District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, 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

JUL 23 2009

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

Form C-141
Revised October 10, 2003

Submit 2 Copies to appropriate District Office in accordance with Rule 116 on back side of form

30-015-33384

nMLB0916330396

# Release Notification and Corrective Action

## OPERATOR

☐ Initial Report ☒ Final Report

| | |
|---|---|
| Name of Company OXY USA 16696 | Contact Kelton Beaird |
| Address 102 S Main Carlsbad, NM 88220 | Telephone No. (O) 505-887-8337 C) 575-390-1903 |
| Facility Name Sundance Fed. #23 | Facility Type Oil Well |

| Surface Owner BLM | Mineral Owner | Lease No. |
|---|---|---|

## LOCATION OF RELEASE

| Unit Letter | Section | Township | Range | Feet from the | North/South Line | Feet from the | East/West Line | County |
|---|---|---|---|---|---|---|---|---|
| | 4 | 24S | 31E | | | | | Eddy |

**Latitude**_____ **Longitude**_____

## NATURE OF RELEASE

| | | |
|---|---|---|
| Type of Release Produced water | Volume of Release 20bbls | Volume Recovered 0 |
| Source of Release | Date and Hour of Occurrence | Date and Hour of Discovery 4-27-09 @ 12:00pm |
| Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required | If YES, To Whom? Mike Bratcher-NMOCD Jim Amos-BLM (left message) | |
| By Whom? Kelton Beaird (HES Specialist)-Oxy | Date and Hour See above | |
| Was a Watercourse Reached? ☐ Yes ☒ No | If YES, Volume Impacting the Watercourse. | |

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.*
Poly-line split causing fluid to leak into the pasture

Describe Area Affected and Cleanup Action Taken.*
Due to the release of 20 barrels of produced water, remedial excavation activities were conducted along the ruptured poly-line. Due to the flow path of the release, an area of approximately 80 feet by 27 feet was excavated using a backhoe to approximately 3 feet bgs. A second area of approximately 65 feet by 27 feet was excavated using a backhoe to approximately 8 feet bgs. No visible impact was observed at 3 feet bgs or 8 feet bgs depth in the respective excavations; therefore, confirmation samples were collected and submitted for laboratory analysis. Analytical results indicate non-detectable concentrations of BTEX and detectable concentrations of TPH and chlorides. However, all detected TPH and chloride concentrations were below applicable NMOCD limits with the exception of one (1) sample (SW-1) which reported a chloride concentration of 287 mg/Kg.

Talon conducted soil transportation, disposal, and backfill activities from June 24-30, 2009. Approximately 587.41 tons of affected soil was transported and disposed of at the Lea Land Inc. landfill (Permit # WM-01-035) west of Hobbs, New Mexico. During affected soil transportation and disposal activities, the excavation was backfilled and compacted with soil backhauled from Lea Land Inc. Soil samples of the backfill material were collected and analyzed for TPH and chlorides. All analytical results were below applicable NMOCD limits.

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

Signature: [signature]

Printed Name: Kelton Beaird

Title: HES Specialist

E-mail Address: kelton_beaird@oxy.com

Date: 7-19-09

OIL CONSERVATION DIVISION

Approved by District Supervisor: Signed By Mike Bratcher

Approval Date: JUL 24 2009

Expiration Date: N/A

Conditions of Approval: N/A

Attached ☐

* Attach Additional Sheets If Necessary

2RP-318

New Mexico Energy, Minerals and Natural Resources Department

**Bill Richardson**
**Governor**

**Joanna Prukop**
Cabinet Secretary
**Reese Fullerton**
Deputy Cabinet Secretary

**Mark Fesmire**
Division Director
**Oil Conservation Division**

Oxy USA Inc.
102 S. Main St.
Carlsbad NM 88220
ATTN: Kelton Beaird

June 18, 2009

Reference: Sundance Fed 23 30-015-33384 Release Date 4/27/09 (OCD # 2RP-318)

Dear Mr. Beaird,

Regarding the "Site Closure Report" prepared by Talon/LPE on behalf of Occidental Permian LTD (OXY USA Inc.) for the release as referenced above, the closure proposal is approved with the following stipulation: OCD would request that a random, representative sample be obtained from the backfill material that is being hauled back from Lea Land as a precautionary measure. OCD understands that 1500 yards of material will be utilized for backfill. Please obtain one sample from each 500 yards of material and have the samples analyzed for TPH and Chloride constituents. Upon receipt, and, OCD approval of the analytical data, the Final Report C-141 may then be approved.

Please be advised that OCD approval does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that may pose a threat to ground water, surface water, human health or the environment. In addition, OCD approval does not relieve the operator of responsibility for compliance with any other federal, state, local laws and/or regulations.

Sincerely,

Mike Bratcher
NMOCD District 2
1301 W. Grand Ave.
Artesia, NM 88210
575-748-1283 Ext.108
mike.bratcher@state.nm.us

email copy to: kelton_beaird@oxy.com

## Bratcher, Mike, EMNRD

**From:** Bratcher, Mike, EMNRD
**Sent:** Thursday, June 18, 2009 2:29 PM
**To:** Kelton Beaird
**Subject:** Sundance Fed 23
**Attachments:** OXY_SundanceFed_23.doc

Please see attachment

AMARILLO
921 North Bivins
Amarillo, Texas 79107
Phone 806.467.0607
Fax 806.467 0622

AUSTIN
911 W Anderson Lane,
Suite 202
Austin, TX 78757
Phone 512.989 3428
Fax 512.989 3487

HOBBS
318 East Taylor Street
Hobbs, New Mexico 88241
Phone 505 393.4261
Fax 505 393 4658

MIDLAND
2901 State Highway 349
Midland, Texas 79706
Phone 432.522.2133
Fax 432.522 2180

SAN ANTONIO
17170 Jordan Road
Suite 102
Selma, Texas 78154
Phone 210.579 0235
Fax 210.568 2191

TULSA
9906 East 43rd Street
Suite G
Tulsa, Oklahoma 74146
Phone 918 742 0871
Fax 918 742 0876

TYLER
719 West Front Street
Suite 255
Tyler, Texas 75702
Phone 903 531 9971
Fax 903 531.9979

ENVIRONMENTAL CONSULTING
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Toll Free 866.742.0742
www.talonlpe.com



# SITE CLOSURE REPORT

## SUNDANCE FEDERAL #23
## SECTION 4, TOWNSHIP 24 S, RANGE 31 E
## EDDY COUNTY, NEW MEXICO

***PREPARED FOR:***

OCCIDENTAL PERMIAN LTD.
6 DESTA DRIVE, SUITE 6000
MIDLAND, TX 79705-5505

***PREPARED BY:***

TALON/LPE
318 EAST TAYLOR STREET
HOBBS, NEW MEXICO 88241

JUNE 3, 2009

# SITE CLOSURE REPORT

## SUNDANCE FEDERAL #23
## SECTION 4, TOWNSHIP 24 S, RANGE 31 E
## EDDY COUNTY, NEW MEXICO

*PREPARED BY:*

**TALON/LPE**
**318 EAST TAYLOR STREET**
**HOBBS, NEW MEXICO 88241**

**J.T. Murrey**
**Senior Project Manager**

**Eb Taylor**
**Division Manager**

**JUNE 3, 2009**

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**Appendix D New Mexico Oil Conservation Division Release Notification and Corrective Action Form C-141**

# 1.0 OBJECTIVES

## 1.1 SITE CLOSURE OBJECTIVES

This Site Closure Report (report) has been prepared for Oxy USA Inc. (Oxy) to provide details of site closure activities for the produced water spill located at the Sundance Federal #23 site in Eddy County, New Mexico. Geographical coordinates for the site are 32.24792° N and 103.79024° W. The site is located in Section 4, Township 24 South, and Range 31 East. The site location is presented on Figure 1.

The objectives of the site closure activities were to excavate and haul off petroleum hydrocarbon and chloride affected soil due to the release of 20 barrels of produced water. The release occurred from a surface 4" poly-line located in a pasture on April 27, 2009. The release was reported to Mr. Mike Bratcher with the New Mexico Oil Conservation Department (NMOCD) and Mr. Jim Amos with the Bureau of Land Management. A Release Notification and Corrective Action Form C-141 was prepared and submitted to the NMOCD on April 27, 2009. Details of the site closure activities and proposed final site activities are presented herein.

## 2.0 SITE CLOSURE ACTIVITIES

Due to the produced water release from a surface 4" poly-line, remedial excavation activities were conducted in the pasture where the line was located.

### 2.1 EXCAVATION ACTIVITIES

Due to the flow path of the release, an area of approximately 80 feet by 27 feet was excavated using a backhoe to approximately 3 feet below ground surface (bgs). A second area of approximately 65 feet by 27 feet was excavated using a backhoe to approximately 8 feet bgs. No visible impact was observed at 3 feet and 8 feet bgs depth in the respective excavations; therefore, confirmation samples were collected as outlined in Section 2.1.1. The location of the excavation area is presented on Figure 2.

