1R - 408

# REPORTS

# DATE:

9/22/2003

MAXIM TECHNOLOGIES INC

1R403

1703 W. Industrial Ave.
Midland, Texas 79701
(432) 686-8081

September 22, 2003

Mr. Thomas A. Loftus III
ConocoPhillips Inc.
600 North Dairy Ashford
Houston, TX 77079

**RE: Sims Battery No. 1, Lea County, New Mexico**
**Results of Subsurface Investigation**
**Maxim Project No. 3690085.100**

Dear Mr. Loftus:

Maxim Technologies, Inc. (Maxim) conducted a subsurface investigation at the ConocoPhillips Sims Battery No. 1 location (Site) on August 20, 2003. The Site is located approximately 6 miles southeast of Eunice, New Mexico and 1.25 miles east of State Highway 18; NW Sec. 24 T22S R37E in the southeastern portion of Lea County, New Mexico (Figure 1).

## 1.0 BACKGROUND

On December 6, 2000, approximately 20 barrels (bbls) of crude oil were released at the Sims Battery No. 1 site. Fifteen bbls were recovered, and the remaining product infiltrated the shallow soils in an area approximately 90 feet by 90 feet immediately east of the actual tank battery location. Remediation efforts consisted of soil excavation and disposal of impacted soil at a permitted facility. Soil sampling was performed in the excavation on December 13, 2000, and on February 8, 13 and 16, 2001. The soil samples were analyzed for total petroleum hydrocarbons (TPH) by Method 418.1; benzene, toluene, ethylbenzene and total xylenes (BTEX) by Method 8021B; and chloride by Method 9253 at Environmental Lab of Texas in Odessa, Texas. On March 15, 2002, shallow soil samples were collected from the base of the excavation in four locations using hand auger methods (Figure 2). These soil samples were analyzed for TPH and chloride at Environmental Lab of Texas in Odessa, Texas. The results of the previous soil sampling are presented in Table 1. The excavation was left open at the site to allow for additional soil sampling in the impacted area.

The soil samples collected by hand auger on March 15, 2002, reported concentrations of TPH at a maximum of 6,600 milligrams per kilogram (mg/kg) in the T1-North sample and chloride at a maximum of 3,320 mg/kg in the T3-South sample (Table 1). These results indicated petroleum hydrocarbons and chloride were present in shallow soils at the site and further sampling was necessary.

## 1.0 SCOPE OF WORK

The current subsurface investigation was conducted to determine the horizontal and vertical extent of impact related to the release of crude oil and provide data to aid in risk determination in accordance with New Mexico Oil Conservation Division's (NMOCD's) standards, *Guidelines for Remediation of Leaks, Spills and Releases.*

The following sections describe the field methods and health and safety protocols utilized during the site investigation and the disposition of investigation-derived wastes generated during the investigation.

## 1.1 Field Investigation

The field investigation program entailed drilling 7 soil borings to depths ranging from 6 to 12 feet deep and the collection of soils from each boring for field screening and laboratory analysis. To confirm the removal of impacted soils from the release area, soil samples were collected from five locations within the excavation. Two boring locations were also placed outside of the release excavation area for determination of background soil characteristics. Figure 3 presents a site map showing the site layout and locations of the soil borings.

On August 20, 2003, Scarborough Drilling of Lamesa, Texas, installed the soil borings using a truck-mounted air rotary drilling rig. Soil samples were collected at continuous two-foot intervals from each boring in a 2-inch diameter by 2-foot long split spoon barrel sampler using direct-push methods. Once the sampler was advanced through the 2-foot sampling interval or to refusal, it was withdrawn and the section of boring was over drilled using a 3-inch diameter air rotary drilling bit. Samples of soil core removed from the split spoon sampler were placed in the appropriate sample containers for field screening and laboratory analyses. Drill cuttings were also placed in the sample containers if an inadequate volume of soil core was available in the sample barrel. The sample containers were placed on ice in a cooler immediately after collection. Mr. Leo Sims concurrently collected duplicate split samples of the soil at the 5 boring locations within the excavation area. No groundwater was encountered in any of the borings.

After each soil boring was drilled to total depth and all samples were collected, the drilling tools were withdrawn and the boring was abandoned by backfilling with hydrated bentonite pellets. The split spoon sampler was decontaminated between each sample run by washing with soap and water followed by a clean water rinse.

Soil samples collected from the borings were field screened with a photo-ionization detector (PID) to detect the presence of volatile organic compounds (VOCs) within the headspace atmosphere of bagged soil samples. The PID readings were used to aid in the selection of samples for laboratory analyses. Each sample was bagged, labeled, and stored at ambient air temperature (above 80 degrees Fahrenheit) for approximately 15 minutes. After the waiting period, the bags were penetrated with the tip of the PID and a measurement taken of the organic vapors present within the bag.

Two soil samples each from 6 of the borings and 3 soil samples from boring SB-5 were placed in a cooler packed with ice and shipped under chain-of-custody to Lancaster Laboratories in Lancaster, Pennsylvania, for analysis of TPH, both diesel range organics (DRO) and gasoline range organics (GRO), by Method 8015B modified; BTEX by Method 8260B; and for chloride by Method 300. Samples of intact soil core were used for the BTEX and GRO analyses. If necessary, soil cuttings were used for the DRO and chloride analyses. Headspace readings are presented on the boring logs located in Appendix A. The analytical results are presented in Table 2, and the laboratory analytical data is presented in Appendix B.

## 1.2 Health and Safety

Maxim required safety and health procedures that were appropriate for the level of environmental hazard known to exist at the Site. Procedures used complied with ConocoPhillips' "Contractors Safety Manual" (revised 2003). Level D Personal Protective Equipment (PPE) was adequate for this activity. Personnel were equipped with respirators and organic vapor cartridges in the event of a sudden release of noxious

fumes from the Site. For further details, please refer to the site-specific Health and Safety Plan (HASP) prepared and amended for the Sims Battery No. 1 Site, dated August 18, 2003.

### 1.3 Investigation-Derived Waste

Soil cuttings and excess soil core generated during the drilling and soil sampling activities along with the sampler decontamination water were placed on the ground inside the affected hydrocarbon area.

## 2.0 TOPOGRAPHY, GEOLOGY AND HYDROGEOLOGY

The Sims Battery No. 1 site is located approximately 6 miles southeast of Eunice, New Mexico. This area of New Mexico is relatively flat and is used primarily for grazing. Oil and gas production is prevalent in the area. Local topography is characterized by broad plains and low hills separated by narrow valleys. The nearest surface drainage is the ephemeral Monument Draw, located approximately 2,000 feet east of the Site.

The soils present at the Site are of the Midessa series. The Midessa soils consists of calcareous, nearly level to gently sloping, well drained soil with a clay subsoil. These soils form in wind and water deposited calcareous sediments on plains. Typically, the surface layer is a fine sandy loam. The subsoil is a grayish-brown to pale brown clay about 18 inches thick. The substratum extends to a depth of 60 inches and consists of a light gray clay with high lime content. The clay is calcareous throughout (Turner, M. T. et al, 1974).

The site is located in the northern portion of the Delaware Basin, a structural basin underlying present-day southeastern New Mexico and western Texas and containing a thick sequence of sandstones, shales, carbonates, and evaporites (DOE, 2001). The site is underlain by the Triassic Chinle Formation, which consists of red claystone interbedded with thin beds of sandstone. Thickness of the formation is up to 300 feet. Underlying the Chinle are Permian age Dewey Lake red beds, which consist of approximately 200 feet of siltstone, very fine sandstone, and shale. Underlying the Dewey Lake is the Rustler Formation, which includes interbedded dolomites, shales, and anhydrites. The Rustler Formation consists of a lower member of mudstone and sandstone with interbedded evaporites and an upper member of alternating evaporite and dolomite beds.

Depth to groundwater in the vicinity of the Site is approximately 60 feet bgs as determined by contouring the groundwater levels in area water wells. The nearest well to the site is a groundwater monitoring well located approximately 1,000 feet to the southeast. Depth to water is 58 feet bgs in this well. Two non-working windmills are located at an old abandoned ranch house approximately 1,120 feet to the southwest of the site. Another ranch house and windmill are located approximately 1,500 feet to the southeast of the site. No information on depth to water is available for these 3 wells. There is a water well located approximately 2,000 feet to the southwest of the site. Depth to water in this well is 60 feet bgs. A ranch house with 5 windmills is located approximately 2,800 feet to the southwest of the site. No information is available on depth to water for any of these 5 wells.

## 3.0 INVESTIGATION RESULTS

A summary of results from the subsurface soil sampling is presented in Table 2, and the complete laboratory analytical report is presented in Appendix B.

PID readings observed during this investigation are presented on the boring logs in Appendix A. Only two soil samples recorded measurable concentrations of VOCs above non-detect using the PID. The soil

sample from a depth of 4 to 6 feet bgs in boring SB-1 recorded 7.0 parts per million (ppm) and the soil sample in boring SB-4, also from a depth of 4 to 6 feet bgs, recorded 1.3 ppm on the PID.

The concentrations of constituents reported in the soils are presented in Table 2. Detectable concentrations of DRO hydrocarbons were reported in shallow soils from the zero to 2-foot sampling interval in the 5 soil borings drilled inside the excavation area and one of the soil borings drilled outside this area. Within the excavation area, DRO concentrations in the zero to 2-foot sampling interval ranged from 11 mg/kg in boring SB-1 to 620 mg/kg in boring SB-5. Only 2 samples reported detectable DRO concentrations below the zero to 2-foot interval. Borings SB-4 and SB-5 reported DRO concentrations of 650 mg/kg and 27 mg/kg, respectively, at the sampling depth of 4-6 feet bgs. Boring SB-5 reported nondetect for DRO constituents at 10 to 12 feet bgs. Boring SB-7, located to the west and outside the excavation area, reported a DRO concentration of 5 mg/kg at the zero to 2-foot depth and nondetect at 4 to 6 feet bgs. GRO hydrocarbons were reported at concentrations of less than 1 mg/kg at the zero to 2-foot sampling interval in borings SB-1, SB-4 and SB-5. All other samples reported nondetect for GRO constituents.

Total xylenes were the only detectable BTEX constituents reported during this investigation. Very low concentrations of total xylenes were reported in 6 of the soil samples with a maximum of 0.004 mg/kg reported in boring SB-6 at a depth of zero to 2 feet bgs.

Chloride was reported at detectable concentrations in all soil samples collected during this investigation, and ranged from 6,520 mg/kg in boring CL-3 at a depth of zero to 2 feet bgs to 9.7 mg/kg in boring SB-7 also at a depth of zero to 2 feet bgs.

Soils encountered during drilling at the site consisted of approximately 4 feet of off-white to cream to light brownish-gray, chalky, calcareous clay underlain by interbedded white to cream to light gray caliche and clay. In SB-7, approximately 2 feet of unconsolidated, light brown, fine-grained sand was encountered at the surface underlain by clay (Appendix A).

## 4.0 CONCLUSIONS

According to the laboratory analysis of soils collected during this investigation, the highest concentrations of petroleum hydrocarbons reported at two locations within the site excavation area were below 1,000 mg/kg. Based on the risk-based ranking criteria presented in the NMOCD *Guidelines for Remediation of Leaks, Spills and Releases* and shown in Table 2, a total ranking score of 10 is applicable for the Site. Therefore the site-specific remediation levels through laboratory analysis are 1,000 mg/kg for TPH, 50 mg/kg for BTEX and 10 mg/kg for benzene. Based on the results presented in Table 2, the impacts to soil within the Sims Battery No. 1 release excavation area are all below the NMOCD action levels.

Chloride concentrations in soils, and their potential for impacting groundwater, were evaluated using the VADSAT model (API, 1995). Based on the VADSAT model, used for calculating the rate of downward chloride migration in the unsaturated zone and evaluating the potential for impacting groundwater, there will be no impact to groundwater beneath the site. Key assumptions for model input were: vadose zone materials are clayey silts and silty clays (even though caliche horizons are present, their inherent impermeability was not included in the modeling run), the net infiltration rate is 0.5 inch per year (this is probably an over estimate [Scanlon, et al., 1997]), and groundwater in the aquifer moves slowly (porosity of 30 percent and gradient of 0.004 foot/foot), simulating conditions of maximum impact.

## 5.0 RECOMMENDATIONS

Based on the findings of this investigation and the NMOCD ranking scores, Maxim recommends no further action is required at this site with the exception of backfilling the open excavation.

If you have any questions concerning this investigation, please contact Clyde Yancey at (505) 237-8440 or Greg Pope at (432) 686-8081.

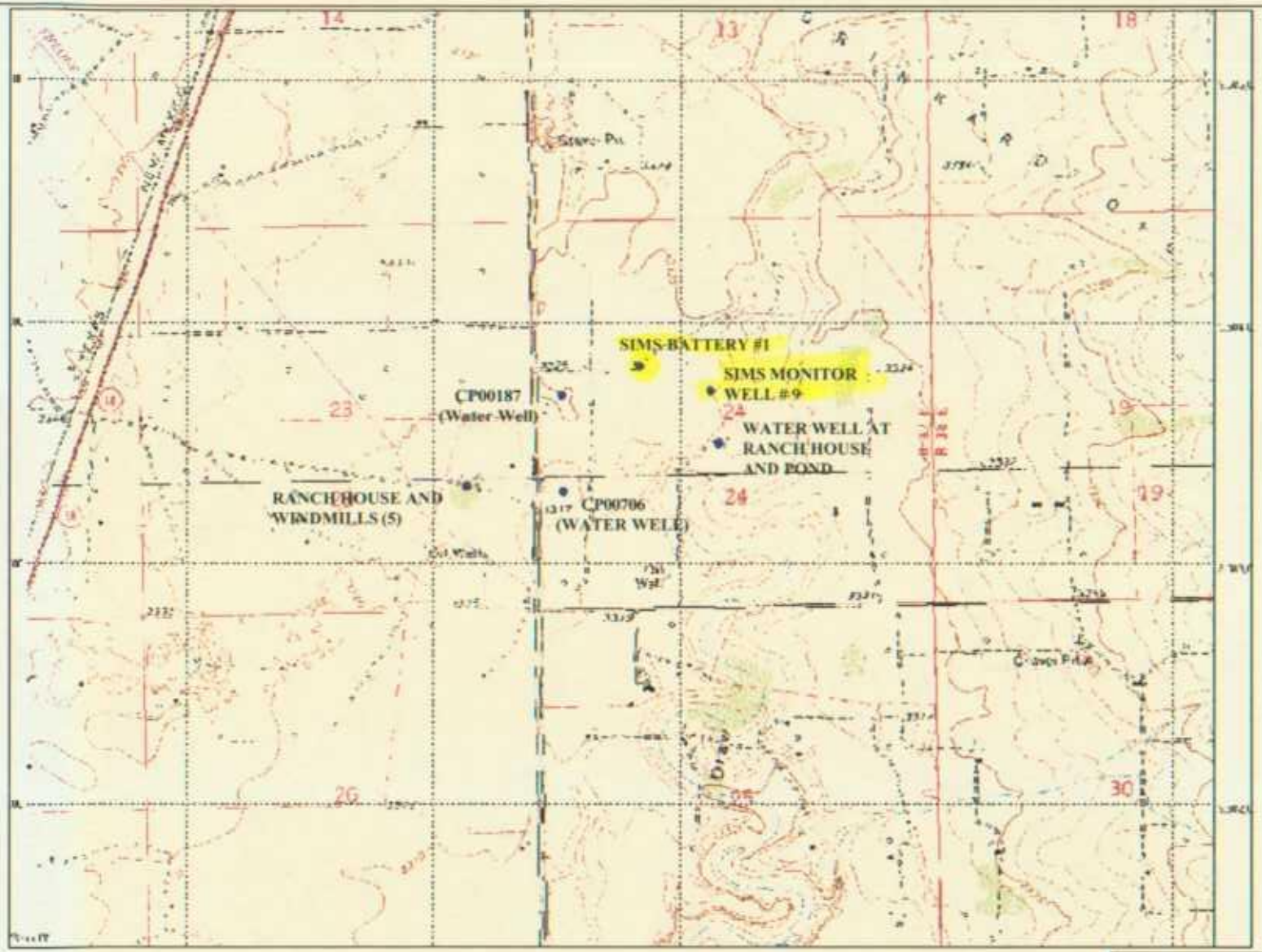
Sincerely,

**MAXIM TECHNOLOGIES, INC.**

Clyde L. Yancey, P.G.
Sr. Project Manager
Sr. Vice President

Enclosures

**FIGURES**




# SITE LOCATION MAP

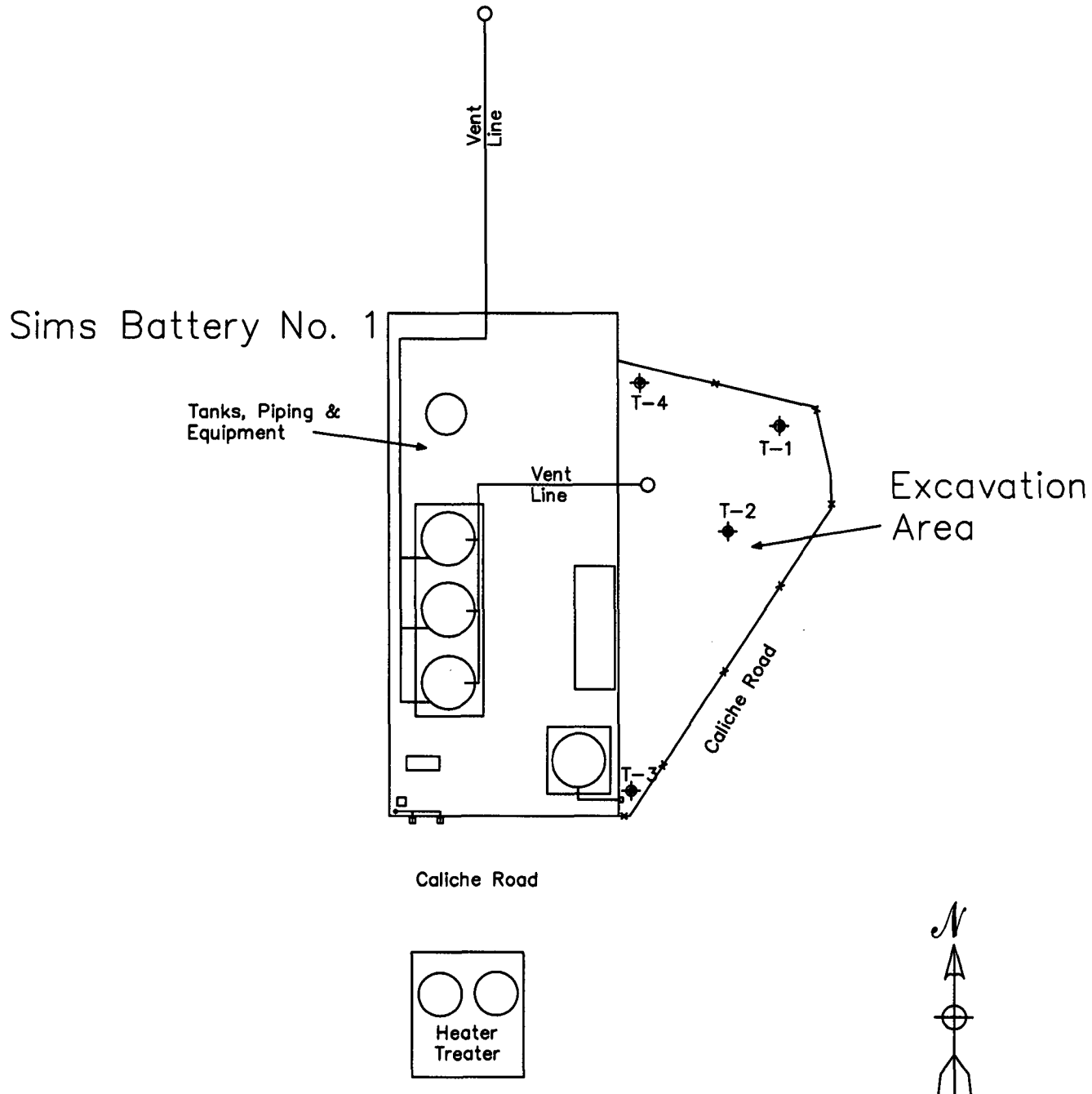
FIGURE 1

ConocoPhillips

MAXIM TECHNOLOGIES, INC

LEA COUNTY,
NEW MEXICO
Sec 24 T22S R37E

PROJECT NO. 3890085.100
DRAWING BY: RLH
DRAWING DATE: 09/12/2003




LEGEND

T-4
◆ Approx. Location of Previous Hand Auger Samples

| | |
|---|---|
| SIMS BATTERY NO. 1– PREVIOUS HAND AUGER SAMPLE LOCATIONS | FIGURE 2 |
| ConocoPhillips | MAXIM TECHNOLOGIES, INC |
| LEA COUNTY, NEW MEXICO<br>Sec 24 T22S R37E | PROJECT NO. 3690085.100<br>DRAWING BY: GWP<br>DRAWING DATE: 09/10/2003 |

PROJECT NAME: 3690085
LOCATION: Sims Battery #1
DRILLED BY: Scarborough Drilling
DATE HOLE DRILLED: 8/20/03
DATE ABANDONED: 8/20/03
REMARKS: bgs = below ground surface
NS=Not Sampled
NA=Not Applicable

SOIL VAPOR BORING NO.: SB-1
FIELD LOGGED BY: F. Lichnovsky
GROUNDWATER LEVEL (bgs): Not Encountered (ft)
DRILL TYPE: Air Rotary
BORE HOLE DIAMETER: 5 inches (in)

| DEPTH (bgs) - ft | SAMPLE INTERVAL/ID # | CLASSIFICATION AND DESCRIPTION | USCS SYMBOL | BLOW COUNT | ANALYTICAL | TIME | % RECOVERY | PID RESULT (ppm) | DEPTH (bgs) - ft |
|---|---|---|---|---|---|---|---|---|---|
| 0.0 | | Clay, off white - cream, chalky, dry to slightly moist, some thin calcareous veins | CL | Pushed | X | | | 0 | 0 |
| | | Clay, off white- cream to light brownish-gray, chalky, dry to slightly moist | CL | Pushed | | | | 0 | |
| 5.0 | | Caliche, white to cream with interbedded clay layers | | Dry coring heated sample | X | | | 7.0 | 5 |

Boring Terminated at 6' bgs

| 3690085 | MAXIM TECHNOLOGIES INC | EXPLORATORY BORING LOG | SB-1 |
|---|---|---|---|

# APPENDIX A

## Boring Logs

PROJECT NAME: 3690085
LOCATION: Sims Battery #1

DRILLED BY: Scarborough Drilling
DATE HOLE DRILLED: 8/20/03
DATE ABANDONED: 8/20/03
REMARKS: bgs = below ground surface
NS=Not Sampled
NA=Not Applicable

SOIL VAPOR BORING NO.: SB-2
FIELD LOGGED BY: F. Lichnovsky
GROUNDWATER LEVEL (bgs): Not Encountered (ft)
DRILL TYPE: Air Rotary
BORE HOLE DIAMETER: 5 inches (in)

| DEPTH (bgs) - ft | SAMPLE INTERVAL/ID # | CLASSIFICATION AND DESCRIPTION | USCS SYMBOL | BLOW COUNT | ANALYTICAL | TIME | % RECOVERY | PID RESULT (ppm) | DEPTH (bgs) - ft |
|---|---|---|---|---|---|---|---|---|---|
| 0.0 | | Clay, off white- cream, chalky, dry to slightly moist, some thin calcareous veins | CL | Pushed | X | | | 0 | 0 |
| | | Clay, off white- cream to light brownish-gray, chalky, dry to slightly moist | CL | Pushed | | | | 0 | |
| 5.0 | | Caliche, white to cream with interbedded clay layers | | Drilled | X | | | 0 | 5 |

Boring Terminated at 6' bgs

| 3690085 | MAXIM TECHNOLOGIES INC. | EXPLORATORY BORING LOG | SB-2 |
|---|---|---|---|

PROJECT NAME: 3690085
LOCATION: Sims Battery #1
DRILLED BY: Scarborough Drilling
DATE HOLE DRILLED: 8/20/03
DATE ABANDONED: 8/20/03
REMARKS: bgs = below ground surface
NS=Not Sampled
NA=Not Applicable

SOIL VAPOR BORING NO. SB-3
FIELD LOGGED BY: F. Lichnovsky
GROUNDWATER LEVEL (bgs): Not Encountered (ft)
DRILL TYPE: Air Rotary
BORE HOLE DIAMETER: 5 inches (in)

| DEPTH (bgs) - ft | SAMPLE INTERVAL/ID # | CLASSIFICATION AND DESCRIPTION | USCS SYMBOL | BLOW COUNT | ANALYTICAL | TIME | % RECOVERY | PID RESULT (ppm) | DEPTH (bgs) - ft |
|---|---|---|---|---|---|---|---|---|---|
| 0.0 | | Clay, off white- cream, chalky, dry to slightly moist, some thin calcareous veins | CL | Pushed | X | | | 0 | 0 |
| | | Clay, off white- cream, to light brownish-gray, some caliche nodules, chalky, dry to slightly moist | CL | Pushed | | | | 0 | |
| 5.0 | | Caliche, white to cream with interbedded clay layers | | Drilled | X | | | 0 | 5 |

Boring Terminated at 6' bgs

| 3690085 | MAXIM TECHNOLOGIES INC. | EXPLORATORY BORING LOG | SB-3 |
|---|---|---|---|

PROJECT NAME: 3690085
LOCATION: Sims Battery #1

DRILLED BY: Scarborough Drilling
DATE HOLE DRILLED: 8/20/03
DATE ABANDONED: 8/20/03
REMARKS: bgs = below ground surface
NS=Not Sampled
NA=Not Applicable

SOIL VAPOR BORING NO.: SB-4
FIELD LOGGED BY: F. Lichnovsky
GROUNDWATER LEVEL (bgs): Not Encountered (ft)
DRILL TYPE: Air Rotary
BORE HOLE DIAMETER: 5 inches (in)

| DEPTH (bgs) - ft | SAMPLE INTERVAL/ID # | CLASSIFICATION AND DESCRIPTION | USCS SYMBOL | BLOW COUNT | ANALYTICAL | TIME | % RECOVERY | PID RESULT (ppm) | DEPTH (bgs) - ft |
|---|---|---|---|---|---|---|---|---|---|
| 0.0 | | Clay, off white- cream, chalky, dry to slightly moist, some thin calcareous veins | CL | Pushed | X | | | 0 | 0 |
| | | Clay, off white- cream to light brownish-gray, chalky, dry to slightly moist | CL | Pushed | | | | 0 | |
| 5.0 | | Caliche, white to cream with interbedded clay layers | | Drilled | X | | | 1.3 | 5 |

Boring Terminated at 6' bgs

| 3690085 | MAXIM TECHNOLOGIES INC | EXPLORATORY BORING LOG | SB-4 |
|---|---|---|---|

PROJECT NAME: 3690085
LOCATION: Sims Battery #1

DRILLED BY: Scarborough Drilling
DATE HOLE DRILLED: 8/20/03
DATE ABANDONED: 8/20/03
REMARKS: bgs = below ground surface
NS=Not Sampled
NA=Not Applicable

SOIL VAPOR BORING NO.: SB-5
FIELD LOGGED BY: F. Lichnovsky
GROUNDWATER LEVEL (bgs): Not Encountered (ft)
DRILL TYPE: Air Rotary
BORE HOLE DIAMETER: 5 inches (in)

| DEPTH (bgs) - ft | SAMPLE INTERVAL/ID # | CLASSIFICATION AND DESCRIPTION | USCS SYMBOL | BLOW COUNT | ANALYTICAL | TIME | % RECOVERY | PID RESULT (ppm) | DEPTH (bgs) - ft |
|---|---|---|---|---|---|---|---|---|---|
| 0.0 | | Clay, off white- cream, chalky, dry to slightly moist, some thin calcareous veins | CL | Pushed | X | | | 0 | 0 |
| | | Clay, off white- cream to light brownish-gray, chalky, dry to slightly moist | CL | Pushed | | | | 0 | |
| 5.0 | | Caliche, white to cream to light tan with interbedded clay layers | | Pushed | X | | | 0 | 5 |
| | | Clay and caliche, cream to off white to light tan, firm, dry | CL | Pushed | | | | 0 | |
| 10.0 | | Clay, off white to cream, firm, chalky, slightly moist | CL | Pushed | X | | | 0 | 10 |

Boring Terminated at 12' bgs

| 3690085 | MAXIM | EXPLORATORY BORING LOG | SB-5 |
|---|---|---|---|

PROJECT NAME: 3690085
LOCATION: Sims Battery #1
DRILLED BY: Scarborough Drilling
DATE HOLE DRILLED: 8/20/03
DATE ABANDONED: 8/20/03
REMARKS: bgs = below ground surface
NS=Not Sampled
NA=Not Applicable

