WSP USA
3300 North "A" Street
Building 1, Unit 222
Midland, Texas 79705
432.704.5178

November 30, 2021

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

**RE: Closure Request**
**Eider 23 Federal**
**Incident Number NAPP2128531481**
**Lea County, New Mexico**

To Whom It May Concern:

WSP USA Inc. (WSP) on behalf of COG Operating, LLC, (COG) presents the following Closure Request detailing site assessment and soil sampling activities at the Eider 23 Federal (Site) in Unit B, Section 23, Township 24 South, Range 32 East, in Lea County, New Mexico (Figure 1). The purpose of the site assessment and soil sampling activities was to assess for the presence or absence of impacts to soil following a release of produced water at the Site. Based on field observations, field screening activities, and soil sample laboratory analytical results, COG is submitting this Closure Request and requesting no further action (NFA) for Incident Number NAPP2128531481.

## RELEASE BACKGROUND

On September 1, 2021, a lease operator turned a well into a test separator and failed to notice that a ball valve was missing from under the water dump. Approximately 8.2 barrels (bbls) of produced water were released into the lined containment. A vacuum truck was dispatched to remove free-standing fluids. COG reported the release to the New Mexico Oil Conservation Division (NMOCD) on a Release Notification Form C-141 (Form C-141). The release was assigned Incident Number nAPP2128531481.

## SITE CHARACTERIZATION

WSP characterized the Site 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). Depth to groundwater at the Site is estimated to less than 50 feet below ground surface (bgs) based on the nearest groundwater well data. The nearest permitted groundwater well with depth to groundwater data is the United States Geological Survey (USGS) well 321312103395601, located approximately 1.7 miles northwest of the Site. The groundwater well was most recently measured in December 2010 and has a reported depth to groundwater of 34 feet bgs and a total

depth of 60 feet bgs. All wells used for depth to groundwater determination are depicted on Figure 1. The referenced well records are included in Attachment 1.

The closest continuously flowing or significant watercourse to the Site is a freshwater emergent wetland located approximately 1-mile northwest 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, or church. 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 karst designation area). Site receptors are identified on Figure 1.

**CLOSURE CRITERIA**

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): 100 mg/kg
- Chloride: 600 mg/kg

**LINER INSPECTION**

WSP personnel conducted a liner integrity inspection to confirm that the liner was operating as designed. The liner was visually inspected and no rips, holes, or damage to the liner was observed. The liner was determined to be in good condition. WSP observed potential discolored soil on the well pad near the containment. As a precaution, WSP collected three assessment soil samples (SS01 through SS03) from a depth of 0.5 feet bgs in the release area outside of the lined containment to assess for the presence or absence of impacted soil. Soil from the soil samples was field screened for volatile aromatic hydrocarbons and chloride utilizing a calibrated photoionization detector (PID) and Hach® chloride QuanTab® test strips, respectively. The potentially stained or wet area and soil sample locations were mapped utilizing a handheld Global Positioning System (GPS) unit and are depicted on Figure 2. Photographic documentation was conducted during the Site visit. A photographic log is included in Attachment 2.

The 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, TPH-

diesel range organics, and TPH-oil range organics (ORO) following EPA Method 8015M/D; and chloride following EPA Method 300.0.

**SOIL ANALYTICAL RESULTS**

Laboratory analytical results for soil samples SS01 through SS03 indicated that no benzene, BTEX, or TPH concentrations were detected in the precautionary samples. Chloride concentrations were compliant with the most stringent of NMOCD Table 1 Closure Criteria. Laboratory analytical results are summarized in Table 1 and the complete laboratory analytical report is included as Attachment 3.

**CLOSURE REQUEST**

The produced water release occurred within lined containment; the liner was inspected and determined to be in good condition. Soil samples SS01 through SS03 were collected within an area that appeared discolored outside of the lined containment as a precautionary measure to assess for the presence or absence of soil impacts. Laboratory analytical results for the soil samples indicated that no benzene, BTEX, or TPH concentrations were detected, and chloride concentrations were compliant with the most stringent Closure Criteria. The area did not appear to be impacted by the release.

Based on soil sample laboratory analytical results compliant with the most stringent Table 1 Closure Criteria, no impacted soil was identified, and no excavation was warranted as a result of the release. As such, COG respectfully requests no further action for Incident Number nAPP2128531481. If you have any questions or comments, please do not hesitate to contact Ms. Ashley Ager at (970) 385-1096. The final Form C-141 is included in Attachment 4.

Sincerely,

WSP USA Inc.

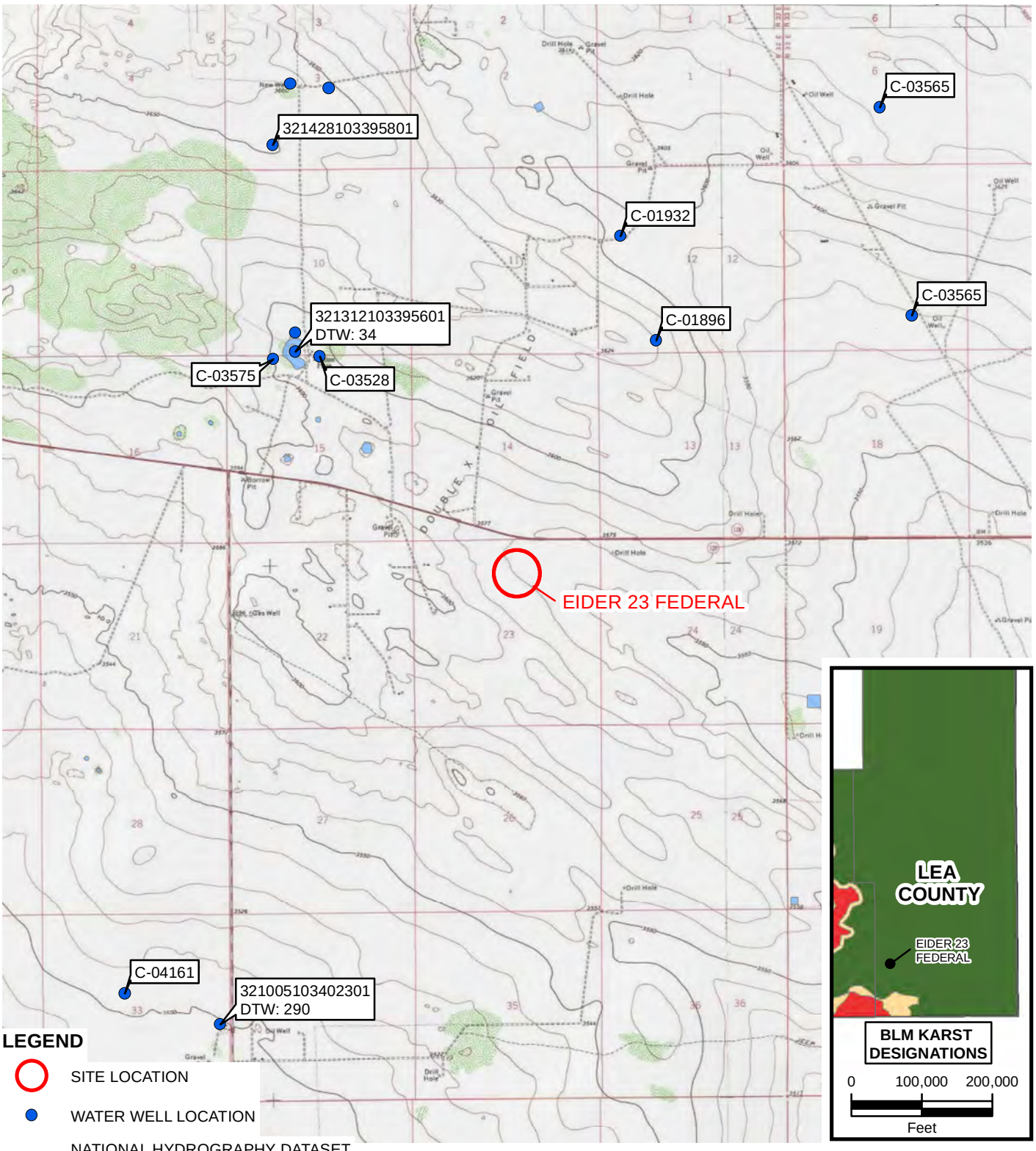
Kalei Jennings
Associate Consultant

Ashley L. Ager, P.G.
Managing Director, Geologist

cc: Kelsy Waggaman, COG

Attachments:

FIGURES




**LEGEND**

- SITE LOCATION
- WATER WELL LOCATION
- NATIONAL HYDROGRAPHY DATASET SURFACE WATER FEATURE
- NATIONAL WETLANDS INVENTORY SURFACE WATER FEATURE
- LOW KARST
- MEDIUM KARST
- HIGH KARST

NOTE: INCIDENT NUMBER NAPP2128531481
DTW: DEPTH TO WATER IN FEET
BLM: BUREAU OF LAND MANAGEMENT

FIGURE 1
SITE LOCATION MAP
EIDER 23 FEDERAL
UNIT B SEC 23 T24S R32E
LEA COUNTY, NEW MEXICO
**COG OPERATING, LLC**

P:\Concho Operating\GIS\31402909.220_EIDER 23 FEDERAL\MXD\31402909.220_FIG01_SL_RECEPTOR_2021.mxd


IMAGE COURTESY OF ESRI

**LEGEND**

SOIL SAMPLE IN COMPLIANCE WITH APPLICABLE CLOSURE CRITERIA

WET AREA

LINED CONTAINMENT

0 50 100

Feet

N

NOTE: INCIDENT NUMBER NAPP2128531481
SAMPLE ID@DEPTH BELOW GROUND SURFACE (FEET)

FIGURE 2
SOIL SAMPLE LOCATIONS
EIDER 23 FEDERAL
UNIT B SEC 23 T24S R32E
LEA COUNTY, NEW MEXICO
**COG OPERATING, LLC**

P:\Concho Operating\GIS\31402909.220_EIDER 23 FEDERAL\MXD\31402909.220_FIG02_SS_LOC_2021.mxd

TABLES

**Table 1**

**Soil Analytical Results**
**Eider 23 Federal**
**Incident Number NAPP2128531481**
**Lea County, New Mexico**

| Sample ID | Sample Date | Sample Depth (ft bgs) | Benzene (mg/kg) | BTEX (mg/kg) | TPH-DRO (mg/kg) | TPH-GRO (mg/kg) | TPH-ORO (mg/kg) | Total GRO+DRO (mg/kg) | TPH (mg/kg) | Chloride (mg/kg) |
|---|---|---|---|---|---|---|---|---|---|---|
| **NMOCD Table 1 Closure Criteria (NMAC 19.15.29)** | | | 10 | 50 | NE | NE | NE | NE | 100 | 600 |
| **Assessment Soil Samples** | | | | | | | | | | |
| SS01 | 10/19/2021 | 0.5 | <0.00198 | <0.00396 | <50.0 | <50.0 | <50.0 | <50.0 | <50.0 | 18.5 |
| SS02 | 10/19/2021 | 0.5 | <0.00200 | <0.00400 | <49.9 | <49.9 | <49.9 | <49.9 | <49.9 | 362 |
| SS03 | 10/19/2021 | 0.5 | 0.00237 | <0.00402 | <49.9 | <49.9 | <49.9 | <49.9 | <49.9 | 55.9 |

**Notes:**

ft - feet/foot
mg/kg - milligrams per kilograms
BTEX - benzene, toluene, ethylbenzene, and total xylenes
TPH - total petroleum hydrocarbons
DRO - diesel range organics
GRO - gasoline range organics
ORO - oil range organics
NMOCD - New Mexico Oil Conservation Division
NMAC - New Mexico Administrative Code
< - indicates result is less than the stated laboratory method practical quantitation limit
NE - Not Established
**BOLD -** indicates results exceed the higher of the background sample result or applicable regulatory standard

ATTACHMENT 1: REFERENCED WELL RECORD

# New Mexico Office of the State Engineer
# Water Right Summary

get image list

**WR File Number:** C 03528 **Subbasin:** C **Cross Reference:** -

**Primary Purpose:** STK 72-12-1 LIVESTOCK WATERING

**Primary Status:** PMT PERMIT

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

**Total Diversion:** 3 **Cause/Case:** -

**Owner:** NGL WATER SOLUTIONS PERMIAN

**Contact:** R CHARLES WILKIN

**Documents on File**

| | Trn # | Doc | File/Act | Status 1 | Status 2 | Transaction Desc. | From/ To | Acres | Diversion | Consumptive |
|---|---|---|---|---|---|---|---|---|---|---|
| get images | 633171 | COWNF | 2018-09-17 | CHG | PRC | C 03528 | T | | 0 | |
| get images | 491386 | 72121 | 2011-12-14 | PMT | LOG | C 03528 | T | | 3 | |

**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 03528 POD1 | | Shallow | 1 | 1 | 2 | 15 | 24S | 32E | 626040 | 3566129 | NO FIELD GPS DONE BY DRILLER |

# *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 03528 POD1 | 1 | 1 | 2 | 15 | 24S | 32E | 626040 | 3566129 |

**Driller License:** 1682 **Driller Company:** HUNGRY HORSE, LLC.

**Driller Name:** NORRIS, JOHN D. (LD)

**Drill Start Date:** 02/20/2012 **Drill Finish Date:** 03/12/2012 **Plug Date:**

**Log File Date:** 04/30/2012 **PCW Rcv Date:** **Source:** Shallow

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

**Casing Size:** 6.38 **Depth Well:** 541 feet **Depth Water:**

| Water Bearing Stratifications: | Top | Bottom | Description |
|---|---|---|---|
| | 133 | 152 | Sandstone/Gravel/Conglomerate |

| Casing Perforations: | Top | Bottom |
|---|---|---|
| | 133 | 152 |

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:

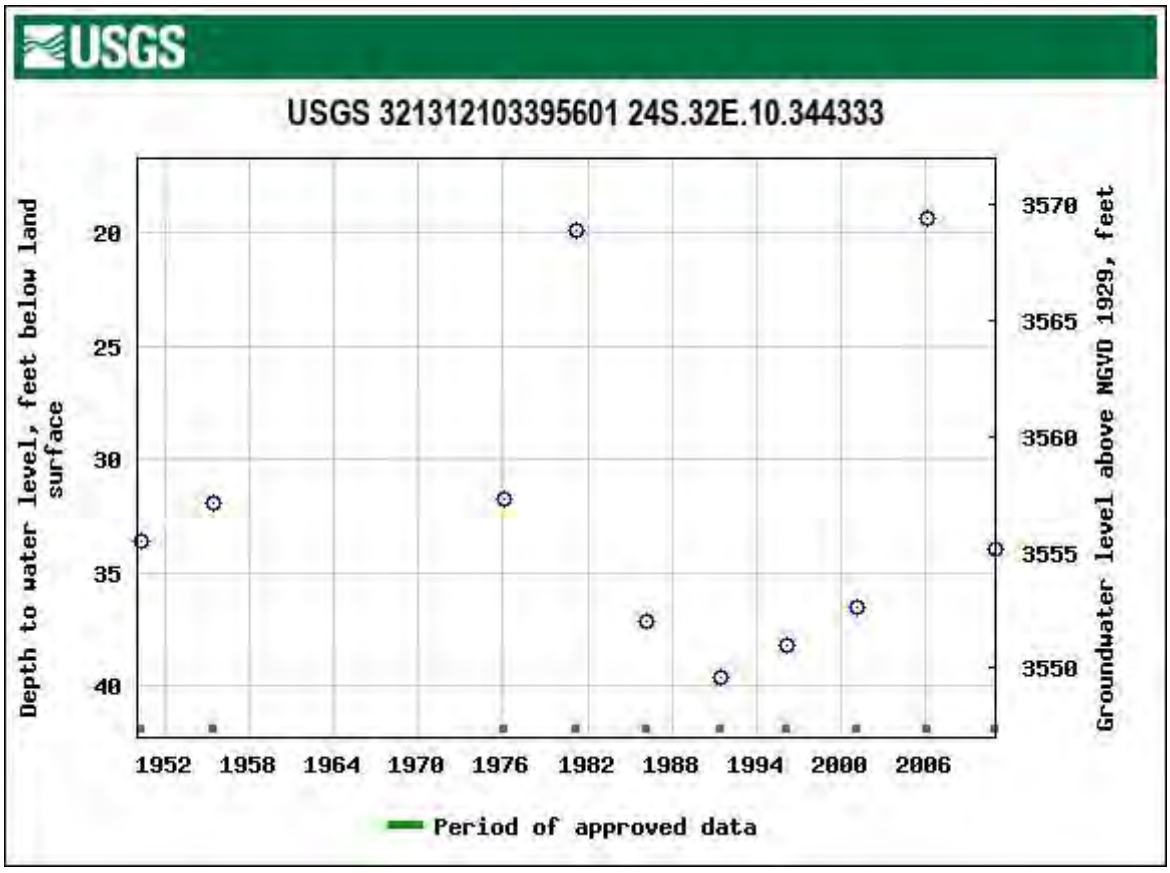
Latitude 32°13'30.4", Longitude 103°39'52.7" NAD83
Lea County, New Mexico , Hydrologic Unit 13070007
Well depth: 60 feet
Land surface altitude: 3,589.00 feet above NGVD29.
Well completed in "Other aquifers" (N9999OTHER) national aquifer.
Well completed in "Alluvium, Bolson Deposits and Other Surface 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
3570
3565
3560
3555
3550
Groundwater level above NGVD 1929, feet
1952
1958
1964
1970
1976
1982
1988
1994
2000
2006
Period of approved data

ATTACHMENT 2: PHOTOGRAPHIC LOG

| PHOTOGRAPHIC LOG | | |
|---|---|---|
| COG OPERATING, LLC | Eider 23 Federal<br>Lea County, New Mexico | NAPP2128531481 |

| Photo No. | Date |
|---|---|
| 1 | October 19, 2021 |

Photo taken by WSP personal during liner integrity inspection.

| Photo No. | Date |
|---|---|
| 2 | October 19, 2021 |

Photo taken by WSP personal during liner integrity check.