Approximately 1,500 cubic yards of affected soil was excavated and stockpiled adjacent to the excavation area. Following NMOCD approval of this report, the affected soil will be transported and disposed of at the Lea Land, Inc landfill (Permit # WM-01-035) west of Hobbs, New Mexico.

#### 2.1.1 Confirmation Sampling

Once all visually impacted soil was removed, discrete confirmation soil samples were collected from the bottom and sidewalls of the excavation. Personnel wearing new disposable gloves collected soil samples and placed the samples in laboratory-supplied containers, which were sealed with Teflon lined caps, labeled, and subsequently placed on ice in a covered, insulated cooler and chilled to 40°F. The soil samples were shipped to Trace Analysis Inc. in Midland, Texas for analysis. The collected soil samples were analyzed for benzene, toluene, ethylbenzene, xylenes (BTEX) by EPA SW-846 Method 8021B, TPH Gasoline Range Organics (TPH GRO) by EPA SW-846 Method 8015B, TPH Diesel Range Organics (TPH DRO) by EPA SW-846 Method 8015B Modified, Chlorides (titration) by EPA Method 4500-Cl B. The following NMOCD limits were used to determine whether additional investigation and/or excavation were required:

| Constituent | Regulatory Limits (mg/Kg) |
|---|---|
| Total TPH | 100 |
| Benzene | 10 |
| BTEX | 50.0 |
| Chlorides | 250 |

#### 2.1.2 Analytical Results

Analytical results indicate BTEX concentrations in soil samples collected from the excavation were below the laboratory reporting limit of <0.0600 mg/Kg. TPH concentrations ranged from 5.01 mg/Kg to 6.01 mg/Kg. Chloride concentrations ranged from <200 mg/Kg to 287 mg/Kg. A summary of the soil sample analytical results is presented on Table 1 – Appendix B. Certified copies of the laboratory analytical results and proper chain of custody documentation are presented in Appendix C.

# 3.0 CONCLUSIONS AND PROPOSED FINAL SITE ACTIVITIES

## 3.1 CONCLUSIONS

Due to the release of 20 barrels of produced water, remedial excavation activities were conducted along the ruptured poly line. Due to the flow path of the release, an area of approximately 80 feet by 27 feet was excavated using a backhoe to approximately 3 feet bgs. A second area of approximately 65 feet by 27 feet was excavated using a backhoe to approximately 8 feet bgs. No visible impact was observed at 3 feet bgs or 8 feet bgs depth in the respective excavations; therefore, confirmation samples were collected and submitted for laboratory analysis. Analytical results indicate non-detectable concentrations of BTEX and detectable concentrations of TPH and chlorides. However, all detected TPH and chloride concentrations were below applicable NMOCD limits with the exception of one (1) sample (SW-1) which reported a chloride concentration of 287 mg/Kg.

## 3.2 PROPOSED FINAL SITE ACTIVITIES

Talon proposes that the 1,500 cubic yards of affected soil be transported and disposed of at the Lea Land Inc. landfill (Permit # WM-01-035) west of Hobbs, New Mexico. During affected soil transportation and disposal activities, the excavation will be backfilled and compacted with soil back hauled from Lea Land Inc. A final Release Notification and Corrective Action Form C-141 is presented in Appendix D.

Based on analytical data from soil samples collected at the site, no further assessment and/or remediation is planned for the site and closure of the site soils should be requested from the NMOCD following transportation, disposal, and backfill activities are completed.

# APPENDIX A

# FIGURES

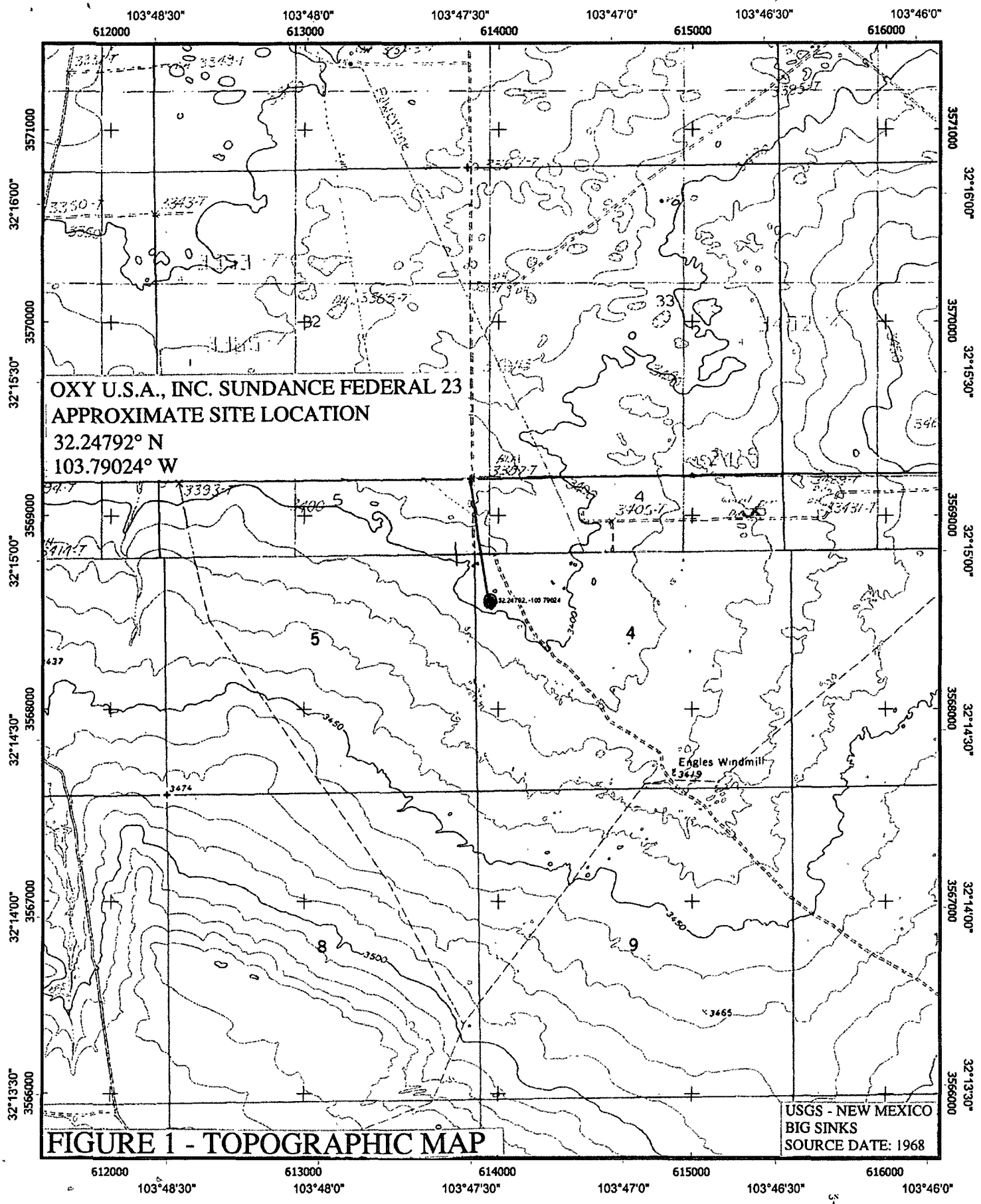
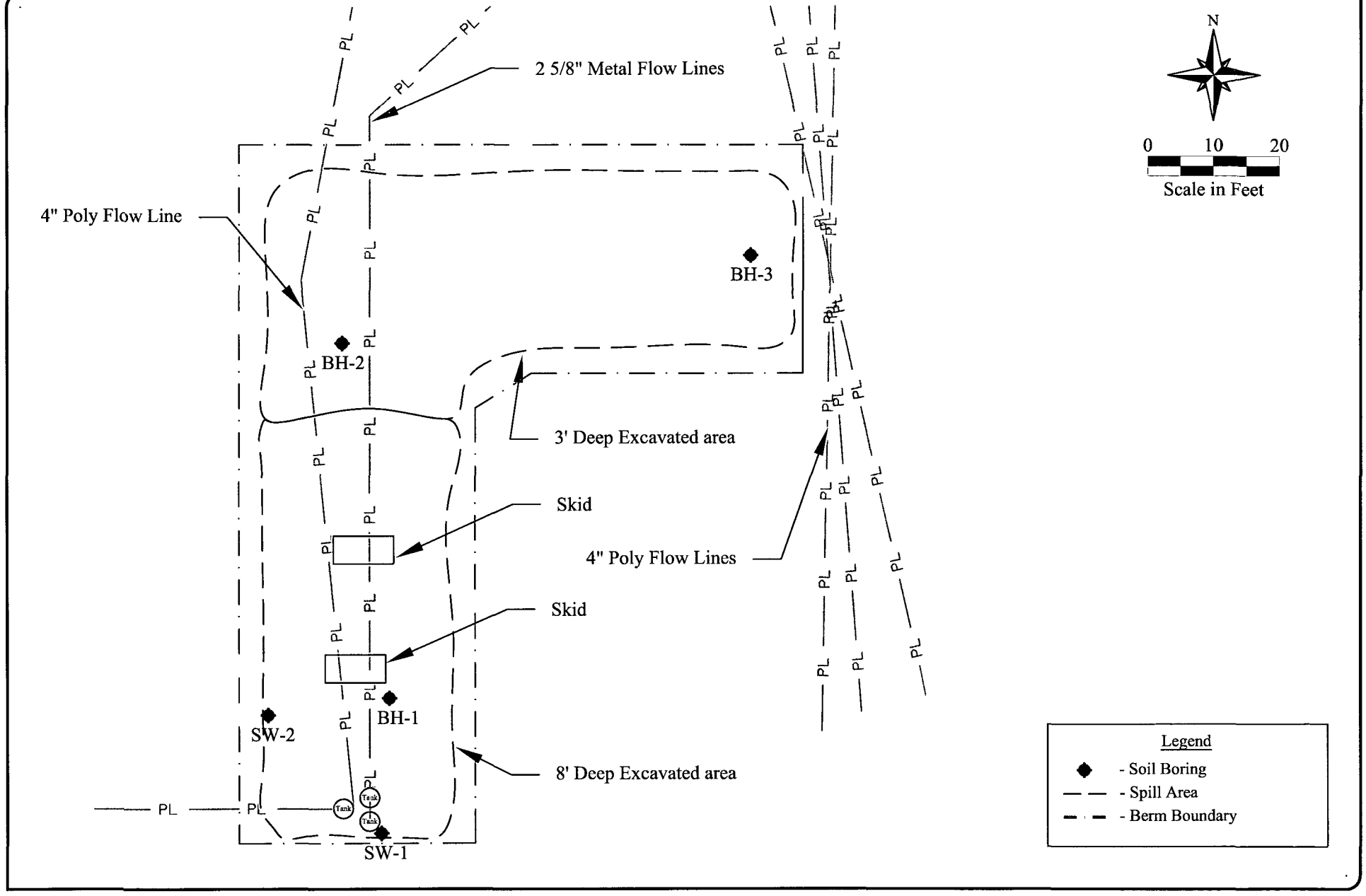