SOIL VAPOR BORING NO.: SB-6
FIELD LOGGED BY: F. Lichnovsky
GROUNDWATER LEVEL (bgs): Not Encountered (ft)
DRILL TYPE: Air Rotary
BORE HOLE DIAMETER: 5 inches (in)

| DEPTH (bgs) - ft | SAMPLE INTERVAL/ID # | CLASSIFICATION AND DESCRIPTION | USCS SYMBOL | BLOW COUNT | ANALYTICAL | TIME | % RECOVERY | PID RESULT (ppm) | DEPTH (bgs) - ft |
|---|---|---|---|---|---|---|---|---|---|
| 0.0 | | Sand, light brown, fine grained, unconsolidated, dry | CL | Pushed | X | | | 0 | 0 |
| | | Clay, off white- cream to light brownish-gray, chalky, dry to slightly moist | CL | Pushed | | | | 0 | |
| 5.0 | | Clay, off white- cream, chalky, caliche nodules, slightly moist | | Pushed | X | | | 0 | 5 |

Boring Terminated at 6' bgs

| 3690085 | MAXIM | EXPLORATORY BORING LOG | SB-6 |
|---|---|---|---|

PROJECT NAME: 3690085
LOCATION: Sims Battery #1

DRILLED BY: Scarborough Drilling
DATE HOLE DRILLED: 8/20/03
DATE ABANDONED: 8/20/03
REMARKS: bgs = below ground surface
NS=Not Sampled
NA=Not Applicable

SOIL VAPOR BORING NO.: SB-7
FIELD LOGGED BY: F. Lichnovsky
GROUNDWATER LEVEL (bgs): Not Encountered (ft)
DRILL TYPE: Air Rotary
BORE HOLE DIAMETER: 5 inches (in)

| DEPTH (bgs) - ft | SAMPLE INTERVAL/ID # | CLASSIFICATION AND DESCRIPTION | USCS SYMBOL | BLOW COUNT | ANALYTICAL | TIME | % RECOVERY | PID RESULT (ppm) | DEPTH (bgs) - ft |
|---|---|---|---|---|---|---|---|---|---|
| 0.0 | | Sand, light brown, fine grained, unconsolidated, dry | CL | Pushed | X | | | 0 | 0 |
| | | Clay, off white- cream to light brownish-gray, chalky, dry to slightly moist | CL | Pushed | | | | 0 | |
| 5.0 | | Clay, off white- cream, chalky, caliche nodules, slightly moist | | Pushed | X | | | 0 | 5 |

Boring Terminated at 6' bgs

| 3690085 | MAXIM TECHNOLOGIES INC | EXPLORATORY BORING LOG | SB-7 |
|---|---|---|---|

TABLE 1
Summary of Previous Sims Battery #1 Soil Sampling Results
Lea County, New Mexico

| Sample Identification | Sample Date | TPH mg/kg | Chloride mg/kg | Benzene mg/kg | Toluene mg/kg | Ethylbenzene mg/kg | Xylenes mg/kg |
|---|---|---|---|---|---|---|---|
| T1 - 0-6" | 12/13/2000 | 26,300 | 71 | 7.54 | 83.2 | 30.7 | 107.2 |
| T1 - 6-18" | 12/13/2000 | 1,890 | 168 | ND | 0.372 | 0.199 | 0.401 |
| T2 - 0-6" | 12/13/2000 | 8,600 | 53 | 0.13 | 2.57 | 1.12 | 3.92 |
| T2 - 6-18" | 12/13/2000 | 70 | 106 | ND | 0.033 | 0.032 | 0.038 |
| T3 - 0-6" | 12/13/2000 | 1,130 | 740 | ND | 0.032 | 0.032 | 0.032 |
| T3 - 6-18" | 12/13/2000 | 5,520 | 1,356 | ND | ND | ND | ND |
| T4 - 0-6" Background | 12/13/2000 | ND | ND | ND | ND | ND | ND |
| T4 - 6-18" Background | 12/13/2000 | 70 | ND | ND | ND | ND | ND |
| | | | | | | | |
| T1 - 0-6" N | 2/8/2001 | 4,930 | 35 | ND | 3.73 | 3.67 | 15.96 |
| T1 - 6-18" N | 2/8/2001 | 880 | 39 | ND | 0.147 | 0.04 | 0.118 |
| T2 - 0-6" M | 2/8/2001 | ND | 434 | ND | ND | ND | ND |
| T2 - 6-18" M | 2/8/2001 | 40 | 430 | ND | ND | ND | ND |
| T3 - 0-6" S | 2/8/2001 | 1,840 | 2,446 | ND | ND | ND | ND |
| T3 - 6-18" S | 2/8/2001 | 160 | 2,797 | ND | ND | ND | ND |
| T4 - 0-6" NW | 2/8/2001 | ND | 1,436 | ND | ND | ND | ND |
| T4 - 6-18" NW | 2/8/2001 | ND | 1,418 | ND | ND | ND | ND |
| | | | | | | | |
| T1-N - 14" | 2/13/2001 | 760 | 59 | ND | ND | ND | ND |
| T3-S - 27" | 2/13/2001 | ND | 2,099 | ND | ND | ND | ND |
| T3-S - 36" | 2/13/2001 | 40 | 1,903 | ND | ND | ND | ND |
| T4-NW - 29" | 2/13/2001 | 60 | 1,355 | ND | ND | ND | ND |
| T4-NW - 44" | 2/13/2001 | 60 | 885 | ND | ND | ND | ND |
| | | | | | | | |
| T1-North | 2/16/2001 | 1,020 | 64 | ND | ND | ND | 0.026 |
| T2-Middle | 2/16/2001 | 11,800 | 317 | ND | 0.088 | 0.955 | 6.466 |
| T3-South | 2/16/2001 | ND | 461 | ND | 0.637 | 0.121 | ND |
| Background | 2/16/2001 | 140 | 18 | ND | ND | ND | ND |
| | | | | | | | |
| T1-North | 3/15/2002 | 6,600 | 164 | NA | NA | NA | NA |
| T2-Middle | 3/15/2002 | 70.9 | 35 | NA | NA | NA | NA |
| T3-South | 3/15/2002 | 674 | 3,320 | NA | NA | NA | NA |
| T4-NW | 3/15/2002 | 483 | 2,790 | NA | NA | NA | NA |

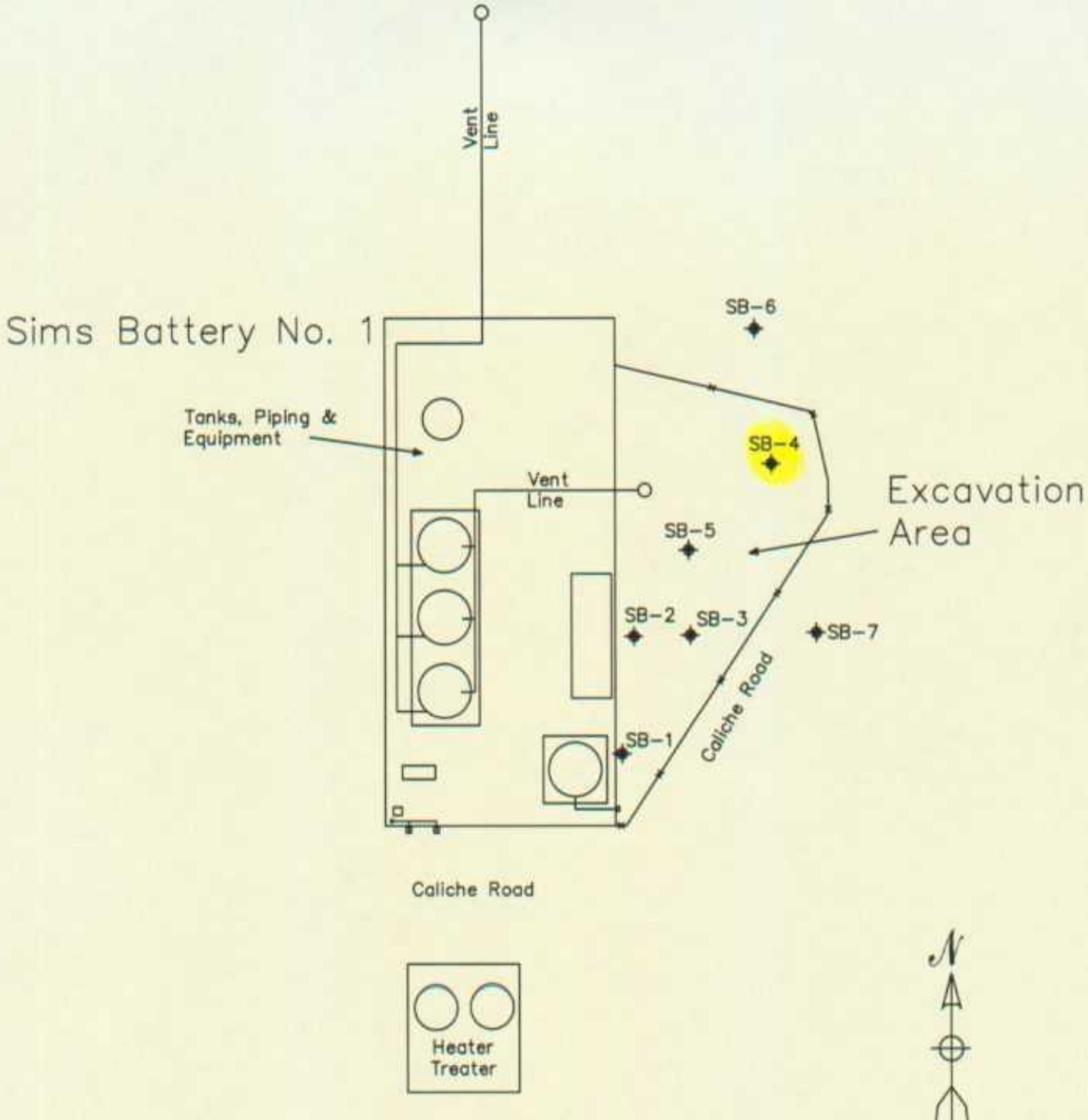
mg/kg = milligrams per kilogram
NA = not analyzed
ND = not detected at or above laboratory detection limits

**TABLE 2**
**Sims Battery #1 Soil Sampling Results - Sampling Performed August 20, 2003**
**Lea County, New Mexico**

| | SB-1 | SB-1 | SB-2 | SB-2 | SB-3 | SB-3 | SB-4 | SB-4 | SB-5 | SB-5 | SB-5 | SB-6 | SB-6 | SB-7 | SB-7 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0-2' | 4-6' | 0-2' | 4-6' | 0-2' | 4-6' | 0-2' | 4-6' | 0-2' | 4-6' | 10-12' | 0-2' | 4-6' | 0-2' | 4-6' |
| **TPH (mg/kg)** | | | | | | | | | | | | | | | |
| DRO | 11 | ND | 29 | ND | 41 | ND | 210 | 650 | 620 | 27 | ND | ND | ND | 5 | ND |
| GRO | 0.7 | ND | ND | ND | ND | ND | 0.4 | ND | 0.3 | ND | ND | ND | ND | ND | ND |
| | | | | | | | | | | | | | | | |
| **BTEX (mg/kg)** | | | | | | | | | | | | | | | |
| Benzene | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Ethylbenzene | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Toluene | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Xylenes | ND | ND | ND | ND | ND | ND | 0.002 | 0.001 | 0.001 | ND | ND | 0.004 | 0.001 | 0.001 | ND |
| | | | | | | | | | | | | | | | |
| **Cl (mg/kg)** | | | | | | | | | | | | | | | |
| Chloride | 6,520 | 2,130 | 56.5 | 34.4 | 39.7 | 17.1 | 12.6 | 26.3 | 66.3 | 337 | 335 | 10.2 | 175 | 9.7 | 691 |

mg/kg = milligrams per kilogram
ND = not detected at or above laboratory detection limit

| | | | | score |
|---|---|---|---|---|
| NMOCD Cleanup Score = 10 | <> | <> | Depth to Groundwater - 50-99 feet | 10 |
| Therefore: TPH - 1000 mg/kg | | | Wellhead Protection Area, >1000 feet from water source | 0 |
| BTEX - 50 mg/kg | | | Distance to Surface Water Body, >1000 feet | 0 |
| Benzene - 10 mg/kg | | | Score | 10 |




| | |
|---|---|
| SIMS BATTERY NO. 1<br>SAMPLE LOCATIONS AND SITE LAYOUT | FIGURE 3 |
| ConocoPhillips | MAXIM TECHNOLOGIES, INC |
| LEA COUNTY,<br>NEW MEXICO<br>Sec 24 T22S R37E | PROJECT NO. 3690085.100<br>DRAWING BY: GWP<br>DRAWING DATE: 09/10/2003 |

LEGEND

SB-6 ✦ Soil Boring Location

**APPENDIX B**

**Laboratory Analytical Report**

Lancaster Laboratories

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# Analysis Report

ANALYTICAL RESULTS

Prepared for:

ConocoPhillips
P.O. Box 2197; 5027 TN

Houston TX 77252
832-379-6415

Prepared by:

Lancaster Laboratories
2425 New Holland Pike
Lancaster, PA 17605-2425

SAMPLE GROUP

The sample group for this submittal is 864207. Samples arrived at the laboratory on Friday, August 22, 2003. The PO# for this group is 3690085 and the release number is NEAL GOATES.

| Client Description | Lancaster Labs Number |
|---|---|
| SB-1 0-2' Grab Soil Sample | 4107337 |
| SB-1 4-6' Grab Soil Sample | 4107338 |
| SB-2 0-2' Grab Soil Sample | 4107339 |
| SB-2 4-6' Grab Soil Sample | 4107340 |
| SB-3 0-2' Grab Soil Sample | 4107341 |
| SB-3 4-6' Grab Soil Sample | 4107342 |
| SB-4 0-2' Grab Soil Sample | 4107343 |
| SB-4 4-6' Grab Soil Sample | 4107344 |
| SB-5 0-2' Grab Soil Sample | 4107345 |
| SB-5 10-12' Grab Soil Sample | 4107346 |
| SB-6 0-2' Grab Soil Sample | 4107347 |
| SB-6 4-6' Grab Soil Sample | 4107348 |
| SB-7 0-2' Grab Soil Sample | 4107349 |
| SB-7 4-6' Grab Soil Sample | 4107350 |
| SB-5 4-6' Grab Soil Sample | 4107351 |
| Trip Blank Water Sample | 4107352 |

| | | |
|---|---|---|
| 1 COPY TO | Maxim Technologies | Attn: Clyde Yancey |
| ELECTRONIC COPY TO | Maxim Technologies, Inc | Attn: Charles Durrett |

Lancaster Laboratories

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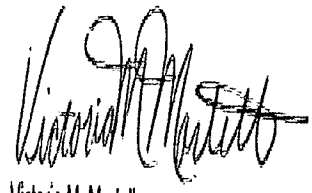
# Analysis Report

Questions? Contact your Client Services Representative
Danette S Blystone at (717) 656-2300.

Respectfully Submitted,



Victoria M. Martell
Chemist

Lancaster Laboratories

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# Analysis Report



**Lancaster Laboratories Sample No. SW 4107337**

Collected: 08/20/2003 09:40 by FL

Account Number: 11288

Submitted: 08/22/2003 09:30
Reported: 08/27/2003 at 16:43
Discard: 09/27/2003
SB-1 0-2' Grab Soil Sample
Site# 3708
Sims #1 Battery

ConocoPhillips
P.O. Box 2197; 5027 TN

Houston TX 77252

SB102

| CAT No. | Analysis Name | CAS Number | Dry Result | Dry Method Detection Limit | Units | Dilution Factor |
|---|---|---|---|---|---|---|
| 08270 | TPH-DRO by 8015B | n.a. | 11. | 4.5 | mg/kg | 1 |
| | According to the SW-846 8015B method, the quantitation for Diesel Range Organics was performed by peak area comparison of the sample pattern to that of our #2 Fuel Oil reference standard (between C10 and C28 normal hydrocarbons). Site-specific MS/MSD samples were not submitted for the project. A LCS/LCSD was performed to demonstrate precision and accuracy at a batch level. | | | | | |
| 02111 | Moisture | n.a. | 11.4 | 1.0 | % | 1 |
| | "Moisture" represents the loss in weight of the sample after drying with an infrared lamp at 150 degrees Celsius. | | | | | |
| 07333 | Chloride by IC (solid) | 16887-00-6 | 6,520. | 3.4 | mg/kg | 200 |
| | Matrix QC was performed on this sample for the Chloride analysis. Please see the attached QC Summary report for the parameter showing a matrix bias. | | | | | |
| 01637 | TPH-GRO 8015B - soil | | | | | |
| 01641 | TPH-GRO 8015B - soil | n.a. | 0.7 | 0.2 | mg/kg | 25 |
| | The analysis for volatiles was performed on a sample which was preserved in methanol. The reporting limits were adjusted appropriately. This sample was submitted with headspace. | | | | | |
| 02304 | UST-Unleaded Soils by 8260B | | | | | |
| 05460 | Benzene | 71-43-2 | N.D. | 1. | ug/kg | 0.99 |
| 05466 | Toluene | 108-88-3 | N.D. | 1. | ug/kg | 0.99 |
| 05474 | Ethylbenzene | 100-41-4 | N.D. | 1. | ug/kg | 0.99 |
| 06301 | Xylene (Total) | 1330-20-7 | N.D. | 1. | ug/kg | 0.99 |

## Laboratory Chronicle

| CAT No. | Analysis Name | Method | Trial# | Analysis Date and Time | Analyst | Dilution Factor |
|---|---|---|---|---|---|---|
| 08270 | TPH-DRO by 8015B | SW-846 8015B | 1 | 08/25/2003 14:08 | Tracy A Cole | 1 |
| 02111 | Moisture | EPA 160.3 modified | 1 | 08/25/2003 12:58 | Nancy J Shoop | 1 |
| 07333 | Chloride by IC (solid) | EPA 300.0 | 1 | 08/27/2003 09:47 | Shanncn L Phillips | 200 |
| 01637 | TPH-GRO 8015B - soil | SW-846 8015B - modified | 1 | 08/25/2003 12:53 | Stephanie A Selis | 25 |
| 02304 | UST-Unleaded Soils by 8260B | SW-846 8260B | 1 | 08/22/2003 14:32 | Roy R Mellott Jr | 0.99 |
| 00374 | GC/MS VOA Soil Prep | SW-846 5030A | 1 | 08/22/2003 14:14 | Roy R Mellott Jr | n.a. |
| 01150 | GC VOA Soil Prep | SW-846 5035 | 1 | 08/25/2003 09:45 | Steven A Skiles | n.a. |

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# Analysis Report



**Lancaster Laboratories Sample No. SW 4107337**

Collected:08/20/2003 09:40 by FL

Account Number: 11288

Submitted: 08/22/2003 09:30
Reported: 08/27/2003 at 16:43
Discard: 09/27/2003
SB-1 0-2' Grab Soil Sample
Site# 3708
Sims #1 Battery

ConocoPhillips
P.O. Box 2197; 5027 TN

Houston TX 77252

SB102

| | | | | | | |
|---|---|---|---|---|---|---|
| 01352 | Deionized Water Extraction | EPA 300.0 | 1 | 08/25/2003 13:30 | Cheryl L Robinson | 1 |
| 07004 | Extraction - DRO (Soils) | SW-846 3550B | 1 | 08/24/2003 22:50 | Karen L Beyer | 1 |

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# Analysis Report



**Lancaster Laboratories Sample No. SW 4107338**

Collected:08/20/2003 09:55 by FL

Account Number: 11288

Submitted: 08/22/2003 09:30
Reported: 08/27/2003 at 16:43
Discard: 09/27/2003
SB-1 4-6' Grab Soil Sample
Site# 3708
Sims #1 Battery

ConocoPhillips
P.O. Box 2197; 5027 TN

Houston TX 77252

SB146

| CAT No. | Analysis Name | CAS Number | Dry Result | Dry Method Detection Limit | Units | Dilution Factor |
|---|---|---|---|---|---|---|
| 08270 | TPH-DRO by 8015B | n.a. | N.D. | 4.3 | mg/kg | 1 |
| | According to the SW-846 8015B method, the quantitation for Diesel Range Organics was performed by peak area comparison of the sample pattern to that of our #2 Fuel Oil reference standard (between C10 and C28 normal hydrocarbons). Site-specific MS/MSD samples were not submitted for the project. A LCS/LCSD was performed to demonstrate precision and accuracy at a batch level. | | | | | |
| 02111 | Moisture | n.a. | 7.6 | 1.0 | % | 1 |
| | "Moisture" represents the loss in weight of the sample after drying with an infrared lamp at 150 degrees Celsius. | | | | | |
| 07333 | Chloride by IC (solid) | 16887-00-6 | 2,130. | 325. | mg/kg | 100 |
| 01637 | TPH-GRO 8015B - soil | | | | | |
| 01641 | TPH-GRO 8015B - soil | n.a. | N.D. | 0.2 | mg/kg | 25 |
| | The analysis for volatiles was performed on a sample which was preserved in methanol. The reporting limits were adjusted appropriately. | | | | | |
| 02304 | UST-Unleaded Soils by 8260B | | | | | |
| 05460 | Benzene | 71-43-2 | N.D. | 1. | ug/kg | 1.01 |
| 05466 | Toluene | 108-88-3 | N.D. | 1. | ug/kg | 1.01 |
| 05474 | Ethylbenzene | 100-41-4 | N.D. | 1. | ug/kg | 1.01 |
| 06301 | Xylene (Total) | 1330-20-7 | N.D. | 1. | ug/kg | 1.01 |

## Laboratory Chronicle

| CAT No. | Analysis Name | Method | Trial# | Analysis Date and Time | Analyst | Dilution Factor |
|---|---|---|---|---|---|---|
| 08270 | TPH-DRO by 8015B | SW-846 8015B | 1 | 08/25/2003 11:55 | Tracy A Cole | 1 |
| 02111 | Moisture | EPA 160.3 modified | 1 | 08/25/2003 13:10 | Nancy J Shoop | 1 |
| 07333 | Chloride by IC (solid) | EPA 300.0 | 1 | 08/27/2003 10:28 | Shannon L Phillips | 100 |
| 01637 | TPH-GRO 8015B - soil | SW-846 8015B - modified | 1 | 08/22/2003 16:58 | Steven A Skiles | 25 |
| 02304 | UST-Unleaded Soils by 8260B | SW-846 8260B | 1 | 08/22/2003 15:50 | Roy R Mellott Jr | 1.01 |
| 00374 | GC/MS VOA Soil Prep | SW-846 5030A | 1 | 08/22/2003 15:32 | Roy R Mellott Jr | n.a. |
| 01150 | GC VOA Soil Prep | SW-846 5035 | 1 | 08/22/2003 13:05 | Steven A Skiles | n.a. |
| 01352 | Deionized Water Extraction | EPA 300.0 | 1 | 08/25/2003 13:30 | Cheryl L Robinson | 1 |
| 07004 | Extraction - DRO (Soils) | SW-846 3550B | 1 | 08/24/2003 22:50 | Karen L Beyer | 1 |

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# Analysis Report



**Lancaster Laboratories Sample No. SW 4107339**

Collected: 08/20/2003 10:30 by FL

Submitted: 08/22/2003 09:30
Reported: 08/27/2003 at 16:43
Discard: 09/27/2003
SB-2 0-2' Grab Soil Sample
Site# 3708
Sims #1 Battery

Account Number: 11288

ConocoPhillips
P.O. Box 2197; 5027 TN

Houston TX 77252

SB202

| CAT No. | Analysis Name | CAS Number | Dry Result | Dry Method Detection Limit | Units | Dilution Factor |
|---|---|---|---|---|---|---|
| 08270 | TPH-DRO by 8015B | n.a. | 29. | 4.5 | mg/kg | 1 |
| | According to the SW-846 8015B method, the quantitation for Diesel Range Organics was performed by peak area comparison of the sample pattern to that of our #2 Fuel Oil reference standard (between C10 and C28 normal hydrocarbons). Site-specific MS/MSD samples were not submitted for the project. A LCS/LCSD was performed to demonstrate precision and accuracy at a batch level. | | | | | |
| 02111 | Moisture | n.a. | 10.5 | 1.0 | % | 1 |
| | "Moisture" represents the loss in weight of the sample after drying with an infrared lamp at 150 degrees Celsius. | | | | | |
| 07333 | Chloride by IC (solid) | 16887-00-6 | 56.5 | 6.7 | mg/kg | 2 |
| 01637 | TPH-GRO 8015B - soil | | | | | |
| 01641 | TPH-GRO 8015B - soil | n.a. | N.D. | 0.2 | mg/kg | 25 |
| | The analysis for volatiles was performed on a sample which was preserved in methanol. The reporting limits were adjusted appropriately. | | | | | |
| 02304 | UST-Unleaded Soils by 8260B | | | | | |
| 05460 | Benzene | 71-43-2 | N.D. | 1. | ug/kg | 1 |
| 05466 | Toluene | 108-88-3 | N.D. | 1. | ug/kg | 1 |
| 05474 | Ethylbenzene | 100-41-4 | N.D. | 1. | ug/kg | 1 |
| 06301 | Xylene (Total) | 1330-20-7 | N.D. | 1. | ug/kg | 1 |

## Laboratory Chronicle

| CAT No. | Analysis Name | Method | Trial# | Analysis Date and Time | Analyst | Dilution Factor |
|---|---|---|---|---|---|---|
| 08270 | TPH-DRO by 8015B | SW-846 8015B | 1 | 08/25/2003 15:59 | Tracy A Cole | 1 |
| 02111 | Moisture | EPA 160.3 modified | 1 | 08/25/2003 13:44 | Nancy J Shoop | 1 |
| 07333 | Chloride by IC (solid) | EPA 300.0 | 1 | 08/26/2003 15:03 | Shannon L Phillips | 2 |
| 01637 | TPH-GRO 8015B - soil | SW-846 8015B - modified | 1 | 08/22/2003 15:04 | Steven A Skiles | 25 |
| 02304 | UST-Unleaded Soils by 8260B | SW-846 8260B | 1 | 08/24/2003 19:24 | Susan McMahon-Luu | 1 |
| 00374 | GC/MS VOA Soil Prep | SW-846 5030A | 1 | 08/24/2003 13:31 | Susan McMahon-Luu | n.a. |
| 01150 | GC VOA Soil Prep | SW-846 5035 | 1 | 08/22/2003 13:05 | Steven A Skiles | n.a. |
| 01352 | Deionized Water Extraction | EPA 300.0 | 1 | 08/25/2003 13:30 | Cheryl L Robinson | 1 |
| 07004 | Extraction - DRO (Soils) | SW-846 3550B | 1 | 08/24/2003 22:50 | Karen L Beyer | 1 |

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# Analysis Report



**Lancaster Laboratories Sample No. SW 4107340**

Collected:08/20/2003 11:30 by FL

Account Number: 11288

Submitted: 08/22/2003 09:30
Reported: 08/27/2003 at 16:43
Discard: 09/27/2003
SB-2 4-6' Grab Soil Sample
Site# 3708
Sims #1 Battery

ConocoPhillips
P.O. Box 2197; 5027 TN

Houston TX 77252

SB46-

| CAT No. | Analysis Name | CAS Number | Dry Result | Dry Method Detection Limit | Units | Dilution Factor |
|---|---|---|---|---|---|---|
| 08270 | TPH-DRO by 8015B | n.a. | N.D. | 4.7 | mg/kg | 1 |
| | According to the SW-846 8015B method, the quantitation for Diesel Range Organics was performed by peak area comparison of the sample pattern to that of our #2 Fuel Oil reference standard (between C10 and C28 normal hydrocarbons). Site-specific MS/MSD samples were not submitted for the project. A LCS/LCSD was performed to demonstrate precision and accuracy at a batch level. | | | | | |
| 02111 | Moisture | n.a. | 14.4 | 1.0 | % | 1 |
| | "Moisture" represents the loss in weight of the sample after drying with an infrared lamp at 150 degrees Celsius. | | | | | |
| 07333 | Chloride by IC (solid) | 16887-00-6 | 34.4 | 3.5 | mg/kg | 1 |
| 01637 | TPH-GRO 8015B - soil | | | | | |
| 01641 | TPH-GRO 8015B - soil | n.a. | N.D. | 0.2 | mg/kg | 25 |
| | The analysis for volatiles was performed on a sample which was preserved in methanol. The reporting limits were adjusted appropriately. | | | | | |
| 02304 | UST-Unleaded Soils by 8260B | | | | | |
| 05460 | Benzene | 71-43-2 | N.D. | 1. | ug/kg | 1 |
| 05466 | Toluene | 108-88-3 | N.D. | 1. | ug/kg | 1 |
| 05474 | Ethylbenzene | 100-41-4 | N.D. | 1. | ug/kg | 1 |
| 06301 | Xylene (Total) | 1330-20-7 | N.D. | 1. | ug/kg | 1 |