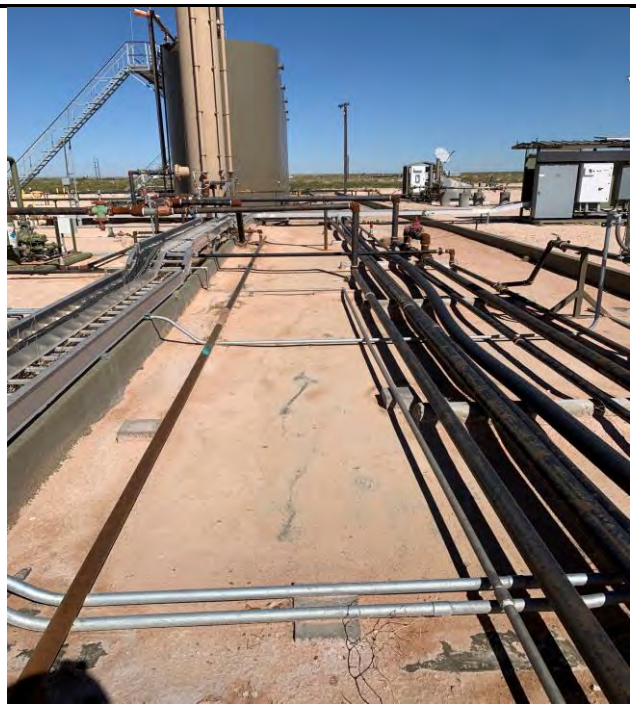
| PHOTOGRAPHIC LOG | | |
|---|---|---|
| COG OPERATING, LLC | Eider 23 Federal<br>Lea County, New Mexico | NAPP2128531481 |

| Photo No. | Date |
|---|---|
| 3 | October 19, 2021 |

Photo taken by WSP personal during liner integrity check.

| Photo No. | Date |
|---|---|
| 4 | October 19, 2021 |

Photo taken by WSP personal during liner integrity check.



| PHOTOGRAPHIC LOG | | |
|---|---|---|
| COG OPERATING, LLC | Eider 23 Federal<br>Lea County, New Mexico | NAPP2128531481 |

| Photo No. | Date |
|---|---|
| 5 | October 19, 2021 |

Photo of potential stained area on the well pad.

ATTACHMENT 3: LABORATORY ANALYTICAL RESULTS

eurofins | Environment Testing America

# ANALYTICAL REPORT

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

Laboratory Job ID: 890-1451-1
Laboratory Sample Delivery Group: 31402909.22
Client Project/Site: Eider 23 Federal

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

Attn: Kalei Jennings

JKramer

*Authorized for release by:*
*10/28/2021 3:12:46 PM*

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: Eider 23 Federal

Laboratory Job ID: 890-1451-1
SDG: 31402909.22

# Table of Contents

# Definitions/Glossary

Client: WSP USA Inc. Job ID: 890-1451-1
Project/Site: Eider 23 Federal SDG: 31402909.22

## Qualifiers

### GC VOA

| Qualifier | Qualifier Description |
|---|---|
| 4 | MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable. |
| F1 | MS and/or MSD recovery exceeds control limits. |
| F2 | MS/MSD RPD exceeds control limits |
| S1- | Surrogate recovery exceeds control limits, low biased. |
| 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, high biased. |
| U | Indicates the analyte was analyzed for but not detected. |

### HPLC/IC

| Qualifier | Qualifier Description |
|---|---|
| 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.
Project/Site: Eider 23 Federal

Job ID: 890-1451-1
SDG: 31402909.22

## Job ID: 890-1451-1

**Laboratory: Eurofins Xenco, Carlsbad**

**Narrative**

**Job Narrative**
**890-1451-1**

**Receipt**
The samples were received on 10/19/2021 3:54 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 4.0°C

**GC VOA**
Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-10011 and analytical batch 880-10332 were outside control limits. Sample matrix interference is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

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

**GC Semi VOA**
Method 8015MOD_NM: Surrogate recovery for the following sample was outside control limits: (890-1450-A-1-D). Evidence of matrix interferences is not obvious.

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

**HPLC/IC**
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: Eider 23 Federal

Job ID: 890-1451-1
SDG: 31402909.22

## Client Sample ID: SS01

**Lab Sample ID: 890-1451-1**
**Matrix: Solid**
**Date Collected: 10/19/21 11:00**
**Date Received: 10/19/21 15:54**
**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 | | 10/20/21 14:16 | 10/24/21 22:17 | 1 |
| Toluene | <0.00198 | U | 0.00198 | | mg/Kg | | 10/20/21 14:16 | 10/24/21 22:17 | 1 |
| Ethylbenzene | <0.00198 | U | 0.00198 | | mg/Kg | | 10/20/21 14:16 | 10/24/21 22:17 | 1 |
| m-Xylene & p-Xylene | <0.00396 | U | 0.00396 | | mg/Kg | | 10/20/21 14:16 | 10/24/21 22:17 | 1 |
| o-Xylene | <0.00198 | U | 0.00198 | | mg/Kg | | 10/20/21 14:16 | 10/24/21 22:17 | 1 |
| Xylenes, Total | <0.00396 | U | 0.00396 | | mg/Kg | | 10/20/21 14:16 | 10/24/21 22:17 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *107* | | *70 - 130* | *10/20/21 14:16* | *10/24/21 22:17* | *1* |
| *1,4-Difluorobenzene (Surr)* | *104* | | *70 - 130* | *10/20/21 14:16* | *10/24/21 22:17* | *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 | | | 10/26/21 15:12 | 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 | | | 10/27/21 11:09 | 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 | | 10/27/21 13:40 | 10/27/21 23:31 | 1 |
| Diesel Range Organics (Over C10-C28) | <50.0 | U | 50.0 | | mg/Kg | | 10/27/21 13:40 | 10/27/21 23:31 | 1 |
| OII Range Organics (Over C28-C36) | <50.0 | U | 50.0 | | mg/Kg | | 10/27/21 13:40 | 10/27/21 23:31 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1-Chlorooctane* | *101* | | *70 - 130* | *10/27/21 13:40* | *10/27/21 23:31* | *1* |
| *o-Terphenyl* | *112* | | *70 - 130* | *10/27/21 13:40* | *10/27/21 23:31* | *1* |

### Method: 300.0 - Anions, Ion Chromatography - Soluble

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Chloride** | **18.5** | | 4.95 | | mg/Kg | | | 10/25/21 22:45 | 1 |

## Client Sample ID: SS02

**Lab Sample ID: 890-1451-2**
**Matrix: Solid**
**Date Collected: 10/19/21 11:03**
**Date Received: 10/19/21 15:54**
**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 | | 10/20/21 14:16 | 10/24/21 22:38 | 1 |
| Toluene | <0.00200 | U | 0.00200 | | mg/Kg | | 10/20/21 14:16 | 10/24/21 22:38 | 1 |
| Ethylbenzene | <0.00200 | U | 0.00200 | | mg/Kg | | 10/20/21 14:16 | 10/24/21 22:38 | 1 |
| m-Xylene & p-Xylene | <0.00400 | U | 0.00400 | | mg/Kg | | 10/20/21 14:16 | 10/24/21 22:38 | 1 |
| o-Xylene | <0.00200 | U | 0.00200 | | mg/Kg | | 10/20/21 14:16 | 10/24/21 22:38 | 1 |
| Xylenes, Total | <0.00400 | U | 0.00400 | | mg/Kg | | 10/20/21 14:16 | 10/24/21 22:38 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *101* | | *70 - 130* | *10/20/21 14:16* | *10/24/21 22:38* | *1* |

