

# REPORTS

# DATE:





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 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 46 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.

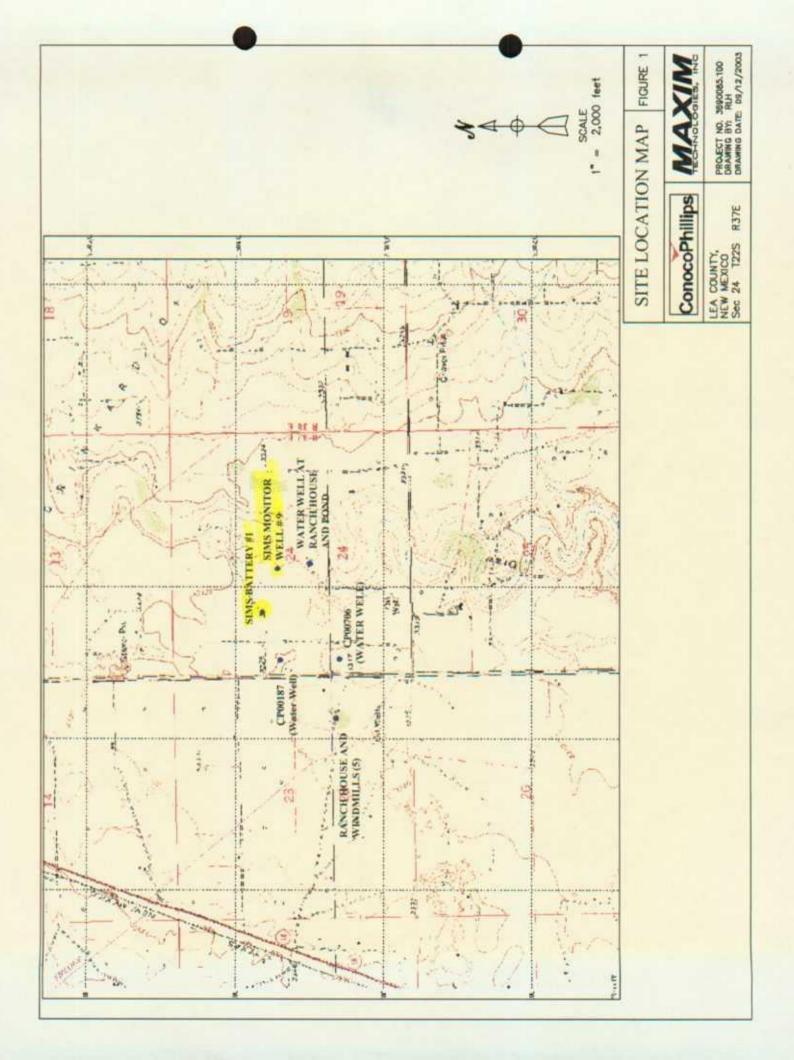
Sincerely,

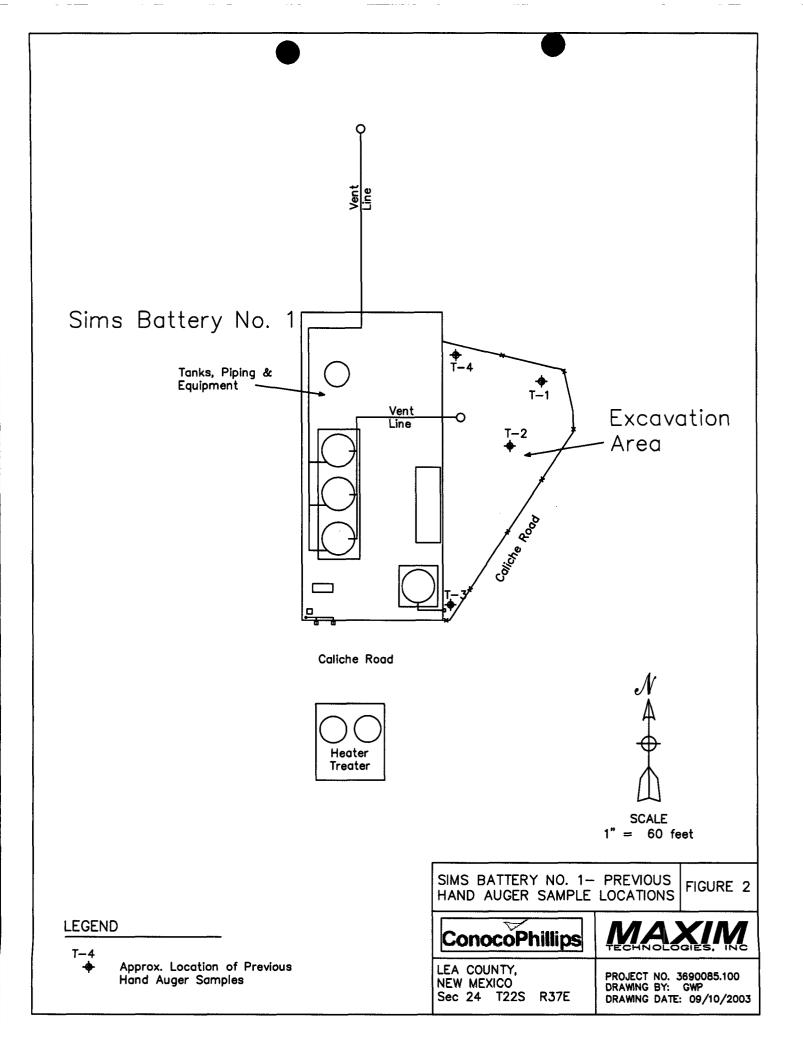
#### MAXIM TECHNOLOGIES, INC.

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

Enclosures

**FIGURES** 





PROJECT N	AME: 3690085			and the second s
LOCATION	Sims Battery	#1	SOIL VAPOR BORING NO.	SB-1
DRILLED BY	Scarborough	Drilling	FIELD LOGGED BY: F. Lichnow	rsky
DATE HOLE	DRILLED.	8/20/03		
DATE ABAN	DONED:	8/20/03	COCINDWATED LEVEL (MAR)	Not Encountered (ft)
REMARKS:	bgs = below	ground surface	GROUNDWATER LEVEL (Dgs).	
	NS=Not Sam	pled	DRILL TYPE: Air Rotary	
	NA=Not App	licable		
DATE HOLE	DRILLED: DONED: bgs = below NS=Not Sam	8/20/03 8/20/03 ground surface pled	GROUNDWATER LEVEL (bgs)	Not Encountered

BORE HOLE DIAMETER \_ 5 inches

(in)

0.0	Clay, off white - cream, chalky, dry to slig thin calcareous veins	en and a second s			
		CL	Pushed	x	0
	Clay, off white- cream to light brownish-g slightly moist		Durbert		0
		CL	Pushed		0
5.0 -	Caliche, white to cream with interbedded	clay layers	Dry coring heated		

Boring Terminated at 6' bgs

MAXIM

3690085

APPENDIX A

**Boring Logs** 

	AME: 3690065 Sims Battery #		SOIL VAPOR BORING NO. 58-2
-	Scarborough D		FIELD LOGGED BY: F. Lichnovsky
DATE HOLE		8/20/03 8/20/03	
DATE ABAN			GROUNDWATER LEVEL (bost) Not Encountered (ft)
REMARKS	bgs = below g	round surface	
	NS=Not Samp	Aed	DRILL TYPE: Air Rotary
	NAHNot Applic	sable	
			BODE HOLE DIAMETED SINCHES (0)

DEPTH (bgs) - ft	SAMPLE INTERVALID #	CLASSIFICATION AND DESCRIPTION	USCS SYMBOL	BLOW COUNT	WALTICAL	TINE	% RECOVERY	PID RESULT (ppm)	DEPTH (bgs) - ft
0.0		Clay, off white- cream, chalky, dry to slightly moist, some thin calcareous veins	a	Pushed	×			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

MAXIM EXPLORATORY BORING LOG SB-2

PROJECT N	AME: 3690085 Sims Battery #1		SOIL VAPOR BORING NO SB-3
DRILLED BY:	Scarborough Dr	illing	FIELD LOGGED BY: F. Lichnovsky
DATE HOLE	DRILLED:	8/20/03	
DATE ABAN	DONED:	8/20/03	GROUNDWATER LEVEL (bgs): Not Encountered (ft)
REMARKS:	bgs = below gro	ound surface	GROUNDWATER LEVEL (DJa).
	NS=Not Sample	ed	DRILL TYPE: Air Rotary
	NA=Not Applica	able	
			BODE 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	×			0	-0
1		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	×			0	-5

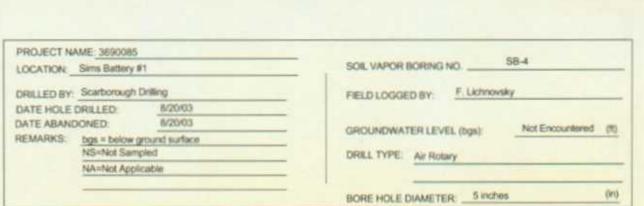
Boring Terminated at 6' bgs

MAXIM

3690085

EXPLORATORY BORING LOG SB-3

Page 1 of 1



DEPTH (bgs) - ft	SAMPLE INTERVALAD #	CLASSIFICATION AND DESCRIPTION	USCS SYMBOL	BLOW COUNT	ANALYTICAL.	TIME	% RECOVERY	PID RESULT (ppm)	DEPTH (bgs) - R
.0 ]		Clay, off white- cream, chalky, dry to slightly moist, some thin calcareous veins	CL	Pushed	x			0	F.º
		Clay, off white- cream to light brownish-gray, chalky, dry to slightly moist	c.	Pushed				0	-
.0		Caliche, white to cream with interbedded clay layers	1	Drilled	x			13	- 5

х

Boring Terminated at 6" bgs

3690085

MAXIM EXPLORATORY BORING LOG SB-4

Page 1 of 1

Sims Battery #	1	SOIL VAPOR BORING NOSB-5
Scarborough I	Drilling	FIELD LOGGED BY: F. Lichnovsky
DRILLED:	8/20/03	
DONED:	8/20/03	GROUNDWATER LEVEL (bgs): Not Encountiened (#
bgs = below g	round surface	GROUNDWATER LEVEL (bgs).
		DRILL TYPE: Air Rotary
NA=Not Appli	cable	
A REAL PROPERTY AND A REAL		BORE HOLE DIAMETER 5 inches
	Scarborough I DRILLED: DONED: bgs = below g NS=Not Samp	Sims Battery #1 Scarborough Drilling DRILLED: 8/20/03

DEPTH (bgs)-ft SAMPLE	INTERVALID #	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	×			0	- 0
-		Clay, off white- cream to light brownish-gray, chalky, dry to slightly moist	CL	Pushed				0	-
5.0				Pushed	×			0	-5
		Clay and caliche, cream to off white to light tan, firm, dry	CL	Pushed				0	-
10.0 -	1110	Clay, off white to cream, firm, chalky, slightly moist	a	Pushed	×			0	- 10

Boring Terminaled at 12' bgs

3690085

#### EXPLORATORY BORING LOG SB-5 MAXIM

Page 1 of 1

	AME 3690065 Sims Battery		SOIL VAPOR BORING NO SB-6
DRILLED BY:	Scarborough	Drilling	FIELD LOGGED BY: F. Lichnovsky
DATE HOLE	DRILLED:	8/20/03	
DATE ABAN	DONED	8/20/03	GROUNDWATER LEVEL (bos): Not Encountered (t
REMARKS:	bgs = below (	pround surface	GROUNDWATER LEVEL (bgs): Not Encountered (
	NS=Not Sam	pied	DRILL TYPE: Air Rotary
	NA=Not Appl	icable	
			BORE HOLE DIAMETER: 5 Inches 0

DEPTH (hom) - ft	SAMPLE SAMPLE	CLASSIFICATION AND DESCRIPTION	USCS SYMBOL	BLOW COUNT	ANALYTICAL	TIME	% RECOVERY	PID RESULT (ppm)	DEPTH (bgs) - ft
0.0	П	Sand, light brown, fine grained, unconsolidated, dry	a	Pushed	x			0	-
		Clay, off white- cream to light brownish-gray, chalky, dry to slightly moist	a	Pushed				0	-

Clay, off white- cream, chalky, caliche nodules, slightly moist

CL.

