1
Project Number: NONE GIVEN
Project Location: NOT GIVEN

Sampling Date: 03/13/2019
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: EAST (H901007-09)

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	03/19/2019	ND	2.07	103	2.00	5.00	
Toluene*	<0.050	0.050	03/19/2019	ND	1.89	94.5	2.00	5.88	
Ethylbenzene*	<0.050	0.050	03/19/2019	ND	2.00	100	2.00	7.29	
Total Xylenes*	<0.150	0.150	03/19/2019	ND	6.14	102	6.00	7.36	
Total BTEx	<0.300	0.300	03/19/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 95.1 % 73.3-129

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	03/15/2019	ND	400	100	400	3.92	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/15/2019	ND	193	96.5	200	7.41	
DRO >C10-C28*	<10.0	10.0	03/15/2019	ND	197	98.3	200	14.2	
EXT DRO >C28-C36	<10.0	10.0	03/15/2019	ND					

Surrogate: 1-Chlorooctane 99.2 % 41-142

Surrogate: 1-Chlorooctadecane 100 % 37.6-147

Cardinal Laboratories

*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential 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 the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

COG OPERATING
DAKOTA NEEL
P. O. BOX 1630
ARTESIA NM, 88210
Fax To: NONE

Received:	03/14/2019	Sampling Date:	03/13/2019
Reported:	03/20/2019	Sampling Type:	Soil
Project Name:	UNOCAL - HPC FEDERAL #1	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: WEST (H901007-10)

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	03/19/2019	ND	2.07	103	2.00	5.00		
Toluene*	<0.050	0.050	03/19/2019	ND	1.89	94.5	2.00	5.88		
Ethylbenzene*	<0.050	0.050	03/19/2019	ND	2.00	100	2.00	7.29		
Total Xylenes*	<0.150	0.150	03/19/2019	ND	6.14	102	6.00	7.36		
Total BTEx	<0.300	0.300	03/19/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 93.3 % 73.3-129

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	03/15/2019	ND	400	100	400	3.92	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/15/2019	ND	193	96.5	200	7.41	
DRO >C10-C28*	<10.0	10.0	03/15/2019	ND	197	98.3	200	14.2	
EXT DRO >C28-C36	<10.0	10.0	03/15/2019	ND					

Surrogate: 1-Chlorooctane 93.0 % 41-142

Surrogate: 1-Chlorooctadecane 94.0 % 37.6-147

Cardinal Laboratories

*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential 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 the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



Celey D. Keene, Lab Director/Quality Manager

Notes and Definitions

QR-03	The RPD value for the sample duplicate or MS/MSD was outside of QC acceptance limits due to matrix interference. QC batch accepted based on LCS and/or LCSD recovery and/or RPD values.
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C Samples reported on an as received basis (wet) unless otherwise noted on report

Cardinal Laboratories

*=Accredited Analyte

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 waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential 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 the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



Celey D. Keene, Lab Director/Quality Manager

APPENDIX D

NW

N

NE

300

330

30

60

☉ 1°N (T) ● 32.434238°, -104.183289° ±213.3ft ▲ 3153ft



CONCHO

COG Operating LLC

UNOCAL HPC FEDERAL #1

1650' FNL & 1980' FEL

SEC. 1, T22S, R31E

EDDY COUNTY

NMNM43556

API #30-015-23774

21 Mar 2019, 13:09:55