Eurofins Xenco, Carlsbad

# Client Sample Results

Client: WSP USA Inc.
Project/Site: Eider 23 Federal

Job ID: 890-1451-1
SDG: 31402909.22

## Client Sample ID: SS02

**Lab Sample ID: 890-1451-2**
**Matrix: Solid**
**Date Collected: 10/19/21 11:03**
**Date Received: 10/19/21 15:54**
**Sample Depth: 0.5**

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

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1,4-Difluorobenzene (Surr)* | *105* | | *70 - 130* | *10/20/21 14:16* | *10/24/21 22:38* | *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 | | | 10/26/21 15:12 | 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 | | | 10/27/21 11:09 | 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 | | 10/27/21 13:40 | 10/27/21 23:51 | 1 |
| Diesel Range Organics (Over C10-C28) | <49.9 | U | 49.9 | mg/Kg | | 10/27/21 13:40 | 10/27/21 23:51 | 1 |
| OII Range Organics (Over C28-C36) | <49.9 | U | 49.9 | mg/Kg | | 10/27/21 13:40 | 10/27/21 23:51 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1-Chlorooctane* | *98* | | *70 - 130* | *10/27/21 13:40* | *10/27/21 23:51* | *1* |
| *o-Terphenyl* | *108* | | *70 - 130* | *10/27/21 13:40* | *10/27/21 23:51* | *1* |

### Method: 300.0 - Anions, Ion Chromatography - Soluble

| Analyte | Result | Qualifier | RL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|
| **Chloride** | **362** | | 25.2 | mg/Kg | | | 10/25/21 22:51 | 5 |

## Client Sample ID: SS03

**Lab Sample ID: 890-1451-3**
**Matrix: Solid**
**Date Collected: 10/19/21 11:06**
**Date Received: 10/19/21 15:54**
**Sample Depth: 0.5**

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

| Analyte | Result | Qualifier | RL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|
| **Benzene** | **0.00237** | | 0.00201 | mg/Kg | | 10/20/21 14:16 | 10/24/21 22:59 | 1 |
| Toluene | <0.00201 | U | 0.00201 | mg/Kg | | 10/20/21 14:16 | 10/24/21 22:59 | 1 |
| Ethylbenzene | <0.00201 | U | 0.00201 | mg/Kg | | 10/20/21 14:16 | 10/24/21 22:59 | 1 |
| m-Xylene & p-Xylene | <0.00402 | U | 0.00402 | mg/Kg | | 10/20/21 14:16 | 10/24/21 22:59 | 1 |
| o-Xylene | <0.00201 | U | 0.00201 | mg/Kg | | 10/20/21 14:16 | 10/24/21 22:59 | 1 |
| Xylenes, Total | <0.00402 | U | 0.00402 | mg/Kg | | 10/20/21 14:16 | 10/24/21 22:59 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *151* | *S1+* | *70 - 130* | *10/20/21 14:16* | *10/24/21 22:59* | *1* |
| *1,4-Difluorobenzene (Surr)* | *115* | | *70 - 130* | *10/20/21 14:16* | *10/24/21 22:59* | *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 | | | 10/26/21 15:12 | 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 | | | 10/27/21 11:09 | 1 |

# Client Sample Results

Client: WSP USA Inc.
Project/Site: Eider 23 Federal

Job ID: 890-1451-1
SDG: 31402909.22

**Client Sample ID: SS03**
**Date Collected: 10/19/21 11:06**
**Date Received: 10/19/21 15:54**
**Sample Depth: 0.5**

**Lab Sample ID: 890-1451-3**
**Matrix: Solid**

## 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 | | 10/27/21 13:40 | 10/28/21 00:12 | 1 |
| Diesel Range Organics (Over C10-C28) | <49.9 | U | 49.9 | | mg/Kg | | 10/27/21 13:40 | 10/28/21 00:12 | 1 |
| Oil Range Organics (Over C28-C36) | <49.9 | U | 49.9 | | mg/Kg | | 10/27/21 13:40 | 10/28/21 00:12 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1-Chlorooctane* | *106* | | *70 - 130* | *10/27/21 13:40* | *10/28/21 00:12* | *1* |
| *o-Terphenyl* | *119* | | *70 - 130* | *10/27/21 13:40* | *10/28/21 00:12* | *1* |

## Method: 300.0 - Anions, Ion Chromatography - Soluble

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Chloride** | **55.9** | | 4.99 | | mg/Kg | | | 10/25/21 23:09 | 1 |

# Surrogate Summary

Client: WSP USA Inc.
Project/Site: Eider 23 Federal

Job ID: 890-1451-1
SDG: 31402909.22

## 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) |
| 880-7292-A-1-B MS | Matrix Spike | 8 S1- | 127 |
| 880-7292-A-1-C MSD | Matrix Spike Duplicate | 21 S1- | 0.006 S1- |
| 890-1451-1 | SS01 | 107 | 104 |
| 890-1451-2 | SS02 | 101 | 105 |
| 890-1451-3 | SS03 | 151 S1+ | 115 |
| LCS 880-10011/1-A | Lab Control Sample | 90 | 105 |
| LCSD 880-10011/2-A | Lab Control Sample Dup | 93 | 101 |
| MB 880-10009/5-A | Method Blank | 119 | 99 |
| MB 880-10011/5-A | Method Blank | 107 | 107 |

**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) |
| 890-1450-A-1-E MS | Matrix Spike | 111 | 113 |
| 890-1450-A-1-F MSD | Matrix Spike Duplicate | 127 | 129 |
| 890-1451-1 | SS01 | 101 | 112 |
| 890-1451-2 | SS02 | 98 | 108 |
| 890-1451-3 | SS03 | 106 | 119 |
| LCS 880-10752/2-A | Lab Control Sample | 87 | 94 |
| LCSD 880-10752/3-A | Lab Control Sample Dup | 87 | 92 |
| MB 880-10752/1-A | Method Blank | 124 | 143 S1+ |

**Surrogate Legend**

1CO = 1-Chlorooctane

OTPH = o-Terphenyl

# QC Sample Results

Client: WSP USA Inc.
Project/Site: Eider 23 Federal

Job ID: 890-1451-1
SDG: 31402909.22

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

**Lab Sample ID: MB 880-10009/5-A**
**Matrix: Solid**
**Analysis Batch: 10332**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**
**Prep Batch: 10009**

| Analyte | MB Result | MB Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00200 | U | 0.00200 | | mg/Kg | | 10/20/21 14:10 | 10/24/21 04:18 | 1 |
| Toluene | <0.00200 | U | 0.00200 | | mg/Kg | | 10/20/21 14:10 | 10/24/21 04:18 | 1 |
| Ethylbenzene | <0.00200 | U | 0.00200 | | mg/Kg | | 10/20/21 14:10 | 10/24/21 04:18 | 1 |
| m-Xylene & p-Xylene | <0.00400 | U | 0.00400 | | mg/Kg | | 10/20/21 14:10 | 10/24/21 04:18 | 1 |
| o-Xylene | <0.00200 | U | 0.00200 | | mg/Kg | | 10/20/21 14:10 | 10/24/21 04:18 | 1 |
| Xylenes, Total | <0.00400 | U | 0.00400 | | mg/Kg | | 10/20/21 14:10 | 10/24/21 04:18 | 1 |

| *Surrogate* | *MB %Recovery* | *MB Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *119* | | *70 - 130* | *10/20/21 14:10* | *10/24/21 04:18* | *1* |
| *1,4-Difluorobenzene (Surr)* | *99* | | *70 - 130* | *10/20/21 14:10* | *10/24/21 04:18* | *1* |