Pushed

Pushed

х

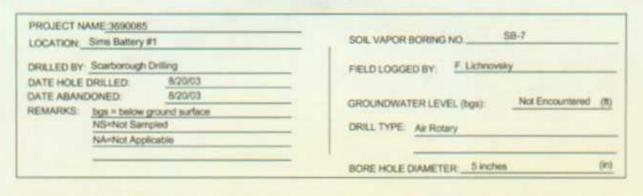
Boring Terminated at 6 by	P	
3690085	MAXIM	EXPLORATO

Page 1 of 1

0

- 5

5.0



CODTH .	11-(MDQ)	SAMPLE INTERVALID #	CLASSIFICATION AND DESCRIPTION	USCS SYMBOL	BLOW COUNT	ANALYTICAL	TAK	% RECOVERY	PID RESULT (ppm)	06PTH (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

3690085

#### MAXIM EXPLORATORY BORING LOG SB-7

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

aidupe	Sample	HHI	Chloride	Benzene	Ioluene	Ethylbenzene	Aylenes
Identification	Date	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	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	QN	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	QN	0.033	0.032	0.038
T3 - 0-6"	12/13/2000	1,130	740	QN	0.032	0.032	0.032
T3 - 6-18"	12/13/2000	5,520	1,356	QN	QN	QN	QN
T4 - 0-6" Background	12/13/2000	QN	QN	QN	QN	ND	DN
T4 - 6-18" Background	12/13/2000	70	QN	QN	ND	QN	QN
T1 - 0-6" N	2/8/2001	4,930	35	QN	3.73	3.67	15.96
T1-6-18" N	2/8/2001	880	39	QN	0.147	0.04	0.118
T2 - 0-6" M	2/8/2001	QN	434	QN	QN	QN	QN
T2 - 6-18" M	2/8/2001	40	430	QN	QN	QN	QN
T3 - 0-6" S	2/8/2001	1.840	2,446	QN	QN	QN	QN
T3 - 6-18" S	2/8/2001	160	2,797	QN	QN	QN	QN
T4 - 0-6" NW	2/8/2001	QN	1,436	QN	QN	QN	QN
T4 - 6-18" NW	2/8/2001	ND	1,418	QN	QN	QN	QN
T1-N - 14"	2/13/2001	760	59	DN	QN	QN	QN
T3-S - 27"	2/13/2001	ND	2,099	QN	QN	QN	QN
T3-S - 36"	2/13/2001	40	1,903	QN	QN	QN	QN
T4-NW - 29"	2/13/2001	60	1,355	QN	QN	DN	QN
T4-NW - 44"	2/13/2001	60	885	QN	QN	QN	QN
T1-North	2/16/2001	1.020	64	QN	QN	ND	0.026
T2-Middle	2/16/2001	11.800	317	QN	0.088	0.955	6.466
T3-South	2/16/2001	QN	461	QN	0.637	0.121	QN
Background	2/16/2001	140	18	QN	QN	QN	QN
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
	01421000	100	0000		A14	818	414

Maxim Technologies, Inc.

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

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

Chloride	CI (mg/kg)	Xylenes	Toluene	Ethylbenzene	Benzene	BTEX (mg/kg)	GRO	DRO	TPH (mg/kg)		
6,520		ND	ND	ND	ND		0.7	11		0-2"	SB-1
2,130		ND	ND	ND	ND		ND	ND		4-6"	SB-1
56,5		ND	ND	ND	ND		ND	29		0-2"	SB-2
34.4		ND	ND	ND	ND		ND	ND		4-6"	SB-2
39.7		ND	ND	ND	ND		ND	41		0-2"	SB-3
17.1		ND	ND	ND	ND		ND	ND		4-6"	SB-3
12.6		0.002	ND	ND	ND		0.4	210		0-2"	SB-4
26.3		0.001	ND	ND	ND		ND	650		4-6"	SB-4
66.3		0.001	ND	ND	ND		0.3	620		0-2"	SB-5
337		ND	ND	ND	ND		ND	27		4-6'	SB-5
335		ND	ND	ND	ND		ND	ND		10-12"	SB-5
10.2		0.004	ND	ND	ND		ND	ND		0-2"	SB-6
175		0.001	ND	ND	ND		ND	ND		4-6"	SB-6
9.7		0.001	ND	ND	ND		ND	ch		0-2"	SB-7
691		ND	ND	ND	ND		ND	ND		4-6"	SB-7

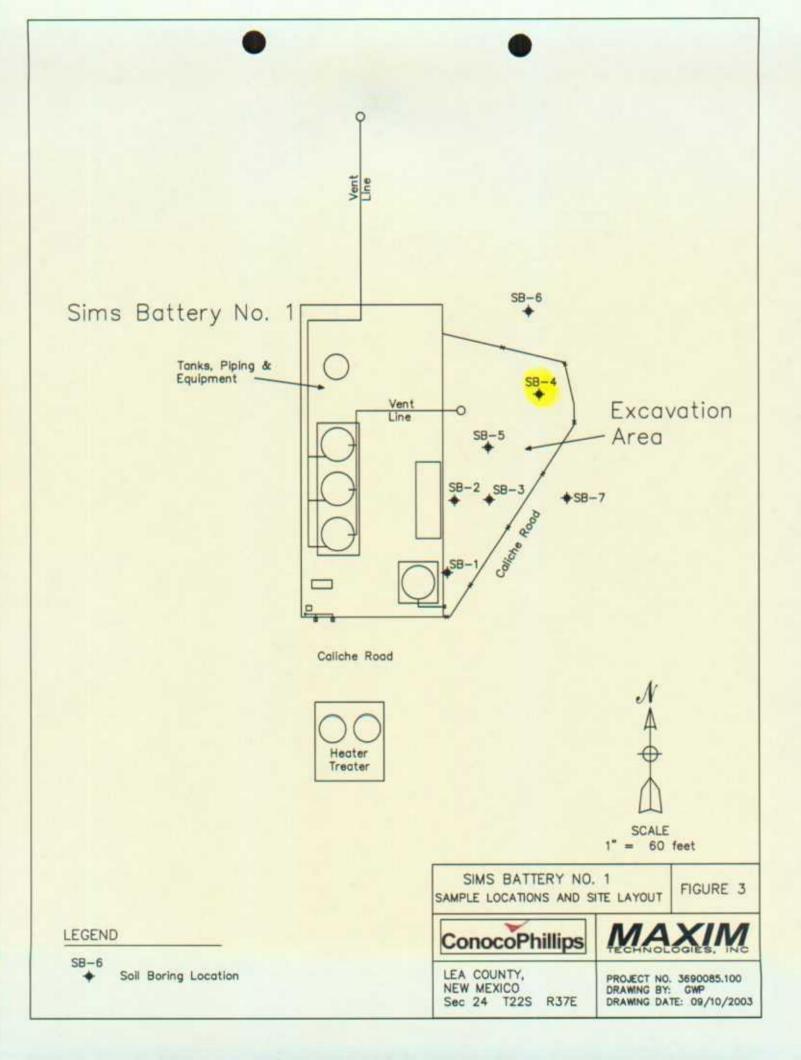
mg/kg = milligrams per kilogram ND = not detected at or above laboratory detection limit

		Therefore:	NMOCD Cle
Benzene - 10 mg/k	BTEX - 50 mg/kg	TPH - 1000 mg/kg	anup Score = 10
0			0
			0
	Distance to Surface Water Body, >1000 feet	Wellhead Protection Area, >1000 feet from wa	Depth to Groundwater - 50-99 feet

000 feet from water source <u>score</u> 10 0 10

Score

Maxim Technologies, Inc.



**APPENDIX B** 

Laboratory Analytical Report





2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 \*717-656-2300 Fax: 717-656-2681 \* www.lancasterlabs.com

#### 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
SB-1 0-2' Grab Soil Sample
SB-1 4-6' Grab Soil Sample
SB-2 0-2' Grab Soil Sample
SB-2 4-6' Grab Soil Sample
SB-3 0-2' Grab Soil Sample
SB-3 4-6' Grab Soil Sample
SB-4 0-2' Grab Soil Sample
SB-4 4-6' Grab Soil Sample
SB-5 0-2' Grab Soil Sample
SB-5 10-12' Grab Soil Sample
SB-6 0-2' Grab Soil Sample
SB-6 4-6' Grab Soil Sample
SB-7 0-2' Grab Soil Sample
SB-7 4-6' Grab Soil Sample
SB-5 4-6' Grab Soil Sample
Trip Blank Water Sample

Lancaster Labs Number

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





2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax: 717-656-2681 • www.lancasterlabs.com

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

Respectfully Submitted,

Victoria M. Martel Chemist



2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax: 717-656-2681 • www.lancasterlabs.com

Page 1 of 2

#### Lancaster Laboratories Sample No. SW 4107337

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

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

Account Number: 11288

Houston TX 77252

#### SB102

1

T

				Dry		
CAT			Dry	Method		Dilution
No.	Analysis Name	CAS Number	Result	Detection Limit	Units	Factor
08270	TPH-DRO by 8015B	n.a.	11.	4.5	mg/kg	1
	According to the SW-846 8015B r Organics was performed by peak that of our #2 Fuel Oil referen hydrocarbons). Site-specific MS/MSD samples wa	area compariso nce standard (h	on of the samp between Cl0 and	ple pattern to hd C28 normal		
	was performed to demonstrate pr	recision and ac	ccuracy at a l	batch level.		
02111	Moisture	n.a.	11.4	1.0	8	1
	"Moisture" represents the loss infrared lamp at 150 degrees Ce	elsius.	-			
07333	Chloride by IC (solid)	16887-00-6	6,520.	3.4	mg/kg	200
	Matrix QC was performed on this	-		-		
	see the attached QC Summary rep	port for the pa	arameter show:	ing 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 in methanol. The reporting lim					
	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	Chro	nicle		
CAT		-		Analysis		Dilution
No.	Analysis Name	Method	Trial#	Date and Time	Analyst	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.





2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax: 717-656-2681 • www.lancasterlabs.com

Page 2 of 2

#### 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 P.O. Box 2197; 5027 TN Discard: 09/27/2003 SB-1 0-2' Grab Soil Sample Houston TX 77252 Site# 3708 Sims #1 Battery

SB102			
01352	Deionized Water Extraction	EPA 300.0	1
07004	Extraction - DRO (Soils)	SW-846 3550B	1

1	08/25/2003	13:30	Cheryl L Robinson	1
1	08/24/2003	22:50	Karen L Beyer	1



2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax: 717-656-2681 • www.lancasterlabs.com

Page 1 of 1

#### Lancaster Laboratories Sample No. SW 4107338

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

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 Account Number: 11288 ConocoPhillips P.O. Box 2197; 5027 TN

Houston TX 77252

#### SB146

I

				Dry		
CAT			Dry	Method		Dilution
No.	Analysis Name	CAS Number	Result	Detection Limit	Units	Factor
08270	TPH-DRO by 8015B	n.a.	N.D.	4.3	mg/kg	1
	According to the SW-846 8015B m Organics was performed by peak that of our #2 Fuel Oil referen hydrocarbons). Site-specific MS/MSD samples we	area comparisc ce standard (b	on of the sampl between Cl0 and	e pattern to C28 normal		
	was performed to demonstrate pr	ecision and ac	curacy at a ba	tch level.		
02111	Moisture	n.a.	7.6	1.0	8	1
	"Moisture" represents the loss infrared lamp at 150 degrees Ce		he sample afte	r drying with an		
07333	Chloride by IC (solid)	16887-00-6	2,130.	325.	mg/kg	100
01637	TPH-GRO 8015B - soil				61	
01641	TPH-GRO 8015B - soil	n.a.	N.D.	0.2	mg/kg	25
	The analysis for volatiles was in methanol. The reporting lim					
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

CAT		Laboratory	Chro	nicle Analysis		Dilution
No.	Analysis Name	Method	Trial#	Date and Time	Analyst	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



2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax: 717-656-2681 • www.lancasterlabs.com

Page 1 of 1

#### Lancaster Laboratories Sample No. SW 4107339

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

Account Number: 11288

ConocoPhillips P.O. Box 2197; 5027 TN

Houston TX 77252

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

SB202

				Dry		
CAT			Dry	Method		Dilution
No.	Analysis Name	CAS Number	Result	Detection Limit	Units	Factor
08270	TPH-DRO by 8015B	n.a.	29.	4.5	mg/kg	1
	According to the SW-846 8015B m Organics was performed by peak that of our #2 Fuel Oil referen hydrocarbons). Site-specific MS/MSD samples we	area comparisc ce standard (b re not submitt	n of the sample p etween C10 and C ed for the projec	pattern to 28 normal ct. A LCS/LCSD		
	was performed to demonstrate pr	ecision and ac	curacy at a batch	1 level.		
02111	Moisture	n.a.	10.5	1.0	왐	1
	"Moisture" represents the loss infrared lamp at 150 degrees Ce	in weight of t lsius.	he sample after o	lrying with an		
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 in methanol. The reporting lim					
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	Chro	nicle		
CAT		-		Analysis		Dilution
No.	Analysis Name	Method	Trial#	Date and Time	Analyst	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