FIGURE 1 - TOPOGRAPHIC MAP




TALON LPE

| | |
|---|---|
| Date: | 05/20/2009 |
| Scale: | 1" = 20' |
| Drawn By: | SJA |

OXY U.S.A., Inc. (OXYUSA006SPL)
Sundance Federal 23 Well Site
Section 4, T-24-s, R-31-E, Eddy County, New Mexico
Figure 2 - Site Details Map and Excavation and Soil Sample Location

# APPENDIX B

# ANALYTICAL SUMMARY TABLES

TALON LPE

# TABLE 1
## SUMMARY OF SOIL ANALYTICAL DATA
## OXY USA INC.
## SUNDANCE FEDERAL #23
## EDDY COUNTY, NEW MEXICO

| SAMPLE LOCATION | DATE SAMPLED | BENZENE (mg/Kg) | TOLUENE (mg/Kg) | ETHLYBENZENE (mg/Kg) | XYLENES (mg/Kg) | BTEX (mg/Kg) | TPH DRO (mg/Kg) | TPH GRO (mg/Kg) | CHLORIDES (mg/Kg) |
|---|---|---|---|---|---|---|---|---|---|
| SW-1 | 5/11/2009 | <0.0100 | <0.0100 | <0.0100 | <0.0100 | <0.0600 | <50.0 | 5.84 | 287 |
| SW-2 | 5/11/2009 | <0.0100 | <0.0100 | <0.0100 | <0.0100 | <0.0600 | <50.0 | 5.01 | 240 |
| BH-1 | 5/11/2009 | <0.0100 | <0.0100 | <0.0100 | <0.0100 | <0.0600 | <50.0 | 5.95 | <200 |
| BH-2 | 5/11/2009 | <0.0100 | <0.0100 | <0.0100 | <0.0100 | <0.0600 | <50.0 | 6.01 | 209 |
| BH-3 | 5/11/2009 | <0.0100 | <0.0100 | <0.0100 | <0.0100 | <0.0600 | <50.0 | 5.99 | <200 |

1. BTEX = Benzene, toluene, ethylbenzene and xylenes analyzed by EPA SW-846 Method 8021B
2 TPH DRO = Total Petroluem Hydrocarbons Diesel Range Organics by EPA Method 8015M.
3. TPH GRO = Total Petroluem Hydrocarbons Gasoline Range Organics by EPA Method 8015.
4. Chlorides by EPA Method 4500-Cl B.

# APPENDIX C

# SOIL SAMPLE ANALYTICAL DATA REPORTS AND CHAIN OF CUSTODY DOCUMENTATION

# Summary Report

Eb Taylor
Talon LPE-Hobbs
318 E. Taylor
Hobbs, NM 88240

Report Date: May 15, 2009

Work Order: 9051203

Project Location: Eddy Co., NM
Project Name: Sundance Fed 23
Project Number: OXYUSA006SPL

| Sample | Description | Matrix | Date Taken | Time Taken | Date Received |
|---|---|---|---|---|---|
| 195571 | SW-1 | soil | 2009-05-11 | 08:00 | 2009-05-12 |
| 195572 | SW-2 | soil | 2009-05-11 | 08:10 | 2009-05-12 |
| 195573 | BH-1 | soil | 2009-05-11 | 08:20 | 2009-05-12 |
| 195574 | BH-2 | soil | 2009-05-11 | 08:25 | 2009-05-12 |
| 195575 | BH-3 | soil | 2009-05-11 | 08:40 | 2009-05-12 |

| Sample - Field Code | | TPH DRO DRO (mg/Kg) | | TPH GRO GRO (mg/Kg) |
|---|---|---|---|---|
| **195571 - SW-1** | | <50.0 | | **5.84** |
| **195572 - SW-2** | | <50.0 | | **5.01** |
| **195573 - BH-1** | | <50.0 | | **5.95** |
| **195574 - BH-2** | | <50.0 | | **6.01** |
| **195575 - BH-3** | | <50.0 | | **5.99** |

**Sample: 195571 - SW-1**

| Param | Flag | Result | Units | RL |
|---|---|---|---|---|
| Benzene | | <0.0100 | mg/Kg | 0.0100 |
| Toluene | | <0.0100 | mg/Kg | 0.0100 |
| Ethylbenzene | | <0.0100 | mg/Kg | 0.0100 |
| Xylene | | <0.0100 | mg/Kg | 0.0100 |
| Total BTEX | | <0.0600 | mg/Kg | 0.0600 |
| Chloride | | **287** | mg/Kg | 4.00 |

**Sample: 195572 - SW-2**

| Param | Flag | Result | Units | RL |
|---|---|---|---|---|
| Benzene | | <0.0100 | mg/Kg | 0.0100 |
| Toluene | | <0.0100 | mg/Kg | 0.0100 |
| Ethylbenzene | | <0.0100 | mg/Kg | 0.0100 |
| Xylene | | <0.0100 | mg/Kg | 0.0100 |
| Total BTEX | | <0.0600 | mg/Kg | 0.0600 |
| Chloride | | **240** | mg/Kg | 4.00 |

**Sample: 195573 - BH-1**

| Param | Flag | Result | Units | RL |
|---|---|---|---|---|
| Benzene | | <0.0100 | mg/Kg | 0.0100 |
| Toluene | | <0.0100 | mg/Kg | 0.0100 |
| Ethylbenzene | | <0.0100 | mg/Kg | 0.0100 |
| Xylene | | <0.0100 | mg/Kg | 0.0100 |
| Total BTEX | | <0.0600 | mg/Kg | 0.0600 |
| Chloride | | <200 | mg/Kg | 4.00 |

**Sample: 195574 - BH-2**

| Param | Flag | Result | Units | RL |
|---|---|---|---|---|
| Benzene | | <0.0100 | mg/Kg | 0.0100 |
| Toluene | | <0.0100 | mg/Kg | 0.0100 |
| Ethylbenzene | | <0.0100 | mg/Kg | 0.0100 |
| Xylene | | <0.0100 | mg/Kg | 0.0100 |
| Total BTEX | | <0.0600 | mg/Kg | 0.0600 |
| Chloride | | **209** | mg/Kg | 4.00 |

**Sample: 195575 - BH-3**

| Param | Flag | Result | Units | RL |
|---|---|---|---|---|
| Benzene | | <0.0100 | mg/Kg | 0.0100 |
| Toluene | | <0.0100 | mg/Kg | 0.0100 |
| Ethylbenzene | | <0.0100 | mg/Kg | 0.0100 |
| Xylene | | <0.0100 | mg/Kg | 0.0100 |
| Total BTEX | | <0.0600 | mg/Kg | 0.0600 |
| Chloride | | <200 | mg/Kg | 4.00 |

TRACEANALYSIS, INC.