## Laboratory Chronicle

| CAT No. | Analysis Name | Method | Trial# | Analysis Date and Time | Analyst | Dilution Factor |
|---|---|---|---|---|---|---|
| 08270 | TPH-DRO by 8015B | SW-846 8015B | 1 | 08/25/2003 12:17 | Tracy A Cole | 1 |
| 02111 | Moisture | EPA 160.3 modified | 1 | 08/25/2003 13:57 | Nancy J Shoop | 1 |
| 07333 | Chloride by IC (solid) | EPA 300.0 | 1 | 08/26/2003 15:17 | Shannon L Phillips | 1 |
| 01637 | TPH-GRO 8015B - soil | SW-846 8015B - modified | 1 | 08/22/2003 17:36 | Steven A Skiles | 25 |
| 02304 | UST-Unleaded Soils by 8260B | SW-846 8260B | 1 | 08/24/2003 19:50 | Susan McMahon-Luu | 1 |
| 00374 | GC/MS VOA Soil Prep | SW-846 5030A | 1 | 08/24/2003 13:32 | Susan McMahon-Luu | n.a. |
| 01150 | GC VOA Soil Prep | SW-846 5035 | 1 | 08/22/2003 13:06 | Steven A Skiles | n.a. |
| 01352 | Deionized Water Extraction | EPA 300.0 | 1 | 08/25/2003 13:30 | Cheryl L Robinson | 1 |
| 07004 | Extraction - DRO (Soils) | SW-846 3550B | 1 | 08/24/2003 22:50 | Karen L Beyer | 1 |

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# Analysis Report



**Lancaster Laboratories Sample No. SW 4107341**

Collected: 08/20/2003 12:00 by FL

Account Number: 11288

Submitted: 08/22/2003 09:30
Reported: 08/27/2003 at 16:44
Discard: 09/27/2003
SB-3 0-2' Grab Soil Sample
Site# 3708
Sims #1 Battery

ConocoPhillips
P.O. Box 2197; 5027 TN

Houston TX 77252

SB302

| CAT No. | Analysis Name | CAS Number | Dry Result | Dry Method Detection Limit | Units | Dilution Factor |
|---|---|---|---|---|---|---|
| 08270 | TPH-DRO by 8015B | n.a. | 41. | 4.6 | mg/kg | 1 |
| | According to the SW-846 8015B method, the quantitation for Diesel Range Organics was performed by peak area comparison of the sample pattern to that of our #2 Fuel Oil reference standard (between C10 and C28 normal hydrocarbons). Site-specific MS/MSD samples were not submitted for the project. A LCS/LCSD was performed to demonstrate precision and accuracy at a batch level. | | | | | |
| 02111 | Moisture | n.a. | 13.1 | 1.0 | % | 1 |
| | "Moisture" represents the loss in weight of the sample after drying with an infrared lamp at 150 degrees Celsius. | | | | | |
| 07333 | Chloride by IC (solid) | 16887-00-6 | 39.7 | 17.3 | mg/kg | 5 |
| 01637 | TPH-GRO 8015B - soil | | | | | |
| 01641 | TPH-GRO 8015B - soil | n.a. | N.D. | 0.9 | mg/kg | 100 |
| | The analysis for volatiles was performed on a sample which was preserved in methanol. The reporting limits were adjusted appropriately. Poor surrogate recoveries were observed for this sample due to the dilution needed to perform the analysis. Due to excessive foaming of the sample, normal reporting limits were not attained. | | | | | |
| 02304 | UST-Unleaded Soils by 8260B | | | | | |
| 05460 | Benzene | 71-43-2 | N.D. | 1. | ug/kg | 1 |
| 05466 | Toluene | 108-88-3 | N.D. | 1. | ug/kg | 1 |
| 05474 | Ethylbenzene | 100-41-4 | N.D. | 1. | ug/kg | 1 |
| 06301 | Xylene (Total) | 1330-20-7 | N.D. | 1. | ug/kg | 1 |

## Laboratory Chronicle

| CAT No. | Analysis Name | Method | Trial# | Analysis Date and Time | Analyst | Dilution Factor |
|---|---|---|---|---|---|---|
| 08270 | TPH-DRO by 8015B | SW-846 8015B | 1 | 08/25/2003 16:21 | Tracy A Cole | 1 |
| 02111 | Moisture | EPA 160.3 modified | 1 | 08/25/2003 14:14 | Nancy J Shoop | 1 |
| 07333 | Chloride by IC (solid) | EPA 300.0 | 1 | 08/26/2003 15:30 | Shannon L Phillips | 5 |
| 01637 | TPH-GRO 8015B - soil | SW-846 8015B - modified | 1 | 08/23/2003 01:46 | Steven A Skiles | 100 |
| 02304 | UST-Unleaded Soils by 8260B | SW-846 8260B | 1 | 08/24/2003 20:16 | Susan McMahon-Luu | 1 |

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# Analysis Report



**Lancaster Laboratories Sample No. SW 4107341**

Collected:08/20/2003 12:00 by FL

Account Number: 11288

Submitted: 08/22/2003 09:30
Reported: 08/27/2003 at 16:44
Discard: 09/27/2003
SB-3 0-2' Grab Soil Sample
Site# 3708
Sims #1 Battery

ConocoPhillips
P.O. Box 2197; 5027 TN

Houston TX 77252

SB302

| | | | | | | |
|---|---|---|---|---|---|---|
| 00374 | GC/MS VOA Soil Prep | SW-846 5030A | 1 | 08/24/2003 13:35 | Susan McMahon-Luu | n.a. |
| 01150 | GC VOA Soil Prep | SW-846 5035 | 1 | 08/22/2003 13:07 | Steven A Skiles | n.a. |
| 01352 | Deionized Water Extraction | EPA 300.0 | 1 | 08/25/2003 13:30 | Cheryl L Robinson | 1 |
| 07004 | Extraction - DRO (Soils) | SW-846 3550B | 1 | 08/24/2003 22:50 | Karen L Beyer | 1 |

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# Analysis Report



**Lancaster Laboratories Sample No. SW 4107342**

Collected: 08/20/2003 12:30 by FL

Account Number: 11288

Submitted: 08/22/2003 09:30
Reported: 08/27/2003 at 16:44
Discard: 09/27/2003
SB-3 4-6' Grab Soil Sample
Site# 3708
Sims #1 Battery

ConocoPhillips
P.O. Box 2197; 5027 TN

Houston TX 77252

SB346

| CAT No. | Analysis Name | CAS Number | Dry Result | Dry Method Detection Limit | Units | Dilution Factor |
|---|---|---|---|---|---|---|
| 08270 | TPH-DRO by 8015B | n.a. | N.D. | 4.7 | mg/kg | 1 |
| | According to the SW-846 8015B method, the quantitation for Diesel Range Organics was performed by peak area comparison of the sample pattern to that of our #2 Fuel Oil reference standard (between C10 and C28 normal hydrocarbons). Site-specific MS/MSD samples were not submitted for the project. A LCS/LCSD was performed to demonstrate precision and accuracy at a batch level. | | | | | |
| 02111 | Moisture | n.a. | 15.0 | 1.0 | % | 1 |
| | "Moisture" represents the loss in weight of the sample after drying with an infrared lamp at 150 degrees Celsius. | | | | | |
| 07333 | Chloride by IC (solid) | 16887-00-6 | 17.1 | 3.5 | mg/kg | 1 |
| 01637 | TPH-GRO 8015B - soil | | | | | |
| 01641 | TPH-GRO 8015B - soil | n.a. | N.D. | 0.2 | mg/kg | 25 |
| | The analysis for volatiles was performed on a sample which was preserved in methanol. The reporting limits were adjusted appropriately. | | | | | |
| 02304 | UST-Unleaded Soils by 8260B | | | | | |
| 05460 | Benzene | 71-43-2 | N.D. | 1. | ug/kg | 1 |
| 05466 | Toluene | 108-88-3 | N.D. | 1. | ug/kg | 1 |
| 05474 | Ethylbenzene | 100-41-4 | N.D. | 1. | ug/kg | 1 |
| 06301 | Xylene (Total) | 1330-20-7 | N.D. | 1. | ug/kg | 1 |

## Laboratory Chronicle

| CAT No. | Analysis Name | Method | Trial# | Analysis Date and Time | Analyst | Dilution Factor |
|---|---|---|---|---|---|---|
| 08270 | TPH-DRO by 8015B | SW-846 8015B | 1 | 08/25/2003 12:39 | Tracy A Cole | 1 |
| 02111 | Moisture | EPA 160.3 modified | 1 | 08/25/2003 14:34 | Nancy J Shoop | 1 |
| 07333 | Chloride by IC (solid) | EPA 300.0 | 1 | 08/26/2003 15:44 | Shannon L Phillips | 1 |
| 01637 | TPH-GRO 8015B - soil | SW-846 8015B - modified | 1 | 08/22/2003 18:13 | Steven A Skiles | 25 |
| 02304 | UST-Unleaded Soils by 8260B | SW-846 8260B | 1 | 08/24/2003 20:42 | Susan McMahon-Luu | 1 |
| 00374 | GC/MS VOA Soil Prep | SW-846 5030A | 1 | 08/24/2003 13:37 | Susan McMahon-Luu | n.a. |
| 01150 | GC VOA Soil Prep | SW-846 5035 | 1 | 08/22/2003 13:07 | Steven A Skiles | n.a. |
| 01352 | Deionized Water Extraction | EPA 300.0 | 1 | 08/25/2003 13:30 | Cheryl L Robinson | 1 |
| 07004 | Extraction - DRO (Soils) | SW-846 3550B | 1 | 08/24/2003 22:50 | Karen L Beyer | 1 |

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# Analysis Report



**Lancaster Laboratories Sample No. SW 4107343**

Collected:08/20/2003 14:15 by FL

Account Number: 11288

Submitted: 08/22/2003 09:30
Reported: 08/27/2003 at 16:44
Discard: 09/27/2003
SB-4 0-2' Grab Soil Sample
Site# 3708
Sims #1 Battery

ConocoPhillips
P.O. Box 2197; 5027 TN

Houston TX 77252

SB402

| CAT No. | Analysis Name | CAS Number | Dry Result | Dry Method Detection Limit | Units | Dilution Factor |
|---|---|---|---|---|---|---|
| 08270 | TPH-DRO by 8015B | n.a. | 210. | 4.3 | mg/kg | 1 |
| | According to the SW-846 8015B method, the quantitation for Diesel Range Organics was performed by peak area comparison of the sample pattern to that of our #2 Fuel Oil reference standard (between C10 and C28 normal hydrocarbons). Site-specific MS/MSD samples were not submitted for the project. A LCS/LCSD was performed to demonstrate precision and accuracy at a batch level. | | | | | |
| 02111 | Moisture | n.a. | 6.7 | 1.0 | % | 1 |
| | "Moisture" represents the loss in weight of the sample after drying with an infrared lamp at 150 degrees Celsius. | | | | | |
| 07333 | Chloride by IC (solid) | 16887-00-6 | 12.6 | 3.2 | mg/kg | 1 |
| 01637 | TPH-GRO 8015B - soil | | | | | |
| 01641 | TPH-GRO 8015B - soil | n.a. | 0.4 | 0.2 | mg/kg | 25 |
| | The analysis for volatiles was performed on a sample which was preserved in methanol. The reporting limits were adjusted appropriately. | | | | | |
| 02304 | UST-Unleaded Soils by 8260B | | | | | |
| 05460 | Benzene | 71-43-2 | N.D. | 1. | ug/kg | 1 |
| 05466 | Toluene | 108-88-3 | N.D. | 1. | ug/kg | 1 |
| 05474 | Ethylbenzene | 100-41-4 | N.D. | 1. | ug/kg | 1 |
| 06301 | Xylene (Total) | 1330-20-7 | 2. | 1. | ug/kg | 1 |

## Laboratory Chronicle

| CAT No. | Analysis Name | Method | Trial# | Analysis Date and Time | Analyst | Dilution Factor |
|---|---|---|---|---|---|---|
| 08270 | TPH-DRO by 8015B | SW-846 8015B | 1 | 08/25/2003 17:05 | Tracy A Cole | 1 |
| 02111 | Moisture | EPA 160.3 modified | 1 | 08/25/2003 14:51 | Nancy J Shoop | 1 |
| 07333 | Chloride by IC (solid) | EPA 300.0 | 1 | 08/26/2003 16:25 | Shannon L Phillips | 1 |
| 01637 | TPH-GRO 8015B - soil | SW-846 8015B - modified | 1 | 08/25/2003 12:10 | Stephanie A Selis | 25 |
| 02304 | UST-Unleaded Soils by 8260B | SW-846 8260B | 1 | 08/24/2003 21:08 | Susan McMahon-Luu | 1 |
| 00374 | GC/MS VOA Soil Prep | SW-846 5030A | 1 | 08/24/2003 14:07 | Susan McMahon-Luu | n.a. |
| 01150 | GC VOA Soil Prep | SW-846 5035 | 1 | 08/22/2003 13:07 | Steven A Skiles | n.a. |
| 01352 | Deionized Water Extraction | EPA 300.0 | 1 | 08/25/2003 13:30 | Cheryl L Robinson | 1 |
| 07004 | Extraction - DRO (Soils) | SW-846 3550B | 1 | 08/24/2003 22:50 | Karen L Beyer | 1 |

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# Analysis Report



**Lancaster Laboratories Sample No. SW 4107344**

Collected: 08/20/2003 14:25 by FL

Account Number: 11288

Submitted: 08/22/2003 09:30
Reported: 08/27/2003 at 16:44
Discard: 09/27/2003
SB-4 4-6' Grab Soil Sample
Site# 3708
Sims #1 Battery

ConocoPhillips
P.O. Box 2197; 5027 TN

Houston TX 77252

SB446

| CAT No. | Analysis Name | CAS Number | Dry Result | Dry Method Detection Limit | Units | Dilution Factor |
|---|---|---|---|---|---|---|
| 08270 | TPH-DRO by 8015B | n.a. | 650. | 43. | mg/kg | 10 |
| | According to the SW-846 8015B method, the quantitation for Diesel Range Organics was performed by peak area comparison of the sample pattern to that of our #2 Fuel Oil reference standard (between C10 and C28 normal hydrocarbons). Site-specific MS/MSD samples were not submitted for the project. A LCS/LCSD was performed to demonstrate precision and accuracy at a batch level. | | | | | |
| 02111 | Moisture | n.a. | 8.0 | 1.0 | % | 1 |
| | "Moisture" represents the loss in weight of the sample after drying with an infrared lamp at 150 degrees Celsius. | | | | | |
| 07333 | Chloride by IC (solid) | 16887-00-6 | 26.3 | 3.3 | mg/kg | 1 |
| 01637 | TPH-GRO 8015B - soil | | | | | |
| 01641 | TPH-GRO 8015B - soil | n.a. | N.D. | 0.2 | mg/kg | 25 |
| | The analysis for volatiles was performed on a sample which was preserved in methanol. The reporting limits were adjusted appropriately. | | | | | |
| 02304 | UST-Unleaded Soils by 8260B | | | | | |
| 05460 | Benzene | 71-43-2 | N.D. | 1. | ug/kg | 0.99 |
| 05466 | Toluene | 108-88-3 | N.D. | 1. | ug/kg | 0.99 |
| 05474 | Ethylbenzene | 100-41-4 | N.D. | 1. | ug/kg | 0.99 |
| 06301 | Xylene (Total) | 1330-20-7 | 1. | 1. | ug/kg | 0.99 |

## Laboratory Chronicle

| CAT No. | Analysis Name | Method | Trial# | Analysis Date and Time | Analyst | Dilution Factor |
|---|---|---|---|---|---|---|
| 08270 | TPH-DRO by 8015B | SW-846 8015B | 1 | 08/26/2003 08:50 | Tracy A Cole | 10 |
| 02111 | Moisture | EPA 160.3 modified | 1 | 08/25/2003 15:01 | Nancy J Shoop | 1 |
| 07333 | Chloride by IC (solid) | EPA 300.0 | 1 | 08/26/2003 16:39 | Shannon L Phillips | 1 |
| 01637 | TPH-GRO 8015B - soil | SW-846 8015B - modified | 1 | 08/25/2003 15:08 | Stephanie A Selis | 25 |
| 02304 | UST-Unleaded Soils by 8260B | SW-846 8260B | 1 | 08/24/2003 21:34 | Susan McMahon-Luu | 0.99 |
| 00374 | GC/MS VOA Soil Prep | SW-846 5030A | 1 | 08/24/2003 14:08 | Susan McMahon-Luu | n.a. |
| 01150 | GC VOA Soil Prep | SW-846 5035 | 1 | 08/22/2003 13:08 | Steven A Skiles | n.a. |
| 01352 | Deionized Water Extraction | EPA 300.0 | 1 | 08/25/2003 13:30 | Cheryl L Robinson | 1 |
| 07004 | Extraction - DRO (Soils) | SW-846 3550B | 1 | 08/24/2003 22:50 | Karen L Beyer | 1 |

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# Analysis Report



**Lancaster Laboratories Sample No. SW 4107345**

Collected: 08/20/2003 14:35 by FL

Account Number: 11288

Submitted: 08/22/2003 09:30
Reported: 08/27/2003 at 16:44
Discard: 09/27/2003
SB-5 0-2' Grab Soil Sample
Site# 3708
Sims #1 Battery

ConocoPhillips
P.O. Box 2197; 5027 TN

Houston TX 77252

SB502

| CAT No. | Analysis Name | CAS Number | Dry Result | Dry Method Detection Limit | Units | Dilution Factor |
|---|---|---|---|---|---|---|
| 08270 | TPH-DRO by 8015B | n.a. | 620. | 44. | mg/kg | 10 |
| | According to the SW-846 8015B method, the quantitation for Diesel Range Organics was performed by peak area comparison of the sample pattern to that of our #2 Fuel Oil reference standard (between C10 and C28 normal hydrocarbons). Site-specific MS/MSD samples were not submitted for the project. A LCS/LCSD was performed to demonstrate precision and accuracy at a batch level. | | | | | |
| 02111 | Moisture | n.a. | 8.1 | 1.0 | % | 1 |
| | "Moisture" represents the loss in weight of the sample after drying with an infrared lamp at 150 degrees Celsius. | | | | | |
| 07333 | Chloride by IC (solid) | 16887-00-6 | 66.3 | 6.5 | mg/kg | 2 |
| 01637 | TPH-GRO 8015B - soil | | | | | |
| 01641 | TPH-GRO 8015B - soil | n.a. | 0.3 | 0.2 | mg/kg | 25 |
| | The analysis for volatiles was performed on a sample which was preserved in methanol. The reporting limits were adjusted appropriately. | | | | | |
| 02304 | UST-Unleaded Soils by 8260B | | | | | |
| 05460 | Benzene | 71-43-2 | N.D. | 1. | ug/kg | 0.99 |
| 05466 | Toluene | 108-88-3 | N.D. | 1. | ug/kg | 0.99 |
| 05474 | Ethylbenzene | 100-41-4 | N.D. | 1. | ug/kg | 0.99 |
| 06301 | Xylene (Total) | 1330-20-7 | 1. | 1. | ug/kg | 0.99 |

## Laboratory Chronicle

| CAT No. | Analysis Name | Method | Trial# | Analysis Date and Time | Analyst | Dilution Factor |
|---|---|---|---|---|---|---|
| 08270 | TPH-DRO by 8015B | SW-846 8015B | 1 | 08/26/2003 09:34 | Tracy A Cole | 10 |
| 02111 | Moisture | EPA 160.3 modified | 1 | 08/25/2003 15:24 | Nancy J Shoop | 1 |
| 07333 | Chloride by IC (solid) | EPA 300.0 | 1 | 08/27/2003 10:42 | Shannon L Phillips | 2 |
| 01637 | TPH-GRO 8015B - soil | SW-846 8015B - modified | 1 | 08/25/2003 09:40 | Stephanie A Selis | 25 |
| 02304 | UST-Unleaded Soils by 8260B | SW-846 8260B | 1 | 08/24/2003 22:00 | Susan McMahon-Luu | 0.99 |
| 00374 | GC/MS VOA Soil Prep | SW-846 5030A | 1 | 08/24/2003 14:10 | Susan McMahon-Luu | n.a. |
| 01150 | GC VOA Soil Prep | SW-846 5035 | 1 | 08/22/2003 13:09 | Steven A Skiles | n.a. |
| 01352 | Deionized Water Extraction | EPA 300.0 | 1 | 08/25/2003 13:30 | Cheryl L Robinson | 1 |
| 07004 | Extraction - DRO (Soils) | SW-846 3550B | 1 | 08/24/2003 22:50 | Karen L Beyer | 1 |

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# Analysis Report



**Lancaster Laboratories Sample No. SW 4107346**

Collected:08/20/2003 15:10 by FL

Account Number: 11288

Submitted: 08/22/2003 09:30
Reported: 08/27/2003 at 16:44
Discard: 09/27/2003
SB-5 10-12' Grab Soil Sample
Site# 3708
Sims #1 Battery

ConocoPhillips
P.O. Box 2197; 5027 TN

Houston TX 77252

SB510

| CAT No. | Analysis Name | CAS Number | Dry Result | Dry Method Detection Limit | Units | Dilution Factor |
|---|---|---|---|---|---|---|
| 08270 | TPH-DRO by 8015B | n.a. | N.D. | 4.6 | mg/kg | 1 |
| | According to the SW-846 8015B method, the quantitation for Diesel Range Organics was performed by peak area comparison of the sample pattern to that of our #2 Fuel Oil reference standard (between C10 and C28 normal hydrocarbons). Site-specific MS/MSD samples were not submitted for the project. A LCS/LCSD was performed to demonstrate precision and accuracy at a batch level. | | | | | |
| 02111 | Moisture | n.a. | 13.3 | 1.0 | % | 1 |
| | "Moisture" represents the loss in weight of the sample after drying with an infrared lamp at 150 degrees Celsius. | | | | | |
| 07333 | Chloride by IC (solid) | 16887-00-6 | 335. | 34.6 | mg/kg | 10 |
| 01637 | TPH-GRO 8015B - soil | | | | | |
| 01641 | TPH-GRO 8015B - soil | n.a. | N.D. | 0.2 | mg/kg | 25 |
| | The analysis for volatiles was performed on a sample which was preserved in methanol. The reporting limits were adjusted appropriately. | | | | | |
| 02304 | UST-Unleaded Soils by 8260B | | | | | |
| 05460 | Benzene | 71-43-2 | N.D. | 1. | ug/kg | 1 |
| 05466 | Toluene | 108-88-3 | N.D. | 1. | ug/kg | 1 |
| 05474 | Ethylbenzene | 100-41-4 | N.D. | 1. | ug/kg | 1 |
| 06301 | Xylene (Total) | 1330-20-7 | N.D. | 1. | ug/kg | 1 |

## Laboratory Chronicle

| CAT No. | Analysis Name | Method | Trial# | Analysis Date and Time | Analyst | Dilution Factor |
|---|---|---|---|---|---|---|
| 08270 | TPH-DRO by 8015B | SW-846 8015B | 1 | 08/25/2003 13:01 | Tracy A Cole | 1 |
| 02111 | Moisture | EPA 160.3 modified | 1 | 08/25/2003 15:45 | Nancy J Shoop | 1 |
| 07333 | Chloride by IC (solid) | EPA 300.0 | 1 | 08/27/2003 10:56 | Shannon L Phillips | 10 |
| 01637 | TPH-GRO 8015B - soil | SW-846 8015B - modified | 1 | 08/22/2003 18:51 | Steven A Skiles | 25 |
| 02304 | UST-Unleaded Soils by 8260B | SW-846 8260B | 1 | 08/24/2003 22:26 | Susan McMahon-Luu | 1 |
| 00374 | GC/MS VOA Soil Prep | SW-846 5030A | 1 | 08/24/2003 14:11 | Susan McMahon-Luu | n.a. |
| 01150 | GC VOA Soil Prep | SW-846 5035 | 1 | 08/22/2003 13:09 | Steven A Skiles | n.a. |
| 01352 | Deionized Water Extraction | EPA 300.0 | 1 | 08/25/2003 13:30 | Cheryl L Robinson | 1 |
| 07004 | Extraction - DRO (Soils) | SW-846 3550B | 1 | 08/24/2003 22:50 | Karen L Beyer | 1 |

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# Analysis Report



**Lancaster Laboratories Sample No. SW 4107347**

Collected:08/20/2003 15:25 by FL

Account Number: 11288

Submitted: 08/22/2003 09:30
Reported: 08/27/2003 at 16:44
Discard: 09/27/2003
SB-6 0-2' Grab Soil Sample
Site# 3708
Sims #1 Battery

ConocoPhillips
P.O. Box 2197; 5027 TN

Houston TX 77252

SB602

| CAT No. | Analysis Name | CAS Number | Dry Result | Dry Method Detection Limit | Units | Dilution Factor |
|---|---|---|---|---|---|---|
| 08270 | TPH-DRO by 8015B | n.a. | N.D. | 4.2 | mg/kg | 1 |
| | According to the SW-846 8015B method, the quantitation for Diesel Range Organics was performed by peak area comparison of the sample pattern to that of our #2 Fuel Oil reference standard (between C10 and C28 normal hydrocarbons). Site-specific MS/MSD samples were not submitted for the project. A LCS/LCSD was performed to demonstrate precision and accuracy at a batch level. | | | | | |
| 02111 | Moisture | n.a. | 4.4 | 1.0 | % | 1 |
| | "Moisture" represents the loss in weight of the sample after drying with an infrared lamp at 150 degrees Celsius. | | | | | |
| 07333 | Chloride by IC (solid) | 16887-00-6 | 10.2 | 3.1 | mg/kg | 1 |
| 01637 | TPH-GRO 8015B - soil | | | | | |
| 01641 | TPH-GRO 8015B - soil | n.a. | N.D. | 0.2 | mg/kg | 25 |
| | The analysis for volatiles was performed on a sample which was preserved in methanol. The reporting limits were adjusted appropriately. | | | | | |
| 02304 | UST-Unleaded Soils by 8260B | | | | | |
| 05460 | Benzene | 71-43-2 | N.D. | 1. | ug/kg | 1 |
| 05466 | Toluene | 108-88-3 | N.D. | 1. | ug/kg | 1 |
| 05474 | Ethylbenzene | 100-41-4 | N.D. | 1. | ug/kg | 1 |
| 06301 | Xylene (Total) | 1330-20-7 | 4. | 1. | ug/kg | 1 |

## Laboratory Chronicle

| CAT No. | Analysis Name | Method | Trial# | Analysis Date and Time | Analyst | Dilution Factor |
|---|---|---|---|---|---|---|
| 08270 | TPH-DRO by 8015B | SW-846 8015B | 1 | 08/25/2003 15:15 | Tracy A Cole | 1 |
| 02111 | Moisture | EPA 160.3 modified | 1 | 08/25/2003 15:58 | Nancy J Shoop | 1 |
| 07333 | Chloride by IC (solid) | EPA 300.0 | 1 | 08/26/2003 17:20 | Shannon L Phillips | 1 |
| 01637 | TPH-GRO 8015B - soil | SW-846 8015B - modified | 1 | 08/22/2003 19:29 | Steven A Skiles | 25 |
| 02304 | UST-Unleaded Soils by 8260B | SW-846 8260B | 1 | 08/24/2003 22:52 | Susan McMahon-Luu | 1 |
| 00374 | GC/MS VOA Soil Prep | SW-846 5030A | 1 | 08/24/2003 14:12 | Susan McMahon-Luu | n.a. |
| 01150 | GC VOA Soil Prep | SW-846 5035 | 1 | 08/22/2003 13:10 | Steven A Skiles | n.a. |
| 01352 | Deionized Water Extraction | EPA 300.0 | 1 | 08/25/2003 13:30 | Cheryl L Robinson | 1 |
| 07004 | Extraction - DRO (Soils) | SW-846 3550B | 1 | 08/24/2003 22:50 | Karen L Beyer | 1 |

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# Analysis Report



**Lancaster Laboratories Sample No. SW 4107348**

Collected: 08/20/2003 15:45 by FL

Account Number: 11288

Submitted: 08/22/2003 09:30
Reported: 08/27/2003 at 16:44
Discard: 09/27/2003
SB-6 4-6' Grab Soil Sample
Site# 3708
Sims #1 Battery

ConocoPhillips
P.O. Box 2197; 5027 TN

Houston TX 77252

SB646

| CAT No. | Analysis Name | CAS Number | Dry Result | Dry Method Detection Limit | Units | Dilution Factor |
|---|---|---|---|---|---|---|
| 08270 | TPH-DRO by 8015B | n.a. | N.D. | 4.3 | mg/kg | 1 |
| | According to the SW-846 8015B method, the quantitation for Diesel Range Organics was performed by peak area comparison of the sample pattern to that of our #2 Fuel Oil reference standard (between C10 and C28 normal hydrocarbons). Site-specific MS/MSD samples were not submitted for the project. A LCS/LCSD was performed to demonstrate precision and accuracy at a batch level. | | | | | |
| 02111 | Moisture | n.a. | 7.4 | 1.0 | % | 1 |
| | "Moisture" represents the loss in weight of the sample after drying with an infrared lamp at 150 degrees Celsius. | | | | | |
| 07333 | Chloride by IC (solid) | 16887-00-6 | 175. | 16.2 | mg/kg | 5 |
| 01637 | TPH-GRO 8015B - soil | | | | | |
| 01641 | TPH-GRO 8015B - soil | n.a. | N.D. | 0.2 | mg/kg | 25 |
| | The analysis for volatiles was performed on a sample which was preserved in methanol. The reporting limits were adjusted appropriately. | | | | | |
| 02304 | UST-Unleaded Soils by 8260B | | | | | |
| 05460 | Benzene | 71-43-2 | N.D. | 1. | ug/kg | 1 |
| 05466 | Toluene | 108-88-3 | N.D. | 1. | ug/kg | 1 |
| 05474 | Ethylbenzene | 100-41-4 | N.D. | 1. | ug/kg | 1 |
| 06301 | Xylene (Total) | 1330-20-7 | 1. | 1. | ug/kg | 1 |

