ENSOLUM

May 9, 2022

District I
New Mexico Oil Conservation Division
1625 N. French Drive
Hobbs, New Mexico 88240

Re: Remediation Work Plan
Macho Nacho State Com 010H
Incident Number NAPP2132756247
Lea County, New Mexico

To Whom It May Concern:

Ensolum, LLC (Ensolum) on behalf of COG Operating, LLC (COG), has prepared the following Remediation Work Plan to document the site assessment and soil sampling activities completed to date and propose a work plan to address the impacted soil identified at the Macho Nacho State Com 010H (Site), resulting from a crude oil flare fire. The following Work Plan proposes delineation and excavation of the impacted soil and installation of a depth to water boring to confirm the Closure Criteria at the Site.

SITE DESCRIPTION AND RELEASE SUMMARY

The Site is located in Unit M, Section 07, Township 24 South, Range 33 East, in Lea County, New Mexico (32.22551° N, 103.61708° W) and is associated with oil and gas exploration and production operations on New Mexico State Land.

On November 10, 2021, a heater swamped out, resulting in the release of approximately 0.5 barrels (bbls) of crude oil out of the flare and a fire on the well pad. No fluids were recovered. COG reported the release to the New Mexico Oil Conservation Division (NMOCD) via email on November 10, 2021, and submitted a Release Notification Form C-141 (Form C-141) on November 23, 2021. The release was assigned Incident Number NAPP2132756247.

SITE CHARATERIZATION AND CLOSURE CRITERIA

The Site was characterized according to Table 1, Closure Criteria for Soils Impacted by a Release, of Title 19, Chapter 15, Part 29, Section 12 (19.15.29.12) of the New Mexico Administrative Code (NMAC). Results from the characterization desktop review are presented on page 3 of the Form C-141, Site Assessment/Characterization. Potential site receptors are identified on Figure 1.

Depth to groundwater at the Site is estimated to be greater than 100 feet below ground surface (bgs) based on the nearest groundwater well data. The closest permitted groundwater well with depth to groundwater data is New Mexico Office of the State Engineer (NMOSE) Well C-03565-POD 3, located approximately 8,134 feet northeast of the Site. The groundwater well has a reported depth to groundwater greater than 100 feet bgs and an unknown total depth. Ground surface elevation at the

groundwater well location is 3,639 feet above mean sea level (amsl), which is approximately 25 feet higher in elevation than the Site. All wells used for depth to water determination are depicted on Figure 1 and the referenced well records are included in Appendix A.

The closest continuously flowing or significant watercourse to the Site is a freshwater emergent wetland, located approximately 2.18 miles northeast of the Site. The Site is greater than 200 feet from a lakebed, sinkhole, or playa lake and greater than 300 feet from an occupied residence, school, hospital, institution, church, or wetland. The Site is greater than 1,000 feet to a freshwater well or spring and is not within a 100-year floodplain or overlying a subsurface mine. The Site is not underlain by unstable geology (low potential karst designation area). Site receptors are identified on Figure 1.

Based on the results of the Site Characterization, the following NMOCD Table 1 Closure Criteria (Closure Criteria) apply:

- Benzene: 10 milligrams per kilogram (mg/kg)
- Benzene, toluene, ethylbenzene, and total xylenes (BTEX): 50 mg/kg
- Total petroleum hydrocarbons (TPH)- gasoline range organics (GRO) and TPH-diesel range organics (DRO): 1,000 mg/kg
- TPH: 2,500 mg/kg
- Chloride: 20,000 mg/kg

SITE ASSESSMENT ACTIVITIES

On November 29, 2021, Ensolum personnel completed a Site visit to evaluate the release extent based on information provided on the Form C-141 and visual observations. Nine preliminary assessment soil samples (SS01 through SS09) were collected within and around the release extent from a depth of approximately 0.5 feet bgs to assess the lateral extent of the release. The preliminary soil samples were field screened for volatile organic compounds (VOCs) utilizing a calibrated photoionization detector (PID) and chloride Hach® chloride QuanTab® test strips. The release extent and preliminary soil sample locations were mapped utilizing a handheld Global Positioning System (GPS) unit and are depicted on Figure 2. Photographic documentation was completed during the Site visit and a photographic log is included in Appendix B.

The preliminary soil samples were placed directly into pre-cleaned glass jars, labeled with the location, date, time, sampler name, method of analysis, and immediately placed on ice. The soil samples were transported at or below 4 degrees Celsius (°C) under strict chain-of-custody (COC) procedures to Eurofins Laboratories (Eurofins) in Carlsbad, New Mexico, for analysis of BTEX following United States Environmental Protection Agency (EPA) Method 8021B; TPH-gasoline range organics (GRO), TPH-diesel range organics (DRO), and TPH-oil range organics (ORO) following EPA Method 8015M/D; and chloride following EPA Method 300.0.

Laboratory analytical results for preliminary soil samples SS02 and SS05, collected within the release extent, indicated that TPH-GRO/TPH-DRO and TPH concentrations exceeded the Closure Criteria. Laboratory analytical results for preliminary samples SS01, SS03, SS04, collected within the release extent, and SS06 through SS09, collected around the release extent, indicated that benzene, BTEX, TPH-GRO/TPH-DRO, TPH, and chloride concentrations were compliant with the Closure Criteria and confirmed the lateral extent of the release. Based on visible staining in the release area and laboratory analytical results for the preliminary soil samples, additional remediation activities are warranted. The laboratory analytical results are summarized on the attached Table 1 and the complete laboratory analytical report is included in Appendix C.

PROPOSED REMEDIATION WORK PLAN

The results from the preliminary assessment soil sampling indicate soil containing elevated TPH concentrations is present in an approximate 700 square foot area around soil samples SS02 and SS05. COG proposes installation of a depth to water boring within 0.5 miles of the release to confirm the applied Closure Criteria, excavation of the TPH impacted soil to below the established Closure Criteria, and additional delineation activities to confirm the extent of the release.

COG requests approval to complete the following remediation activities:

- In order to confirm depth to groundwater is greater than 100 feet bgs at the Site and confirm the applied Closure Criteria, Ensolum and COG propose to complete a depth to water boring within 0.5 miles of the release. The soil boring will be advanced to a depth of approximately 110 feet bgs or until groundwater is encountered. An Ensolum geologist will log and describe soils continuously and will document observations on a lithologic/ soil sampling log. The borehole will be left open for over 72 hours to allow for the potential slow infill of groundwater. Following the 72-hour waiting period depth to groundwater will be measured or the Ensolum geologist will confirm the boring is dry. The borehole will be properly abandoned following NMOSE procedures. Ensolum and COG will include documentation of the soil boring installation and lithologic/ soil sampling log in the subsequent closure request.
- Following confirmation of depth to groundwater, COG will proceed with lateral and vertical excavation of TPH impacted soil to below the established Site Closure Criteria. The estimated excavation extent is shown on Figure 3. An estimated 30 cubic yards of impacted soil will be excavated and disposed of at a licensed disposal facility.
- Following removal of the impacted soil, 5-point composite samples will be collected at least every 200 square feet from the sidewalls and floor of the excavation. The 5-point composite samples will be collected by placing five equivalent aliquots of soil into a 1-gallon, resealable plastic bag and homogenizing the samples by thoroughly mixing. The excavation samples will be submitted for laboratory analysis of BTEX, TPH, and chloride.
- Vertical delineation will be completed at the SS01, SS03, and SS04 preliminary soil sample locations, to confirm the absence of impacted soil within the release extent. The proposed delineation locations are provided on Figure 3.
- The excavation will be backfilled and recontoured to match pre-existing conditions.

COG will complete the delineation and excavation activities within 90 days of the date of approval of this Work Plan by the NMOCD. The depth to water boring will be completed as soon as possible following approval from the surface landowner and scheduling with a driller. The Final C-141 is attached in Appendix E.

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

Sincerely,
Ensolum, LLC

Kaeli Jennings

Aimee Cole

Kalei Jennings
Senior Scientist

Aimee Cole
Senior Managing Scientist

cc: Charles Beauvais, COG Operating, LLC
New Mexico State Land Office

Appendices:

Figure 1	Site Receptor Map
Figure 2	Preliminary Soil Sample Locations
Figure 3	Proposed Delineation Locations and Estimated Excavation Extent
Table 1	Soil Sample Analytical Results
Appendix A	Referenced Well Records
Appendix B	Photographic Log
Appendix C	Laboratory Analytical Results
Appendix D	NMOCD Notifications
Appendix E	Final C-141

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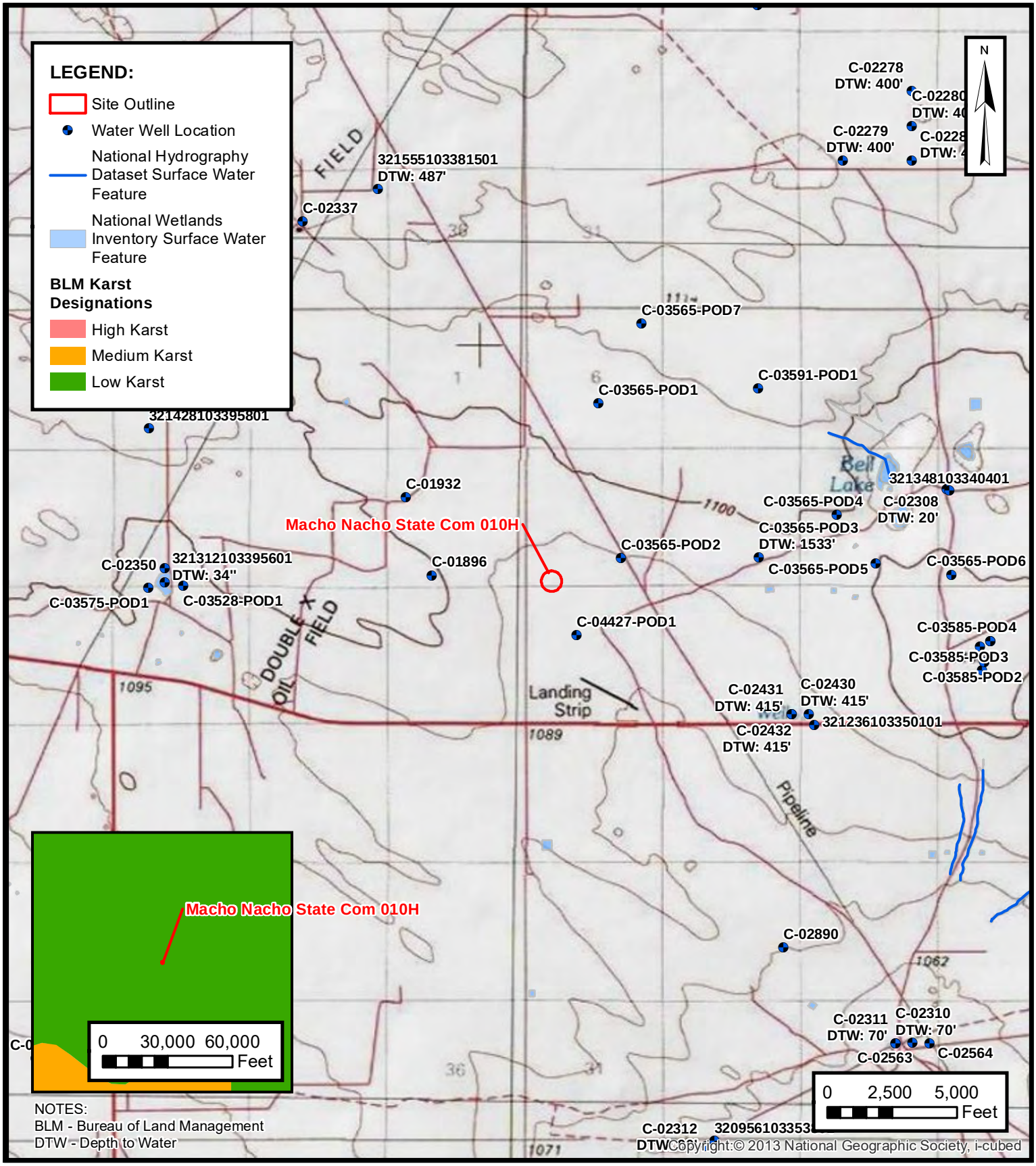
FIGURES