2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 •717-656-2300 Fax:717-656-2681 • www.lancasterlabs.com

Page 1 of 1

#### Lancaster Laboratories Sample No. SW 4107340

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

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 Account Number: 11288 ConocoPhillips

P.O. Box 2197; 5027 TN

Houston TX 77252

SB46-

				Dry		
CAT			Dry	Method		Dilution
No.	Analysis Name	CAS Number	Result	Detection Limit	Units	Factor
08270	TPH-DRO by 8015B	n.a.	N.D.	4.7	mg/kg	1
	According to the SW-846 8015B m Organics was performed by peak that of our #2 Fuel Oil referen hydrocarbons). Site-specific MS/MSD samples we	area comparisc ce standard (b	on of the sample between C10 and	pattern to C28 normal		
	was performed to demonstrate pr	ecision and ac	curacy at a bat	ch level.		
02111	Moisture	n.a.	14.4	1.0	¥	1
	"Moisture" represents the loss infrared lamp at 150 degrees Ce		he sample after	drying with an		
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 in methanol. The reporting lim					
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	Chro	nicle		
CAT		-		Analysis		Dilution
No.	Analysis Name	Method	Trial#	Date and Time	Analyst	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	Shanncn 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





2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax: 717-656-2681 • www.lancasterlabs.com

Page 1 of 2

#### Lancaster Laboratories Sample No. SW 4107341

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

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 Account Number: 11288

ConocoPhillips P.O. Box 2197; 5027 TN

Houston TX 77252

SB302

				Dry		
CAT			Dry	Method		Dilution
No.	Analysis Name	CAS Number	Result	Detection Limit	Units	Factor
08270	TPH-DRO by 8015B	n.a.	41.	4.6	mg/kg	1
	According to the SW-846 8015B m Organics was performed by peak that of our #2 Fuel Oil referen hydrocarbons). Site-specific MS/MSD samples we	area compariso ce standard (b	n of the samp etween C10 an	ble pattern to nd C28 normal		
	was performed to demonstrate pr	ecision and ac	curacy at a h	oatch level.		
02111	Moisture	n.a.	13.1	1.0	*	1
	"Moisture" represents the loss infrared lamp at 150 degrees Ce		he sample aft	er drying with an		
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 in methanol. The reporting lim					
	Poor surrogate recoveries were needed to perform the analysis.		his sample du	e to the dilution		
	Due to excessive foaming of the attained.	sample, norma	l reporting l	limits were not		
02304	UST-Unleaded Soils by 8260B					
05460	Benzene	71-43-2	ND	1	ug/kg	1

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

CAT		Laboratory	Chro	nicle Analysis		Dilution
No.	Analysis Name	Method	Trial#	Date and Time	Analyst	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



2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax: 717-656-2681 • www.lancasterlabs.com

Page 2 of 2

Lancaster Laboratories Sample	No. SW 4107341	
Collected:08/20/2003 12:00	by FL	Account Number: 11288
Submitted: 08/22/2003 09:30		ConocoPhillips
Reported: 08/27/2003 at 16:44 Discard: 09/27/2003		P.O. Box 2197; 5027 TN
SB-3 0-2' Grab Soil Sample Site# 3708		Houston TX 77252
Sims #1 Battery		
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





2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 •717-656-2300 Fax: 717-656-2681 • www.lancasterlabs.com

Page 1 of 1

#### Lancaster Laboratories Sample No. SW 4107342

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

Account Number: 11288

ConocoPhillips P.O. Box 2197; 5027 TN

Houston TX 77252

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

SB346

				Dry		
CAT			Dry	Method		Dilution
No.	Analysis Name	CAS Number	Result	Detection Limit	Units	Factor
08270	TPH-DRO by 8015B	n.a.	N.D.	4.7	mg/kg	1
	According to the SW-846 8015B m Organics was performed by peak that of our #2 Fuel Oil referen hydrocarbons). Site-specific MS/MSD samples we	area compariso ce standard (h re not submitt	on of the sample p between C10 and C2 ed for the project	pattern to 28 normal ct. A LCS/LCSD		
	was performed to demonstrate pr	ecision and ac	curacy at a batch	n level.		
02111	Moisture	n.a.	15.0	1.0	*	1
	"Moisture" represents the loss infrared lamp at 150 degrees Ce	in weight of t lsius.	he sample after o	lrying with an		
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 in methanol. The reporting lim	performed on a its were adjus	sample which was ted appropriately	g preserved 7.		
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
					~3/ ~3	-

Laboratory Chronicle

CAT		_		Analysis		Dilution
No.	Analysis Name	Method	Trial#	Date and Time	Analyst	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	Chervl L Robinson	1
07004	Extraction - DRO (Soils)	SW-846 3550B	1	08/24/2003 22:50	Karen L Beyer	1



2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax: 717-656-2681 • www.lancasterlabs.com

Page 1 of 1

#### Lancaster Laboratories Sample No. SW 4107343

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

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

Account Number: 11288

Houston TX 77252

#### SB402

i

				Dry		
CAT			Dry	Method		Dilution
No.	Analysis Name	CAS Number	Result	Detection Limit	Units	Factor
08270	TPH-DRO by 8015B	n.a.	210.	4.3	mg/kg	1
	According to the SW-846 8015B m Organics was performed by peak that of our #2 Fuel Oil referen hydrocarbons). Site-specific MS/MSD samples we	area compariso ce standard (h	on of the samp between C10 an	ble pattern to d C28 normal		
	was performed to demonstrate pr	ecision and ac	ccuracy at a b	atch level.		
02111	Moisture	n.a.	6.7	1.0	ş	1
	"Moisture" represents the loss infrared lamp at 150 degrees Ce		the sample aft	er drying with an		
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 in methanol. The reporting lim					
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		-		Analysis		Dilution	
No.	Analysis Name	Method	Trial#	Date and Time	Analyst	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	





2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 •717-656-2300 Fax: 717-656-2681 • www.lancasterlabs.com

Page 1 of 1

#### Lancaster Laboratories Sample No. SW 4107344

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

Account Number: 11288

ConocoPhillips P.O. Box 2197; 5027 TN

Houston TX 77252

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

#### SB446

				Dry			
CAT			Dry	Method		Dilution	
No.	Analysis Name	CAS Number	Result	Detection Limit	Units	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 pr	ecision and ac	curacy at a batch	level.			
02111	Moisture	n.a.	8.0	1.0	8	1	
	"Moisture" represents the loss infrared lamp at 150 degrees Ce		he sample after d	rying with an			
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.	uq/kq	0.99	
					-373		

Laboratory Chronicle

CAT		_	-	Analysis		Dilution
No.	Analysis Name	Method	Trial#	Date and Time	Analyst	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



2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax: 717-656-2681 • www.lancasterlabs.com

Page 1 of 1

#### Lancaster Laboratories Sample No. SW 4107345

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

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 Account Number: 11288 ConocoPhillips P.O. Box 2197; 5027 TN

Houston TX 77252

SB502

ļ

				Dry				
CAT			Dry	Method		Dilution		
No.	Analysis Name	CAS Number	Result	Detection Limit	Units	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 pr	ecision and ac	curacy at a batcl	n level.				
02111	Moisture	n.a.	8.1	1.0	¥	1		
	"Moisture" represents the loss infrared lamp at 150 degrees Ce		he sample after o	drying with an				
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 in methanol. The reporting lim							
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		

CAT		Laboratory	Chro	nicle Analysis		Dilution
No.	Analysis Name	Method	Trial#	Date and Time	Analyst	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





Account Number: 11288

P.O. Box 2197; 5027 TN

ConocoPhillips

Houston TX 77252

2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax: 717-656-2681 • www.lancasterlabs.com

Page 1 of 1

#### Lancaster Laboratories Sample No. SW 4107346

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

SB510

				Dry		
CAT			Dry	Method		Dilution
No.	Analysis Name	CAS Number	Result	Detection Limit	Units	Factor
08270	TPH-DRO by 8015B	n.a.	N.D.	4.6	mg/kg	1
	According to the SW-846 8015B m Organics was performed by peak that of our #2 Fuel Oil referen hydrocarbons). Site-specific MS/MSD samples we	area compariso ice standard (b ere not submitt	on of the sample poetween C10 and C2 ed for the project	Dattern to 28 normal 21. A LCS/LCSD		
	was performed to demonstrate pr		-			_
02111	Moisture	n.a.	13.3	1.0	¥	1
	"Moisture" represents the loss infrared lamp at 150 degrees Ce	elsius.				
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 in methanol. The reporting lim					
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	Analysis						
No.	Analysis Name	Method	Trial#	Date and Time	Analyst	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	



2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax: 717-656-2681 • www.lancasterlabs.com

Page 1 of 1

#### 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 Account Number: 11288

ConocoPhillips P.O. Box 2197; 5027 TN

Houston TX 77252

#### SB602

Ì

				Dry			
Cat			Dry	Method		Dilution	
No.	Analysis Name	CAS Number	Result	Detection Limit	Units	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 pr	ecision and ac	curacy at a batc	h level.			
02111	Moisture	n.a.	4.4	1.0	£	1	
	"Moisture" represents the loss infrared lamp at 150 degrees Ce		he sample after	drying with an			
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		_		Analysis		Dilution
No.	Analysis Name	Method	Trial#	Date and Time	Analyst	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





Page 1 of 1

#### Lancaster Laboratories Sample No. SW 4107348

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

Account Number: 11288

ConocoPhillips P.O. Box 2197; 5027 TN

Houston TX 77252

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

SB646

				Dry				
CAT			Dry	Method		Dilution		
No.	Analysis Name	CAS Number	Result	Detection Limit	Units	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	8	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 in methanol. The reporting lim							
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		

CAT		Laboratory	Chro	nicle Analysis		Dilution
No.	Analysis Name	Method	Trial#	Date and Time	Analyst	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



# **Analysis Report**

2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 •717-656-2300 Fax: 717-656-2681 • www.lancasterlabs.com

Page 1 of 1

#### Lancaster Laboratories Sample No. SW 4107349

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

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 Account Number: 11288 ConocoPhillips

P.O. Box 2197; 5027 TN

Houston TX 77252

SB702

				Dry				
CAT			Dry	Method		Dilution		
No.	Analysis Name	CAS Number	Result	Detection Limit	Units	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 pr	ecision and ac	curacy at a h	atch 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 in methanol. The reporting lim							
02304	UST-Unleaded Soils by 8260B							
05460	Benzene	71-43-2	N.D.	1.	ug/kg	l		
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 Analysis Dilution Trial# Date and Time Analyst Factor No. Analysis Name Method 08270 TPH-DRO by 8015B SW-846 8015B 1 08/25/2003 15:37 Tracy A Cole 1 EPA 160.3 modified 08/25/2003 16:26 Nancy J Shoop 02111 1 Moisture 1 Shannon L Phillips 07333 Chloride by IC (solid) EPA 300.0 1 08/26/2003 18:16 1 01637 TPH-GRO 8015B - soil SW-846 8015B -1 08/22/2003 20:44 Steven A Skiles 25 modified 08/24/2003 23:44 02304 UST-Unleaded Soils by SW-846 8260B 1 Susan McMahon-Luu 1 8260B GC/MS VOA Soil Prep 08/24/2003 14:44 Susan McMahon-Luu 00374 SW-846 5030A 1 n.a. 01150 GC VOA Soil Prep SW-846 5035 08/22/2003 13:11 Steven A Skiles n.a. 1 08/25/2003 13:30 Cheryl L Robinson 01352 Deionized Water Extraction EPA 300.0 1 1 07004 Extraction - DRO (Soils) SW-846 3550B 1 08/24/2003 22:50 Karen L Beyer 1





Page 1 of 1

#### Lancaster Laboratories Sample No. SW 4107350

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

Account Number: 11288

ConocoPhillips P.O. Box 2197; 5027 TN

Houston TX 77252

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

SB746

				Dry					
CAT			Dry	Method		Dilution			
No.	Analysis Name	CAS Number	Result	Detection Limit	Units	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.								
	was performed to demonstrate pro	ecision and ac	curacy at a batch	level.					
02111	Moisture	n.a.	11.3	1.0	8	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 j in methanol. The reporting lim								
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.	uq/kq	1			
	· · · · · · · · ·			- •					

Laboratory Chronicle								
CAT		-		Analysis		Dilution		
No.	Analysis Name	Method	Trial#	Date and Time	Analyst	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		



# **Analysis Report**

2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax: 717-656-2681 • www.lancasterlabs.com

Page 1 of 2

#### Lancaster Laboratories Sample No. SW 4107351

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

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 Account Number: 11288 ConocoPhillips

P.O. Box 2197; 5027 TN

Houston TX 77252

SB546

				Dry				
CAT			Dry	Method		Dilution		
No.	Analysis Name	CAS Number	Result	Detection Limit	Units	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/ikg	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 p in methanol. The reporting lim							
	Poor surrogate recoveries were needed to perform the analysis.	observed for t	his sample due t	o the dilution				
	Due to excessive foaming of the attained.	sample, norma	l reporting limi	ts were not				
02304	UST-Unleaded Soils by 8260B							
05460	Benzene	71-43-2	N.D.	1.	ug/kg	0.99		

05400	benzene	/1-43-2	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

CAT		Laboratory	Chro	Dilution		
No.	Analysis Name	Method	Trial#	Date and Time	Analyst	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





2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax: 717-656-2681 • www.lancasterlabs.com

Page 2 of 2

#### Lancaster Laboratories Sample No. SW 4107351

Collected:08/20/2003 14:45			by FL Account Number: 11288					
	Submit	ted: 08/22/2003 09:30		Co	nocoPhill	ips		
	-	ed: 08/27/2003 at 16:45		Р.	0. Box 21	.97; 502	27 TN	
		d: 09/27/2003						
SB-5 4-6' Grab Soil Sample Site# 3708				нс	ouston TX	77252		
		1 Battery						
		-						
	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





Page 1 of 1

#### Lancaster Laboratories Sample No. WW 4107352

Collected: n.a.