6701 Aberdeen Avenue, Suite 9 Lubbock, Texas 79424 800•378•1296 806•794•1296 FAX 806•794•1298
200 East Sunset Road, Suite E El Paso, Texas 79922 888•588•3443 915•585•3443 FAX 915•585•4944
5002 Basin Street, Suite A1 Midland, Texas 79703 432•689•6301 FAX 432•689•6313
6015 Harris Parkway, Suite 110 Ft Worth, Texas 76132 817•201•5260
E-Mail: lab@traceanalysis.com

## Certifications

**WBENC:** 237019 **HUB:** 1752439743100-86536 **DBE:** VN 20657
**NCTRCA** WFWB38444Y0909

## NELAP Certifications

**Lubbock:** T104704219-08-TX LELAP-02003 Kansas E-10317 **El Paso:** T104704221-08-TX LELAP-02002 **Midland:** T104704392-08-TX

# Analytical and Quality Control Report

Eb Taylor
Talon LPE-Hobbs
318 E. Taylor
Hobbs, NM, 88240

Report Date: May 15, 2009

Work Order: 9051203

Project Location: Eddy Co., NM
Project Name: Sundance Fed 23
Project Number: OXYUSA006SPL

Enclosed are the Analytical Report and Quality Control Report for the following sample(s) submitted to TraceAnalysis, Inc.

| Sample | Description | Matrix | Date Taken | Time Taken | Date Received |
|---|---|---|---|---|---|
| 195571 | SW-1 | soil | 2009-05-11 | 08:00 | 2009-05-12 |
| 195572 | SW-2 | soil | 2009-05-11 | 08:10 | 2009-05-12 |
| 195573 | BH-1 | soil | 2009-05-11 | 08:20 | 2009-05-12 |
| 195574 | BH-2 | soil | 2009-05-11 | 08:25 | 2009-05-12 |
| 195575 | BH-3 | soil | 2009-05-11 | 08:40 | 2009-05-12 |

These results represent only the samples received in the laboratory. The Quality Control Report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed.

TraceAnalysis, Inc.

Dr. Blair Leftwich, Director

**Standard Flags**

**B** - The sample contains less than ten times the concentration found in the method blank.

# Case Narrative

Samples for project Sundance Fed 23 were received by TraceAnalysis, Inc. on 2009-05-12 and assigned to work order 9051203. Samples for work order 9051203 were received intact at a temperature of 12.1 deg. C.

Samples were analyzed for the following tests using their respective methods.

| Test | Method | Prep Batch | Prep Date | QC Batch | Analysis Date |
|---|---|---|---|---|---|
| BTEX | S 8021B | 50680 | 2009-05-12 at 15:54 | 59380 | 2009-05-12 at 15:54 |
| Chloride (Titration) | SM 4500-Cl B | 50742 | 2009-05-14 at 13:45 | 59456 | 2009-05-14 at 13:45 |
| Total BTEX | S 8021B | 50680 | 2009-05-12 at 15:54 | 59380 | 2009-05-12 at 15:54 |
| TPH DRO | Mod. 8015B | 50666 | 2009-05-12 at 09:30 | 59370 | 2009-05-12 at 11:00 |
| TPH GRO | S 8015B | 50734 | 2009-05-13 at 16:19 | 59381 | 2009-05-13 at 16:19 |

Results for these samples are reported on a wet weight basis unless data package indicates otherwise.

A matrix spike (MS) and matrix spike duplicate (MSD) sample is chosen at random from each preparation batch. The MS and MSD will indicate if a site specific matrix problem is occurring, however, it may not pertain to the samples for work order 9051203 since the sample was chosen at random. Therefore, the validity of the analytical data reported has been determined by the laboratory control sample (LCS) and the method blank (MB). These quality control measures are performed with each preparation batch to ensure data integrity.

All other exceptions associated with this report have been footnoted on the appropriate analytical page to assist in general data comprehension. Please contact the laboratory directly if there are any questions regarding this project.

# Analytical Report

**Sample: 195571 - SW-1**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | Midland | | | | |
| Analysis: | BTEX, Total BTEX | Analytical Method: | S 8021B | Prep Method: | S 5035 |
| QC Batch: | 59380 | Date Analyzed: | 2009-05-12 | Analyzed By: | ME |
| Prep Batch: | 50680 | Sample Preparation: | 2009-05-12 | Prepared By: | ME |

| Parameter | Flag | RL Result | Units | Dilution | RL |
|---|---|---|---|---|---|
| Benzene | | <0.0100 | mg/Kg | 1 | 0.0100 |
| Toluene | | <0.0100 | mg/Kg | 1 | 0.0100 |
| Ethylbenzene | | <0.0100 | mg/Kg | 1 | 0.0100 |
| Xylene | | <0.0100 | mg/Kg | 1 | 0.0100 |
| Total BTEX | | <0.0600 | mg/Kg | 1 | 0.0600 |

| Surrogate | Flag | Result | Units | Dilution | Spike Amount | Percent Recovery | Recovery Limits |
|---|---|---|---|---|---|---|---|
| Trifluorotoluene (TFT) | | 2.01 | mg/Kg | 1 | 2.00 | 100 | 49 - 129.7 |
| 4-Bromofluorobenzene (4-BFB) | | 1.51 | mg/Kg | 1 | 2.00 | 76 | 45.2 - 144.3 |

**Sample: 195571 - SW-1**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | Midland | | | | |
| Analysis: | Chloride (Titration) | Analytical Method: | SM 4500-Cl B | Prep Method: | N/A |
| QC Batch: | 59456 | Date Analyzed: | 2009-05-14 | Analyzed By: | AR |
| Prep Batch: | 50742 | Sample Preparation: | 2009-05-14 | Prepared By: | AR |

| Parameter | Flag | RL Result | Units | Dilution | RL |
|---|---|---|---|---|---|
| Chloride | | **287** | mg/Kg | 50 | 4.00 |

**Sample: 195571 - SW-1**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | Midland | | | | |
| Analysis: | TPH DRO | Analytical Method: | Mod. 8015B | Prep Method: | N/A |
| QC Batch: | 59370 | Date Analyzed: | 2009-05-12 | Analyzed By: | LD |
| Prep Batch: | 50666 | Sample Preparation: | 2009-05-12 | Prepared By: | LD |

| Parameter | Flag | RL Result | Units | Dilution | RL |
|---|---|---|---|---|---|
| DRO | | <50.0 | mg/Kg | 1 | 50.0 |

| Surrogate | Flag | Result | Units | Dilution | Spike Amount | Percent Recovery | Recovery Limits |
|---|---|---|---|---|---|---|---|
| n-Triacontane | | 107 | mg/Kg | 1 | 100 | 107 | 13.2 - 219.3 |

**Sample: 195571 - SW-1**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | Midland | | | | |
| Analysis: | TPH GRO | Analytical Method: | S 8015B | Prep Method: | S 5035 |
| QC Batch: | 59381 | Date Analyzed: | 2009-05-13 | Analyzed By: | ME |
| Prep Batch: | 50734 | Sample Preparation: | 2009-05-13 | Prepared By: | ME |

| Parameter | Flag | RL Result | Units | Dilution | RL |
|---|---|---|---|---|---|
| GRO | | **5.84** | mg/Kg | 1 | 1.00 |

| Surrogate | Flag | Result | Units | Dilution | Spike Amount | Percent Recovery | Recovery Limits |
|---|---|---|---|---|---|---|---|
| Trifluorotoluene (TFT) | | 1.84 | mg/Kg | 1 | 2.00 | 92 | 68.5 - 119.4 |
| 4-Bromofluorobenzene (4-BFB) | | 1.46 | mg/Kg | 1 | 2.00 | 73 | 52 - 117 |