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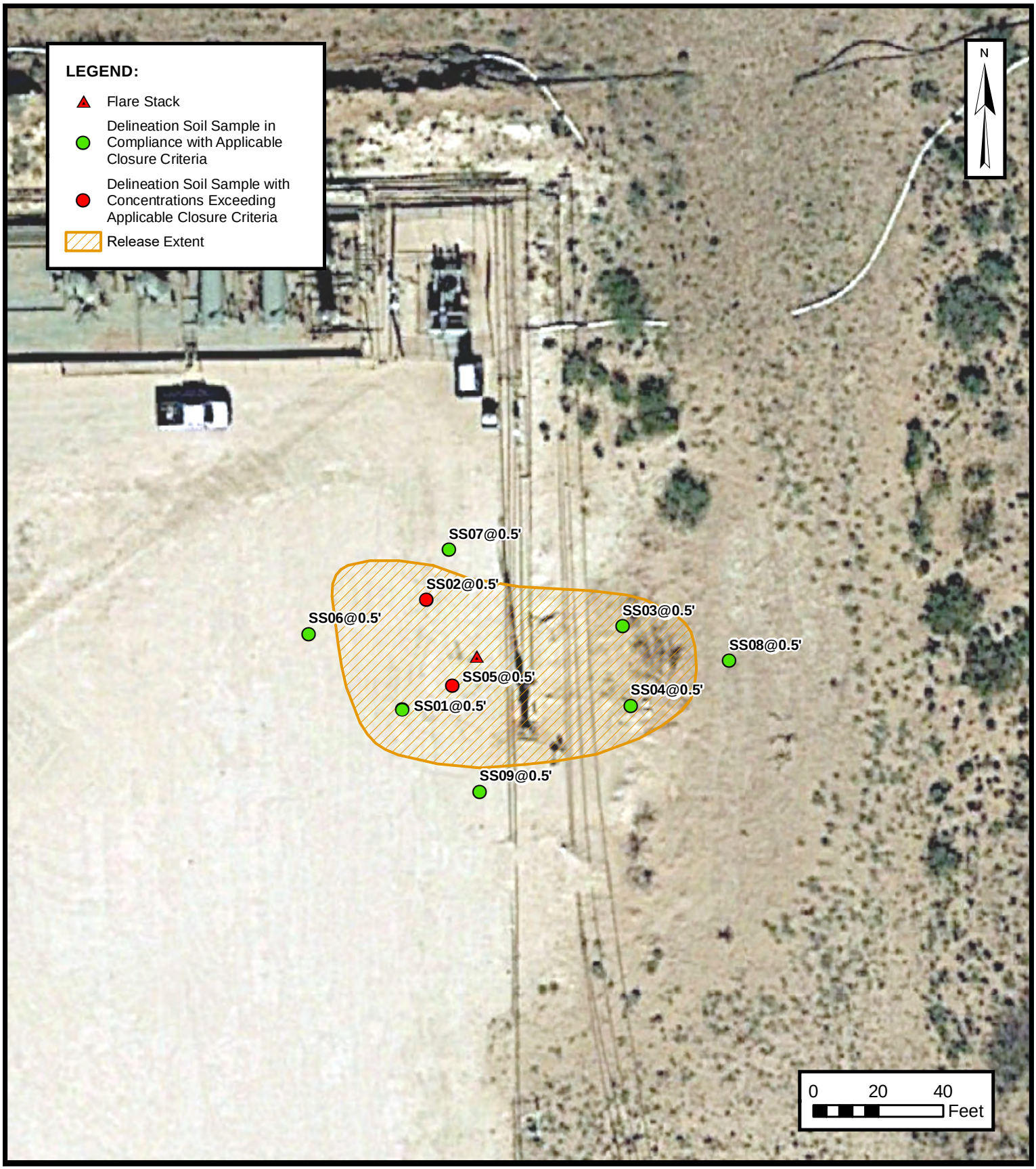
Environmental & Hydrogeologic Consultants

SITE RECEPTOR MAP

CONOCOPHILLIPS COMPANY
MACHO NACHO STATE COM 010H
Incident Number NAPP2132756247
Unit M. Sec 07, T24S, R33E
Lea County, New Mexico

FIGURE
1



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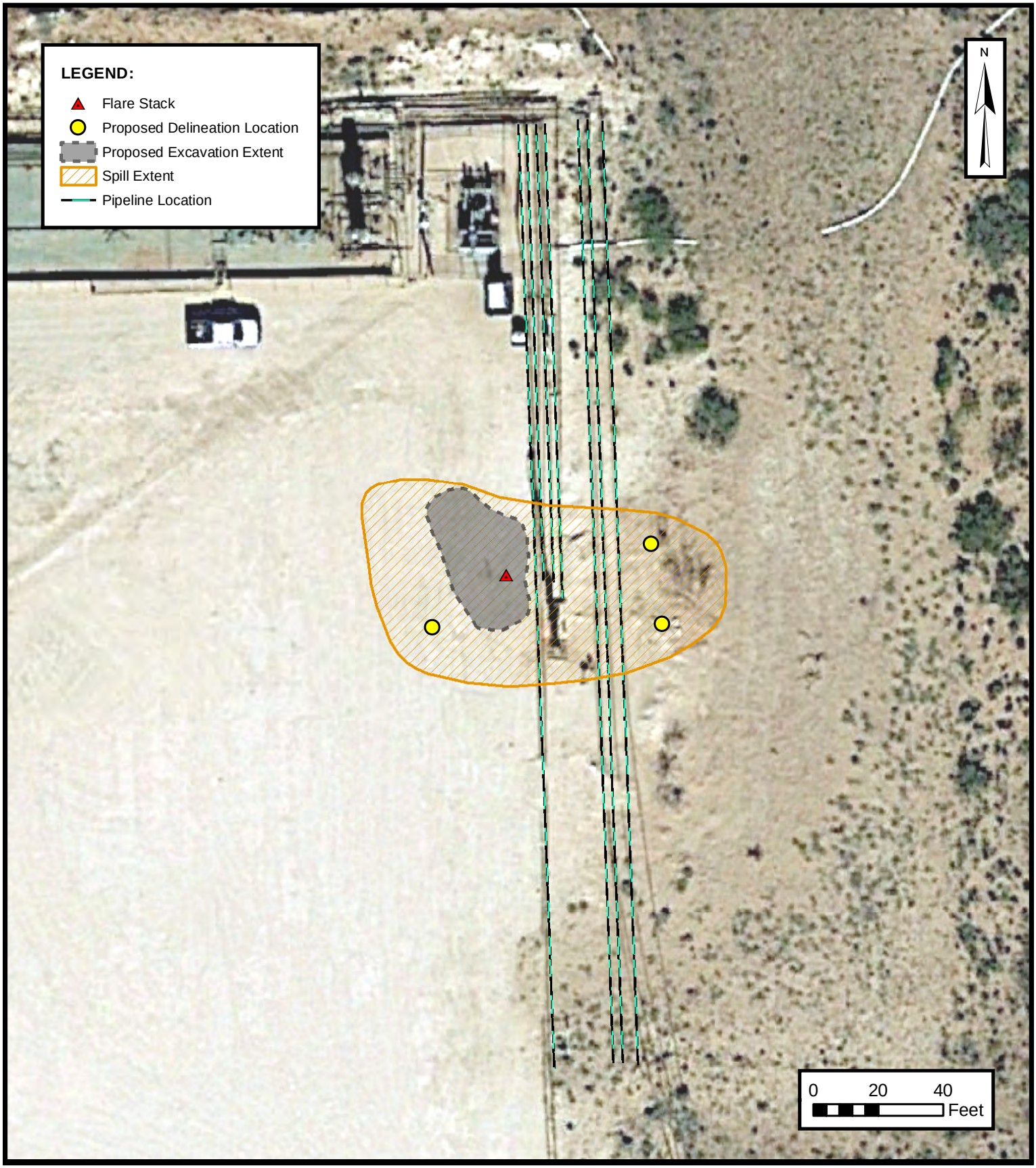
PRELIMINARY SOIL SAMPLE LOCATIONS

CONOCOPHILLIPS COMPANY
MACHO NACHO STATE COM 010H
NAPP2132756247
Unit M. Sec 07, T24S, R33E
Lea County, New Mexico

FIGURE
2



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PROPOSED DELINEATION LOCATIONS AND ESTIMATED EXCAVATION EXTENT
CONOCOPHILLIPS COMPANY
MACHO NACHO STATE COM 010H
NAPP2132756247
Unit M. Sec 07, T24S, R33E
Lea County, New Mexico

FIGURE
2

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TABLES

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TABLE 1
SOIL SAMPLE ANALYTICAL RESULTS
ConocoPhillips Company. - Macho Nacho State Com 010H
Lea County, New Mexico

Sample I.D.	Sample Date	Sample Depth (feet bgs)	Benzene (mg/kg)	Total BTEX (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH ORO (mg/kg)	GRO+DRO (mg/kg)	Total TPH (mg/kg)	Chloride (mg/kg)
NMOCD Table 1 Closure Criteria (NMAC 19.15.29)			10	50	NE	NE	NE	1,000	2,500	20,000
Delineation Soil Sample Analytical Results										
SS01	11/29/2021	0.5	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	<49.9	<4.99
SS02	11/29/2021	0.5	<0.00202	<0.00404	4,540	<50.0	<50.0	**4,540**	**4,540**	47.7
SS03	11/29/2021	0.5	<0.00200	<0.00400	<49.9	<49.9	<49.9	<49.9	<49.9	<49.5
SS04	11/29/2021	0.5	<0.00198	<0.00396	<49.9	<49.9	<49.9	<49.9	<49.9	<5.02
SS05	11/29/2021	0.5	<0.00199	<0.00398	3,760	<49.8	<49.8	**3,760**	**3,760**	56.7
SS07	11/29/2021	0.5	<0.00201	<0.00402	57.0	<49.8	<49.8	57.0	57.0	17.6
SS08	11/29/2021	0.5	<0.00200	<0.00401	<50.0	<50.0	<50.0	<50.0	<50.0	<5.00
SS09	11/29/2021	0.5	<0.00202	<0.00403	<50.0	<50.0	<50.0	<50.0	<50.0	<4.96

Notes:

bgs: below ground surface
mg/kg: milligrams per kilogram
NMOCD: New Mexico Oil Conservation Division
BTEX: Benzene, Toluene, Ethylbenzene, and Xylenes
GRO: Gasoline Range Organics
DRO: Diesel Range Organics
ORO: Oil Range Organics
TPH: Total Petroleum Hydrocarbon
Concentrations in bold exceed the NMOCD Table 1 Closure Criteria for Soils Impacted by a Release