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 Account Number: 11288 ConocoPhillips

P.O. Box 2197; 5027 TN

Houston TX 77252

TBBAT

CAT			As Received	As Received Method		Dilution	
No.	Analysis Name	CAS Number	Result	Detection Limit	Units	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						

was performed to demonstrate precision and accuracy at a batch level.

CAT		Laboratory	Chro	Dilution		
No.	Analysis Name	Method	Trial#	Date and Time	Analyst	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.





# **Analysis Report**

2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax: 717-656-2681 • www.lancasteriabs.com

Page 1 of 4

## Quality Control Summary

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

Group Number: 864207

#### Laboratory Compliance Quality Control

Analysis Name	Blank <u>Result</u>	Blank <u>MDL</u>	Report <u>Units</u>	LCS <u>%REC</u>	LCSD SREC	LCS/LCSD <u>Limits</u>	<u>RPD</u>	<u>RPD Max</u>
Batch number: 03234A33A TPH-GRO 8015B - soil	Sample N.D.	number(s): 0.2	4107338-410 mg/kg	)7342,4107 99	7346-41073	51 70-130		
Batch number: 03234A33B TPH-GRO 8015B - soil	Sample N.D.	number(s): 0.2	4107337,410 mg/kg	07343-4107 99	7345	70-130		
Batch number: 032350003A TPH-DRO by 8015B	Sample N.D.	number(s): 4.0	4107337-410 mg/kg	96	99	74-118	3	20
Batch number: 03237237201A Chloride by IC (solid)	Sample N.D.	number(s): 3.0	4107337-410 mg/kg	07346 101		90-110		
Batch number: 03237237201B Chloride by IC (solid)	Sample N.D.	number(s): 3.0	4107347-410 mg/kg	07351 101		90-110		
Batch number: 03237912201A Moisture	Sample	number(s):	4107337-410	07346 101		99~102		
Batch number: 03237912201B Moisture	Sample	<pre>number(s):</pre>	4107347-410	07351 101		99~102		
Batch number: T032341AB Benzene Toluene Ethylbenzene Xylene (Total)	Sample N.D. N.D. N.D. N.D.	number(s): 0.5 0.7 0.8 0.8	4107352 ug/l ug/l ug/l ug/l	94 97 87 91	95 100 90 94	85-117 85-115 82-119 84-120	1 3 4 3	30 30 30 30
Batch number: X032331AB Benzene Toluene Ethylbenzene Xylene (Total)	Sample N.D. N.D. N.D. N.D.	number(s): 1. 1. 1. 1.	4107337-410 ug/kg ug/kg ug/kg ug/kg	07338 99 94 95 95		83-118 81-116 82-115 82-117		
Batch number: X032331AC Benzene Toluene Ethylbenzene Xylene (Total)	Sample N.D. N.D. N.D. N.D. N.D.	number(s): 1. 1. 1. 1.	4107339-410 ug/kg ug/kg ug/kg ug/kg	07351 99 94 95 95		83-118 81-116 82-115 82-117		

#### Sample Matrix Quality Control

	MS	MSD	MS/MSD		RPD	BKG	DUP	DUP	Dup
Analysis Name	SREC	SRBC	<u>Limits</u>	<u>RPD</u>	MAX	Conc	Conc	RPD	RPD <u>Max</u>
Batch number: 03234A33A TPH-GRO 8015B - soil	Sample 82	number 85	(s): 4107338 70-130	3-41073 3	42,410 30	7346-410735	1		
Batch number: 03234A33B TPH-GRO 8015B - soil	Sample 82	number 85	(s): 4107337 √70-130	7,41073 3	43-410 30	7345			
Batch number: 03237237201A Chloride by IC (solid)	Sample 129*	number	(s): 4107337 90-110	7-41073	346	5,780.	4,600.	23*	20

\*- Outside of specification

(1) The result for one or both determinations was less than five times the LOQ.





Page 2 of 4

## Quality Control Summary

Group Number: 864207

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

Sample	Matrix	Quality	Control
Dampte	THE CT TY	QUGTICY	

	MS	MSD	MS/MSD	RPD	BKG	אַנעמ	DUP	Dup RPD
<u>Analysis Name</u> Batch number: 03237237201B	Sample	\$REC	Limits RPD (s): 4107347-41073	MAX	Conc	Conc	RPD	Max
Chloride by IC (solid)	100	number	90-110	51	9.8	11.5	16 (1)	20
Batch number: 03237912201A Moisture	Sample	number	(s): 4107337-41073	46	7.6	8.0	4	7
Batch number: 03237912201B Moisture	Sample	number	(s): 4107347-41073	51	4.4	4.4	1 (1)	7
Batch number: T032341AB Benzene Toluene Ethylbenzene Xylene (Total)	Sample 104 105 95 98	number	(s): 4107352 83-128 83-127 82-134 82-130					
Batch number: X032331AB Benzene Toluene Ethylbenzene Xylene (Total)	Sample 96 83 90 85	number 95 85 90 86	(s): 4107337-41073 52-141 1 53-137 2 50-136 1 47-139 1	38 30 30 30 30 30				
Batch number: X032331AC Benzene Toluene Ethylbenzene Xylene (Total)	Sample 96 83 90 85	number 95 85 90 86	(s): 4107339-41073 52-141 1 53-137 2 50-136 1 47-139 1	51 30 30 30 30 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			

66-117 Analysis Name: TPH-GRO 8015B - soil

\*- Outside of specification

Limits:

(1) The result for one or both determinations was less than five times the LOQ.





Page 3 of 4

### Quality Control Summary

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

Surrogate Quality Control

Batch	number:	03234A33B
	Т	rifluorotoluene-F

4107337	106		
4107343	102		
4107344	107		
4107345	106		
Blank	98		
LCS	109		
MS	102		
MSD	104		
Limits:	66-117		
Analysis I Batch numl	Name: TPH-DRO by 8015B Ser: 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

	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 1	Name: UST-Unleaded Soils b	V 8260B		
Batch num	per: X032331AB			
Batch num	per: X032331AB Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
		-	Toluene-d8	4-Bromofluorobenzene
4107337	Dibromofluoromethane	1,2-Dichloroethane-d4		
Batch num 4107337 4107338 Blank	Dibromofluoromethane 96	- 1,2-Dichloroethane-d4 95	87	94

\*- Outside of specification

(1) The result for one or both determinations was less than five times the LOQ.





Page 4 of 4

## Quality Control Summary

	Name: ConocoPhillips		Group Number: 864207	
Reported	1: 08/27/03 at 04:45	PM		
		Surrogate Q	uality Control	
MS	93	94	90 -	93
MSD	91	92	91	93
Limits:	70-129	70-121	70-130	70-128
	Name: UST-Unleaded Soils b	y 8260B		
Batch num	per: 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.



# **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
С	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)	Ĩ	liter(s)
m3	cubic meter(s)	ul	microliter(s)
<	less than - The number following the reliably determined using this specific	-	antitation, the smallest amount of analyte which can be
>	greater than	,	
J	estimated value - The result falls with	hin the Method Detec	tion Limit (MDL) and Limit of Quantitation (LOQ).
ppm	aqueous liquids, ppm is usually taker	n to be equivalent to n	per kilogram (mg/kg), or one gram per million grams. For nilligrams per liter (mg/l), because one liter of water has a ppm is equivalent to one microliter of gas per liter of gas.
ppb	parts per billion		
Drv weight	Results printed under this heading ha	ave been adjusted for	moisture content. This increases the analyte weight

Dry weight suits printed under this heading have been adjusted for moisture content. This increases the analyte weight basis 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
- В Analyte was also detected in the blank
- С Pesticide result confirmed by GC/MS
- D Compound quantitated on a diluted sample
- E Concentration exceeds the calibration range of the instrument
- Ν Presumptive evidence of a compound (TICs only) P Concentration difference between primary and
- confirmation columns >25%
- U Compound was not detected
- Defined in case narrative X,Y,Z

#### **Inorganic Qualifiers**

- Value is <CRDL, but ≥IDL В
- F Estimated due to interference
- Μ Duplicate injection precision not met
- Spike sample not within control limits N
- Method of standard additions (MSA) used S 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 guestions 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.

WARRANTY AND LIMITS OF LIABILITY - In accepting analytical work, we warrant the accuracy of test results for the sample as submitted. THE FOREGOING EXPRESS WARRANTY IS EXCLUSIVE AND IS GIVEN IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED. WE DISCLAIM ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING A WARRANTY OF FITNESS FOR PARTICULAR PURPOSE AND WARRANTY OF MERCHANTABILITY. IN NO EVENT SHALL LANCASTER LABORATORIES BE LIABLE FOR INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR LOSS OF PROFIT OR GOODWILL REGARDLESS OF (A) THE NEGLIGENCE (EITHER SOLE OR CONCURRENT) OF LANCASTER LABORATORIES AND (B) WHETHER LANCASTER LABORATORIES HAS BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. We accept no legal responsibility for the purposes for which the client uses the test results. No purchase order or other order for work shall be accepted by Lancaster Laboratories which includes any conditions that vary from the Standard Terms and Conditions of Lancaster Laboratories and we hereby object to any conflicting terms contained in any acceptance or order submitted by client.

## 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.

Department of Energy 2001. Environmental Assessment for Conducting Astrophysics and Other Basic Science Experiments at the WIPP Site. Doc No. DOE/EA. USDOE, Washington, D.C.

New Mexico Oil Conservation Division 1993. Guidelines for Remediation of Leaks, Spills and Releases. NMOCD Guidance Document, August 13, 1993.

Scanlon, B.R., Tyler, S.W., and Wierenga, P.J., 1997, Hydrologic Issues in Arid, Unsaturated Systems and Implications for Contaminant Transport. Reviews of Geophysics, N.35, v. 4, pp 461-490.

Turner, Millard T., Cox, Dellon N., Mickelson, Brice C., Roath, Archie J., and Wilson, Carl D., 1974. Soil Survey of Lea County, New Mexico. Unites States Department of Agriculture-Soil Conservation Service and the New Mexico Agriculture Experiment Station, January, 1974.





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*.

Mr. Thomas A. Loftus III September 22, 2003 Page 2

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 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

Mr. Thomas A. Loftus III September 22, 2003 Page 3

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 on depth to water 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

Mr. Thomas A. Loftus III September 22, 2003 Page 4

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 46 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.

Mr. Thomas A. Loftus	II
September 22, 2003	
Page 5	

#### 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

.

.