## Laboratory Chronicle

| CAT No. | Analysis Name | Method | Trial# | Analysis Date and Time | Analyst | Dilution Factor |
|---|---|---|---|---|---|---|
| 08270 | TPH-DRO by 8015B | SW-846 8015B | 1 | 08/25/2003 13:24 | Tracy A Cole | 1 |
| 02111 | Moisture | EPA 160.3 modified | 1 | 08/25/2003 16:17 | Nancy J Shoop | 1 |
| 07333 | Chloride by IC (solid) | EPA 300.0 | 1 | 08/27/2003 11:10 | Shannon L Phillips | 5 |
| 01637 | TPH-GRO 8015B - soil | SW-846 8015B - modified | 1 | 08/22/2003 20:07 | Steven A Skiles | 25 |
| 02304 | UST-Unleaded Soils by 8260B | SW-846 8260B | 1 | 08/24/2003 23:18 | Susan McMahon-Luu | 1 |
| 00374 | GC/MS VOA Soil Prep | SW-846 5030A | 1 | 08/24/2003 14:14 | Susan McMahon-Luu | n.a. |
| 01150 | GC VOA Soil Prep | SW-846 5035 | 1 | 08/22/2003 13:11 | Steven A Skiles | n.a. |
| 01352 | Deionized Water Extraction | EPA 300.0 | 1 | 08/25/2003 13:30 | Cheryl L Robinson | 1 |
| 07004 | Extraction - DRO (Soils) | SW-846 3550B | 1 | 08/24/2003 22:50 | Karen L Beyer | 1 |

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# Analysis Report



**Lancaster Laboratories Sample No. SW 4107349**

Collected:08/20/2003 16:00 by FL

Account Number: 11288

Submitted: 08/22/2003 09:30
Reported: 08/27/2003 at 16:44
Discard: 09/27/2003
SB-7 0-2' Grab Soil Sample
Site# 3708
Sims #1 Battery

ConocoPhillips
P.O. Box 2197; 5027 TN

Houston TX 77252

SB702

| CAT No. | Analysis Name | CAS Number | Dry Result | Dry Method Detection Limit | Units | Dilution Factor |
|---|---|---|---|---|---|---|
| 08270 | TPH-DRO by 8015B | n.a. | 5.0 | 4.2 | mg/kg | 1 |
| | According to the SW-846 8015B method, the quantitation for Diesel Range Organics was performed by peak area comparison of the sample pattern to that of our #2 Fuel Oil reference standard (between C10 and C28 normal hydrocarbons). *Site-specific MS/MSD samples were not submitted for the project.* A LCS/LCSD was performed to demonstrate precision and accuracy at a batch level. | | | | | |
| 02111 | Moisture | n.a. | 3.8 | 1.0 | % | 1 |
| | "Moisture" represents the loss in weight of the sample after drying with an infrared lamp at 150 degrees Celsius. | | | | | |
| 07333 | Chloride by IC (solid) | 16887-00-6 | 9.7 | 3.1 | mg/kg | 1 |
| 01637 | TPH-GRO 8015B - soil | | | | | |
| 01641 | TPH-GRO 8015B - soil | n.a. | N.D. | 0.2 | mg/kg | 25 |
| | The analysis for volatiles was performed on a sample which was preserved in methanol. The reporting limits were adjusted appropriately. | | | | | |
| 02304 | UST-Unleaded Soils by 8260B | | | | | |
| 05460 | Benzene | 71-43-2 | N.D. | 1. | ug/kg | 1 |
| 05466 | Toluene | 108-88-3 | N.D. | 1. | ug/kg | 1 |
| 05474 | Ethylbenzene | 100-41-4 | N.D. | 1. | ug/kg | 1 |
| 06301 | Xylene (Total) | 1330-20-7 | 1. | 1. | ug/kg | 1 |

## Laboratory Chronicle

| CAT No. | Analysis Name | Method | Trial# | Analysis Date and Time | Analyst | Dilution Factor |
|---|---|---|---|---|---|---|
| 08270 | TPH-DRO by 8015B | SW-846 8015B | 1 | 08/25/2003 15:37 | Tracy A Cole | 1 |
| 02111 | Moisture | EPA 160.3 modified | 1 | 08/25/2003 16:26 | Nancy J Shoop | 1 |
| 07333 | Chloride by IC (solid) | EPA 300.0 | 1 | 08/26/2003 18:16 | Shannon L Phillips | 1 |
| 01637 | TPH-GRO 8015B - soil | SW-846 8015B - modified | 1 | 08/22/2003 20:44 | Steven A Skiles | 25 |
| 02304 | UST-Unleaded Soils by 8260B | SW-846 8260B | 1 | 08/24/2003 23:44 | Susan McMahon-Luu | 1 |
| 00374 | GC/MS VOA Soil Prep | SW-846 5030A | 1 | 08/24/2003 14:44 | Susan McMahon-Luu | n.a. |
| 01150 | GC VOA Soil Prep | SW-846 5035 | 1 | 08/22/2003 13:11 | Steven A Skiles | n.a. |
| 01352 | Deionized Water Extraction | EPA 300.0 | 1 | 08/25/2003 13:30 | Cheryl L Robinson | 1 |
| 07004 | Extraction - DRO (Soils) | SW-846 3550B | 1 | 08/24/2003 22:50 | Karen L Beyer | 1 |

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# Analysis Report



**Lancaster Laboratories Sample No. SW 4107350**

Collected: 08/20/2003 16:20 by FL

Account Number: 11288

Submitted: 08/22/2003 09:30
Reported: 08/27/2003 at 16:44
Discard: 09/27/2003
SB-7 4-6' Grab Soil Sample
Site# 3708
Sims #1 Battery

ConocoPhillips
P.O. Box 2197; 5027 TN

Houston TX 77252

SB746

| CAT No. | Analysis Name | CAS Number | Dry Result | Dry Method Detection Limit | Units | Dilution Factor |
|---|---|---|---|---|---|---|
| 08270 | TPH-DRO by 8015B | n.a. | N.D. | 4.5 | mg/kg | 1 |
| | According to the SW-846 8015B method, the quantitation for Diesel Range Organics was performed by peak area comparison of the sample pattern to that of our #2 Fuel Oil reference standard (between C10 and C28 normal hydrocarbons). Site-specific MS/MSD samples were not submitted for the project. A LCS/LCSD was performed to demonstrate precision and accuracy at a batch level. | | | | | |
| 02111 | Moisture | n.a. | 11.3 | 1.0 | % | 1 |
| | "Moisture" represents the loss in weight of the sample after drying with an infrared lamp at 150 degrees Celsius. | | | | | |
| 07333 | Chloride by IC (solid) | 16887-00-6 | 691. | 67.6 | mg/kg | 20 |
| 01637 | TPH-GRO 8015B - soil | | | | | |
| 01641 | TPH-GRO 8015B - soil | n.a. | N.D. | 0.2 | mg/kg | 25 |
| | The analysis for volatiles was performed on a sample which was preserved in methanol. The reporting limits were adjusted appropriately. | | | | | |
| 02304 | UST-Unleaded Soils by 8260B | | | | | |
| 05460 | Benzene | 71-43-2 | N.D. | 1. | ug/kg | 1 |
| 05466 | Toluene | 108-88-3 | N.D. | 1. | ug/kg | 1 |
| 05474 | Ethylbenzene | 100-41-4 | N.D. | 1. | ug/kg | 1 |
| 06301 | Xylene (Total) | 1330-20-7 | N.D. | 1. | ug/kg | 1 |

## Laboratory Chronicle

| CAT No. | Analysis Name | Method | Trial# | Analysis Date and Time | Analyst | Dilution Factor |
|---|---|---|---|---|---|---|
| 08270 | TPH-DRO by 8015B | SW-846 8015B | 1 | 08/25/2003 13:46 | Tracy A Cole | 1 |
| 02111 | Moisture | EPA 160.3 modified | 1 | 08/25/2003 16:32 | Nancy J Shoop | 1 |
| 07333 | Chloride by IC (solid) | EPA 300.0 | 1 | 08/27/2003 11:23 | Shannon L Phillips | 20 |
| 01637 | TPH-GRO 8015B - soil | SW-846 8015B - modified | 1 | 08/22/2003 22:38 | Steven A Skiles | 25 |
| 02304 | UST-Unleaded Soils by 8260B | SW-846 8260B | 1 | 08/25/2003 00:10 | Susan McMahon-Luu | 1 |
| 00374 | GC/MS VOA Soil Prep | SW-846 5030A | 1 | 08/25/2003 14:46 | Susan McMahon-Luu | n.a. |
| 01150 | GC VOA Soil Prep | SW-846 5035 | 1 | 08/22/2003 13:12 | Steven A Skiles | n.a. |
| 01352 | Deionized Water Extraction | EPA 300.0 | 1 | 08/25/2003 13:30 | Cheryl L Robinson | 1 |
| 07004 | Extraction - DRO (Soils) | SW-846 3550B | 1 | 08/24/2003 22:50 | Karen L Beyer | 1 |

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# Analysis Report



**Lancaster Laboratories Sample No. SW 4107351**

Collected: 08/20/2003 14:45 by FL

Account Number: 11288

Submitted: 08/22/2003 09:30
Reported: 08/27/2003 at 16:45
Discard: 09/27/2003
SB-5 4-6' Grab Soil Sample
Site# 3708
Sims #1 Battery

ConocoPhillips
P.O. Box 2197; 5027 TN
Houston TX 77252

SB546

| CAT No. | Analysis Name | CAS Number | Dry Result | Dry Method Detection Limit | Units | Dilution Factor |
|---|---|---|---|---|---|---|
| 08270 | TPH-DRO by 8015B | n.a. | 27. | 4.5 | mg/kg | 1 |
| | According to the SW-846 8015B method, the quantitation for Diesel Range Organics was performed by peak area comparison of the sample pattern to that of our #2 Fuel Oil reference standard (between C10 and C28 normal hydrocarbons). Site-specific MS/MSD samples were not submitted for the project. A LCS/LCSD was performed to demonstrate precision and accuracy at a batch level. | | | | | |
| 02111 | Moisture | n.a. | 10.4 | 1.0 | % | 1 |
| | "Moisture" represents the loss in weight of the sample after drying with an infrared lamp at 150 degrees Celsius. | | | | | |
| 07333 | Chloride by IC (solid) | 16887-00-6 | 337. | 33.5 | mg/kg | 10 |
| 01637 | TPH-GRO 8015B - soil | | | | | |
| 01641 | TPH-GRO 8015B - soil | n.a. | N.D. | 0.9 | mg/kg | 100 |
| | The analysis for volatiles was performed on a sample which was preserved in methanol. The reporting limits were adjusted appropriately. Poor surrogate recoveries were observed for this sample due to the dilution needed to perform the analysis. Due to excessive foaming of the sample, normal reporting limits were not attained. | | | | | |
| 02304 | UST-Unleaded Soils by 8260B | | | | | |
| 05460 | Benzene | 71-43-2 | N.D. | 1. | ug/kg | 0.99 |
| 05466 | Toluene | 108-88-3 | N.D. | 1. | ug/kg | 0.99 |
| 05474 | Ethylbenzene | 100-41-4 | N.D. | 1. | ug/kg | 0.99 |
| 06301 | Xylene (Total) | 1330-20-7 | N.D. | 1. | ug/kg | 0.99 |

## Laboratory Chronicle

| CAT No. | Analysis Name | Method | Trial# | Analysis Date and Time | Analyst | Dilution Factor |
|---|---|---|---|---|---|---|
| 08270 | TPH-DRO by 8015B | SW-846 8015B | 1 | 08/25/2003 16:43 | Tracy A Cole | 1 |
| 02111 | Moisture | EPA 160.3 modified | 1 | 08/25/2003 16:42 | Nancy J Shoop | 1 |
| 07333 | Chloride by IC (solid) | EPA 300.0 | 1 | 08/27/2003 11:37 | Shannon L Phillips | 10 |
| 01637 | TPH-GRO 8015B - soil | SW-846 8015B - modified | 1 | 08/22/2003 23:15 | Steven A Skiles | 100 |
| 02304 | UST-Unleaded Soils by 8260B | SW-846 8260B | 1 | 08/25/2003 00:36 | Susan McMahon-Luu | 0.99 |

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# Analysis Report



**Lancaster Laboratories Sample No. SW 4107351**

Collected:08/20/2003 14:45 by FL

Account Number: 11288

Submitted: 08/22/2003 09:30
Reported: 08/27/2003 at 16:45
Discard: 09/27/2003
SB-5 4-6' Grab Soil Sample
Site# 3708
Sims #1 Battery

ConocoPhillips
P.O. Box 2197; 5027 TN

Houston TX 77252

SB546

| | | | | | | |
|---|---|---|---|---|---|---|
| 00374 | GC/MS VOA Soil Prep | SW-846 5030A | 1 | 08/25/2003 14:47 | Susan McMahon-Luu | n.a. |
| 01150 | GC VOA Soil Prep | SW-846 5035 | 1 | 08/22/2003 13:13 | Steven A Skiles | n.a. |
| 01352 | Deionized Water Extraction | EPA 300.0 | 1 | 08/25/2003 13:30 | Cheryl L Robinson | 1 |
| 07004 | Extraction - DRO (Soils) | SW-846 3550B | 1 | 08/24/2003 22:50 | Karen L Beyer | 1 |

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# Analysis Report



**Lancaster Laboratories Sample No. WW 4107352**

Collected: n.a.

Account Number: 11288

Submitted: 08/22/2003 09:30
Reported: 08/27/2003 at 16:45
Discard: 09/27/2003
Trip Blank Water Sample
Site# 3708
Sims #1 Battery

ConocoPhillips
P.O. Box 2197; 5027 TN

Houston TX 77252

TBBAT

| CAT No. | Analysis Name | CAS Number | As Received Result | As Received Method Detection Limit | Units | Dilution Factor |
|---|---|---|---|---|---|---|
| 02300 | UST-Unleaded Waters by 8260B | | | | | |
| 05401 | Benzene | 71-43-2 | N.D. | 0.5 | ug/l | 1 |
| 05407 | Toluene | 108-88-3 | N.D. | 0.7 | ug/l | 1 |
| 05415 | Ethylbenzene | 100-41-4 | N.D. | 0.8 | ug/l | 1 |
| 06310 | Xylene (Total) | 1330-20-7 | N.D. | 0.8 | ug/l | 1 |

A site-specific MSD sample was not submitted for the project. A LCS/LCSD was performed to demonstrate precision and accuracy at a batch level.

## Laboratory Chronicle

| CAT No. | Analysis Name | Method | Trial# | Analysis Date and Time | Analyst | Dilution Factor |
|---|---|---|---|---|---|---|
| 02300 | UST-Unleaded Waters by 8260B | SW-846 8260B | 1 | 08/23/2003 01:02 | Marla S Lord | 1 |
| 01163 | GC/MS VOA Water Prep | SW-846 5030B | 1 | 08/23/2003 01:02 | Marla S Lord | n.a. |

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# Analysis Report



## Quality Control Summary

Client Name: ConocoPhillips Group Number: 864207
Reported: 08/27/03 at 04:45 PM

### Laboratory Compliance Quality Control

| Analysis Name | Blank Result | Blank MDL | Report Units | LCS %REC | LCSD %REC | LCS/LCSD Limits | RPD | RPD Max |
|---|---|---|---|---|---|---|---|---|
| Batch number: 03234A33A | Sample number(s): 4107338-4107342,4107346-4107351 | | | | | | | |
| TPH-GRO 8015B - soil | N.D. | 0.2 | mg/kg | 99 | | 70-130 | | |
| Batch number: 03234A33B | Sample number(s): 4107337,4107343-4107345 | | | | | | | |
| TPH-GRO 8015B - soil | N.D. | 0.2 | mg/kg | 99 | | 70-130 | | |
| Batch number: 032350003A | Sample number(s): 4107337-4107351 | | | | | | | |
| TPH-DRO by 8015B | N.D. | 4.0 | mg/kg | 96 | 99 | 74-118 | 3 | 20 |
| Batch number: 03237237201A | Sample number(s): 4107337-4107346 | | | | | | | |
| Chloride by IC (solid) | N.D. | 3.0 | mg/kg | 101 | | 90-110 | | |
| Batch number: 03237237201B | Sample number(s): 4107347-4107351 | | | | | | | |
| Chloride by IC (solid) | N.D. | 3.0 | mg/kg | 101 | | 90-110 | | |
| Batch number: 03237912201A | Sample number(s): 4107337-4107346 | | | | | | | |
| Moisture | | | | 101 | | 99-102 | | |
| Batch number: 03237912201B | Sample number(s): 4107347-4107351 | | | | | | | |
| Moisture | | | | 101 | | 99-102 | | |
| Batch number: T032341AB | Sample number(s): 4107352 | | | | | | | |
| Benzene | N.D. | 0.5 | ug/l | 94 | 95 | 85-117 | 1 | 30 |
| Toluene | N.D. | 0.7 | ug/l | 97 | 100 | 85-115 | 3 | 30 |
| Ethylbenzene | N.D. | 0.8 | ug/l | 87 | 90 | 82-119 | 4 | 30 |
| Xylene (Total) | N.D. | 0.8 | ug/l | 91 | 94 | 84-120 | 3 | 30 |
| Batch number: X032331AB | Sample number(s): 4107337-4107338 | | | | | | | |
| Benzene | N.D. | 1. | ug/kg | 99 | | 83-118 | | |
| Toluene | N.D. | 1. | ug/kg | 94 | | 81-116 | | |
| Ethylbenzene | N.D. | 1. | ug/kg | 95 | | 82-115 | | |
| Xylene (Total) | N.D. | 1. | ug/kg | 95 | | 82-117 | | |
| Batch number: X032331AC | Sample number(s): 4107339-4107351 | | | | | | | |
| Benzene | N.D. | 1. | ug/kg | 99 | | 83-118 | | |
| Toluene | N.D. | 1. | ug/kg | 94 | | 81-116 | | |
| Ethylbenzene | N.D. | 1. | ug/kg | 95 | | 82-115 | | |
| Xylene (Total) | N.D. | 1. | ug/kg | 95 | | 82-117 | | |

### Sample Matrix Quality Control

| Analysis Name | MS %REC | MSD %REC | MS/MSD Limits | RPD | RPD MAX | BKG Conc | DUP Conc | DUP RPD | Dup RPD Max |
|---|---|---|---|---|---|---|---|---|---|
| Batch number: 03234A33A | Sample number(s): 4107338-4107342,4107346-4107351 | | | | | | | | |
| TPH-GRO 8015B - soil | 82 | 85 | 70-130 | 3 | 30 | | | | |
| Batch number: 03234A33B | Sample number(s): 4107337,4107343-4107345 | | | | | | | | |
| TPH-GRO 8015B - soil | 82 | 85 | 70-130 | 3 | 30 | | | | |
| Batch number: 03237237201A | Sample number(s): 4107337-4107346 | | | | | | | | |
| Chloride by IC (solid) | 129* | | 90-110 | | | 5,780. | 4,600. | 23* | 20 |

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The background result was more than four times the spike added.

## Quality Control Summary

Client Name: ConocoPhillips
Reported: 08/27/03 at 04:45 PM

Group Number: 864207

### Sample Matrix Quality Control

| Analysis Name | MS %REC | MSD %REC | MS/MSD Limits | RPD | RPD MAX | BKG Conc | DUP Conc | DUP RPD | Dup RPD Max |
|---|---|---|---|---|---|---|---|---|---|
| Batch number: 03237237201B | Sample number(s): 4107347-4107351 | | | | | | | | |
| Chloride by IC (solid) | 100 | | 90-110 | | | 9.8 | 11.5 | 16 (1) | 20 |
| Batch number: 03237912201A | Sample number(s): 4107337-4107346 | | | | | | | | |
| Moisture | | | | | | 7.6 | 8.0 | 4 | 7 |
| Batch number: 03237912201B | Sample number(s): 4107347-4107351 | | | | | | | | |
| Moisture | | | | | | 4.4 | 4.4 | 1 (1) | 7 |
| Batch number: T032341AB | Sample number(s): 4107352 | | | | | | | | |
| Benzene | 104 | | 83-128 | | | | | | |
| Toluene | 105 | | 83-127 | | | | | | |
| Ethylbenzene | 95 | | 82-134 | | | | | | |
| Xylene (Total) | 98 | | 82-130 | | | | | | |
| Batch number: X032331AB | Sample number(s): 4107337-4107338 | | | | | | | | |
| Benzene | 96 | 95 | 52-141 | 1 | 30 | | | | |
| Toluene | 83 | 85 | 53-137 | 2 | 30 | | | | |
| Ethylbenzene | 90 | 90 | 50-136 | 1 | 30 | | | | |
| Xylene (Total) | 85 | 86 | 47-139 | 1 | 30 | | | | |
| Batch number: X032331AC | Sample number(s): 4107339-4107351 | | | | | | | | |
| Benzene | 96 | 95 | 52-141 | 1 | 30 | | | | |
| Toluene | 83 | 85 | 53-137 | 2 | 30 | | | | |
| Ethylbenzene | 90 | 90 | 50-136 | 1 | 30 | | | | |
| Xylene (Total) | 85 | 86 | 47-139 | 1 | 30 | | | | |

### Surrogate Quality Control

Analysis Name: TPH-GRO 8015B - soil
Batch number: 03234A33A

| | Trifluorotoluene-F |
|---|---|
| 4107338 | 90 |
| 4107339 | 93 |
| 4107340 | 98 |
| 4107341 | 27* |
| 4107342 | 97 |
| 4107346 | 93 |
| 4107347 | 99 |
| 4107348 | 94 |
| 4107349 | 99 |
| 4107350 | 93 |
| 4107351 | 26* |
| Blank | 100 |
| LCS | 109 |
| MS | 102 |
| MSD | 104 |
| Limits: | 66-117 |

Analysis Name: TPH-GRO 8015B - soil

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The background result was more than four times the spike added.

# Quality Control Summary

Client Name: ConocoPhillips Group Number: 864207
Reported: 08/27/03 at 04:45 PM

## Surrogate Quality Control

Batch number: 03234A33B

| | Trifluorotoluene-F |
|---|---|
| 4107337 | 106 |
| 4107343 | 102 |
| 4107344 | 107 |
| 4107345 | 106 |
| Blank | 98 |
| LCS | 109 |
| MS | 102 |
| MSD | 104 |
| Limits: | 66-117 |

Analysis Name: TPH-DRO by 8015B
Batch number: 032350003A

| | Orthoterphenyl |
|---|---|
| 4107337 | 95 |
| 4107338 | 100 |
| 4107339 | 101 |
| 4107340 | 101 |
| 4107341 | 98 |
| 4107342 | 102 |
| 4107343 | 94 |
| 4107344 | 90 |
| 4107345 | 84 |
| 4107346 | 102 |
| 4107347 | 93 |
| 4107348 | 94 |
| 4107349 | 96 |
| 4107350 | 100 |
| 4107351 | 98 |
| Blank | 103 |
| LCS | 111 |
| LCSD | 108 |
| Limits: | 59-124 |

Analysis Name: UST-Unleaded Waters by 8260B
Batch number: T032341AB

| | Dibromofluoromethane | 1,2-Dichloroethane-d4 | Toluene-d8 | 4-Bromofluorobenzene |
|---|---|---|---|---|
| 4107352 | 100 | 94 | 96 | 92 |
| Blank | 101 | 94 | 97 | 93 |
| LCS | 93 | 95 | 101 | 101 |
| LCSD | 92 | 94 | 101 | 101 |
| MS | 93 | 93 | 100 | 101 |
| Limits: | 81-120 | 82-112 | 85-112 | 83-113 |

Analysis Name: UST-Unleaded Soils by 8260B
Batch number: X032331AB

| | Dibromofluoromethane | 1,2-Dichloroethane-d4 | Toluene-d8 | 4-Bromofluorobenzene |
|---|---|---|---|---|
| 4107337 | 96 | 95 | 87 | 94 |
| 4107338 | 96 | 102 | 86 | 95 |
| Blank | 92 | 87 | 89 | 92 |
| LCS | 92 | 93 | 92 | 94 |

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The background result was more than four times the spike added.

# Quality Control Summary

Client Name: ConocoPhillips Group Number: 864207
Reported: 08/27/03 at 04:45 PM

## Surrogate Quality Control

| | | | | |
|---|---|---|---|---|
| MS | 93 | 94 | 90 | 93 |
| MSD | 91 | 92 | 91 | 93 |
| Limits: | 70-129 | 70-121 | 70-130 | 70-128 |

Analysis Name: UST-Unleaded Soils by 8260B
Batch number: X032331AC

| | Dibromofluoromethane | 1,2-Dichloroethane-d4 | Toluene-d8 | 4-Bromofluorobenzene |
|---|---|---|---|---|
| 4107339 | 90 | 92 | 93 | 91 |
| 4107340 | 91 | 91 | 94 | 91 |
| 4107341 | 92 | 97 | 93 | 93 |
| 4107342 | 89 | 86 | 93 | 90 |
| 4107343 | 92 | 92 | 96 | 88 |
| 4107344 | 91 | 93 | 96 | 86 |
| 4107345 | 92 | 94 | 94 | 88 |
| 4107346 | 93 | 99 | 92 | 93 |
| 4107347 | 91 | 92 | 94 | 90 |
| 4107348 | 90 | 92 | 93 | 90 |
| 4107349 | 88 | 88 | 94 | 88 |
| 4107350 | 90 | 90 | 93 | 90 |
| 4107351 | 90 | 91 | 94 | 90 |
| Blank | 89 | 83 | 95 | 91 |
| LCS | 92 | 93 | 92 | 94 |
| MS | 93 | 94 | 90 | 93 |
| MSD | 91 | 92 | 91 | 93 |
| Limits: | 70-129 | 70-121 | 70-130 | 70-128 |

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The background result was more than four times the spike added.

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# Explanation of Symbols and Abbreviations

*The following defines common symbols and abbreviations used in reporting technical data:*

| | | | |
|---|---|---|---|
| **N.D.** | none detected | **BMQL** | Below Minimum Quantitation Level |
| **TNTC** | Too Numerous To Count | **MPN** | Most Probable Number |
| **IU** | International Units | **CP Units** | cobalt-chloroplatinate units |
| **umhos/cm** | micromhos/cm | **NTU** | nephelometric turbidity units |
| **C** | degrees Celsius | **F** | degrees Fahrenheit |
| **meq** | milliequivalents | **lb.** | pound(s) |
| **g** | gram(s) | **kg** | kilogram(s) |
| **ug** | microgram(s) | **mg** | milligram(s) |
| **ml** | milliliter(s) | **l** | liter(s) |
| **m3** | cubic meter(s) | **ul** | microliter(s) |

**<** less than - The number following the sign is the limit of quantitation, the smallest amount of analyte which can be reliably determined using this specific test.

**>** greater than

**J** estimated value – The result falls within the Method Detection Limit (MDL) and Limit of Quantitation (LOQ).

**ppm** parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg), or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter of gas per liter of gas.

**ppb** parts per billion

**Dry weight basis** Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.

*U.S. EPA CLP Data Qualifiers:*

**Organic Qualifiers**

| | |
|---|---|
| **A** | TIC is a possible aldol-condensation product |
| **B** | Analyte was also detected in the blank |
| **C** | Pesticide result confirmed by GC/MS |
| **D** | Compound quantitated on a diluted sample |
| **E** | Concentration exceeds the calibration range of the instrument |
| **N** | Presumptive evidence of a compound (TICs only) |
| **P** | Concentration difference between primary and confirmation columns >25% |
| **U** | Compound was not detected |
| **X,Y,Z** | Defined in case narrative |

**Inorganic Qualifiers**

| | |
|---|---|
| **B** | Value is <CRDL, but ≥IDL |
| **E** | Estimated due to interference |
| **M** | Duplicate injection precision not met |
| **N** | Spike sample not within control limits |
| **S** | Method of standard additions (MSA) used for calculation |
| **U** | Compound was not detected |
| **W** | Post digestion spike out of control limits |
| ***** | Duplicate analysis not within control limits |
| **+** | Correlation coefficient for MSA <0.995 |

Analytical test results for methods listed on the laboratories' accreditation scope meet all requirements of NELAC unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff. This report shall not be reproduced except in full, without the written approval of the laboratory.