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APPENDIX A

Referenced Well Records

New Mexico Office of the State Engineer
Water Right Summary

get image list

WR File Number: C 03565 **Subbasin:** CUB **Cross Reference:** -

Primary Purpose: EXP EXPLORATION

Primary Status:

Total Acres: **Subfile:** - **Header:** -

Total Diversion: 0 **Cause/Case:** -

Owner: INTERCONTINENTAL POTASH CORP

Contact: TOM COPE

Documents on File

	Trn #	Doc	File/Act	Status 1	Status 2	Transaction Desc.	From/ To	Acres	Diversion	Consumptive
get images	509298	EXPL	2012-08-07	PMT	APR	C 03565	T	0	0	

Current Points of Diversion

(NAD83 UTM in meters)

POD Number	Well Tag	Source	Q 64	Q16	Q4	Sec	Tws	Rng	X	Y	Other Location Desc
C 03565 POD1				1	4	06	24S	33E	630871	3568316	ICP-083
C 03565 POD2				3	4	07	24S	33E	631156	3566515	ICP-084
C 03565 POD3				3	4	08	24S	33E	632763	3566546	ICP-085
C 03565 POD4				4	1	09	24S	33E	633672	3567057	ICP-086
C 03565 POD5				3	4	09	24S	33E	634135	3566496	ICP-87
C 03565 POD6				3	3	10	24S	33E	635022	3566373	ICP-089
C 03565 POD7				2	2	06	24S	33E	631361	3569250	ICP-090
C 03565 POD8				4	1	15	24S	33E	635485	3565610	ICP-092
C 03565 POD9				4	4	15	24S	33E	636430	3565005	ICP-093

New Mexico Office of the State Engineer
Point of Diversion Summary

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

Well Tag	POD Number	Q64	Q16	Q4	Sec	Tws	Rng	X	Y
	C 03565 POD3		3	4	08	24S	33E	632763	3566546

Driller License: 331 **Driller Company:** SBQ2, LLC DBA STEWART BROTHERS DRILLING CO.

Driller Name:

Drill Start Date: 09/27/2012 **Drill Finish Date:** 10/21/2012 **Plug Date:**

Log File Date: 12/11/2012 **PCW Rcv Date:** **Source:**

Pump Type: **Pipe Discharge Size:** **Estimated Yield:**

Casing Size: 8.90 **Depth Well:** **Depth Water:** 1533 feet

Water Bearing Stratifications:	Top	Bottom	Description
	0	20	Other/Unknown
	20	55	Sandstone/Gravel/Conglomerate
	55	1227	Shale/Mudstone/Siltstone
	1227	1262	Other/Unknown
	1262	1295	Other/Unknown
	1295	1310	Other/Unknown
	1310	1330	Other/Unknown
	1330	1375	Other/Unknown
	1479	1489	Other/Unknown
	1489	1533	Other/Unknown

National Water Information System: Web Interface

USGS Water Resources (Cooperator Access) Data Category: Site Information Geographic Area: United States GO

Click to hideNews Bulletins

- Explore the *NEW* USGS National Water Dashboard interactive map to access real-time water data from over 13,500 stations nationwide.
- Full News

USGS 321312103395601 24S.32E.10.344333

Available data for this site SUMMARY OF ALL AVAILABLE DATA GO

Well Site

DESCRIPTION:

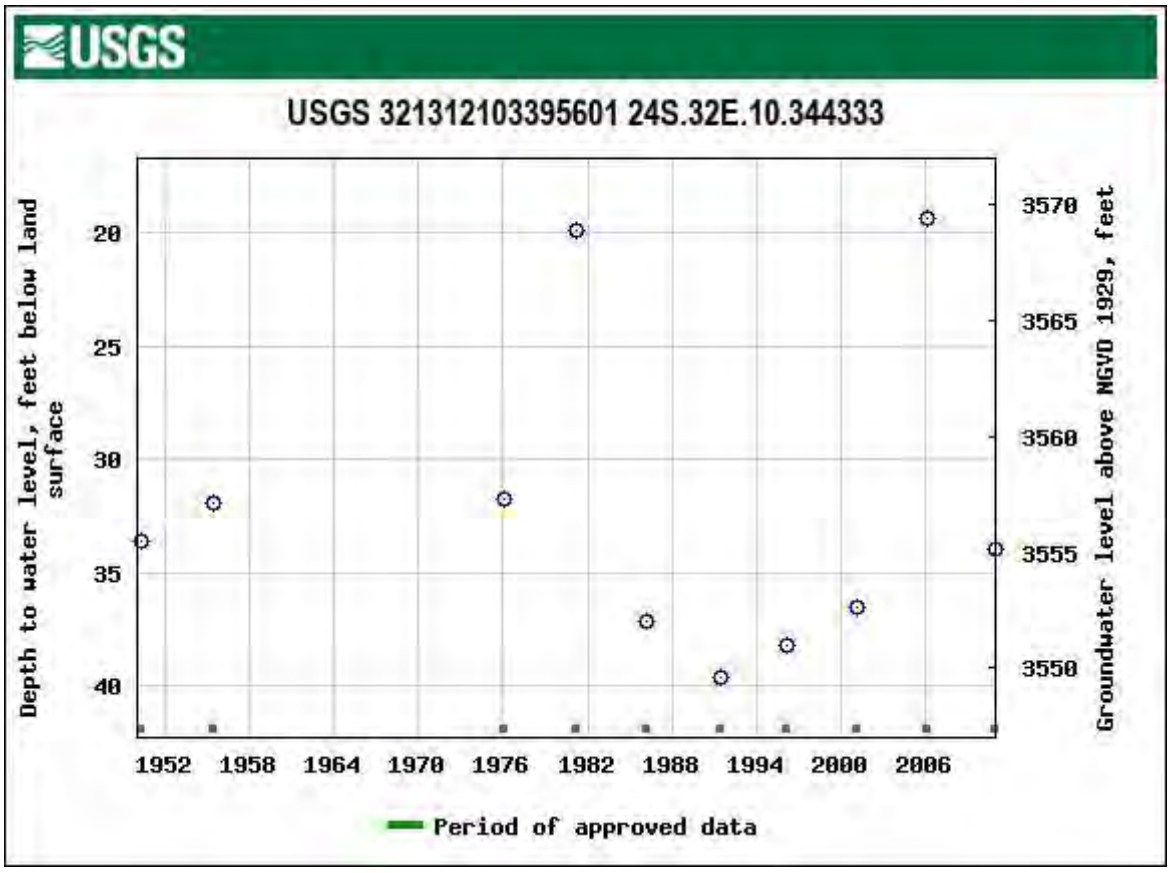
Latitude 32°13'30.4", Longitude 103°39'52.7" NAD83
Lea County, New Mexico , Hydrologic Unit 13070007
Well depth: 60 feet
Land surface altitude: 3,589.00 feet above NGVD29.
Well completed in "Other aquifers" (N9999OTHER) national aquifer.
Well completed in "Alluvium, Bolson Deposits and Other Surface Deposits" (110AVMB) local aquifer

AVAILABLE DATA:

Data Type	Begin Date	End Date	Count
Field groundwater-level measurements	1950-04-13	2010-12-16	10
Revisions	Unavailable (site:0) (timeseries:0)		
Additional Data Sources	**Begin Date**	**End Date**	**Count**
Annual Water-Data Report (pdf) **offsite**	2011	2011	1

OPERATION:

Record for this site is maintained by the USGS New Mexico Water Science Center
Email questions about this site to New Mexico Water Science Center Water-Data Inquiries


USGS
USGS 321312103395601 24S.32E.10.344333
Depth to water level, feet below land surface
20
25
30
35
40
Groundwater level above NGVD 1929, feet
3570
3565
3560
3555
3550
1952
1958
1964
1970
1976
1982
1988
1994
2000
2006
Period of approved data

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APPENDIX B

Photographic Log

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Photographic Log
ConocoPhillips Company
Macho Nacho State Com 010H
Incident Number NAPP232756247

Photograph 1
Date: November 29, 2021
Description: View of release extent facing northeast.

Photograph 2
Date: November 29, 2021
Description: View of flare area facing northwest.

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APPENDIX C

Laboratory Analytical Reports & Chain of Custody Documentation

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins Xenco, Carlsbad
1089 N Canal St.
Carlsbad, NM 88220
Tel: (575)988-3199

Laboratory Job ID: 890-1653-1
Laboratory Sample Delivery Group: 31403720.000 Task 15.02
Client Project/Site: Macho Nacho State Com 010H

For:
WSP USA Inc.
2777 N. Stemmons Freeway
Suite 1600
Dallas, Texas 75207

Attn: Kalei Jennings

JKramer

Authorized for release by:
12/9/2021 10:27:32 AM

Jessica Kramer, Project Manager
(432)704-5440
jessica.kramer@eurofinset.com

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Client: WSP USA Inc.
Project/Site: Macho Nacho State Com 010H

Laboratory Job ID: 890-1653-1
SDG: 31403720.000 Task 15.02

Table of Contents

Definitions/Glossary

Client: WSP USA Inc. Job ID: 890-1653-1
Project/Site: Macho Nacho State Com 010H SDG: 31403720.000 Task 15.02

Qualifiers

GC VOA

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
S1+	Surrogate recovery exceeds control limits, high biased.
U	Indicates the analyte was analyzed for but not detected.

GC Semi VOA

Qualifier	Qualifier Description
S1-	Surrogate recovery exceeds control limits, low biased.
U	Indicates the analyte was analyzed for but not detected.

HPLC/IC

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: WSP USA Inc. Job ID: 890-1653-1
Project/Site: Macho Nacho State Com 010H SDG: 31403720.000 Task 15.02

Job ID: 890-1653-1

Laboratory: Eurofins Xenco, Carlsbad

Narrative

Job Narrative
890-1653-1

Receipt
The samples were received on 11/29/2021 2:05 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 1.2°C

GC VOA
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

GC Semi VOA
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

HPLC/IC
Method 300_ORGFM_28D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-13650 and analytical batch 880-14305 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) precision was within acceptance limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Client Sample Results

Client: WSP USA Inc.
Project/Site: Macho Nacho State Com 010H

Job ID: 890-1653-1
SDG: 31403720.000 Task 15.02

Client Sample ID: SS01

Lab Sample ID: 890-1653-1
Matrix: Solid
Date Collected: 11/29/21 10:55
Date Received: 11/29/21 14:05
Sample Depth: 0.5

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		12/01/21 10:18	12/02/21 23:31	1
Toluene	<0.00199	U	0.00199		mg/Kg		12/01/21 10:18	12/02/21 23:31	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		12/01/21 10:18	12/02/21 23:31	1
m-Xylene & p-Xylene	<0.00398	U F1	0.00398		mg/Kg		12/01/21 10:18	12/02/21 23:31	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		12/01/21 10:18	12/02/21 23:31	1
Xylenes, Total	<0.00398	U F1	0.00398		mg/Kg		12/01/21 10:18	12/02/21 23:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*126*		*70 - 130*	*12/01/21 10:18*	*12/02/21 23:31*	*1*
1,4-Difluorobenzene (Surr)	*100*		*70 - 130*	*12/01/21 10:18*	*12/02/21 23:31*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			12/03/21 10:44	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			12/06/21 15:44	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		12/03/21 08:25	12/03/21 14:55	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		12/03/21 08:25	12/03/21 14:55	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		12/03/21 08:25	12/03/21 14:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*82*		*70 - 130*	*12/03/21 08:25*	*12/03/21 14:55*	*1*
o-Terphenyl	*82*		*70 - 130*	*12/03/21 08:25*	*12/03/21 14:55*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<4.99	U	4.99		mg/Kg			12/09/21 05:59	1