**Sample: 195572 - SW-2**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | Midland | | | | |
| Analysis: | BTEX, Total BTEX | Analytical Method: | S 8021B | Prep Method: | S 5035 |
| QC Batch: | 59380 | Date Analyzed: | 2009-05-12 | Analyzed By: | ME |
| Prep Batch: | 50680 | Sample Preparation: | 2009-05-12 | Prepared By: | ME |

| Parameter | Flag | RL Result | Units | Dilution | RL |
|---|---|---|---|---|---|
| Benzene | | <0.0100 | mg/Kg | 1 | 0.0100 |
| Toluene | | <0.0100 | mg/Kg | 1 | 0.0100 |
| Ethylbenzene | | <0.0100 | mg/Kg | 1 | 0.0100 |
| Xylene | | <0.0100 | mg/Kg | 1 | 0.0100 |
| Total BTEX | | <0.0600 | mg/Kg | 1 | 0.0600 |

| Surrogate | Flag | Result | Units | Dilution | Spike Amount | Percent Recovery | Recovery Limits |
|---|---|---|---|---|---|---|---|
| Trifluorotoluene (TFT) | | 1.98 | mg/Kg | 1 | 2.00 | 99 | 49 - 129.7 |
| 4-Bromofluorobenzene (4-BFB) | | 1.49 | mg/Kg | 1 | 2.00 | 74 | 45.2 - 144.3 |

**Sample: 195572 - SW-2**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | Midland | | | | |
| Analysis: | Chloride (Titration) | Analytical Method: | SM 4500-Cl B | Prep Method: | N/A |
| QC Batch: | 59456 | Date Analyzed: | 2009-05-14 | Analyzed By: | AR |
| Prep Batch: | 50742 | Sample Preparation: | 2009-05-14 | Prepared By: | AR |

| Parameter | Flag | RL Result | Units | Dilution | RL |
|---|---|---|---|---|---|
| Chloride | | **240** | mg/Kg | 50 | 4.00 |

**Sample: 195572 - SW-2**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | Midland | | | | |
| Analysis: | TPH DRO | Analytical Method: | Mod. 8015B | Prep Method: | N/A |
| QC Batch: | 59370 | Date Analyzed: | 2009-05-12 | Analyzed By: | LD |
| Prep Batch: | 50666 | Sample Preparation: | 2009-05-12 | Prepared By: | LD |

| Parameter | Flag | RL Result | Units | Dilution | RL |
|---|---|---|---|---|---|
| DRO | | <50.0 | mg/Kg | 1 | 50.0 |

| Surrogate | Flag | Result | Units | Dilution | Spike Amount | Percent Recovery | Recovery Limits |
|---|---|---|---|---|---|---|---|
| n-Triacontane | | 119 | mg/Kg | 1 | 100 | 119 | 13.2 - 219.3 |

**Sample: 195572 - SW-2**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | Midland | | | | |
| Analysis: | TPH GRO | Analytical Method: | S 8015B | Prep Method: | S 5035 |
| QC Batch: | 59381 | Date Analyzed: | 2009-05-13 | Analyzed By: | ME |
| Prep Batch: | 50734 | Sample Preparation: | 2009-05-13 | Prepared By: | ME |

| Parameter | Flag | RL Result | Units | Dilution | RL |
|---|---|---|---|---|---|
| GRO | | **5.01** | mg/Kg | 1 | 1.00 |

| Surrogate | Flag | Result | Units | Dilution | Spike Amount | Percent Recovery | Recovery Limits |
|---|---|---|---|---|---|---|---|
| Trifluorotoluene (TFT) | | 1.85 | mg/Kg | 1 | 2.00 | 92 | 68.5 - 119.4 |
| 4-Bromofluorobenzene (4-BFB) | | 1.43 | mg/Kg | 1 | 2.00 | 72 | 52 - 117 |

**Sample: 195573 - BH-1**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | Midland | | | | |
| Analysis: | BTEX, Total BTEX | Analytical Method: | S 8021B | Prep Method: | S 5035 |
| QC Batch: | 59380 | Date Analyzed: | 2009-05-12 | Analyzed By: | ME |
| Prep Batch: | 50680 | Sample Preparation: | 2009-05-12 | Prepared By: | ME |

| Parameter | Flag | RL Result | Units | Dilution | RL |
|---|---|---|---|---|---|
| Benzene | | <0.0100 | mg/Kg | 1 | 0.0100 |
| Toluene | | <0.0100 | mg/Kg | 1 | 0.0100 |
| Ethylbenzene | | <0.0100 | mg/Kg | 1 | 0.0100 |
| Xylene | | <0.0100 | mg/Kg | 1 | 0.0100 |
| Total BTEX | | <0.0600 | mg/Kg | 1 | 0.0600 |

| Surrogate | Flag | Result | Units | Dilution | Spike Amount | Percent Recovery | Recovery Limits |
|---|---|---|---|---|---|---|---|
| Trifluorotoluene (TFT) | | 1.96 | mg/Kg | 1 | 2.00 | 98 | 49 - 129.7 |
| 4-Bromofluorobenzene (4-BFB) | | 1.55 | mg/Kg | 1 | 2.00 | 78 | 45.2 - 144.3 |

**Sample: 195573 - BH-1**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | Midland | | | | |
| Analysis: | Chloride (Titration) | Analytical Method: | SM 4500-Cl B | Prep Method: | N/A |
| QC Batch: | 59456 | Date Analyzed: | 2009-05-14 | Analyzed By: | AR |
| Prep Batch: | 50742 | Sample Preparation: | 2009-05-14 | Prepared By: | AR |

| Parameter | Flag | RL Result | Units | Dilution | RL |
|---|---|---|---|---|---|
| Chloride | | <200 | mg/Kg | 50 | 4.00 |

**Sample: 195573 - BH-1**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | Midland | | | | |
| Analysis: | TPH DRO | Analytical Method: | Mod. 8015B | Prep Method: | N/A |
| QC Batch: | 59370 | Date Analyzed: | 2009-05-12 | Analyzed By: | LD |
| Prep Batch: | 50666 | Sample Preparation: | 2009-05-12 | Prepared By: | LD |

| Parameter | Flag | RL Result | Units | Dilution | RL |
|---|---|---|---|---|---|
| DRO | | <50.0 | mg/Kg | 1 | 50.0 |

| Surrogate | Flag | Result | Units | Dilution | Spike Amount | Percent Recovery | Recovery Limits |
|---|---|---|---|---|---|---|---|
| n-Triacontane | | 132 | mg/Kg | 1 | 100 | 132 | 13.2 - 219.3 |

**Sample: 195573 - BH-1**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | Midland | | | | |
| Analysis: | TPH GRO | Analytical Method: | S 8015B | Prep Method: | S 5035 |
| QC Batch: | 59381 | Date Analyzed: | 2009-05-13 | Analyzed By: | ME |
| Prep Batch: | 50734 | Sample Preparation: | 2009-05-13 | Prepared By: | ME |

| Parameter | Flag | RL Result | Units | Dilution | RL |
|---|---|---|---|---|---|
| GRO | | **5.95** | mg/Kg | 1 | 1.00 |

| Surrogate | Flag | Result | Units | Dilution | Spike Amount | Percent Recovery | Recovery Limits |
|---|---|---|---|---|---|---|---|
| Trifluorotoluene (TFT) | | 1.86 | mg/Kg | 1 | 2.00 | 93 | 68.5 - 119.4 |
| 4-Bromofluorobenzene (4-BFB) | | 1.48 | mg/Kg | 1 | 2.00 | 74 | 52 - 117 |

**Sample: 195574 - BH-2**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | Midland | | | | |
| Analysis: | BTEX, Total BTEX | Analytical Method: | S 8021B | Prep Method: | S 5035 |
| QC Batch: | 59380 | Date Analyzed: | 2009-05-12 | Analyzed By: | ME |
| Prep Batch: | 50680 | Sample Preparation: | 2009-05-12 | Prepared By: | ME |

| Parameter | Flag | RL Result | Units | Dilution | RL |
|---|---|---|---|---|---|
| Benzene | | <0.0100 | mg/Kg | 1 | 0.0100 |
| Toluene | | <0.0100 | mg/Kg | 1 | 0.0100 |
| Ethylbenzene | | <0.0100 | mg/Kg | 1 | 0.0100 |
| Xylene | | <0.0100 | mg/Kg | 1 | 0.0100 |
| Total BTEX | | <0.0600 | mg/Kg | 1 | 0.0600 |

| Surrogate | Flag | Result | Units | Dilution | Spike Amount | Percent Recovery | Recovery Limits |
|---|---|---|---|---|---|---|---|
| Trifluorotoluene (TFT) | | 1.94 | mg/Kg | 1 | 2.00 | 97 | 49 - 129.7 |
| 4-Bromofluorobenzene (4-BFB) | | 1.50 | mg/Kg | 1 | 2.00 | 75 | 45.2 - 144.3 |

**Sample: 195574 - BH-2**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | Midland | | | | |
| Analysis: | Chloride (Titration) | Analytical Method: | SM 4500-Cl B | Prep Method: | N/A |
| QC Batch: | 59456 | Date Analyzed: | 2009-05-14 | Analyzed By: | AR |
| Prep Batch: | 50742 | Sample Preparation: | 2009-05-14 | Prepared By: | AR |