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# APPENDIX C

## References

## REFERENCES

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MAXIM TECHNOLOGIES INC

1703 W. Industrial Ave.
Midland, Texas 79701
(432) 686-8081

September 22, 2003

Mr. Thomas A. Loftus III
ConocoPhillips Inc.
600 North Dairy Ashford
Houston, TX 77079

**RE: Sims Battery No. 1, Lea County, New Mexico**
**Results of Subsurface Investigation**
**Maxim Project No. 3690085.100**

Dear Mr. Loftus:

Maxim Technologies, Inc. (Maxim) conducted a subsurface investigation at the ConocoPhillips Sims Battery No. 1 location (Site) on August 20, 2003. The Site is located approximately 6 miles southeast of Eunice, New Mexico and 1.25 miles east of State Highway 18; NW Sec. 24 T22S R37E in the southeastern portion of Lea County, New Mexico (Figure 1).

## 1.0 BACKGROUND

On December 6, 2000, approximately 20 barrels (bbls) of crude oil were released at the Sims Battery No. 1 site. Fifteen bbls were recovered, and the remaining product infiltrated the shallow soils in an area approximately 90 feet by 90 feet immediately east of the actual tank battery location. Remediation efforts consisted of soil excavation and disposal of impacted soil at a permitted facility. Soil sampling was performed in the excavation on December 13, 2000, and on February 8, 13 and 16, 2001. The soil samples were analyzed for total petroleum hydrocarbons (TPH) by Method 418.1; benzene, toluene, ethylbenzene and total xylenes (BTEX) by Method 8021B; and chloride by Method 9253 at Environmental Lab of Texas in Odessa, Texas. On March 15, 2002, shallow soil samples were collected from the base of the excavation in four locations using hand auger methods (Figure 2). These soil samples were analyzed for TPH and chloride at Environmental Lab of Texas in Odessa, Texas. The results of the previous soil sampling are presented in Table 1. The excavation was left open at the site to allow for additional soil sampling in the impacted area.

The soil samples collected by hand auger on March 15, 2002, reported concentrations of TPH at a maximum of 6,600 milligrams per kilogram (mg/kg) in the T1-North sample and chloride at a maximum of 3,320 mg/kg in the T3-South sample (Table 1). These results indicated petroleum hydrocarbons and chloride were present in shallow soils at the site and further sampling was necessary.

## 1.0 SCOPE OF WORK

The current subsurface investigation was conducted to determine the horizontal and vertical extent of impact related to the release of crude oil and provide data to aid in risk determination in accordance with New Mexico Oil Conservation Division's (NMOCD's) standards, *Guidelines for Remediation of Leaks, Spills and Releases.*

The following sections describe the field methods and health and safety protocols utilized during the site investigation and the disposition of investigation-derived wastes generated during the investigation.

## 1.1 Field Investigation

The field investigation program entailed drilling 7 soil borings to depths ranging from 6 to 12 feet deep and the collection of soils from each boring for field screening and laboratory analysis. To confirm the removal of impacted soils from the release area, soil samples were collected from five locations within the excavation. Two boring locations were also placed outside of the release excavation area for determination of background soil characteristics. Figure 3 presents a site map showing the site layout and locations of the soil borings.

On August 20, 2003, Scarborough Drilling of Lamesa, Texas, installed the soil borings using a truck-mounted air rotary drilling rig. Soil samples were collected at continuous two-foot intervals from each boring in a 2-inch diameter by 2-foot long split spoon barrel sampler using direct-push methods. Once the sampler was advanced through the 2-foot sampling interval or to refusal, it was withdrawn and the section of boring was over drilled using a 3-inch diameter air rotary drilling bit. Samples of soil core removed from the split spoon sampler were placed in the appropriate sample containers for field screening and laboratory analyses. Drill cuttings were also placed in the sample containers if an inadequate volume of soil core was available in the sample barrel. The sample containers were placed on ice in a cooler immediately after collection. Mr. Leo Sims concurrently collected duplicate split samples of the soil at the 5 boring locations within the excavation area. No groundwater was encountered in any of the borings.

After each soil boring was drilled to total depth and all samples were collected, the drilling tools were withdrawn and the boring was abandoned by backfilling with hydrated bentonite pellets. The split spoon sampler was decontaminated between each sample run by washing with soap and water followed by a clean water rinse.

Soil samples collected from the borings were field screened with a photo-ionization detector (PID) to detect the presence of volatile organic compounds (VOCs) within the headspace atmosphere of bagged soil samples. The PID readings were used to aid in the selection of samples for laboratory analyses. Each sample was bagged, labeled, and stored at ambient air temperature (above 80 degrees Fahrenheit) for approximately 15 minutes. After the waiting period, the bags were penetrated with the tip of the PID and a measurement taken of the organic vapors present within the bag.

Two soil samples each from 6 of the borings and 3 soil samples from boring SB-5 were placed in a cooler packed with ice and shipped under chain-of-custody to Lancaster Laboratories in Lancaster, Pennsylvania, for analysis of TPH, both diesel range organics (DRO) and gasoline range organics (GRO), by Method 8015B modified; BTEX by Method 8260B; and for chloride by Method 300. Samples of intact soil core were used for the BTEX and GRO analyses. If necessary, soil cuttings were used for the DRO and chloride analyses. Headspace readings are presented on the boring logs located in Appendix A. The analytical results are presented in Table 2, and the laboratory analytical data is presented in Appendix B.

## 1.2 Health and Safety

Maxim required safety and health procedures that were appropriate for the level of environmental hazard known to exist at the Site. Procedures used complied with ConocoPhillips' "Contractors Safety Manual" (revised 2003). Level D Personal Protective Equipment (PPE) was adequate for this activity. Personnel were equipped with respirators and organic vapor cartridges in the event of a sudden release of noxious

fumes from the Site. For further details, please refer to the site-specific Health and Safety Plan (HASP) prepared and amended for the Sims Battery No. 1 Site, dated August 18, 2003.

### 1.3 Investigation-Derived Waste

Soil cuttings and excess soil core generated during the drilling and soil sampling activities along with the sampler decontamination water were placed on the ground inside the affected hydrocarbon area.

## 2.0 TOPOGRAPHY, GEOLOGY AND HYDROGEOLOGY

The Sims Battery No. 1 site is located approximately 6 miles southeast of Eunice, New Mexico. This area of New Mexico is relatively flat and is used primarily for grazing. Oil and gas production is prevalent in the area. Local topography is characterized by broad plains and low hills separated by narrow valleys. The nearest surface drainage is the ephemeral Monument Draw, located approximately 2,000 feet east of the Site.

The soils present at the Site are of the Midessa series. The Midessa soils consists of calcareous, nearly level to gently sloping, well drained soil with a clay subsoil. These soils form in wind and water deposited calcareous sediments on plains. Typically, the surface layer is a fine sandy loam. The subsoil is a grayish-brown to pale brown clay about 18 inches thick. The substratum extends to a depth of 60 inches and consists of a light gray clay with high lime content. The clay is calcareous throughout (Turner, M. T. et al, 1974).

The site is located in the northern portion of the Delaware Basin, a structural basin underlying present-day southeastern New Mexico and western Texas and containing a thick sequence of sandstones, shales, carbonates, and evaporites (DOE, 2001). The site is underlain by the Triassic Chinle Formation, which consists of red claystone interbedded with thin beds of sandstone. Thickness of the formation is up to 300 feet. Underlying the Chinle are Permian age Dewey Lake red beds, which consist of approximately 200 feet of siltstone, very fine sandstone, and shale. Underlying the Dewey Lake is the Rustler Formation, which includes interbedded dolomites, shales, and anhydrites. The Rustler Formation consists of a lower member of mudstone and sandstone with interbedded evaporites and an upper member of alternating evaporite and dolomite beds.

Depth to groundwater in the vicinity of the Site is approximately 60 feet bgs as determined by contouring the groundwater levels in area water wells. The nearest well to the site is a groundwater monitoring well located approximately 1,000 feet to the southeast. Depth to water is 58 feet bgs in this well. Two non-working windmills are located at an old abandoned ranch house approximately 1,120 feet to the southwest of the site. Another ranch house and windmill are located approximately 1,500 feet to the southeast of the site. No information on depth to water is available for these 3 wells. There is a water well located approximately 2,000 feet to the southwest of the site. Depth to water in this well is 60 feet bgs. A ranch house with 5 windmills is located approximately 2,800 feet to the southwest of the site. No information is available on depth to water for any of these 5 wells.

## 3.0 INVESTIGATION RESULTS

A summary of results from the subsurface soil sampling is presented in Table 2, and the complete laboratory analytical report is presented in Appendix B.

PID readings observed during this investigation are presented on the boring logs in Appendix A. Only two soil samples recorded measurable concentrations of VOCs above non-detect using the PID. The soil

sample from a depth of 4 to 6 feet bgs in boring SB-1 recorded 7.0 parts per million (ppm) and the soil sample in boring SB-4, also from a depth of 4 to 6 feet bgs, recorded 1.3 ppm on the PID.

The concentrations of constituents reported in the soils are presented in Table 2. Detectable concentrations of DRO hydrocarbons were reported in shallow soils from the zero to 2-foot sampling interval in the 5 soil borings drilled inside the excavation area and one of the soil borings drilled outside this area. Within the excavation area, DRO concentrations in the zero to 2-foot sampling interval ranged from 11 mg/kg in boring SB-1 to 620 mg/kg in boring SB-5. Only 2 samples reported detectable DRO concentrations below the zero to 2-foot interval. Borings SB-4 and SB-5 reported DRO concentrations of 650 mg/kg and 27 mg/kg, respectively, at the sampling depth of 4-6 feet bgs. Boring SB-5 reported nondetect for DRO constituents at 10 to 12 feet bgs. Boring SB-7, located to the west and outside the excavation area, reported a DRO concentration of 5 mg/kg at the zero to 2-foot depth and nondetect at 4 to 6 feet bgs. GRO hydrocarbons were reported at concentrations of less than 1 mg/kg at the zero to 2-foot sampling interval in borings SB-1, SB-4 and SB-5. All other samples reported nondetect for GRO constituents.

Total xylenes were the only detectable BTEX constituents reported during this investigation. Very low concentrations of total xylenes were reported in 6 of the soil samples with a maximum of 0.004 mg/kg reported in boring SB-6 at a depth of zero to 2 feet bgs.

Chloride was reported at detectable concentrations in all soil samples collected during this investigation, and ranged from 6,520 mg/kg in boring CL-3 at a depth of zero to 2 feet bgs to 9.7 mg/kg in boring SB-7 also at a depth of zero to 2 feet bgs.

Soils encountered during drilling at the site consisted of approximately 4 feet of off-white to cream to light brownish-gray, chalky, calcareous clay underlain by interbedded white to cream to light gray caliche and clay. In SB-7, approximately 2 feet of unconsolidated, light brown, fine-grained sand was encountered at the surface underlain by clay (Appendix A).

## 4.0 CONCLUSIONS

According to the laboratory analysis of soils collected during this investigation, the highest concentrations of petroleum hydrocarbons reported at two locations within the site excavation area were below 1,000 mg/kg. Based on the risk-based ranking criteria presented in the NMOCD *Guidelines for Remediation of Leaks, Spills and Releases* and shown in Table 2, a total ranking score of 10 is applicable for the Site. Therefore the site-specific remediation levels through laboratory analysis are 1,000 mg/kg for TPH, 50 mg/kg for BTEX and 10 mg/kg for benzene. Based on the results presented in Table 2, the impacts to soil within the Sims Battery No. 1 release excavation area are all below the NMOCD action levels.

Chloride concentrations in soils, and their potential for impacting groundwater, were evaluated using the VADSAT model (API, 1995). Based on the VADSAT model, used for calculating the rate of downward chloride migration in the unsaturated zone and evaluating the potential for impacting groundwater, there will be no impact to groundwater beneath the site. Key assumptions for model input were: vadose zone materials are clayey silts and silty clays (even though caliche horizons are present, their inherent impermeability was not included in the modeling run), the net infiltration rate is 0.5 inch per year (this is probably an over estimate [Scanlon, et al., 1997]), and groundwater in the aquifer moves slowly (porosity of 30 percent and gradient of 0.004 foot/foot), simulating conditions of maximum impact.

## 5.0 RECOMMENDATIONS

Based on the findings of this investigation and the NMOCD ranking scores, Maxim recommends no further action is required at this site with the exception of backfilling the open excavation.

If you have any questions concerning this investigation, please contact Clyde Yancey at (505) 237-8440 or Greg Pope at (432) 686-8081.

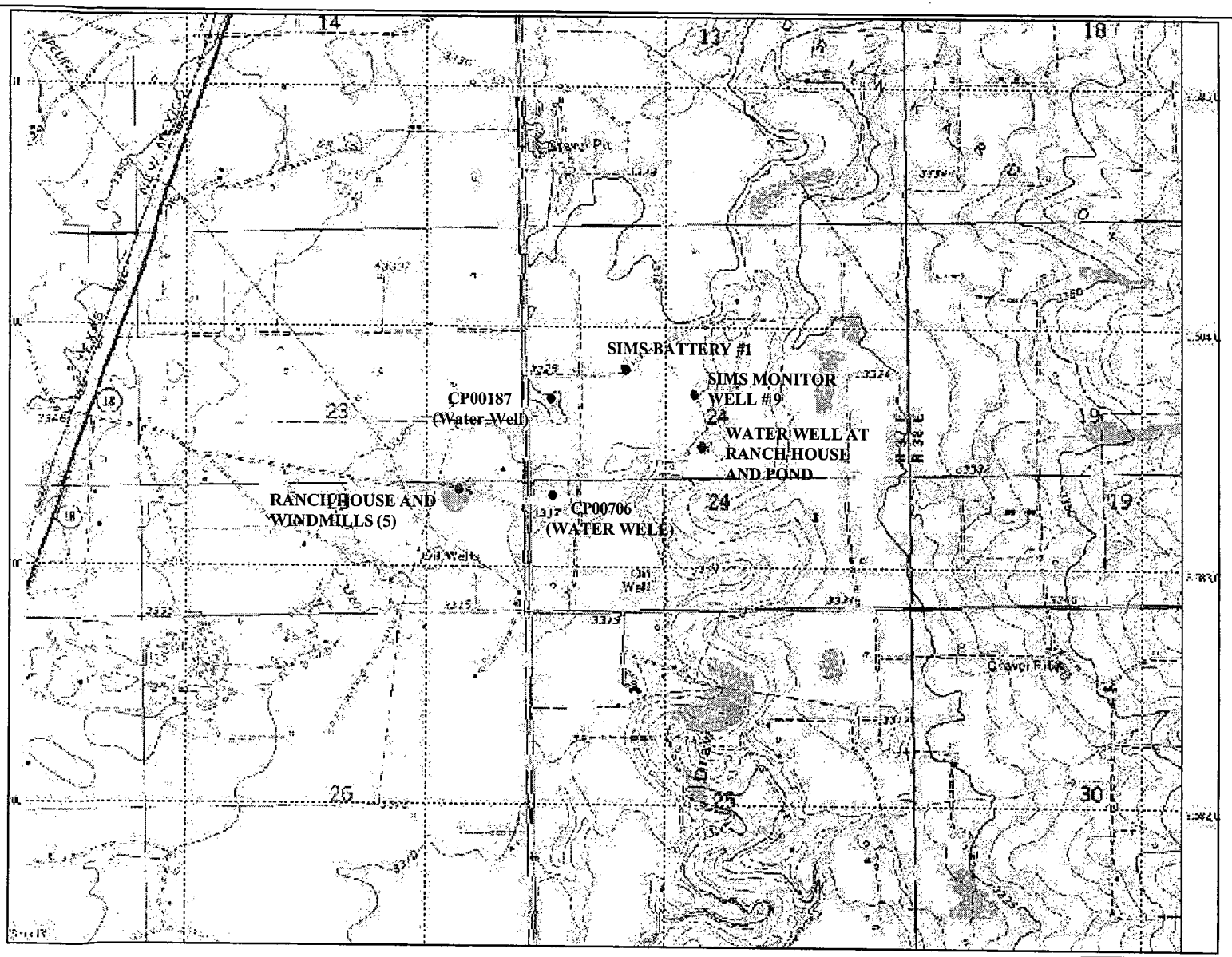
Sincerely,

**MAXIM TECHNOLOGIES, INC.**

Clyde L. Yancey, P.G.
Sr. Project Manager
Sr. Vice President

Enclosures

**FIGURES**




N

SCALE
1" = 2,000 feet

# SITE LOCATION MAP

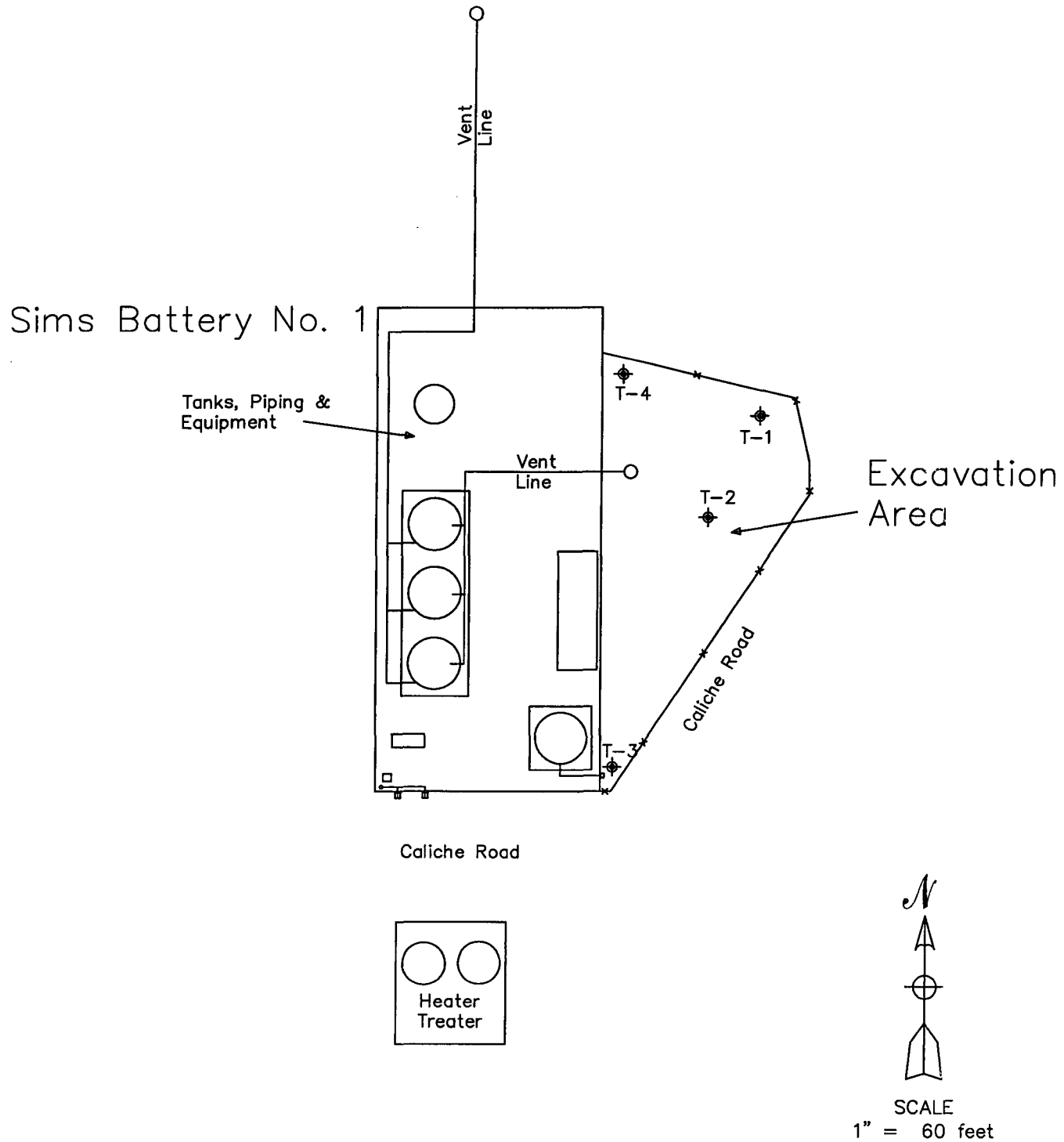
FIGURE 1

ConocoPhillips

MAXIM TECHNOLOGIES, INC

LEA COUNTY,
NEW MEXICO
Sec 24 T22S R37E

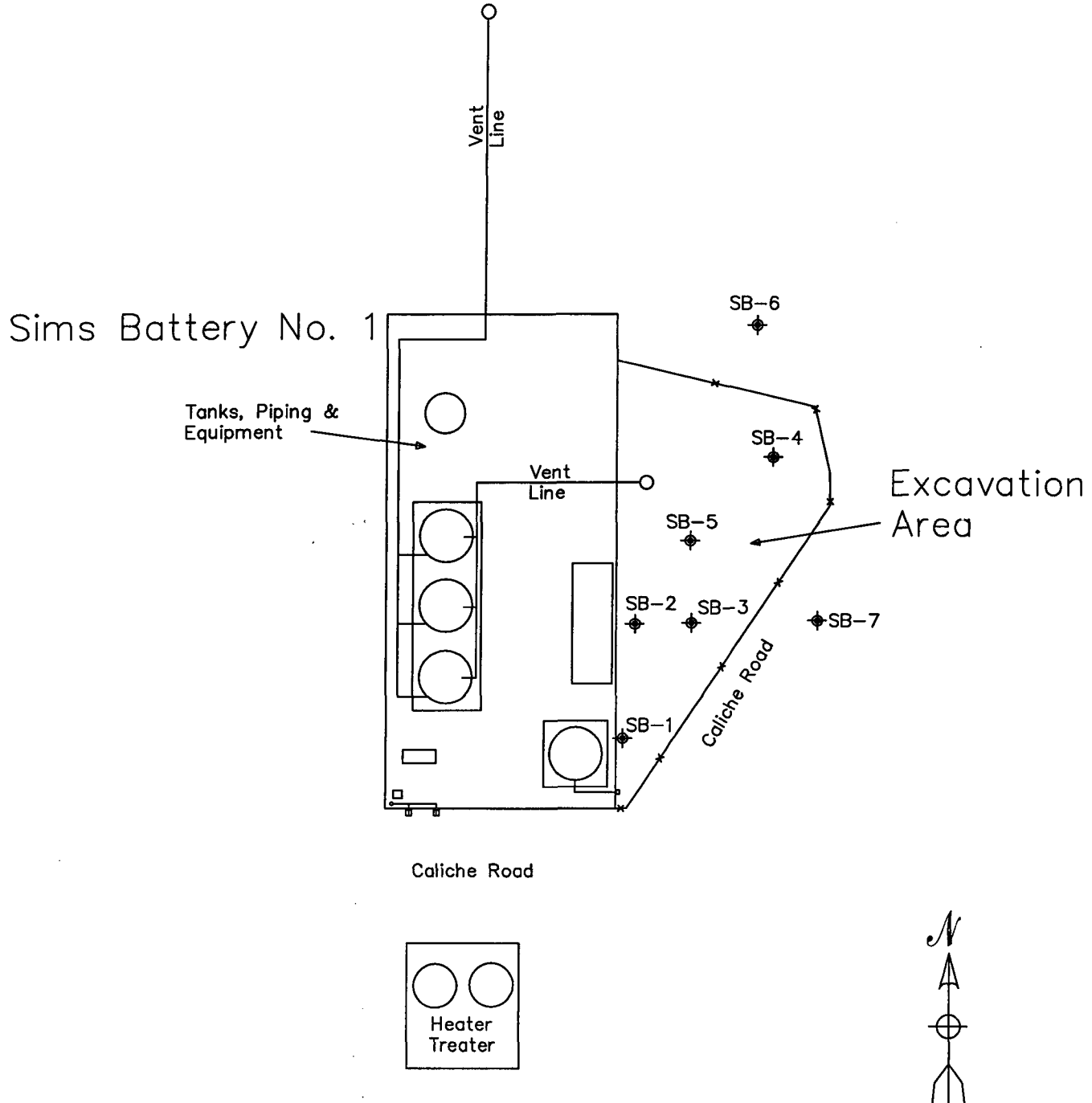
PROJECT NO. 3890085.100
DRAWING BY: RLH
DRAWING DATE: 09/12/2003




LEGEND

T-4 ⊕ Approx. Location of Previous Hand Auger Samples

| | |
|---|---|
| SIMS BATTERY NO. 1– PREVIOUS HAND AUGER SAMPLE LOCATIONS | FIGURE 2 |
| ConocoPhillips | MAXIM TECHNOLOGIES, INC |
| LEA COUNTY, NEW MEXICO Sec 24 T22S R37E | PROJECT NO. 3690085.100<br>DRAWING BY: GWP<br>DRAWING DATE: 09/10/2003 |




LEGEND

SB-6 ⊕ Soil Boring Location

| | |
|---|---|
| SIMS BATTERY NO. 1<br>SAMPLE LOCATIONS AND SITE LAYOUT | FIGURE 3 |
| ConocoPhillips | MAXIM TECHNOLOGIES, INC |
| LEA COUNTY,<br>NEW MEXICO<br>Sec 24 T22S R37E | PROJECT NO. 3690085.100<br>DRAWING BY: GWP<br>DRAWING DATE: 09/10/2003 |

# TABLES

**TABLE 1**
**Summary of Previous Sims Battery #1 Soil Sampling Results**
**Lea County, New Mexico**

| Sample Identification | Sample Date | TPH mg/kg | Chloride mg/kg | Benzene mg/kg | Toluene mg/kg | Ethylbenzene mg/kg | Xylenes mg/kg |
|---|---|---|---|---|---|---|---|
| T1 - 0-6" | 12/13/2000 | 26,300 | 71 | 7.54 | 83.2 | 30.7 | 107.2 |
| T1 - 6-18" | 12/13/2000 | 1,890 | 168 | ND | 0.372 | 0.199 | 0.401 |
| T2 - 0-6" | 12/13/2000 | 8,600 | 53 | 0.13 | 2.57 | 1.12 | 3.92 |
| T2 - 6-18" | 12/13/2000 | 70 | 106 | ND | 0.033 | 0.032 | 0.038 |
| T3 - 0-6" | 12/13/2000 | 1,130 | 740 | ND | 0.032 | 0.032 | 0.032 |
| T3 - 6-18" | 12/13/2000 | 5,520 | 1,356 | ND | ND | ND | ND |
| T4 - 0-6" Background | 12/13/2000 | ND | ND | ND | ND | ND | ND |
| T4 - 6-18" Background | 12/13/2000 | 70 | ND | ND | ND | ND | ND |
| | | | | | | | |
| T1 - 0-6" N | 2/8/2001 | 4,930 | 35 | ND | 3.73 | 3.67 | 15.96 |
| T1 - 6-18" N | 2/8/2001 | 880 | 39 | ND | 0.147 | 0.04 | 0.118 |
| T2 - 0-6" M | 2/8/2001 | ND | 434 | ND | ND | ND | ND |
| T2 - 6-18" M | 2/8/2001 | 40 | 430 | ND | ND | ND | ND |
| T3 - 0-6" S | 2/8/2001 | 1,840 | 2,446 | ND | ND | ND | ND |
| T3 - 6-18" S | 2/8/2001 | 160 | 2,797 | ND | ND | ND | ND |
| T4 - 0-6" NW | 2/8/2001 | ND | 1,436 | ND | ND | ND | ND |
| T4 - 6-18" NW | 2/8/2001 | ND | 1,418 | ND | ND | ND | ND |
| | | | | | | | |
| T1-N - 14" | 2/13/2001 | 760 | 59 | ND | ND | ND | ND |
| T3-S - 27" | 2/13/2001 | ND | 2,099 | ND | ND | ND | ND |
| T3-S - 36" | 2/13/2001 | 40 | 1,903 | ND | ND | ND | ND |
| T4-NW - 29" | 2/13/2001 | 60 | 1,355 | ND | ND | ND | ND |
| T4-NW - 44" | 2/13/2001 | 60 | 885 | ND | ND | ND | ND |
| | | | | | | | |
| T1-North | 2/16/2001 | 1,020 | 64 | ND | ND | ND | 0.026 |
| T2-Middle | 2/16/2001 | 11,800 | 317 | ND | 0.088 | 0.955 | 6.466 |
| T3-South | 2/16/2001 | ND | 461 | ND | 0.637 | 0.121 | ND |
| Background | 2/16/2001 | 140 | 18 | ND | ND | ND | ND |
| | | | | | | | |
| T1-North | 3/15/2002 | 6,600 | 164 | NA | NA | NA | NA |
| T2-Middle | 3/15/2002 | 70.9 | 35 | NA | NA | NA | NA |
| T3-South | 3/15/2002 | 674 | 3,320 | NA | NA | NA | NA |
| T4-NW | 3/15/2002 | 483 | 2,790 | NA | NA | NA | NA |

mg/kg = milligrams per kilogram
NA = not analyzed
ND = not detected at or above laboratory detection limits