Client Sample ID: SS02

Lab Sample ID: 890-1653-2
Matrix: Solid
Date Collected: 11/29/21 10:57
Date Received: 11/29/21 14:05
Sample Depth: 0.5

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202		mg/Kg		12/01/21 10:18	12/02/21 23:52	1
Toluene	<0.00202	U	0.00202		mg/Kg		12/01/21 10:18	12/02/21 23:52	1
Ethylbenzene	<0.00202	U	0.00202		mg/Kg		12/01/21 10:18	12/02/21 23:52	1
m-Xylene & p-Xylene	<0.00404	U	0.00404		mg/Kg		12/01/21 10:18	12/02/21 23:52	1
o-Xylene	<0.00202	U	0.00202		mg/Kg		12/01/21 10:18	12/02/21 23:52	1
Xylenes, Total	<0.00404	U	0.00404		mg/Kg		12/01/21 10:18	12/02/21 23:52	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*114*		*70 - 130*	*12/01/21 10:18*	*12/02/21 23:52*	*1*

Client Sample Results

Client: WSP USA Inc.
Project/Site: Macho Nacho State Com 010H

Job ID: 890-1653-1
SDG: 31403720.000 Task 15.02

Client Sample ID: SS02

Lab Sample ID: 890-1653-2
Matrix: Solid
Date Collected: 11/29/21 10:57
Date Received: 11/29/21 14:05
Sample Depth: 0.5

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	*104*		*70 - 130*	*12/01/21 10:18*	*12/02/21 23:52*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00404	U	0.00404	mg/Kg			12/03/21 10:44	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**4540**		50.0	mg/Kg			12/06/21 15:44	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		12/03/21 08:25	12/03/21 15:16	1
Diesel Range Organics (Over C10-C28)	**4540**		50.0	mg/Kg		12/03/21 08:25	12/03/21 15:16	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		12/03/21 08:25	12/03/21 15:16	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	*81*		*70 - 130*	*12/03/21 08:25*	*12/03/21 15:16*	*1*
o-Terphenyl	*77*		*70 - 130*	*12/03/21 08:25*	*12/03/21 15:16*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**47.7**		5.00	mg/Kg			12/09/21 06:05	1

Client Sample ID: SS03

Lab Sample ID: 890-1653-3
Matrix: Solid
Date Collected: 11/29/21 11:04
Date Received: 11/29/21 14:05
Sample Depth: 0.5

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		12/01/21 10:18	12/03/21 00:12	1
Toluene	<0.00200	U	0.00200	mg/Kg		12/01/21 10:18	12/03/21 00:12	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		12/01/21 10:18	12/03/21 00:12	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		12/01/21 10:18	12/03/21 00:12	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		12/01/21 10:18	12/03/21 00:12	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		12/01/21 10:18	12/03/21 00:12	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	*121*		*70 - 130*	*12/01/21 10:18*	*12/03/21 00:12*	*1*
1,4-Difluorobenzene (Surr)	*101*		*70 - 130*	*12/01/21 10:18*	*12/03/21 00:12*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00400	U	0.00400	mg/Kg			12/03/21 10:44	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9	mg/Kg			12/06/21 15:44	1

Client Sample Results

Client: WSP USA Inc. Job ID: 890-1653-1
Project/Site: Macho Nacho State Com 010H SDG: 31403720.000 Task 15.02

Client Sample ID: SS03 Lab Sample ID: 890-1653-3

Date Collected: 11/29/21 11:04 **Matrix: Solid**
Date Received: 11/29/21 14:05
Sample Depth: 0.5

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		12/03/21 08:25	12/03/21 15:38	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		12/03/21 08:25	12/03/21 15:38	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		12/03/21 08:25	12/03/21 15:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*78*		*70 - 130*	*12/03/21 08:25*	*12/03/21 15:38*	*1*
o-Terphenyl	*74*		*70 - 130*	*12/03/21 08:25*	*12/03/21 15:38*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<4.95	U	4.95		mg/Kg			12/09/21 06:12	1

Client Sample ID: SS04 Lab Sample ID: 890-1653-4

Date Collected: 11/29/21 11:01 **Matrix: Solid**
Date Received: 11/29/21 14:05
Sample Depth: 0.5

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198		mg/Kg		12/01/21 10:18	12/03/21 00:32	1
Toluene	<0.00198	U	0.00198		mg/Kg		12/01/21 10:18	12/03/21 00:32	1
Ethylbenzene	<0.00198	U	0.00198		mg/Kg		12/01/21 10:18	12/03/21 00:32	1
m-Xylene & p-Xylene	<0.00396	U	0.00396		mg/Kg		12/01/21 10:18	12/03/21 00:32	1
o-Xylene	<0.00198	U	0.00198		mg/Kg		12/01/21 10:18	12/03/21 00:32	1
Xylenes, Total	<0.00396	U	0.00396		mg/Kg		12/01/21 10:18	12/03/21 00:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*117*		*70 - 130*	*12/01/21 10:18*	*12/03/21 00:32*	*1*
1,4-Difluorobenzene (Surr)	*97*		*70 - 130*	*12/01/21 10:18*	*12/03/21 00:32*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00396	U	0.00396		mg/Kg			12/03/21 10:44	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			12/06/21 15:44	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		12/03/21 08:25	12/03/21 16:21	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		12/03/21 08:25	12/03/21 16:21	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		12/03/21 08:25	12/03/21 16:21	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*43*	*S1-*	*70 - 130*	*12/03/21 08:25*	*12/03/21 16:21*	*1*
o-Terphenyl	*77*		*70 - 130*	*12/03/21 08:25*	*12/03/21 16:21*	*1*

Client Sample Results

Client: WSP USA Inc.
Project/Site: Macho Nacho State Com 010H

Job ID: 890-1653-1
SDG: 31403720.000 Task 15.02

Client Sample ID: SS04

Lab Sample ID: 890-1653-4
Matrix: Solid
Date Collected: 11/29/21 11:01
Date Received: 11/29/21 14:05
Sample Depth: 0.5

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.02	U	5.02		mg/Kg			12/09/21 06:32	1

Client Sample ID: SS05

Lab Sample ID: 890-1653-5
Matrix: Solid
Date Collected: 11/29/21 11:10
Date Received: 11/29/21 14:05
Sample Depth: 0.5

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		12/01/21 10:18	12/03/21 00:53	1
Toluene	<0.00199	U	0.00199		mg/Kg		12/01/21 10:18	12/03/21 00:53	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		12/01/21 10:18	12/03/21 00:53	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		12/01/21 10:18	12/03/21 00:53	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		12/01/21 10:18	12/03/21 00:53	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		12/01/21 10:18	12/03/21 00:53	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*138*	*S1+*	*70 - 130*	*12/01/21 10:18*	*12/03/21 00:53*	*1*
1,4-Difluorobenzene (Surr)	*103*		*70 - 130*	*12/01/21 10:18*	*12/03/21 00:53*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			12/03/21 10:44	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**3760**		49.8		mg/Kg			12/06/21 15:44	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	49.8		mg/Kg		12/03/21 08:25	12/03/21 16:43	1
Diesel Range Organics (Over C10-C28)	**3760**		49.8		mg/Kg		12/03/21 08:25	12/03/21 16:43	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		12/03/21 08:25	12/03/21 16:43	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*72*		*70 - 130*	*12/03/21 08:25*	*12/03/21 16:43*	*1*
o-Terphenyl	*67*	*S1-*	*70 - 130*	*12/03/21 08:25*	*12/03/21 16:43*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**56.7**		4.97		mg/Kg			12/09/21 06:39	1

Client Sample Results

Client: WSP USA Inc. Job ID: 890-1653-1
Project/Site: Macho Nacho State Com 010H SDG: 31403720.000 Task 15.02

Client Sample ID: SS06 Lab Sample ID: 890-1653-6

Date Collected: 11/29/21 11:37 **Matrix: Solid**
Date Received: 11/29/21 14:05
Sample Depth: 0.5

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		12/01/21 10:18	12/03/21 01:13	1
Toluene	<0.00199	U	0.00199		mg/Kg		12/01/21 10:18	12/03/21 01:13	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		12/01/21 10:18	12/03/21 01:13	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		12/01/21 10:18	12/03/21 01:13	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		12/01/21 10:18	12/03/21 01:13	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		12/01/21 10:18	12/03/21 01:13	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*122*		*70 - 130*	*12/01/21 10:18*	*12/03/21 01:13*	*1*
1,4-Difluorobenzene (Surr)	*100*		*70 - 130*	*12/01/21 10:18*	*12/03/21 01:13*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			12/03/21 10:44	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			12/06/21 15:44	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		12/03/21 08:25	12/03/21 17:05	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		12/03/21 08:25	12/03/21 17:05	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		12/03/21 08:25	12/03/21 17:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*76*		*70 - 130*	*12/03/21 08:25*	*12/03/21 17:05*	*1*
o-Terphenyl	*72*		*70 - 130*	*12/03/21 08:25*	*12/03/21 17:05*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**172**		4.95		mg/Kg			12/09/21 06:45	1

Client Sample ID: SS07 Lab Sample ID: 890-1653-7

Date Collected: 11/29/21 11:39 **Matrix: Solid**
Date Received: 11/29/21 14:05
Sample Depth: 0.5

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		12/01/21 10:18	12/03/21 01:34	1
Toluene	<0.00201	U	0.00201		mg/Kg		12/01/21 10:18	12/03/21 01:34	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		12/01/21 10:18	12/03/21 01:34	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		12/01/21 10:18	12/03/21 01:34	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		12/01/21 10:18	12/03/21 01:34	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		12/01/21 10:18	12/03/21 01:34	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*124*		*70 - 130*	*12/01/21 10:18*	*12/03/21 01:34*	*1*

Eurofins Xenco, Carlsbad

Client Sample Results

Client: WSP USA Inc. Job ID: 890-1653-1
Project/Site: Macho Nacho State Com 010H SDG: 31403720.000 Task 15.02

Client Sample ID: SS07 Lab Sample ID: 890-1653-7

Date Collected: 11/29/21 11:39 **Matrix: Solid**
Date Received: 11/29/21 14:05
Sample Depth: 0.5

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	*99*		*70 - 130*	*12/01/21 10:18*	*12/03/21 01:34*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402	mg/Kg			12/03/21 10:44	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**57**		49.8	mg/Kg			12/06/21 15:44	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	49.8	mg/Kg		12/03/21 08:25	12/03/21 17:27	1
Diesel Range Organics (Over C10-C28)	**57**		49.8	mg/Kg		12/03/21 08:25	12/03/21 17:27	1
OII Range Organics (Over C28-C36)	<49.8	U	49.8	mg/Kg		12/03/21 08:25	12/03/21 17:27	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	*71*		*70 - 130*	*12/03/21 08:25*	*12/03/21 17:27*	*1*
o-Terphenyl	*71*		*70 - 130*	*12/03/21 08:25*	*12/03/21 17:27*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**17.6**		4.99	mg/Kg			12/09/21 06:52	1

Client Sample ID: SS08 Lab Sample ID: 890-1653-8

Date Collected: 11/29/21 11:42 **Matrix: Solid**
Date Received: 11/29/21 14:05
Sample Depth: 0.5