**Lab Sample ID: MB 880-10011/5-A**
**Matrix: Solid**
**Analysis Batch: 10332**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**
**Prep Batch: 10011**

| Analyte | MB Result | MB Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00200 | U | 0.00200 | | mg/Kg | | 10/20/21 14:16 | 10/24/21 15:20 | 1 |
| Toluene | <0.00200 | U | 0.00200 | | mg/Kg | | 10/20/21 14:16 | 10/24/21 15:20 | 1 |
| Ethylbenzene | <0.00200 | U | 0.00200 | | mg/Kg | | 10/20/21 14:16 | 10/24/21 15:20 | 1 |
| m-Xylene & p-Xylene | <0.00400 | U | 0.00400 | | mg/Kg | | 10/20/21 14:16 | 10/24/21 15:20 | 1 |
| o-Xylene | <0.00200 | U | 0.00200 | | mg/Kg | | 10/20/21 14:16 | 10/24/21 15:20 | 1 |
| Xylenes, Total | <0.00400 | U | 0.00400 | | mg/Kg | | 10/20/21 14:16 | 10/24/21 15:20 | 1 |

| *Surrogate* | *MB %Recovery* | *MB Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *107* | | *70 - 130* | *10/20/21 14:16* | *10/24/21 15:20* | *1* |
| *1,4-Difluorobenzene (Surr)* | *107* | | *70 - 130* | *10/20/21 14:16* | *10/24/21 15:20* | *1* |

**Lab Sample ID: LCS 880-10011/1-A**
**Matrix: Solid**
**Analysis Batch: 10332**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**
**Prep Batch: 10011**

| Analyte | | | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | | | 0.100 | 0.1028 | | mg/Kg | | 103 | 70 - 130 | | |
| Toluene | | | 0.100 | 0.07866 | | mg/Kg | | 79 | 70 - 130 | | |
| Ethylbenzene | | | 0.100 | 0.07910 | | mg/Kg | | 79 | 70 - 130 | | |
| m-Xylene & p-Xylene | | | 0.200 | 0.1485 | | mg/Kg | | 74 | 70 - 130 | | |
| o-Xylene | | | 0.100 | 0.07658 | | mg/Kg | | 77 | 70 - 130 | | |

| *Surrogate* | *LCS %Recovery* | *LCS Qualifier* | *Limits* |
|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *90* | | *70 - 130* |
| *1,4-Difluorobenzene (Surr)* | *105* | | *70 - 130* |

**Lab Sample ID: LCSD 880-10011/2-A**
**Matrix: Solid**
**Analysis Batch: 10332**

**Client Sample ID: Lab Control Sample Dup**
**Prep Type: Total/NA**
**Prep Batch: 10011**

| Analyte | | | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | | | 0.100 | 0.08414 | | mg/Kg | | 84 | 70 - 130 | 20 | 35 |

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# QC Sample Results

Client: WSP USA Inc.
Project/Site: Eider 23 Federal

Job ID: 890-1451-1
SDG: 31402909.22

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

**Lab Sample ID: LCSD 880-10011/2-A**
**Matrix: Solid**
**Analysis Batch: 10332**

**Client Sample ID: Lab Control Sample Dup**
**Prep Type: Total/NA**
**Prep Batch: 10011**

| Analyte | | | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Toluene | | | 0.100 | 0.07026 | | mg/Kg | | 70 | 70 - 130 | 11 | 35 |
| Ethylbenzene | | | 0.100 | 0.07046 | | mg/Kg | | 70 | 70 - 130 | 12 | 35 |
| m-Xylene & p-Xylene | | | 0.200 | 0.1400 | | mg/Kg | | 70 | 70 - 130 | 6 | 35 |
| o-Xylene | | | 0.100 | 0.07068 | | mg/Kg | | 71 | 70 - 130 | 8 | 35 |

| *Surrogate* | *LCSD %Recovery* | *LCSD Qualifier* | *Limits* |
|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *93* | | *70 - 130* |
| *1,4-Difluorobenzene (Surr)* | *101* | | *70 - 130* |

**Lab Sample ID: 880-7292-A-1-B MS**
**Matrix: Solid**
**Analysis Batch: 10332**

**Client Sample ID: Matrix Spike**
**Prep Type: Total/NA**
**Prep Batch: 10011**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MS Result | MS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | 0.0580 | F1 | 0.101 | <0.00202 | U F1 | mg/Kg | | 0 | 70 - 130 |
| Toluene | 0.195 | F1 | 0.101 | 0.02703 | F1 | mg/Kg | | -166 | 70 - 130 |
| Ethylbenzene | 0.714 | E | 0.101 | 0.006642 | 4 | mg/Kg | | -700 | 70 - 130 |
| m-Xylene & p-Xylene | 0.138 | F1 | 0.202 | <0.00404 | U F1 | mg/Kg | | -68 | 70 - 130 |
| o-Xylene | 2.20 | E | 0.101 | 0.06402 | 4 | mg/Kg | | -2117 | 70 - 130 |

| *Surrogate* | *MS %Recovery* | *MS Qualifier* | *Limits* |
|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *8* | *S1-* | *70 - 130* |
| *1,4-Difluorobenzene (Surr)* | *127* | | *70 - 130* |

**Lab Sample ID: 880-7292-A-1-C MSD**
**Matrix: Solid**
**Analysis Batch: 10332**

**Client Sample ID: Matrix Spike Duplicate**
**Prep Type: Total/NA**
**Prep Batch: 10011**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MSD Result | MSD Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | 0.0580 | F1 | 0.0998 | <0.00200 | U F1 | mg/Kg | | -58 | 70 - 130 | NC | 35 |
| Toluene | 0.195 | F1 | 0.0998 | <0.00200 | U F1 F2 | mg/Kg | | -194 | 70 - 130 | 180 | 35 |
| Ethylbenzene | 0.714 | E | 0.0998 | 0.05093 | 4 F2 | mg/Kg | | -664 | 70 - 130 | 154 | 35 |
| m-Xylene & p-Xylene | 0.138 | F1 | 0.200 | 0.02850 | F1 F2 | mg/Kg | | -55 | 70 - 130 | 183 | 35 |
| o-Xylene | 2.20 | E | 0.0998 | 0.1697 | 4 F2 | mg/Kg | | -2037 | 70 - 130 | 90 | 35 |

| *Surrogate* | *MSD %Recovery* | *MSD Qualifier* | *Limits* |
|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *21* | *S1-* | *70 - 130* |
| *1,4-Difluorobenzene (Surr)* | *0.006* | *S1-* | *70 - 130* |

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

**Lab Sample ID: MB 880-10752/1-A**
**Matrix: Solid**
**Analysis Batch: 10661**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**
**Prep Batch: 10752**

| 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 | | 10/27/21 13:40 | 10/27/21 19:28 | 1 |

# QC Sample Results

Client: WSP USA Inc.
Project/Site: Eider 23 Federal

Job ID: 890-1451-1
SDG: 31402909.22

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

**Lab Sample ID: MB 880-10752/1-A**
**Matrix: Solid**
**Analysis Batch: 10661**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**
**Prep Batch: 10752**

| 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 | | 10/27/21 13:40 | 10/27/21 19:28 | 1 |
| OII Range Organics (Over C28-C36) | <50.0 | U | 50.0 | | mg/Kg | | 10/27/21 13:40 | 10/27/21 19:28 | 1 |

| *Surrogate* | *MB %Recovery* | *MB Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1-Chlorooctane* | *124* | | *70 - 130* | *10/27/21 13:40* | *10/27/21 19:28* | *1* |
| *o-Terphenyl* | *143* | *S1+* | *70 - 130* | *10/27/21 13:40* | *10/27/21 19:28* | *1* |

**Lab Sample ID: LCS 880-10752/2-A**
**Matrix: Solid**
**Analysis Batch: 10661**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**
**Prep Batch: 10752**

| Analyte | | | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics (GRO)-C6-C10 | | | 1000 | 927.4 | | mg/Kg | | 93 | 70 - 130 | | |
| Diesel Range Organics (Over C10-C28) | | | 1000 | 920.2 | | mg/Kg | | 92 | 70 - 130 | | |

| *Surrogate* | *LCS %Recovery* | *LCS Qualifier* | *Limits* |
|---|---|---|---|
| *1-Chlorooctane* | *87* | | *70 - 130* |
| *o-Terphenyl* | *94* | | *70 - 130* |

**Lab Sample ID: LCSD 880-10752/3-A**
**Matrix: Solid**
**Analysis Batch: 10661**

**Client Sample ID: Lab Control Sample Dup**
**Prep Type: Total/NA**
**Prep Batch: 10752**

| Analyte | | | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics (GRO)-C6-C10 | | | 1000 | 1115 | | mg/Kg | | 111 | 70 - 130 | 18 | 20 |
| Diesel Range Organics (Over C10-C28) | | | 1000 | 770.0 | | mg/Kg | | 77 | 70 - 130 | 18 | 20 |

| *Surrogate* | *LCSD %Recovery* | *LCSD Qualifier* | *Limits* |
|---|---|---|---|
| *1-Chlorooctane* | *87* | | *70 - 130* |
| *o-Terphenyl* | *92* | | *70 - 130* |

