1R - 345

GENERAL CORRESPONDENCE

YEAR(S):

2002 - 2002

Ronald G. Crouch
Right of Way Agent
Right of Way and Claims

Conoco Inc.
10 Desta Drive, Suite 651W
Midland, Texas 79705-4500
(915) 686-5587

January 15, 2002

Leo Sims
814 W. Marland
Hobbs, New Mexico 88241

SENT VIA CERTIFIED MAIL

RE: Soil boring analytical results for Lockhart A. 27
Lea County, New Mexico

Dear Mr. Sims;

Please find enclosed the soil boring analytical results from Maxim Technologies that you requested in our meeting on January 14, 2002.

If you have any questions or concerns contact me at the telephone number listed in the letterhead or at 915-631-5557.

Sincerely yours,

Ronald G. Crouch
Right of Way Agent/Conoco Inc.

Post-it® Note 7671	Date 1/14/02	# of pages ▶
To Ronald Crouch	From Neal Goates	
Co./Dept.	Co.	
Phone #	Phone # 281-293-3872	
Fax # 644-6503	Fax # 832-465-4123	

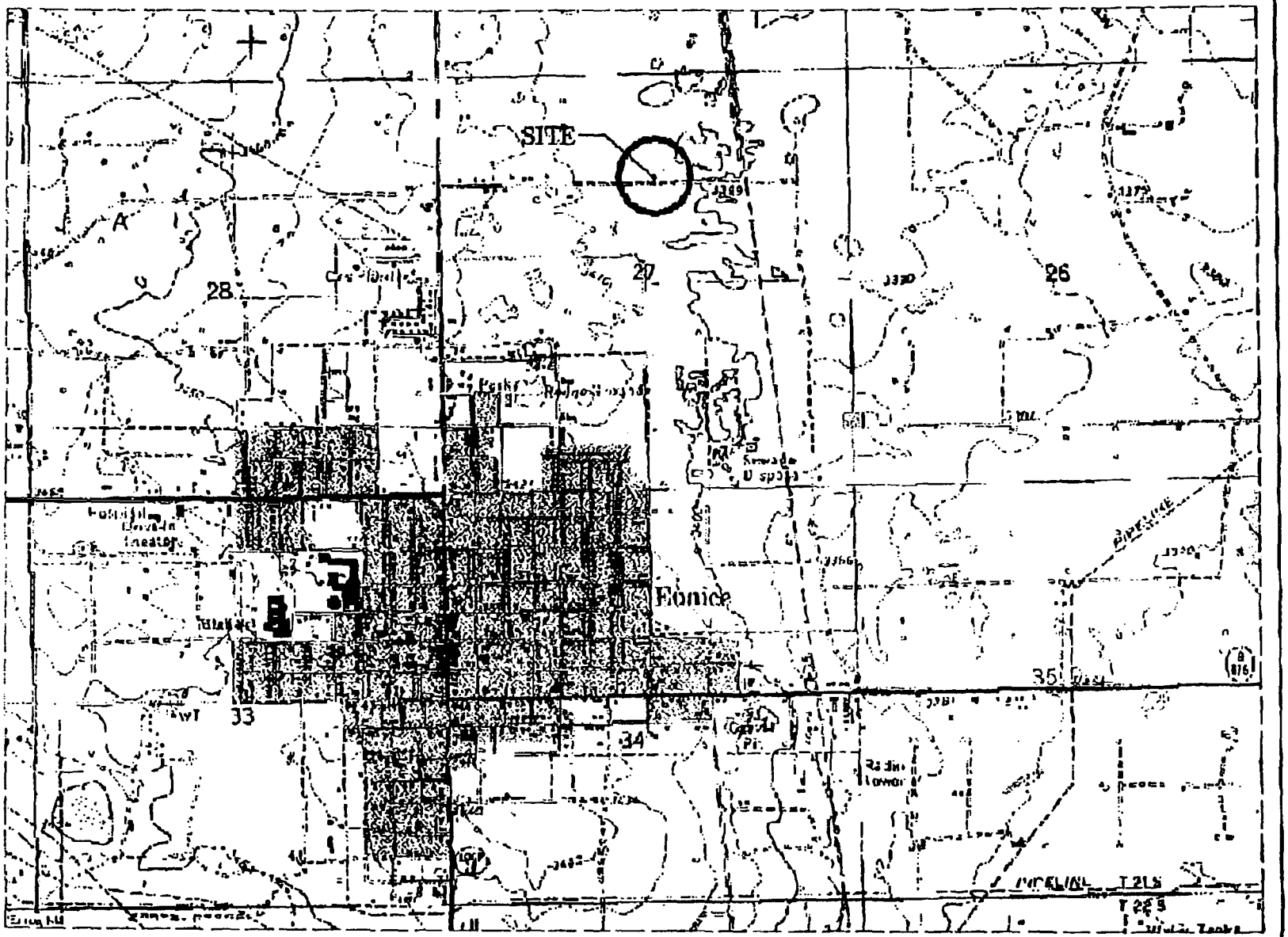
TABLE 1
Soil Boring Analytical Results
Lockhart A27 Site Investigation, Eunice, New Mexico

Soil Boring / Depth	Total Petroleum Hydrocarbons		BTEX	
	GRO (mg/kg)	DRO (mg/kg)	Benzene (mg/kg)	Methylbenzene (mg/kg)
SB-1				
0-2'	ND	ND	NA	NA
14-16'	ND	ND	NA	NA
SB-2				
0-2'	ND	ND	NA	NA
14-16'	ND	ND	NA	NA
SB-3				
2-4'	6500	28	NA	NA
18-20	ND	ND	NA	NA
SB-4				
0-2'	150	ND	NA	NA
12-14'	ND	ND	NA	NA
SB-5				
0-2'	62	ND	NA	NA
12-14'	ND	ND	NA	NA
SB-6				
2-6'	NA	NA	54	16
23-25'	220	ND	NA	NA
SB-7				
4-8'	NA	NA	68	ND
23-25'	ND	ND	NA	NA
SB-8				
0-2'	57	ND	NA	NA
10-12'	190	ND	NA	NA

ND - Not Detected
NA - Not Analyzed

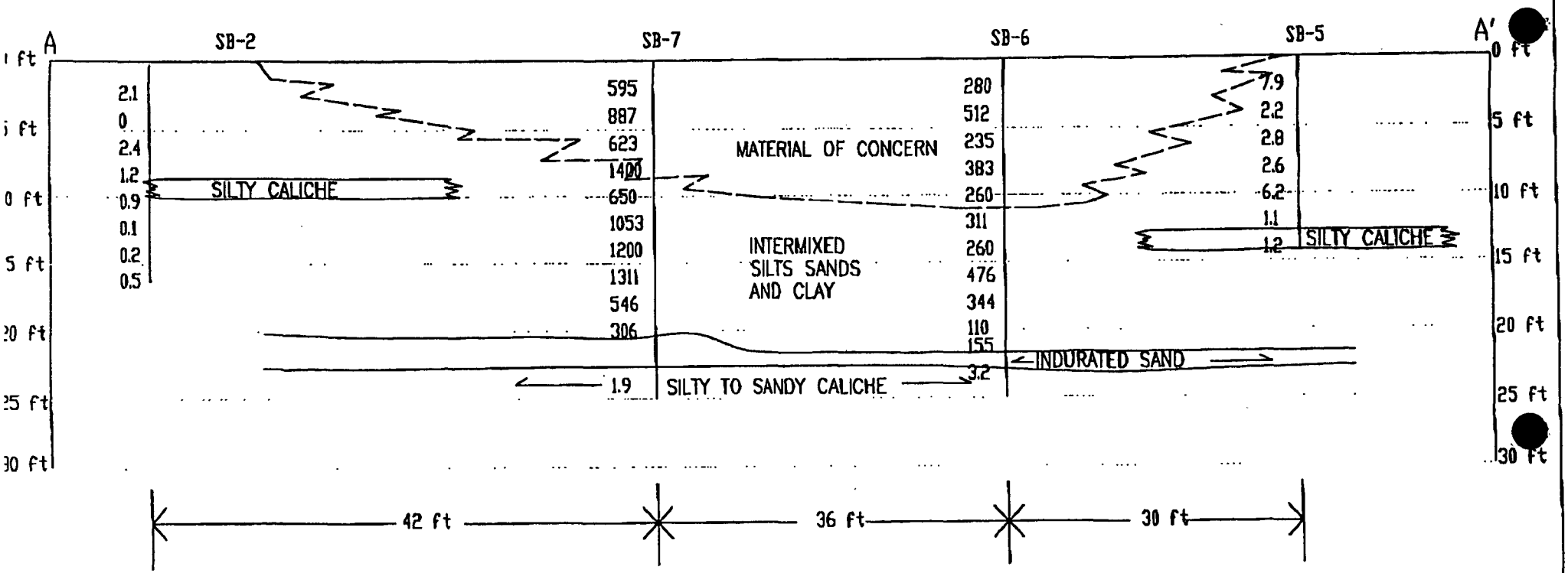
N

NOT TO SCALE



TARGET PROPERTY:	Lockhart A-27 Tank Battery	VICINITY MAP	MAXIM TECHNOLOGIES INC
Legal Description	Sec. 27 T21S R37E		Project No. 1690012.100
CITY/STATE/ZIP:	Eunice, New Mexico		
LAT/LONG:	32.4534 / 103.1498	Drawing: 1690016BB.DWG	FIGURE 1

CROSS SECTION A -- A'



CONOCO INC. - LOCKHART A-27 TANK BATERY
CROSS SECTION A -- A'

1690016	MAXIM TECHNOLOGIES, INC.	FIGURE 3

PROJECT NAME: Lockhart A-27 Tank Battery
MONITORING WELL NO. SB-1
LOCATION:
DRILL TYPE: Ingersoll-Rand
ELEVATION: TOP OF BORING (MSL): (ft)
GROUNDWATER ELEVATION (MSL): Dry (ft)
DRILLED BY: HARRISON & COOPER, INC.
BORE HOLE DIAMETER: 4 3/4 (in)
LOGGED BY: Clyde Yancey
DATE: HOLE STARTED: 2/19/01
COMPLETED: 2/19/01
REMARKS: ND=Non Detect
BGS=Below Ground Surface
NS=No Sample

ELEVATION (MSL) - ft	SAMPLE INTERVAL	CLASSIFICATION AND DESCRIPTION	USCS SYMBOL	BLOW COUNT	SAMPLE TO LAB	TIME	% RECOVERY	FID RESULT (ppm)
0.0		SAND, red to brown	SP	Hand-Auger	Y	800		7.6
		Silty SAND, red to brown	SM	Hand-Auger				0.4
-5.0		Silty SAND, red to brown	SM	Hand-Auger				1.7
		Silty SAND, red to brown	SM	PUSHED				0.4
		Silty SAND, red to brown	SM	PUSHED				2.2
-10.0		Sandy SILT, red to brown	ML	PUSHED				1.9
		SILT interbedded with clay, red to brown with green to gray clay layers	ML	PUSHED				0.4
-15.0		SILT with caliche and interbedded with clay, red	ML	PUSHED	Y	850		ND

16.0

Split Spoon Sample (ASTM D1586)

1690016-100 | MAXIM TECHNOLOGIES INC | EXPLORATORY BORING LOG | SB-1

PROJECT NAME: Lockhart A-27 Tank Battery
MONITORING WELL NO. SB-3
LOCATION:
DRILL TYPE: Ingersoll-Rand
ELEVATION: TOP OF BORING (MSL): (ft)
GROUNDWATER ELEVATION (MSL): Dry (ft)
DRILLED BY: HARRISON & COOPER, INC.
BORE HOLE DIAMETER: 4 3/4 (in)
LOGGED BY: Clyde Yancey
DATE: HOLE STARTED: 2/19/01
COMPLETED: 2/19/01
REMARKS: ND=Non Detect
BGS=Below Ground Surface
NS=No Sample

ELEVATION (MSL) - ft	SAMPLE INTERVAL	CLASSIFICATION AND DESCRIPTION	USCS SYMBOL	BLOW COUNT	SAMPLE TO LAB	TIME	% RECOVERY	FID RESULT (ppm)
0.0		SAND, dark brown to tan, odor	SP	Hand-Auger		1115		13.9
		Silty SAND, dark brown, some oil present	SM	Hand-Auger	Y			71.0
-5.0		SAND with caliche, reddish tan	SP	Hand-Auger				34.0
		Silty SAND, reddish tan	SM	PUSHED				11.2
		Sandy SILT, reddish tan	ML	PUSHED				7.5
-10.0		Sandy SILT, light green to gray	ML	PUSHED				4.3
		Sandy SILT with interbedded clay, light green to gray and brown	ML	PUSHED				25.2
-15.0		Silty SAND, tan, clean	SM	PUSHED				5.3
		SILT with caliche from 17.5 to 18.0 ft, tan	ML	PUSHED				5.2
-20.0		SILT with caliche, tanish white	ML	PUSHED	Y	1205		2.3

20.0

Split Spoon Sample (ASTM D1586)

1690016-100 | MAXIM TECHNOLOGIES, INC. | EXPLORATORY BORING LOG | SB-3

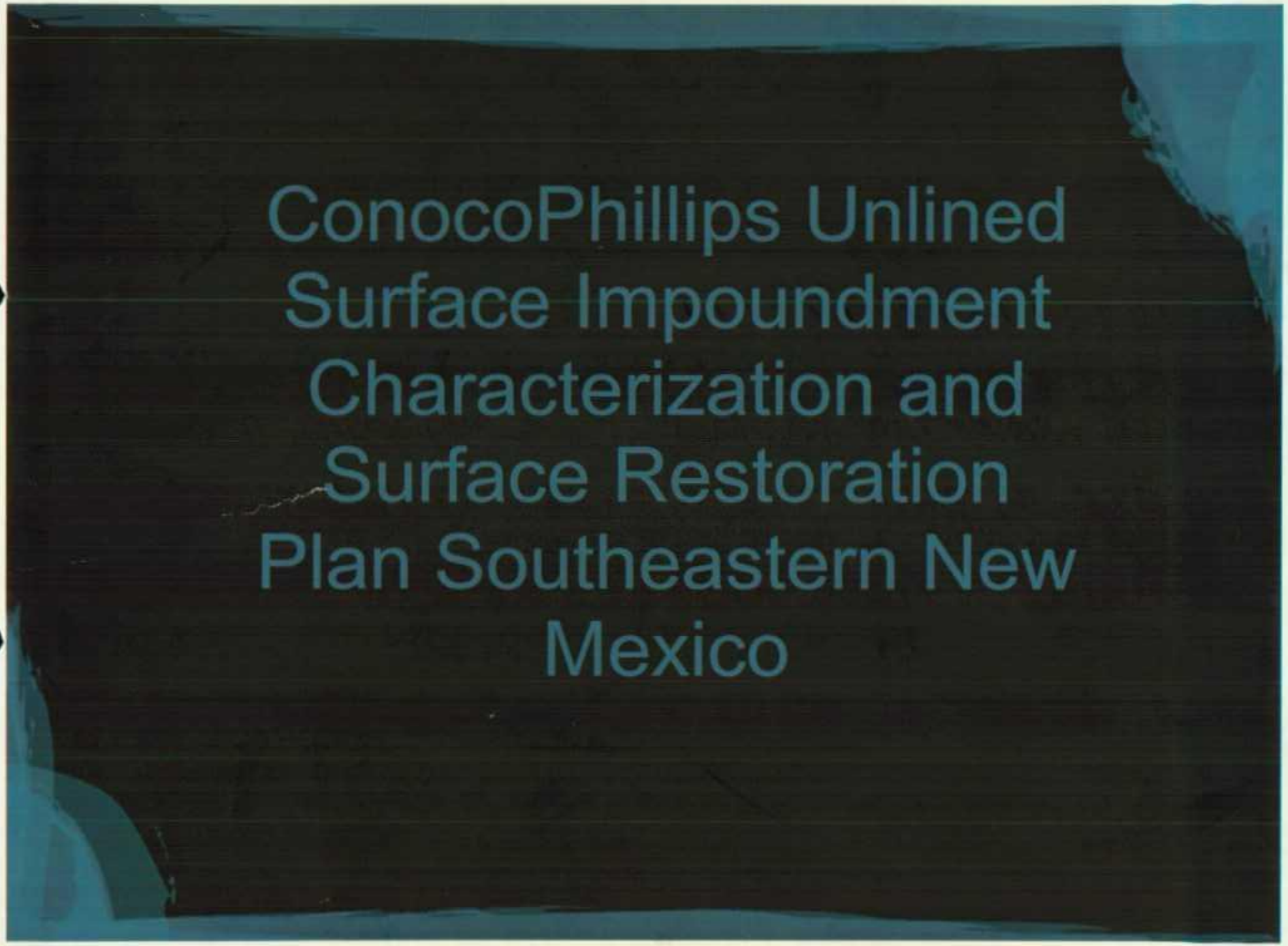
PROJECT NAME: Lockhart A-27 Tank Battery
MONITORING WELL NO. SB-5
LOCATION:
DRILL TYPE: Ingersoll-Rand
ELEVATION: TOP OF BORING (MSL): (ft)
GROUNDWATER ELEVATION (MSL): Dry (ft)
DRILLED BY: HARRISON & COOPER, INC.
BORE HOLE DIAMETER: 4 3/4 (in)
LOGGED BY: Clyde Yancey
DATE: HOLE STARTED: 2/19/01
COMPLETED: 2/19/01
REMARKS: ND=Non Detect
BGS=Below Ground Surface
NS=No Sample

ELEVATION (MSL) - ft	SAMPLE INTERVAL	CLASSIFICATION AND DESCRIPTION	USCS SYMBOL	BLOW COUNT	SAMPLE TO LAB	TIME	% RECOVERY	FID RESULT (ppm)
0.0		Silty SAND, reddish brown	SM	Hand-Auger	Y	1240		7.9
		Sandy SILT, brown	ML	Hand-Auger				2.2
-5.0		Sandy SILT with caliche, brown	ML	Hand-Auger				2.8
		Sandy SILT, brown, indurated	ML					
		Sandy SILT, with caliche, brown	ML	PUSHED				2.6
		Sandy SILT, white, indurated	ML	PUSHED				6.2
-10.0		Sandy SILT, white, increasing caliche content	ML	PUSHED				1.1
		SILT with caliche, white	ML	PUSHED	Y	1305		1.2

PROJECT NAME: Lockhart A-27 Tank Battery
MONITORING WELL NO. SB-7
LOCATION:
DRILL TYPE: Ingersoll-Rand
ELEVATION: TOP OF BORING (MSL): (ft)
GROUNDWATER ELEVATION (MSL): Dry (ft)
DRILLED BY: HARRISON & COOPER, INC.
BORE HOLE DIAMETER: 4 3/4 (in)
LOGGED BY: Clyde Yancey
DATE: HOLE STARTED: 2/19/01
COMPLETED: 2/19/01
REMARKS: ND=Non Detect
BGS=Below Ground Surface
NS=No Sample

ELEVATION (MSL) - ft	SAMPLE INTERVAL	CLASSIFICATION AND DESCRIPTION	USCS SYMBOL	BLOW COUNT	SAMPLE TO LAB	TIME	% RECOVERY	FID RESULT (ppm)
0.0		Silty SAND intermixed with hydrocarbon saturation	SM	PUSHED		1420		595.0
		Silty SAND intermixed with hydrocarbon saturation	SM	PUSHED				887.0
-5.0		Silty SAND intermixed with hydrocarbon saturation	SM	PUSHED	Y			823.0
		Silty SAND intermixed with hydrocarbon saturation	SM	PUSHED	Y			1400.0
		Silty SAND intermixed with hydrocarbon saturation	SM					
-10.0		Clay, brown to green	SM	PUSHED				650.0
		Sandy SILT, brown	ML	PUSHED				1053.0
		Sandy SILT, tan	ML	PUSHED				1200.0
-15.0		Sandy SILT, tan	ML	PUSHED				1311.0
		Sandy SILT, tan	ML	PUSHED				546.0
		SILT, gray to green	ML	PUSHED				308.0
-20.0		SAND, hard	SP					
		SILT with caliche, white	ML	PUSHED	Y	1515		1.9
-25.0								

25.0
Split Spoon Sample (ASTM D1586)
1690016-100 | MAXIM TECHNOLOGIES INC. | EXPLORATORY BORING LOG | SB-7


ConocoPhillips Unlined
Surface Impoundment
Characterization and
Surface Restoration
Plan Southeastern New
Mexico

MALJAMAR GAS PLANT
South Storage Area

MAXIM TECHNOLOGIES INC®

ConocoPhillips

METHODOLOGY

- Delineation
- Excavation
- Final Surface Preparation
- Placement of Cover Materials
  - Geomembrane
  - Clay Soils
- Backfilling
- Final Site Grading

MAXIM TECHNOLOGIES INC®

ConocoPhillips

DELINEATION

- Based on Prior Knowledge of Site
- Test Pit program
  - Define Lateral Extent
  - Depth to Contaminated Soils
- Construction Planning

MAXIM TECHNOLOGIES INC®

ConocoPhillips

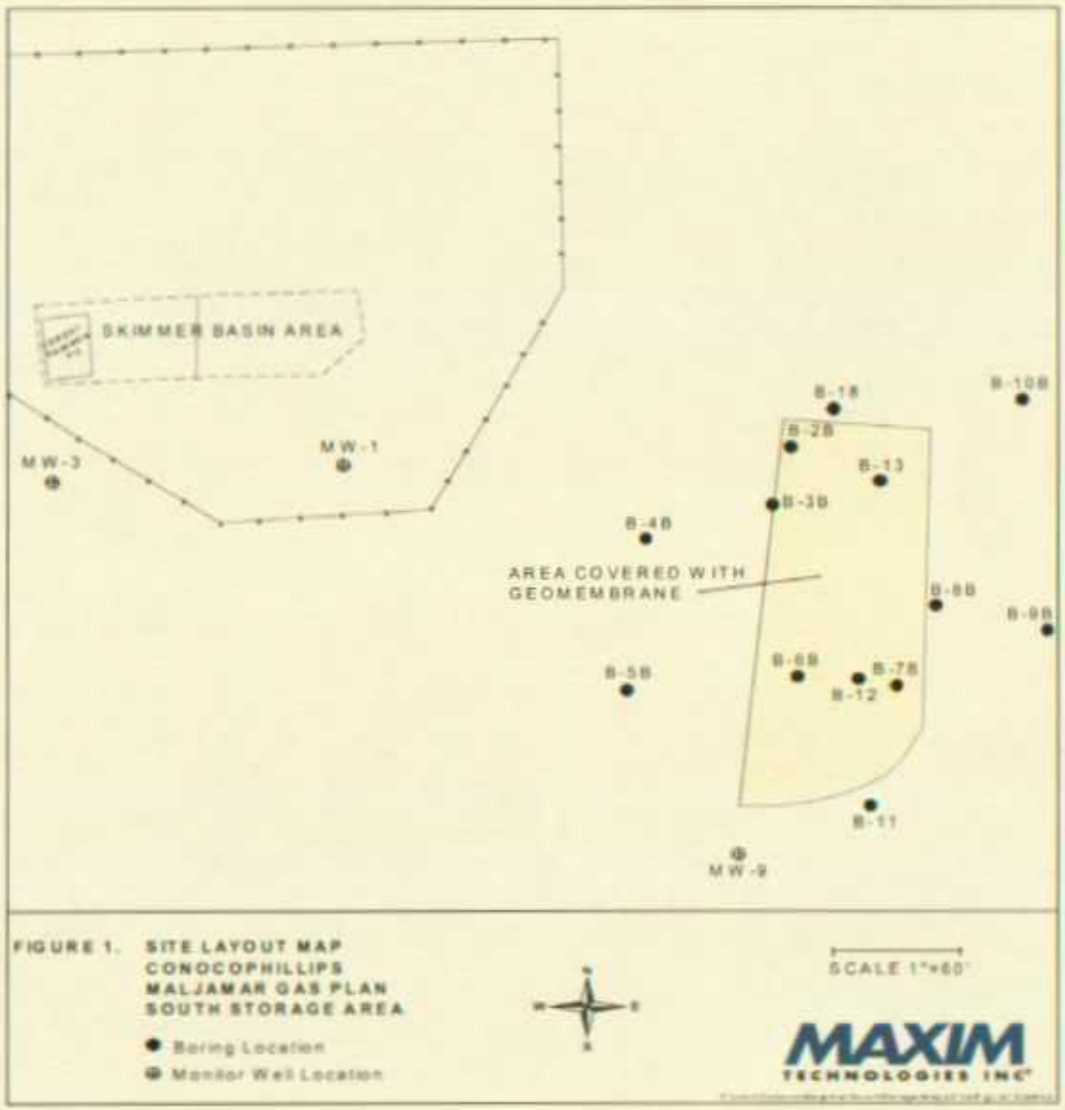


FIGURE 1. SITE LAYOUT MAP
CONOCOPHILLIPS
MALJAMAR GAS PLAN
SOUTH STORAGE AREA

● Boring Location

⊕ Monitor Well Location

MAXIM TECHNOLOGIES INC®

ConocoPhillips

Test Pit Sample

MAXIM TECHNOLOGIES INC®

ConocoPhillips

FIGURE 2. AREA COVERED BY GEOMEMBRANE WITH TEST PIT LOCATIONS CONOCOPHILLIPS MALJAMAR GAS PLANT SOUTH STORAGE AREA

1 inch = 40 feet

TP = Test Pit
Test Pit Location
Confirmation Sample Collected
Monitor Well

MAXIM TECHNOLOGIES INC

MAXIM TECHNOLOGIES INC

ConocoPhillips

EXCAVATION

- Stockpiling of "Clean" Soils
- Segregation of Soils as Required
  - Debris
  - Contaminated Soils
- Final Depth
- Area to be Capped