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		12/01/21 10:18	12/03/21 01:54	1
Toluene	<0.00200	U	0.00200	mg/Kg		12/01/21 10:18	12/03/21 01:54	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		12/01/21 10:18	12/03/21 01:54	1
m-Xylene & p-Xylene	<0.00401	U	0.00401	mg/Kg		12/01/21 10:18	12/03/21 01:54	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		12/01/21 10:18	12/03/21 01:54	1
Xylenes, Total	<0.00401	U	0.00401	mg/Kg		12/01/21 10:18	12/03/21 01:54	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	*114*		*70 - 130*	*12/01/21 10:18*	*12/03/21 01:54*	*1*
1,4-Difluorobenzene (Surr)	*84*		*70 - 130*	*12/01/21 10:18*	*12/03/21 01:54*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00401	U	0.00401	mg/Kg			12/03/21 10:44	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0	mg/Kg			12/06/21 15:44	1

Eurofins Xenco, Carlsbad

Client Sample Results

Client: WSP USA Inc. Job ID: 890-1653-1
Project/Site: Macho Nacho State Com 010H SDG: 31403720.000 Task 15.02

Client Sample ID: SS08 Lab Sample ID: 890-1653-8

Date Collected: 11/29/21 11:42 **Matrix: Solid**
Date Received: 11/29/21 14:05
Sample Depth: 0.5

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		12/03/21 08:25	12/03/21 17:48	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		12/03/21 08:25	12/03/21 17:48	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		12/03/21 08:25	12/03/21 17:48	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*68*	*S1-*	*70 - 130*	*12/03/21 08:25*	*12/03/21 17:48*	*1*
o-Terphenyl	*66*	*S1-*	*70 - 130*	*12/03/21 08:25*	*12/03/21 17:48*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			12/09/21 06:59	1

Client Sample ID: SS09 Lab Sample ID: 890-1653-9

Date Collected: 11/29/21 11:44 **Matrix: Solid**
Date Received: 11/29/21 14:05
Sample Depth: 0.5

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202		mg/Kg		12/01/21 10:18	12/03/21 02:14	1
Toluene	<0.00202	U	0.00202		mg/Kg		12/01/21 10:18	12/03/21 02:14	1
Ethylbenzene	<0.00202	U	0.00202		mg/Kg		12/01/21 10:18	12/03/21 02:14	1
m-Xylene & p-Xylene	<0.00403	U	0.00403		mg/Kg		12/01/21 10:18	12/03/21 02:14	1
o-Xylene	<0.00202	U	0.00202		mg/Kg		12/01/21 10:18	12/03/21 02:14	1
Xylenes, Total	<0.00403	U	0.00403		mg/Kg		12/01/21 10:18	12/03/21 02:14	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*113*		*70 - 130*	*12/01/21 10:18*	*12/03/21 02:14*	*1*
1,4-Difluorobenzene (Surr)	*95*		*70 - 130*	*12/01/21 10:18*	*12/03/21 02:14*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00403	U	0.00403		mg/Kg			12/03/21 10:44	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			12/06/21 15:44	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		12/03/21 08:25	12/03/21 18:09	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		12/03/21 08:25	12/03/21 18:09	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		12/03/21 08:25	12/03/21 18:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*77*		*70 - 130*	*12/03/21 08:25*	*12/03/21 18:09*	*1*
o-Terphenyl	*75*		*70 - 130*	*12/03/21 08:25*	*12/03/21 18:09*	*1*

Client Sample Results

Client: WSP USA Inc.
Project/Site: Macho Nacho State Com 010H

Job ID: 890-1653-1
SDG: 31403720.000 Task 15.02

Client Sample ID: SS09
Date Collected: 11/29/21 11:44
Date Received: 11/29/21 14:05
Sample Depth: 0.5

Lab Sample ID: 890-1653-9
Matrix: Solid

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<4.96	U F1	4.96		mg/Kg			12/09/21 07:05	1

Surrogate Summary

Client: WSP USA Inc.
Project/Site: Macho Nacho State Com 010H

Job ID: 890-1653-1
SDG: 31403720.000 Task 15.02

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
		BFB1	DFBZ1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
890-1653-1	SS01	126	100
890-1653-1 MS	SS01	149 S1+	81
890-1653-1 MSD	SS01	119	102
890-1653-2	SS02	114	104
890-1653-3	SS03	121	101
890-1653-4	SS04	117	97
890-1653-5	SS05	138 S1+	103
890-1653-6	SS06	122	100
890-1653-7	SS07	124	99
890-1653-8	SS08	114	84
890-1653-9	SS09	113	95
LCS 880-13446/1-A	Lab Control Sample	112	99
LCSD 880-13446/2-A	Lab Control Sample Dup	111	96
MB 880-13446/5-A	Method Blank	122	99
MB 880-13455/5-A	Method Blank	123	99

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
DFBZ = 1,4-Difluorobenzene (Surr)

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
		1CO1	OTPH1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
890-1653-1	SS01	82	82
890-1653-2	SS02	81	77
890-1653-3	SS03	78	74
890-1653-4	SS04	43 S1-	77
890-1653-5	SS05	72	67 S1-
890-1653-6	SS06	76	72
890-1653-7	SS07	71	71
890-1653-8	SS08	68 S1-	66 S1-
890-1653-9	SS09	77	75
890-1658-A-1-D MS	Matrix Spike	71	65 S1-
890-1658-A-1-E MSD	Matrix Spike Duplicate	72	65 S1-
LCS 880-13833/2-A	Lab Control Sample	64 S1-	61 S1-
LCSD 880-13833/3-A	Lab Control Sample Dup	69 S1-	68 S1-
MB 880-13833/1-A	Method Blank	97	97

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: WSP USA Inc. Job ID: 890-1653-1
Project/Site: Macho Nacho State Com 010H SDG: 31403720.000 Task 15.02

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-13446/5-A **Client Sample ID: Method Blank**
Matrix: Solid **Prep Type: Total/NA**
Analysis Batch: 13722 **Prep Batch: 13446**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		12/01/21 10:18	12/02/21 23:02	1
Toluene	<0.00200	U	0.00200		mg/Kg		12/01/21 10:18	12/02/21 23:02	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		12/01/21 10:18	12/02/21 23:02	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		12/01/21 10:18	12/02/21 23:02	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		12/01/21 10:18	12/02/21 23:02	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		12/01/21 10:18	12/02/21 23:02	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*122*		*70 - 130*	*12/01/21 10:18*	*12/02/21 23:02*	*1*
1,4-Difluorobenzene (Surr)	*99*		*70 - 130*	*12/01/21 10:18*	*12/02/21 23:02*	*1*

Lab Sample ID: LCS 880-13446/1-A **Client Sample ID: Lab Control Sample**
Matrix: Solid **Prep Type: Total/NA**
Analysis Batch: 13722 **Prep Batch: 13446**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Benzene			0.100	0.09337		mg/Kg		93	70 - 130		
Toluene			0.100	0.09366		mg/Kg		94	70 - 130		
Ethylbenzene			0.100	0.09097		mg/Kg		91	70 - 130		
m-Xylene & p-Xylene			0.200	0.1803		mg/Kg		90	70 - 130		
o-Xylene			0.100	0.09086		mg/Kg		91	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*112*		*70 - 130*
1,4-Difluorobenzene (Surr)	*99*		*70 - 130*

Lab Sample ID: LCSD 880-13446/2-A **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid **Prep Type: Total/NA**
Analysis Batch: 13722 **Prep Batch: 13446**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene			0.100	0.08752		mg/Kg		88	70 - 130	6	35
Toluene			0.100	0.09320		mg/Kg		93	70 - 130	0	35
Ethylbenzene			0.100	0.09679		mg/Kg		97	70 - 130	6	35
m-Xylene & p-Xylene			0.200	0.1908		mg/Kg		95	70 - 130	6	35
o-Xylene			0.100	0.09434		mg/Kg		94	70 - 130	4	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*111*		*70 - 130*
1,4-Difluorobenzene (Surr)	*96*		*70 - 130*

Lab Sample ID: 890-1653-1 MS **Client Sample ID: SS01**
Matrix: Solid **Prep Type: Total/NA**
Analysis Batch: 13722 **Prep Batch: 13446**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Benzene	<0.00199	U	0.100	0.08598		mg/Kg		85	70 - 130		
Toluene	<0.00199	U	0.100	0.07857		mg/Kg		78	70 - 130		

QC Sample Results

Client: WSP USA Inc. Job ID: 890-1653-1
Project/Site: Macho Nacho State Com 010H SDG: 31403720.000 Task 15.02

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Lab Sample ID: 890-1653-1 MS **Client Sample ID: SS01**
Matrix: Solid **Prep Type: Total/NA**
Analysis Batch: 13722 **Prep Batch: 13446**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Ethylbenzene	<0.00199	U	0.100	0.08168		mg/Kg		81	70 - 130
m-Xylene & p-Xylene	<0.00398	U F1	0.201	0.1022	F1	mg/Kg		50	70 - 130
o-Xylene	<0.00199	U	0.100	0.08337		mg/Kg		81	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*149*	*S1+*	*70 - 130*
1,4-Difluorobenzene (Surr)	*81*		*70 - 130*

Lab Sample ID: 890-1653-1 MSD **Client Sample ID: SS01**
Matrix: Solid **Prep Type: Total/NA**
Analysis Batch: 13722 **Prep Batch: 13446**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	<0.00199	U	0.100	0.07355		mg/Kg		73	70 - 130	16	35
Toluene	<0.00199	U	0.100	0.07570		mg/Kg		76	70 - 130	4	35
Ethylbenzene	<0.00199	U	0.100	0.07810		mg/Kg		78	70 - 130	4	35
m-Xylene & p-Xylene	<0.00398	U F1	0.200	0.09868	F1	mg/Kg		48	70 - 130	3	35
o-Xylene	<0.00199	U	0.100	0.07790		mg/Kg		76	70 - 130	7	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*119*		*70 - 130*
1,4-Difluorobenzene (Surr)	*102*		*70 - 130*

Lab Sample ID: MB 880-13455/5-A **Client Sample ID: Method Blank**
Matrix: Solid **Prep Type: Total/NA**
Analysis Batch: 13722 **Prep Batch: 13455**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		12/01/21 11:07	12/02/21 11:28	1
Toluene	<0.00200	U	0.00200		mg/Kg		12/01/21 11:07	12/02/21 11:28	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		12/01/21 11:07	12/02/21 11:28	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		12/01/21 11:07	12/02/21 11:28	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		12/01/21 11:07	12/02/21 11:28	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		12/01/21 11:07	12/02/21 11:28	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*123*		*70 - 130*	*12/01/21 11:07*	*12/02/21 11:28*	*1*
1,4-Difluorobenzene (Surr)	*99*		*70 - 130*	*12/01/21 11:07*	*12/02/21 11:28*	*1*

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 880-13833/1-A **Client Sample ID: Method Blank**
Matrix: Solid **Prep Type: Total/NA**
Analysis Batch: 13850 **Prep Batch: 13833**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		12/03/21 08:25	12/03/21 10:36	1

QC Sample Results

Client: WSP USA Inc. Job ID: 890-1653-1
Project/Site: Macho Nacho State Com 010H SDG: 31403720.000 Task 15.02

Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Lab Sample ID: MB 880-13833/1-A **Client Sample ID: Method Blank**
Matrix: Solid **Prep Type: Total/NA**
Analysis Batch: 13850 **Prep Batch: 13833**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		12/03/21 08:25	12/03/21 10:36	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		12/03/21 08:25	12/03/21 10:36	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*97*		*70 - 130*	*12/03/21 08:25*	*12/03/21 10:36*	*1*
o-Terphenyl	*97*		*70 - 130*	*12/03/21 08:25*	*12/03/21 10:36*	*1*