**TABLE 2**
**Sims Battery #1 Soil Sampling Results - Sampling Performed August 20, 2003**
**Lea County, New Mexico**

| | SB-1 | SB-1 | SB-2 | SB-2 | SB-3 | SB-3 | SB-4 | SB-4 | SB-5 | SB-5 | SB-5 | SB-6 | SB-6 | SB-7 | SB-7 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0-2' | 4-6' | 0-2' | 4-6' | 0-2' | 4-6' | 0-2' | 4-6' | 0-2' | 4-6' | 10-12' | 0-2' | 4-6' | 0-2' | 4-6' |
| **TPH (mg/kg)** | | | | | | | | | | | | | | | |
| DRO | 11 | ND | 29 | ND | 41 | ND | 210 | 650 | 620 | 27 | ND | ND | ND | 5 | ND |
| GRO | 0.7 | ND | ND | ND | ND | ND | 0.4 | ND | 0.3 | ND | ND | ND | ND | ND | ND |
| | | | | | | | | | | | | | | | |
| **BTEX (mg/kg)** | | | | | | | | | | | | | | | |
| Benzene | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Ethylbenzene | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Toluene | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Xylenes | ND | ND | ND | ND | ND | ND | 0.002 | 0.001 | 0.001 | ND | ND | 0.004 | 0.001 | 0.001 | ND |
| | | | | | | | | | | | | | | | |
| **Cl (mg/kg)** | | | | | | | | | | | | | | | |
| Chloride | 6,520 | 2,130 | 56.5 | 34.4 | 39.7 | 17.1 | 12.6 | 26.3 | 66.3 | 337 | 335 | 10.2 | 175 | 9.7 | 691 |

mg/kg = milligrams per kilogram
ND = not detected at or above laboratory detection limit

NMOCD Cleanup Score = 10 <> <>
Therefore: TPH - 1000 mg/kg
BTEX - 50 mg/kg
Benzene - 10 mg/kg

| | score |
|---|---|
| Depth to Groundwater - 50-99 feet | 10 |
| Wellhead Protection Area, >1000 feet from water source | 0 |
| Distance to Surface Water Body, >1000 feet | 0 |
| Score | 10 |

**APPENDIX A**

**Boring Logs**

PROJECT NAME: 3690085
LOCATION: Sims Battery #1

DRILLED BY: Scarborough Drilling
DATE HOLE DRILLED: 8/20/03
DATE ABANDONED: 8/20/03
REMARKS: bgs = below ground surface
NS=Not Sampled
NA=Not Applicable

SOIL VAPOR BORING NO. SB-1
FIELD LOGGED BY: F. Lichnovsky
GROUNDWATER LEVEL (bgs): Not Encountered (ft)
DRILL TYPE: Air Rotary
BORE HOLE DIAMETER: 5 inches (in)

| DEPTH (bgs) - ft | SAMPLE INTERVAL/ID # | CLASSIFICATION AND DESCRIPTION | USCS SYMBOL | BLOW COUNT | ANALYTICAL | TIME | % RECOVERY | PID RESULT (ppm) | DEPTH (bgs) - ft |
|---|---|---|---|---|---|---|---|---|---|
| 0.0 | | Clay, off white - cream, chalky, dry to slightly moist, some thin calcareous veins | CL | Pushed | X | | | 0 | 0 |
| | | Clay, off white- cream to light brownish-gray, chalky, dry to slightly moist | CL | Pushed | | | | 0 | |
| 5.0 | | Caliche, white to cream with interbedded clay layers | | Dry coring heated sample | X | | | 7.0 | 5 |

Boring Terminated at 6' bgs

| 3690085 | MAXIM TECHNOLOGIES INC® | EXPLORATORY BORING LOG | SB-1 |
|---|---|---|---|

PROJECT NAME: 3690085
LOCATION: Sims Battery #1
DRILLED BY: Scarborough Drilling
DATE HOLE DRILLED: 8/20/03
DATE ABANDONED: 8/20/03
REMARKS: bgs = below ground surface
NS=Not Sampled
NA=Not Applicable

SOIL VAPOR BORING NO. SB-2
FIELD LOGGED BY: F. Lichnovsky
GROUNDWATER LEVEL (bgs): Not Encountered (ft)
DRILL TYPE: Air Rotary
BORE HOLE DIAMETER: 5 inches (in)

| DEPTH (bgs) - ft | SAMPLE INTERVAL/ID # | CLASSIFICATION AND DESCRIPTION | USCS SYMBOL | BLOW COUNT | ANALYTICAL | TIME | % RECOVERY | PID RESULT (ppm) | DEPTH (bgs) - ft |
|---|---|---|---|---|---|---|---|---|---|
| 0.0 | | Clay, off white- cream, chalky, dry to slightly moist, some thin calcareous veins | CL | Pushed | X | | | 0 | 0 |
| | | Clay, off white- cream to light brownish-gray, chalky, dry to slightly moist | CL | Pushed | | | | 0 | |
| 5.0 | | Caliche, white to cream with interbedded clay layers | | Drilled | X | | | 0 | 5 |

Boring Terminated at 6' bgs

| 3690085 | MAXIM TECHNOLOGIES INC® | EXPLORATORY BORING LOG | SB-2 |
|---|---|---|---|

PROJECT NAME: 3690085
LOCATION: Sims Battery #1
DRILLED BY: Scarborough Drilling
DATE HOLE DRILLED: 8/20/03
DATE ABANDONED: 8/20/03
REMARKS: bgs = below ground surface
NS=Not Sampled
NA=Not Applicable

SOIL VAPOR BORING NO. SB-3
FIELD LOGGED BY: F. Lichnovsky
GROUNDWATER LEVEL (bgs): Not Encountered (ft)
DRILL TYPE: Air Rotary
BORE HOLE DIAMETER: 5 inches (in)

| DEPTH (bgs) - ft | SAMPLE INTERVAL/ID # | CLASSIFICATION AND DESCRIPTION | USCS SYMBOL | BLOW COUNT | ANALYTICAL | TIME | % RECOVERY | PID RESULT (ppm) | DEPTH (bgs) - ft |
|---|---|---|---|---|---|---|---|---|---|
| 0.0 | | Clay, off white- cream, chalky, dry to slightly moist, some thin calcareous veins | CL | Pushed | X | | | 0 | 0 |
| | | Clay, off white- cream, to light brownish-gray, some caliche nodules, chalky, dry to slightly moist | CL | Pushed | | | | 0 | |
| 5.0 | | Caliche, white to cream with interbedded clay layers | | Drilled | X | | | 0 | 5 |

Boring Terminated at 6' bgs

| 3690085 | MAXIM TECHNOLOGIES INC® | EXPLORATORY BORING LOG | SB-3 |
|---|---|---|---|

PROJECT NAME: 3690085
LOCATION: Sims Battery #1
DRILLED BY: Scarborough Drilling
DATE HOLE DRILLED: 8/20/03
DATE ABANDONED: 8/20/03
REMARKS: bgs = below ground surface
NS=Not Sampled
NA=Not Applicable

SOIL VAPOR BORING NO. SB-4
FIELD LOGGED BY: F. Lichnovsky
GROUNDWATER LEVEL (bgs): Not Encountered (ft)
DRILL TYPE: Air Rotary
BORE HOLE DIAMETER: 5 inches (in)

| DEPTH (bgs) - ft | SAMPLE INTERVAL/ID # | CLASSIFICATION AND DESCRIPTION | USCS SYMBOL | BLOW COUNT | ANALYTICAL | TIME | % RECOVERY | PID RESULT (ppm) | DEPTH (bgs) - ft |
|---|---|---|---|---|---|---|---|---|---|
| 0.0 | | Clay, off white- cream, chalky, dry to slightly moist, some thin calcareous veins | CL | Pushed | X | | | 0 | 0 |
| | | Clay, off white- cream to light brownish-gray, chalky, dry to slightly moist | CL | Pushed | | | | 0 | |
| 5.0 | | Caliche, white to cream with interbedded clay layers | | Drilled | X | | | 1.3 | 5 |

Boring Terminated at 6' bgs

| 3690085 | MAXIM TECHNOLOGIES INC | EXPLORATORY BORING LOG | SB-4 |
|---|---|---|---|

PROJECT NAME: 3690085
LOCATION: Sims Battery #1
DRILLED BY: Scarborough Drilling
DATE HOLE DRILLED: 8/20/03
DATE ABANDONED: 8/20/03
REMARKS: bgs = below ground surface
NS=Not Sampled
NA=Not Applicable

SOIL VAPOR BORING NO. SB-5
FIELD LOGGED BY: F. Lichnovsky
GROUNDWATER LEVEL (bgs): Not Encountered (ft)
DRILL TYPE: Air Rotary
BORE HOLE DIAMETER: 5 inches (in)

| DEPTH (bgs) - ft | SAMPLE INTERVAL/ID # | CLASSIFICATION AND DESCRIPTION | USCS SYMBOL | BLOW COUNT | ANALYTICAL | TIME | % RECOVERY | PID RESULT (ppm) | DEPTH (bgs) - ft |
|---|---|---|---|---|---|---|---|---|---|
| 0.0 | | Clay, off white- cream, chalky, dry to slightly moist, some thin calcareous veins | CL | Pushed | X | | | 0 | 0 |
| | | Clay, off white- cream to light brownish-gray, chalky, dry to slightly moist | CL | Pushed | | | | 0 | |
| 5.0 | | Caliche, white to cream to light tan with interbedded clay layers | | Pushed | X | | | 0 | 5 |
| | | Clay and caliche, cream to off white to light tan, firm, dry | CL | Pushed | | | | 0 | |
| 10.0 | | Clay, off white to cream, firm, chalky, slightly moist | CL | Pushed | X | | | 0 | 10 |

Boring Terminated at 12' bgs

| 3690085 | MAXIM TECHNOLOGIES INC® | EXPLORATORY BORING LOG | SB-5 |
|---|---|---|---|

PROJECT NAME: 3690085
LOCATION: Sims Battery #1
DRILLED BY: Scarborough Drilling
DATE HOLE DRILLED: 8/20/03
DATE ABANDONED: 8/20/03
REMARKS: bgs = below ground surface
NS=Not Sampled
NA=Not Applicable

SOIL VAPOR BORING NO. SB-6
FIELD LOGGED BY: F. Lichnovsky
GROUNDWATER LEVEL (bgs): Not Encountered (ft)
DRILL TYPE: Air Rotary
BORE HOLE DIAMETER: 5 inches (in)

| DEPTH (bgs) - ft | SAMPLE INTERVAL/ID # | CLASSIFICATION AND DESCRIPTION | USCS SYMBOL | BLOW COUNT | ANALYTICAL | TIME | % RECOVERY | PID RESULT (ppm) | DEPTH (bgs) - ft |
|---|---|---|---|---|---|---|---|---|---|
| 0.0 | | Sand, light brown, fine grained, unconsolidated, dry | CL | Pushed | X | | | 0 | 0 |
| | | Clay, off white- cream to light brownish-gray, chalky, dry to slightly moist | CL | Pushed | | | | 0 | |
| 5.0 | | Clay, off white- cream, chalky, caliche nodules, slightly moist | | Pushed | X | | | 0 | 5 |

Boring Terminated at 6' bgs

| 3690085 | MAXIM TECHNOLOGIES INC | EXPLORATORY BORING LOG | SB-6 |
|---|---|---|---|

PROJECT NAME: 3690085
LOCATION: Sims Battery #1

DRILLED BY: Scarborough Drilling
DATE HOLE DRILLED: 8/20/03
DATE ABANDONED: 8/20/03
REMARKS: bgs = below ground surface
NS=Not Sampled
NA=Not Applicable

SOIL VAPOR BORING NO. SB-7
FIELD LOGGED BY: F. Lichnovsky
GROUNDWATER LEVEL (bgs): Not Encountered (ft)
DRILL TYPE: Air Rotary
BORE HOLE DIAMETER: 5 inches (in)

| DEPTH (bgs) - ft | SAMPLE INTERVAL/ID # | CLASSIFICATION AND DESCRIPTION | USCS SYMBOL | BLOW COUNT | ANALYTICAL | TIME | % RECOVERY | PID RESULT (ppm) | DEPTH (bgs) - ft |
|---|---|---|---|---|---|---|---|---|---|
| 0.0 | | Sand, light brown, fine grained, unconsolidated, dry | CL | Pushed | X | | | 0 | 0 |
| | | Clay, off white- cream to light brownish-gray, chalky, dry to slightly moist | CL | Pushed | | | | 0 | |
| 5.0 | | Clay, off white- cream, chalky, caliche nodules, slightly moist | | Pushed | X | | | 0 | 5 |

Boring Terminated at 6' bgs

| 3690085 | MAXIM TECHNOLOGIES INC. | EXPLORATORY BORING LOG | SB-7 |
|---|---|---|---|

# APPENDIX B

## Laboratory Analytical Report

Lancaster Laboratories

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# Analysis Report

ANALYTICAL RESULTS

Prepared for:

ConocoPhillips
P.O. Box 2197; 5027 TN

Houston TX 77252
832-379-6415

Prepared by:

Lancaster Laboratories
2425 New Holland Pike
Lancaster, PA 17605-2425

## SAMPLE GROUP

The sample group for this submittal is 864207. Samples arrived at the laboratory on Friday, August 22, 2003. The PO# for this group is 3690085 and the release number is NEAL GOATES.

| Client Description | Lancaster Labs Number |
|---|---|
| SB-1 0-2' Grab Soil Sample | 4107337 |
| SB-1 4-6' Grab Soil Sample | 4107338 |
| SB-2 0-2' Grab Soil Sample | 4107339 |
| SB-2 4-6' Grab Soil Sample | 4107340 |
| SB-3 0-2' Grab Soil Sample | 4107341 |
| SB-3 4-6' Grab Soil Sample | 4107342 |
| SB-4 0-2' Grab Soil Sample | 4107343 |
| SB-4 4-6' Grab Soil Sample | 4107344 |
| SB-5 0-2' Grab Soil Sample | 4107345 |
| SB-5 10-12' Grab Soil Sample | 4107346 |
| SB-6 0-2' Grab Soil Sample | 4107347 |
| SB-6 4-6' Grab Soil Sample | 4107348 |
| SB-7 0-2' Grab Soil Sample | 4107349 |
| SB-7 4-6' Grab Soil Sample | 4107350 |
| SB-5 4-6' Grab Soil Sample | 4107351 |
| Trip Blank Water Sample | 4107352 |

| | | |
|---|---|---|
| 1 COPY TO | Maxim Technologies | Attn: Clyde Yancey |
| ELECTRONIC COPY TO | Maxim Technologies, Inc | Attn: Charles Durrett |

Lancaster Laboratories

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# Analysis Report

Questions? Contact your Client Services Representative
Danette S Blystone at (717) 656-2300.

Respectfully Submitted,

Lancaster Laboratories

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# Analysis Report



**Lancaster Laboratories Sample No. SW 4107337**

Collected: 08/20/2003 09:40 by FL

Account Number: 11288

Submitted: 08/22/2003 09:30
Reported: 08/27/2003 at 16:43
Discard: 09/27/2003
SB-1 0-2' Grab Soil Sample
Site# 3708
Sims #1 Battery

ConocoPhillips
P.O. Box 2197; 5027 TN

Houston TX 77252

SB102

| CAT No. | Analysis Name | CAS Number | Dry Result | Dry Method Detection Limit | Units | Dilution Factor |
|---|---|---|---|---|---|---|
| 08270 | TPH-DRO by 8015B | n.a. | 11. | 4.5 | mg/kg | 1 |
| | According to the SW-846 8015B method, the quantitation for Diesel Range Organics was performed by peak area comparison of the sample pattern to that of our #2 Fuel Oil reference standard (between C10 and C28 normal hydrocarbons). Site-specific MS/MSD samples were not submitted for the project. A LCS/LCSD was performed to demonstrate precision and accuracy at a batch level. | | | | | |
| 02111 | Moisture | n.a. | 11.4 | 1.0 | % | 1 |
| | "Moisture" represents the loss in weight of the sample after drying with an infrared lamp at 150 degrees Celsius. | | | | | |
| 07333 | Chloride by IC (solid) | 16887-00-6 | 6,520. | 3.4 | mg/kg | 200 |
| | Matrix QC was performed on this sample for the Chloride analysis. Please see the attached QC Summary report for the parameter showing a matrix bias. | | | | | |
| 01637 | TPH-GRO 8015B - soil | | | | | |
| 01641 | TPH-GRO 8015B - soil | n.a. | 0.7 | 0.2 | mg/kg | 25 |
| | The analysis for volatiles was performed on a sample which was preserved in methanol. The reporting limits were adjusted appropriately. This sample was submitted with headspace. | | | | | |
| 02304 | UST-Unleaded Soils by 8260B | | | | | |
| 05460 | Benzene | 71-43-2 | N.D. | 1. | ug/kg | 0.99 |
| 05466 | Toluene | 108-88-3 | N.D. | 1. | ug/kg | 0.99 |
| 05474 | Ethylbenzene | 100-41-4 | N.D. | 1. | ug/kg | 0.99 |
| 06301 | Xylene (Total) | 1330-20-7 | N.D. | 1. | ug/kg | 0.99 |

## Laboratory Chronicle

| CAT No. | Analysis Name | Method | Trial# | Analysis Date and Time | Analyst | Dilution Factor |
|---|---|---|---|---|---|---|
| 08270 | TPH-DRO by 8015B | SW-846 8015B | 1 | 08/25/2003 14:08 | Tracy A Cole | 1 |
| 02111 | Moisture | EPA 160.3 modified | 1 | 08/25/2003 12:58 | Nancy J Shoop | 1 |
| 07333 | Chloride by IC (solid) | EPA 300.0 | 1 | 08/27/2003 09:47 | Shannon L Phillips | 200 |
| 01637 | TPH-GRO 8015B - soil | SW-846 8015B - modified | 1 | 08/25/2003 12:53 | Stephanie A Selis | 25 |
| 02304 | UST-Unleaded Soils by 8260B | SW-846 8260B | 1 | 08/22/2003 14:32 | Roy R Mellott Jr | 0.99 |
| 00374 | GC/MS VOA Soil Prep | SW-846 5030A | 1 | 08/22/2003 14:14 | Roy R Mellott Jr | n.a. |
| 01150 | GC VOA Soil Prep | SW-846 5035 | 1 | 08/25/2003 09:45 | Steven A Skiles | n.a. |

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# Analysis Report



**Lancaster Laboratories Sample No. SW 4107337**

Collected:08/20/2003 09:40 by FL

Account Number: 11288

Submitted: 08/22/2003 09:30
Reported: 08/27/2003 at 16:43
Discard: 09/27/2003
SB-1 0-2' Grab Soil Sample
Site# 3708
Sims #1 Battery

ConocoPhillips
P.O. Box 2197; 5027 TN

Houston TX 77252

SB102

| | | | | | | |
|---|---|---|---|---|---|---|
| 01352 | Deionized Water Extraction | EPA 300.0 | 1 | 08/25/2003 13:30 | Cheryl L Robinson | 1 |
| 07004 | Extraction - DRO (Soils) | SW-846 3550B | 1 | 08/24/2003 22:50 | Karen L Beyer | 1 |

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# Analysis Report



**Lancaster Laboratories Sample No. SW 4107338**

Collected: 08/20/2003 09:55 by FL

Account Number: 11288

Submitted: 08/22/2003 09:30
Reported: 08/27/2003 at 16:43
Discard: 09/27/2003
SB-1 4-6' Grab Soil Sample
Site# 3708
Sims #1 Battery

ConocoPhillips
P.O. Box 2197; 5027 TN

Houston TX 77252

SB146

| CAT No. | Analysis Name | CAS Number | Dry Result | Dry Method Detection Limit | Units | Dilution Factor |
|---|---|---|---|---|---|---|
| 08270 | TPH-DRO by 8015B | n.a. | N.D. | 4.3 | mg/kg | 1 |
| | According to the SW-846 8015B method, the quantitation for Diesel Range Organics was performed by peak area comparison of the sample pattern to that of our #2 Fuel Oil reference standard (between C10 and C28 normal hydrocarbons). Site-specific MS/MSD samples were not submitted for the project. A LCS/LCSD was performed to demonstrate precision and accuracy at a batch level. | | | | | |
| 02111 | Moisture | n.a. | 7.6 | 1.0 | % | 1 |
| | "Moisture" represents the loss in weight of the sample after drying with an infrared lamp at 150 degrees Celsius. | | | | | |
| 07333 | Chloride by IC (solid) | 16887-00-6 | 2,130. | 325. | mg/kg | 100 |
| 01637 | TPH-GRO 8015B - soil | | | | | |
| 01641 | TPH-GRO 8015B - soil | n.a. | N.D. | 0.2 | mg/kg | 25 |
| | The analysis for volatiles was performed on a sample which was preserved in methanol. The reporting limits were adjusted appropriately. | | | | | |
| 02304 | UST-Unleaded Soils by 8260B | | | | | |
| 05460 | Benzene | 71-43-2 | N.D. | 1. | ug/kg | 1.01 |
| 05466 | Toluene | 108-88-3 | N.D. | 1. | ug/kg | 1.01 |
| 05474 | Ethylbenzene | 100-41-4 | N.D. | 1. | ug/kg | 1.01 |
| 06301 | Xylene (Total) | 1330-20-7 | N.D. | 1. | ug/kg | 1.01 |

## Laboratory Chronicle

| CAT No. | Analysis Name | Method | Trial# | Analysis Date and Time | Analyst | Dilution Factor |
|---|---|---|---|---|---|---|
| 08270 | TPH-DRO by 8015B | SW-846 8015B | 1 | 08/25/2003 11:55 | Tracy A Cole | 1 |
| 02111 | Moisture | EPA 160.3 modified | 1 | 08/25/2003 13:10 | Nancy J Shoop | 1 |
| 07333 | Chloride by IC (solid) | EPA 300.0 | 1 | 08/27/2003 10:28 | Shannon L Phillips | 100 |
| 01637 | TPH-GRO 8015B - soil | SW-846 8015B - modified | 1 | 08/22/2003 16:58 | Steven A Skiles | 25 |
| 02304 | UST-Unleaded Soils by 8260B | SW-846 8260B | 1 | 08/22/2003 15:50 | Roy R Mellott Jr | 1.01 |
| 00374 | GC/MS VOA Soil Prep | SW-846 5030A | 1 | 08/22/2003 15:32 | Roy R Mellott Jr | n.a. |
| 01150 | GC VOA Soil Prep | SW-846 5035 | 1 | 08/22/2003 13:05 | Steven A Skiles | n.a. |
| 01352 | Deionized Water Extraction | EPA 300.0 | 1 | 08/25/2003 13:30 | Cheryl L Robinson | 1 |
| 07004 | Extraction - DRO (Soils) | SW-846 3550B | 1 | 08/24/2003 22:50 | Karen L Beyer | 1 |

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# Analysis Report



**Lancaster Laboratories Sample No. SW 4107339**

Collected: 08/20/2003 10:30 by FL

Submitted: 08/22/2003 09:30
Reported: 08/27/2003 at 16:43
Discard: 09/27/2003
SB-2 0-2' Grab Soil Sample
Site# 3708
Sims #1 Battery

Account Number: 11288

ConocoPhillips
P.O. Box 2197; 5027 TN

Houston TX 77252

SB202

| CAT No. | Analysis Name | CAS Number | Dry Result | Dry Method Detection Limit | Units | Dilution Factor |
|---|---|---|---|---|---|---|
| 08270 | TPH-DRO by 8015B | n.a. | 29. | 4.5 | mg/kg | 1 |
| | According to the SW-846 8015B method, the quantitation for Diesel Range Organics was performed by peak area comparison of the sample pattern to that of our #2 Fuel Oil reference standard (between C10 and C28 normal hydrocarbons). Site-specific MS/MSD samples were not submitted for the project. A LCS/LCSD was performed to demonstrate precision and accuracy at a batch level. | | | | | |
| 02111 | Moisture | n.a. | 10.5 | 1.0 | % | 1 |
| | "Moisture" represents the loss in weight of the sample after drying with an infrared lamp at 150 degrees Celsius. | | | | | |
| 07333 | Chloride by IC (solid) | 16887-00-6 | 56.5 | 6.7 | mg/kg | 2 |
| 01637 | TPH-GRO 8015B - soil | | | | | |
| 01641 | TPH-GRO 8015B - soil | n.a. | N.D. | 0.2 | mg/kg | 25 |
| | The analysis for volatiles was performed on a sample which was preserved in methanol. The reporting limits were adjusted appropriately. | | | | | |
| 02304 | UST-Unleaded Soils by 8260B | | | | | |
| 05460 | Benzene | 71-43-2 | N.D. | 1. | ug/kg | 1 |
| 05466 | Toluene | 108-88-3 | N.D. | 1. | ug/kg | 1 |
| 05474 | Ethylbenzene | 100-41-4 | N.D. | 1. | ug/kg | 1 |
| 06301 | Xylene (Total) | 1330-20-7 | N.D. | 1. | ug/kg | 1 |

## Laboratory Chronicle

| CAT No. | Analysis Name | Method | Trial# | Analysis Date and Time | Analyst | Dilution Factor |
|---|---|---|---|---|---|---|
| 08270 | TPH-DRO by 8015B | SW-846 8015B | 1 | 08/25/2003 15:59 | Tracy A Cole | 1 |
| 02111 | Moisture | EPA 160.3 modified | 1 | 08/25/2003 13:44 | Nancy J Shoop | 1 |
| 07333 | Chloride by IC (solid) | EPA 300.0 | 1 | 08/26/2003 15:03 | Shannon L Phillips | 2 |
| 01637 | TPH-GRO 8015B - soil | SW-846 8015B - modified | 1 | 08/22/2003 15:04 | Steven A Skiles | 25 |
| 02304 | UST-Unleaded Soils by 8260B | SW-846 8260B | 1 | 08/24/2003 19:24 | Susan McMahon-Luu | 1 |
| 00374 | GC/MS VOA Soil Prep | SW-846 5030A | 1 | 08/24/2003 13:31 | Susan McMahon-Luu | n.a. |
| 01150 | GC VOA Soil Prep | SW-846 5035 | 1 | 08/22/2003 13:05 | Steven A Skiles | n.a. |
| 01352 | Deionized Water Extraction | EPA 300.0 | 1 | 08/25/2003 13:30 | Cheryl L Robinson | 1 |
| 07004 | Extraction - DRO (Soils) | SW-846 3550B | 1 | 08/24/2003 22:50 | Karen L Beyer | 1 |

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# Analysis Report



**Lancaster Laboratories Sample No. SW 4107340**

Collected:08/20/2003 11:30 by FL

Account Number: 11288

Submitted: 08/22/2003 09:30
Reported: 08/27/2003 at 16:43
Discard: 09/27/2003
SB-2 4-6' Grab Soil Sample
Site# 3708
Sims #1 Battery

ConocoPhillips
P.O. Box 2197; 5027 TN

Houston TX 77252

SB46-

| CAT No. | Analysis Name | CAS Number | Dry Result | Dry Method Detection Limit | Units | Dilution Factor |
|---|---|---|---|---|---|---|
| 08270 | TPH-DRO by 8015B | n.a. | N.D. | 4.7 | mg/kg | 1 |
| | According to the SW-846 8015B method, the quantitation for Diesel Range Organics was performed by peak area comparison of the sample pattern to that of our #2 Fuel Oil reference standard (between C10 and C28 normal hydrocarbons). Site-specific MS/MSD samples were not submitted for the project. A LCS/LCSD was performed to demonstrate precision and accuracy at a batch level. | | | | | |
| 02111 | Moisture | n.a. | 14.4 | 1.0 | % | 1 |
| | "Moisture" represents the loss in weight of the sample after drying with an infrared lamp at 150 degrees Celsius. | | | | | |
| 07333 | Chloride by IC (solid) | 16887-00-6 | 34.4 | 3.5 | mg/kg | 1 |
| 01637 | TPH-GRO 8015B - soil | | | | | |
| 01641 | TPH-GRO 8015B - soil | n.a. | N.D. | 0.2 | mg/kg | 25 |
| | The analysis for volatiles was performed on a sample which was preserved in methanol. The reporting limits were adjusted appropriately. | | | | | |
| 02304 | UST-Unleaded Soils by 8260B | | | | | |
| 05460 | Benzene | 71-43-2 | N.D. | 1. | ug/kg | 1 |
| 05466 | Toluene | 108-88-3 | N.D. | 1. | ug/kg | 1 |
| 05474 | Ethylbenzene | 100-41-4 | N.D. | 1. | ug/kg | 1 |
| 06301 | Xylene (Total) | 1330-20-7 | N.D. | 1. | ug/kg | 1 |