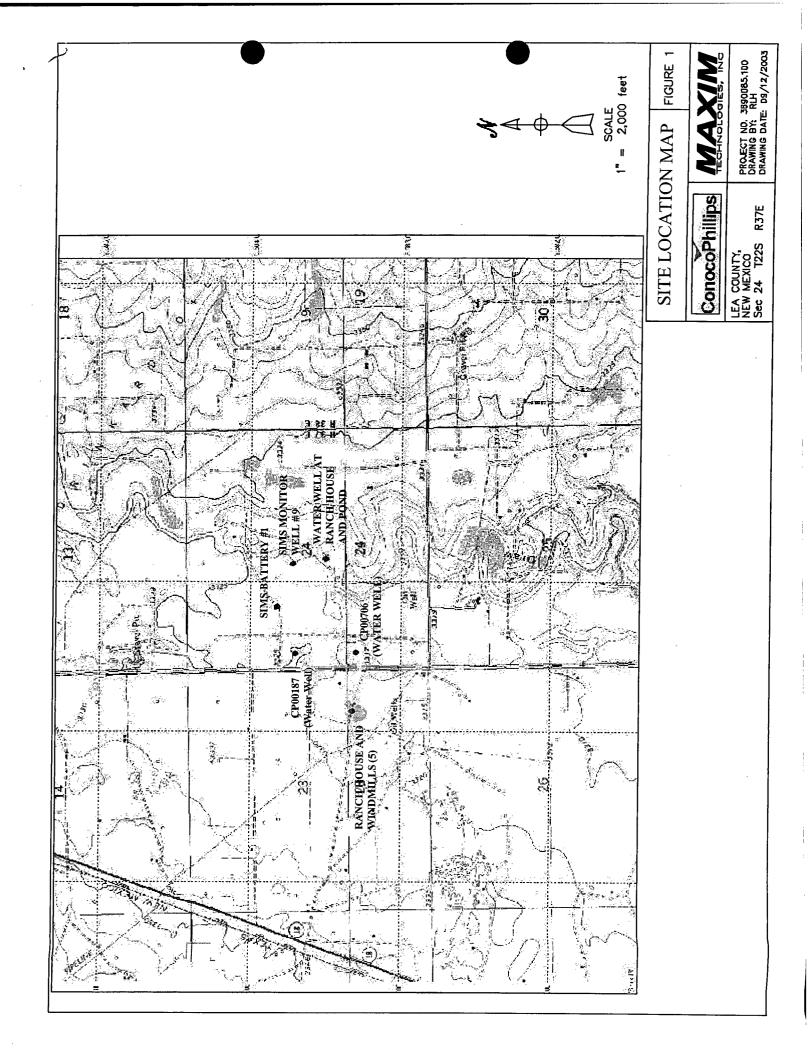
.

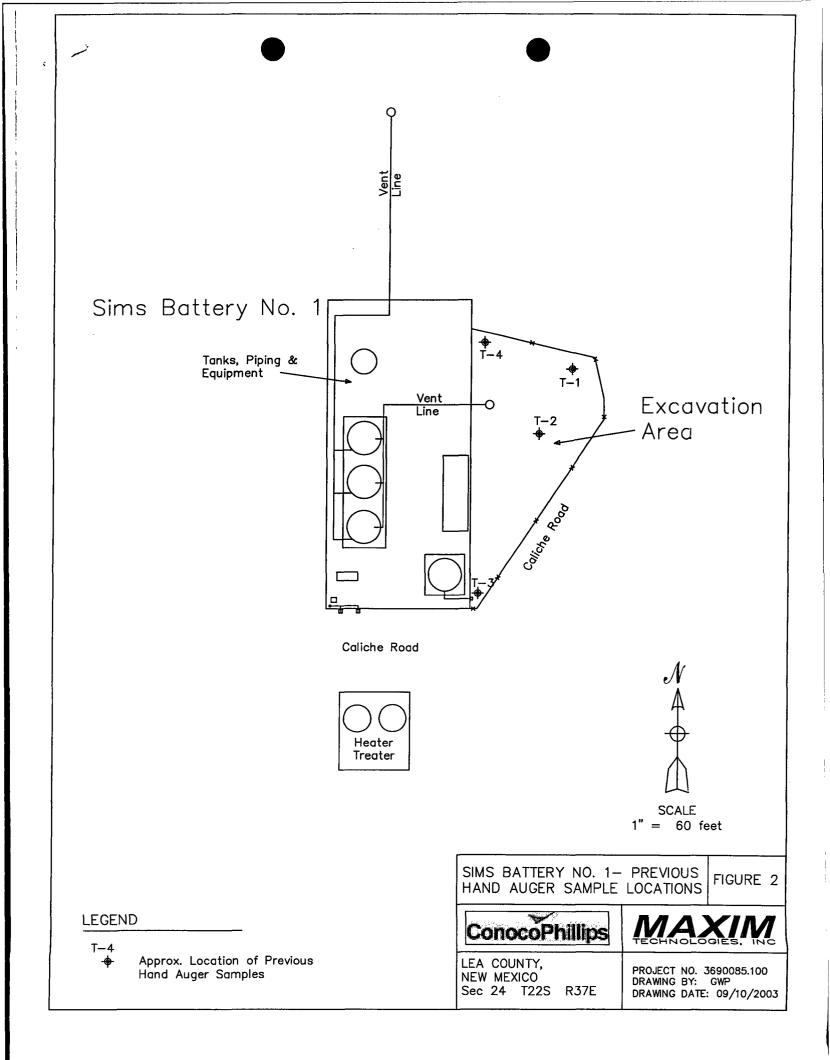
.

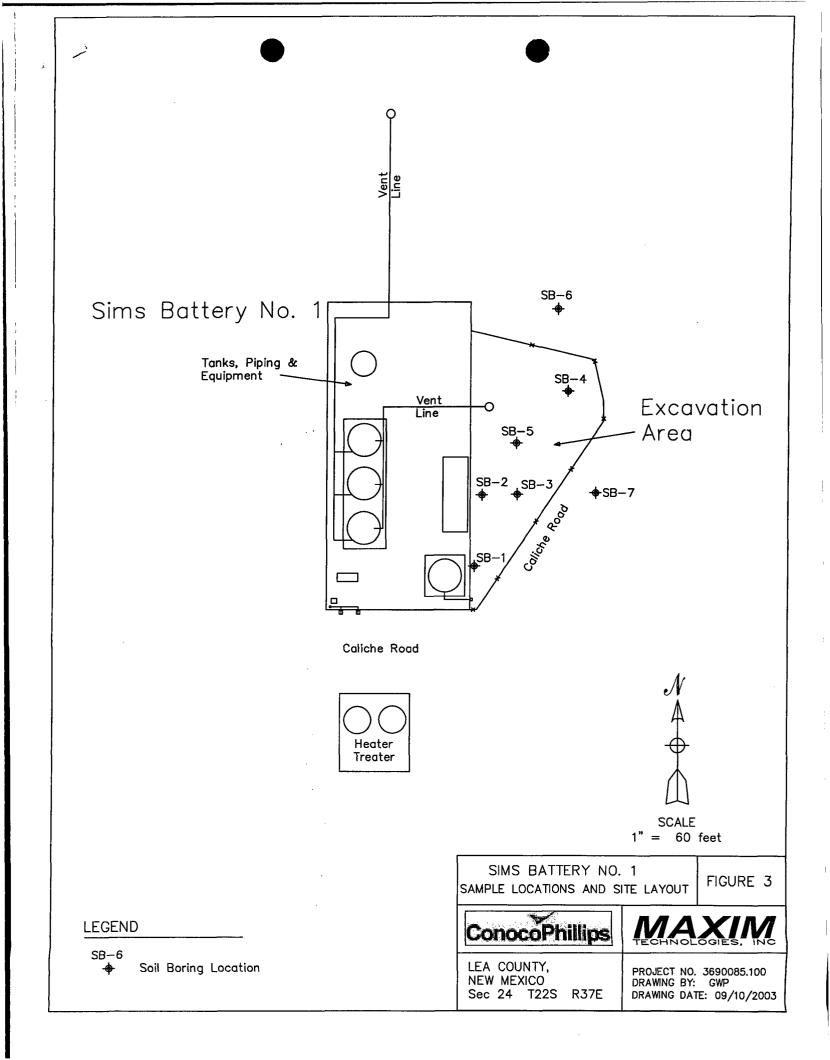
.

FIGURES

.









. .

.

# TABLES

ړ

,

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

Sample	Sample	HdL	Chloride	Benzene	Toluene	Ethylhenzene	Yvlanas
Identification	Date	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	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	QN	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	20	106	DN	0.033	0.032	0.038
T3 - 0-6"	12/13/2000	1,130	740	QN	0.032	0.032	0.032
T3 - 6-18"	12/13/2000	5,520	1,356	DN	ΠN	QN	QN
T4 - 0-6" Background	12/13/2000	QN	DN	QN	QN	QN	QN
T4 - 6-18" Background	12/13/2000	20	Q	QN	DN	DN	DN
T1 - 0-6" N	2/8/2001	4,930	35	ΩN	3.73	3.67	15.96
T1 - 6-18" N	2/8/2001	880	39	QN	0.147	0.04	0.118
T2 - 0-6" M	2/8/2001	QN	434	QN	QN	QN	Q
T2 - 6-18" M	2/8/2001	40	430	QN	Q	QN	Q
T3 - 0-6" S	2/8/2001	1,840	2,446	QN	QN	QN	QN
T3 - 6-18" S	2/8/2001	160	2,797	QN	QN	QN	Q
T4 - 0-6" NW	2/8/2001	QN	1,436	QN	QN	QN	Q
🙀 T4 - 6-18" NW	2/8/2001	QN	1,418	DN	QN	QN	QN
T1-N - 14"	2/13/2001	760	59	QN	ΠN	QN	QN
T3-S - 27"	2/13/2001	QN	2,099	ND	QN	QN	Q
T3-S - 36"	2/13/2001	40	1,903	DN	QN	DN	QN
T4-NW - 29"	2/13/2001	60	1,355	DN	ΔN	QN	QN
T4-NW - 44"	2/13/2001	60	885	QN	QN	QN	QN
	1000010110						
	1002/91/2	1,020	64	QN	QN	Q	0.026
I 2-Middle	2/16/2001	11,800	317	ND	0.088	0.955	6.466
T3-South	2/16/2001	QN	461	QN	0.637	0.121	QN
Background	2/16/2001	140	18	QN	QN	QN	QN
11-North	3/15/2002	6,600	164	NA	NA	NA	AN
T2-Middle	3/15/2002	70.9	35	NA	NA	NA	NA
T3-South	3/15/2002	674	3,320	NA	NA	NA	AN
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	ratory detection limits						
		×	- - -				

Maxim Technologies, Inc.

ļ

i

•

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

ر

	SB-1	SB-1	SB-2	SB-2	SB-3	SB-3	SB-4	SB-4	SR-5	SP.5	SR.5	202	2 0 2	- QQ	1 44
	0-2	4-6'	0-2'	4-6'	0-2'	4-6'	0-21	4-6'	0-21	4-6'	10-12	0-2,	0-00 7-F	1-00	1-00
TPH (mg/kg)														4 2	2
DRO	11	ND	29	QN	41	g	210	650	620	27	CIN	CN	CIN	Ľ	
GRO	0.7	QN	QN	QN	QN	g	0.4	Ð	0.3		Q	2 G		, CN	
															Ì
BTEX (mg/kg)										T					
Benzene	DN	QN	g	Q	Q	Q	Q	2	Q	G	CZ	CN			
Ethylbenzene	QN	QN	Q	g	g	g	G	E							
Toluene	QN	QN	GN	GN	CIN										
Yvlanae	Ş										Ē	N	n	nn	QN
vyicilco				P	Ē	R	0.002	0.001	0.001	ND	QN	0.004	0.001	0.001	Q
						-									
CI (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	<u> </u>	604
mo/ko = milliorams per kilooram	ber kilooram														190

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

\$

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

score

9 o o <del>0</del>

Maxim Technologies, Inc.