Lab Sample ID: LCS 880-13833/2-A **Client Sample ID: Lab Control Sample**
Matrix: Solid **Prep Type: Total/NA**
Analysis Batch: 13850 **Prep Batch: 13833**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	839.3		mg/Kg		84	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	712.0		mg/Kg		71	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*64*	*S1-*	*70 - 130*
o-Terphenyl	*61*	*S1-*	*70 - 130*

Lab Sample ID: LCSD 880-13833/3-A **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid **Prep Type: Total/NA**
Analysis Batch: 13850 **Prep Batch: 13833**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	831.2		mg/Kg		83	70 - 130	1	20
Diesel Range Organics (Over C10-C28)			1000	800.1		mg/Kg		80	70 - 130	12	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*69*	*S1-*	*70 - 130*
o-Terphenyl	*68*	*S1-*	*70 - 130*

Lab Sample ID: 890-1658-A-1-D MS **Client Sample ID: Matrix Spike**
Matrix: Solid **Prep Type: Total/NA**
Analysis Batch: 13850 **Prep Batch: 13833**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	997	821.0		mg/Kg		82	70 - 130		
Diesel Range Organics (Over C10-C28)	<50.0	U	997	827.5		mg/Kg		83	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1-Chlorooctane	*71*		*70 - 130*
o-Terphenyl	*65*	*S1-*	*70 - 130*

QC Sample Results

Client: WSP USA Inc. Job ID: 890-1653-1
Project/Site: Macho Nacho State Com 010H SDG: 31403720.000 Task 15.02

Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Lab Sample ID: 890-1658-A-1-E MSD **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid **Prep Type: Total/NA**
Analysis Batch: 13850 **Prep Batch: 13833**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	999	830.7		mg/Kg		83	70 - 130	1	20
Diesel Range Organics (Over C10-C28)	<50.0	U	999	837.0		mg/Kg		84	70 - 130	1	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*72*		*70 - 130*
o-Terphenyl	*65*	*S1-*	*70 - 130*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-13650/1-A **Client Sample ID: Method Blank**
Matrix: Solid **Prep Type: Soluble**
Analysis Batch: 14305

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			12/09/21 05:12	1

Lab Sample ID: LCS 880-13650/2-A **Client Sample ID: Lab Control Sample**
Matrix: Solid **Prep Type: Soluble**
Analysis Batch: 14305

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride			250	268.2		mg/Kg		107	90 - 110		

Lab Sample ID: LCSD 880-13650/3-A **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid **Prep Type: Soluble**
Analysis Batch: 14305

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride			250	268.3		mg/Kg		107	90 - 110	0	20

Lab Sample ID: 890-1653-9 MS **Client Sample ID: SS09**
Matrix: Solid **Prep Type: Soluble**
Analysis Batch: 14305

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride	<4.96	U F1	248	284.4	F1	mg/Kg		115	90 - 110		

Lab Sample ID: 890-1653-9 MSD **Client Sample ID: SS09**
Matrix: Solid **Prep Type: Soluble**
Analysis Batch: 14305

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	<4.96	U F1	248	286.7	F1	mg/Kg		116	90 - 110	1	20

QC Association Summary

Client: WSP USA Inc. Job ID: 890-1653-1
Project/Site: Macho Nacho State Com 010H SDG: 31403720.000 Task 15.02

GC VOA

Prep Batch: 13446

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1653-1	SS01	Total/NA	Solid	5035	
890-1653-2	SS02	Total/NA	Solid	5035	
890-1653-3	SS03	Total/NA	Solid	5035	
890-1653-4	SS04	Total/NA	Solid	5035	
890-1653-5	SS05	Total/NA	Solid	5035	
890-1653-6	SS06	Total/NA	Solid	5035	
890-1653-7	SS07	Total/NA	Solid	5035	
890-1653-8	SS08	Total/NA	Solid	5035	
890-1653-9	SS09	Total/NA	Solid	5035	
MB 880-13446/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-13446/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-13446/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-1653-1 MS	SS01	Total/NA	Solid	5035	
890-1653-1 MSD	SS01	Total/NA	Solid	5035	

Prep Batch: 13455

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-13455/5-A	Method Blank	Total/NA	Solid	5035	

Analysis Batch: 13722

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1653-1	SS01	Total/NA	Solid	8021B	13446
890-1653-2	SS02	Total/NA	Solid	8021B	13446
890-1653-3	SS03	Total/NA	Solid	8021B	13446
890-1653-4	SS04	Total/NA	Solid	8021B	13446
890-1653-5	SS05	Total/NA	Solid	8021B	13446
890-1653-6	SS06	Total/NA	Solid	8021B	13446
890-1653-7	SS07	Total/NA	Solid	8021B	13446
890-1653-8	SS08	Total/NA	Solid	8021B	13446
890-1653-9	SS09	Total/NA	Solid	8021B	13446
MB 880-13446/5-A	Method Blank	Total/NA	Solid	8021B	13446
MB 880-13455/5-A	Method Blank	Total/NA	Solid	8021B	13455
LCS 880-13446/1-A	Lab Control Sample	Total/NA	Solid	8021B	13446
LCSD 880-13446/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	13446
890-1653-1 MS	SS01	Total/NA	Solid	8021B	13446
890-1653-1 MSD	SS01	Total/NA	Solid	8021B	13446

Analysis Batch: 13868

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1653-1	SS01	Total/NA	Solid	Total BTEX	
890-1653-2	SS02	Total/NA	Solid	Total BTEX	
890-1653-3	SS03	Total/NA	Solid	Total BTEX	
890-1653-4	SS04	Total/NA	Solid	Total BTEX	
890-1653-5	SS05	Total/NA	Solid	Total BTEX	
890-1653-6	SS06	Total/NA	Solid	Total BTEX	
890-1653-7	SS07	Total/NA	Solid	Total BTEX	
890-1653-8	SS08	Total/NA	Solid	Total BTEX	
890-1653-9	SS09	Total/NA	Solid	Total BTEX	

QC Association Summary

Client: WSP USA Inc. Job ID: 890-1653-1
Project/Site: Macho Nacho State Com 010H SDG: 31403720.000 Task 15.02

GC Semi VOA

Prep Batch: 13833

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1653-1	SS01	Total/NA	Solid	8015NM Prep	
890-1653-2	SS02	Total/NA	Solid	8015NM Prep	
890-1653-3	SS03	Total/NA	Solid	8015NM Prep	
890-1653-4	SS04	Total/NA	Solid	8015NM Prep	
890-1653-5	SS05	Total/NA	Solid	8015NM Prep	
890-1653-6	SS06	Total/NA	Solid	8015NM Prep	
890-1653-7	SS07	Total/NA	Solid	8015NM Prep	
890-1653-8	SS08	Total/NA	Solid	8015NM Prep	
890-1653-9	SS09	Total/NA	Solid	8015NM Prep	
MB 880-13833/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-13833/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-13833/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-1658-A-1-D MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-1658-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 13850

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1653-1	SS01	Total/NA	Solid	8015B NM	13833
890-1653-2	SS02	Total/NA	Solid	8015B NM	13833
890-1653-3	SS03	Total/NA	Solid	8015B NM	13833
890-1653-4	SS04	Total/NA	Solid	8015B NM	13833
890-1653-5	SS05	Total/NA	Solid	8015B NM	13833
890-1653-6	SS06	Total/NA	Solid	8015B NM	13833
890-1653-7	SS07	Total/NA	Solid	8015B NM	13833
890-1653-8	SS08	Total/NA	Solid	8015B NM	13833
890-1653-9	SS09	Total/NA	Solid	8015B NM	13833
MB 880-13833/1-A	Method Blank	Total/NA	Solid	8015B NM	13833
LCS 880-13833/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	13833
LCSD 880-13833/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	13833
890-1658-A-1-D MS	Matrix Spike	Total/NA	Solid	8015B NM	13833
890-1658-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	13833

Analysis Batch: 14112

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1653-1	SS01	Total/NA	Solid	8015 NM	
890-1653-2	SS02	Total/NA	Solid	8015 NM	
890-1653-3	SS03	Total/NA	Solid	8015 NM	
890-1653-4	SS04	Total/NA	Solid	8015 NM	
890-1653-5	SS05	Total/NA	Solid	8015 NM	
890-1653-6	SS06	Total/NA	Solid	8015 NM	
890-1653-7	SS07	Total/NA	Solid	8015 NM	
890-1653-8	SS08	Total/NA	Solid	8015 NM	
890-1653-9	SS09	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 13650

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1653-1	SS01	Soluble	Solid	DI Leach	
890-1653-2	SS02	Soluble	Solid	DI Leach	
890-1653-3	SS03	Soluble	Solid	DI Leach	

QC Association Summary

Client: WSP USA Inc. Job ID: 890-1653-1
Project/Site: Macho Nacho State Com 010H SDG: 31403720.000 Task 15.02

HPLC/IC (Continued)

Leach Batch: 13650 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1653-4	SS04	Soluble	Solid	DI Leach	
890-1653-5	SS05	Soluble	Solid	DI Leach	
890-1653-6	SS06	Soluble	Solid	DI Leach	
890-1653-7	SS07	Soluble	Solid	DI Leach	
890-1653-8	SS08	Soluble	Solid	DI Leach	
890-1653-9	SS09	Soluble	Solid	DI Leach	
MB 880-13650/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-13650/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-13650/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-1653-9 MS	SS09	Soluble	Solid	DI Leach	
890-1653-9 MSD	SS09	Soluble	Solid	DI Leach	

Analysis Batch: 14305

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1653-1	SS01	Soluble	Solid	300.0	13650
890-1653-2	SS02	Soluble	Solid	300.0	13650
890-1653-3	SS03	Soluble	Solid	300.0	13650
890-1653-4	SS04	Soluble	Solid	300.0	13650
890-1653-5	SS05	Soluble	Solid	300.0	13650
890-1653-6	SS06	Soluble	Solid	300.0	13650
890-1653-7	SS07	Soluble	Solid	300.0	13650
890-1653-8	SS08	Soluble	Solid	300.0	13650
890-1653-9	SS09	Soluble	Solid	300.0	13650
MB 880-13650/1-A	Method Blank	Soluble	Solid	300.0	13650
LCS 880-13650/2-A	Lab Control Sample	Soluble	Solid	300.0	13650
LCSD 880-13650/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	13650
890-1653-9 MS	SS09	Soluble	Solid	300.0	13650
890-1653-9 MSD	SS09	Soluble	Solid	300.0	13650

Lab Chronicle

Client: WSP USA Inc. Job ID: 890-1653-1
Project/Site: Macho Nacho State Com 010H SDG: 31403720.000 Task 15.02

Client Sample ID: SS01 Lab Sample ID: 890-1653-1

Date Collected: 11/29/21 10:55 **Matrix: Solid**
Date Received: 11/29/21 14:05

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	13446	12/01/21 10:18	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	13722	12/02/21 23:31	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			13868	12/03/21 10:44	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			14112	12/06/21 15:44	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	13833	12/03/21 08:25	DM	XEN MID
Total/NA	Analysis	8015B NM		1			13850	12/03/21 14:55	AJ	XEN MID
Soluble	Leach	DI Leach			5.01 g	50 mL	13650	12/01/21 11:27	CA	XEN MID
Soluble	Analysis	300.0		1			14305	12/09/21 05:59	CH	XEN MID