MAXIM TECHNOLOGIES INC®

ConocoPhillips

Preliminary Excavation of Overburden

MAXIM TECHNOLOGIES INC®

ConocoPhillips

Sub-grade Preparation

MAXIM TECHNOLOGIES INC®

ConocoPhillips

Overburden Debris

MAXIM TECHNOLOGIES INC®

ConocoPhillips

Final Surface Preparation

- Final Grading of Surface
  - Slight Dome or Ridge
  - Promotes lateral Drainage
- Removal of Rock, Debris (as needed)
- Smoothing of Surface
- Fill in Soft Areas (if required)
- No Impacted Soils in contact with Liner Materials

MAXIM TECHNOLOGIES INC®

ConocoPhillips

Liner Preparation W/Clean Soil

MAXIM TECHNOLOGIES INC®

ConocoPhillips

Final Preparation prior to Line Installation

MAXIM TECHNOLOGIES INC®

ConocoPhillips

COVER MATERIALS

- Perimeter Anchor Trench
- Geomembrane
  - Two Panels (overlapped and taped)
- Geotextile
  - Panels (15' wide)
  - Stitched
- Geotextile over Geomembrane
  - Protection of Geomembrane
  - Drainage Layer

MAXIM TECHNOLOGIES INC®

ConocoPhillips

Anchor Trench and Liner Installation

MAXIM TECHNOLOGIES INC®

ConocoPhillips

Sown 15 Foot Panels

MAXIM TECHNOLOGIES INC®

ConocoPhillips

Completed Liner Installation

MAXIM TECHNOLOGIES INC®

ConocoPhillips

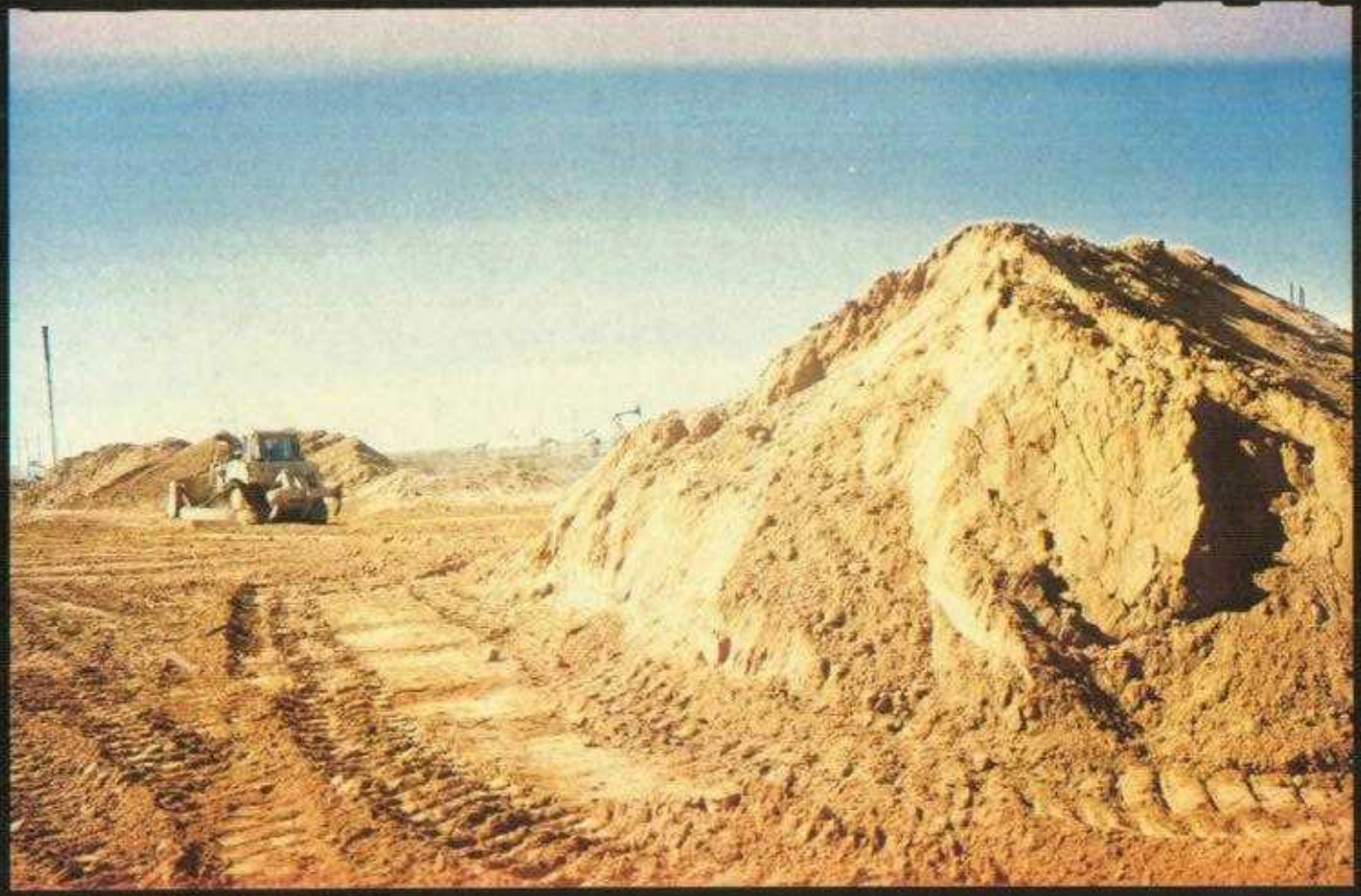
BACKFILLING

- Uniform "Clean" Soils First
- Dozer Pushes Soil Over Material
- 2' Soil over Liner

MAXIM TECHNOLOGIES INC®

ConocoPhillips

Backfill Demonstration



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ConocoPhillips

Dress Site

MAXIM TECHNOLOGIES INC®

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TECHNOLOGIES INC®
ConocoPhillips

FINAL SITE GRADING

MAXIM TECHNOLOGIES INC®

ConocoPhillips

CLAY COVER SOILS

- Methodology Appropriate for Clay Covers
- Deeper Excavation (Approx. 19)
- Materials Testing Before Construction
- Quality Control and Materials Testing During Construction

MAXIM TECHNOLOGIES INC®

ConocoPhillips

Olson, William

From: Bayliss, Randy
Sent: Thursday, January 23, 2003 12:44 PM
To: Price, Wayne; Olson, William
Subject: Lockhart A27

Here are two photos taken yesterday, 22 Jan 03. They show a) the pit with no standing water in it and b) the closest

A27pit22Jan03.jpg A27MW1000ftW.jpg

Texaco monitoring well, about 950 feet to the west.


1. 21. 2003


1. 21. 2003

Olson, William

From: Price, Wayne
Sent: Friday, January 17, 2003 2:07 PM
To: Price, Wayne; Sheeley, Paul; Johnson, Larry
Cc: Williams, Chris; Anderson, Roger; Bayliss, Randy; Martin, Ed; Olson, William; Wrotenbery, Lori
Subject: RE: Groundwater sampling between Conoco Lockhart A-27 and Texaco Eunice North Plant

Sorry I forgot to attach the info!

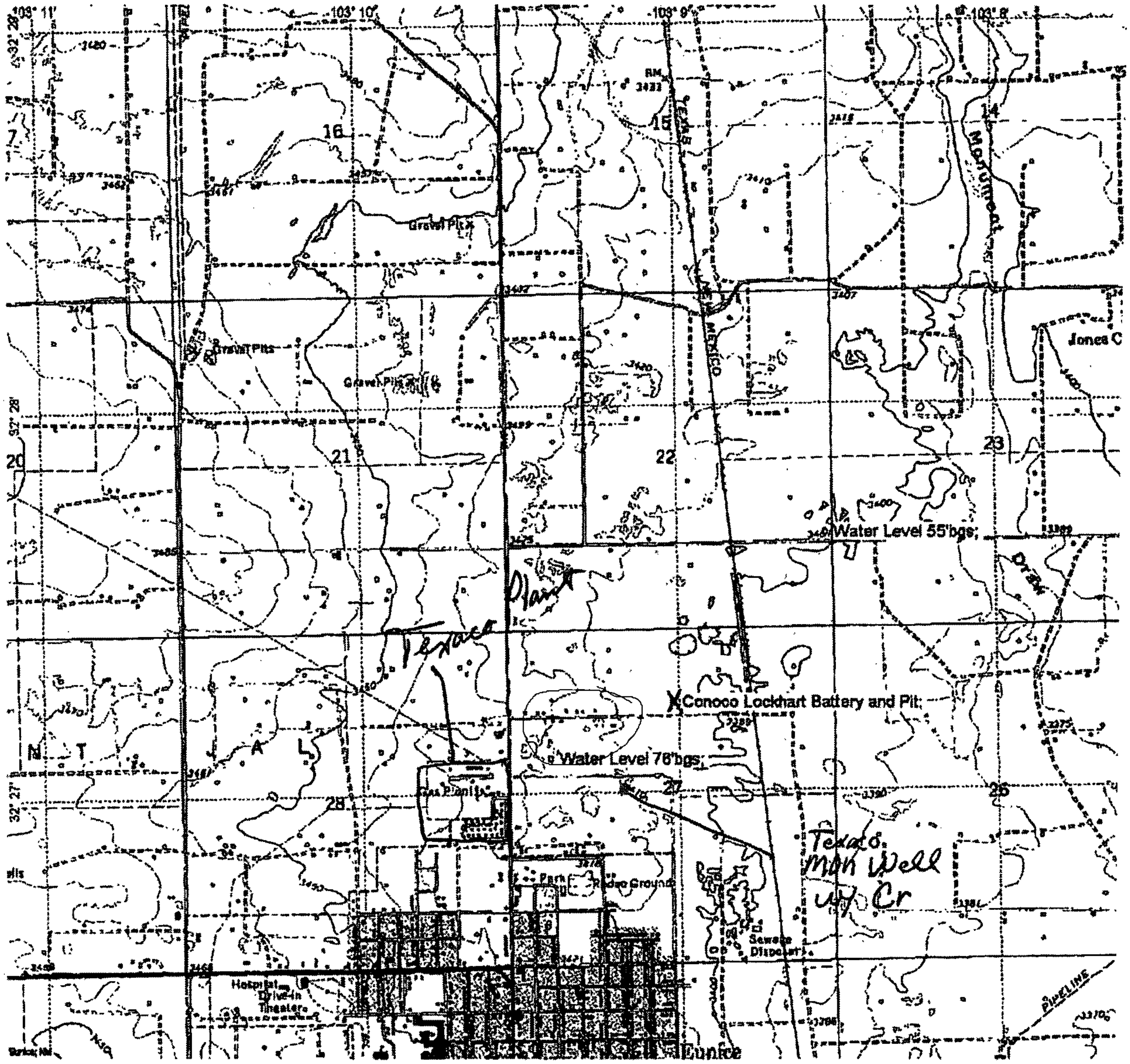
Simms groundwater data.tif

-----Original Message-----
From: Price, Wayne
Sent: Friday, January 17, 2003 2:04 PM
To: Sheeley, Paul; Johnson, Larry
Cc: Williams, Chris; Anderson, Roger; Bayliss, Randy; Martin, Ed; Olson, William; Wrotenbery, Lori
Subject: Groundwater sampling between Conoco Lockhart A-27 and Texaco Eunice North Plant

Dear Paul and Larry:

Please find attached a plot plan and analytical results for groundwater at the Lockhart A-27. Due to the chrome levels in the water, Roger requests that you collect samples from homes that lie between the Lockhart site and Texaco N. Plant. Please run BTEX, general chemist, and WQCC metals. If you have any questions please give me a call.

Sincerely:
<< OLE Object: Picture (Metafile) >>
Wayne Price
New Mexico Oil Conservation Division
1220 S. Saint Francis Drive
Santa Fe, NM 87505
505-476-3487
fax: 505-476-3462
E-mail: WPRICE@state.nm.us


103° 11'
103° 10'
103° 9'
103° 8'
32° 28'
16
15
14
Gravel Pits
Gravel Pits
Jones C
21
22
23
20
Water Level 55'bgs;
Texaco Plant
Conoco Lockhart Battery and Pit;
Water Level 76'bgs;
Gas Plant
28
27
26
32° 27'
Texaco Mon Well w/ Cr
Park
Rodeo Ground
Sewage Disposal
Hospital
Drive-In Theater
PIPELINE
Eunice

Gr

CARDINAL LABORATORIES

PHONE (915) 673-7001 • 2111 BEECHWOOD • ABILENE, TX 79603
PHONE (505) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

ANALYTICAL RESULTS FOR
ENVIRONMENTAL PLUS, INC.
ATTN: PAT McCASLAND
P.O. BOX 1558
EUNICE, NM 88231
FAX TO: (505) 394-2601

Receiving Date: 12/20/02
Reporting Date: 12/26/02
Project Owner: L.V. SIMS II
Project Name: CONOCO LOCKHART A-27 BATT.
Project Location: NOT GIVEN

Sampling Date: 12/20/02
Sample Type: GROUNDWATER
Sample Condition: COOL & INTACT
Sample Received By: BC
Analyzed By: AH/BC

LAB NO. SAMPLE ID	Cl (mg/L)	BENZENE (mg/L)	TOLUENE (mg/L)	ETHYL BENZENE (mg/L)	TOTAL XYLENES (mg/L)
ANALYSIS DATE:	12/23/02	12/23/02	12/23/02	12/23/02	12/23/02
H7347-1 WCLA27LVS122002MW	508	<0.002	<0.002	<0.002	<0.006
Quality Control	1000	0.108	0.100	0.104	0.306
True Value QC	1000	0.100	0.100	0.100	0.300
% Recovery	100	108	100	104	102.0
Relative Percent Difference	1.0	6.1	1.9	5.5	5.7

METHOD: Cl - Std. Methods 4500-ClB; BTEX - EPA SW-846-8020

Burgess J. A. Cooke, Ph. D.

12/26/02
Date

CARDINAL LABORATORIES

PHONE (915) 673-7001 • 2111 BEECHWOOD • ABILENE, TX 79603
PHONE (505) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

ANALYTICAL RESULTS FOR
ENVIRONMENTAL PLUS, INC.
ATTN: PAT McCASLAND
P.O. BOX 1558
EUNICE, NM 88231
FAX TO: (505) 394-2601

Receiving Date: 12/20/02
Reporting Date: 12/31/02
Project Owner: L.V. SIMS II
Project Name: CONOCO LOCKHART A27 BATT
Project Location: NOT GIVEN

Sampling Date: 12/20/02
Sample Type: GROUNDWATER
Sample Condition: COOL & INTACT
Sample Received By: BC
Analyzed By: AH

RCRA METALS

LAB NUMBER SAMPLE ID	As ppm	Ag ppm	Ba ppm	Cd ppm	Cr ppm	Pb ppm	Hg ppm	Se ppm
ANALYSIS DATE:	12/27/02	12/30/02	12/30/02	12/30/02	12/30/02	12/30/02	12/31/02	12/27/02
H7347-1 WCLA27LVS122002MW	<0.1	<0.05	15.1	0.02	0.085	<0.05	<0.002	<0.05
Quality Control	0.049	4.912	41.51	0.959	4.991	4.982	0.0101	0.151
True Value QC	0.050	5.000	50.00	1.000	5.000	5.000	0.0100	0.150
% Recovery	98.0	98.2	83.0	95.9	99.8	99.6	101.0	101
Relative Percent Difference	5.7	0.6	0.6	0.4	0.3	0.3	0.1	2.8

METHODS: EPA 600/4-79-020	206.2	272.1	208.1	213.1	218.1	239.1	245.1	270.2
METHODS: SW-846	7060A	7760A	7080A	7130	7190	7420	7470A	7740

Amy Hill
Chemist

12-31-02
Date

H7347

Olson, William

From: Price, Wayne
Sent: Friday, January 17, 2003 2:04 PM
To: Sheeley, Paul; Johnson, Larry
Cc: Williams, Chris; Anderson, Roger; Bayliss, Randy; Martin, Ed; Olson, William; Wrotenbery, Lori
Subject: Groundwater sampling between Conoco Lockhart A-27 and Texaco Eunice North Plant

Dear Paul and Larry:

Please find attached a plot plan and analytical results for groundwater at the Lockhart A-27. Due to the chrome levels in the water, Roger requests that you collect samples from homes that lie between the Lockhart site and Texaco N. Plant. Please run BTEX, general chemist, and WQCC metals. If you have any questions please give me a call.

Sincerely:

Wayne Price
New Mexico Oil Conservation Division
1220 S. Saint Francis Drive
Santa Fe, NM 87505
505-476-3487
fax: 505-476-3462
E-mail: WPRICE@state.nm.us

NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

BILL RICHARDSON
Governor
Joanna Prukop
Cabinet Secretary

Lori Wrotenbery
Director
Oil Conservation Division

Memorandum of Meeting or Conversation

Telephone ____
Personal ___XXX___
E-Mail _____

Time: 9 am
Date: 1_17_03

Originating Party: Conoco-Phillips

Other Parties: OCD

Subject: Lockhart A-27

Discussion:
Conoco's consultant Maxim Technologies presented Conoco's response to OCD request for additional information. (attached).

Conclusions or Agreements:

OCD to research area records for possible other contaminated sites and provide Conoco a copy.

Signed: _____

Attendance: OCD- Wprice, RCAnderson, R Bayliss, L Wortenbury
Conoco- Neal Goates, C Yancey, T Taugen

MAXIM TECHNOLOGIES INC

January 15, 2003

Mr. Wayne Price
Oil Conservation Division
NM Eergy, Minerals, and Natural Resources Department
1220 South St. Francis Drive
Santa Fe, New Mexico 87504

RE: Response to OCD Concerns – Lockhart A-27

Dear Mr. Price:

On behalf of ConocoPhillips (Conoco), Maxim Technologies, Inc. (Maxim) has prepared these responses to the Oil Conservation Division's concerns regarding the Lockhart A-27 closure plan. Following are OCD's specific comments to the closure plan as presented in a communication forwarded to Neal Goates of Conoco. Maxim's responses to the comments are in bold text.

OCD hereby holds in abeyance the approval dated August 14, 2002 sent via E-mail for the above subject site. OCD bases this decision upon the facts that data submitted by the landowner does not correlate with Conoco's data and field observations taken by a member of our OCD staff has generated additional questions for Conoco. In order to proceed with the review process please provide OCD the following information.

1. During our technical review meeting with Conoco held in Santa Fe on October 18, 2002, we discussed the issue of vertical delineation of chlorides that was taken from soil boring LB-6. It was our impression that this soil boring was located next to the pit. Conoco indicated they felt this would have provided a good representation of the vertical extent of the chloride contamination from the bottom of the pit. Upon reviewing the documents submitted by Maxim dated August 13, 2002 ("Results of Compilation of Data from Subsurface Investigations Lockhart A-27 Battery Near Eunice, NM Maximum project 2690022.110") fig. 4 1690016, it shows this soil boring is 150 feet from the center of the pit and 95 feet from the edge of the pit. Please explain why this would adequately represent the vertical extent of the chlorides migration since this is at a distance from the source area which still contains 10,500 ppm chlorides.

Response -

LB-6 was drilled as close to the northeast corner of the north excavation as possible without endangering the drilling crew. Access to the center of the former pit, which

was 17 feet below the original ground surface, with the drill rig was not possible and the initial February 2001 investigation did not analyze for chlorides. However, there can be some observations made as to the mobility of chlorides from seepage from the historic pit. Chlorides are very soluble in water and very mobile in relation to the movement of water through soils. Therefore, it would be expected to encounter chlorides in the soils from the historic pit, if there is significant movement of infiltration through the soil column. And this was the case, as the 10,500 mg/kg analysis showed in the sample taken at approximately 21 feet below the original ground surface. In the February 2001 investigation, the PID readings were elevated above background throughout the soil column above the indurated sand layer (encountered at 20 to 21 feet in borings SB-6, 7). However, (see response to question #2) the PID levels went to background levels after the hard sandy layer was penetrated (3 feet of vertical distance). Based on these findings in the area of the former pit, we concluded that the hard, sandy layer significantly limits downward infiltration of groundwater. Therefore, the downward migration of chlorides would also be limited. Also, since the area of the former pit will be covered with a low-permeability clay cap, natural infiltration will be extremely limited, thereby further decreasing the potential mobility of chlorides left in the footprint of the former pit.

2. Conoco indicated that the indurated sandstone layer found below the pit is an impermeable barrier. OCD's experience with this geological formation is that in many places in the county we have found this layer to be highly fractured, thus allowing contamination to flow through this layer. Please demonstrate the permeability of this layer.

Response - During the initial evaluation (February 2001) to determine the depth of hydrocarbon contamination at the site, two borings penetrated the area of concern. These borings (SB-6, SB-7) were advanced using continuous sampling techniques to depths of 21 feet below ground surface (bgs) and 20 feet bgs, respectively. At those depths, the split-spoon sampler encountered the top of a layer that could not be penetrated using that sampling technique, i.e., refusal. In attempting to push the sampler into the layer, the rear of Ingersoll – Rand drill rig (which weighs ~ 45,000 pounds) was lifted off of the ground. A rotary drill bit was then used to penetrate this layer. This layer was described as a hard to very hard, indurated (hardened by cementation, pressure, or heat) silty sand or sandy silt. After this layer was penetrated, another sample was taken at 23 feet bgs to 25 feet bgs. The strength of the hard, silty sand layer is probably the result of calcium carbonate cementation, similar to the cementation of caliche layers. The cementing material between the grains of silt and sand would result in lower porosity, and therefore lower hydraulic conductivity in this layer.

This sandy layer was also encountered in additional borings which were part of a later drilling program. Borings drilled in May 2002 were advanced using air-rotary methods instead of direct push. Logging of drill holes using this method is not as detailed since the boring is logged from the drill cuttings and not from actual

samples. Borings LB-3, LB-4, and LB-5 encountered a sand lense between 20 to 25 feet which would appear to be the same layer as identified in the February 2001 investigation program.

At this time, we cannot directly demonstrate the presence (or absence) of fractures in the indurated sand layer that might act as conduits for flow, or assign a specific value for hydraulic conductivity of this layer. However, we reiterate our conclusion regarding the efficacy of this layer in limiting the downward infiltration of contaminated groundwater based on the rapid decrease in the presence of hydrocarbons, as measured with a photo-ionization detector (PID), in samples taken above and below this layer. PID measurements of soil samples from the two borings in the area of the former pit taken from the ground surface to approximately 20 feet, where this indurated layer was encountered, showed the continuous presence of hydrocarbons. However, immediately below this layer of indurated silty sand, the PID readings in each boring were at background levels. Specifically, in boring SB-6, the PID readings ranged from 110 to 512 parts per million (ppm) above this layer and was 3.2 ppm below it. In boring SB-7 the readings ranged from 306 to 1400 ppm above the layer and was 1.9 ppm below it. The PID measurements decreased approximately two orders of magnitude and were down to background levels after three feet of vertical distance (through this indurated layer) in both borings. Based on these findings in the area of the former pit, we concluded that the hard, sandy layer significantly limits downward infiltration of groundwater.

3. Our field observation revealed another pit on-site (south excavation) that may be contaminated. Please verify and provide information for closing this pit.

Response - The south excavation was installed after Maxim encountered a small area of discolored soil on the surface and obtained permission from Conoco to excavate. Impacted soil was removed and hauled to the landfill. Field testing indicated that some impacted material remained in the walls, therefore this area was included in the overall site footprint planned for inclusion under the clay layer. Additional testing (test pits) could be installed to further delineate potential impacts in the floor and walls of this pit, but Conoco and Maxim contend that since the proposed clay cap layer serves to limit infiltration of precipitation, potential impact levels in remaining soil are moot. Further excavations could potentially result in perforation of the underlying indurated sand layer, and could create conduits for impacts to migrate to underlying soil layers and eventually to groundwater.

4. Conoco has done a good job in defining the outer limits of contamination for the entire site, but has not identified contamination levels between the side walls of the pit and the outer verification areas that they propose to remain in place. OCD's concern here is the Conoco's proposed liner may not cover these areas. Please address this issue.