**Lab Sample ID: 890-1450-A-1-E MS**
**Matrix: Solid**
**Analysis Batch: 10661**

**Client Sample ID: Matrix Spike**
**Prep Type: Total/NA**
**Prep Batch: 10752**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MS Result | MS Qualifier | Unit | D | %Rec | %Rec. Limits | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics (GRO)-C6-C10 | <49.9 | U | 997 | 1192 | | mg/Kg | | 120 | 70 - 130 | | |
| Diesel Range Organics (Over C10-C28) | 65.1 | | 997 | 1095 | | mg/Kg | | 103 | 70 - 130 | | |

| *Surrogate* | *MS %Recovery* | *MS Qualifier* | *Limits* |
|---|---|---|---|
| *1-Chlorooctane* | *111* | | *70 - 130* |
| *o-Terphenyl* | *113* | | *70 - 130* |

# QC Sample Results

Client: WSP USA Inc.
Project/Site: Eider 23 Federal

Job ID: 890-1451-1
SDG: 31402909.22

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

**Lab Sample ID: 890-1450-A-1-F MSD**
**Matrix: Solid**
**Analysis Batch: 10661**

**Client Sample ID: Matrix Spike Duplicate**
**Prep Type: Total/NA**
**Prep Batch: 10752**

| 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 | <49.9 | U | 1000 | 1221 | | mg/Kg | | 122 | 70 - 130 | 2 | 20 |
| Diesel Range Organics (Over C10-C28) | 65.1 | | 1000 | 1233 | | mg/Kg | | 117 | 70 - 130 | 12 | 20 |

| *Surrogate* | *MSD %Recovery* | *MSD Qualifier* | *Limits* |
|---|---|---|---|
| *1-Chlorooctane* | *127* | | *70 - 130* |
| *o-Terphenyl* | *129* | | *70 - 130* |

## Method: 300.0 - Anions, Ion Chromatography

**Lab Sample ID: MB 880-10301/1-A**
**Matrix: Solid**
**Analysis Batch: 10621**

**Client Sample ID: Method Blank**
**Prep Type: Soluble**

| Analyte | MB Result | MB Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Chloride | <5.00 | U | 5.00 | | mg/Kg | | | 10/25/21 21:11 | 1 |

**Lab Sample ID: LCS 880-10301/2-A**
**Matrix: Solid**
**Analysis Batch: 10621**

**Client Sample ID: Lab Control Sample**
**Prep Type: Soluble**

| Analyte | | | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | | | 250 | 259.2 | | mg/Kg | | 104 | 90 - 110 | | |

**Lab Sample ID: LCSD 880-10301/3-A**
**Matrix: Solid**
**Analysis Batch: 10621**

**Client Sample ID: Lab Control Sample Dup**
**Prep Type: Soluble**

| Analyte | | | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | | | 250 | 256.5 | | mg/Kg | | 103 | 90 - 110 | 1 | 20 |

**Lab Sample ID: 890-1451-2 MS**
**Matrix: Solid**
**Analysis Batch: 10621**

**Client Sample ID: SS02**
**Prep Type: Soluble**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MS Result | MS Qualifier | Unit | D | %Rec | %Rec. Limits | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 362 | | 1260 | 1708 | | mg/Kg | | 107 | 90 - 110 | | |

**Lab Sample ID: 890-1451-2 MSD**
**Matrix: Solid**
**Analysis Batch: 10621**

**Client Sample ID: SS02**
**Prep Type: Soluble**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MSD Result | MSD Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 362 | | 1260 | 1691 | | mg/Kg | | 105 | 90 - 110 | 1 | 20 |

# QC Association Summary

Client: WSP USA Inc.
Project/Site: Eider 23 Federal

Job ID: 890-1451-1
SDG: 31402909.22

## GC VOA

### Prep Batch: 10009

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| MB 880-10009/5-A | Method Blank | Total/NA | Solid | 5035 | |

### Prep Batch: 10011

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 890-1451-1 | SS01 | Total/NA | Solid | 5035 | |
| 890-1451-2 | SS02 | Total/NA | Solid | 5035 | |
| 890-1451-3 | SS03 | Total/NA | Solid | 5035 | |
| MB 880-10011/5-A | Method Blank | Total/NA | Solid | 5035 | |
| LCS 880-10011/1-A | Lab Control Sample | Total/NA | Solid | 5035 | |
| LCSD 880-10011/2-A | Lab Control Sample Dup | Total/NA | Solid | 5035 | |
| 880-7292-A-1-B MS | Matrix Spike | Total/NA | Solid | 5035 | |
| 880-7292-A-1-C MSD | Matrix Spike Duplicate | Total/NA | Solid | 5035 | |

### Analysis Batch: 10332

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 890-1451-1 | SS01 | Total/NA | Solid | 8021B | 10011 |
| 890-1451-2 | SS02 | Total/NA | Solid | 8021B | 10011 |
| 890-1451-3 | SS03 | Total/NA | Solid | 8021B | 10011 |
| MB 880-10009/5-A | Method Blank | Total/NA | Solid | 8021B | 10009 |
| MB 880-10011/5-A | Method Blank | Total/NA | Solid | 8021B | 10011 |
| LCS 880-10011/1-A | Lab Control Sample | Total/NA | Solid | 8021B | 10011 |
| LCSD 880-10011/2-A | Lab Control Sample Dup | Total/NA | Solid | 8021B | 10011 |
| 880-7292-A-1-B MS | Matrix Spike | Total/NA | Solid | 8021B | 10011 |
| 880-7292-A-1-C MSD | Matrix Spike Duplicate | Total/NA | Solid | 8021B | 10011 |

### Analysis Batch: 10619

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 890-1451-1 | SS01 | Total/NA | Solid | Total BTEX | |
| 890-1451-2 | SS02 | Total/NA | Solid | Total BTEX | |
| 890-1451-3 | SS03 | Total/NA | Solid | Total BTEX | |

## GC Semi VOA

### Analysis Batch: 10661

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 890-1451-1 | SS01 | Total/NA | Solid | 8015B NM | 10752 |
| 890-1451-2 | SS02 | Total/NA | Solid | 8015B NM | 10752 |
| 890-1451-3 | SS03 | Total/NA | Solid | 8015B NM | 10752 |
| MB 880-10752/1-A | Method Blank | Total/NA | Solid | 8015B NM | 10752 |
| LCS 880-10752/2-A | Lab Control Sample | Total/NA | Solid | 8015B NM | 10752 |
| LCSD 880-10752/3-A | Lab Control Sample Dup | Total/NA | Solid | 8015B NM | 10752 |
| 890-1450-A-1-E MS | Matrix Spike | Total/NA | Solid | 8015B NM | 10752 |
| 890-1450-A-1-F MSD | Matrix Spike Duplicate | Total/NA | Solid | 8015B NM | 10752 |

### Analysis Batch: 10676

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 890-1451-1 | SS01 | Total/NA | Solid | 8015 NM | |
| 890-1451-2 | SS02 | Total/NA | Solid | 8015 NM | |
| 890-1451-3 | SS03 | Total/NA | Solid | 8015 NM | |

# QC Association Summary

Client: WSP USA Inc.
Project/Site: Eider 23 Federal

Job ID: 890-1451-1
SDG: 31402909.22

## GC Semi VOA

### Prep Batch: 10752

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 890-1451-1 | SS01 | Total/NA | Solid | 8015NM Prep | |
| 890-1451-2 | SS02 | Total/NA | Solid | 8015NM Prep | |
| 890-1451-3 | SS03 | Total/NA | Solid | 8015NM Prep | |
| MB 880-10752/1-A | Method Blank | Total/NA | Solid | 8015NM Prep | |
| LCS 880-10752/2-A | Lab Control Sample | Total/NA | Solid | 8015NM Prep | |
| LCSD 880-10752/3-A | Lab Control Sample Dup | Total/NA | Solid | 8015NM Prep | |
| 890-1450-A-1-E MS | Matrix Spike | Total/NA | Solid | 8015NM Prep | |
| 890-1450-A-1-F MSD | Matrix Spike Duplicate | Total/NA | Solid | 8015NM Prep | |

## HPLC/IC

### Leach Batch: 10301

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 890-1451-1 | SS01 | Soluble | Solid | DI Leach | |
| 890-1451-2 | SS02 | Soluble | Solid | DI Leach | |
| 890-1451-3 | SS03 | Soluble | Solid | DI Leach | |
| MB 880-10301/1-A | Method Blank | Soluble | Solid | DI Leach | |
| LCS 880-10301/2-A | Lab Control Sample | Soluble | Solid | DI Leach | |
| LCSD 880-10301/3-A | Lab Control Sample Dup | Soluble | Solid | DI Leach | |
| 890-1451-2 MS | SS02 | Soluble | Solid | DI Leach | |
| 890-1451-2 MSD | SS02 | Soluble | Solid | DI Leach | |