**APPENDIX A** 

ز

# **Boring Logs**

PROJECT N	AME: 3690085 Sims Battery #1	SOIL VAPOR BORING NOSB-1
drilled by date hole date abani remarks:		FIELD LOGGED BY: <u>F. Lichnovsky</u> GROUNDWATER LEVEL (bgs): <u>Not Encountered</u> (ft) DRILL TYPE: <u>Air Rotary</u>
		BORE HOLE DIAMETER: _5 inches (in)

HLG HLC (s60) HLC (s60) HLC HLC HC HC HC HC HC HC HC HC HC HC HC HC HC	USCS SYMBOL	BLOW COUNT			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

5

#### MAXIM TECHNOLOGIES INC\* EXPLORATORY BORING LOG SB-1

o

PROJECT N	AME: <u>3690085</u> Sims Battery #1		SOIL VAPOR BORING NOSB-2
DRILLED BY: DATE HOLE	DRILLED:	lling 8/20/03 8/20/03	FIELD LOGGED BY: F. Lichnovsky
DATE ABANI REMARKS:	bgs = below grou NS=Not Sample	und surface	GROUNDWATER LEVEL (bgs): Not Encountered (ft) DRILL TYPE: Air Rotary
	NA=Not Applical	ble	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

		thin calcareous veins	CL	Pushed	x		0	-
		Clay, off white- cream to light brownish-gray, chalky, dry to slightly moist	CL	Pushed		1	0	-
5.0		Caliche, white to cream with interbedded clay layers		Drilled	x		0	- 5

Boring Terminated at 6' bgs

-5

MAXIM, E

PROJECT N	AME: 3690085 Sims Battery #1			SOIL VAPOR E	BORING N	0	SB-3	
DRILLED BY: DATE HOLE	Scarborough Dri	lling 8/20/03		FIELD LOGGE	D BY:	F. Lichnovsk	у	
DATE ABANI REMARKS:		8/20/03	(	GROUNDWAT	ER LEVEL	(bgs):	Not Encountered	(ft)
	NS=Not Sample	d		ORILL TYPE:	Air Rotar	у		
			 	BORE HOLE D	IAMETER	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	- °

CL

Pushed

Drilled

х

Clay, off white- cream, to light brownish-gray, some caliche

Caliche, white to cream with interbedded clay layers

nodules, chalky, dry to slightly moist

Boring Terminated at 6' bgs

3690085

4

5.0

# **MAXIM** EXPLORATORY BORING LOG SB-3

Page 1 of 1

0

0

- 5

	NAME: 3690085 Sims Battery #1	SOIL	. VAPOF	BORING NO.		SB-4			
DRILLED B	Y: Scarborough Drilling	_ FIEL	D LOGG	ED BY: <u>F.</u>	Lichnov	/sky			
DATE HOLI DATE ABAN REMARKS:	-	UNDWA	TER LEVEL (b	gs):	N	ot Enci	ountered	d (ft)	
		BOR	EHOLE	DIAMETER:	5 inche	es			(in)
DEPTH (bgs) - ft SAMPLE INTERVAL/ID #	CLASSIFICATION AND DESCRIPTION		USCS SYMBOL	BLOW COUNT	ANALYTICAL	TIME	% RECOVERY	PID RESULT (ppm)	DEPTH (bas) - ft
	Clay, off white- cream, chalky, dry to slightly calcareous veins	moist, some thin	CL	Pushed	x			0	F °
	Clay, off white- cream to light brownish-gray, slightly moist	chalky, dry to	CL	Pushed				0	-  -
	Caliche, white to cream with interbedded cla	y layers		Drilled	x			1.3	5

Boring Terminated at 6' bgs

3690085

â.

•

MAXIM TECHNOLOGIES INC



LO		/IE: 3690085	SOIL	. VAPOR	BORING NO.		SB-5	i	······································	
	ILLED BY:	Scarborough Drilling	FIEL.	D LOGG	ED BY: <u>F.</u>	Lichnov	/sky			- *** **,
DA1	FE ABANDO MARKS:				TER LEVEL (b	ıgs):	<u>_N</u>	ot Enc	ountere	d (ft)
		NA=Not Applicable								
		······································	BOR	E HOLE	DIAMETER: _	5 inche	es			(in)
				<u> </u>	·		<u> </u>	<u></u>		
DEPTH (bgs) - ft	SAMPLE INTERVAL/ID#	CLASSIFICATION AND DESCRIPTION		USCS SYMBOL	BLOW COUNT	ANALYTICAL	TIME	% RECOVERY	PID RESULT (ppm)	DEPTH (bgs) - ft
	INTE SP		<u> </u>	nsu N	BLO	AN		% R	H Chả	
) т										
-				<u> </u>	T			т	T	O
1		Clay, off white- cream, chalky, dry to slightly moist, som calcareous veins	e thin	CL	Pushed	x			0	<b>⊢</b> °
			_	CL CL	Pushed Pushed	x			0	— 0  -  -  -
- - - - -		calcareous veins Clay, off white- cream to light brownish-gray, chalky, dry	/ to			x x				- 0 
) -		calcareous veins Clay, off white- cream to light brownish-gray, chalky, dry slightly moist Caliche, white to cream to light tan with interbedded cla	v to ay		Pushed				0	-
		calcareous veins Clay, off white- cream to light brownish-gray, chalky, dry slightly moist Caliche, white to cream to light tan with interbedded cla layers	v to ay		Pushed				0	
- (		calcareous veins Clay, off white- cream to light brownish-gray, chalky, dry slightly moist Caliche, white to cream to light tan with interbedded cla layers	v to ay	CL	Pushed Pushed				0	

Boring Terminated at 12' bgs

3690085

ì

1 1

٦

# **MAXIM** EXPLORATORY BORING LOG SB-5



		AME <u>: 3690085</u> Sims Battery #1	SOIL VAPOR BORING NOSB-6						
1		: Scarborough Drilling DRILLED: 8/20/03	FIELD LOGGED BY: F. Lichnovsky						
	TE ABANI MARKS:		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 USCS SYMBOL BLOW COUNT ANALYTICAL ANALYTICAL TIME % RECOVERY PID RESULT (ppm) DEPTH (bgs) - ft						

0.0	חר	Sand	, light brown, fine grained, unconsolidated, dry				1	<b>₽</b> 0
				CL	Pushed	×	0	F
		slight	, off white- cream to light brownish-gray, chalky, dry to tly 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

3

5



5

0

[	N: Sims Battery # 3Y: Scarborough D		FIEL	.D LOGO	GED BY: <u>F.</u>	Lichnov	sky			
DATE HOLE DRILLED: DATE ABANDONED: REMARKS: <u>bgs = below gro</u> NS=Not Sampl NA=Not Applica		led	DRIL	GROUNDWATER LEVEL (bgs): Not Encountered ( DRILL TYPE: Air Rotary						d (ft)
		<u></u>	BOR	E HOLE	DIAMETER:_	5 Inch				(")
DEPTH (bgs) - ft SAMPLE INTERVAL/ID #		CLASSIFICATION AND DESCRIPTION		USCS SYMBOL	BLOW COUNT	ANALYTICAL	TIME	% RECOVERY	PID RESULT (ppm)	DEPTH (bas) - ft
	Sand, light	brown, fine grained, unconsolidated, dry		CL	Pushed	x			0	<b>-</b> 0
	Clay, off wh slightly moi	nite- cream to light brownish-gray, chalky, c st	iry to	CL	Pushed				0	F

Pushed

х

Clay, off white- cream, chalky, caliche nodules, slightly moist

Boring Terminated at 6' bgs

5.0

3690085

**APPENDIX B** 

# Laboratory Analytical 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

SB-1 0-2' Grab Soil Sample SB-1 4-6' Grab Soil Sample SB-2 0-2' Grab Soil Sample SB-2 4-6' Grab Soil Sample SB-3 0-2' Grab Soil Sample SB-3 4-6' Grab Soil Sample SB-4 0-2' Grab Soil Sample SB-4 4-6' Grab Soil Sample SB-5 0-2' Grab Soil Sample SB-5 10-12' Grab Soil Sample SB-6 0-2' Grab Soil Sample SB-6 4-6' Grab Soil Sample SB-7 0-2' Grab Soil Sample SB-7 4-6' Grab Soil Sample SB-5 4-6' Grab Soil Sample Trip Blank Water Sample

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



e



2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 \*717-656-2300 Fax: 717-656-2681 \* Www.lancasterlabs.com

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

Respectfully Submitted,





2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax: 717-656-2681 • Www.lancasterlabs.com

Page 1 of 2

### Lancaster Laboratories Sample No. SW 4107337

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

Account Number: 11288

ConocoPhillips P.O. Box 2197; 5027 TN

Houston TX 77252

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

#### SB102

				Dry		
CAT			Dry	Method		Dilution
No.	Analysis Name	CAS Number	Result	Detection Limit	Units	Factor
08270	TPH-DRO by 8015B	n.a.	11.	4.5	mg/kg	1
	According to the SW-846 8015B m Organics was performed by peak that of our #2 Fuel Oil referen hydrocarbons). Site-specific MS/MSD samples we	area compariso ce standard (b	on of the sample between C10 and	pattern to C28 normal		
	was performed to demonstrate pr	ecision and ac	curacy at a bat	ch level.		
02111	Moisture	n.a.	11.4	1.0	ક	1
	"Moisture" represents the loss infrared lamp at 150 degrees Ce		he sample after 6.520.		- 12	
07333	Chloride by IC (solid)		-,	3.4	mg/kg	200
	Matrix QC was performed on this	-		-		
	see the attached QC Summary rep	ort for the pa	rameter showing	a matrix bias.		
01637	TPH-GRO 8015B - soil					
01641	TPH-GRO 8015B - soil	n.a.	0.7	0.2	mq/kq	25
	The analysis for volatiles was in methanol. The reporting lim					
	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	' Chro	nicle		
CAT		_		Analysis		Dilution
No.	Analysis Name	Method	Trial#	Date and Time	Analyst	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.





Page 2 of 2

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		ConocoPhillips P.O. Box 2197; 5027 TN
SB-1 0-2' Grab Soil Sample Site# 3708 Sims #1 Battery		Houston TX 77252
	EPA 300.0 1 SW-846 3550B 1	08/25/2003 13:30 Cheryl L Robinson 1 08/24/2003 22:50 Karen L Beyer 1



2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax: 717-656-2681 • www.lancasterlabs.com

Page 1 of 1

#### Lancaster Laboratories Sample No. SW 4107338

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

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 Account Number: 11288

ConocoPhillips P.O. Box 2197; 5027 TN

Houston TX 77252

### SB146

ĺ

				Dry		
CAT			Dry	Method		Dilution
No.	Analysis Name	CAS Number	Result	Detection Limit	Units	Factor
08270	TPH-DRO by 8015B	n.a.	N.D.	4.3	mg/kg	1
	According to the SW-846 8015B m Organics was performed by peak that of our #2 Fuel Oil referen hydrocarbons). Site-specific MS/MSD samples we	area compariso ce standard (h re not submitt	on of the sample p between C10 and C ted for the project	pattern to 28 normal ct. A LCS/LCSD		
	was performed to demonstrate pr	ecision and ac	curacy at a batch	n level.		
02111	Moisture	n.a.	7.6	1.0	ક	1
	"Moisture" represents the loss infrared lamp at 150 degrees Ce		the sample after o	drying with an		
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 in methanol. The reporting lim					
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	0114 0			
CAT				Analysis		Dilution
No.	Analysis Name	Method	Trial#	Date and Time	Analyst	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





Page 1 of 1

.....

### 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

C 3 T

				Dry		
CAT			Dry	Method		Dilution
No.	Analysis Name	CAS Number	Result	Detection Limit	Units	Factor
08270	TPH-DRO by 8015B	n.a.	29.	4.5	mg/kg	1
	According to the SW-846 8015B m Organics was performed by peak that of our #2 Fuel Oil referen hydrocarbons). Site-specific MS/MSD samples we	area compariso ce standard (h re not submitt	on of the sample between Cl0 and red for the proj	pattern to C28 normal ect. A LCS/LCSD		
	was performed to demonstrate pr	ecision and ac	curacy at a bat	ch level.		
02111	Moisture	n.a.	10.5	1.0	ala ala	1
	"Moisture" represents the loss infrared lamp at 150 degrees Ce	lsius.	-	drying with an		
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 in methanol. The reporting lim				2. 0	
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

CAT				Analysis		Dilution
No.	Analysis Name	Method	Trial#	Date and Time	Analyst	Factor
082	70 TPH-DRO by 8015B	SW-846 8015B	1	08/25/2003 15:59	Tracy A Cole	1
021	11 Moisture	EPA 160.3 modified	1	08/25/2003 13:44	Nancy J Shoop	1
0733	33 Chloride by IC (solid)	EPA 300.0	1	08/26/2003 15:03	Shannon L Phillips	2
016:	37 TPH-GRO 8015B - soil	SW-846 8015B - modified	1	08/22/2003 15:04	Steven A Skiles	25
0230	04 UST-Unleaded Soils by 8260B	SW-846 8260B	1	08/24/2003 19:24	Susan McMahon-Luu	1
0031	74 GC/MS VOA Soil Prep	SW-846 5030A	1	08/24/2003 13:31	Susan McMahon-Luu	n.a.
0115	50 GC VOA Soil Prep	SW-846 5035	1	08/22/2003 13:05	Steven A Skiles	n.a.
0135	52 Deionized Water Extraction	EPA 300.0	1	08/25/2003 13:30	Cheryl L Robinson	1
0700	D4 Extraction - DRO (Soils)	SW-846 3550B	1	08/24/2003 22:50	Karen L Beyer	1





Page 1 of 1

### Lancaster Laboratories Sample No. SW 4107340

Collected:08/20/2003 11:30 by FL Submitted: 08/22/2003 09:30 Reported: 08/27/2003 at 16:43 Discard: 09/27/2003

Discard: 09/27/2003 SB-2 4-6' Grab Soil Sample Site# 3708 Sims #1 Battery Account Number: 11288