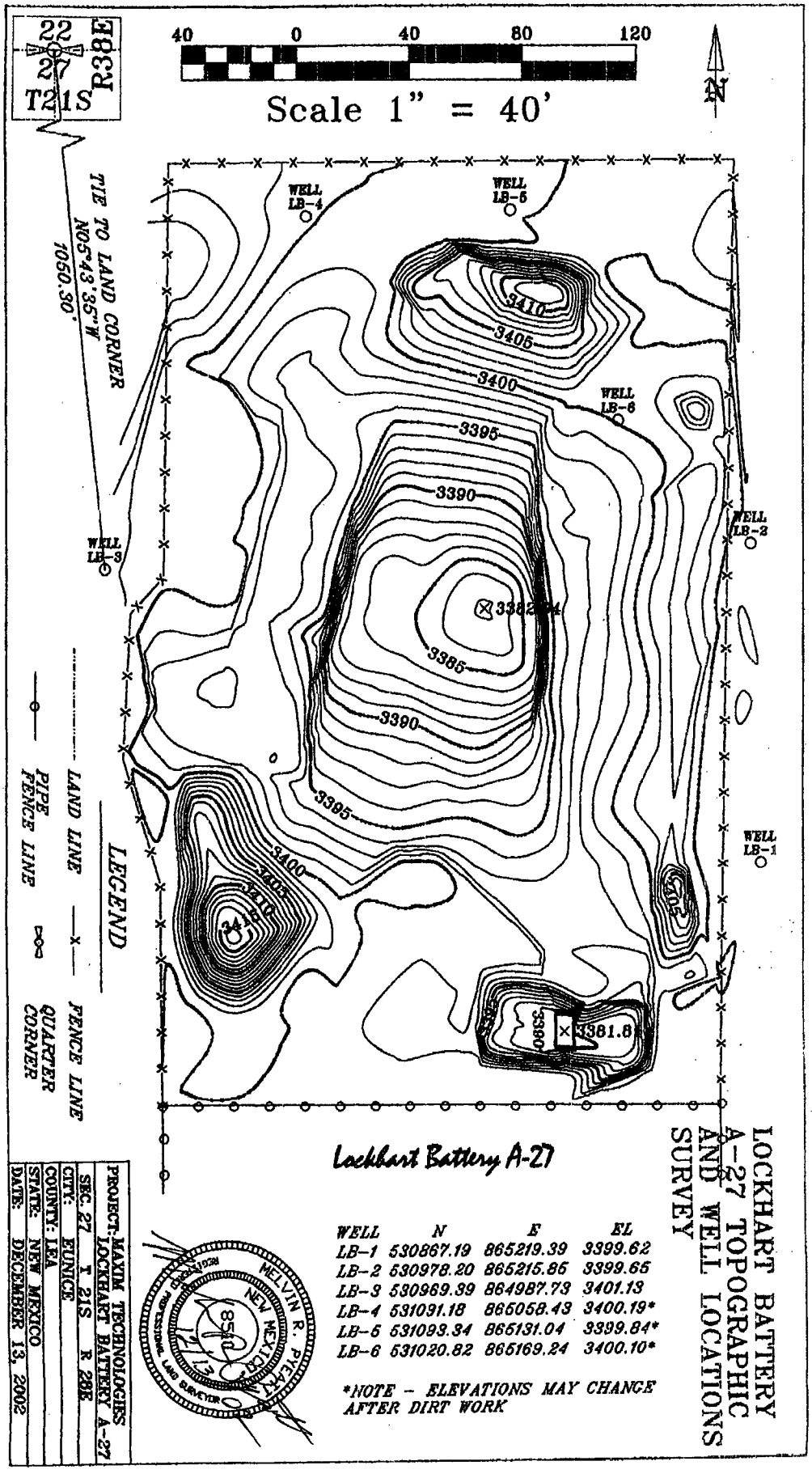
Response – Conoco's proposed liner is intended to cover the initial source term area which was the basis of the February 2001 site characterization (the old pit), as well

as the additional area currently exposed by the existing excavation. If the current excavation is simply backfilled and compacted, the backfill could provide a conduit for preferential infiltration (therefore increasing the potential for spreading impacts). However, by capping this area as proposed by Conoco with a low permeability clay layer, the area of preferential infiltration will be eliminated, thus stabilizing any residual impacts derived from the removed source term.

The OCD's area of concern, between the side walls of the pit and the outer verification areas is overlain by approximately 18 feet of unimpacted, native material that will serve as a natural infiltration barrier. The native material will perform much as the clay cap will over the backfilled area. Therefore, we believe that capping of this additional area is not warranted. Typical values of infiltration in the southern High Plains, in which Eunice is located, are one-quarter to one-half inch per year. This equates to an infiltration rate approximately 1 x 10E-6 to 1 x 10E-7 cm/s to the subsurface. The impacts underlying the 18 feet of native soil may be the result of lateral movement along the indurated sandstone unit discussed in question 2 above, derived from the removed source term (old pit material).

Sincerely:
Maxim Technologies, Inc.

Tom Tangen
Environmental Engineer


22
27
T21S R36E
40 0 40 80 120
Scale 1" = 40'
N
TIE TO LAND CORNER
N05°43'35"W
1050.30'
WELL LB-4
WELL LB-5
WELL LB-6
WELL LB-3
WELL LB-2
WELL LB-1
3410
3405
3400
3395
3390
3385
3382.4
3381.8
LEGEND
LAND LINE
FENCE LINE
PIPE FENCE LINE
QUARTER CORNER
Lockhart Battery A-27
WELL N E EL
LB-1 530867.19 865219.39 3399.62
LB-2 530978.20 865215.86 3399.65
LB-3 530969.99 864987.73 3401.13
LB-4 531091.18 865058.43 3400.19*
LB-5 531093.34 865131.04 3399.84*
LB-6 531020.82 865169.24 3400.10*
*NOTE - ELEVATIONS MAY CHANCE AFTER DIRT WORK
MELVIN R. PYEATT
NEW MEXICO
8509
REGISTERED LAND SURVEYOR
LOCKHART BATTERY A-27 TOPOGRAPHIC AND WELL LOCATIONS SURVEY
PROJECT: MAXIM TECHNOLOGIES LOCKHART BATTERY A-27
SEC. 27 T 21S R 36E
CITY: EUNICE
COUNTY: LEA
STATE: NEW MEXICO
DATE: DECEMBER 13, 2002

L.V. Sims II

Independent Ground Water Investigation
Down-Gradient

of the

Conoco Lockhart A-27 Battery Pit

UL-C Section 27 T21S R37E
Lea County New Mexico
Latitude: 32° 27' 15"N Longitude: 103° 09' 01"W

December 2002

TABLE OF CONTENTS

1 GROUND WATER INVESTIGATION OBJECTIVE

The purpose of this investigation is to confirm background concentrations of the "Constituents of Concern" (CoCs), i.e., Total Petroleum Hydrocarbon EPA method 418.1 ($TPH^{418.1}$), Benzene, Toluene, Ethyl Benzene, and Xylenes (BTEX), and Chloride the ground water down-gradient of the Conoco Lockhart A-27 Tank Battery Pit. In the opinion of Mr. Sims, the information collected and reported by Conoco during their investigation of the pit did not adequately delineate the vertical extent of production fluid impact or demonstrate that ground water had not been impacted. If elevated levels of the CoCs are monitored, it will justify implementation of the previously developed soil delineation plan, i.e., **L.V. Sims II, Delineation Project Plan (PjP) for the Conoco Lockhart A-27 Tank Battery Pit, October 2002.** Ground water occurs in the area at approximately 65'bgs.

1.1 Implementation and Interested Parties

L.V. Sims II, representative for the landowners of record, i.e., Tom and Winnie Kennann, will notify the New Mexico One Call on December 12, 2002 of the intent to drill and implement this Site Specific Ground Water Investigation during the week of December 16, 2002. Interested parties are welcomed to observe and accept split or co-located samples.

1.2 Legal Description

The site is located in UL-C Section 27 T21S R37E, Lea County New Mexico at Latitude: 32° 27' 15"N and Longitude: 103° 09' 01"W.

1.3 Soil Assessment

A single borehole will be advanced and logged from a location approximately 20 feet southeast of the battery pit fence and discretely sampled at 5 foot intervals and the Volatile Organic Constituents (VOC) Headspace surveyed with a calibrated Photoionization Detector (PID). Soil samples surveyed above 25 ppm will be sent to the laboratory and analyzed for Total Petroleum Hydrocarbon EPA method 8015M (TPH^{8015m}), Benzene, Toluene, Ethyl Benzene, and Xylenes (BTEX), and Chloride. Refer to the attached site map for the borehole location.

1.4 Ground Water Assessment

The soil boring will be advanced 10 feet into the saturated zone and a 2" PVC o-ring sealed threaded cased well installed in accordance with the NMOCD guidelines. The 0.020" well screen will be set with 10' in the saturated zone and 5 feet above the saturated zone. A 2" PVC well point will be installed on the end of the well screen. The monitor well sand pack will be installed to 2 feet above the screen and a 3 foot hydrated Bentonite seal installed above the sand. Cement grouting will not be used; rather, the remainder of the bore, up to 3 feet of the surface will be sealed with hydrated Bentonite to facilitate future well decommissioning. A 4 foot x 4 foot x 4 inch thick well pad/surface seal and a lockable vertical well vault will be set and secured with a lock. A J-Plug will be inserted into the top of the casing. A well/log diagram will be developed for reference. After installation, development will consist of purging 5 well volumes with sampling within 24 hours of development using a new 1 liter disposable bailer.

1.5 Quality Assurance Project Plan

This Quality Assurance Plan (QAP) will ensure the quality and usability of information and data used to support a successful site investigation and subsequent environmental management decisions.

1.5.1 Data Quality Objectives

For analytical information derived from samples, the following quality controls will be documented and verified. If data is within the specifications it will be deemed quantitative and acceptable for use in making environmental management decisions.

- Laboratory data must have extraction recovery for TPH, BTEX and general chemistry parameters ≤30.0%. Or a "%Extraction Accuracy " between 70 and 130%.
- Laboratory data must have <30% Relative Percent Difference or a "%Instrument Accuracy" between 70 and 130%.
- Field headspace analyses must be supported with instrument calibration data and calibration gas certification.

1.5.2 Methodology

Collecting representative site samples and information requires that the sampling and observational processes and procedures be implemented within strict bounds. These control procedures will further ensure the quality of site data and information. Likewise, personnel will implement standard environmental and occupational safety protocols.

1.5.2.1 BOREHOLE DRILLING, LITHOLOGIC SAMPLING, LOGGING, AND ABANDONMENT

Boreholes will be located strategically to best determine vertical and horizontal extent of contamination in the vadose zone. Ground water will not be penetrated. Borelogs will be developed for each boring noting site lithology. Likewise, laboratory samples may be collected to determine more detailed lithologic characteristics, i.e., porosity, transmissivity, etc. Each borehole will be plugged with Sodium Bentonite in accordance with the NMOCD guidelines.

1.5.2.1.1 GENERAL DRILLING PROCEDURES

The investigation will use a drill rig with hollow stem auger, "AW" rod, and "thin-wall probe" method of discrete sampling.

1.5.2.1.2 SOIL SAMPLING AND LOGGING

Upon advancing the hollow stem auger with the AW rod to the desired sampling interval, the AW rod will be removed and the probe extended through the end of the hollow stem auger and pushed into the soil matrix to collect the sample. As the 1.5" X 48" stainless steel probe with a vinyl sampling sleeve is detached from the sampling bar, it will be immediately placed on the rack and logged. A 4 oz. sample will then be decanted into the sample jar for refrigeration and preparation with the remainder (~1 Kg) placed in a 1 gallon Ziplock bag, warmed to ambient ~ 70-80 °F and VOC Headspace concentration measured and recorded. All pertinent information will be recorded on the field borelog data sheet.

1.5.2.1.3 BOREHOLE ABANDONMENT

The boreholes will be filled with a mixture of distilled water and Sodium Bentonite and a wooden marker denoting the borehole number driven into the center of each backfilled hole.

1.5.2.2 SAMPLE HANDLING

Soil samples will be collected and prepared in accordance with accepted ASTM and EPA SW846 methods.

1.5.2.3 SAMPLING PROTOCOLS

1. Decontaminate sampling equipment and area with Alconox distilled water after each sample.
2. Prepare samples and refrigerate as soon as practicable.

Duplicates or blanks may be submitted to the laboratory to establish reproducibility and identify laboratory contamination, respectively.

1.5.2.4 SAMPLE CONTAINERS

Laboratory and field analyses of soil require specific containers and are listed in the matrix below.

Matrix	TPH	BTEX	VOC Headspace
Soil	4 oz. Jar with Teflon seal	4 oz. Jar with Teflon seal	1-gallon Ziplock® bags

1.5.2.5 SAMPLE CUSTODY

All analytical request forms will be completed and signatured by sampler. Technical personnel will ascension the samples to the laboratory sample-receiving personnel under chain-of-custody signature.

1.5.2.6 QUALITY CONTROL SAMPLES

Quality control samples will be analyzed to ensure data quality.

1.5.2.6.1 FIELD BLANK

A field blank for soil is not deemed necessary.

1.5.2.6.2 EQUIPMENT BLANK

None will be collected.

1.5.2.6.3 FIELD DUPLICATE OR CO-LOCATED SAMPLES

One duplicate sample will be collected for analysis.

1.5.2.6.4 TRIP BLANK

A laboratory prepared trip blank is not necessary for soil samples.

1.5.2.7 FIELD MEASUREMENTS

Field measurements are for surveillance only and must be confirmed with laboratory data. The VOC Headspace concentration for each soil sample will be measured. The instrument used will be the Ultra-Rae PID manufactured by Rae Systems. The calibration gas will be 100.0 ppm isobutylene standard from Scott Specialty Gases, Freemont, Colorado. Field chloride will be analyzed using the LaMotte Silver Nitrate Titration Kit.

1.5.2.7.1 EQUIPMENT CALIBRATION AND QUALITY CONTROL

The PID will be calibrated at least 3 times daily and checked with the calibration gas hourly. When a check with the calibration gas indicates the instrument reading is 10 ppm too high or low it will be calibrated. Variation in the daytime ambient temperature will cause the variation.

1.5.2.7.2 EQUIPMENT MAINTENANCE AND DECONTAMINATION

All sampling and survey equipment will be routinely decontaminated between samples. Nitrile gloves will be worn and changed with each sampling iteration.

1.5.2.8 ANALYSES

Soil will be analyzed in accordance with the following EPA Methods.

The analytical suite for soil samples will include;

- TPH (EPA method 8015M)
- BTEX (EPA method 8020, 8021B *or* equivalent)
- Chloride (EPA method 4500 Cl^- B)

1.5.2.9 SAMPLE IDENTIFICATION

Sample identification numbers will be designated as follows;

Site: Conoco Lockhart	Borehole	Borehole #	Interval bgs	Qualification: Cutting/Probe Sample
CL	BH	1	20'	C or P

Example: CLBH1-20C

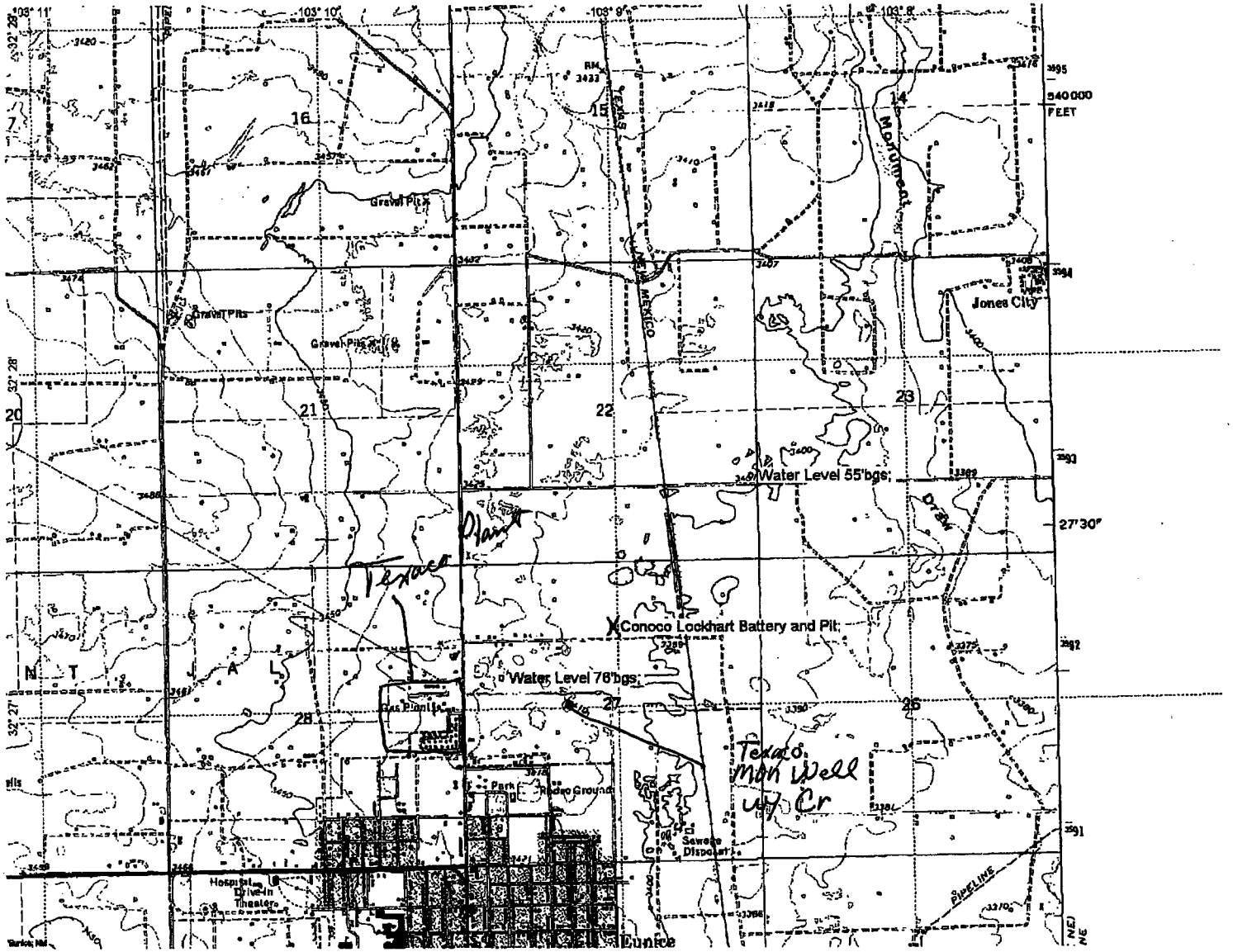
1.5.2.10 DATA EVALUATION

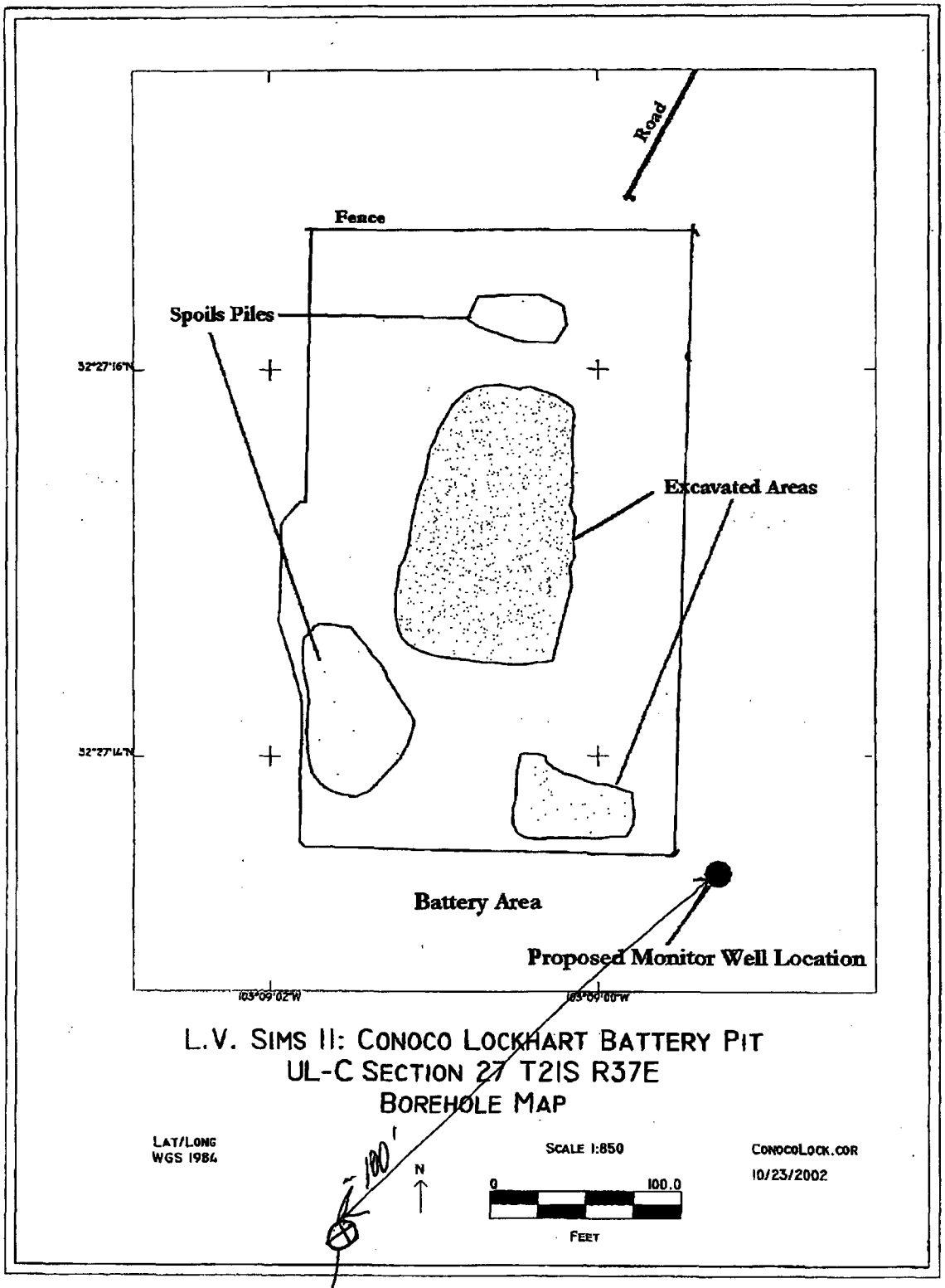
All data will be reviewed based on the Data Quality Objectives.

1.6 Reporting

Upon completion of the Project, a site specific report will be developed to document PjP implementation and present the data.

Site Maps


Jones City
Water Level 55'bgs;
Texaco Plant
Conoco Lockhart Battery and Pit;
Water Level 76'bgs;
Texaco Man Well
Eunice
Gravel Pits
Hospital
Drive-In Theater
Park
Rodeo Ground
Sewage Disposal
PIPELINE
MONUMENT
NEW MEXICO
TEXAS
540000 FEET
27'30"



Relative location of what appears to be an abandoned water well.

(915) by[illegible]001 Fax (915) 673-7020 (505) 393-2326 Fax (505) 393-2476

Page ____ of ____

Company Name:	Environmental Plus
Project Manager:	Pat McCasland
Address:	2400 Ave O
City:	Eunice State: N.M. Zip: 88231
Phone #:	505-394-3481 Fax #: 505-394-2601
Project #:	Project Owner: Lovington II
Project Name:	Conoco Lockhart A-27 Batt
Project Location:	
Sampler Name:	Bradley Blair

BILL TO

P.O. #:	
Company:	
Attn:	
Address:	
City:	
State:	Zip:
Phone #:	
Fax #:	

ANALYSIS REQUEST

Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUNDWATER	WASTEWATER	SOIL	CRUDE OIL	SLUDGE	OTHER:	PRESERV: ACID/BASE:	ICE / COOL	OTHER:	SAMPLING: DATE	TIME	Btex 8021b	Chloride	Metals
H03471	WCLA27LVS12200MW	G	2	X							X		12-20-02	9:00	X	X	X
	WCLA27LVS18200MW	G	1	X							X		12-20-02	9:10		X	X

*Cardinal cannot accept verbal changes. Please fax written changes to 505-393-2476

Sampler Relinquished: Bradley Blair

Relinquished By:

Date: 12/20/02 Time: 3:15

Received By:

Received By: (Lab Staff)

Delivered By: (Circle One)

Sampler - UPS - Bus - Other:

Sample Condition: Cool: Yes / No; Intact: Yes / No

CHECKED BY: (Initials)

Phone Result: ☐ Yes ☐ No Add'l Phone #:

Fax Result: ☐ Yes ☐ No Add'l Fax #:

REMARKS:

CARDINAL LABORATORIES

PHONE (915) 673-7001 • 2111 BEECHWOOD • ABILENE, TX 79603
PHONE (505) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

ANALYTICAL RESULTS FOR
ENVIRONMENTAL PLUS, INC.
ATTN: PAT McCASLAND
P.O. BOX 1558
EUNICE, NM 88231
FAX TO: (505) 394-2601

Receiving Date: 12/20/02
Reporting Date: 12/26/02
Project Owner: L.V. SIMS II
Project Name: CONOCO LOCKHART A-27 BATT.
Project Location: NOT GIVEN

Sampling Date: 12/20/02
Sample Type: GROUNDWATER
Sample Condition: COOL & INTACT
Sample Received By: BC
Analyzed By: AH/BC

LAB NO. SAMPLE ID	Cl (mg/L)	BENZENE (mg/L)	TOLUENE (mg/L)	ETHYL BENZENE (mg/L)	TOTAL XYLENES (mg/L)
ANALYSIS DATE:	12/23/02	12/23/02	12/23/02	12/23/02	12/23/02
H7347-1 WCLA27LVS122002MW	508	<0.002	<0.002	<0.002	<0.006
Quality Control	1000	0.108	0.100	0.104	0.306
True Value QC	1000	0.100	0.100	0.100	0.300
% Recovery	100	108	100	104	102.0
Relative Percent Difference	1.0	6.1	1.9	5.5	5.7

METHOD: Cl - Std. Methods 4500-Cl B; BTEX - EPA SW-846-8020

Burgess J. A. Cooke, Ph. D.