Client Sample ID: SS02 Lab Sample ID: 890-1653-2

Date Collected: 11/29/21 10:57 **Matrix: Solid**
Date Received: 11/29/21 14:05

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.95 g	5 mL	13446	12/01/21 10:18	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	13722	12/02/21 23:52	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			13868	12/03/21 10:44	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			14112	12/06/21 15:44	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	13833	12/03/21 08:25	DM	XEN MID
Total/NA	Analysis	8015B NM		1			13850	12/03/21 15:16	AJ	XEN MID
Soluble	Leach	DI Leach			5 g	50 mL	13650	12/01/21 11:27	CA	XEN MID
Soluble	Analysis	300.0		1			14305	12/09/21 06:05	CH	XEN MID

Client Sample ID: SS03 Lab Sample ID: 890-1653-3

Date Collected: 11/29/21 11:04 **Matrix: Solid**
Date Received: 11/29/21 14:05

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.00 g	5 mL	13446	12/01/21 10:18	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	13722	12/03/21 00:12	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			13868	12/03/21 10:44	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			14112	12/06/21 15:44	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	13833	12/03/21 08:25	DM	XEN MID
Total/NA	Analysis	8015B NM		1			13850	12/03/21 15:38	AJ	XEN MID
Soluble	Leach	DI Leach			5.05 g	50 mL	13650	12/01/21 11:27	CA	XEN MID
Soluble	Analysis	300.0		1			14305	12/09/21 06:12	CH	XEN MID

Client Sample ID: SS04 Lab Sample ID: 890-1653-4

Date Collected: 11/29/21 11:01 **Matrix: Solid**
Date Received: 11/29/21 14:05

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.05 g	5 mL	13446	12/01/21 10:18	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	13722	12/03/21 00:32	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			13868	12/03/21 10:44	AJ	XEN MID

Eurofins Xenco, Carlsbad

Lab Chronicle

Client: WSP USA Inc.
Project/Site: Macho Nacho State Com 010H

Job ID: 890-1653-1
SDG: 31403720.000 Task 15.02

Client Sample ID: SS04

Date Collected: 11/29/21 11:01
Date Received: 11/29/21 14:05

Lab Sample ID: 890-1653-4
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8015 NM		1			14112	12/06/21 15:44	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	13833	12/03/21 08:25	DM	XEN MID
Total/NA	Analysis	8015B NM		1			13850	12/03/21 16:21	AJ	XEN MID
Soluble	Leach	DI Leach			4.98 g	50 mL	13650	12/01/21 11:27	CA	XEN MID
Soluble	Analysis	300.0		1			14305	12/09/21 06:32	CH	XEN MID

Client Sample ID: SS05

Date Collected: 11/29/21 11:10
Date Received: 11/29/21 14:05

Lab Sample ID: 890-1653-5
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	13446	12/01/21 10:18	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	13722	12/03/21 00:53	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			13868	12/03/21 10:44	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			14112	12/06/21 15:44	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	13833	12/03/21 08:25	DM	XEN MID
Total/NA	Analysis	8015B NM		1			13850	12/03/21 16:43	AJ	XEN MID
Soluble	Leach	DI Leach			5.03 g	50 mL	13650	12/01/21 11:27	CA	XEN MID
Soluble	Analysis	300.0		1			14305	12/09/21 06:39	CH	XEN MID

Client Sample ID: SS06

Date Collected: 11/29/21 11:37
Date Received: 11/29/21 14:05

Lab Sample ID: 890-1653-6
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	13446	12/01/21 10:18	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	13722	12/03/21 01:13	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			13868	12/03/21 10:44	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			14112	12/06/21 15:44	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	13833	12/03/21 08:25	DM	XEN MID
Total/NA	Analysis	8015B NM		1			13850	12/03/21 17:05	AJ	XEN MID
Soluble	Leach	DI Leach			5.05 g	50 mL	13650	12/01/21 11:27	CA	XEN MID
Soluble	Analysis	300.0		1			14305	12/09/21 06:45	CH	XEN MID

Client Sample ID: SS07

Date Collected: 11/29/21 11:39
Date Received: 11/29/21 14:05

Lab Sample ID: 890-1653-7
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.98 g	5 mL	13446	12/01/21 10:18	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	13722	12/03/21 01:34	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			13868	12/03/21 10:44	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			14112	12/06/21 15:44	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	13833	12/03/21 08:25	DM	XEN MID
Total/NA	Analysis	8015B NM		1			13850	12/03/21 17:27	AJ	XEN MID

Eurofins Xenco, Carlsbad

Lab Chronicle

Client: WSP USA Inc. Job ID: 890-1653-1
Project/Site: Macho Nacho State Com 010H SDG: 31403720.000 Task 15.02

Client Sample ID: SS07 Lab Sample ID: 890-1653-7

Date Collected: 11/29/21 11:39 **Matrix: Solid**
Date Received: 11/29/21 14:05

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5.01 g	50 mL	13650	12/01/21 11:27	CA	XEN MID
Soluble	Analysis	300.0		1			14305	12/09/21 06:52	CH	XEN MID

Client Sample ID: SS08 Lab Sample ID: 890-1653-8

Date Collected: 11/29/21 11:42 **Matrix: Solid**
Date Received: 11/29/21 14:05

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.99 g	5 mL	13446	12/01/21 10:18	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	13722	12/03/21 01:54	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			13868	12/03/21 10:44	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			14112	12/06/21 15:44	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	13833	12/03/21 08:25	DM	XEN MID
Total/NA	Analysis	8015B NM		1			13850	12/03/21 17:48	AJ	XEN MID
Soluble	Leach	DI Leach			5 g	50 mL	13650	12/01/21 11:27	CA	XEN MID
Soluble	Analysis	300.0		1			14305	12/09/21 06:59	CH	XEN MID

Client Sample ID: SS09 Lab Sample ID: 890-1653-9

Date Collected: 11/29/21 11:44 **Matrix: Solid**
Date Received: 11/29/21 14:05

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.96 g	5 mL	13446	12/01/21 10:18	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	13722	12/03/21 02:14	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			13868	12/03/21 10:44	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			14112	12/06/21 15:44	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	13833	12/03/21 08:25	DM	XEN MID
Total/NA	Analysis	8015B NM		1			13850	12/03/21 18:09	AJ	XEN MID
Soluble	Leach	DI Leach			5.04 g	50 mL	13650	12/01/21 11:27	CA	XEN MID
Soluble	Analysis	300.0		1			14305	12/09/21 07:05	CH	XEN MID

Laboratory References:

XEN MID = Eurofins Xenco, Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Accreditation/Certification Summary

Client: WSP USA Inc.
Job ID: 890-1653-1
Project/Site: Macho Nacho State Com 010H
SDG: 31403720.000 Task 15.02

Laboratory: Eurofins Xenco, Midland

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-21-22	06-30-22

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
8015 NM		Solid	Total TPH
Total BTEX		Solid	Total BTEX

Method Summary

Client: WSP USA Inc.
Project/Site: Macho Nacho State Com 010H

Job ID: 890-1653-1
SDG: 31403720.000 Task 15.02

Method	Method Description	Protocol	Laboratory
8021B	Volatile Organic Compounds (GC)	SW846	XEN MID
Total BTEX	Total BTEX Calculation	TAL SOP	XEN MID
8015 NM	Diesel Range Organics (DRO) (GC)	SW846	XEN MID
8015B NM	Diesel Range Organics (DRO) (GC)	SW846	XEN MID
300.0	Anions, Ion Chromatography	MCAWW	XEN MID
5035	Closed System Purge and Trap	SW846	XEN MID
8015NM Prep	Microextraction	SW846	XEN MID
DI Leach	Deionized Water Leaching Procedure	ASTM	XEN MID

Protocol References:

ASTM = ASTM International

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

XEN MID = Eurofins Xenco, Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Sample Summary

Client: WSP USA Inc.
Project/Site: Macho Nacho State Com 010H

Job ID: 890-1653-1
SDG: 31403720.000 Task 15.02

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-1653-1	SS01	Solid	11/29/21 10:55	11/29/21 14:05	0.5
890-1653-2	SS02	Solid	11/29/21 10:57	11/29/21 14:05	0.5
890-1653-3	SS03	Solid	11/29/21 11:04	11/29/21 14:05	0.5
890-1653-4	SS04	Solid	11/29/21 11:01	11/29/21 14:05	0.5
890-1653-5	SS05	Solid	11/29/21 11:10	11/29/21 14:05	0.5
890-1653-6	SS06	Solid	11/29/21 11:37	11/29/21 14:05	0.5
890-1653-7	SS07	Solid	11/29/21 11:39	11/29/21 14:05	0.5
890-1653-8	SS08	Solid	11/29/21 11:42	11/29/21 14:05	0.5
890-1653-9	SS09	Solid	11/29/21 11:44	11/29/21 14:05	0.5

Eurofins Xenco, Carlsbad
1089 N Canal St.
Carlsbad NM 88220
Phone 575-988-3199 Fax: 575-988-3199

Chain of Custody Record

eurofins | Environment Testing America

Client Information (Sub Contract Lab)	Sampler	Lab PM: Kramer, Jessica	Carrier Tracking No(s)	COC No: 890-527 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: jessica kramer@eurofinset.com	State of Origin: New Mexico	Page: Page 1 of 1
Company: Eurofins Xenco		Accreditations Required (See note): NELAP - Louisiana NELAP - Texas		Job #: 890-1653-1
Address: 1211 W Florida Ave	Due Date Requested: 12/3/2021			
City: Midland	TAT Requested (days):			
State, Zip: TX 79701				
Phone: 432-704-5440(Tel)	PO #:			
Email:	WO #:			
Project Name: Macho Nacho State Com 010H	Project #: 89000048			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL, B NaOH, C Zn Acetate, D Nitric Acid, E NaHSO4, F MeOH, G Amchlor, H Ascorbic Acid, I Ice, J DI Water, K EDTA, L EDA, M Hexane, N None, O AsNaO2, P - Na2O4S, Q Na2SO3, R Na2S2O3, S H2SO4, T - TSP Dodecahydrate, U Acetone, V MCAA, W pH 4-5, Z other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8015MOD_NM/8015NM_S_Prep Full TPH	300_ORGFM_28D/DI_LEACH Chloride	8021B/5035FP_Calc BTEX	Total_BTEX_GCV	8015MOD_Calc	Total Number of containers	Special Instructions/Note:
Preservation Code:													
SS01 (890-1653-1)	11/29/21	10 55 Mountain		Solid			X	X	X	X	X	1	
SS02 (890-1653-2)	11/29/21	10 57 Mountain		Solid			X	X	X	X	X	1	
SS03 (890-1653-3)	11/29/21	11 04 Mountain		Solid			X	X	X	X	X	1	
SS04 (890-1653-4)	11/29/21	11 01 Mountain		Solid			X	X	X	X	X	1	
SS05 (890-1653-5)	11/29/21	11 10 Mountain		Solid			X	X	X	X	X	1	
SS06 (890-1653-6)	11/29/21	11 37 Mountain		Solid			X	X	X	X	X	1	
SS07 (890-1653-7)	11/29/21	11 39 Mountain		Solid			X	X	X	X	X	1	
SS08 (890-1653-8)	11/29/21	11 42 Mountain		Solid			X	X	X	X	X	1	
SS09 (890-1653-9)	11/29/21	11 44 Mountain		Solid			X	X	X	X	X	1	

Note Since laboratory accreditations are subject to change, Eurofins Xenco LLC places the ownership of method analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed the samples must be shipped back to the Eurofins Xenco LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Xenco LLC attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Xenco LLC

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I II III IV Other (specify) Primary Deliverable Rank. 2	Special Instructions/QC Requirements

Empty Kit Relinquished by	Date	Time.	Method of Shipment:
Relinquished by: Cle Cup 11-29-21	Date/Time.	Company	Received by: Kramer Date/Time: 11-30-21 1140 Company
Relinquished by:	Date/Time	Company	Received by: Date/Time Company
Relinquished by:	Date/Time	Company	Received by: Date/Time: Company

Custody Seals Intact. Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks.