## Laboratory Chronicle

| CAT No. | Analysis Name | Method | Trial# | Analysis Date and Time | Analyst | Dilution Factor |
|---|---|---|---|---|---|---|
| 08270 | TPH-DRO by 8015B | SW-846 8015B | 1 | 08/25/2003 12:17 | Tracy A Cole | 1 |
| 02111 | Moisture | EPA 160.3 modified | 1 | 08/25/2003 13:57 | Nancy J Shoop | 1 |
| 07333 | Chloride by IC (solid) | EPA 300.0 | 1 | 08/26/2003 15:17 | Shannon L Phillips | 1 |
| 01637 | TPH-GRO 8015B - soil | SW-846 8015B - modified | 1 | 08/22/2003 17:36 | Steven A Skiles | 25 |
| 02304 | UST-Unleaded Soils by 8260B | SW-846 8260B | 1 | 08/24/2003 19:50 | Susan McMahon-Luu | 1 |
| 00374 | GC/MS VOA Soil Prep | SW-846 5030A | 1 | 08/24/2003 13:32 | Susan McMahon-Luu | n.a. |
| 01150 | GC VOA Soil Prep | SW-846 5035 | 1 | 08/22/2003 13:06 | Steven A Skiles | n.a. |
| 01352 | Deionized Water Extraction | EPA 300.0 | 1 | 08/25/2003 13:30 | Cheryl L Robinson | 1 |
| 07004 | Extraction - DRO (Soils) | SW-846 3550B | 1 | 08/24/2003 22:50 | Karen L Beyer | 1 |

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# Analysis Report



**Lancaster Laboratories Sample No. SW 4107341**

Collected:08/20/2003 12:00 by FL

Account Number: 11288

Submitted: 08/22/2003 09:30
Reported: 08/27/2003 at 16:44
Discard: 09/27/2003
SB-3 0-2' Grab Soil Sample
Site# 3708
Sims #1 Battery

ConocoPhillips
P.O. Box 2197; 5027 TN

Houston TX 77252

SB302

| CAT No. | Analysis Name | CAS Number | Dry Result | Dry Method Detection Limit | Units | Dilution Factor |
|---|---|---|---|---|---|---|
| 08270 | TPH-DRO by 8015B | n.a. | 41. | 4.6 | mg/kg | 1 |
| | According to the SW-846 8015B method, the quantitation for Diesel Range Organics was performed by peak area comparison of the sample pattern to that of our #2 Fuel Oil reference standard (between C10 and C28 normal hydrocarbons). Site-specific MS/MSD samples were not submitted for the project. A LCS/LCSD was performed to demonstrate precision and accuracy at a batch level. | | | | | |
| 02111 | Moisture | n.a. | 13.1 | 1.0 | % | 1 |
| | "Moisture" represents the loss in weight of the sample after drying with an infrared lamp at 150 degrees Celsius. | | | | | |
| 07333 | Chloride by IC (solid) | 16887-00-6 | 39.7 | 17.3 | mg/kg | 5 |
| 01637 | TPH-GRO 8015B - soil | | | | | |
| 01641 | TPH-GRO 8015B - soil | n.a. | N.D. | 0.9 | mg/kg | 100 |
| | The analysis for volatiles was performed on a sample which was preserved in methanol. The reporting limits were adjusted appropriately. Poor surrogate recoveries were observed for this sample due to the dilution needed to perform the analysis. Due to excessive foaming of the sample, normal reporting limits were not attained. | | | | | |
| 02304 | UST-Unleaded Soils by 8260B | | | | | |
| 05460 | Benzene | 71-43-2 | N.D. | 1. | ug/kg | 1 |
| 05466 | Toluene | 108-88-3 | N.D. | 1. | ug/kg | 1 |
| 05474 | Ethylbenzene | 100-41-4 | N.D. | 1. | ug/kg | 1 |
| 06301 | Xylene (Total) | 1330-20-7 | N.D. | 1. | ug/kg | 1 |

## Laboratory Chronicle

| CAT No. | Analysis Name | Method | Trial# | Analysis Date and Time | Analyst | Dilution Factor |
|---|---|---|---|---|---|---|
| 08270 | TPH-DRO by 8015B | SW-846 8015B | 1 | 08/25/2003 16:21 | Tracy A Cole | 1 |
| 02111 | Moisture | EPA 160.3 modified | 1 | 08/25/2003 14:14 | Nancy J Shoop | 1 |
| 07333 | Chloride by IC (solid) | EPA 300.0 | 1 | 08/26/2003 15:30 | Shannon L Phillips | 5 |
| 01637 | TPH-GRO 8015B - soil | SW-846 8015B - modified | 1 | 08/23/2003 01:46 | Steven A Skiles | 100 |
| 02304 | UST-Unleaded Soils by 8260B | SW-846 8260B | 1 | 08/24/2003 20:16 | Susan McMahon-Luu | 1 |

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# Analysis Report



**Lancaster Laboratories Sample No. SW 4107341**

Collected:08/20/2003 12:00 by FL

Account Number: 11288

Submitted: 08/22/2003 09:30
Reported: 08/27/2003 at 16:44
Discard: 09/27/2003
SB-3 0-2' Grab Soil Sample
Site# 3708
Sims #1 Battery

ConocoPhillips
P.O. Box 2197; 5027 TN

Houston TX 77252

SB302

| | | | | | | |
|---|---|---|---|---|---|---|
| 00374 | GC/MS VOA Soil Prep | SW-846 5030A | 1 | 08/24/2003 13:35 | Susan McMahon-Lou | n.a. |
| 01150 | GC VOA Soil Prep | SW-846 5035 | 1 | 08/22/2003 13:07 | Steven A Skiles | n.a. |
| 01352 | Deionized Water Extraction | EPA 300.0 | 1 | 08/25/2003 13:30 | Cheryl L Robinson | 1 |
| 07004 | Extraction - DRO (Soils) | SW-846 3550B | 1 | 08/24/2003 22:50 | Karen L Beyer | 1 |

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# Analysis Report



**Lancaster Laboratories Sample No. SW 4107342**

Collected:08/20/2003 12:30 by FL

Account Number: 11288

Submitted: 08/22/2003 09:30
Reported: 08/27/2003 at 16:44
Discard: 09/27/2003
SB-3 4-6' Grab Soil Sample
Site# 3708
Sims #1 Battery

ConocoPhillips
P.O. Box 2197; 5027 TN

Houston TX 77252

SB346

| CAT No. | Analysis Name | CAS Number | Dry Result | Dry Method Detection Limit | Units | Dilution Factor |
|---|---|---|---|---|---|---|
| 08270 | TPH-DRO by 8015B | n.a. | N.D. | 4.7 | mg/kg | 1 |
| | According to the SW-846 8015B method, the quantitation for Diesel Range Organics was performed by peak area comparison of the sample pattern to that of our #2 Fuel Oil reference standard (between C10 and C28 normal hydrocarbons). Site-specific MS/MSD samples were not submitted for the project. A LCS/LCSD was performed to demonstrate precision and accuracy at a batch level. | | | | | |
| 02111 | Moisture | n.a. | 15.0 | 1.0 | % | 1 |
| | "Moisture" represents the loss in weight of the sample after drying with an infrared lamp at 150 degrees Celsius. | | | | | |
| 07333 | Chloride by IC (solid) | 16887-00-6 | 17.1 | 3.5 | mg/kg | 1 |
| 01637 | TPH-GRO 8015B - soil | | | | | |
| 01641 | TPH-GRO 8015B - soil | n.a. | N.D. | 0.2 | mg/kg | 25 |
| | The analysis for volatiles was performed on a sample which was preserved in methanol. The reporting limits were adjusted appropriately. | | | | | |
| 02304 | UST-Unleaded Soils by 8260B | | | | | |
| 05460 | Benzene | 71-43-2 | N.D. | 1. | ug/kg | 1 |
| 05466 | Toluene | 108-88-3 | N.D. | 1. | ug/kg | 1 |
| 05474 | Ethylbenzene | 100-41-4 | N.D. | 1. | ug/kg | 1 |
| 06301 | Xylene (Total) | 1330-20-7 | N.D. | 1. | ug/kg | 1 |

## Laboratory Chronicle

| CAT No. | Analysis Name | Method | Trial# | Analysis Date and Time | Analyst | Dilution Factor |
|---|---|---|---|---|---|---|
| 08270 | TPH-DRO by 8015B | SW-846 8015B | 1 | 08/25/2003 12:39 | Tracy A Cole | 1 |
| 02111 | Moisture | EPA 160.3 modified | 1 | 08/25/2003 14:34 | Nancy J Shoop | 1 |
| 07333 | Chloride by IC (solid) | EPA 300.0 | 1 | 08/26/2003 15:44 | Shannon L Phillips | 1 |
| 01637 | TPH-GRO 8015B - soil | SW-846 8015B - modified | 1 | 08/22/2003 18:13 | Steven A Skiles | 25 |
| 02304 | UST-Unleaded Soils by 8260B | SW-846 8260B | 1 | 08/24/2003 20:42 | Susan McMahon-Luu | 1 |
| 00374 | GC/MS VOA Soil Prep | SW-846 5030A | 1 | 08/24/2003 13:37 | Susan McMahon-Luu | n.a. |
| 01150 | GC VOA Soil Prep | SW-846 5035 | 1 | 08/22/2003 13:07 | Steven A Skiles | n.a. |
| 01352 | Deionized Water Extraction | EPA 300.0 | 1 | 08/25/2003 13:30 | Cheryl L Robinson | 1 |
| 07004 | Extraction - DRO (Soils) | SW-846 3550B | 1 | 08/24/2003 22:50 | Karen L Beyer | 1 |

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# Analysis Report



**Lancaster Laboratories Sample No. SW 4107343**

Collected:08/20/2003 14:15 by FL

Account Number: 11288

Submitted: 08/22/2003 09:30
Reported: 08/27/2003 at 16:44
Discard: 09/27/2003
SB-4 0-2' Grab Soil Sample
Site# 3708
Sims #1 Battery

ConocoPhillips
P.O. Box 2197; 5027 TN

Houston TX 77252

SB402

| CAT No. | Analysis Name | CAS Number | Dry Result | Dry Method Detection Limit | Units | Dilution Factor |
|---|---|---|---|---|---|---|
| 08270 | TPH-DRO by 8015B | n.a. | 210. | 4.3 | mg/kg | 1 |
| | According to the SW-846 8015B method, the quantitation for Diesel Range Organics was performed by peak area comparison of the sample pattern to that of our #2 Fuel Oil reference standard (between C10 and C28 normal hydrocarbons). Site-specific MS/MSD samples were not submitted for the project. A LCS/LCSD was performed to demonstrate precision and accuracy at a batch level. | | | | | |
| 02111 | Moisture | n.a. | 6.7 | 1.0 | % | 1 |
| | "Moisture" represents the loss in weight of the sample after drying with an infrared lamp at 150 degrees Celsius. | | | | | |
| 07333 | Chloride by IC (solid) | 16887-00-6 | 12.6 | 3.2 | mg/kg | 1 |
| 01637 | TPH-GRO 8015B - soil | | | | | |
| 01641 | TPH-GRO 8015B - soil | n.a. | 0.4 | 0.2 | mg/kg | 25 |
| | The analysis for volatiles was performed on a sample which was preserved in methanol. The reporting limits were adjusted appropriately. | | | | | |
| 02304 | UST-Unleaded Soils by 8260B | | | | | |
| 05460 | Benzene | 71-43-2 | N.D. | 1. | ug/kg | 1 |
| 05466 | Toluene | 108-88-3 | N.D. | 1. | ug/kg | 1 |
| 05474 | Ethylbenzene | 100-41-4 | N.D. | 1. | ug/kg | 1 |
| 06301 | Xylene (Total) | 1330-20-7 | 2. | 1. | ug/kg | 1 |

## Laboratory Chronicle

| CAT No. | Analysis Name | Method | Trial# | Analysis Date and Time | Analyst | Dilution Factor |
|---|---|---|---|---|---|---|
| 08270 | TPH-DRO by 8015B | SW-846 8015B | 1 | 08/25/2003 17:05 | Tracy A Cole | 1 |
| 02111 | Moisture | EPA 160.3 modified | 1 | 08/25/2003 14:51 | Nancy J Shoop | 1 |
| 07333 | Chloride by IC (solid) | EPA 300.0 | 1 | 08/26/2003 16:25 | Shannon L Phillips | 1 |
| 01637 | TPH-GRO 8015B - soil | SW-846 8015B - modified | 1 | 08/25/2003 12:10 | Stephanie A Selis | 25 |
| 02304 | UST-Unleaded Soils by 8260B | SW-846 8260B | 1 | 08/24/2003 21:08 | Susan McMahon-Luu | 1 |
| 00374 | GC/MS VOA Soil Prep | SW-846 5030A | 1 | 08/24/2003 14:07 | Susan McMahon-Luu | n.a. |
| 01150 | GC VOA Soil Prep | SW-846 5035 | 1 | 08/22/2003 13:07 | Steven A Skiles | n.a. |
| 01352 | Deionized Water Extraction | EPA 300.0 | 1 | 08/25/2003 13:30 | Cheryl L Robinson | 1 |
| 07004 | Extraction - DRO (Soils) | SW-846 3550B | 1 | 08/24/2003 22:50 | Karen L Beyer | 1 |

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# Analysis Report



**Lancaster Laboratories Sample No. SW 4107344**

Collected:08/20/2003 14:25 by FL

Account Number: 11288

Submitted: 08/22/2003 09:30
Reported: 08/27/2003 at 16:44
Discard: 09/27/2003
SB-4 4-6' Grab Soil Sample
Site# 3708
Sims #1 Battery

ConocoPhillips
P.O. Box 2197; 5027 TN

Houston TX 77252

SB446

| CAT No. | Analysis Name | CAS Number | Dry Result | Dry Method Detection Limit | Units | Dilution Factor |
|---|---|---|---|---|---|---|
| 08270 | TPH-DRO by 8015B | n.a. | 650. | 43. | mg/kg | 10 |
| | According to the SW-846 8015B method, the quantitation for Diesel Range Organics was performed by peak area comparison of the sample pattern to that of our #2 Fuel Oil reference standard (between C10 and C28 normal hydrocarbons). Site-specific MS/MSD samples were not submitted for the project. A LCS/LCSD was performed to demonstrate precision and accuracy at a batch level. | | | | | |
| 02111 | Moisture | n.a. | 8.0 | 1.0 | % | 1 |
| | "Moisture" represents the loss in weight of the sample after drying with an infrared lamp at 150 degrees Celsius. | | | | | |
| 07333 | Chloride by IC (solid) | 16887-00-6 | 26.3 | 3.3 | mg/kg | 1 |
| 01637 | TPH-GRO 8015B - soil | | | | | |
| 01641 | TPH-GRO 8015B - soil | n.a. | N.D. | 0.2 | mg/kg | 25 |
| | The analysis for volatiles was performed on a sample which was preserved in methanol. The reporting limits were adjusted appropriately. | | | | | |
| 02304 | UST-Unleaded Soils by 8260B | | | | | |
| 05460 | Benzene | 71-43-2 | N.D. | 1. | ug/kg | 0.99 |
| 05466 | Toluene | 108-88-3 | N.D. | 1. | ug/kg | 0.99 |
| 05474 | Ethylbenzene | 100-41-4 | N.D. | 1. | ug/kg | 0.99 |
| 06301 | Xylene (Total) | 1330-20-7 | 1. | 1. | ug/kg | 0.99 |

## Laboratory Chronicle

| CAT No. | Analysis Name | Method | Trial# | Analysis Date and Time | Analyst | Dilution Factor |
|---|---|---|---|---|---|---|
| 08270 | TPH-DRO by 8015B | SW-846 8015B | 1 | 08/26/2003 08:50 | Tracy A Cole | 10 |
| 02111 | Moisture | EPA 160.3 modified | 1 | 08/25/2003 15:01 | Nancy J Shoop | 1 |
| 07333 | Chloride by IC (solid) | EPA 300.0 | 1 | 08/26/2003 16:39 | Shannon L Phillips | 1 |
| 01637 | TPH-GRO 8015B - soil | SW-846 8015B - modified | 1 | 08/25/2003 15:08 | Stephanie A Selis | 25 |
| 02304 | UST-Unleaded Soils by 8260B | SW-846 8260B | 1 | 08/24/2003 21:34 | Susan McMahon-Luu | 0.99 |
| 00374 | GC/MS VOA Soil Prep | SW-846 5030A | 1 | 08/24/2003 14:08 | Susan McMahon-Luu | n.a. |
| 01150 | GC VOA Soil Prep | SW-846 5035 | 1 | 08/22/2003 13:08 | Steven A Skiles | n.a. |
| 01352 | Deionized Water Extraction | EPA 300.0 | 1 | 08/25/2003 13:30 | Cheryl L Robinson | 1 |
| 07004 | Extraction - DRO (Soils) | SW-846 3550B | 1 | 08/24/2003 22:50 | Karen L Beyer | 1 |

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# Analysis Report



**Lancaster Laboratories Sample No. SW 4107345**

Collected: 08/20/2003 14:35 by FL

Account Number: 11288

Submitted: 08/22/2003 09:30
Reported: 08/27/2003 at 16:44
Discard: 09/27/2003
SB-5 0-2' Grab Soil Sample
Site# 3708
Sims #1 Battery

ConocoPhillips
P.O. Box 2197; 5027 TN

Houston TX 77252

SB502

| CAT No. | Analysis Name | CAS Number | Dry Result | Dry Method Detection Limit | Units | Dilution Factor |
|---|---|---|---|---|---|---|
| 08270 | TPH-DRO by 8015B | n.a. | 620. | 44. | mg/kg | 10 |
| | According to the SW-846 8015B method, the quantitation for Diesel Range Organics was performed by peak area comparison of the sample pattern to that of our #2 Fuel Oil reference standard (between C10 and C28 normal hydrocarbons). Site-specific MS/MSD samples were not submitted for the project. A LCS/LCSD was performed to demonstrate precision and accuracy at a batch level. | | | | | |
| 02111 | Moisture | n.a. | 8.1 | 1.0 | % | 1 |
| | "Moisture" represents the loss in weight of the sample after drying with an infrared lamp at 150 degrees Celsius. | | | | | |
| 07333 | Chloride by IC (solid) | 16887-00-6 | 66.3 | 6.5 | mg/kg | 2 |
| 01637 | TPH-GRO 8015B - soil | | | | | |
| 01641 | TPH-GRO 8015B - soil | n.a. | 0.3 | 0.2 | mg/kg | 25 |
| | The analysis for volatiles was performed on a sample which was preserved in methanol. The reporting limits were adjusted appropriately. | | | | | |
| 02304 | UST-Unleaded Soils by 8260B | | | | | |
| 05460 | Benzene | 71-43-2 | N.D. | 1. | ug/kg | 0.99 |
| 05466 | Toluene | 108-88-3 | N.D. | 1. | ug/kg | 0.99 |
| 05474 | Ethylbenzene | 100-41-4 | N.D. | 1. | ug/kg | 0.99 |
| 06301 | Xylene (Total) | 1330-20-7 | 1. | 1. | ug/kg | 0.99 |

## Laboratory Chronicle

| CAT No. | Analysis Name | Method | Trial# | Analysis Date and Time | Analyst | Dilution Factor |
|---|---|---|---|---|---|---|
| 08270 | TPH-DRO by 8015B | SW-846 8015B | 1 | 08/26/2003 09:34 | Tracy A Cole | 10 |
| 02111 | Moisture | EPA 160.3 modified | 1 | 08/25/2003 15:24 | Nancy J Shoop | 1 |
| 07333 | Chloride by IC (solid) | EPA 300.0 | 1 | 08/27/2003 10:42 | Shannon L Phillips | 2 |
| 01637 | TPH-GRO 8015B - soil | SW-846 8015B - modified | 1 | 08/25/2003 09:40 | Stephanie A Selis | 25 |
| 02304 | UST-Unleaded Soils by 8260B | SW-846 8260B | 1 | 08/24/2003 22:00 | Susan McMahon-Luu | 0.99 |
| 00374 | GC/MS VOA Soil Prep | SW-846 5030A | 1 | 08/24/2003 14:10 | Susan McMahon-Luu | n.a. |
| 01150 | GC VOA Soil Prep | SW-846 5035 | 1 | 08/22/2003 13:09 | Steven A Skiles | n.a. |
| 01352 | Deionized Water Extraction | EPA 300.0 | 1 | 08/25/2003 13:30 | Cheryl L Robinson | 1 |
| 07004 | Extraction - DRO (Soils) | SW-846 3550B | 1 | 08/24/2003 22:50 | Karen L Beyer | 1 |

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# Analysis Report



**Lancaster Laboratories Sample No. SW 4107346**

Collected:08/20/2003 15:10 by FL

Account Number: 11288

Submitted: 08/22/2003 09:30
Reported: 08/27/2003 at 16:44
Discard: 09/27/2003
SB-5 10-12' Grab Soil Sample
Site# 3708
Sims #1 Battery

ConocoPhillips
P.O. Box 2197; 5027 TN

Houston TX 77252

SB510

| CAT No. | Analysis Name | CAS Number | Dry Result | Dry Method Detection Limit | Units | Dilution Factor |
|---|---|---|---|---|---|---|
| 08270 | TPH-DRO by 8015B | n.a. | N.D. | 4.6 | mg/kg | 1 |
| | According to the SW-846 8015B method, the quantitation for Diesel Range Organics was performed by peak area comparison of the sample pattern to that of our #2 Fuel Oil reference standard (between C10 and C28 normal hydrocarbons). Site-specific MS/MSD samples were not submitted for the project. A LCS/LCSD was performed to demonstrate precision and accuracy at a batch level. | | | | | |
| 02111 | Moisture | n.a. | 13.3 | 1.0 | % | 1 |
| | "Moisture" represents the loss in weight of the sample after drying with an infrared lamp at 150 degrees Celsius. | | | | | |
| 07333 | Chloride by IC (solid) | 16887-00-6 | 335. | 34.6 | mg/kg | 10 |
| 01637 | TPH-GRO 8015B - soil | | | | | |
| 01641 | TPH-GRO 8015B - soil | n.a. | N.D. | 0.2 | mg/kg | 25 |
| | The analysis for volatiles was performed on a sample which was preserved in methanol. The reporting limits were adjusted appropriately. | | | | | |
| 02304 | UST-Unleaded Soils by 8260B | | | | | |
| 05460 | Benzene | 71-43-2 | N.D. | 1. | ug/kg | 1 |
| 05466 | Toluene | 108-88-3 | N.D. | 1. | ug/kg | 1 |
| 05474 | Ethylbenzene | 100-41-4 | N.D. | 1. | ug/kg | 1 |
| 06301 | Xylene (Total) | 1330-20-7 | N.D. | 1. | ug/kg | 1 |

## Laboratory Chronicle

| CAT No. | Analysis Name | Method | Trial# | Analysis Date and Time | Analyst | Dilution Factor |
|---|---|---|---|---|---|---|
| 08270 | TPH-DRO by 8015B | SW-846 8015B | 1 | 08/25/2003 13:01 | Tracy A Cole | 1 |
| 02111 | Moisture | EPA 160.3 modified | 1 | 08/25/2003 15:45 | Nancy J Shoop | 1 |
| 07333 | Chloride by IC (solid) | EPA 300.0 | 1 | 08/27/2003 10:56 | Shannon L Phillips | 10 |
| 01637 | TPH-GRO 8015B - soil | SW-846 8015B - modified | 1 | 08/22/2003 18:51 | Steven A Skiles | 25 |
| 02304 | UST-Unleaded Soils by 8260B | SW-846 8260B | 1 | 08/24/2003 22:26 | Susan McMahon-Luu | 1 |
| 00374 | GC/MS VOA Soil Prep | SW-846 5030A | 1 | 08/24/2003 14:11 | Susan McMahon-Luu | n.a. |
| 01150 | GC VOA Soil Prep | SW-846 5035 | 1 | 08/22/2003 13:09 | Steven A Skiles | n.a. |
| 01352 | Deionized Water Extraction | EPA 300.0 | 1 | 08/25/2003 13:30 | Cheryl L Robinson | 1 |
| 07004 | Extraction - DRO (Soils) | SW-846 3550B | 1 | 08/24/2003 22:50 | Karen L Beyer | 1 |

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# Analysis Report



**Lancaster Laboratories Sample No. SW 4107347**

Collected: 08/20/2003 15:25 by FL

Submitted: 08/22/2003 09:30
Reported: 08/27/2003 at 16:44
Discard: 09/27/2003
SB-6 0-2' Grab Soil Sample
Site# 3708
Sims #1 Battery

SB602

Account Number: 11288

ConocoPhillips
P.O. Box 2197; 5027 TN

Houston TX 77252

| CAT No. | Analysis Name | CAS Number | Dry Result | Dry Method Detection Limit | Units | Dilution Factor |
|---|---|---|---|---|---|---|
| 08270 | TPH-DRO by 8015B | n.a. | N.D. | 4.2 | mg/kg | 1 |
| | According to the SW-846 8015B method, the quantitation for Diesel Range Organics was performed by peak area comparison of the sample pattern to that of our #2 Fuel Oil reference standard (between C10 and C28 normal hydrocarbons). Site-specific MS/MSD samples were not submitted for the project. A LCS/LCSD was performed to demonstrate precision and accuracy at a batch level. | | | | | |
| 02111 | Moisture | n.a. | 4.4 | 1.0 | % | 1 |
| | "Moisture" represents the loss in weight of the sample after drying with an infrared lamp at 150 degrees Celsius. | | | | | |
| 07333 | Chloride by IC (solid) | 16887-00-6 | 10.2 | 3.1 | mg/kg | 1 |
| 01637 | TPH-GRO 8015B - soil | | | | | |
| 01641 | TPH-GRO 8015B - soil | n.a. | N.D. | 0.2 | mg/kg | 25 |
| | The analysis for volatiles was performed on a sample which was preserved in methanol. The reporting limits were adjusted appropriately. | | | | | |
| 02304 | UST-Unleaded Soils by 8260B | | | | | |
| 05460 | Benzene | 71-43-2 | N.D. | 1. | ug/kg | 1 |
| 05466 | Toluene | 108-88-3 | N.D. | 1. | ug/kg | 1 |
| 05474 | Ethylbenzene | 100-41-4 | N.D. | 1. | ug/kg | 1 |
| 06301 | Xylene (Total) | 1330-20-7 | 4. | 1. | ug/kg | 1 |

## Laboratory Chronicle

| CAT No. | Analysis Name | Method | Trial# | Analysis Date and Time | Analyst | Dilution Factor |
|---|---|---|---|---|---|---|
| 08270 | TPH-DRO by 8015B | SW-846 8015B | 1 | 08/25/2003 15:15 | Tracy A Cole | 1 |
| 02111 | Moisture | EPA 160.3 modified | 1 | 08/25/2003 15:58 | Nancy J Shoop | 1 |
| 07333 | Chloride by IC (solid) | EPA 300.0 | 1 | 08/26/2003 17:20 | Shannon L Phillips | 1 |
| 01637 | TPH-GRO 8015B - soil | SW-846 8015B - modified | 1 | 08/22/2003 19:29 | Steven A Skiles | 25 |
| 02304 | UST-Unleaded Soils by 8260B | SW-846 8260B | 1 | 08/24/2003 22:52 | Susan McMahon-Luu | 1 |
| 00374 | GC/MS VOA Soil Prep | SW-846 5030A | 1 | 08/24/2003 14:12 | Susan McMahon-Luu | n.a. |
| 01150 | GC VOA Soil Prep | SW-846 5035 | 1 | 08/22/2003 13:10 | Steven A Skiles | n.a. |
| 01352 | Deionized Water Extraction | EPA 300.0 | 1 | 08/25/2003 13:30 | Cheryl L Robinson | 1 |
| 07004 | Extraction - DRO (Soils) | SW-846 3550B | 1 | 08/24/2003 22:50 | Karen L Beyer | 1 |

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# Analysis Report



**Lancaster Laboratories Sample No. SW 4107348**

Collected:08/20/2003 15:45 by FL

Account Number: 11288

Submitted: 08/22/2003 09:30
Reported: 08/27/2003 at 16:44
Discard: 09/27/2003
SB-6 4-6' Grab Soil Sample
Site# 3708
Sims #1 Battery

ConocoPhillips
P.O. Box 2197; 5027 TN

Houston TX 77252

SB646

| CAT No. | Analysis Name | CAS Number | Dry Result | Dry Method Detection Limit | Units | Dilution Factor |
|---|---|---|---|---|---|---|
| 08270 | TPH-DRO by 8015B | n.a. | N.D. | 4.3 | mg/kg | 1 |
| | According to the SW-846 8015B method, the quantitation for Diesel Range Organics was performed by peak area comparison of the sample pattern to that of our #2 Fuel Oil reference standard (between C10 and C28 normal hydrocarbons). Site-specific MS/MSD samples were not submitted for the project. A LCS/LCSD was performed to demonstrate precision and accuracy at a batch level. | | | | | |
| 02111 | Moisture | n.a. | 7.4 | 1.0 | % | 1 |
| | "Moisture" represents the loss in weight of the sample after drying with an infrared lamp at 150 degrees Celsius. | | | | | |
| 07333 | Chloride by IC (solid) | 16887-00-6 | 175. | 16.2 | mg/kg | 5 |
| 01637 | TPH-GRO 8015B - soil | | | | | |
| 01641 | TPH-GRO 8015B - soil | n.a. | N.D. | 0.2 | mg/kg | 25 |
| | The analysis for volatiles was performed on a sample which was preserved in methanol. The reporting limits were adjusted appropriately. | | | | | |
| 02304 | UST-Unleaded Soils by 8260B | | | | | |
| 05460 | Benzene | 71-43-2 | N.D. | 1. | ug/kg | 1 |
| 05466 | Toluene | 108-88-3 | N.D. | 1. | ug/kg | 1 |
| 05474 | Ethylbenzene | 100-41-4 | N.D. | 1. | ug/kg | 1 |
| 06301 | Xylene (Total) | 1330-20-7 | 1. | 1. | ug/kg | 1 |