12/26/02
Date

CARDINAL LABORATORIES

PHONE (915) 673-7001 • 2111 BEECHWOOD • ABILENE, TX 79603
PHONE (505) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

ANALYTICAL RESULTS FOR
ENVIRONMENTAL PLUS, INC.
ATTN: PAT McCASLAND
P.O. BOX 1558
EUNICE, NM 88231
FAX TO: (505) 394-2601

Receiving Date: 12/20/02
Reporting Date: 12/31/02
Project Owner: L.V. SIMS II
Project Name: CONOCO LOCKHART A27 BATT
Project Location: NOT GIVEN

Sampling Date: 12/20/02
Sample Type: GROUNDWATER
Sample Condition: COOL & INTACT
Sample Received By: BC
Analyzed By: AH

RCRA METALS

LAB NUMBER SAMPLE ID	As ppm	Ag ppm	Ba ppm	Cd ppm	Cr ppm	Pb ppm	Hg ppm	Se ppm
ANALYSIS DATE:	12/27/02	12/30/02	12/30/02	12/30/02	12/30/02	12/30/02	12/31/02	12/27/02
H7347-1 WCLA27LVS122002MW	<0.1	<0.05	15.1	0.02	0.085	<0.05	<0.002	<0.05
Quality Control	0.049	4.912	41.51	0.959	4.991	4.982	0.0101	0.151
True Value QC	0.050	5.000	50.00	1.000	5.000	5.000	0.0100	0.150
% Recovery	98.0	98.2	83.0	95.9	99.8	99.6	101.0	101
Relative Percent Difference	5.7	0.6	0.6	0.4	0.3	0.3	0.1	2.8

METHODS:	EPA 600/4-79-020	206.2	272.1	208.1	213.1	218.1	239.1	245.1	270.2
METHODS:	SW-846	7060A	7760A	7080A	7130	7190	7420	7470A	7740

Amy Hill
Chemist

12-31-02
Date

H7347

Price, Wayne

From: Price, Wayne
Sent: Friday, January 10, 2003 3:51 PM
To: 'Goates, R. Neal'
Subject: Lockhart A-27

Dear Neal:

I have not set a date to meet you at the A-27 yet. During our last telephone conversation you indicated you would like to meet OCD at the site and that Conoco was going to perform further delineate during my visit. I would like to know what Conoco proposes to do during my visit before I come. OCD will require a plan of action to be approved by OCD before Conoco commences any work.

Sincerely:

Wayne Price
New Mexico Oil Conservation Division
1220 S. Saint Francis Drive
Santa Fe, NM 87505
505-476-3487
fax: 505-476-3462
E-mail: WPRICE@state.nm.us

NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

BILL RICHARDSON
Governor
Joanna Prukop
Cabinet Secretary

Lori Wrotenbery
Director
Oil Conservation Division

Memorandum of Meeting or Conversation

Telephone _____
Personal __X_____
E-Mail _____

Time: 1pm-3pm
Date: January 08, 2003

Originating Party: Leo (Flap) Simms

Other Parties: R Wrotenbery, RC Anderson, W Price, B Olson- OCD

Subject: Rice Operating Co. N-29 (Jct Box Project) and Conoco Lockhart A-27

Discussion: Mr. Simms indicated he was concerned that Rice Operating Company was not reporting groundwater contamination in a timely fashion and did not agree with the way Rice was performing clean-up's on these sites, particularly N-29. He provided three photos of this site. He Indicated that the bottom barrier was not large enough and contaminated soils were being placed outside of the barrier system. His concern was that infiltration would cause groundwater contamination. He also expressed his concern about sampling methods these companies were using.

His concern for the Lockhart A-27 was that Conoco had proposed to leave contaminates behind that would in his opinion contaminate groundwater and that his sampling results did not agree with Conoco's. He was upset that OCD did not rescind Conoco's approved plan after notifying the OCD of the sampling discrepancies. OCD pointed out that the plan had been rescinded and showed him an OCD letter confirming this fact. Mr. Simms did not agree with the language in OCD letter. Mr. Simms also complained about how Conoco had collected samples and felt they were not taken properly. He indicated he had installed a monitor well and collected groundwater samples showing the groundwater has been contaminated.

Mr. Simms also indicated he felt that OCD was not spending enough time at these sites and he was concerned that OCD blindly accepts their data. OCD pointed out that we do have the resources to go to all of the sites and collect confirmation samples.

Conclusions or Agreements:

OCD agreed to check into the N-29 Rice site to determine if any violations have been committed and will continue to work with both Conoco and Mr. Simms on the Lockhart A-27 issue.

Signed: Wayne Price

CC: file

Price, Wayne

From: Price, Wayne
Sent: Monday, October 28, 2002 4:09 PM
To: 'r-neal.goates@conoco.com'
Cc: Bayliss, Randy; Olson, William; Anderson, Roger
Subject: Lockhart A-27 OCD Case # 1R0345

Contacts: Neal Goates

Dear Mr. Goates:

The OCD hereby holds in abeyance the approval dated August 14, 2002 sent via E-mail for the above subject site. OCD bases this decision upon the facts that data submitted by the landowner does not correlate with Conoco's data and field observations taken by a member of our OCD staff has generated additional questions for Conoco. In order to proceed with the review process please provide OCD the following information.

1. During our technical review meeting with Conoco held in Santa Fe on October 18, 2002, we discussed the issue of vertical delineation of chlorides that was taken from soil boring LB-6. It was our impression that this soil boring was located next to the pit. Conoco indicated they felt this would have provided a good representation of the vertical extent of the chloride contamination from the bottom of the pit. Upon reviewing the documents submitted by Maxim dated August 13, 2002 ("Results of Compilation of Data from Subsurface Investigations Lockhart A-27 Battery Near Eunice, NM Maximum project 2690022.110") fig. 4 1690016, it shows this soil boring is 150 feet from the center of the pit and 95 feet from the edge of the pit. Please explain why this would adequately represent the vertical extent of the chlorides migration since this is at a distance from the source area which still contains 10,500 ppm chlorides.

2. Conoco indicated that the indurated sandstone layer found below the pit is an impermeable barrier. OCD's experience with this geological formation is that in many places in the county we have found this layer to be highly fractured, thus allowing contamination to flow through this layer. Please demonstrate the permeability of this layer.

3. Our field observation revealed another pit on-site (south excavation) that may be contaminated. Please verify and provide information for closing this pit.

4. Conoco has done a good job in defining the outer limits of contamination for the entire site, but has not identified contamination levels between the side walls of the pit and the outer verification areas that they propose to remain in place. OCD's concern here is the Conoco's proposed liner may not cover these areas. Please address this issue.

Sincerely:

Wayne Price
New Mexico Oil Conservation Division
1220 S. Saint Francis Drive
Santa Fe, NM 87505
505-476-3487
fax: 505-476-3462
E-mail: WPRICE@state.nm.us

cc: Leo Sims fax 505-391-6684

ConocoPhillips

FAX

To: Wayne Price
Fax Number: 505-476-3462
Company: NMOCD
Total Pages: 1 + Cover
From: Neal Goates
Copies to:
Phone: 832-379-6437
Fax:
Subject: Lockhart A27
Date: 10/28/02

Letter responding to proposed delineation from LV Simms on 10-24-02.

Threadneedle Office
PO Box 2197
Houston TX 77252-2197

ConocoPhillips

Neal Goates
Site Manager
Risk Management and Remediation
ConocoPhillips
TN 5050
P. O. Box 2197
Houston TX 77252-2197
Ph: 832-379-6427/ Fax: 801-382-1674
r-neal.goates@conoco.com

October 28, 2002

CERTIFIED MAIL

Mr. and Mrs. Thomas and Winnie Kennann
P.O. Box 202
Eunice, N.M. 88231

and

VIA FAX
505-397-4993

Mr. Leo Simms
P.O. Box 2630
Hobbs, NM 88241-2630

Re: Lockhart A 27 Battery Pit

Dear Mr. and Mrs. Kennann and Mr. Simms:

On October 24, 2002, Mr. Simms sent us a fax copy of a proposed delineation plan. This plan calls for drilling in the center of a 20-foot deep pit and, in our view, presents potential safety and environmental hazards the plan does not address. Specifically, the plan does not address how the rig will be located and surface stabilization in the pit will be accomplished during the center boring activities. In addition, the plan does not address how access will be gained in the steep terrain area. We believe that these shortcomings present serious safety issues. We are also very concerned that your proposed operations may jeopardize groundwater. Previous investigation confirmed a confining layer at 30 feet that protects groundwater. This layer should not be penetrated. However, the operations you intend to conduct may penetrate this confining layer, carrying contamination to groundwater zones.

ConocoPhillips respectfully proposes that you withdraw your plan and allow Conoco to implement the NMOCD approved closure plan. If you intend to proceed with your proposed plan, Conoco representatives will be present to record and document the activity, but will assume no responsibility for any personal or environmental damage that may result from your actions. I appreciate your consideration in this matter. If you have any questions I can be reached at 832-379-6427.

Yours very truly,

Neal Goates

Neal Goates
Risk Management and Remediation Site Manager

cc: Environmental Engineer
New Mexico Oil Conservation Division
1220 St. Frances Dr.
Santa Fe, NM 87505-4000

L.V. Sims II

Delineation Project Plan
(PjP)

Conoco Lockhart A-27 Battery Pit

UL-C Section 27 T21S R37E
Lea County New Mexico
Latitude: 32° 27' 15"N Longitude: 103° 09' 01"W

October 2002

TABLE OF CONTENTS

1 PROJECT PLAN OBJECTIVE

This PjP will collect quality information necessary to determine the vertical extent of production fluid impact historically released into the pit area associated with the Conoco Lockhart A-27 Tank Battery. In the opinion of Mr. Sims, the information collected and reported by Conoco during their site investigation did not adequately delineate the vertical extent of production fluid impact. The primary concern is that only data down to 20 feet below the ground surface (bgs) in the area of the pit was reported. Soil samples collected in the bottom of the 22'bgs excavation were analyzed by Mr. Sims and found to be contaminated with Total Petroleum Hydrocarbon EPA method 8015M (TPH^{8015m}), Benzene, Toluene, Ethyl Benzene, and Xylenes (BTEX), and Chloride, justifying further investigation. Ground water occurs in the area at approximately 65'bgs.

1.1 Implementation and Interested Parties

L.V. Sims II, representative for the landowners of record, i.e., Tom and Winnie Kennann, will notify the New Mexico One Call on October 25, 2002 of the intent to drill and implement this Site Specific Project Plan (PjP) during the week of October 28th, 2002. Interested parties are welcomed to observe and accept split or co-located samples.

1.2 Legal Description

The site is located in UL-C Section 27 T21S R37E, Lea County New Mexico at Latitude: 32° 27' 15"N and Longitude: 103° 09' 01"W.

1.3 Soil Assessment

A single borehole will be advanced from the excavation bottom to 55'bgs and discretely sampled at 5 foot intervals for Total Petroleum Hydrocarbon EPA method 8015M (TPH^{8015m}), Benzene, Toluene, Ethyl Benzene, and Xylenes (BTEX), and Chloride. Refer to the attached site map.

1.4 Ground Water Assessment

The soil boring will not be advanced into the saturated zone.

1.5 Quality Assurance Project Plan

This Quality Assurance Plan (QAP) will ensure the quality and usability of information and data used to support a successful site investigation and subsequent environmental management decisions.

1.5.1 Data Quality Objectives

For analytical information derived from samples, the following quality controls will be documented and verified. If data is within the specifications it will be deemed quantitative and acceptable for use in making environmental management decisions.

- Laboratory data must have extraction recovery for TPH, BTEX and general chemistry parameters ≤30.0%. Or a "%Extraction Accuracy " between 70 and 130%.
- Laboratory data must have <30% Relative Percent Difference or a "%Instrument Accuracy" between 70 and 130%.
- Field headspace analyses must be supported with instrument calibration data and calibration gas certification.

1.5.2 Methodology

Collecting representative site samples and information requires that the sampling and observational processes and procedures be implemented within strict bounds. These control procedures will further ensure the quality of site data and information. Likewise, personnel will implement standard environmental and occupational safety protocols.

1.5.2.1 Borehole Drilling, Lithologic Sampling, Logging, and Abandonment

Boreholes will be located strategically to best determine vertical and horizontal extent of contamination in the vadose zone. Ground water will not be penetrated. Borelogs will be developed for each boring noting site lithology. Likewise, laboratory samples may be collected to determine more detailed lithologic characteristics, i.e., porosity, transmissivity, etc. Each borehole will be plugged with Sodium Bentonite in accordance with the NMOCD guidelines.

1.5.2.1.1 General Drilling Procedures

The investigation will use a drill rig with hollow stem auger, "AW" rod, and "thin-wall probe" method of discrete sampling.

1.5.2.1.2 Soil Sampling and Logging

Upon advancing the hollow stem auger with the AW rod to the desired sampling interval, the AW rod will be removed and the probe extended through the end of the hollow stem auger and pushed into the soil matrix to collect the sample. As the 1.5" X 48" stainless steel probe with a vinyl sampling sleeve is detached from the sampling bar, it will be immediately placed on the rack and logged. A 4 oz. sample will then be decanted into the sample jar for refrigeration and preparation with the remainder (~1 Kg) placed in a 1 gallon Ziplock bag, warmed to ambient ~ 70-80 °F and VOC Headspace concentration measured and recorded. All pertinent information will be recorded on the field borelog data sheet.

1.5.2.1.3 Borehole Abandonment

The boreholes will be filled with a mixture of distilled water and Sodium Bentonite and a wooden marker denoting the borehole number driven into the center of each backfilled hole.

1.5.2.2 Sample Handling

Soil samples will be collected and prepared in accordance with accepted ASTM and EPA SW846 methods.

1.5.2.3 Sampling Protocols

1. Decontaminate sampling equipment and area with Alconox distilled water after each sample.
2. Prepare samples and refrigerate as soon as practicable.

Duplicates or blanks may be submitted to the laboratory to establish reproducibility and identify laboratory contamination, respectively.

1.5.2.4 SAMPLE CONTAINERS

Laboratory and field analyses of soil require specific containers and are listed in the matrix below.

Matrix	TPH	BTEX	VOC Headspace
Soil	4 oz. Jar with Teflon seal	4 oz. Jar with Teflon seal	1-gallon Ziplock® bags

1.5.2.5 SAMPLE CUSTODY

All analytical request forms will be completed and signatured by sampler. Technical personnel will ascension the samples to the laboratory sample-receiving personnel under chain-of-custody signature.

1.5.2.6 QUALITY CONTROL SAMPLES

Quality control samples will be analyzed to ensure data quality.

1.5.2.6.1 FIELD BLANK

A field blank for soil is not deemed necessary.

1.5.2.6.2 EQUIPMENT BLANK

None will be collected.

1.5.2.6.3 FIELD DUPLICATE OR CO-LOCATED SAMPLES

One duplicate sample will be collected for analysis.

1.5.2.6.4 TRIP BLANK

A laboratory prepared trip blank is not necessary for soil samples.

1.5.2.7 FIELD MEASUREMENTS

Field measurements are for surveillance only and must be confirmed with laboratory data. The VOC Headspace concentration for each soil sample will be measured. The instrument used will be the Ultra-Rae PID manufactured by Rae Systems. The calibration gas will be 100.0 ppm isobutylene standard from Scott Specialty Gases, Freemont, Colorado. Field chloride will be analyzed using the LaMotte Silver Nitrate Titration Kit.

1.5.2.7.1 EQUIPMENT CALIBRATION AND QUALITY CONTROL

The PID will be calibrated at least 3 times daily and checked with the calibration gas hourly. When a check with the calibration gas indicates the instrument reading is 10 ppm too high or low it will be calibrated. Variation in the daytime ambient temperature will cause the variation.

1.5.2.7.2 EQUIPMENT MAINTENANCE AND DECONTAMINATION

All sampling and survey equipment will be routinely decontaminated between samples. Nitrile gloves will be worn and changed with each sampling iteration.

1.5.2.8 ANALYSES

Soil will be analyzed in accordance with the following EPA Methods.

The analytical suite for soil samples will include;

- TPH (EPA method 8015M)
- BTEX (EPA method 8020, 8021B or equivalent)
- Chloride (EPA method 4500 Cl^- B)

1.5.2.9 SAMPLE IDENTIFICATION

Sample identification numbers will be designated as follows;

Site: Conoco Lockhart	Borehole	Borehole #	Interval bgs	Qualification: Cutting/Probe Sample
CL	BH	1	20'	C or P

Example: CLBH1-20C

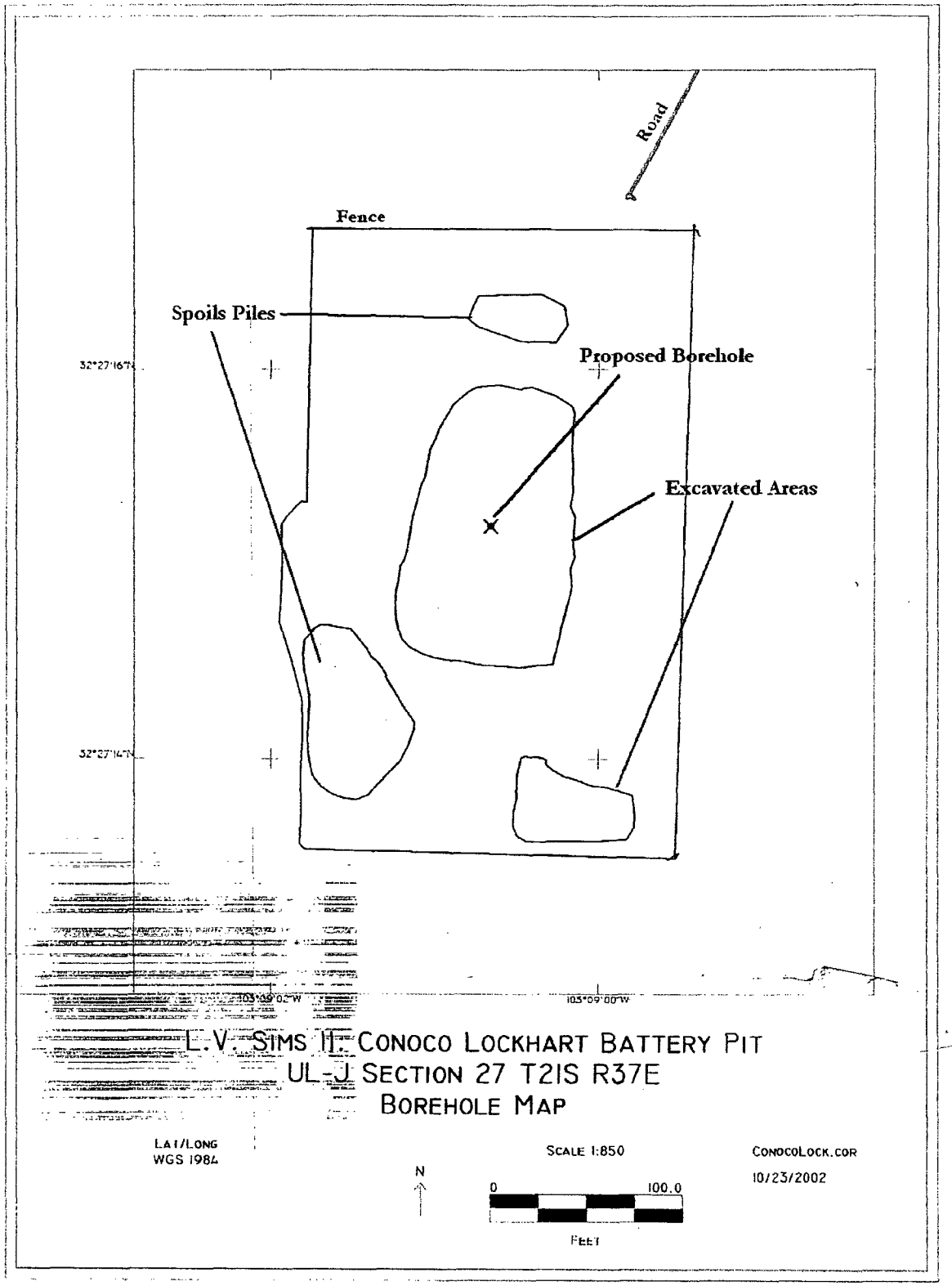
1.5.2.10 DATA EVALUATION

All data will be reviewed based on the Data Quality Objectives.

1.6 Reporting

Upon completion of the Project, a site specific report will be developed to document PjP implementation and present the data.

Site Maps


Road
Fence
Spoils Piles
Proposed Borehole
Excavated Areas
32°27'16"N
32°27'14"N
103°09'02"W
103°09'00"W
L.V. SIMS II CONOCO LOCKHART BATTERY PIT
UL-J SECTION 27 T21S R37E
BOREHOLE MAP
LAT/LONG
WGS 1984
SCALE 1:850
N
0
100.0
FEET
CONOCOLOCK.COR
10/23/2002

MAXIM TECHNOLOGIES INC
10601 Lomas NE, Suite 106
Albuquerque, New Mexico 87112
Office: 505-237-8440
Fax: 505-237-8656

January 7, 2001

Mr. Neal Goates
Conoco Inc.
600 North Dairy Ashford
Houston, TX 77079-1175

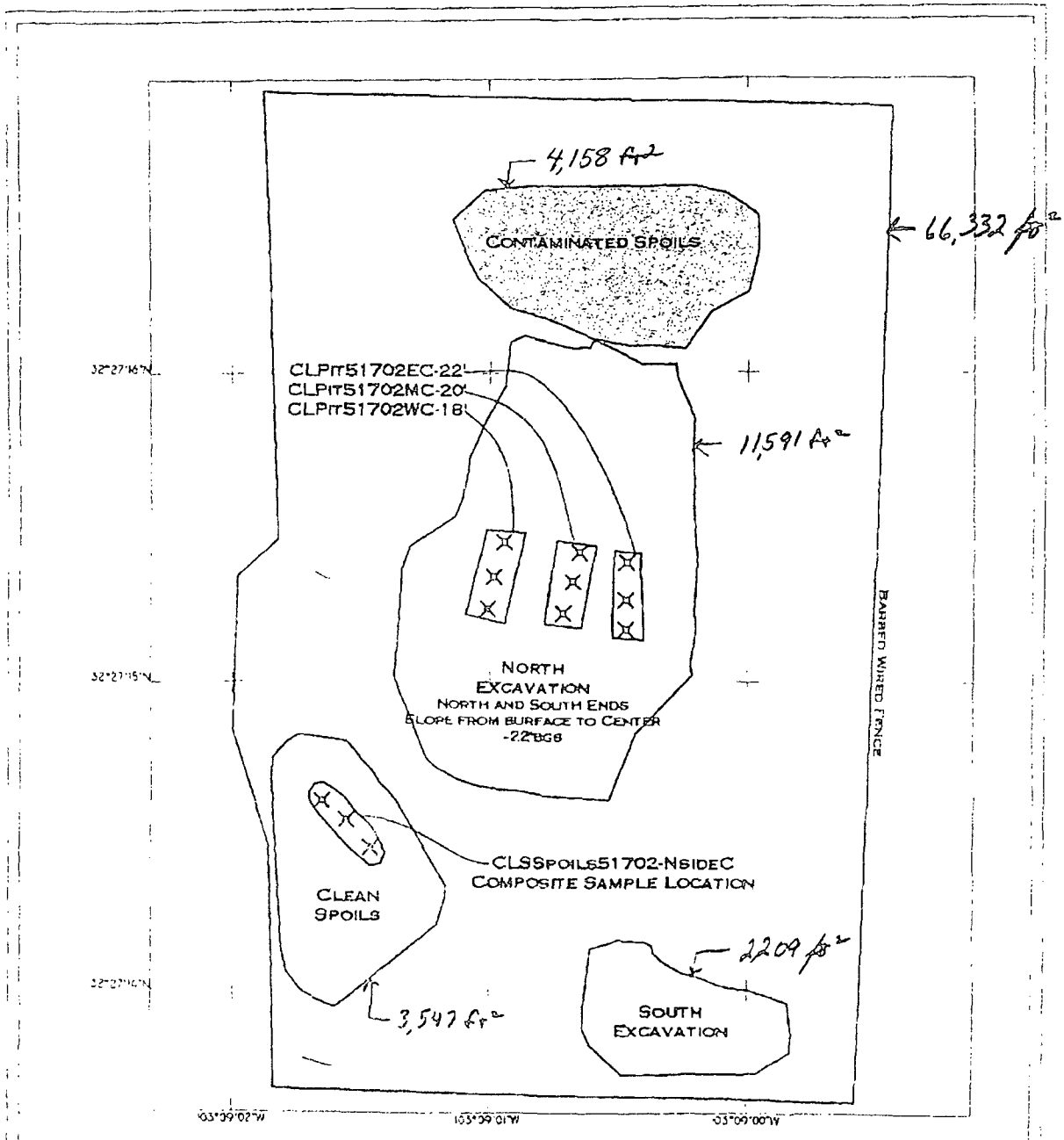
RE: Work Plan – Lockhart A-27 Excavation
Eunice, New Mexico
Maxim Project

Dear Neal:

Maxim Technologies, Inc. (Maxim) proposes the following work plan to address the hydrocarbon impacted soil at the Lockhart A-27 site based on the results of initial investigation activities conducted in the area north of the existing tank battery. This work plan was developed from discussions with Conoco's Remediation Technologies (RT) group and E&P Americas, and contains one task. Task 1 describes the agreed-upon approach for treatment of hydrocarbon impacted soil. Maxim's understanding is that dirt work to remediate the hydrocarbon impacted soil at the site (Task 1) can proceed after review of this plan by stakeholders.