ConocoPhillips P.O. Box 2197; 5027 TN

Houston TX 77252

SB46-

				Dry		
CAT		:	Dry	Method		Dilution
No.	Analysis Name	CAS Number	Result	Detection Limit	Units	Factor
08270	TPH-DRO by 8015B	n.a.	N.D.	4.7	mg/kg	1
	According to the SW-846 8015B m Organics was performed by peak that of our #2 Fuel Oil referer hydrocarbons). Site-specific MS/MSD samples we	area compariso nce standard (h	on of the sample g between Cl0 and C2	pattern to 28 normal		
•	. was performed to demonstrate pr	ecision and ac	curacy at a batch	level.		
02111	Moisture	n.a.	14.4	1.0	8	1
	"Moisture" represents the loss infrared lamp at 150 degrees Ce		he sample after d	lrying with an		
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 in methanol. The reporting lim					
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
	-				3,9	-

			0.11 0.			
CAT		-		Analysis		Dilution
No.	Analysis Name	Method	Trial#	Date and Time	Analyst	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	l	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



2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 •717-656-2300 Fax: 717-656-2681 • www.lancasterlabs.com

Page 1 of 2

### Lancaster Laboratories Sample No. SW 4107341

 Collected:08/20/2003 12:00
 by FL
 Account Number: 11288

 Submitted: 08/22/2003 09:30
 ConocoPhillips

 Reported: 08/27/2003 at 16:44
 P.O. Box 2197; 5027 TN

 Discard: 09/27/2003
 Houston TX 77252

 Site# 3708
 Sims #1 Battery

SB302

£

Ì

				Dry		
CAT			Dry	Method		Dilution
No.	Analysis Name	CAS Number	Result	Detection Limit	Units	Factor
08270	TPH-DRO by 8015B	n.a.	41.	4.6	mg/kg	1
	According to the SW-846 8015B m Organics was performed by peak that of our #2 Fuel Oil referen hydrocarbons). Site-specific MS/MSD samples we was performed to demonstrate pr	area comparisonce standard () ere not submitt	on of the sample between Cl0 and ted for the proj	e pattern to C28 normal ject. A LCS/LCSD		
00111	Moisture		-		•	_
02111		n.a.	13.1	1.0	8	1
	"Moisture" represents the loss infrared lamp at 150 degrees Ce		che sample alte	r drying with an		
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 in methanol. The reporting lim					
	Poor surrogate recoveries were	observed for t	his sample due	to the dilution		
	needed to perform the analysis.					
	Due to excessive foaming of the attained.	e sample, norma	al reporting lim	nits were not		
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	/ Chro	nicle		
CAT		-		Analysis		Dilution
No.	Analysis Name	Method	Trial#	Date and Time	Analyst	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	l	08/24/2003 20:16	Susan McMahon-Luu	l





Page 2 of 2

### 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		ConocoPhillips P.O. Box 2197; 5027 TN
SB-3 0-2' Grab Soil Sample Site# 3708 Sims #1 Battery		Houston TX 77252
SB302 00374 GC/MS VOA Soil Prep 01150 GC VOA Soil Prep 01352 Deionized Water Extraction 07004 Extraction - DRO (Soils)	SW-846 5035	1       08/24/2003 13:35       Susan McMahon-Lou       n.a.         1       08/22/2003 13:07       Steven A Skiles       n.a.         1       08/25/2003 13:30       Cheryl L Robinson       1         1       08/24/2003 22:50       Karen L Beyer       1



2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax: 717-656-2681 • Www.lancasterlabs.com

Page 1 of 1

#### Lancaster Laboratories Sample No. SW 4107342

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

Account Number: 11288

ConocoPhillips P.O. Box 2197; 5027 TN

Houston TX 77252

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

Submitted: 08/22/2003 09:30

### SB346

	,	* . 		Dry		•
CAT			Dry	Method		Dilution
No.	Analysis Name	CAS Number	Result	Detection Limit	Units	Factor
08270	TPH-DRO by 8015B	n.a.	N.D.	4.7	mg/kg	1
	According to the SW-846 801 Organics was performed by performed by performed by performed by performed by performed by the state of our #2 Fuel Oil reference of the state of	eak area compariso erence standard (h s were not submitt	on of the samp between Cl0 an ed for the pr	ole pattern to nd C28 normal coject. A LCS/LCSD		
	was performed to demonstrate	e precision and ac	curacy at a b	atch level.		
02111	Moisture	n.a.	15.0	1.0	웅	1
	"Moisture" represents the lo infrared lamp at 150 degrees		he sample aft	er drying with an		
07333	Chloride by IC (solid)	16887-00-6	17.1	3.5	mg/kg	1
01637 01641	TPH-GRO 8015B - soil TPH-GRO 8015B - soil	n.a.	N.D.	0.2	mg/kg	25
	The analysis for volatiles w in methanol. The reporting				5. 5	
02304	UST-Unleaded Soils by 8260B					
05460	Benzene	71-43-2	N.D.	1.	ug/kg	l
05466	Toluene	108-88-3	N.D.	1.	ug/kg	1
05400						
05474	Ethylbenzene	100-41-4	N.D.	1.	ug/kg	1 .

		-acotacory	Q112 Q.			
CAT		_		Analysis		Dilution
No.	Analysis Name	Method	Trial#	Date and Time	Analyst	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





Page 1 of 1

### Lancaster Laboratories Sample No. SW 4107343

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

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 Account Number: 11288

ConocoPhillips P.O. Box 2197; 5027 TN

Houston TX 77252

### SB402

CAT			Dest	Dry Method				
No.	Analysis Name	CAS Number	Dry Result	Detection	Units	Dilution Factor		
08270	TPH-DRO by 8015B	n.a.	210.	Limit 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 pr	ecision and ac	curacy at a batch	level.				
02111	Moisture	n.a.	6.7	1.0	ર્જ	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 in methanol. The reporting lim							
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		
	-				2. 2	_		

		Haboracory	CILL C.			
CAT				Analysis		Dilution
No.	Analysis Name	Method	Trial#	Date and Time	Analyst	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	ı '





Page 1 of 1

#### Lancaster Laboratories Sample No. SW 4107344

Collected:08/20/2003 14:25

by FL

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

Account Number: 11288

ConocoPhillips P.O. Box 2197; 5027 TN

Houston TX 77252

#### SB446

				Dry				
CAT			Dry	Method		Dilution		
No.	Analysis Name	CAS Number	Result	Detection Limit	Units	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 pr	ecision and ac						
02111	Moisture	n.a.	8.0	1.0	ક	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 in methanol. The reporting lim							
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		

CAT		-		Analysis		Dilution
No.	Analysis Name	Method	Trial#	Date and Time	Analyst	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



2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax: 717-656-2681 • www.lancasterlabs.com

Page 1 of 1

#### Lancaster Laboratories Sample No. SW 4107345

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

Account Number: 11288

ConocoPhillips P.O. Box 2197; 5027 TN

Houston TX 77252

SB502

Sims #1 Battery

				Dry				
CAT			Dry	Method		Dilution		
No.	Analysis Name	CAS Number	Result	Detection Limit	Units	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 pr	ecision and ac	curacy at a batch	n level.				
02111	Moisture	n.a.	8.1	1.0	ક	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 in methanol. The reporting lim							
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		
	-				5. 5			

			0112 0			
CAT		-		Analysis		Dilution
No.	Analysis Name	Method	Trial#	Date and Time	Analyst	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



2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax: 717-656-2681 • www.lancasterlabs.com

Page 1 of 1

#### Lancaster Laboratories Sample No. SW 4107346

Collected:08/20/2003 15:10 by FL 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 Account Number: 11288

ConocoPhillips P.O. Box 2197; 5027 TN

Houston TX 77252

SB510

				Dry				
CAT			Dry	Method		Dilution		
No.	Analysis Name	CAS Number	Result	Detection Limit	Units	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 pr	ecision and ac	curacy at a batch	level.				
02111	Moisture	n.a.	13.3	1.0	웅	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 in methanol. The reporting lim							
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.	uq/kq	1		
	-				<i></i>			

CAT		-		Analysis		Dilution
No.	Analysis Name	Method	Trial#	Date and Time	Analyst	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





Page 1 of 1

.. . .

#### 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 Account Number: 11288

ConocoPhillips P.O. Box 2197; 5027 TN

Houston TX 77252

.

### SB602

**~ m** 

				Dry				
CAT			Dry	Method		Dilution		
No.	Analysis Name	CAS Number	Result	Detection Limit	Units	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 pr	ecision and ac	curacy at a batch	1 level.				
02111	Moisture	n.a.	4.4	1.0	જ	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 in methanol. The reporting lim							
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	l		
06301	Xylene (Total)	1330-20-7	4.	1.	ug/kg	1		

CAT				Analysis		Dilution
No.	Analysis Name	Method	Trial#	Date and Time	Analyst	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



2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax: 717-656-2681 • WWW.lancasterlabs.com

Page 1 of 1

ł

### Lancaster Laboratories Sample No. SW 4107348

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

Account Number: 11288

ConocoPhillips P.O. Box 2197; 5027 TN

Houston TX 77252

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

### SB646

				Dry			
CAT			Dry	Method		Dilution	
No.	Analysis Name	CAS Number	Result	Detection Limit	Units	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 pr		-				
02111	Moisture	n.a.	7.4	1.0	ક	1	
	"Moisture" represents the loss infrared lamp at 150 degrees Ce		he sample after d	lrying with an			
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	

CAT				Analysis		Dilution
No.	Analysis Name	Method	Trial#	Date and Time	Analyst	Factor
0827	0 TPH-DRO by 8015B	SW~846 8015B	1	08/25/2003 13:24	Tracy A Cole	1
0211	1 Moisture	EPA 160.3 modified	1	08/25/2003 16:17	Nancy J Shoop	1
07333	3 Chloride by IC (solid)	EPA 300.0	l	08/27/2003 11:10	Shannon L Phillips	5
0163	7 TPH-GRO 8015B - soil	SW-846 8015B - modified	1	08/22/2003 20:07	Steven A Skiles	25
02304	4 UST-Unleaded Soils by 8260B	SW-846 8260B	1	08/24/2003 23:18	Susan McMahon-Luu	1
00374	4 GC/MS VOA Soil Prep	SW-846 5030A	1	08/24/2003 14:14	Susan McMahon-Luu	n.a.
01150	0 GC VOA Soil Prep	SW-846 5035	1	08/22/2003 13:11	Steven A Skiles	n.a.
01352	2 Deionized Water Extraction	EPA 300.0	1	08/25/2003 13:30	Cheryl L Robinson	1
07004	4 Extraction - DRO (Soils)	SW-846 3550B	1	08/24/2003 22:50	Karen L Beyer	1



2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax: 717-656-2681 • www.lancasterlabs.com

Page 1 of 1

### Lancaster Laboratories Sample No. SW 4107349

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

Account Number: 11288

ConocoPhillips P.O. Box 2197; 5027 TN

Houston TX 77252

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

SB702

**0 3 m** 

				Dry		
CAT			Dry	Method		Dilution
No.	Analysis Name	CAS Number	Result	Detection Limit	Units	Factor
08270	TPH-DRO by 8015B	n.a.	5.0	4.2	mg/kg	1
	According to the SW-846 8015B m Organics was performed by peak that of our #2 Fuel Oil referen hydrocarbons). Site-specific MS/MSD samples we	area compariso ce standard (h	on of the sample p between C10 and C2	eattern to 8 normal		
	was performed to demonstrate pr	ecision and ac	curacy at a batch	level.		
02111	Moisture	n.a.	3.8	1.0	*	1
	"Moisture" represents the loss infrared lamp at 150 degrees Ce		he sample after d	rying with an		
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
					3. 2	

CAT				Analysis		Dilution
No.	Analysis Name	Method	Trial#	Date and Time	Analyst	Factor
082	70 TPH-DRO by 8015B	SW-846 8015B	1	08/25/2003 15:37	Tracy A Cole	1
021	11 Moisture	EPA 160.3 modified	1	08/25/2003 16:26	Nancy J Shoop	1
0733	33 Chloride by IC (solid)	EPA 300.0	1	08/26/2003 18:16	Shannon L Phillips	1
0163	37 TPH-GRO 8015B - soil	SW-846 8015B - modified	1	08/22/2003 20:44	Steven A Skiles	25
0230	04 UST-Unleaded Soils by 8260B	SW-846 8260B	1	08/24/2003 23:44	Susan McMahon-Luu	1
0037	74 GC/MS VOA Soil Prep	SW-846 5030A	1	08/24/2003 14:44	Susan McMahon-Luu	n.a.
0115	50 GC VOA Soil Prep	SW-846 5035	1	08/22/2003 13:11	Steven A Skiles	n.a.
0135	52 Deionized Water Extraction	EPA 300.0	1	08/25/2003 13:30	Cheryl L Robinson	1
0700	04 Extraction - DRO (Soils)	SW-846 3550B	1	08/24/2003 22:50	Karen L Beyer	1