*continued ...*

*sample 195574 continued ...*

| Parameter | Flag | RL Result | Units | Dilution | RL |
|---|---|---|---|---|---|

| Parameter | Flag | RL Result | Units | Dilution | RL |
|---|---|---|---|---|---|
| Chloride | | **209** | mg/Kg | 50 | 4.00 |

**Sample: 195574 - BH-2**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | Midland | | | | |
| Analysis: | TPH DRO | Analytical Method: | Mod. 8015B | Prep Method: | N/A |
| QC Batch: | 59370 | Date Analyzed: | 2009-05-12 | Analyzed By: | LD |
| Prep Batch: | 50666 | Sample Preparation: | 2009-05-12 | Prepared By: | LD |

| Parameter | Flag | RL Result | Units | Dilution | RL |
|---|---|---|---|---|---|
| DRO | | <50.0 | mg/Kg | 1 | 50.0 |

| Surrogate | Flag | Result | Units | Dilution | Spike Amount | Percent Recovery | Recovery Limits |
|---|---|---|---|---|---|---|---|
| n-Triacontane | | 105 | mg/Kg | 1 | 100 | 105 | 13.2 - 219.3 |

**Sample: 195574 - BH-2**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | Midland | | | | |
| Analysis: | TPH GRO | Analytical Method: | S 8015B | Prep Method: | S 5035 |
| QC Batch: | 59381 | Date Analyzed: | 2009-05-13 | Analyzed By: | ME |
| Prep Batch: | 50734 | Sample Preparation: | 2009-05-13 | Prepared By: | ME |

| Parameter | Flag | RL Result | Units | Dilution | RL |
|---|---|---|---|---|---|
| GRO | | **6.01** | mg/Kg | 1 | 1.00 |

| Surrogate | Flag | Result | Units | Dilution | Spike Amount | Percent Recovery | Recovery Limits |
|---|---|---|---|---|---|---|---|
| Trifluorotoluene (TFT) | | 1.85 | mg/Kg | 1 | 2.00 | 92 | 68.5 - 119.4 |
| 4-Bromofluorobenzene (4-BFB) | | 1.45 | mg/Kg | 1 | 2.00 | 72 | 52 - 117 |

**Method Blank (1)** QC Batch: 59381

QC Batch: 59381 | Date Analyzed: 2009-05-13 | Analyzed By: ME
Prep Batch: 50734 | QC Preparation: 2009-05-13 | Prepared By: ME

| Parameter | Flag | MDL Result | Units | RL |
|---|---|---|---|---|
| GRO | | <0.482 | mg/Kg | 1 |

| Surrogate | Flag | Result | Units | Dilution | Spike Amount | Percent Recovery | Recovery Limits |
|---|---|---|---|---|---|---|---|
| Trifluorotoluene (TFT) | | 1.85 | mg/Kg | 1 | 2.00 | 92 | 71.9 - 115 |
| 4-Bromofluorobenzene (4-BFB) | | 1.79 | mg/Kg | 1 | 2.00 | 90 | 45.7 - 118.9 |

**Method Blank (1)** QC Batch: 59456

QC Batch: 59456 | Date Analyzed: 2009-05-14 | Analyzed By: AR
Prep Batch: 50742 | QC Preparation: 2009-05-14 | Prepared By: AR

| Parameter | Flag | MDL Result | Units | RL |
|---|---|---|---|---|
| Chloride | | <2.18 | mg/Kg | 4 |

**Laboratory Control Spike (LCS-1)**

QC Batch: 59370 | Date Analyzed: 2009-05-12 | Analyzed By: LD
Prep Batch: 50666 | QC Preparation: 2009-05-12 | Prepared By: LD

| Param | LCS Result | Units | Dil. | Spike Amount | Matrix Result | Rec. | Rec. Limit |
|---|---|---|---|---|---|---|---|
| DRO | 278 | mg/Kg | 1 | 250 | <5.86 | 111 | 57.4 - 133.4 |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

| Param | LCSD Result | Units | Dil. | Spike Amount | Matrix Result | Rec. | Rec. Limit | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|
| DRO | 276 | mg/Kg | 1 | 250 | <5.86 | 110 | 57.4 - 133.4 | 1 | 20 |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

| Surrogate | LCS Result | LCSD Result | Units | Dil. | Spike Amount | LCS Rec. | LCSD Rec. | Rec. Limit |
|---|---|---|---|---|---|---|---|---|
| n-Triacontane | 95.2 | 100 | mg/Kg | 1 | 100 | 95 | 100 | 48.5 - 146.7 |

**Laboratory Control Spike (LCS-1)**

QC Batch: 59380 | Date Analyzed: 2009-05-12 | Analyzed By: ME
Prep Batch: 50680 | QC Preparation: 2009-05-12 | Prepared By: ME

| Param | LCS Result | Units | Dil. | Spike Amount | Matrix Result | Rec. | Rec. Limit |
|---|---|---|---|---|---|---|---|
| Benzene | 2.01 | mg/Kg | 1 | 2.00 | <0.00100 | 100 | 72.7 - 129.8 |
| Toluene | 2.00 | mg/Kg | 1 | 2.00 | <0.00100 | 100 | 71.6 - 129.6 |
| Ethylbenzene | 1.97 | mg/Kg | 1 | 2.00 | <0.00110 | 98 | 70.8 - 129.7 |
| Xylene | 5.86 | mg/Kg | 1 | 6.00 | <0.00360 | 98 | 70.9 - 129.4 |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

| Param | LCSD Result | Units | Dil. | Spike Amount | Matrix Result | Rec. | Rec. Limit | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | 1.90 | mg/Kg | 1 | 2.00 | <0.00100 | 95 | 72.7 - 129.8 | 6 | 20 |
| Toluene | 1.92 | mg/Kg | 1 | 2.00 | <0.00100 | 96 | 71.6 - 129.6 | 4 | 20 |
| Ethylbenzene | 1.90 | mg/Kg | 1 | 2.00 | <0.00110 | 95 | 70.8 - 129.7 | 4 | 20 |
| Xylene | 5.69 | mg/Kg | 1 | 6.00 | <0.00360 | 95 | 70.9 - 129.4 | 3 | 20 |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

| Surrogate | LCS Result | LCSD Result | Units | Dil. | Spike Amount | LCS Rec. | LCSD Rec. | Rec. Limit |
|---|---|---|---|---|---|---|---|---|
| Trifluorotoluene (TFT) | 1.97 | 2.00 | mg/Kg | 1 | 2.00 | 98 | 100 | 65.9 - 132 |
| 4-Bromofluorobenzene (4-BFB) | 1.85 | 1.87 | mg/Kg | 1 | 2.00 | 92 | 94 | 55.2 - 128.9 |

**Laboratory Control Spike (LCS-1)**

QC Batch: 59381 | Date Analyzed: 2009-05-13 | Analyzed By: ME
Prep Batch: 50734 | QC Preparation: 2009-05-13 | Prepared By: ME

| Param | LCS Result | Units | Dil. | Spike Amount | Matrix Result | Rec. | Rec. Limit |
|---|---|---|---|---|---|---|---|
| GRO | 14.3 | mg/Kg | 1 | 20.0 | <0.482 | 72 | 60.5 - 100.1 |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

| Param | LCSD Result | Units | Dil. | Spike Amount | Matrix Result | Rec. | Rec. Limit | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|
| GRO | 14.0 | mg/Kg | 1 | 20.0 | <0.482 | 70 | 60.5 - 100.1 | 2 | 20 |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

| Surrogate | LCS Result | LCSD Result | Units | Dil. | Spike Amount | LCS Rec. | LCSD Rec. | Rec. Limit |
|---|---|---|---|---|---|---|---|---|
| Trifluorotoluene (TFT) | 1.90 | 1.87 | mg/Kg | 1 | 2.00 | 95 | 94 | 78.8 - 104.7 |
| 4-Bromofluorobenzene (4-BFB) | 1.91 | 1.89 | mg/Kg | 1 | 2.00 | 96 | 94 | 66.1 - 107.3 |

**Laboratory Control Spike (LCS-1)**

QC Batch: 59456 | Date Analyzed: 2009-05-14 | Analyzed By: AR
Prep Batch: 50742 | QC Preparation: 2009-05-14 | Prepared By: AR

| Param | LCS Result | Units | Dil. | Spike Amount | Matrix Result | Rec. | Rec. Limit |
|---|---|---|---|---|---|---|---|
| Chloride | 97.2 | mg/Kg | 1 | 100 | <2.18 | 97 | 85 - 115 |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

| Param | LCSD Result | Units | Dil. | Spike Amount | Matrix Result | Rec. | Rec. Limit | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|
| Chloride | 98.5 | mg/Kg | 1 | 100 | <2.18 | 98 | 85 - 115 | 1 | 20 |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