A Preliminary Exposure Pathway Analysis (PEPA) was performed on the site by Maxim in 2001. The PEPA indicated that depth to groundwater in the area is approximately 50 – 55 feet below ground surface (bgs). Drilling conducted as part of the initial site investigation did not proceed to groundwater, but did indicate that a strata of relatively impermeable silty caliche material occurs about 20 – 22 feet below ground surface and appears to be the vertical limit of impacts. Based on these findings, Maxim and Conoco decided to excavate and haul impacted soil from the area to an appropriate receiving site and to backfill the excavation with clean soil. This approach was chosen because it provides protection for both groundwater and anticipated surface uses for the area.

Maxim will prepare a Health and Safety Plan (HASP) for the work to be conducted at the site. In addition to defining Personal Protective Equipment (PPE) requirements, site access restrictions, emergency procedures, the HASP will detail handling of site specific concerns such as traffic control on public roads used for haulage.



L.V. SIMS II: CONOCO LOCKHART BATTERY PIT
UL-J SECTION 27 T21S R37E
COMPOSITE SAMPLE LOCATIONS

LAT/LONG
WGS 1984

SCALE 1:600

N

0 70.00

FEET

R051715A SSF

5/17/2002

CARDINAL LABORATORIES

PHONE (915) 673-7001 o 2111 BEECHWOOD o ABILENE, TX 79603
PHONE (505) 393-2326 o 101 E. MARLAND o HOBBS. NM 88240

ANALYTICAL RESULTS FOR
L.V. SIMS II
P.O. BOX 2630
HOBBS, NM 88241
FAX TO:

Receiving Date: 05/17/02
Reporting Date: 05/20/02
Project Number: NOT GIVEN
Project Name: CONOCO LOCKHART PIT
Project Location: NOT GIVEN

Sampling Date: 05/17/02
Sample Type: SOIL
Sample Condition: COOL & INTACT
Sample Received By: AH
Analyzed By: BC/AH

LAB NUMBER	SAMPLE ID	GRO (C_6-C_{10}) (mg/Kg)	DRO (>C_{10}-C_{28}) (mg/Kg)	Cl* (mg/Kg)
ANALYSIS DATE		05/17/02	05/17/02	05/20/02
H6747-1	CLPIT51702EC-22'	45.2	1453	6400
H6747-2	CLPIT51702MC-20'	304	3620	5600
H6747-3	CLPIT51702WC-18'	149	2900	2640
H6747-4	CLSSPOILS51702-N. SIDE	<10.0	119	640
Quality Control		818	798	1040
True Value QC		800	800	1000
% Recovery		102	99.8	104
Relative Percent Difference		5.5	2.6	4.0

METHODS: TPH GRO & DRO: EPA SW-846 8015 M; Cl^-: Std. Methods 4500-Cl^-B
*Analyses performed on 1:4 w:v aqueous extracts.

Chemist

5/20/02
Date

H6747A.XLS

CARDINAL LABORATORIES

PHONE (915) 673-7001 o 2111 BEECHWOOD o ABILENE, TX 79603
PHONE (505) 393-2326 o 101 E. MARLAND o HOBBS, NM 88240

ANALYTICAL RESULTS FOR
L.V. SIMS II
P.O. BOX 2630
HOBBS, NM 88241
FAX TO:

Receiving Date: 05/17/02
Reporting Date: 05/20/02
Project Number: NOT GIVEN
Project Name: CONOCO LOCKHART PIT
Project Location: NOT GIVEN

Sampling Date: 05/17/02
Sample Type: SOIL
Sample Condition: COOL & INTACT
Sample Received By: AH
Analyzed By: BC

LAB NO.	SAMPLE ID	BENZENE (mg/Kg)	TOLUENE (mg/Kg)	ETHYL BENZENE (mg/Kg)	TOTAL XYLENES (mg/Kg)
ANALYSIS DATE		05/17/02	05/17/02	05/17/02	05/17/02
H6747-1	CLPIT51702EC-22'	0.106	0.005	0.197	1.97
H6747-2	CLPIT51702MC-20'	0.174	0.056	3.70	12.7
H6747-3	CLPIT51702WC-18'	0.027	0.011	0.162	0.774
H6747-4	CLSSPOILS51702-N. SIDE	<0.005	<0.005	<0.005	<0.015
Quality Control		0.106	0.106	0.108	0.312
True Value QC		0.100	0.100	0.100	0.300
% Recovery		106	106	108	104
Relative Percent Difference		1.6	0.4	1.2	0.9

METHOD: EPA SW-846 8260

Chemist

5/20/02
Date

CARDINAL LABORATORIES, INC.

2111 Beechwood, Abilene, TX 79603 (915) 673-7001 Fax (915) 673-7020
101 East Marland, Hobbs, NM 88240 (505) 393-2326 Fax (505) 393-2476

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Page 1 of 1

Company Name:	L.V. Sims II	BILL TO	PO #:
Project Manager:	L.V. Sims II	Company:	Same
Address:	PO Box 2630	Attn:	
City:	Hobbs State: NM Zip:	88241 Address:	
Phone #:	393-3024	City:	
Fax #:		State:	Zip:
Project #:	Project Owner:	Phone #:	
Project Name:	Conoco Lockhart Pit	Fax #:	
Project Location:			

ANALYSIS REQUEST

FOR LAB USE ONLY LAB I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER:	PRES.: ACID:	ICE / COOL	OTHER:	SAMPLING: DATE	TIME	TPH 8015M	BTEX	Chloride
H16747-1	CL Pit 5170 2EC-22'	C	1			✓					✓		5-17-02	0945	✓	✓	✓
-2	CL Pit 5170 2MC-20	C	1			✓					✓			0950	✓	✓	✓
-3	CL Pit 5170 2WC-18'	C	1			✓					✓			0955	✓	✓	✓
-4	CL SS pails 5170 2-N side	C	1			✓					✓			1000	✓	✓	✓

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising whether based in contract or tort, shall be limited to the amount paid by the client for the analyses. All claims including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within 30 days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise.

Terms and Conditions: Interest will be charged on all accounts more than 30 days past due at the rate of 24% per annum from the original date of invoice, and all costs of collections, including attorney's fees.

Sampler Relinquished: L V Sims	Date: Time:	Received By:	Phone Result ☐ Yes ☐ No Additional Fax #:
Relinquished By:	Date: 5/17/02 Time: 1:35	Received By: (Lab Staff) Amy Hill	Fax Result: ☒ Yes ☐ No REMARKS:
Delivered By: (Circle One) Sampler - UPS - Bus - Other:		Sample Condition Cool: ☒ Yes ☐ No Intact: ☐ Yes ☐ No	CHECKED BY: (Initials)

† Cardinal cannot accept verbal changes. Please fax written changes to 915-673-7020.


Water Level 55'bgs;
Conoco Lockhart Battery and Pit;
Water Level 76'bgs;
Monument
Draw
Jones City
TEXAS
NEW MEXICO
Gravel Pit
Gravel Pits
Gas Plant
Park
Rodeo Ground
Sewage Disposal
Eunice
JAL
PIPELINE
540 000 FEET
27'30"
103° 11'
103° 10'
103° 9'
103° 8'
32° 28'
32° 27'
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Price, Wayne

From: Goates, R. Neal [R-Neal.Goates@conoco.com]
Sent: Thursday, October 24, 2002 6:52 AM
To: Wayne Price
Cc: Tom Tangen; John McBee; Goates, R. Neal; Holland, Suzanne P
Subject: Clay cap at Lockhart addendum to closure plan
Importance: High

Dear Mr.. Price,
I respectfully request that the following email from Tom Tangen serve as the additional details needed for closure confirmation regarding the work plan for Lockhart A27. In summary, confirmation of clay cap quality will be demonstrated prior to top soil cover. Let me know if you need anything additionally. Upon your approval of this additional step, we will submit to partners the work mentioned in the closure plan and this clay test procedure for cost approval process. Upon approval for expenditures from partners, we will initiate the work plan previously approved by the NMOCD and the steps in this email. Thanks for your time.

Sincerely,

Neal Goates

Site Manager
ConocoPhillips Inc.
Risk Management and Remediation
Threadneedle Office
PO Box 2197, Rm. TN5044
Houston TX 77252-2197
Phone 832-379-6427
Fax 801-382-1674
cell 832-465-4123
Email: r-neal.goates@conoco.com

-----Original Message-----
From: Tom Tangen [mailto:TTangen@maximusa.com]
Sent: Friday, October 18, 2002 5:30 PM
To: Goates, R. Neal
Cc: John McBee (jmcbee@maximusa.com)
Subject: Clay cap at Lockhart

Maxim will travel to the site and gather a composite sample of clay material from the pit for analysis by Pettigrew Lab in Hobbs, New Mexico. The sample will be delivered with explicit instructions for analysis via ASTM D 4318 (Atterberg Limits), ASTM D 698 (Standard Proctor), and ASTM D 5084 (Flexible Wall Permeameter - soil permeability). Soil permeability testwork will be conducted under conditions that can be duplicated in the field. Results of the testwork will be reviewed and used to determine approximate permeability of the clay cap. Maxim anticipates that the clay can be compacted into place to achieve an overall permeability of approximately 10^{-6} centimeters/second. A letter report will be generated for ConocoPhillips to forward to OCD documenting test results and committing to a final achievable permeability figure after completion of the geotechnical testing discussed above.

During actual cap construction, Maxim will attempt to reproduce lab test conditions (for moisture content

and compaction) as closely as possible to ensure quality. Pettigrew Labs will be contracted to perform soil nuclear density testing on the installed clay cap to document actual site conditions.

Tom Tangen
Maxim Technologies, Inc.
10601 Lomas NE, Suite 106
Albuquerque, NM 87112
ph: 505.237.8440
fax: 505.237.8656
email: ttangen@maximusa.com

Price, Wayne

From: Goates, R. Neal [R-Neal.Goates@conoco.com]
Sent: Wednesday, October 16, 2002 1:49 PM
To: Wayne Price
Subject: FW: Clay test work (Lockhart A-27)
Importance: High

Wayne,
I'm sending this again without the original attachments that I mentioned below. I'm thinking maybe the attachment size may have caused a delivery failure.

Neal Goates

Site Manager
ConocoPhillips Inc.
Risk Management and Remediation
Threadneedle Office
PO Box 2197, Rm. TN5044
Houston TX 77252-2197
Phone 832-379-6427
Fax 801-382-1674
cell 832-465-4123
Email: r-neal.goates@conoco.com

-----Original Message-----
From: Goates, R. Neal
Sent: Tuesday, October 15, 2002 1:10 PM
To: 'Wayne Price'
Cc: Goates, R. Neal; 'Tom Tangen'
Subject: Clay test work (Lockhart A-27)

Dear Mr.. Price,
I respectfully request that the following email from Tom Tangen serve as the additional details needed for closure confirmation regarding the work plan for Lockhart A27. In summary, confirmation of clay cap quality will be demonstrated prior to top soil cover. Let me know if you need anything additionally. Upon your approval of this additional step, we will submit to partners the work mentioned in the closure plan and this clay test procedure for cost approval process. Upon approval for expenditures from partners, we will initiate the attached work plan (same documents previous reviewed and approved) and the steps in this email. Thanks for your time.

Sincerely,

Neal Goates

Site Manager
ConocoPhillips Inc.
Risk Management and Remediation
Threadneedle Office
PO Box 2197, Rm. TN5044
Houston TX 77252-2197
Phone 832-379-6427

Fax 801-382-1674
cell 832-465-4123
Email: r-neal.goates@conoco.com

-----Original Message-----
From: Tom Tangen [mailto:TTangen@maximusa.com]
Sent: Monday, October 14, 2002 2:39 PM
To: Goates, R. Neal
Cc: Clyde Yancey (Clyde Yancey)
Subject: Clay testwork (Lockhart A-27)

Dear Neal,
As part of the overall work plan for the path forward at Lockhart A-27, Maxim included analysis of one (1) composite clay sample from the proposed borrow source pit. Maxim has not visited the clay borrow site, but we have been assured by Walton Construction that this clay source has been used for construction of other caps in the area and has consistently produced positive permeability test results.

Pursuant to our conversation relative to your meeting with OCD, Maxim is committed to performing one set of analyses designed to determine characteristics of the clay and whether it is suitable for use as cap material at Lockhart A-27. We have planned to gather a clay sample and deliver it to a laboratory in the Hobbs area for proctor, permeability and Atterberg analyses. Results of the testwork should allow us to do some simple predictive modeling on anticipated clay quality and cap permeability. For purposes of preliminary budgeting, we have chosen approximately 1 foot of clay thickness. Final clay cap design thickness is somewhat dependant on clay quality. If you have any questions, please contact me.

Thanks.

Tom Tangen
Maxim Technologies, Inc.
10601 Lomas NE, Suite 106
Albuquerque, NM 87112
ph: 505.237.8440
fax: 505.237.8656
email: ttangen@maximusa.com

Price, Wayne

From: Goates, R. Neal [R-Neal.Goates@conoco.com]
Sent: Tuesday, August 27, 2002 7:41 AM
To: Wayne Price
Cc: Goates, R. Neal
Subject: Lockhart A27

Wayne,
I wanted to let you know that our operations and right of way personnel met with Leo Simms to get a location in which to get the borrow soil when we get ready to backfill the excavation. Mr. Simms requested the latest round of information that Conoco sent to the NMOCD. I sent the information today priority mail that I sent you on 8-13-02 (my cover letter to you requesting closure, Maxim report/path forward, and 133 pages of analytical data). To my knowledge he will have everything that you have.

Thanks,

Neal Goates
Remediation Project Manager
Mid-Continent BU, EP Americas, NG&GP

Conoco Inc.
600 N. Dairy Ashford
P.O. Box 2197
Houston, TX 77252-2197
(281) 293-3822
Fax (281)293-3305
Cell Phone: 832-465-4123

CONOCO INC.

Client Sample ID: LB-7 BOTTOM OF PIT

General Chemistry

Lot-Sample #...: I2E310201-012 Work Order #...: E19VC Matrix.....: SOLID
Date Sampled...: 05/29/02 15:00 Date Received..: 05/31/02
% Moisture.....: 14

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Chloride	10500	2000	mg/kg	MCAWW 300.0A	06/08-06/10/02	2162191
		Dilution Factor: 200				
Percent Moisture	14.3	0.50	%	ASTM D 2216-90	06/05-06/06/02	2156352
		Dilution Factor: 1				

CONOCO INC.

Client Sample ID: LB-8 DIRTY STOCKPILE

SPLP GC/MS Volatiles

Lot-Sample #...: I2E310201-013 Work Order #...: E19VE1AC Matrix.....: SOLID
Date Sampled...: 05/29/02 15:30 Date Received..: 05/31/02
Leach Date.....: 06/05/02 Prep Date.....: 06/10/02 Analysis Date..: 06/10/02
Leach Batch #..: P215801 Prep Batch #...: 2162380
Dilution Factor: 1
% Moisture.....: 8.5 Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Benzene	ND	1.0	ug/L
Ethylbenzene	ND	1.0	ug/L
Toluene	ND	1.0	ug/L
Xylenes (total)	3.7	2.0	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	103	(74 - 134)
Toluene-d8	113	(85 - 125)
Dibromofluoromethane	107	(69 - 136)
1,2-Dichloroethane-d4	98	(75 - 134)

NOTE(S):

Analysis performed in accordance with USEPA Synthetic Precipitation Leaching Procedure Method 1312

CONOCO INC.

Client Sample ID: LB-5 (25-30)

General Chemistry

Lot-Sample #...: I2E310201-010 Work Order #...: E19T1 Matrix.....: SOLID
Date Sampled...: 05/29/02 14:00 Date Received..: 05/31/02
% Moisture.....: 5.3

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Chloride	177	50.0	mg/kg	MCAWW 300.0A	06/08-06/10/02	2162191
		Dilution Factor: 5				
Percent Moisture	5.3	0.50	%	ASTM D 2216-90	06/05-06/06/02	2156352
		Dilution Factor: 1				

CONOCO INC.

Client Sample ID: LB-6 (32)

General Chemistry

Lot-Sample #...: I2E310201-011 Work Order #...: E19T4 Matrix.....: SOLID
Date Sampled...: 05/29/02 14:30 Date Received..: 05/31/02
% Moisture.....: 9.8

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Chloride	41.5	20.0	mg/kg	MCAWW 300.0A	06/08-06/10/02	2162191
	Dilution Factor: 2					
Percent Moisture	9.8	0.50	%	ASTM D 2216-90	06/05-06/06/02	2156352
	Dilution Factor: 1					

CONOCO INC.

Client Sample ID: LB-5 (20-25)

GC Volatiles

Lot-Sample #...:	I2E310201-009	Work Order #...:	E19T01AD	Matrix.....:	SOLID
Date Sampled...:	05/29/02 14:00	Date Received..:	05/31/02		
Prep Date.....:	06/12/02	Analysis Date..:	06/12/02		
Prep Batch #...:	2164219				
Dilution Factor:	0.89				
% Moisture.....:	4.4	Method.....:	SW846 8015B		

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Gasoline Range Organics	ND	89	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Bromofluorobenzene	88	(14 - 165)

CONOCO INC.

Client Sample ID: LB-5 (20-25)

GC Semivolatiles

Lot-Sample #...: I2E310201-009 Work Order #...: E19T01AE Matrix.....: SOLID
Date Sampled...: 05/29/02 14:00 Date Received..: 05/31/02
Prep Date.....: 06/05/02 Analysis Date..: 06/07/02
Prep Batch #...: 2156402
Dilution Factor: 1
% Moisture.....: 4.4 Method.....: SW846 8015B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Diesel Range Organics	38000	1700	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
o-Terphenyl	91	(40 - 144)
Dotriacontane	99	(42 - 159)

CONOCO INC.

Client Sample ID: LB-5 (20-25)

GC/MS Volatiles

Lot-Sample #...: I2E310201-009 **Work Order #...:** E19T01AA **Matrix.....:** SOLID
Date Sampled...: 05/29/02 14:00 **Date Received..:** 05/31/02
Prep Date.....: 06/05/02 **Analysis Date..:** 06/05/02
Prep Batch #...: 2161338
Dilution Factor: 1
% Moisture.....: 4.4 **Method.....:** SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Benzene	ND	5.0	ug/kg
Ethylbenzene	ND	5.0	ug/kg
Toluene	ND	5.0	ug/kg
Xylenes (total)	ND	5.0	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	105	(42 - 183)
Toluene-d8	98	(69 - 128)
Dibromofluoromethane	69	(63 - 141)
1,2-Dichloroethane-d4	89	(58 - 141)

CONOCO INC.

Client Sample ID: LB-4 (25-30)

General Chemistry

Lot-Sample #...: I2E310201-008 Work Order #...: E19TX Matrix.....: SOLID
Date Sampled...: 05/29/02 11:00 Date Received..: 05/31/02
% Moisture.....: 6.9

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Chloride	253	50.0	mg/kg	MCAWW 300.0A	06/08-06/10/02	2162191
		Dilution Factor: 5				
Percent Moisture	6.9	0.50	%	ASTM D 2216-90	06/05-06/06/02	2156352
		Dilution Factor: 1				

CONOCO INC.

Client Sample ID: LB-4 (20-25)

GC Semivolatiles

Lot-Sample #...: I2E310201-007 Work Order #...: E19TV1AE Matrix.....: SOLID
Date Sampled...: 05/29/02 11:00 Date Received..: 05/31/02
Prep Date.....: 06/04/02 Analysis Date..: 06/06/02
Prep Batch #...: 2155421
Dilution Factor: 1
% Moisture.....: 6.1 Method.....: SW846 8015B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Diesel Range Organics	6100	1700	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
o-Terphenyl	86	(40 - 144)
Dotriacontane	96	(42 - 159)

CONOCO INC.

Client Sample ID: LB-4 (20-25)

GC Volatiles

Lot-Sample #...: I2E310201-007 Work Order #...: E19TV1AD Matrix.....: SOLID
Date Sampled...: 05/29/02 11:00 Date Received..: 05/31/02
Prep Date.....: 06/12/02 Analysis Date..: 06/12/02
Prep Batch #...: 2164219
Dilution Factor: 0.88
% Moisture.....: 6.1 Method.....: SW846 8015B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Gasoline Range Organics	ND	88	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Bromofluorobenzene	68	(14 - 165)

CONOCO INC.

Client Sample ID: LB-4 (20-25)

GC/MS Volatiles

Lot-Sample #...: I2E310201-007 **Work Order #...:** E19TV1AA **Matrix.....:** SOLID
Date Sampled...: 05/29/02 11:00 **Date Received..:** 05/31/02
Prep Date.....: 06/05/02 **Analysis Date..:** 06/05/02
Prep Batch #...: 2161338
Dilution Factor: 1
% Moisture.....: 6.1 **Method.....:** SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Benzene	ND	5.0	ug/kg
Ethylbenzene	ND	5.0	ug/kg
Toluene	ND	5.0	ug/kg
Xylenes (total)	ND	5.0	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	105	(42 - 183)
Toluene-d8	98	(69 - 128)
Dibromofluoromethane	69	(63 - 141)
1,2-Dichloroethane-d4	92	(58 - 141)

CONOCO INC.

Client Sample ID: LB-3 (25-30)

General Chemistry

Lot-Sample #...: I2E310201-006 Work Order #...: E19TP Matrix.....: SOLID
Date Sampled...: 05/29/02 10:00 Date Received..: 05/31/02
% Moisture.....: 5.0

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Chloride	241	50.0	mg/kg	MCAWW 300.0A	06/08-06/10/02	2162191
		Dilution Factor: 5				
Percent Moisture	5.0	0.50	%	ASTM D 2216-90	06/05-06/06/02	2156352
		Dilution Factor: 1				

CONOCO INC.

Client Sample ID: LB-3 (20-25)

GC Semivolatiles

Lot-Sample #...: I2E310201-005 **Work Order #...:** E19TN1AE **Matrix.....:** SOLID
Date Sampled...: 05/29/02 10:00 **Date Received..:** 05/31/02
Prep Date.....: 06/04/02 **Analysis Date..:** 06/06/02
Prep Batch #...: 2155421
Dilution Factor: 1
% Moisture.....: 3.4 **Method.....:** SW846 8015B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Diesel Range Organics	**2500**	**1700**	**ug/kg**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
o-Terphenyl	91	(40 - 144)
Dotriacontane	101	(42 - 159)

CONOCO INC.

Client Sample ID: LB-3 (20-25)

GC Volatiles

Lot-Sample #...: I2E310201-005 Work Order #...: E19TN1AD Matrix.....: SOLID
Date Sampled...: 05/29/02 10:00 Date Received..: 05/31/02
Prep Date.....: 06/12/02 Analysis Date..: 06/12/02
Prep Batch #...: 2164219
Dilution Factor: 0.9
% Moisture.....: 3.4 Method.....: SW846 8015B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Gasoline Range Organics	ND	90	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Bromofluorobenzene	64	(14 - 165)

CONOCO INC.

Client Sample ID: LB-3 (20-25)

GC/MS Volatiles

Lot-Sample #...: I2E310201-005 **Work Order #...:** E19TN1AA **Matrix.....:** SOLID
Date Sampled...: 05/29/02 10:00 **Date Received..:** 05/31/02
Prep Date.....: 06/05/02 **Analysis Date..:** 06/05/02
Prep Batch #...: 2161338
Dilution Factor: 1
% Moisture.....: 3.4 **Method.....:** SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Benzene	ND	5.0	ug/kg
Ethylbenzene	ND	5.0	ug/kg
Toluene	ND	5.0	ug/kg
Xylenes (total)	ND	5.0	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	110	(42 - 183)
Toluene-d8	100	(69 - 128)
Dibromofluoromethane	71	(63 - 141)
1,2-Dichloroethane-d4	95	(58 - 141)

CONOCO INC.

Client Sample ID: LB-2 (25-30)

General Chemistry

Lot-Sample #...: I2E310201-004 Work Order #...: E19TL Matrix.....: SOLID
Date Sampled...: 05/29/02 09:00 Date Received..: 05/31/02
% Moisture.....: 8.1

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Chloride	178	50.0	mg/kg	MCAWW 300.0A	06/08-06/10/02	2162191
		Dilution Factor: 5				
Percent Moisture	8.1	0.50	%	ASTM D 2216-90	06/05-06/06/02	2156352
		Dilution Factor: 1				

CONOCO INC.

Client Sample ID: LB-2 (20-25)

GC Semivolatiles

Lot-Sample #...: I2E310201-003 **Work Order #...:** E19TJ1AE **Matrix.....:** SOLID
Date Sampled...: 05/29/02 09:00 **Date Received..:** 05/31/02
Prep Date.....: 06/04/02 **Analysis Date..:** 06/06/02
Prep Batch #...: 2155421
Dilution Factor: 1
% Moisture.....: 15 **Method.....:** SW846 8015B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Diesel Range Organics	ND	1700	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
o-Terphenyl	93	(40 - 144)
Dotriacontane	104	(42 - 159)

CONOCO INC.

Client Sample ID: LB-2 (20-25)

GC Volatiles

Lot-Sample #...: I2E310201-003 Work Order #...: E19TJ1AD Matrix.....: SOLID
Date Sampled...: 05/29/02 09:00 Date Received..: 05/31/02
Prep Date.....: 06/12/02 Analysis Date..: 06/12/02
Prep Batch #...: 2164219
Dilution Factor: 0.95
% Moisture.....: 15 Method.....: SW846 8015B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Gasoline Range Organics	ND	95	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Bromofluorobenzene	57	(14 - 165)

CONOCO INC.