### Analysis Batch: 10621

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 890-1451-1 | SS01 | Soluble | Solid | 300.0 | 10301 |
| 890-1451-2 | SS02 | Soluble | Solid | 300.0 | 10301 |
| 890-1451-3 | SS03 | Soluble | Solid | 300.0 | 10301 |
| MB 880-10301/1-A | Method Blank | Soluble | Solid | 300.0 | 10301 |
| LCS 880-10301/2-A | Lab Control Sample | Soluble | Solid | 300.0 | 10301 |
| LCSD 880-10301/3-A | Lab Control Sample Dup | Soluble | Solid | 300.0 | 10301 |
| 890-1451-2 MS | SS02 | Soluble | Solid | 300.0 | 10301 |
| 890-1451-2 MSD | SS02 | Soluble | Solid | 300.0 | 10301 |

# Lab Chronicle

Client: WSP USA Inc.
Project/Site: Eider 23 Federal

Job ID: 890-1451-1
SDG: 31402909.22

## Client Sample ID: SS01

**Date Collected: 10/19/21 11:00**
**Date Received: 10/19/21 15:54**

**Lab Sample ID: 890-1451-1**
**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 | | | 5.05 g | 5 mL | 10011 | 10/20/21 14:16 | KL | XEN MID |
| Total/NA | Analysis | 8021B | | 1 | 5 mL | 5 mL | 10332 | 10/24/21 22:17 | KL | XEN MID |
| Total/NA | Analysis | Total BTEX | | 1 | | | 10619 | 10/26/21 15:12 | KL | XEN MID |
| Total/NA | Analysis | 8015 NM | | 1 | | | 10676 | 10/27/21 11:09 | AJ | XEN MID |
| Total/NA | Prep | 8015NM Prep | | | 10.01 g | 10 mL | 10752 | 10/27/21 13:40 | DM | XEN MID |
| Total/NA | Analysis | 8015B NM | | 1 | | | 10661 | 10/27/21 23:31 | AJ | XEN MID |
| Soluble | Leach | DI Leach | | | 5.05 g | 50 mL | 10301 | 10/22/21 17:46 | SC | XEN MID |
| Soluble | Analysis | 300.0 | | 1 | | | 10621 | 10/25/21 22:45 | CH | XEN MID |

## Client Sample ID: SS02

**Date Collected: 10/19/21 11:03**
**Date Received: 10/19/21 15:54**

**Lab Sample ID: 890-1451-2**
**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 | | | 5.00 g | 5 mL | 10011 | 10/20/21 14:16 | KL | XEN MID |
| Total/NA | Analysis | 8021B | | 1 | 5 mL | 5 mL | 10332 | 10/24/21 22:38 | KL | XEN MID |
| Total/NA | Analysis | Total BTEX | | 1 | | | 10619 | 10/26/21 15:12 | KL | XEN MID |
| Total/NA | Analysis | 8015 NM | | 1 | | | 10676 | 10/27/21 11:09 | AJ | XEN MID |
| Total/NA | Prep | 8015NM Prep | | | 10.02 g | 10 mL | 10752 | 10/27/21 13:40 | DM | XEN MID |
| Total/NA | Analysis | 8015B NM | | 1 | | | 10661 | 10/27/21 23:51 | AJ | XEN MID |
| Soluble | Leach | DI Leach | | | 4.96 g | 50 mL | 10301 | 10/22/21 17:46 | SC | XEN MID |
| Soluble | Analysis | 300.0 | | 5 | | | 10621 | 10/25/21 22:51 | CH | XEN MID |

## Client Sample ID: SS03

**Date Collected: 10/19/21 11:06**
**Date Received: 10/19/21 15:54**

**Lab Sample ID: 890-1451-3**
**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 | | | 4.97 g | 5 mL | 10011 | 10/20/21 14:16 | KL | XEN MID |
| Total/NA | Analysis | 8021B | | 1 | 5 mL | 5 mL | 10332 | 10/24/21 22:59 | KL | XEN MID |
| Total/NA | Analysis | Total BTEX | | 1 | | | 10619 | 10/26/21 15:12 | KL | XEN MID |
| Total/NA | Analysis | 8015 NM | | 1 | | | 10676 | 10/27/21 11:09 | AJ | XEN MID |
| Total/NA | Prep | 8015NM Prep | | | 10.03 g | 10 mL | 10752 | 10/27/21 13:40 | DM | XEN MID |
| Total/NA | Analysis | 8015B NM | | 1 | | | 10661 | 10/28/21 00:12 | AJ | XEN MID |
| Soluble | Leach | DI Leach | | | 5.01 g | 50 mL | 10301 | 10/22/21 17:46 | SC | XEN MID |
| Soluble | Analysis | 300.0 | | 1 | | | 10621 | 10/25/21 23:09 | 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.
Project/Site: Eider 23 Federal

Job ID: 890-1451-1
SDG: 31402909.22

## 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: Eider 23 Federal

Job ID: 890-1451-1
SDG: 31402909.22

| 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: Eider 23 Federal

Job ID: 890-1451-1
SDG: 31402909.22

| Lab Sample ID | Client Sample ID | Matrix | Collected | Received | Depth |
|---|---|---|---|---|---|
| 890-1451-1 | SS01 | Solid | 10/19/21 11:00 | 10/19/21 15:54 | 0.5 |
| 890-1451-2 | SS02 | Solid | 10/19/21 11:03 | 10/19/21 15:54 | 0.5 |
| 890-1451-3 | SS03 | Solid | 10/19/21 11:06 | 10/19/21 15:54 | 0.5 |

# Chain of Custody

XENCO LABORATORIES

Houston,TX (281) 240-4200 Dallas,TX (214) 902-0300 San Antonio,TX (210) 509-3334
Midland,TX (432-704-5440) EL Paso,TX (915)585-3443 Lubbock,TX (806)794-1296
Hobbs,NM (575-392-7550) Phoenix,AZ (480-355-0900) Atlanta,GA (770-449-8800) Tampa,FL (813-620-2000)

**Work Order No:** _____

www.xenco.com Page 1 of 1

| | | | |
|---|---|---|---|
| Project Manager: | Kalei Jennings | Bill to: (if different) | Kalei Jennings |
| Company Name: | WSP USA | Company Name: | WSP USA |
| Address: | 3300 North A Street Bldg 1, Unit 222 | Address: | 3300 North A Street Bldg 1, Unit 222 |
| City, State ZIP: | Midland, Texas 79705 | City, State ZIP: | Midland, Texas 79705 |
| Phone: | 817-683-2503 | Email: | kalei.jennings@wsp.com, payton.benner@wsp.com |

**Work Order Comments**

Program: UST/PST ☐ PRP ☐ Brownfields ☐ RC ☐ Superfund ☐
State of Project:
Reporting:Level II ☐ Level III ☐ ST/UST ☐ RRP ☐ Level IV ☐
Deliverables: EDD ☐ ADaPT ☐ Other:

| | | | |
|---|---|---|---|
| Project Name: | Eider 23 Federal | Turn Around | |
| Project Number: | 31402909.22 | Routine | ☑ |
| P.O. Number: | | Rush: | |
| Sampler's Name: | Payton Benner | Due Date: | |

| SAMPLE RECEIPT | | | | |
|---|---|---|---|---|
| Temp Blank: | Yes No | Wet Ice: | Yes No | |
| Temperature (°C): | 4.2 / 4.0 | Thermometer ID | | |
| Received Intact: | Yes No | T-NM-007 | | |
| Cooler Custody Seals: | Yes No N/A | Correction Factor: | -0.2 | |
| Sample Custody Seals: | Yes No N/A | Total Containers: | | |

| Sample Identification | Matrix | Date Sampled | Time Sampled | Depth | Number of Containers | TPH (EPA 8015) | BTEX (EPA 0=8021) | Chloride (EPA 300.0) | Sample Comments |
|---|---|---|---|---|---|---|---|---|---|
| SS01 | S | 10/19/2021 | 11:00 | 0.5' | 1 | X | X | X | Discrete |
| SS02 | S | 10/19/2021 | 11:03 | 0.5' | 1 | X | X | X | Discrete |
| SS03 | S | 10/19/2021 | 11:06 | 0.5' | 1 | X | X | X | Discrete |