**Matrix Spike (MS-1)** Spiked Sample: 195575

QC Batch: 59370 | Date Analyzed: 2009-05-12 | Analyzed By: LD
Prep Batch: 50666 | QC Preparation: 2009-05-12 | Prepared By: LD

| Param | MS Result | Units | Dil. | Spike Amount | Matrix Result | Rec. | Rec. Limit |
|---|---|---|---|---|---|---|---|
| DRO | 202 | mg/Kg | 1 | 250 | 19.4 | 73 | 35.2 - 167.1 |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

| Param | MSD Result | Units | Dil. | Spike Amount | Matrix Result | Rec. | Rec. Limit | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|
| DRO [1] | 165 | mg/Kg | 1 | 250 | 19.4 | 66 | 35.2 - 167.1 | 20 | 20 |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

| Surrogate | MS Result | MSD Result | Units | Dil. | Spike Amount | MS Rec. | MSD Rec. | Rec. Limit |
|---|---|---|---|---|---|---|---|---|
| n-Triacontane | 118 | 107 | mg/Kg | 1 | 100 | 118 | 107 | 34.5 - 178.4 |

**Matrix Spike (MS-1)** Spiked Sample: 195575

QC Batch: 59380 | Date Analyzed: 2009-05-12 | Analyzed By: ME
Prep Batch: 50680 | QC Preparation: 2009-05-12 | Prepared By: ME

| Param | MS Result | Units | Dil. | Spike Amount | Matrix Result | Rec. | Rec. Limit |
|---|---|---|---|---|---|---|---|
| Benzene | 1.88 | mg/Kg | 1 | 2.00 | <0.00100 | 94 | 58.6 - 165.2 |

*continued ...*

[1] MS/MSD RPD out of RPD Limits. Use LCS/LCSD to demonstrate analysis is under control

*matrix spikes continued ...*

| Param | MS Result | Units | Dil. | Spike Amount | Matrix Result | Rec. | Rec. Limit |
|---|---|---|---|---|---|---|---|
| Toluene | 1.86 | mg/Kg | 1 | 2.00 | <0.00100 | 93 | 64.2 - 153.8 |
| Ethylbenzene | 1.91 | mg/Kg | 1 | 2.00 | <0.00110 | 96 | 61.6 - 159.4 |
| Xylene | 5.57 | mg/Kg | 1 | 6.00 | <0.00360 | 93 | 64.4 - 155.3 |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

| Param | MSD Result | Units | Dil. | Spike Amount | Matrix Result | Rec. | Rec. Limit | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | 1.92 | mg/Kg | 1 | 2.00 | <0.00100 | 96 | 58.6 - 165.2 | 2 | 20 |
| Toluene | 1.91 | mg/Kg | 1 | 2.00 | <0.00100 | 96 | 64.2 - 153.8 | 3 | 20 |
| Ethylbenzene | 1.95 | mg/Kg | 1 | 2.00 | <0.00110 | 98 | 61.6 - 159.4 | 2 | 20 |
| Xylene | 5.72 | mg/Kg | 1 | 6.00 | <0.00360 | 95 | 64.4 - 155.3 | 3 | 20 |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

| Surrogate | MS Result | MSD Result | Units | Dil. | Spike Amount | MS Rec. | MSD Rec. | Rec. Limit |
|---|---|---|---|---|---|---|---|---|
| Trifluorotoluene (TFT) | 2.00 | 2.04 | mg/Kg | 1 | 2 | 100 | 102 | 76 - 127.9 |
| 4-Bromofluorobenzene (4-BFB) | 1.58 | 1.60 | mg/Kg | 1 | 2 | 79 | 80 | 72 - 127.8 |

**Matrix Spike (MS-1)** Spiked Sample: 195575

QC Batch: 59381 | Date Analyzed: 2009-05-13 | Analyzed By: ME
Prep Batch: 50734 | QC Preparation: 2009-05-13 | Prepared By: ME

| Param | MS Result | Units | Dil. | Spike Amount | Matrix Result | Rec. | Rec. Limit |
|---|---|---|---|---|---|---|---|
| GRO | 20.7 | mg/Kg | 1 | 20.0 | 5.9871 | 74 | 12.8 - 175.2 |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

| Param | MSD Result | Units | Dil. | Spike Amount | Matrix Result | Rec. | Rec. Limit | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|
| GRO | 24.8 | mg/Kg | 1 | 20.0 | 5.9871 | 94 | 12.8 - 175.2 | 18 | 20 |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

| Surrogate | MS Result | MSD Result | Units | Dil. | Spike Amount | MS Rec. | MSD Rec. | Rec. Limit |
|---|---|---|---|---|---|---|---|---|
| Trifluorotoluene (TFT) | 1.85 | 1.89 | mg/Kg | 1 | 2 | 92 | 94 | 60.8 - 132.1 |
| 4-Bromofluorobenzene (4-BFB) | 1.59 | 2.98 | mg/Kg | 1 | 2 | 80 | 149 | 31.3 - 161.7 |

**Matrix Spike (MS-1)** Spiked Sample: 195575

QC Batch: 59456 | Date Analyzed: 2009-05-14 | Analyzed By: AR
Prep Batch: 50742 | QC Preparation: 2009-05-14 | Prepared By: AR

| Param | MS Result | Units | Dil. | Spike Amount | Matrix Result | Rec. | Rec. Limit |
|---|---|---|---|---|---|---|---|
| Chloride | 5080 | mg/Kg | 50 | 5000 | <109 | 102 | 85 - 115 |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

| Param | MSD Result | Units | Dil. | Spike Amount | Matrix Result | Rec. | Rec. Limit | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|
| Chloride | 5140 | mg/Kg | 50 | 5000 | <109 | 103 | 85 - 115 | 1 | 20 |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

**Standard (CCV-1)**

QC Batch: 59370 Date Analyzed: 2009-05-12 Analyzed By: LD

| Param | Flag | Units | CCVs True Conc. | CCVs Found Conc. | CCVs Percent Recovery | Percent Recovery Limits | Date Analyzed |
|---|---|---|---|---|---|---|---|
| DRO | | mg/Kg | 250 | 290 | 116 | 80 - 120 | 2009-05-12 |

**Standard (CCV-2)**

QC Batch: 59370 Date Analyzed: 2009-05-12 Analyzed By: LD

| Param | Flag | Units | CCVs True Conc. | CCVs Found Conc. | CCVs Percent Recovery | Percent Recovery Limits | Date Analyzed |
|---|---|---|---|---|---|---|---|
| DRO | | mg/Kg | 250 | 293 | 117 | 80 - 120 | 2009-05-12 |

**Standard (CCV-3)**

QC Batch: 59370 Date Analyzed: 2009-05-12 Analyzed By: LD

| Param | Flag | Units | CCVs True Conc. | CCVs Found Conc. | CCVs Percent Recovery | Percent Recovery Limits | Date Analyzed |
|---|---|---|---|---|---|---|---|
| DRO | | mg/Kg | 250 | 298 | 119 | 80 - 120 | 2009-05-12 |

**Standard (CCV-1)**

QC Batch: 59380 Date Analyzed: 2009-05-12 Analyzed By: ME

| Param | Flag | Units | CCVs True Conc. | CCVs Found Conc. | CCVs Percent Recovery | Percent Recovery Limits | Date Analyzed |
|---|---|---|---|---|---|---|---|
| Benzene | | mg/Kg | 0.100 | 0.0965 | 96 | 80 - 120 | 2009-05-12 |

*continued ...*

*standard continued ...*

| Param | Flag | Units | CCVs True Conc. | CCVs Found Conc. | CCVs Percent Recovery | Percent Recovery Limits | Date Analyzed |
|---|---|---|---|---|---|---|---|
| Toluene | | mg/Kg | 0.100 | 0.0954 | 95 | 80 - 120 | 2009-05-12 |
| Ethylbenzene | | mg/Kg | 0.100 | 0.0949 | 95 | 80 - 120 | 2009-05-12 |
| Xylene | | mg/Kg | 0.300 | 0.284 | 95 | 80 - 120 | 2009-05-12 |

**Standard (CCV-2)**

QC Batch: 59380 Date Analyzed: 2009-05-12 Analyzed By: ME

| Param | Flag | Units | CCVs True Conc. | CCVs Found Conc. | CCVs Percent Recovery | Percent Recovery Limits | Date Analyzed |
|---|---|---|---|---|---|---|---|
| Benzene | | mg/Kg | 0.100 | 0.102 | 102 | 80 - 120 | 2009-05-12 |
| Toluene | | mg/Kg | 0.100 | 0.0993 | 99 | 80 - 120 | 2009-05-12 |
| Ethylbenzene | | mg/Kg | 0.100 | 0.100 | 100 | 80 - 120 | 2009-05-12 |
| Xylene | | mg/Kg | 0.300 | 0.302 | 101 | 80 - 120 | 2009-05-12 |