Client Sample ID: LB-2 (20-25)

GC/MS Volatiles

Lot-Sample #...: I2E310201-003 **Work Order #...:** E19TJ1AA **Matrix.....:** SOLID
Date Sampled...: 05/29/02 09:00 **Date Received..:** 05/31/02
Prep Date.....: 06/05/02 **Analysis Date..:** 06/05/02
Prep Batch #...: 2161338
Dilution Factor: 0.98
% Moisture.....: 15 **Method.....:** SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Benzene	ND	4.9	ug/kg
Ethylbenzene	ND	4.9	ug/kg
Toluene	ND	4.9	ug/kg
Xylenes (total)	ND	4.9	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	108	(42 - 183)
Toluene-d8	100	(69 - 128)
Dibromofluoromethane	73	(63 - 141)
1,2-Dichloroethane-d4	94	(58 - 141)

CONOCO INC.

Client Sample ID: LB-1 (25-30)

General Chemistry

Lot-Sample #...: I2E310201-002 **Work Order #...:** E19R9 **Matrix.....:** SOLID
Date Sampled...: 05/29/02 08:00 **Date Received..:** 05/31/02
% Moisture.....: 9.5

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Chloride	**179**	**50.0**	**mg/kg**	**MCAWW 300.0A**	**06/08-06/10/02**	**2162191**
		Dilution Factor: 5				
Percent Moisture	**9.5**	**0.50**	**%**	**ASTM D 2216-90**	**06/05-06/06/02**	**2156352**
		Dilution Factor: 1				

CONOCO INC.

Client Sample ID: LB-1 (20-25)

GC Semivolatiles

Lot-Sample #...: I2E310201-001 Work Order #...: E19RM1AE Matrix.....: SOLID
Date Sampled...: 05/29/02 08:00 Date Received..: 05/31/02
Prep Date.....: 06/04/02 Analysis Date..: 06/06/02
Prep Batch #...: 2155421
Dilution Factor: 1
% Moisture.....: 7.3 Method.....: SW846 8015B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Diesel Range Organics	2400	1700	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
o-Terphenyl	84	(40 - 144)
Dotriacontane	97	(42 - 159)

CONOCO INC.

Client Sample ID: LB-1 (20-25)

GC Volatiles

Lot-Sample #...: I2E310201-001	Work Order #...: E19RM1AD	Matrix.....: SOLID	
Date Sampled...: 05/29/02 08:00	Date Received..: 05/31/02		
Prep Date.....: 06/12/02	Analysis Date..: 06/12/02		
Prep Batch #...: 2164219			
Dilution Factor: 0.97			
% Moisture.....: 7.3	Method.....: SW846 8015B		

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Gasoline Range Organics	ND	97	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Bromofluorobenzene	57	(14 - 165)

CONOCO INC.

Client Sample ID: LB-1 (20-25)

GC/MS Volatiles

Lot-Sample #...: I2E310201-001 **Work Order #...:** E19RM1AA **Matrix.....:** SOLID
Date Sampled...: 05/29/02 08:00 **Date Received..:** 05/31/02
Prep Date.....: 06/05/02 **Analysis Date..:** 06/05/02
Prep Batch #...: 2161338
Dilution Factor: 1.01
% Moisture.....: 7.3 **Method.....:** SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Benzene	ND	5.0	ug/kg
Ethylbenzene	ND	5.0	ug/kg
Toluene	ND	5.0	ug/kg
Xylenes (total)	ND	5.0	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	107	(42 - 183)
Toluene-d8	99	(69 - 128)
Dibromofluoromethane	72	(63 - 141)
1,2-Dichloroethane-d4	88	(58 - 141)

QC DATA ASSOCIATION SUMMARY

I2E310201

Sample Preparation and Analysis Control Numbers

SAMPLE#	MATRIX	ANALYTICAL METHOD	LEACH BATCH #	PREP BATCH #	MS RUN#
012	SOLID	MCAWW 300.0A		2162191	2162068
	SOLID	ASTM D 2216-90		2156352	2156163
013	SOLID	SW846 9056	P215510	2162196	2162074
	SOLID	SW846 8015B	P215510	2156407	
	SOLID	SW846 8015B	P215801	2169322	2169149
	SOLID	ASTM D 2216-90		2156352	2156163
	SOLID	SW846 8260B	P215801	2162380	2162202
014	SOLID	SW846 9056	P215510	2162196	2162074
	SOLID	SW846 8015B	P215510	2156407	
	SOLID	SW846 8015B	P215801	2169322	2169149
	SOLID	ASTM D 2216-90		2156352	2156163
	SOLID	SW846 8260B	P215801	2162380	2162202
015	SOLID	SW846 9056	P215510	2162196	2162074
	SOLID	SW846 8015B	P215510	2156407	
	SOLID	SW846 8015B	P215801	2169322	2169149
	SOLID	ASTM D 2216-90		2156352	2156163
	SOLID	SW846 8260B	P215801	2162380	2162202

QC DATA ASSOCIATION SUMMARY

I2E310201

Sample Preparation and Analysis Control Numbers

SAMPLE#	MATRIX	ANALYTICAL METHOD	LEACH BATCH #	PREP BATCH #	MS RUN#
001	SOLID	SW846 8015B		2155421	2155264
	SOLID	SW846 8015B		2164219	2164080
	SOLID	ASTM D 2216-90		2156352	2156163
	SOLID	SW846 8260B		2161338	2161139
002	SOLID	MCAWW 300.0A		2162191	2162068
	SOLID	ASTM D 2216-90		2156352	2156163
003	SOLID	SW846 8015B		2155421	2155264
	SOLID	SW846 8015B		2164219	2164080
	SOLID	ASTM D 2216-90		2156352	2156163
	SOLID	SW846 8260B		2161338	2161139
004	SOLID	MCAWW 300.0A		2162191	2162068
	SOLID	ASTM D 2216-90		2156352	2156163
005	SOLID	SW846 8015B		2155421	2155264
	SOLID	SW846 8015B		2164219	2164080
	SOLID	ASTM D 2216-90		2156352	2156163
	SOLID	SW846 8260B		2161338	2161139
006	SOLID	MCAWW 300.0A		2162191	2162068
	SOLID	ASTM D 2216-90		2156352	2156163
007	SOLID	SW846 8015B		2155421	2155264
	SOLID	SW846 8015B		2164219	2164080
	SOLID	ASTM D 2216-90		2156352	2156163
	SOLID	SW846 8260B		2161338	2161139
008	SOLID	MCAWW 300.0A		2162191	2162068
	SOLID	ASTM D 2216-90		2156352	2156163
009	SOLID	SW846 8015B		2156402	2156179
	SOLID	SW846 8015B		2164219	2164080
	SOLID	ASTM D 2216-90		2156352	2156163
	SOLID	SW846 8260B		2161338	2161139
010	SOLID	MCAWW 300.0A		2162191	2162068
	SOLID	ASTM D 2216-90		2156352	2156163
011	SOLID	MCAWW 300.0A		2162191	2162068
	SOLID	ASTM D 2216-90		2156352	2156163

(Continued on next page)

SAMPLE SUMMARY

I2E310201

WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
E19RM	001	LB-1 (20-25)	05/29/02	08:00
E19R9	002	LB-1 (25-30)	05/29/02	08:00
E19TJ	003	LB-2 (20-25)	05/29/02	09:00
E19TL	004	LB-2 (25-30)	05/29/02	09:00
E19TN	005	LB-3 (20-25)	05/29/02	10:00
E19TP	006	LB-3 (25-30)	05/29/02	10:00
E19TV	007	LB-4 (20-25)	05/29/02	11:00
E19TX	008	LB-4 (25-30)	05/29/02	11:00
E19T0	009	LB-5 (20-25)	05/29/02	14:00
E19T1	010	LB-5 (25-30)	05/29/02	14:00
E19T4	011	LB-6 (32)	05/29/02	14:30
E19VC	012	LB-7 BOTTOM OF PIT	05/29/02	15:00
E19VE	013	LB-8 DIRTY STOCKPILE	05/29/02	15:30
E19VN	014	LB-9 BIG CLEAN STOCK PILE	05/29/02	15:45
E19VQ	015	LB-10 LITTLE CLEAN STOCK PILE	05/29/02	16:00

NOTE(S):

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

METHOD / ANALYST SUMMARY

I2E310201

ANALYTICAL METHOD	ANALYST	ANALYST ID
ASTM D 2216-90	Richard R. Updegraff	401136
MCAWW 300.0A	Jennifer Havalda	000029
SW846 8015B	Ellen Grett	014902
SW846 8015B	Mark Shafer	001952
SW846 8260B	Brian Peterson	400173
SW846 8260B	David Yancey	014906
SW846 9056	Jennifer Havalda	000029

References:

ASTM Annual Book Of ASTM Standards.

MCAWW "Methods for Chemical Analysis of Water and Wastes", EPA-600/4-79-020, March 1983 and subsequent revisions.

SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 and its updates.

ANALYTICAL METHODS SUMMARY

I2E310201

PARAMETER	ANALYTICAL METHOD
Chloride	MCAWW 300.0A
Chloride	SW846 9056
Extractable Petroleum Hydrocarbons	SW846 8015B
Method for Determination of Water Content of Soil	ASTM D 2216-90
Volatile Organics by GC/MS	SW846 8260B
Volatile Petroleum Hydrocarbons	SW846 8015B

References:

ASTM Annual Book Of ASTM Standards.

MCAWW "Methods for Chemical Analysis of Water and Wastes", EPA-600/4-79-020, March 1983 and subsequent revisions.

SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 and its updates.

EXECUTIVE SUMMARY - Detection Highlights

I2E310201

PARAMETER	RESULT	REPORTING LIMIT	UNITS	ANALYTICAL METHOD
LB-5 (25-30) 05/29/02 14:00 010				
Chloride	177	50.0	mg/kg	MCAWW 300.0A
Percent Moisture	5.3	0.50	%	ASTM D 2216-90
LB-6 (32) 05/29/02 14:30 011				
Chloride	41.5	20.0	mg/kg	MCAWW 300.0A
Percent Moisture	9.8	0.50	%	ASTM D 2216-90
LB-7 BOTTOM OF PIT 05/29/02 15:00 012				
Chloride	10500	2000	mg/kg	MCAWW 300.0A
Percent Moisture	14.3	0.50	%	ASTM D 2216-90
LB-8 DIRTY STOCKPILE 05/29/02 15:30 013				
Diesel Range Organics	1500	50	ug/L	SW846 8015B
Xylenes (total)	3.7	2.0	ug/L	SW846 8260B
Percent Moisture	8.5	0.50	%	ASTM D 2216-90
Chloride	70.6	20.0	mg/L	SW846 9056
LB-9 BIG CLEAN STOCK PILE 05/29/02 15:45 014				
Diesel Range Organics	88	50	ug/L	SW846 8015B
Percent Moisture	7.7	0.50	%	ASTM D 2216-90
Chloride	14.9	5.0	mg/L	SW846 9056
LB-10 LITTLE CLEAN STOCK PILE 05/29/02 16:00 015				
Percent Moisture	0.95	0.50	%	ASTM D 2216-90
Chloride	7.9	5.0	mg/L	SW846 9056

EXECUTIVE SUMMARY - Detection Highlights

I2E310201

PARAMETER	RESULT	REPORTING LIMIT	UNITS	ANALYTICAL METHOD
LB-1 (20-25) 05/29/02 08:00 001				
Diesel Range Organics	2400	1700	ug/kg	SW846 8015B
Percent Moisture	7.3	0.50	%	ASTM D 2216-90
LB-1 (25-30) 05/29/02 08:00 002				
Chloride	179	50.0	mg/kg	MCAWW 300.0A
Percent Moisture	9.5	0.50	%	ASTM D 2216-90
LB-2 (20-25) 05/29/02 09:00 003				
Percent Moisture	15.3	0.50	%	ASTM D 2216-90
LB-2 (25-30) 05/29/02 09:00 004				
Chloride	178	50.0	mg/kg	MCAWW 300.0A
Percent Moisture	8.1	0.50	%	ASTM D 2216-90
LB-3 (20-25) 05/29/02 10:00 005				
Diesel Range Organics	2500	1700	ug/kg	SW846 8015B
Percent Moisture	3.4	0.50	%	ASTM D 2216-90
LB-3 (25-30) 05/29/02 10:00 006				
Chloride	241	50.0	mg/kg	MCAWW 300.0A
Percent Moisture	5.0	0.50	%	ASTM D 2216-90
LB-4 (20-25) 05/29/02 11:00 007				
Diesel Range Organics	6100	1700	ug/kg	SW846 8015B
Percent Moisture	6.1	0.50	%	ASTM D 2216-90
LB-4 (25-30) 05/29/02 11:00 008				
Chloride	253	50.0	mg/kg	MCAWW 300.0A
Percent Moisture	6.9	0.50	%	ASTM D 2216-90
LB-5 (20-25) 05/29/02 14:00 009				
Diesel Range Organics	38000	1700	ug/kg	SW846 8015B
Percent Moisture	4.4	0.50	%	ASTM D 2216-90

(Continued on next page)

STL LOT NUMBER: **I2E310201**
PO/CONTRACT: 4501223836 site remediation

Rob Harrington
Maxim Technologies
10601 Lomas NE Ste 106
Albuquerque, NM 87112

Dear Rob Harrington,

This report contains the analytical results for the 15 samples received under chain of custody by Severn Trent Laboratories (STL) on May 31, 2002. These samples are associated with your EP01003 Lockhart A project.

All samples were received in good condition and within temperature requirements.

Recoveries of some compounds were outside limits for the DRO Matrix Spike/Matrix Spike Duplicate of sample 009.

In lieu of a Matrix Spike/Matrix Spike Duplicate for DRO batch 2156407, a duplicate Laboratory Control Sample was prepared to provide precision measurements.

Recoveries outside limits for the Matrix Spike/Matrix Spike Duplicate of non-project specific batch QC samples are not discussed in this case narrative.

If you have any questions, please feel free to call me at (512) 244-0855.

Certificate of
Analysis

STL Austin
14046 Summit Drive
Austin, Texas 78728

Tel: 512 244 0855
Fax: 512 244 0160
www.stl-inc.com

SEVERN TRENT SERVICES
STL Austin

ANALYTICAL REPORT

PROJECT NO. EUNICE, NM

EP01003 Lockhart A

Lot #: I2E310201

Rob Harrington

Maxim Technologies
10601 Lomas NE Ste 106
Albuquerque, NM 87112

SEVERN TRENT LABORATORIES, INC.

Carla M. Butler
Project Manager

June 21, 2002

American Council of Independent Laboratories
International Association of Environmental Testing Laboratories

STL Austin is a part of Severn Trent Laboratories, Inc.

Neal Goates
Project Manager
Remediation Technology
Room PO3030

Conoco Inc.
P. O. Box 2197
Houston TX 77252-2197
Ph: 281-293-3822 / Fx: 281-293-3305
r-neal.goates@conoco.com

6-28-02
Leo Simms
Environmental Representative for Kennann Ranch
P.O. Box 2630
Hobbs, NM 88241-2630

Re: Request from Mr. Simms for 5/29/02 soil collection analysis results at Conoco's Lockhart A 27 Lease

Dear Mr. Simms:

Please find enclosed the analytical results from our last field assessment activity performed on 5/29/02. If you recall six soil borings were installed at Lockhart A-27 in order to ascertain the soil impact at the historic excavation project. Two borings were installed outside the fence east of the site, one outside the fence on the west, two inside the fence north of a spoils pile, and one was installed northeast of the northeast corner of the excavation. Samples were collected from all borings, piles, and from hand borings installed in the bottom of the excavation. As you recall, you obtained splits of all samples collected during the day with the exception of soil boring northeast corner of the excavation, soil piles to the north, southeast, and east of the excavation. These samples were collected to run SPLP TPH, BTEX, and cl data.

If you have any questions I can be reached at 281-293-3822.

Thanks,

Neal Goates 6/29/02

Neal Goates
Remediation Technology Project Manager

PROJECT NAME: Lockhart A-27 [illegible]ank Battery

MONITORING WELL N[illegible]-8

LOCATION:

DRILL TYPE: Ingersoll-Rand

ELEVATION: TOP OF BORING (MSL): (ft)

GROUNDWATER ELEVATION (MSL): Dry (ft)

DRILLED BY: HARRISON & COOPER, INC.

BORE HOLE DIAMETER: 4 3/4 (In)

LOGGED BY: Clyde Yancey

DATE: HOLE STARTED: 2/19/01

COMPLETED: 2/19/01

REMARKS: ND=Non Detect
BGS=Below Ground Surface

NS=No Sample

ELEVATION (MSL) - ft	SAMPLE INTERVAL	CLASSIFICATION AND DESCRIPTION	USCS SYMBOL	BLOW COUNT	SAMPLE TO LAB	TIME	% RECOVERY	FID RESULT (ppm)
0.0		Silty SAND, red to brown	SM	PUSHED	Y	1520		1.8
		Silty SAND, red to brown	SM					
		Sandy SILT, gray	ML	PUSHED				3.8
-5.0		Sandy SILT, gray	ML	PUSHED				2.3
		Sandy SILT, gray to dark brown	ML	PUSHED				1.9
		Sandy SILT, dark brown to grayish green, indurated	ML	PUSHED				3.2
-10.0		SILT, greenish gray to tan	ML	PUSHED	Y	1600		2.1

12.0

Split Spoon Sample (ASTM D1586)

1690016-100 | MAXIM | EXPLORATORY BORING LOG | SB-8

PROJECT NAME: Lockhart A-27 Tank Battery
MONITORING WELL NO. SB-6
LOCATION:
DRILL TYPE: Ingersoll-Rand
ELEVATION: TOP OF BORING (MSL): (ft)
GROUNDWATER ELEVATION (MSL): Dry (ft)
DRILLED BY: HARRISON & COOPER, INC.
BORE HOLE DIAMETER: 4 3/4 (in)
LOGGED BY: Clyde Yancey
DATE: HOLE STARTED: 2/19/01
COMPLETED: 2/19/01
REMARKS: ND=Non Detect
BGS=Below Ground Surface
NS=No Sample

ELEVATION (MSL) - ft	SAMPLE INTERVAL	CLASSIFICATION AND DESCRIPTION	USCS SYMBOL	BLOW COUNT	SAMPLE TO LAB	TIME	% RECOVERY	FID RESULT (ppm)
0.0		Silty SAND intermixed with hydrocarbon saturation	SM	PUSHED		1310		280.0
		Silty SAND intermixed with hydrocarbon saturation	SM	PUSHED	Y			512.0
-5.0		Silty SAND intermixed with hydrocarbon saturation	SM	PUSHED	Y			235.0
		Silty SAND intermixed with hydrocarbon saturation	SM	PUSHED				383.0
		Silty SAND intermixed with hydrocarbon saturation	SM	PUSHED				260.0
-10.0		Silty SAND intermixed with hydrocarbon saturation						
		Clayey SILT, tan	ML	PUSHED				311.0
		Sandy SILT, light green	ML	PUSHED				260.0
-15.0		Clayey SILT, gray to green	ML	PUSHED				476.0
		Clayey SILT, gray to green	ML	PUSHED				344.0
		Clayey SILT, gray to green	ML	PUSHED				110.0
-20.0		SILT, tan, very hard, indurated	ML	PUSHED				155.0
		SILT, tan, very hard, indurated	ML					
		SILT with sand, white, very hard, indurated						
		SAND, white, indurated	SP	PUSHED	Y	1415		3.2
-25.0								

25.0

Split Spoon Sample (ASTM D1586)

1690016-100 | MAXIM | EXPLORATORY BORING LOG | SB-6

PROJECT NAME: Lockhart A-27 Tank Battery
MONITORING WELL NO: SB-4
LOCATION:
DRILL TYPE: Ingersoll-Rand
ELEVATION: TOP OF BORING (MSL): (ft)
GROUNDWATER ELEVATION (MSL): Dry (ft)
DRILLED BY: HARRISON & COOPER, INC.
BORE HOLE DIAMETER: 4 3/4 (in)
LOGGED BY: Clyde Yancey
DATE: HOLE STARTED: 2/19/01
COMPLETED: 2/19/01
REMARKS: ND=Non Detect
BGS=Below Ground Surface
NS=No Sample

ELEVATION (MSL) - ft	SAMPLE INTERVAL	CLASSIFICATION AND DESCRIPTION	USCS SYMBOL	BLOW COUNT	SAMPLE TO LAB	TIME	% RECOVERY	FID RESULT (ppm)
0.0		Silty SAND, dark brown	SM	Hand-Auger	Y	1220		6.9
		Silty SAND, dark brown	SM					
		SILT with caliche, white	ML	Hand-Auger				2.0
-5.0		Silty SAND, tan	SM	Hand-Auger				1.5
		Silty SAND, tan	SM					
		SILT with caliche	SM	PUSHED				0.8
		Sandy SILT, dark brown	ML	PUSHED				2.7
-10.0		Sandy SILT, dark tan, indurated	ML	PUSHED				0.7
		Silty SAND, white, fine - grained	SM	PUSHED	Y	1230		0.1

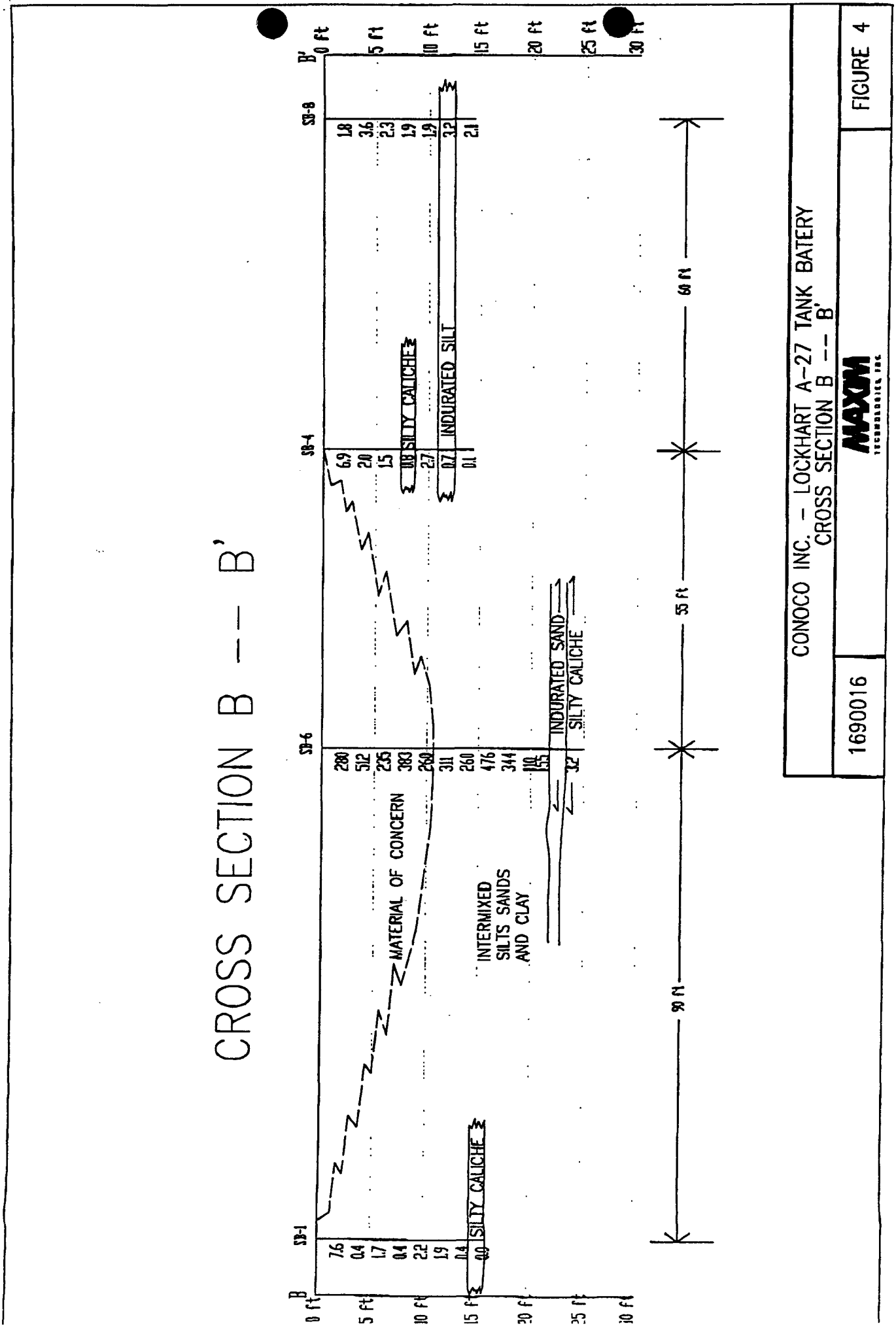
14.0 Split Spoon Sample (ASTM D1586)

1690016-100	MAXIM	EXPLORATORY BORING LOG	SB-4

PROJECT NAME: Lockhart A-27 Tank Battery
MONITORING WELL NO. SB-2
LOCATION:
DRILL TYPE: Ingersoll-Rand
ELEVATION: TOP OF BORING (MSL): (ft)
GROUNDWATER ELEVATION (MSL): Dry (ft)
DRILLED BY: HARRISON & COOPER, INC.
BORE HOLE DIAMETER: 4 3/4 (in)
LOGGED BY: Clyde Yancey
DATE: HOLE STARTED: 2/19/01
COMPLETED: 2/19/01
REMARKS: ND=Non Detect
BGS=Below Ground Surface
NS=No Sample