**ANALYSIS REQUEST**

890-1451 Chain of Custody

**Work Order Notes**

NAPP2128531481

TAT starts the day recevied by the lab, if received by 4:30pm

**Total 200.7 / 6010 200.8 / 6020:** 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO2 Na Sr Tl Sn U V Zn

*Circle Method(s) and Metal(s) to be analyzed* **TCLP / SPLP 6010**: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Tl U **1631 / 245.1 / 7470 / 7471** : Hg



| Relinquished by: (Signature) | Received by: (Signature) | Date/Time | Relinquished by: (Signature) | Received by: (Signature) | Date/Time |
|---|---|---|---|---|---|
| 1 pbenner | N. [illegible] | 10/19/21 3:54 | 2 | | |
| 3 | | | 4 | | |
| 5 | | | 6 | | |

Revised Date 051418 Rev. 2018.1

**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: 890-471 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 #: 890-1451-1 |
| Address: 1211 W Florida Ave | Due Date Requested: 10/25/2021 | | | |
| City: Midland | TAT Requested (days): | | | |
| State, Zip: TX 79701 | | | | |
| Phone: 432-704-5440(Tel) | PO #: | | | |
| Email | WO #: | | | |
| Project Name: Elder 23 Federal | Project #: 89000048 | | | |
| Site | SSOW#: | | | |

**Analysis Requested**

**Preservation Codes**

| | | | |
|---|---|---|---|
| A | HCL | M | Hexane |
| B | NaOH | N | None |
| C | Zn Acetate | O | AsNaO2 |
| D | Nitric Acid | P | Na2O4S |
| E | NaHSO4 | Q | Na2SO3 |
| F | MeOH | R | Na2S2O3 |
| G | Amchlor | S | H2SO4 |
| H | Ascorbic Acid | T | TSP Dodecahydrate |
| I | Ice | U | Acetone |
| J | DI Water | V | MCAA |
| K | EDTA | W | pH 4-5 |
| L | EDA | 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/6036FP_Calc BTEX | Total_BTEX_GCV | 8015MOD_Calc | Total Number of containers | Special Instructions/Note |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Preservation Code: | | | | | | | | | | |
| SS01 (890-1451-1) | 10/19/21 | 11 00 Mountain | | Solid | | | X | X | X | X | X | 1 | |
| SS02 (890-1451-2) | 10/19/21 | 11 03 Mountain | | Solid | | | X | X | X | X | X | 1 | |
| SS03 (890-1451-3) | 10/19/21 | 11 06 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 | Date/Time | Company | Received by | Date/Time | Company |
|---|---|---|---|---|---|---|
| 1 | Cloe Cruz 10.20.21 | | | [illegible] KRAMER | 10 21 21 | |
| 2 | | | | | 1015 | |
| 3 | | | | | | |

| Custody Seals Intact | Custody Seal No | Cooler Temperature(s) °C and Other Remarks. |
|---|---|---|
| Δ Yes Δ No | | 1 6/1 7 |

Ver: 06/08/2021

# Login Sample Receipt Checklist

Client: WSP USA Inc.

Job Number: 890-1451-1
SDG Number: 31402909.22

**Login Number: 1451**
**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: 890-1451-1
SDG Number: 31402909.22

**Login Number: 1451**
**List Number: 2**
**Creator: Kramer, Jessica**

**List Source: Eurofins Xenco, Midland**
**List Creation: 10/21/21 10:24 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 | 1.6/1.7 |
| 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 | |

ATTACHMENT 4: **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 | NAPP2128531481 |
| District RP | |
| Facility ID | |
| Application ID | |

# Release Notification

## Responsible Party

| | | | |
|---|---|---|---|
| Responsible Party | COG Operating, LLC | OGRID | 229137 |
| Contact Name | Kelsy Waggaman | Contact Telephone | (432) 688 - 9057 |
| Contact email | Kelsy.Waggaman@ConocoPhillips.com | Incident # *(assigned by OCD)* | NAPP2128531481 |
| Contact mailing address | 600 West Illinois Avenue, Midland, Texas 79701 | | |

## Location of Release Source

Latitude 32.2077247 Longitude -103.6444606
*(NAD 83 in decimal degrees to 5 decimal places)*

| | | | |
|---|---|---|---|
| Site Name | Eider 23 Federal | Site Type | Tank Battery |
| Date Release Discovered | September 1, 2021 | API# *(if applicable)* | |

| Unit Letter | Section | Township | Range | County |
|---|---|---|---|---|
| B | 23 | 24S | 32E | Lea |

Surface Owner: ☐ State ☐ Federal ☐ Tribal ☒ Private (*Name:* NGL WATER SOLUTIONS PERMIAN LLC)

## 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) 8.2 | Volume Recovered (bbls) 8.2 |
| | 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

The release was caused by a nipple and ball valve missing from the bottom of the water dump. The release occurred within the lined facility. A vacuum truck was dispatched to remove all freestanding fluids. Concho will have the spill area evaluated for any possible impact from the release.

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| | |
|---|---|
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| | |
|---|---|
| Was this a major release as defined by 19.15.29.7(A) NMAC?<br><br>☐ 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: Brittany N. Esparza  Title: Environmental Technician

Signature: Brittany Esparza  Date: 10/11/2021

email: Brittany.Esparza@ConocoPhillips.com  Telephone: (432) 221-0398

**OCD Only**

Received by: _____  Date: _____

# L48 Spill Volume Estimate Form



| | |
|---|---|
| Facility Name & Number: | Eider 23 |
| Asset Area: | DBE |
| Release Discovery Date & Time: | 9/1/2021 2:00P.M. |
| Release Type: | Produced Water |
| Provide any known details about the event: | Turned well into test separator and didn't notice that nipple and ball valve were missing from under water dump. |

## 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 (in.) | 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.) |
|---|---|---|---|---|---|---|---|---|---|
| Rectangle A | 20.0 | 5.0 | 0.25 | 3 | 100.000 | 0.007 | 0.124 | 0.000 | 0.124 |
| Rectangle B | 15.0 | 20.0 | 0.50 | 2 | 300.000 | 0.021 | 1.113 | 0.001 | 1.114 |
| Rectangle C | 10.0 | 15.0 | 6.00 | 2 | 150.000 | 0.250 | 6.675 | 0.013 | 6.758 |
| Rectangle D | 8.0 | 20.0 | 0.25 | 3 | 160.000 | 0.007 | 0.198 | 0.000 | 0.198 |
| 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! |
| Rectangle J | | | | | 0.000 | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! |
| | | | | | | | | Total Volume Release: | 8.194 |

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|---|---|
| Incident ID | NAPP2128531481 |
| 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? | <50 (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.

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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: Kelsy Waggaman Title: Environmental Coordinator

Signature: _____ Date: 11/30/2021

email: Kelsy.Waggaman@ConocoPhillips.com Telephone: (432) 688-9057

**OCD Only**

Received by: _____ Date: _____

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| | |
|---|---|
| Incident ID | NAPP2128531481 |
| District RP | |
| Facility ID | |
| Application ID | |

# Closure

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

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

☒ A scaled site and sampling diagram as described in 19.15.29.11 NMAC

☒ Photographs of the remediated site prior to backfill or photos of the liner integrity if applicable (Note: appropriate OCD District office must be notified 2 days prior to liner inspection)

☒ Laboratory analyses of final sampling (Note: appropriate ODC District office must be notified 2 days prior to final sampling)

☒ Description of remediation activities

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

Printed Name: Kelsy Waggaman Title: Environmental Coordinator

Signature: _____ Date: 11/30/2021

email: Kelsy.Waggaman@ConocoPhillips.com Telephone: (432) 688 -9057

**OCD Only**

Received by: _____ Date: _____

Closure approval by the OCD does not relieve the responsible party of liability should their operations have failed to adequately investigate and remediate contamination that poses a threat to groundwater, surface water, human health, or the environment nor does not relieve the responsible party of compliance with any other federal, state, or local laws and/or regulations.

Closure Approved by: _____ Date: _____

Printed Name: _____ Title: _____

**District I**
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
**District II**
811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720
**District III**
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
**District IV**
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

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

CONDITIONS

Action 64332

## CONDITIONS

| | |
|---|---|
| Operator:<br>COG OPERATING LLC<br>600 W Illinois Ave<br>Midland, TX 79701 | OGRID:<br>229137 |
| | Action Number:<br>64332 |
| | Action Type:<br>[C-141] Release Corrective Action (C-141) |

**CONDITIONS**

| Created By | Condition | Condition Date |
|---|---|---|
| chensley | None | 12/27/2021 |