## Laboratory Chronicle

| CAT No. | Analysis Name | Method | Trial# | Analysis Date and Time | Analyst | Dilution Factor |
|---|---|---|---|---|---|---|
| 08270 | TPH-DRO by 8015B | SW-846 8015B | 1 | 08/25/2003 13:24 | Tracy A Cole | 1 |
| 02111 | Moisture | EPA 160.3 modified | 1 | 08/25/2003 16:17 | Nancy J Shoop | 1 |
| 07333 | Chloride by IC (solid) | EPA 300.0 | 1 | 08/27/2003 11:10 | Shannon L Phillips | 5 |
| 01637 | TPH-GRO 8015B - soil | SW-846 8015B - modified | 1 | 08/22/2003 20:07 | Steven A Skiles | 25 |
| 02304 | UST-Unleaded Soils by 8260B | SW-846 8260B | 1 | 08/24/2003 23:18 | Susan McMahon-Luu | 1 |
| 00374 | GC/MS VOA Soil Prep | SW-846 5030A | 1 | 08/24/2003 14:14 | Susan McMahon-Luu | n.a. |
| 01150 | GC VOA Soil Prep | SW-846 5035 | 1 | 08/22/2003 13:11 | Steven A Skiles | n.a. |
| 01352 | Deionized Water Extraction | EPA 300.0 | 1 | 08/25/2003 13:30 | Cheryl L Robinson | 1 |
| 07004 | Extraction - DRO (Soils) | SW-846 3550B | 1 | 08/24/2003 22:50 | Karen L Beyer | 1 |

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# Analysis Report



**Lancaster Laboratories Sample No. SW 4107349**

Collected:08/20/2003 16:00 by FL

Account Number: 11288

Submitted: 08/22/2003 09:30
Reported: 08/27/2003 at 16:44
Discard: 09/27/2003
SB-7 0-2' Grab Soil Sample
Site# 3708
Sims #1 Battery

ConocoPhillips
P.O. Box 2197; 5027 TN

Houston TX 77252

SB702

| CAT No. | Analysis Name | CAS Number | Dry Result | Dry Method Detection Limit | Units | Dilution Factor |
|---|---|---|---|---|---|---|
| 08270 | TPH-DRO by 8015B | n.a. | 5.0 | 4.2 | mg/kg | 1 |
| | According to the SW-846 8015B method, the quantitation for Diesel Range Organics was performed by peak area comparison of the sample pattern to that of our #2 Fuel Oil reference standard (between C10 and C28 normal hydrocarbons). Site-specific MS/MSD samples were not submitted for the project. A LCS/LCSD was performed to demonstrate precision and accuracy at a batch level. | | | | | |
| 02111 | Moisture | n.a. | 3.8 | 1.0 | % | 1 |
| | "Moisture" represents the loss in weight of the sample after drying with an infrared lamp at 150 degrees Celsius. | | | | | |
| 07333 | Chloride by IC (solid) | 16887-00-6 | 9.7 | 3.1 | mg/kg | 1 |
| 01637 | TPH-GRO 8015B - soil | | | | | |
| 01641 | TPH-GRO 8015B - soil | n.a. | N.D. | 0.2 | mg/kg | 25 |
| | The analysis for volatiles was performed on a sample which was preserved in methanol. The reporting limits were adjusted appropriately. | | | | | |
| 02304 | UST-Unleaded Soils by 8260B | | | | | |
| 05460 | Benzene | 71-43-2 | N.D. | 1. | ug/kg | 1 |
| 05466 | Toluene | 108-88-3 | N.D. | 1. | ug/kg | 1 |
| 05474 | Ethylbenzene | 100-41-4 | N.D. | 1. | ug/kg | 1 |
| 06301 | Xylene (Total) | 1330-20-7 | 1. | 1. | ug/kg | 1 |

## Laboratory Chronicle

| CAT No. | Analysis Name | Method | Trial# | Analysis Date and Time | Analyst | Dilution Factor |
|---|---|---|---|---|---|---|
| 08270 | TPH-DRO by 8015B | SW-846 8015B | 1 | 08/25/2003 15:37 | Tracy A Cole | 1 |
| 02111 | Moisture | EPA 160.3 modified | 1 | 08/25/2003 16:26 | Nancy J Shoop | 1 |
| 07333 | Chloride by IC (solid) | EPA 300.0 | 1 | 08/26/2003 18:16 | Shannon L Phillips | 1 |
| 01637 | TPH-GRO 8015B - soil | SW-846 8015B - modified | 1 | 08/22/2003 20:44 | Steven A Skiles | 25 |
| 02304 | UST-Unleaded Soils by 8260B | SW-846 8260B | 1 | 08/24/2003 23:44 | Susan McMahon-Luu | 1 |
| 00374 | GC/MS VOA Soil Prep | SW-846 5030A | 1 | 08/24/2003 14:44 | Susan McMahon-Luu | n.a. |
| 01150 | GC VOA Soil Prep | SW-846 5035 | 1 | 08/22/2003 13:11 | Steven A Skiles | n.a. |
| 01352 | Deionized Water Extraction | EPA 300.0 | 1 | 08/25/2003 13:30 | Cheryl L Robinson | 1 |
| 07004 | Extraction - DRO (Soils) | SW-846 3550B | 1 | 08/24/2003 22:50 | Karen L Beyer | 1 |

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# Analysis Report



**Lancaster Laboratories Sample No. SW 4107350**

Collected:08/20/2003 16:20 by FL

Account Number: 11288

Submitted: 08/22/2003 09:30
Reported: 08/27/2003 at 16:44
Discard: 09/27/2003
SB-7 4-6' Grab Soil Sample
Site# 3708
Sims #1 Battery

ConocoPhillips
P.O. Box 2197; 5027 TN

Houston TX 77252

SB746

| CAT No. | Analysis Name | CAS Number | Dry Result | Dry Method Detection Limit | Units | Dilution Factor |
|---|---|---|---|---|---|---|
| 08270 | TPH-DRO by 8015B | n.a. | N.D. | 4.5 | mg/kg | 1 |
| | According to the SW-846 8015B method, the quantitation for Diesel Range Organics was performed by peak area comparison of the sample pattern to that of our #2 Fuel Oil reference standard (between C10 and C28 normal hydrocarbons). Site-specific MS/MSD samples were not submitted for the project. A LCS/LCSD was performed to demonstrate precision and accuracy at a batch level. | | | | | |
| 02111 | Moisture | n.a. | 11.3 | 1.0 | % | 1 |
| | "Moisture" represents the loss in weight of the sample after drying with an infrared lamp at 150 degrees Celsius. | | | | | |
| 07333 | Chloride by IC (solid) | 16887-00-6 | 691. | 67.6 | mg/kg | 20 |
| 01637 | TPH-GRO 8015B - soil | | | | | |
| 01641 | TPH-GRO 8015B - soil | n.a. | N.D. | 0.2 | mg/kg | 25 |
| | The analysis for volatiles was performed on a sample which was preserved in methanol. The reporting limits were adjusted appropriately. | | | | | |
| 02304 | UST-Unleaded Soils by 8260B | | | | | |
| 05460 | Benzene | 71-43-2 | N.D. | 1. | ug/kg | 1 |
| 05466 | Toluene | 108-88-3 | N.D. | 1. | ug/kg | 1 |
| 05474 | Ethylbenzene | 100-41-4 | N.D. | 1. | ug/kg | 1 |
| 06301 | Xylene (Total) | 1330-20-7 | N.D. | 1. | ug/kg | 1 |

## Laboratory Chronicle

| CAT No. | Analysis Name | Method | Trial# | Analysis Date and Time | Analyst | Dilution Factor |
|---|---|---|---|---|---|---|
| 08270 | TPH-DRO by 8015B | SW-846 8015B | 1 | 08/25/2003 13:46 | Tracy A Cole | 1 |
| 02111 | Moisture | EPA 160.3 modified | 1 | 08/25/2003 16:32 | Nancy J Shoop | 1 |
| 07333 | Chloride by IC (solid) | EPA 300.0 | 1 | 08/27/2003 11:23 | Shannon L Phillips | 20 |
| 01637 | TPH-GRO 8015B - soil | SW-846 8015B - modified | 1 | 08/22/2003 22:38 | Steven A Skiles | 25 |
| 02304 | UST-Unleaded Soils by 8260B | SW-846 8260B | 1 | 08/25/2003 00:10 | Susan McMahon-Luu | 1 |
| 00374 | GC/MS VOA Soil Prep | SW-846 5030A | 1 | 08/25/2003 14:46 | Susan McMahon-Luu | n.a. |
| 01150 | GC VOA Soil Prep | SW-846 5035 | 1 | 08/22/2003 13:12 | Steven A Skiles | n.a. |
| 01352 | Deionized Water Extraction | EPA 300.0 | 1 | 08/25/2003 13:30 | Cheryl L Robinson | 1 |
| 07004 | Extraction - DRO (Soils) | SW-846 3550B | 1 | 08/24/2003 22:50 | Karen L Beyer | 1 |

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# Analysis Report



**Lancaster Laboratories Sample No. SW 4107351**

Collected:08/20/2003 14:45 by FL

Account Number: 11288

Submitted: 08/22/2003 09:30
Reported: 08/27/2003 at 16:45
Discard: 09/27/2003
SB-5 4-6' Grab Soil Sample
Site# 3708
Sims #1 Battery

ConocoPhillips
P.O. Box 2197; 5027 TN

Houston TX 77252

SB546

| CAT No. | Analysis Name | CAS Number | Dry Result | Dry Method Detection Limit | Units | Dilution Factor |
|---|---|---|---|---|---|---|
| 08270 | TPH-DRO by 8015B | n.a. | 27. | 4.5 | mg/kg | 1 |
| | According to the SW-846 8015B method, the quantitation for Diesel Range Organics was performed by peak area comparison of the sample pattern to that of our #2 Fuel Oil reference standard (between C10 and C28 normal hydrocarbons). Site-specific MS/MSD samples were not submitted for the project. A LCS/LCSD was performed to demonstrate precision and accuracy at a batch level. | | | | | |
| 02111 | Moisture | n.a. | 10.4 | 1.0 | % | 1 |
| | "Moisture" represents the loss in weight of the sample after drying with an infrared lamp at 150 degrees Celsius. | | | | | |
| 07333 | Chloride by IC (solid) | 16887-00-6 | 337. | 33.5 | mg/kg | 10 |
| 01637 | TPH-GRO 8015B - soil | | | | | |
| 01641 | TPH-GRO 8015B - soil | n.a. | N.D. | 0.9 | mg/kg | 100 |
| | The analysis for volatiles was performed on a sample which was preserved in methanol. The reporting limits were adjusted appropriately. Poor surrogate recoveries were observed for this sample due to the dilution needed to perform the analysis. Due to excessive foaming of the sample, normal reporting limits were not attained. | | | | | |
| 02304 | UST-Unleaded Soils by 8260B | | | | | |
| 05460 | Benzene | 71-43-2 | N.D. | 1. | ug/kg | 0.99 |
| 05466 | Toluene | 108-88-3 | N.D. | 1. | ug/kg | 0.99 |
| 05474 | Ethylbenzene | 100-41-4 | N.D. | 1. | ug/kg | 0.99 |
| 06301 | Xylene (Total) | 1330-20-7 | N.D. | 1. | ug/kg | 0.99 |

## Laboratory Chronicle

| CAT No. | Analysis Name | Method | Trial# | Analysis Date and Time | Analyst | Dilution Factor |
|---|---|---|---|---|---|---|
| 08270 | TPH-DRO by 8015B | SW-846 8015B | 1 | 08/25/2003 16:43 | Tracy A Cole | 1 |
| 02111 | Moisture | EPA 160.3 modified | 1 | 08/25/2003 16:42 | Nancy J Shoop | 1 |
| 07333 | Chloride by IC (solid) | EPA 300.0 | 1 | 08/27/2003 11:37 | Shannon L Phillips | 10 |
| 01637 | TPH-GRO 8015B - soil | SW-846 8015B - modified | 1 | 08/22/2003 23:15 | Steven A Skiles | 100 |
| 02304 | UST-Unleaded Soils by 8260B | SW-846 8260B | 1 | 08/25/2003 00:36 | Susan McMahon-Luu | 0.99 |

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# Analysis Report



**Lancaster Laboratories Sample No. SW 4107351**

Collected: 08/20/2003 14:45 by FL

Account Number: 11288

Submitted: 08/22/2003 09:30
Reported: 08/27/2003 at 16:45
Discard: 09/27/2003
SB-5 4-6' Grab Soil Sample
Site# 3708
Sims #1 Battery

ConocoPhillips
P.O. Box 2197; 5027 TN

Houston TX 77252

SB546

| | | | | | | |
|---|---|---|---|---|---|---|
| 00374 | GC/MS VOA Soil Prep | SW-846 5030A | 1 | 08/25/2003 14:47 | Susan McMahon-Luu | n.a. |
| 01150 | GC VOA Soil Prep | SW-846 5035 | 1 | 08/22/2003 13:13 | Steven A Skiles | n.a. |
| 01352 | Deionized Water Extraction | EPA 300.0 | 1 | 08/25/2003 13:30 | Cheryl L Robinson | 1 |
| 07004 | Extraction - DRO (Soils) | SW-846 3550B | 1 | 08/24/2003 22:50 | Karen L Beyer | 1 |

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# Analysis Report



**Lancaster Laboratories Sample No. WW 4107352**

Collected: n.a.

Account Number: 11288

Submitted: 08/22/2003 09:30
Reported: 08/27/2003 at 16:45
Discard: 09/27/2003
Trip Blank Water Sample
Site# 3708
Sims #1 Battery

ConocoPhillips
P.O. Box 2197; 5027 TN

Houston TX 77252

TBBAT

| CAT No. | Analysis Name | CAS Number | As Received Result | As Received Method Detection Limit | Units | Dilution Factor |
|---|---|---|---|---|---|---|
| 02300 | UST-Unleaded Waters by 8260B | | | | | |
| 05401 | Benzene | 71-43-2 | N.D. | 0.5 | ug/l | 1 |
| 05407 | Toluene | 108-88-3 | N.D. | 0.7 | ug/l | 1 |
| 05415 | Ethylbenzene | 100-41-4 | N.D. | 0.8 | ug/l | 1 |
| 06310 | Xylene (Total) | 1330-20-7 | N.D. | 0.8 | ug/l | 1 |

A site-specific MSD sample was not submitted for the project. A LCS/LCSD was performed to demonstrate precision and accuracy at a batch level.

## Laboratory Chronicle

| CAT No. | Analysis Name | Method | Trial# | Analysis Date and Time | Analyst | Dilution Factor |
|---|---|---|---|---|---|---|
| 02300 | UST-Unleaded Waters by 8260B | SW-846 8260B | 1 | 08/23/2003 01:02 | Marla S Lord | 1 |
| 01163 | GC/MS VOA Water Prep | SW-846 5030B | 1 | 08/23/2003 01:02 | Marla S Lord | n.a. |

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# Analysis Report



## Quality Control Summary

Client Name: ConocoPhillips Group Number: 864207
Reported: 08/27/03 at 04:45 PM

### Laboratory Compliance Quality Control

| Analysis Name | Blank Result | Blank MDL | Report Units | LCS %REC | LCSD %REC | LCS/LCSD Limits | RPD | RPD Max |
|---|---|---|---|---|---|---|---|---|
| Batch number: 03234A33A | Sample number(s): 4107338-4107342,4107346-4107351 | | | | | | | |
| TPH-GRO 8015B - soil | N.D. | 0.2 | mg/kg | 99 | | 70-130 | | |
| Batch number: 03234A33B | Sample number(s): 4107337,4107343-4107345 | | | | | | | |
| TPH-GRO 8015B - soil | N.D. | 0.2 | mg/kg | 99 | | 70-130 | | |
| Batch number: 032350003A | Sample number(s): 4107337-4107351 | | | | | | | |
| TPH-DRO by 8015B | N.D. | 4.0 | mg/kg | 96 | 99 | 74-118 | 3 | 20 |
| Batch number: 03237237201A | Sample number(s): 4107337-4107346 | | | | | | | |
| Chloride by IC (solid) | N.D. | 3.0 | mg/kg | 101 | | 90-110 | | |
| Batch number: 03237237201B | Sample number(s): 4107347-4107351 | | | | | | | |
| Chloride by IC (solid) | N.D. | 3.0 | mg/kg | 101 | | 90-110 | | |
| Batch number: 03237912201A | Sample number(s): 4107337-4107346 | | | | | | | |
| Moisture | | | | 101 | | 99-102 | | |
| Batch number: 03237912201B | Sample number(s): 4107347-4107351 | | | | | | | |
| Moisture | | | | 101 | | 99-102 | | |
| Batch number: T032341AB | Sample number(s): 4107352 | | | | | | | |
| Benzene | N.D. | 0.5 | ug/l | 94 | 95 | 85-117 | 1 | 30 |
| Toluene | N.D. | 0.7 | ug/l | 97 | 100 | 85-115 | 3 | 30 |
| Ethylbenzene | N.D. | 0.8 | ug/l | 87 | 90 | 82-119 | 4 | 30 |
| Xylene (Total) | N.D. | 0.8 | ug/l | 91 | 94 | 84-120 | 3 | 30 |
| Batch number: X032331AB | Sample number(s): 4107337-4107338 | | | | | | | |
| Benzene | N.D. | 1. | ug/kg | 99 | | 83-118 | | |
| Toluene | N.D. | 1. | ug/kg | 94 | | 81-116 | | |
| Ethylbenzene | N.D. | 1. | ug/kg | 95 | | 82-115 | | |
| Xylene (Total) | N.D. | 1. | ug/kg | 95 | | 82-117 | | |
| Batch number: X032331AC | Sample number(s): 4107339-4107351 | | | | | | | |
| Benzene | N.D. | 1. | ug/kg | 99 | | 83-118 | | |
| Toluene | N.D. | 1. | ug/kg | 94 | | 81-116 | | |
| Ethylbenzene | N.D. | 1. | ug/kg | 95 | | 82-115 | | |
| Xylene (Total) | N.D. | 1. | ug/kg | 95 | | 82-117 | | |

### Sample Matrix Quality Control

| Analysis Name | MS %REC | MSD %REC | MS/MSD Limits | RPD | RPD MAX | BKG Conc | DUP Conc | DUP RPD | Dup RPD Max |
|---|---|---|---|---|---|---|---|---|---|
| Batch number: 03234A33A | Sample number(s): 4107338-4107342,4107346-4107351 | | | | | | | | |
| TPH-GRO 8015B - soil | 82 | 85 | 70-130 | 3 | 30 | | | | |
| Batch number: 03234A33B | Sample number(s): 4107337,4107343-4107345 | | | | | | | | |
| TPH-GRO 8015B - soil | 82 | 85 | 70-130 | 3 | 30 | | | | |
| Batch number: 03237237201A | Sample number(s): 4107337-4107346 | | | | | | | | |
| Chloride by IC (solid) | 129* | | 90-110 | | | 5,780. | 4,600. | 23* | 20 |

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The background result was more than four times the spike added.

## Quality Control Summary

Client Name: ConocoPhillips
Reported: 08/27/03 at 04:45 PM

Group Number: 864207

### Sample Matrix Quality Control

| Analysis Name | MS %REC | MSD %REC | MS/MSD Limits | RPD | RPD MAX | BKG Conc | DUP Conc | DUP RPD | Dup RPD Max |
|---|---|---|---|---|---|---|---|---|---|
| Batch number: 03237237201B | Sample number(s): 4107347-4107351 | | | | | | | | |
| Chloride by IC (solid) | 100 | | 90-110 | | | 9.8 | 11.5 | 16 (1) | 20 |
| Batch number: 03237912201A | Sample number(s): 4107337-4107346 | | | | | | | | |
| Moisture | | | | | | 7.6 | 8.0 | 4 | 7 |
| Batch number: 03237912201B | Sample number(s): 4107347-4107351 | | | | | | | | |
| Moisture | | | | | | 4.4 | 4.4 | 1 (1) | 7 |
| Batch number: T032341AB | Sample number(s): 4107352 | | | | | | | | |
| Benzene | 104 | | 83-128 | | | | | | |
| Toluene | 105 | | 83-127 | | | | | | |
| Ethylbenzene | 95 | | 82-134 | | | | | | |
| Xylene (Total) | 98 | | 82-130 | | | | | | |
| Batch number: X032331AB | Sample number(s): 4107337-4107338 | | | | | | | | |
| Benzene | 96 | 95 | 52-141 | 1 | 30 | | | | |
| Toluene | 83 | 85 | 53-137 | 2 | 30 | | | | |
| Ethylbenzene | 90 | 90 | 50-136 | 1 | 30 | | | | |
| Xylene (Total) | 85 | 86 | 47-139 | 1 | 30 | | | | |
| Batch number: X032331AC | Sample number(s): 4107339-4107351 | | | | | | | | |
| Benzene | 96 | 95 | 52-141 | 1 | 30 | | | | |
| Toluene | 83 | 85 | 53-137 | 2 | 30 | | | | |
| Ethylbenzene | 90 | 90 | 50-136 | 1 | 30 | | | | |
| Xylene (Total) | 85 | 86 | 47-139 | 1 | 30 | | | | |

### Surrogate Quality Control

Analysis Name: TPH-GRO 8015B - soil
Batch number: 03234A33A

| | Trifluorotoluene-F |
|---|---|
| 4107338 | 90 |
| 4107339 | 93 |
| 4107340 | 98 |
| 4107341 | 27* |
| 4107342 | 97 |
| 4107346 | 93 |
| 4107347 | 99 |
| 4107348 | 94 |
| 4107349 | 99 |
| 4107350 | 93 |
| 4107351 | 26* |
| Blank | 100 |
| LCS | 109 |
| MS | 102 |
| MSD | 104 |
| Limits: | 66-117 |

Analysis Name: TPH-GRO 8015B - soil

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The background result was more than four times the spike added.

# Quality Control Summary

Client Name: ConocoPhillips Group Number: 864207
Reported: 08/27/03 at 04:45 PM

## Surrogate Quality Control

Batch number: 03234A33B

| | Trifluorotoluene-F |
|---|---|
| 4107337 | 106 |
| 4107343 | 102 |
| 4107344 | 107 |
| 4107345 | 106 |
| Blank | 98 |
| LCS | 109 |
| MS | 102 |
| MSD | 104 |
| Limits: | 66-117 |

Analysis Name: TPH-DRO by 8015B
Batch number: 032350003A

| | Orthoterphenyl |
|---|---|
| 4107337 | 95 |
| 4107338 | 100 |
| 4107339 | 101 |
| 4107340 | 101 |
| 4107341 | 98 |
| 4107342 | 102 |
| 4107343 | 94 |
| 4107344 | 90 |
| 4107345 | 84 |
| 4107346 | 102 |
| 4107347 | 93 |
| 4107348 | 94 |
| 4107349 | 96 |
| 4107350 | 100 |
| 4107351 | 98 |
| Blank | 103 |
| LCS | 111 |
| LCSD | 108 |
| Limits: | 59-124 |

Analysis Name: UST-Unleaded Waters by 8260B
Batch number: T032341AB

| | Dibromofluoromethane | 1,2-Dichloroethane-d4 | Toluene-d8 | 4-Bromofluorobenzene |
|---|---|---|---|---|
| 4107352 | 100 | 94 | 96 | 92 |
| Blank | 101 | 94 | 97 | 93 |
| LCS | 93 | 95 | 101 | 101 |
| LCSD | 92 | 94 | 101 | 101 |
| MS | 93 | 93 | 100 | 101 |
| Limits: | 81-120 | 82-112 | 85-112 | 83-113 |

Analysis Name: UST-Unleaded Soils by 8260B
Batch number: X032331AB

| | Dibromofluoromethane | 1,2-Dichloroethane-d4 | Toluene-d8 | 4-Bromofluorobenzene |
|---|---|---|---|---|
| 4107337 | 96 | 95 | 87 | 94 |
| 4107338 | 96 | 102 | 86 | 95 |
| Blank | 92 | 87 | 89 | 92 |
| LCS | 92 | 93 | 92 | 94 |

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The background result was more than four times the spike added.

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# Analysis Report



## Quality Control Summary

Client Name: ConocoPhillips Group Number: 864207
Reported: 08/27/03 at 04:45 PM

### Surrogate Quality Control

| | | | | |
|---|---|---|---|---|
| MS | 93 | 94 | 90 | 93 |
| MSD | 91 | 92 | 91 | 93 |
| Limits: | 70-129 | 70-121 | 70-130 | 70-128 |

Analysis Name: UST-Unleaded Soils by 8260B
Batch number: X032331AC

| | Dibromofluoromethane | 1,2-Dichloroethane-d4 | Toluene-d8 | 4-Bromofluorobenzene |
|---|---|---|---|---|
| 4107339 | 90 | 92 | 93 | 91 |
| 4107340 | 91 | 91 | 94 | 91 |
| 4107341 | 92 | 97 | 93 | 93 |
| 4107342 | 89 | 86 | 93 | 90 |
| 4107343 | 92 | 92 | 96 | 88 |
| 4107344 | 91 | 93 | 96 | 86 |
| 4107345 | 92 | 94 | 94 | 88 |
| 4107346 | 93 | 99 | 92 | 93 |
| 4107347 | 91 | 92 | 94 | 90 |
| 4107348 | 90 | 92 | 93 | 90 |
| 4107349 | 88 | 88 | 94 | 88 |
| 4107350 | 90 | 90 | 93 | 90 |
| 4107351 | 90 | 91 | 94 | 90 |
| Blank | 89 | 83 | 95 | 91 |
| LCS | 92 | 93 | 92 | 94 |
| MS | 93 | 94 | 90 | 93 |
| MSD | 91 | 92 | 91 | 93 |
| Limits: | 70-129 | 70-121 | 70-130 | 70-128 |

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The background result was more than four times the spike added.

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# Explanation of Symbols and Abbreviations

*The following defines common symbols and abbreviations used in reporting technical data:*

| | | | |
|---|---|---|---|
| **N.D.** | none detected | **BMQL** | Below Minimum Quantitation Level |
| **TNTC** | Too Numerous To Count | **MPN** | Most Probable Number |
| **IU** | International Units | **CP Units** | cobalt-chloroplatinate units |
| **umhos/cm** | micromhos/cm | **NTU** | nephelometric turbidity units |
| **C** | degrees Celsius | **F** | degrees Fahrenheit |
| **meq** | milliequivalents | **lb.** | pound(s) |
| **g** | gram(s) | **kg** | kilogram(s) |
| **ug** | microgram(s) | **mg** | milligram(s) |
| **ml** | milliliter(s) | **l** | liter(s) |
| **m3** | cubic meter(s) | **ul** | microliter(s) |

**<** less than - The number following the sign is the limit of quantitation, the smallest amount of analyte which can be reliably determined using this specific test.

**>** greater than

**J** estimated value – The result falls within the Method Detection Limit (MDL) and Limit of Quantitation (LOQ).

**ppm** parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg), or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter of gas per liter of gas.

**ppb** parts per billion

**Dry weight basis** Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.

*U.S. EPA CLP Data Qualifiers:*

**Organic Qualifiers**

| | |
|---|---|
| **A** | TIC is a possible aldol-condensation product |
| **B** | Analyte was also detected in the blank |
| **C** | Pesticide result confirmed by GC/MS |
| **D** | Compound quantitated on a diluted sample |
| **E** | Concentration exceeds the calibration range of the instrument |
| **N** | Presumptive evidence of a compound (TICs only) |
| **P** | Concentration difference between primary and confirmation columns >25% |
| **U** | Compound was not detected |
| **X,Y,Z** | Defined in case narrative |

**Inorganic Qualifiers**

| | |
|---|---|
| **B** | Value is <CRDL, but ≥IDL |
| **E** | Estimated due to interference |
| **M** | Duplicate injection precision not met |
| **N** | Spike sample not within control limits |
| **S** | Method of standard additions (MSA) used for calculation |
| **U** | Compound was not detected |
| **W** | Post digestion spike out of control limits |
| ***** | Duplicate analysis not within control limits |
| **+** | Correlation coefficient for MSA <0.995 |

Analytical test results for methods listed on the laboratories' accreditation scope meet all requirements of NELAC unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff. This report shall not be reproduced except in full, without the written approval of the laboratory.

# APPENDIX C

## References

## REFERENCES


API (American Petroleum Institute), 1995, VADSAT V. 3.0, *A Vadose Zone and Saturated Zone Transport Model for Assessing the Effects on Groundwater Quality from Subsurface Petroleum Hydrocarbon Releases and Petroleum Production Waste Management Practices.* American Petroleum Institute, Washington, D.C.

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