ELEVATION (MSL) - ft	SAMPLE INTERVAL	CLASSIFICATION AND DESCRIPTION	USCS SYMBOL	BLOW COUNT	SAMPLE TO LAB	TIME	% RECOVERY	FID RESULT (ppm)
0.0		Silty SAND, red to brown, no odor	SM	Hand-Auger	Y	1020		2.1
		Silty SAND, red to brown, no odor	SM	Hand-Auger				ND
-5.0		Silty SAND, tan	SM	Hand-Auger				2.4
		SAND, red to brown	SP	PUSHED				1.2
		SAND with caliche, tan	SP	PUSHED				0.98
-10.0		Sandy SILT, tan	ML	PUSHED				0.1
		Silty SAND, white, fine - grained	SM	PUSHED				0.2
-15.0		Silty SAND, mottled white to tan, fine - grained	SM	PUSHED	Y	1110		0.5

Split Spoon Sample (ASTM D1586)
1690016-100 | MAXIM | EXPLORATORY BORING LOG | SB-2

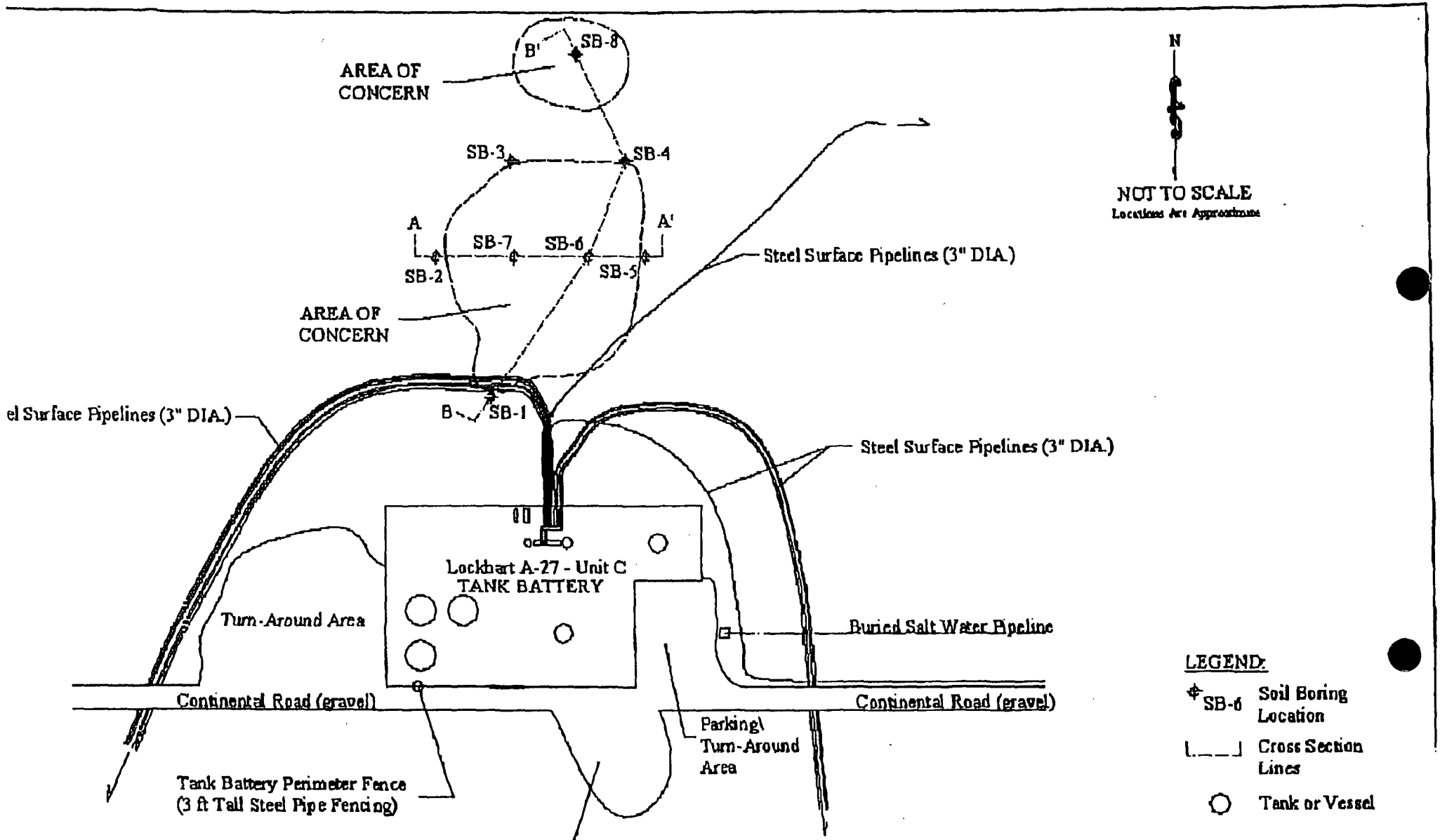


CONOCO INC. - LOCKHART A-27 TANK BATERY
CROSS SECTION B -- B'

1690016

MAXUM

FIGURE 4



TARGET PROPERTY:	Lockhart A-27 Tank Battery	SITE MAP	MAXIM TECHNOLOGIES INC Project No. 169001.2.100
Legal Description	Sec. 27 T21S R37E		
CITY/STATE/ZIP:	Eunice, New Mexico	Drawing: 16900169B.DWG	FIGURE 2
LAT/LONG:	32.4534 / 103.1498		

CONOCO INC.

Client Sample ID: LB-8 DIRTY STOCKPILE

SPLP GC Volatiles

Lot-Sample #...:	I2E310201-013	Work Order #...:	E19VE1AE	Matrix.....:	SOLID
Date Sampled...:	05/29/02 15:30	Date Received..:	05/31/02		
Leach Date.....:	06/05/02	Prep Date.....:	06/17/02	Analysis Date..:	06/17/02
Leach Batch #..:	P215801	Prep Batch #...:	2169322		
Dilution Factor:	1				
% Moisture.....:	8.5	Method.....:	SW846 8015B		

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Gasoline Range Organics	ND	100	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Bromofluorobenzene	99	(75 - 125)

NOTE(S):

Analysis performed in accordance with USEPA Synthetic Precipitation Leaching Procedure Method 1312

CONOCO INC.

Client Sample ID: LB-8 DIRTY STOCKPILE

SPLP GC Semivolatiles

Lot-Sample #...:	I2E310201-013	Work Order #...:	E19VE1AD	Matrix.....:	SOLID
Date Sampled...:	05/29/02 15:30	Date Received..:	05/31/02		
Leach Date.....:	06/03/02	Prep Date.....:	06/05/02	Analysis Date..:	06/07/02
Leach Batch #..:	P215510	Prep Batch #...:	2156407		
Dilution Factor:	1				
% Moisture.....:	8.5	Method.....:	SW846 8015B		

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Diesel Range Organics	1500	50	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
o-Terphenyl	103	(28 - 131)
Dotriacontane	105	(37 - 139)

NOTE(S):

Analysis performed in accordance with USEPA Synthetic Precipitation Leaching Procedure Method 1312

CONOCO INC.

Client Sample ID: LB-8 DIRTY STOCKPILE

SPLP General Chemistry

Lot-Sample #...: I2E310201-013 Work Order #...: E19VE Matrix.....: SOLID
Date Sampled...: 05/29/02 15:30 Date Received..: 05/31/02
% Moisture.....: 8.5 Leach Date.....: 06/03/02 Leach Batch #..: P215510

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Chloride	70.6	20.0	mg/L	SW846 9056	06/10/02	2162196
	Dilution Factor: 20					

CONOCO INC.

Client Sample ID: LB-9 BIG CLEAN STOCK PILE

SPLP GC/MS Volatiles

Lot-Sample #...: I2E310201-014	**Work Order #...:** E19VN1AC	**Matrix.....:** SOLID	
Date Sampled...: 05/29/02 15:45	**Date Received..:** 05/31/02		
Leach Date.....: 06/05/02	**Prep Date.....:** 06/10/02	**Analysis Date..:** 06/10/02	
Leach Batch #..: P215801	**Prep Batch #...:** 2162380		
Dilution Factor: 1			
% Moisture.....: 7.7	**Method.....:** SW846 8260B		

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Benzene	ND	1.0	ug/L
Ethylbenzene	ND	1.0	ug/L
Toluene	ND	1.0	ug/L
Xylenes (total)	ND	2.0	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	97	(74 - 134)
Toluene-d8	113	(85 - 125)
Dibromofluoromethane	108	(69 - 136)
1,2-Dichloroethane-d4	99	(75 - 134)

NOTE(S):

Analysis performed in accordance with USEPA Synthetic Precipitation Leaching Procedure Method 1312

CONOCO INC.

Client Sample ID: LB-9 BIG CLEAN STOCK PILE

SPLP GC Volatiles

Lot-Sample #...: I2E310201-014	Work Order #...: E19VN1AE	Matrix.....: SOLID	
Date Sampled...: 05/29/02 15:45	Date Received..: 05/31/02		
Leach Date.....: 06/05/02	Prep Date.....: 06/17/02	Analysis Date..: 06/18/02	
Leach Batch #..: P215801	Prep Batch #...: 2169322		
Dilution Factor: 1			
% Moisture.....: 7.7	Method.....: SW846 8015B		

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Gasoline Range Organics	ND	100	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Bromofluorobenzene	95	(75 - 125)

NOTE(S):

Analysis performed in accordance with USEPA Synthetic Precipitation Leaching Procedure Method 1312

CONOCO INC.

Client Sample ID: LB-9 BIG CLEAN STOCK PILE

SPLP GC Semivolatiles

Lot-Sample #...:	I2E310201-014	Work Order #...:	E19VN1AD	Matrix.....:	SOLID
Date Sampled...:	05/29/02 15:45	Date Received..:	05/31/02		
Leach Date.....:	06/03/02	Prep Date.....:	06/05/02	Analysis Date..:	06/07/02
Leach Batch #..:	P215510	Prep Batch #...:	2156407		
Dilution Factor:	1				
% Moisture.....:	7.7	Method.....:	SW846 8015B		

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Diesel Range Organics	88	50	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
o-Terphenyl	96	(28 - 131)
Dotriacontane	84	(37 - 139)

NOTE(S):

Analysis performed in accordance with USEPA Synthetic Precipitation Leaching Procedure Method 1312

CONOCO INC.

Client Sample ID: LB-9 BIG CLEAN STOCK PILE

SPLP General Chemistry

Lot-Sample #...: I2E310201-014 Work Order #...: E19VN Matrix.....: SOLID
Date Sampled...: 05/29/02 15:45 Date Received..: 05/31/02
% Moisture.....: 7.7 Leach Date.....: 06/03/02 Leach Batch #..: P215510

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Chloride	14.9	5.0	mg/L	SW846 9056	06/07/02	2162196

Dilution Factor: 5

CONOCO INC.

Client Sample ID: LB-10 LITTLE CLEAN STOCK PILE

SPLP GC/MS Volatiles

Lot-Sample #...: I2E310201-015 Work Order #...: E19VQ1AC Matrix.....: SOLID
Date Sampled...: 05/29/02 16:00 Date Received..: 05/31/02
Leach Date.....: 06/05/02 Prep Date.....: 06/10/02 Analysis Date..: 06/10/02
Leach Batch #..: P215801 Prep Batch #...: 2162380
Dilution Factor: 1
% Moisture.....: 0.95 Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Benzene	ND	1.0	ug/L
Ethylbenzene	ND	1.0	ug/L
Toluene	ND	1.0	ug/L
Xylenes (total)	ND	2.0	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	100	(74 - 134)
Toluene-d8	114	(85 - 125)
Dibromofluoromethane	109	(69 - 136)
1,2-Dichloroethane-d4	100	(75 - 134)

NOTE(S):

Analysis performed in accordance with USEPA Synthetic Precipitation Leaching Procedure Method 1312

CONOCO INC.

Client Sample ID: LB-10 LITTLE CLEAN STOCK PILE

SPLP GC Volatiles

Lot-Sample #...: I2E310201-015	Work Order #...: E19VQ1AE	Matrix.....: SOLID	
Date Sampled...: 05/29/02 16:00	Date Received..: 05/31/02		
Leach Date.....: 06/05/02	Prep Date.....: 06/17/02	Analysis Date..: 06/18/02	
Leach Batch #..: P215801	Prep Batch #...: 2169322		
Dilution Factor: 1			
% Moisture.....: 0.95	Method.....: SW846 8015B		

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Gasoline Range Organics	ND	100	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Bromofluorobenzene	96	(75 - 125)

NOTE(S):

Analysis performed in accordance with USEPA Synthetic Precipitation Leaching Procedure Method 1312

CONOCO INC.

Client Sample ID: LB-10 LITTLE CLEAN STOCK PILE

SPLP GC Semivolatiles

Lot-Sample #...:	I2E310201-015	Work Order #...:	E19VQ1AD	Matrix.....:	SOLID
Date Sampled...:	05/29/02 16:00	Date Received..:	05/31/02		
Leach Date.....:	06/03/02	Prep Date.....:	06/05/02	Analysis Date..:	06/07/02
Leach Batch #..:	P215510	Prep Batch #...:	2156407		
Dilution Factor:	1				
% Moisture.....:	0.95	Method.....:	SW846 8015B		

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Diesel Range Organics	ND	50	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
o-Terphenyl	89	(28 - 131)
Dotriacontane	96	(37 - 139)

NOTE(S):

Analysis performed in accordance with USEPA Synthetic Precipitation Leaching Procedure Method 1312

CONOCO INC.

Client Sample ID: LB-10 LITTLE CLEAN STOCK PILE

SPLP General Chemistry

Lot-Sample #...: I2E310201-015 Work Order #...: E19VQ Matrix.....: SOLID
Date Sampled...: 05/29/02 16:00 Date Received..: 05/31/02
% Moisture.....: 0.95 Leach Date.....: 06/03/02 Leach Batch #..: P215510

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Chloride	7.9	5.0	mg/L	SW846 9056	06/07/02	2162196

Dilution Factor: 5

METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #...: I2E310201 Work Order #...: E2TC31AA Matrix.....: SOLID
MB Lot-Sample #: I2F110000-380

Prep Date.....: 06/10/02
Analysis Date..: 06/10/02 Prep Batch #...: 2162380
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Benzene	ND	1.0	ug/L	SW846 8260B
Ethylbenzene	ND	1.0	ug/L	SW846 8260B
Toluene	ND	1.0	ug/L	SW846 8260B
Xylenes (total)	ND	2.0	ug/L	SW846 8260B

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	92	(74 - 134)
Toluene-d8	113	(85 - 125)
Dibromofluoromethane	107	(69 - 136)
1,2-Dichloroethane-d4	98	(75 - 134)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #...: I2E310201 Work Order #...: E2QMK1AA Matrix.....: SOLID
MB Lot-Sample #: I2F100000-338

Prep Date.....: 06/05/02
Analysis Date..: 06/05/02 Prep Batch #...: 2161338
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Benzene	ND	5.0	ug/kg	SW846 8260B
Ethylbenzene	ND	5.0	ug/kg	SW846 8260B
Toluene	ND	5.0	ug/kg	SW846 8260B
Xylenes (total)	ND	5.0	ug/kg	SW846 8260B

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	105	(42 - 183)
Toluene-d8	98	(69 - 128)
Dibromofluoromethane	69	(63 - 141)
1,2-Dichloroethane-d4	88	(58 - 141)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

GC Volatiles

Client Lot #...: I2E310201 Work Order #...: E28DC1AA Matrix.....: SOLID
MB Lot-Sample #: I2F180000-322

Prep Date.....: 06/17/02
Analysis Date..: 06/17/02 Prep Batch #...: 2169322
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Gasoline Range Organics	ND	100	ug/L	SW846 8015B

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Bromofluorobenzene	97	(75 - 125)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

GC Volatiles

Client Lot #...: I2E310201 **Work Order #...:** E2X8T1AA **Matrix.....:** SOLID
MB Lot-Sample #: I2F130000-219

Prep Date.....: 06/12/02
Analysis Date..: 06/12/02 **Prep Batch #...:** 2164219
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Gasoline Range Organics	ND	100	ug/kg	SW846 8015B

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Bromofluorobenzene	71	(14 - 165)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

GC Semivolatiles

Client Lot #...: I2E310201 Work Order #...: E2HK31AA Matrix.....: SOLID
MB Lot-Sample #: I2F050000-407

Prep Date.....: 06/05/02
Analysis Date..: 06/07/02 Prep Batch #...: 2156407
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Diesel Range Organics	ND	50	ug/L	SW846 8015B

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
o-Terphenyl	84	(28 - 131)
Dotriacontane	56	(37 - 139)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

GC Semivolatiles

Client Lot #...: I2E310201 **Work Order #...:** E2FK31AA **Matrix.....:** SOLID
MB Lot-Sample #: I2F040000-421

Prep Date.....: 06/04/02
Analysis Date..: 06/06/02 **Prep Batch #...:** 2155421
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Diesel Range Organics	ND	1700	ug/kg	SW846 8015B

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
o-Terphenyl	90	(40 - 144)
Dotriacontane	66	(42 - 159)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

GC Semivolatiles

Client Lot #...: I2E310201 Work Order #...: E2HH11AA Matrix.....: SOLID
MB Lot-Sample #: I2F050000-402

Prep Date.....: 06/05/02
Analysis Date..: 06/07/02 Prep Batch #...: 2156402
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Diesel Range Organics	ND	1700	ug/kg	SW846 8015B

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
o-Terphenyl	87	(40 - 144)
Dotriacontane	47	(42 - 159)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC Volatiles

Client Lot #...: I2E310201 **Work Order #...:** E19RM1AG-MS **Matrix.....:** SOLID
MS Lot-Sample #: I2E310201-001 E19RM1AH-MSD
Date Sampled...: 05/29/02 08:00 **Date Received..:** 05/31/02
Prep Date.....: 06/12/02 **Analysis Date..:** 06/12/02
Prep Batch #...: 2164219
Dilution Factor: 1 **% Moisture.....:** 7.3

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
Gasoline Range Organics	**77**	**(70 - 134)**			**SW846 8015B**
	75	**(70 - 134)**	**4.8**	**(0-30)**	**SW846 8015B**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Bromofluorobenzene	98	(14 - 165)
	84	(14 - 165)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC Semivolatiles

Client Lot #...: I2E310201 **Work Order #...:** E187H1AN-MS **Matrix.....:** SOLID
MS Lot-Sample #: I2E310132-001 E187H1AP-MSD
Date Sampled...: 05/28/02 11:20 **Date Received..:** 05/30/02
Prep Date.....: 06/04/02 **Analysis Date..:** 06/07/02
Prep Batch #...: 2155421
Dilution Factor: 100 **% Moisture.....:** 20

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
Diesel Range Organics	**0.0 a,MSB**	**(40 - 126)**			**SW846 8015B**
	0.0 a,MSB	**(40 - 126)**	**0.0**	**(0-30)**	**SW846 8015B**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
o-Terphenyl	NC,DIL	(40 - 144)
	NC,DIL	(40 - 144)
Dotriacontane	NC,DIL	(42 - 159)
	NC,DIL	(42 - 159)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

a Spiked analyte recovery is outside stated control limits.

MSB The recovery and RPD were not calculated because the sample amount was greater than four times the spike amount.

NC The recovery and/or RPD were not calculated.

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC Semivolatiles

Client Lot #...: I2E310201 **Work Order #...:** E19T01AF-MS **Matrix.....:** SOLID
MS Lot-Sample #: I2E310201-009 E19T01AG-MSD
Date Sampled...: 05/29/02 14:00 **Date Received..:** 05/31/02
Prep Date.....: 06/05/02 **Analysis Date..:** 06/07/02
Prep Batch #...: 2156402
Dilution Factor: 1 **% Moisture.....:** 4.4

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
Diesel Range Organics	**20 a**	**(40 - 126)**			**SW846 8015B**
	116 p	**(40 - 126)**	**53**	**(0-30)**	**SW846 8015B**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
o-Terphenyl	91	(40 - 144)
	95	(40 - 144)
Dotriacontane	104	(42 - 159)
	102	(42 - 159)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

p Relative percent difference (RPD) is outside stated control limits.

a Spiked analyte recovery is outside stated control limits.

MATRIX SPIKE SAMPLE EVALUATION REPORT

General Chemistry

Client Lot #...: I2E310201 **Matrix.....:** SOLID
Date Sampled...: 05/29/02 15:30 **Date Received..:** 05/31/02

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Chloride		WO#: E19T41AE-MS/E19T41AF-MSD				MS Lot-Sample #: I2E310201-011	
	100	(75 - 125)			MCAWW 300.0A	06/08-06/10/02	2162191
	101	(75 - 125)	0.49	(0-20)	MCAWW 300.0A	06/08-06/10/02	2162191
		Dilution Factor: 1					
Chloride		WO#: E19VE1AG-MS/E19VE1AH-MSD				MS Lot-Sample #: I2E310201-013	
	107	(75 - 125)			SW846 9056	06/10/02	2162196
	107	(75 - 125)	0.05	(0-20)	SW846 9056	06/10/02	2162196
		Dilution Factor: 1					

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

General Chemistry

Client Lot #...: I2E310201 **Matrix.....:** SOLID

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Chloride		Work Order #: E2RD51AA		MB Lot-Sample #:	I2F110000-196	
	ND	1.0	mg/L	SW846 9056	06/11/02	2162196
		Dilution Factor: 1				

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

General Chemistry

Client Lot #...: I2E310201 **Matrix.....:** SOLID

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Chloride		Work Order #: E2RDW1AA		MB Lot-Sample #:	I2F110000-191	
	ND	10.0	mg/kg	MCAWW 300.0A	06/08-06/10/02	2162191
		Dilution Factor: 1				

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #...: I2E310201 **Work Order #...:** E2TC31AC **Matrix.....:** SOLID
LCS Lot-Sample#: I2F110000-380
Prep Date.....: 06/10/02 **Analysis Date..:** 06/10/02
Prep Batch #...: 2162380
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD
Benzene	**105**	**(80 - 122)**	**SW846 8260B**
1,1-Dichloroethene	**94**	**(51 - 131)**	**SW846 8260B**
Toluene	**96**	**(81 - 127)**	**SW846 8260B**
Trichloroethene	**101**	**(78 - 124)**	**SW846 8260B**
Chlorobenzene	**99**	**(81 - 123)**	**SW846 8260B**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	94	(74 - 134)
Toluene-d8	112	(85 - 125)
Dibromofluoromethane	107	(69 - 136)
1,2-Dichloroethane-d4	94	(75 - 134)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #...: I2E310201 **Work Order #...:** E2QMK1AC-LCS **Matrix.....:** SOLID
LCS Lot-Sample#: I2F100000-338 E2QMK1AD-LCSD
Prep Date.....: 06/05/02 **Analysis Date..:** 06/05/02
Prep Batch #...: 2161338
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
Benzene	**109**	**(81 - 120)**			**SW846 8260B**
	112	**(81 - 120)**	**2.7**	**(0-13)**	**SW846 8260B**
1,1-Dichloroethene	**82**	**(56 - 138)**			**SW846 8260B**
	87	**(56 - 138)**	**5.6**	**(0-16)**	**SW846 8260B**
Toluene	**99**	**(78 - 126)**			**SW846 8260B**
	102	**(78 - 126)**	**3.2**	**(0-14)**	**SW846 8260B**
Trichloroethene	**82**	**(75 - 121)**			**SW846 8260B**
	87	**(75 - 121)**	**4.8**	**(0-15)**	**SW846 8260B**
Chlorobenzene	**92**	**(83 - 118)**			**SW846 8260B**
	95	**(83 - 118)**	**3.0**	**(0-13)**	**SW846 8260B**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	106	(42 - 183)
	107	(42 - 183)
Toluene-d8	98	(69 - 128)
	100	(69 - 128)
Dibromofluoromethane	75	(63 - 141)
	77	(63 - 141)
1,2-Dichloroethane-d4	88	(58 - 141)
	88	(58 - 141)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC Volatiles

Client Lot #...: I2E310201 **Work Order #...:** E28DC1AC **Matrix.....:** SOLID
LCS Lot-Sample#: I2F180000-322
Prep Date.....: 06/17/02 **Analysis Date..:** 06/17/02
Prep Batch #...: 2169322
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD
Gasoline Range Organics	**102**	**(80 - 120)**	**SW846 8015B**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Bromofluorobenzene	112	(75 - 125)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC Volatiles

Client Lot #...: I2E310201 **Work Order #...:** E2X8T1AC **Matrix.....:** SOLID
LCS Lot-Sample#: I2F130000-219
Prep Date.....: 06/12/02 **Analysis Date..:** 06/12/02
Prep Batch #...: 2164219
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD
Gasoline Range Organics	**98**	**(70 - 134)**	**SW846 8015B**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Bromofluorobenzene	127	(14 - 165)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC Semivolatiles

Client Lot #...: I2E310201 **Work Order #...:** E2HK31AC-LCS **Matrix.....:** SOLID
LCS Lot-Sample#: I2F050000-407 E2HK31AD-LCSD
Prep Date.....: 06/05/02 **Analysis Date..:** 06/07/02
Prep Batch #...: 2156407
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
Diesel Range Organics	**78**	**(51 - 127)**			**SW846 8015B**
	78	**(51 - 127)**	**0.0**	**(0-28)**	**SW846 8015B**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
o-Terphenyl	94	(28 - 131)
	95	(28 - 131)
Dotriacontane	75	(37 - 139)
	76	(37 - 139)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC Semivolatiles