2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax: 717-656-2681 • www.lancasterlabs.com

Page 1 of 1

### Lancaster Laboratories Sample No. SW 4107350

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

Account Number: 11288

ConocoPhillips P.O. Box 2197; 5027 TN

Houston TX 77252

### SB746

Sims #1 Battery

				Dry			
CAT			Dry	Method		Dilution	
No.	Analysis Name	CAS Number	Result	Detection Limit	Units	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 pr	ecision and ac	curacy at a batcl	h level.			
02111	Moisture	n.a.	11.3	1.0	ક	1	
	"Moisture" represents the loss infrared lamp at 150 degrees Ce		the sample after o	drying with an			
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.	uq/kq	1	
	-				3, -3		

CAT				Analysis		Dilution
No.	Analysis Name	Method	Trial#	Date and Time	Analyst	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



2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax: 717-656-2681 • www.lancasterlabs.com

Page 1 of 2

### Lancaster Laboratories Sample No. SW 4107351

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

Account Number: 11288

ConocoPhillips P.O. Box 2197; 5027 TN

Houston TX 77252

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

SB546

				Dry		
CAT			Dry	Method		Dilution
No.	Analysis Name	CAS Number	Result	Detection Limit	Units	Factor
08270	TPH-DRO by 8015B	n.a.	27.	4.5	mg/kg	1
	According to the SW-846 8015B m Organics was performed by peak that of our #2 Fuel Oil referen hydrocarbons). Site-specific MS/MSD samples we	area compariso ce standard (b re not submitt	on of the sample between Cl0 and ( ed for the proje	pattern to 228 normal ect. A LCS/LCSD		
	was performed to demonstrate pr		-			
02111	Moisture	n.a.	10.4	1.0	8	1
	"Moisture" represents the loss infrared lamp at 150 degrees Ce	lsius.	he sample after	drying with an		
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 in methanol. The reporting lim					
	Poor surrogate recoveries were	observed for t	his sample due t	o the dilution		
	needed to perform the analysis.					
	Due to excessive foaming of the attained.	sample, norma	l reporting limi	ts were not		
	accaineu.					
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	Chro	nicle		
CAT		_		Analysis		Dilution
No.	Analysis Name	Method	Trial#	Date and Time	Analyst	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



ł



2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax: 717-656-2681 • www.lancasterlabs.com

Page 2 of 2

#### 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		ConocoPhillips P.O. Box 2197; 5027 TN
SB-5 4-6' Grab Soil Sample Site# 3708 Sims #1 Battery		Houston TX 77252
SB54600374GC/MS VOA Soil Prep01150GC VOA Soil Prep01352Deionized Water Extraction07004Extraction - DRO (Soils)	SW-846 5030A SW-846 5035 EPA 300.0 SW-846 3550B	1 08/25/2003 14:47 Susan 1 1 08/22/2003 13:13 Steven 1 08/25/2003 13:30 Cheryl 1 08/24/2003 22:50 Karen 1

Susan McMahon-Luu	n.a
Steven A Skiles	n.a
Cheryl L Robinson	1
Karen L Beyer	1





Page 1 of 1

#### Lancaster Laboratories Sample No. WW 4107352

Collected: n.a.

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 Account Number: 11288

ConocoPhillips P.O. Box 2197; 5027 TN

Houston TX 77252

#### TBBAT

1

1

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			·		

was performed to demonstrate precision and accuracy at a batch level.

		Laboratory	v Chro	nıcle		
CAT		-		Analysis		Dilution
No.	Analysis Name	Method	Trial#	Date and Time	Analyst	Factor
02300	UST-Unleaded Waters by 8260B	SW-846 8260B	l	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.

~1

• •



2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 \*717-656-2300 Fax: 717-656-2681\* www.lancasterlabs.com

Page 1 of 4

### Quality Control Summary

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

Laboratory Compliance Quality Control

Analysis Name	Blank <u>Result</u>	Blank <u>MDL</u>	Report <u>Units</u>	LCS <u>%REC</u>	LCSD <u>%REC</u>	LCS/LCSD Limits	RPD	<u>RPD Max</u>
Batch number: 03234A33A TPH-GRO 8015B - soil	Sample n N.D.	umber(s): 0.2	4107338-41 mg/kg	07342,4107 99	7346-41073	51 70-130		
Batch number: 03234A33B TPH-GRO 8015B - soil	Sample n N.D.	umber(s): 0.2	4107337,410 mg/kg	99 99	345	70-130		
Batch number: 032350003A TPH-DRO by 8015B	Sample n N.D.	umber(s): 4.0	4107337-410 mg/kg	96 96	99	74-118	3	20
Batch number: 03237237201A Chloride by IC (solid)	Sample n N.D.	umber(s): 3.0	4107337-410 mg/kg	07346 101		90-110		
Batch number: 03237237201B Chloride by IC (solid)	Sample nu N.D.	umber(s): 3.0	4107347-410 mg/kg	07351 101		90-110		
Batch number: 03237912201A Moisture	Sample n	umber(s):	4107337-410	07346 101		99-102		
Batch number: 03237912201B Moisture	Sample nu	umber(s):	4107347-410	07351 101		99-102	•	
Batch number: T032341AB Benzene Toluene Ethylbenzene Xylene (Total)	Sample nu N.D. N.D. N.D. N.D. N.D.	umber(s): 0.5 0.7 0.8 0.8	4107352 ug/l ug/l ug/l ug/l	94 97 87 91	95 100 90 94	85-117 85-115 82-119 84-120	1 3 4 3	30 30 30 30
Batch number: X032331AB Benzene Toluene Ethylbenzene Xylene (Total)	Sample nu N.D. N.D. N.D. N.D. N.D.	umber(s): 1. 1. 1. 1.	4107337-410 ug/kg ug/kg ug/kg ug/kg	)7338 99 94 95 95		83-118 81-116 82-115 82-117		
Batch number: X032331AC Benzene Toluene Ethylbenzene Xylene (Total)	Sample nu N.D. N.D. N.D. N.D. N.D.	umber(s): 1. 1. 1. 1.	4107339-410 ug/kg ug/kg ug/kg ug/kg	97351 99 94 95 95		83-118 81-116 82-115 82-117		

### Sample Matrix Quality Control

	MS	MSD	MS/MSD		RPD	BKG	DUP	DUP	Dup
Analysis Name	<u>%REC</u>	<u>%REC</u>	<u>Limits</u>	<u>RPD</u>	MAX	Conc	Conc	RPD	RPD <u>Max</u>
Batch number: 03234A33A TPH-GRO 8015B - soil	Sample 82	number 85	(s): 4107338 70-130	8-41073 3	42,410 30	7346-410735	1		
Batch number: 03234A33B TPH-GRO 8015B - soil	Sample 82	number 85	(s): 410733 70-130	7,41073 3	43-410 30	7345			
Batch number: 03237237201A Chloride by IC (solid)	Sample 129*	number	(s): 410733 90-110	7-41073	46	5,780.	4,600.	23*	20

\*- Outside of specification

(1) The result for one or both determinations was less than five times the LOQ.





Page 2 of 4

### Quality Control Summary

Group Number: 864207

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

Sample Matrix Quality Control

	MS	MSD	MS/MSD	RPD	BKG	DUP	DUP	Dup RPD
<u>Analysis Name</u> Batch number: 03237237201B	<u>%REC</u> Sample	<u>%REC</u>	Limits RPD (s): 4107347-41073	<u>MAX</u> 351	Conc	Conc	RPD	Max
Chloride by IC (solid)	100	. mander	90-110	551	9.8	11.5	16 (1)	20
Batch number: 03237912201A Moisture	Sample	number	(s): 4107337-41073	346	7.6	8.0	4	7
Batch number: 03237912201B Moisture	Sample	number	(s): 4107347-41073	351	4.4	4.4	1 (1)	7
Batch number: T032341AB Benzene Toluene Ethylbenzene Xylene (Total)	Sample 104 105 95 98	number	(s): 4107352 83-128 83-127 82-134 82-130					
Batch number: X032331AB	Sample	number	(s): 4107337-41073	338				
Benzene	96	95	52-141 1	30				
Toluene	83	85	53-137 2	30				
Ethylbenzene Xylene (Total)	90 85	90 86	50-136 1 47-139 1	30 30				
Batch number: X032331AC	Sample	number	(s): 4107339-41073	351				
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.





Page 3 of 4

### Quality Control Summary

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

Surrogate Quality Control

		Burroyace Q	uarrey concror	
Batch numb	er: 03234A33B			
	Trifluorotoluene-F			
4107337	106			
4107343	102			
4107344	107			
	106			
4107345				
Blank	98			
LCS	109			
MS	102			
MSD	104			
Limits:	66-117	· · · · · · · · · · · · · · · · · · ·		
Dimiteo.	00 11,			
Apolygia N	ame: TPH-DRO by 8015B			
Batch numb	er: 032350003A			
	Orthoterphenyl			
4107337	95			
4107338	100		•	
4107339	101			
4107340	101			
4107341	98			
	102			
4107342				
4107343	94			
4107344	90			
4107345	84			
4107346	102			0
4107347	93			
	94			
4107348				
4107349	96			
4107350	100			
4107351	98			
Blank	103			
LCS	111			
LCSD	108			
ЦСОР	100			
Limits:	59-124		·····	<u> </u>
DIMICS:	59-124			
	ame: UST-Unleaded Waters	by 8260B		
Batch numb	er: 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
Analycic N	ame: UST-Unleaded Soils b	7 82608		
		4 0200B		
Bacch numbe	er: X032331AB			
	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
			87	94
4107337	96	95	0/	34
4107338	96	102	86	95
4107338 Blank	96 92	102 87	86 89	95 92
4107338	96	102	86	95

\*- Outside of specification

(1) The result for one or both determinations was less than five times the LOQ.





Page 4 of 4

### Quality Control Summary

	Name: ConocoPhillips d: 08/27/03 at 04:45	РМ	Group Number: 864207				
Reperces			uality Control				
MS	93	94 2 -	90	93			
MSD	91	92	91	93			
Limits:	70-129	70-121	70-130	70-128			
	Name: UST-Unleaded Soils b	Y 8260B					
Batch num	ber: 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.

### Explanation of Syneols and Abbreviations

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

N.D. TNTC IU umhos/cm	none detected Too Numerous To Count International Units micromhos/cm	BMQL MPN CP Units NTU	Below Minimum Quantitation Level Most Probable Number cobalt-chloroplatinate units 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)	1	liter(s)
m3	cubic meter(s)	ul	microliter(s)

- < less than The number following the sign is the <u>limit of quantitation</u>, 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  $\geq$ 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.

WARRANTY AND LIMITS OF LIABILITY - In accepting analytical work, we warrant the accuracy of test results for the sample as submitted. THE FOREGOING EXPRESS WARRANTY IS EXCLUSIVE AND IS GIVEN IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED. WE DISCLAIM ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING A WARRANTY OF FITNESS FOR PARTICULAR PURPOSE AND WARRANTY OF MERCHANTABILITY. IN NO EVENT SHALL LANCASTER LABORATORIES BE LIABLE FOR INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR LOSS OF PROFIT OR GOODWILL REGARDLESS OF (A) THE NEGLIGENCE (EITHER SOLE OR CONCURRENT) OF LANCASTER LABORATORIES AND (B) WHETHER LANCASTER LABORATORIES HAS BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. We accept no legal responsibility for the purposes for which the client uses the test results. No purchase order or other order for work shall be accepted by Lancaster Laboratories which includes any conditions that vary from the Standard Terms and Conditions of Lancaster Laboratories and we hereby object to any conflicting terms contained in any acceptance or order submitted by client.

**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.

Department of Energy 2001. Environmental Assessment for Conducting Astrophysics and Other Basic Science Experiments at the WIPP Site. Doc No. DOE/EA. USDOE, Washington, D.C.

New Mexico Oil Conservation Division 1993. Guidelines for Remediation of Leaks, Spills and Releases. NMOCD Guidance Document, August 13, 1993.

Scanlon, B.R., Tyler, S.W., and Wierenga, P.J., 1997, Hydrologic Issues in Arid, Unsaturated Systems and Implications for Contaminant Transport. Reviews of Geophysics, N.35, v. 4, pp 461-490.

Turner, Millard T., Cox, Dellon N., Mickelson, Brice C., Roath, Archie J., and Wilson, Carl D., 1974. Soil Survey of Lea County, New Mexico. Unites States Department of Agriculture-Soil Conservation Service and the New Mexico Agriculture Experiment Station, January, 1974.