**Standard (CCV-1)**

QC Batch: 59381 Date Analyzed: 2009-05-13 Analyzed By: ME

| Param | Flag | Units | CCVs True Conc. | CCVs Found Conc. | CCVs Percent Recovery | Percent Recovery Limits | Date Analyzed |
|---|---|---|---|---|---|---|---|
| GRO | | mg/Kg | 1.00 | 0.935 | 94 | 80 - 120 | 2009-05-13 |

**Standard (CCV-2)**

QC Batch: 59381 Date Analyzed: 2009-05-13 Analyzed By: ME

| Param | Flag | Units | CCVs True Conc. | CCVs Found Conc. | CCVs Percent Recovery | Percent Recovery Limits | Date Analyzed |
|---|---|---|---|---|---|---|---|
| GRO | | mg/Kg | 1.00 | 0.828 | 83 | 80 - 120 | 2009-05-13 |

**Standard (ICV-1)**

QC Batch: 59456 Date Analyzed: 2009-05-14 Analyzed By: AR

| Param | Flag | Units | ICVs True Conc. | ICVs Found Conc. | ICVs Percent Recovery | Percent Recovery Limits | Date Analyzed |
|---|---|---|---|---|---|---|---|
| Chloride | | mg/Kg | 100 | 101 | 101 | 85 - 115 | 2009-05-14 |

**Standard (CCV-1)**

QC Batch: 59456 Date Analyzed: 2009-05-14 Analyzed By: AR

| Param | Flag | Units | CCVs True Conc. | CCVs Found Conc. | CCVs Percent Recovery | Percent Recovery Limits | Date Analyzed |
|---|---|---|---|---|---|---|---|
| Chloride | | mg/Kg | 100 | 99.3 | 99 | 85 - 115 | 2009-05-14 |

LAB Order ID # 905 1203 Page 1 of 1

# TraceAnalysis, Inc.

email: lab@traceanalysis.com


6701 Aberdeen Avenue, Suite 9
**Lubbock, Texas 79424**
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Fax (806) 794-1298
1 (800) 378-1296

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**Midland, Texas 79703**
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200 East Sunset Rd., Suite E
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1 (888) 588-3443

6015 Harris Pkwy, Suite 110
**Ft. Worth, Texas 76132**
Tel (817) 201-5260


Company Name: TALON
Phone #: 432 238-6588
Address: (Street, City, Zip) 318 E TAYLOR HOBBS NM 88240
Fax #:
Contact Person: CB Taylor
E-mail:
Invoice to: (If different from above)
Project #: OX4 USA 006 SPL
Project Name: SUNDANCE FED 23
Project Location (including state): EDDY CO NEW MEXICO
Sampler Signature:

| LAB # (LAB USE ONLY) | FIELD CODE | # CONTAINERS | Volume / Amount | MATRIX: WATER | SOIL | AIR | SLUDGE | PRESERVATIVE METHOD: HCl | $HNO_3$ | $H_2SO_4$ | NaOH | ICE | NONE | SAMPLING: DATE | TIME |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 195571 | SW-1 | 1 | | | X | | | | | | | | | 5/11 | 8:00 |
| 572 | SW-2 | 1 | | | X | | | | | | | | | 5/11 | 8:10 |
| 573 | BH-1 | 1 | | | X | | | | | | | | | 5/11 | 8:20 |
| 574 | BH-2 | 1 | | | X | | | | | | | | | 5/11 | 8:25 |
| 575 | BH-3 | 1 | | | X | | | | | | | | | 5/11 | 8:40 |

## ANALYSIS REQUEST (Circle or Specify Method No.)

| LAB # | MTBE 8021B / 602 / 8260B / 624 | BTEX 8021B / 602 / 8260B / 624 | TPH 418.1 / TX1005 / TX1005 Ext(C35) | TPH 8015 GRO / DRO / TVHC | PAH 8270C / 625 | Total Metals Ag As Ba Cd Cr Pb Se Hg 6010B/200.7 | TCLP Metals Ag As Ba Cd Cr Pb Se Hg | TCLP Volatiles | TCLP Semi Volatiles | TCLP Pesticides | RCI | GC/MS Vol. 8260B / 624 | GC/MS Semi. Vol. 8270C / 625 | PCB's 8082 / 608 | Pesticides 8081A / 608 | BOD, TSS, pH | Moisture Content | Chlorides | | | | | Turn Around Time if different from standard | Hold |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 195571 | | X | | X | | | | | | | | | | | | | X | | | | | | | |
| 572 | | X | | X | | | | | | | | | | | | | X | | | | | | | |
| 573 | | X | | X | | | | | | | | | | | | | X | | | | | | | |
| 574 | | X | | X | | | | | | | | | | | | | X | | | | | | | |
| 575 | | X | | X | | | | | | | | | | | | | X | | | | | | | |

| Relinquished by: | Date: | Time: | Received by: | Date: | Time: |
|---|---|---|---|---|---|
| | 5/12 | 9:10 | | 5-12-09 | 9:10 |
| Relinquished by: | Date: | Time: | Received by: | Date: | Time: |
| Relinquished by: | Date: | Time: | Received at Laboratory by: | Date: | Time: |

**LAB USE ONLY**
Intact (Y) N
Headspace Y / N (NA)
Temp 12.1 °C
Log-In-Review

**REMARKS:** All tests Midland.

- ☐ Dry Weight Basis Required
- ☐ TRRP Report Required
- ☐ Check If Special Reporting Limits Are Needed

Carrier # carry-in

Submittal of samples constitutes agreement to Terms and Conditions listed on reverse side of C. O. C.

ORIGINAL COPY

# APPENDIX D

## New Mexico Oil Conservation Division Release Notification and Corrective Action Form C-141

Rec'd 6/11/09
NMOCD DISTII

District I
1625 N. French Dr , Hobbs, NM 88240
District II
1301 W Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St Francis Dr , Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources

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

Form C-141
Revised October 10, 2003

Submit 2 Copies to appropriate District Office in accordance with Rule 116 on back side of form

# Release Notification and Corrective Action

## OPERATOR

☐ Initial Report ☒ Final Report

| | |
|---|---|
| Name of Company OXY USA | Contact Kelton Beaird |
| Address 102 S Main Carlsbad, NM 88220 | Telephone No. (O) 505-887-8337 C) 575-390-1903 |
| Facility Name Sundance Fed. #23 | Facility Type Oil Well |

| | | |
|---|---|---|
| Surface Owner BLM | Mineral Owner | Lease No. |

## LOCATION OF RELEASE

| Unit Letter | Section | Township | Range | Feet from the | North/South Line | Feet from the | East/West Line | County |
|---|---|---|---|---|---|---|---|---|
| | 4 | 24S | 31E | | | | | Eddy |

**Latitude**_____ **Longitude**_____

## NATURE OF RELEASE

| | | |
|---|---|---|
| Type of Release Produced water | Volume of Release 20bbls | Volume Recovered 0 |
| Source of Release | Date and Hour of Occurrence | Date and Hour of Discovery 4-27-09 @ 12:00pm |
| Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required | If YES, To Whom? Mike Bratcher-NMOCD Jim Amos-BLM (left message) | |
| By Whom? Kelton Beaird (HES Specialist)-Oxy | Date and Hour See above | |
| Was a Watercourse Reached? ☐ Yes ☒ No | If YES, Volume Impacting the Watercourse. | |

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.*
Poly-line split causing fluid to leak into the pasture

Describe Area Affected and Cleanup Action Taken *
Due to the release of 20 barrels of produced water, remedial excavation activities were conducted along the ruptured poly-line. Due to the flow path of the release, an area of approximately 80 feet by 27 feet was excavated using a backhoe to approximately 3 feet bgs A second area of approximately 65 feet by 27 feet was excavated using a backhoe to approximately 8 feet bgs. No visible impact was observed at 3 feet bgs or 8 feet bgs depth in the respective excavations; therefore, confirmation samples were collected and submitted for laboratory analysis. Analytical results indicate non-detectable concentrations of BTEX and detectable concentrations of TPH and chlorides. However, all detected TPH and chloride concentrations were below applicable NMOCD limits with the exception of one (1) sample (SW-1) which reported a chloride concentration of 287 mg/Kg.

Talon proposes that the 1,500 cubic yards of affected soil be transported and disposed of at the Lea Land Inc. landfill (Permit # WM-01-035) west of Hobbs, New Mexico. During affected soil transportation and disposal activities, the excavation will be backfilled and compacted with soil back hauled from Lea Land Inc. .

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

| | | |
|---|---|---|
| Signature: | OIL CONSERVATION DIVISION | |
| Printed Name: Kelton Beaird | Approved by District Supervisor: | |
| Title: HES Specialist | Approval Date: | Expiration Date: |
| E-mail Address. kelton_beaird@oxy.com | Conditions of Approval: | Attached ☐ |
| Date: 6-9-09 | | |

* Attach Additional Sheets If Necessary