Ver: 06/08/2021

Login Sample Receipt Checklist

Client: WSP USA Inc.

Job Number: 890-1653-1
SDG Number: 31403720.000 Task 15.02

Login Number: 1653
List Number: 1
Creator: Olivas, Nathaniel

List Source: Eurofins Xenco, Carlsbad

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	

Login Sample Receipt Checklist

Client: WSP USA Inc.

Job Number: 890-1653-1
SDG Number: 31403720.000 Task 15.02

Login Number: 1653
List Number: 2
Creator: Kramer, Jessica

List Source: Eurofins Xenco, Midland
List Creation: 11/30/21 11:54 AM

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	

ENSOLUM

APPENDIX D

NMOCD Notifications

From: Beauvais, Charles R
To: Kalei Jennings
Subject: FW: Extension Request- Macho Nacho (Incident Number NAPP2132756247)
Date: Tuesday, April 12, 2022 12:48:03 PM
Attachments: image001.png
Macho Nacho Table (NAPP2132756247).pdf

[**EXTERNAL EMAIL**]

FYI

From: Beauvais, Charles R
Sent: Friday, April 8, 2022 3:00 PM
To: Hensley, Chad, EMNRD <Chad.Hensley@state.nm.us>; EMNRD-OCD-District1spills <EMNRD-OCD-District1spills@state.nm.us>; Esparza, Brittany <Brittany.Esparza@conocophillips.com>; Fejervary Morena, Gustavo A <G.Fejervary@conocophillips.com>
Cc: Bratcher, Mike, EMNRD <mike.bratcher@state.nm.us>
Subject: Extension Request- Macho Nacho (Incident Number NAPP2132756247)

To Whom It May Concern,

COP is requesting an extension of the current April 10, 2022 deadline for submitting a Remediation Work Plan or Closure Report required in 19.15.29.12.B.(1) NMAC for the Macho Nacho State Com 010 CTB (Incident Number NAPP2132756247). The release was discovered on November 11, 2021 and remediation activities are ongoing. In addition, COP intends to drill a depth to water boring to confirm the closure criteria at the Site. In order to complete remediation activities, allow time to drill the depth to water boring, and submit a remediation work plan or closure report, COP request a 90-day extension of the deadline until July 10, 2022.

Respectfully,

Charles R. Beauvais **II**
Senior Environmental Engineer **|** Environmental Operations **| ConocoPhillips**
(M) 575-988-2043
Charles.R.Beauvais@conocophillips.com

Our work is never so urgent or important that we cannot take the time to do it safely and in an environmentally responsible manner.

From: Beauvais, Charles R
To: Kalei Jennings
Subject: FW: [EXTERNAL](Extension Denied) - Macho Nacho (Incident Number NAPP2132756247)
Date: Tuesday, April 12, 2022 12:46:38 PM
Attachments: image003.png

[**EXTERNAL EMAIL**]

Per our discussion.

From: Esparza, Brittany <Brittany.Esparza@conocophillips.com>
Sent: Tuesday, April 12, 2022 7:56 AM
To: Beauvais, Charles R <Charles.R.Beauvais@conocophillips.com>
Subject: FW: [EXTERNAL](Extension Denied) - Macho Nacho (Incident Number NAPP2132756247)

Charles, not sure if you saw this one or not but it was denied.

Thank you,
Brittany N. Esparza
Brittany N. Esparza | **Environmental Technician, Permian** | **ConocoPhillips**
O: 432-221-0398 | **C**: 432-349-1911 | 1CC-331 Midland, Texas

---

From: Hamlet, Robert, EMNRD <Robert.Hamlet@state.nm.us>
Sent: Friday, April 8, 2022 4:38 PM
To: Beauvais, Charles R <Charles.R.Beauvais@conocophillips.com>
Cc: Esparza, Brittany <Brittany.Esparza@conocophillips.com>; Fejervary Morena, Gustavo A <G.Fejervary@conocophillips.com>; Bratcher, Mike, EMNRD <mike.bratcher@state.nm.us>; Hensley, Chad, EMNRD <Chad.Hensley@state.nm.us>; Velez, Nelson, EMNRD <Nelson.Velez@state.nm.us>; Nobui, Jennifer, EMNRD <Jennifer.Nobui@state.nm.us>
Subject: [EXTERNAL](Extension Denied) - Macho Nacho (Incident Number NAPP2132756247)

CAUTION:This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

RE: Incident #**NAPP2132756247**

Charles,

An extension for this release has already been granted. A remediation plan for this incident was due on 3/10/2022. Your request for another extension is **denied**. Include this e-mail correspondence in the remediation and/or closure report.

Robert Hamlet ● Environmental Specialist - Advanced

Environmental Bureau
EMNRD - Oil Conservation Division
811 S. First Street | Artesia, NM 88210
575.909.0302 | robert.hamlet@state.nm.us
http://www.emnrd.state.nm.us/OCD/

From: Beauvais, Charles R <Charles.R.Beauvais@conocophillips.com>
Sent: Friday, April 8, 2022 3:00 PM
To: Hensley, Chad, EMNRD <Chad.Hensley@state.nm.us>; EMNRD-OCD-District1spills <EMNRD-OCD-District1spills@state.nm.us>; Esparza, Brittany <Brittany.Esparza@conocophillips.com>; Fejervary Morena, Gustavo A <G.Fejervary@conocophillips.com>
Cc: Bratcher, Mike, EMNRD <mike.bratcher@state.nm.us>
Subject: [EXTERNAL] Extension Request- Macho Nacho (Incident Number NAPP2132756247)

To Whom It May Concern,

COP is requesting an extension of the current April 10, 2022 deadline for submitting a Remediation Work Plan or Closure Report required in 19.15.29.12.B.(1) NMAC for the Macho Nacho State Com 010 CTB (Incident Number NAPP2132756247). The release was discovered on November 11, 2021 and remediation activities are ongoing. In addition, COP intends to drill a depth to water boring to confirm the closure criteria at the Site. In order to complete remediation activities, allow time to drill the depth to water boring, and submit a remediation work plan or closure report, COP request a 90-day extension of the deadline until July 10, 2022.

Respectfully,

Charles R. Beauvais II
Senior Environmental Engineer | Environmental Operations | **ConocoPhillips**
(M) 575-988-2043
Charles.R.Beauvais@conocophillips.com

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ConocoPhillips

ENSOLUM

APPENDIX E

Final C-141

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

State of New Mexico
Energy Minerals and Natural Resources Department

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

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

Incident ID	
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)

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

Form C-141
Page 2

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

Was this a major release as defined by 19.15.29.7(A) NMAC? ☐ Yes ☐ 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

☐ The source of the release has been stopped.
☐ The impacted area has been secured to protect human health and the environment.
☐ Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices.
☐ All free liquids and recoverable materials have been removed and managed appropriately.

If all the actions described above have not 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: _____ Date: _____

email: _____ Telephone: _____

OCD Only

Received by: Ramona Marcus Date: 11/29/2021

L48 Spill Volume Estimate Form

Well Number:	Macho Nacho #10
Asset Area:	Delaware basin east north
Release Discovery Date & Time:	11/10/2021 9:10am
Release Type:	Oil
Provide any known details about the event:	Heater swamped out causing flare fire

NAPP2132756247

Spill Calculation - On Pad Surface Pool Spill

Convert Irregular shape into a series of rectangles	Length (ft.)	Width (ft.)	Deepest point in each of the areas	No. of boundaries of "shore" in each area	Estimated *Pool* Area (sq. ft.)	Estimated Average Depth (ft.)	Estimated volume of each pool area (bbl.)	Penetration allowance (ft.)	Total Estimated Volume of Spill (bbl.)	Percentage of Oil if Spilled Fluid is a Mixture	Total Estimated Volume of Spilled Oil (bbl.)	Total Estimated Volume of Spilled Liquid other than Oil (bbl.)
Rectangle A	147.0	43.0	0.02	4	6321.000	0.000	0.469	0.000	0.469			
Rectangle B					0.000	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!			
Rectangle C					0.000	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!			
Rectangle D					0.000	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!			
Rectangle E					0.000	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!			
Rectangle F					0.000	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!			
Rectangle G					0.000	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!			
Rectangle H					0.000	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!			
Rectangle I					0.000	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!			
					0.000	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!			
								Total Volume Release:	0.469			

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:
COG OPERATING LLC 600 W Illinois Ave Midland, TX 79701	229137
	Action Number: 63483
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
rmarcus	None	11/29/2021

State of New Mexico
Oil Conservation Division

Incident ID	NAPP2132756247
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?	>100 (ft bgs)
Did this release impact groundwater or surface water?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	☐ Yes ☒ 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)?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	☐ Yes ☒ 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?	☐ Yes ☒ No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	☐ Yes ☒ No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a wetland?	☐ Yes ☒ No
Are the lateral extents of the release overlying a subsurface mine?	☐ Yes ☒ No
Are the lateral extents of the release overlying an unstable area such as karst geology?	☐ Yes ☒ No
Are the lateral extents of the release within a 100-year floodplain?	☐ Yes ☒ No
Did the release impact areas **not** on an exploration, development, production, or storage site?	☐ Yes ☒ No

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

Characterization Report Checklist: ***Each of the following items must be included in the report.***

☒ Scaled site map showing impacted area, surface features, subsurface features, delineation points, and monitoring wells.
☒ Field data
☒ Data table of soil contaminant concentration data
☒ Depth to water determination
☒ Determination of water sources and significant watercourses within ½-mile of the lateral extents of the release
☒ Boring or excavation logs
☒ Photographs including date and GIS information
☒ Topographic/Aerial maps
☒ Laboratory data including chain of custody

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

Form C-141
Page 4

State of New Mexico
Oil Conservation Division

Incident ID	NAPP2132756247
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: Charles Beauvais Title: Senior Environmental Engineer

Signature: Charles R. Beauvais II Date: 05/09/2022

email: Charles.R.Beauvais@conocophillips.com Telephone: 575-988-2043

OCD Only

Received by: _____ Date: _____

Form C-141
Page 5

State of New Mexico
Oil Conservation Division

Incident ID	NAPP2132756247
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: Charles Beauvais Title: Senior Environmental Engineer

Signature: Charles R. Beauvais II Date: 05/09/2022

email: Charles.R.Beauvais@conocophillips.com Telephone: 575-988-2043

OCD Only

Received by: _____ Date: _____

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

Signature: Jennifer Nobui Date: 06/01/2022

District I
1625 N. French Dr., Hobbs, NM 88240
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811 S. First St., Artesia, NM 88210
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Phone:(505) 476-3470 Fax:(505) 476-3462

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

CONDITIONS

Action 109593

CONDITIONS

Operator: COG OPERATING LLC 600 W Illinois Ave Midland, TX 79701	OGRID: 229137
	Action Number: 109593
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
jnobui	Remediation Plan Approved with Conditions. Complete vertical delineation by sample locations SS02 and SS05.	6/1/2022