Client Lot #...: I2E310201 **Work Order #...:** E2FK31AC **Matrix.....:** SOLID
LCS Lot-Sample#: I2F040000-421
Prep Date.....: 06/04/02 **Analysis Date..:** 06/06/02
Prep Batch #...: 2155421
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD
Diesel Range Organics	**55**	**(38 - 139)**	**SW846 8015B**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
o-Terphenyl	90	(40 - 144)
Dotriacontane	77	(42 - 159)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC Semivolatiles

Client Lot #...: I2E310201 **Work Order #...:** E2HH11AC **Matrix.....:** SOLID
LCS Lot-Sample#: I2F050000-402
Prep Date.....: 06/05/02 **Analysis Date..:** 06/07/02
Prep Batch #...: 2156402
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD
Diesel Range Organics	**67**	**(38 - 139)**	**SW846 8015B**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
o-Terphenyl	91	(40 - 144)
Dotriacontane	75	(42 - 159)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

General Chemistry

Client Lot #...: I2E310201 **Matrix.....:** SOLID

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Chloride		Work Order #: E2RDW1AC	LCS Lot-Sample#: I2F110000-191		
	101	(80 - 120)	MCAWW 300.0A	06/08-06/10/02	2162191
		Dilution Factor: 1			
Chloride		Work Order #: E2RD51AC	LCS Lot-Sample#: I2F110000-196		
	99	(80 - 120)	SW846 9056	06/07/02	2162196
		Dilution Factor: 1			

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

General Chemistry

Client Lot #...: I2E310201 **Matrix.....:** SOLID

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Chloride		Work Order #: E2RDW1AC	LCS Lot-Sample#: I2F110000-191		
	101	(80 - 120)	MCAWW 300.0A	06/08-06/10/02	2162191
		Dilution Factor: 1			
Chloride		Work Order #: E2RD51AC	LCS Lot-Sample#: I2F110000-196		
	99	(80 - 120)	SW846 9056	06/07/02	2162196
		Dilution Factor: 1			

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE SAMPLE EVALUATION REPORT

SPLP GC/MS Volatiles

Client Lot #...:	I2E310201	**Work Order #...:**	E19VE1AJ-MS	**Matrix.....:**	SOLID
MS Lot-Sample #:	I2E310201-013		E19VE1AK-MSD		
Date Sampled...:	05/29/02 15:30	**Date Received..:**	05/31/02		
Leach Date.....:	06/05/02	**Prep Date.....:**	06/10/02	**Analysis Date..:**	06/10/02
Leach Batch #..:	P215801	**Prep Batch #...:**	2162380		
Dilution Factor:	1	**% Moisture.....:**	8.5		

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
Benzene	**103**	**(80 - 122)**			**SW846 8260B**
	103	**(80 - 122)**	**0.01**	**(0-13)**	**SW846 8260B**
1,1-Dichloroethene	**94**	**(51 - 131)**			**SW846 8260B**
	94	**(51 - 131)**	**0.36**	**(0-29)**	**SW846 8260B**
Toluene	**93**	**(81 - 127)**			**SW846 8260B**
	93	**(81 - 127)**	**0.0**	**(0-20)**	**SW846 8260B**
Trichloroethene	**99**	**(78 - 124)**			**SW846 8260B**
	100	**(78 - 124)**	**1.0**	**(0-14)**	**SW846 8260B**
Chlorobenzene	**96**	**(81 - 123)**			**SW846 8260B**
	97	**(81 - 123)**	**1.1**	**(0-17)**	**SW846 8260B**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	102	(74 - 134)
	101	(74 - 134)
Toluene-d8	114	(85 - 125)
	114	(85 - 125)
Dibromofluoromethane	107	(69 - 136)
	107	(69 - 136)
1,2-Dichloroethane-d4	99	(75 - 134)
	98	(75 - 134)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #...: I2E310201 **Work Order #...:** E13JN1AJ-MS **Matrix.....:** SOLID
MS Lot-Sample #: I2E250148-001 E13JN1AK-MSD
Date Sampled...: 05/23/02 11:45 **Date Received..:** 05/25/02
Prep Date.....: 06/05/02 **Analysis Date..:** 06/06/02
Prep Batch #...: 2161338
Dilution Factor: 1 **% Moisture.....:** 26

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
Benzene	**94**	**(81 - 120)**			**SW846 8260B**
	93	**(81 - 120)**	**1.9**	**(0-13)**	**SW846 8260B**
1,1-Dichloroethene	**79**	**(56 - 138)**			**SW846 8260B**
	77	**(56 - 138)**	**2.4**	**(0-16)**	**SW846 8260B**
Toluene	**92**	**(78 - 126)**			**SW846 8260B**
	87	**(78 - 126)**	**5.3**	**(0-14)**	**SW846 8260B**
Trichloroethene	**77**	**(75 - 121)**			**SW846 8260B**
	75	**(75 - 121)**	**2.4**	**(0-15)**	**SW846 8260B**
Chlorobenzene	**86**	**(83 - 118)**			**SW846 8260B**
	83	**(83 - 118)**	**4.6**	**(0-13)**	**SW846 8260B**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	110	(42 - 183)
	111	(42 - 183)
Toluene-d8	101	(69 - 128)
	101	(69 - 128)
Dibromofluoromethane	82	(63 - 141)
	82	(63 - 141)
1,2-Dichloroethane-d4	89	(58 - 141)
	94	(58 - 141)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC Volatiles

Client Lot #...: I2E310201 **Work Order #...:** E19VE1AL-MS **Matrix.....:** SOLID
MS Lot-Sample #: I2E310201-013 E19VE1AM-MSD
Date Sampled...: 05/29/02 15:30 **Date Received..:** 05/31/02
Prep Date.....: 06/17/02 **Analysis Date..:** 06/18/02
Prep Batch #...: 2169322
Dilution Factor: 1 **% Moisture.....:** 8.5

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
Gasoline Range Organics	**87**	**(80 - 120)**			**SW846 8015B**
	84	**(80 - 120)**	**3.5**	**(0-30)**	**SW846 8015B**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Bromofluorobenzene	109	(75 - 125)
	108	(75 - 125)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

MATRIX SPIKE SAMPLE EVALUATION REPORT

General Chemistry

Client Lot #...: I2E310201 **Matrix.....:** SOLID
Date Sampled...: 05/29/02 15:30 **Date Received..:** 05/31/02

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Chloride		WO#: E19T41AE-MS/E19T41AF-MSD				MS Lot-Sample #: I2E310201-011	
	100	(75 - 125)			MCAWW 300.0A	06/08-06/10/02	2162191
	101	(75 - 125)	0.49	(0-20)	MCAWW 300.0A	06/08-06/10/02	2162191
		Dilution Factor: 1					
Chloride		WO#: E19VE1AG-MS/E19VE1AH-MSD				MS Lot-Sample #: I2E310201-013	
	107	(75 - 125)			SW846 9056	06/10/02	2162196
	107	(75 - 125)	0.05	(0-20)	SW846 9056	06/10/02	2162196
		Dilution Factor: 1					

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

[redacted]

Chain of Custody Record

SEVERN TRENT SERVICES

87393

Severn Trent Laboratories, Inc.

STL4149 (0700)

Client	Project Manager	Date	Page 1 of 2
Maxim Technologies	Tom Tangen	5-30-02	
Address	**Telephone Number (Area Code)/Fax Number**	**Lab Location**	**Analysis**
10601 Lomas NE Suite 106	505-237-8440	STL Austin	
City / **State** / **Zip Code**	**Site Contact**		
Albuquerque / NM / 87112			
Project Number/Name	**Carrier/Waybill Number**		
EP01003 Lockhart A	8255 3191 6995		
Contract/Purchase Order/Quote Number			
Contract/PO 4501223836 site remediation			

Sample I.D. Number and Description	Date	Time	Sample Type	Containers: Volume	Containers: Type	Containers: No.	Preservative	Condition on Receipt/Comments	8015B GRO	8015B DRO	8260B BTEX	Chloride	SPLP GRO	SPLP DRO	SPLP BTEX	SPLP Chloride
LB-1 20-25	5-29-02	0800	soil	60 ml	clear GL	1	None	5.8° 5-31-02 cc	X	X	X					
LB-1 20-25	5-29-02	0800		120 ml		1			X	X	X					
LB-1 25-30	5-29-02	0800		120 ml		1						X				
LB-2 20-25		0900		60 ml		1			X	X	X					
LB-2 20-25		0900		120 ml		1			X	X	X					
LB-2 25-30		0900		120 ml		1						X				
LB-3 20-25		1000		60 ml		1			X	X	X					
LB-3 20-25		1000		120 ml		1			X	X	X					
LB-3 25-30		1000		120 ml		1						X				
LB-4 20-25		1100		60 ml		1			X	X	X					
LB-4 20-25		1100		120 ml		1			X	X	X					
LB-4 25-30		1100		120 ml		1						X				
LB-5 20-25		1400		60 ml		1			X	X	X					
LB-5 20-25		1400		120 ml		1			X	X	X					
LB-5 25-30		1400		120 ml		1						X				
LB-6 32		1430		120 ml		1						X				

Special Instructions

Possible Hazard Identification

☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal

☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

(A fee may be assessed if samples are retained longer than 3 months)

Turn Around Time Required

☐ Normal ☐ Rush ☐ Other _____

QC Level

☐ I. ☐ II. ☐ III.

Project Specific Requirements (Specify)

	Date	Time		Date	Time
1. Relinquished By: T. L. Tuttle	5/30/02	1600	1. Received By: [signature]	5-31-02	0830
2. Relinquished By			2. Received By		
3. Relinquished By			3. Received By		

Comments

DISTRIBUTION: WHITE - Stays with the Sample; CANARY - Returned to Client with Report; PINK - Field Copy

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Chain of Custody Record

I2E310201

SEVERN TRENT SERVICES

Severn Trent Laboratories, Inc.

87386

STL4149 (0700)

Client: Maxim Technologies	Project Manager: Tom Tangen	Date: 5-30-02	Page 2 of 2
Address: 10601 Lomas NE Suite 106	Telephone Number (Area Code)/Fax Number: 505-237-8440	Lab Location: STL Austin	
City: Albuquerque / State: NM / Zip Code: 87112	Site Contact:		
Project Number/Name: EP01003 Lockhart A	Carrier/Waybill Number: 8255 3191 6995		
Contract/Purchase Order/Quote Number: Contract/PO 450122 3836 site remediation			

Sample I.D. Number and Description	Date	Time	Sample Type	Containers: Volume	Containers: Type	Containers: No.	Preservative	Condition on Receipt/Comments	Analysis: Chloride	SPLP GRO	SPLP DRO	SPLP BTEX	SPLP Chloride
LB-7 Bottom of Pit	5-29-02	1500	soil	120ml	clear GL	1		5.8° 5-31-02	X				
LB-8 Dirty stockpile	"	1530	"	"	"	1				X	X	X	X
LB-9 Big clean stockpile	"	1545	"	"	"	1				X	X	X	X
LB-10 Little clean stockpile	"	1600	"	"	"	1				X	X	X	X

Special Instructions

Possible Hazard Identification: ☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal: ☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months (A fee may be assessed if samples are retained longer than 3 months)

Turn Around Time Required: ☐ Normal ☐ Rush ☐ Other _____

QC Level: ☐ I. ☐ II. ☐ III.

Project Specific Requirements (Specify):

	Date	Time		Date	Time
1. Relinquished By: T. L. Lubo	5/30/02	1600	1. Received By:	5-31-02	0830
2. Relinquished By			2. Received By		
3. Relinquished By			3. Received By		

Comments

DISTRIBUTION: WHITE - Stays with the Sample; CANARY - Returned to Client with Report; PINK - Field Copy

71

Memorandum for Record

Author: Cody Sims
Date: August 19, 2002
Subject: May 29, 2002

On the date May 29th 2002 Conoco, through Maxim Technologies, began gathering and field testing on the Lockhart A27. Representatives of the land owner were invited to accompany and split samples. A PID method was used by both parties to take field numbers. The field representative of the landowner made it clear to the personnel of Conoco and Maxim Technologies that the landowner's field test would then be taken to a third party for testing of Chlorides. At no time did representatives from either Conoco or Maxium Technologies state that their field samples would be taken to an independent lab. Nor at any time did the representatives of the landowner witness any Conoco or Maxim Technologies personnel pack, bottle, or ice any split samples in their possession. Samples where taken from five to forty feet in five feet intervals. Each of the bore hole samples were bagged and left open on the ground until the entire depth of the boring had been taken. Furthermore the samples were not witnessed by the landowner representatives to be resealed after a field PID test was taken. Said bagged samples of Conoco and Maxim Technologies were witnessed by the landowner representatives to be stored in the bed of the pickup truck and at no time removed from said bags, bottled, or preserved for the duration of the sampling process, of approximately 7 hours

Landowner Representative Cody Sims 8-19-02

Landowner Representative [signature] 8-19-02

Notary [signature] My Commission Expires 1-28-06

Price, Wayne IR0345

From: Price, Wayne
Sent: Wednesday, August 14, 2002 9:57 AM
To: 'Goates, R. Neal'; Price, Wayne
Subject: RE: Lockhart A27 Site Closure Request

OCD hereby approves of the attached work plan. Please submit a final report by September 30, 2002 for OCD approval.

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

-----Original Message-----
From: Goates, R. Neal [mailto:R-Neal.Goates@conoco.com]
Sent: Wednesday, August 14, 2002 9:29 AM
To: Wayne Price
Cc: Goates, R. Neal
Subject: Lockhart A27 Site Closure Request
Importance: High

Wayne,
This is the Lockhart closure request that I sent early with an edit on page 8 of 8 on the Maxim report. We failed to put in the clay cap recommendation on the earlier version. Please review and call me with any questions. Thanks. The excavation is still open and has been holding water from the local rains.

Neal Goates
Remediation Project Manager
Mid-Continent BU, EP Americas, NG&GP

Conoco Inc.
600 N. Dairy Ashford
P.O. Box 2197
Houston, TX 77252-2197
(281) 293-3822
Fax (281)293-3305
Cell Phone: 832-465-4123

(ANALYTICALS ELECTRONIC FILE)

L:

Price, Wayne

To: Goates, R. Neal

Subject: RE: Lockhart A27 Site Closure Request

Analyticals L:\ocd\ENVIRONM\WORD\WAYNE

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From: Goates, R. Neal [mailto:R-Neal.Goates@conoco.com]
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To: Wayne Price
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This is the Lockhart closure request that I sent early with an edit on page 8 of 8 on the Maxim report. We failed to put in the clay cap recommendation on the earlier version. Please review and call me with any questions. Thanks. The excavation is still open and has been holding water from the local rains.

Neal Goates
Remediation Project Manager
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Conoco Inc.
600 N. Dairy Ashford
P.O. Box 2197
Houston, TX 77252-2197
(281) 293-3822
Fax (281)293-3305
Cell Phone: 832-465-4123

August 13, 2002

Mr. Wayne Price
Oil Conservation Division
1220 S. St. Francis
Santa Fe, NM 87505

RE: Results of Compilation of Data from Subsurface Investigations
Lockhart A-27 Battery Near Eunice, New Mexico
Maxim Project 2690022.110

Dear Wayne:

This letter accompanies a letter report from Maxim Technologies, Inc. that details activities from March 2001 to the present at the Lockhart A-27 Tank Battery near Eunice, New Mexico. The letter report is organized in a chronological fashion, and discusses the original subsurface investigation and results, subsequent excavation work, and the issues that led to re-evaluation of the path forward and resulting followup subsurface investigation. Conoco is confident that actions taken to date have resulted in amelioration of site impacts to the extent that no concerns exist to public health or the environment. Conoco and Maxim have proposed actions in the path forward section of the letter to return the site to original grade, and request concurrence from OCD that, on completion of these actions, the site can be closed, and a No Further Action notice can be forwarded.

Thank you for your time in reviewing the attached letter report. Conoco and Maxim welcome the opportunity to answer any questions you may have.

Sincerely,

Neal Goates
Project Manager

Enc.

C. T. Tangen Maxim Technologies
C. Yancey Maxim Technologies
L. Johansen Conoco

MAXIM TECHNOLOGIES INC

10601 Lomas NE, Suite 106
Albuquerque, NM 87112
(505) 237-8440

August 13, 2002

Mr. Neal Goates
Conoco, Inc.
600 North Dairy Ashford
Houston, TX 77079-1175

RE: Results of Compilation of Data from Subsurface Investigations
Lockhart A-27 Battery Near Eunice, New Mexico
Maxim Project 2690022.110

Dear Neal:

Maxim Technologies, Inc. (Maxim) has prepared this compilation of data generated at the Lockhart A-27 tank battery site at Conoco's request for presentation to the Oil Conservation Division (OCD). Contained herein is a review of two separate field investigations performed at the site and a description of excavation activities conducted in May 2002. A path-forward for the site is proposed that will result in a closure scenario protective of public health and the environment.

Background

The Lockhart A27 lease is located north of Eunice, New Mexico, at the end of Continental Road (Figure 1). The site primarily consists of the Lockhart A27 – Unit C Tank Battery, numerous surface flow lines into the tank battery (removed to allow access for excavation), and the identified areas of concern (historic oil field operation) immediately north of the tank battery and partially underlying the flow line corridor (Figure 2).

Initial Subsurface Investigation (March 19, 2001)

Maxim supervised the installation of eight soil borings within and surrounding the area of concern (Figure 2) on March 19, 2001. Prior to starting field work, New Mexico One Call was notified and allowed sufficient time to mark subsurface assets at the Lockhart A-27 site. The original work plan specified that ten borings would be needed to adequately define the extent of impacts; however, following the placement of eight borings, it was determined in the field that sufficient information had been obtained to characterize the area of concern. Soil borings SB-1 through SB-5 were perimeter borings installed to provide stratigraphic control and the lateral extent of the area of concern and to ascertain if any impacts from the area of concern extended to groundwater. Borings SB-6 and SB-7 were drilled through the center of the area of concern to characterize the thickness of impacted material in the area of concern as well any vertical impacts which may underlie the area of concern. SB-8 was placed north of the area of concern

to characterize an isolated extension of the same area (Figure 2). Access issues, specifically the sandy nature of the soil and the location of surface flow lines, hampered placement of a boring on the southeast perimeter of the area of concern.

Perimeter Borings

The perimeter borings were placed at the surface interface between visually impacted soils within the area of concern and native soils. Samples for analysis were collected from each boring at or near the surface as well as the bottom of each boring. The borings were continuously sampled and headspace analyses performed with a photo-ionization detector (PID) at two-foot intervals during drilling. Soil boring logs containing lithologic descriptions and PID readings are contained in Attachment 1. Shallow soil samples (less than six feet below ground surface [bgs]) were collected by hand-augering. A hand auger was used as a safety precaution against undetected buried lines. From six feet bgs to total depths, soil samples were collected with split-spoons. All sampling equipment was cleaned between each sampling interval.

The samples were analyzed for total petroleum hydrocarbons (TPH), both diesel range organics (DRO) and gasoline range organics (GRO), using USEPA Method 8015. The results of the analyses for perimeter borings SB-1 through SB-5 are presented as a portion of the data available in Table 1. TPH impacts were observed in surficial soil samples from borings SB-3 and SB-4. The impacts were primarily in the long-chain hydrocarbon range or DRO analyses. In both cases, the surficial impacts appeared to naturally mitigate with depth as indicated by both field PID data (Figures 3 and 4) and laboratory analytical data (Attachment 2). Figures 3 and 4 present two cross-sections through the area of concern. One section is oriented west to east (A-A') and the other south to north (B-B'). The sections depict the general morphology of the material in the area of concern and its relationship to the surrounding and underlying stratigraphy.

Lithologies encountered in the perimeter borings consisted primarily of reddish-brown to tan, intermixed silty sandstones and sandy siltstones with inter-layered, minor clays. The siltstones and sandstones were loosely compacted to tightly cemented with calcium carbonate. Intermittent caliche horizons, ranging in thickness from several inches to one foot, were encountered from approximately 5 feet bgs to total depth of the borings (Figures 3 and 4).

Area of Concern Borings

Borings SB-6 and SB-7 were installed directly through the area of concern. Samples of the material of concern were collected for analysis as well as samples from the total depth of both borings. The borings were continuously sampled, and headspace analyses performed in the field with a PID at two-foot intervals during drilling. Soil boring logs containing lithologic descriptions and PID readings are contained in Attachment 1. Samples from both borings were collected with split spoons from surface to total depth.

In soil boring SB-6, black, silty to sandy, hydrocarbon-saturated material was encountered from surface to 11 feet bgs (Figures 2, 3, and 4). The soil emitted an odor, and dark colored material appearing to be hydrocarbon was noted on the surface of the split spoon sampler. Field PID readings taken on this soil ranged from 235 to 512 parts per million (ppm). Background PID readings for the site ranged from 0 to 5 ppm. Underlying this material was tan to gray-green clayey to sandy siltstone to a depth of 21 feet bgs. PID readings within this zone ranged from 476 to 110 ppm, decreasing with depth. At 21 feet bgs, the drill rig was unable to push the split spoon due to refusal. Therefore, air rotary methods were used to drill through a competent, tan, indurated siltstone that extended from 21 to 23 feet bgs. A split spoon sample was collected from the 23 to 25 foot bgs interval. The material was white, competent sandstone, exhibiting a PID reading of 3.2 ppm, within the range of background noted above. This sample was placed on ice and retained for laboratory analysis. No moisture indicative of groundwater was noted at the total depth of the boring. The boring was immediately grouted with bentonite to prohibit any downward migration of the material in the area of concern.

Soil boring SB-7 was installed to the west of SB-6, and went directly through the area of concern (Figure 3). As in SB-6, the soil consisted of black silty to sandy material and emitted an odor. Dark colored material appearing to be hydrocarbon extended from surface to nine feet bgs, and PID readings ranged from 595 to 1,400 ppm. Underlying this material was a tan to brown to gray-green sandy siltstone to a depth of 20 feet bgs. Within this zone, PID readings ranged from 1,311 to 306 ppm, decreasing with depth. At 20 feet bgs, refusal was encountered and air rotary methods were used to a depth of 23 feet bgs, at which point split spoon sampling could again be employed. A split spoon sample was collected from the 23- to 25-foot bgs interval. The material was a white siltstone with evidence of caliche development and exhibited a PID reading of 1.9 ppm, within the range of background. This sample was placed on ice and retained for laboratory analysis. Similar to soil boring SB-6, no moisture indicative of groundwater was noted at the total depth of the boring. The boring was immediately grouted with bentonite to prohibit any downward migration of the material in the area of concern.

Composite samples of the material in the area of concern were collected from the two- to six-foot bgs interval in SB-6, and the four- to eight-foot bgs interval in SB-7. These samples were submitted for analysis by Synthetic Precipitation Leaching Procedure (SPLP) for both volatile organics and semi-volatile organics using USEPA Method 1311/1312/6010B/8270C. The SPLP analysis will indicate which, if any, constituents of concern could be leaching out of the material under natural conditions.

Area of Concern Extension Boring

Soil boring SB-8 was installed to a depth of 12 feet bgs within an apparent extension of the main area of concern (Figure 2). The boring was continuously sampled, and headspace analyses were performed with a PID at two-foot intervals during drilling. The soil boring log, containing lithologic descriptions and PID readings, is contained in Attachment 1. PID readings ranged from 1.8 to 3.6 ppm, all within background concentration levels. Lithologies encountered in this boring consisted of red-brown to gray silty sandstones and sandy siltstones. Two samples,

one from the surface and one from total depth, were collected from this boring for analysis. Sampling results are contained in Table 1.

Results

Table 1 presents the results of the analytical data. The laboratory reports are presented in Attachment 2. The perimeter borings (SB-1, SB-2, SB-3, SB-4 and SB-5) were analyzed for both TPH GRO and DRO. The surface sample from SB-3 exhibited DRO and GRO concentrations of 6,500 and 28 milligrams per kilogram (mg/kg), respectively. However, no TPH was detected in the sample collected at depth (18 to 20 feet bgs), and PID readings were well within background concentration levels. The surface sample from soil boring SB-4 exhibited a DRO concentration of 150 mg/kg. However, no TPH was detected at depth in this boring (12 to 14 feet bgs), and PID readings were within background concentration levels. The field and laboratory results obtained from the perimeter borings indicate that lateral migration of constituents derived from leaching of materials within the area of concern has not occurred at maximum bored depths in the surveyed areas.

Boring SB-8, installed in the northern extension of the area of concern, exhibited DRO concentrations of 57 mg/kg in the zero to 2 foot bgs interval and 190 mg/kg in the 10 to 12 foot interval. PID readings collected during the installation of this boring were all within background concentration levels (1.8 to 3.6 ppm). The DRO fraction of TPH is representative of mostly long-chain TPH, and is generally less mobile than the short-chain TPH (represented by the GRO fraction).

Composite samples of the material in the area of concern from both borings SB-6 and SB-7 were analyzed using SPLP methods to determine if the material produces leachate that could become mobile. Benzene leachate concentrations of 54 and 68 micrograms per liter (µg/L) were reported for soil samples collected from borings SB-6 and SB-7, respectively. The SB-6 sample also generated 16 µg/L of 3-methylphenol within the leachate. The elevated field PID readings collected within the native material underlying the area of concern, to a depth of 20 feet bgs, potentially indicate that the leachate generated from the material in the area of concern has impacted the native material to that depth. However, the tightly cemented sandstone (and intermittent caliche zones) underlying this area at a depth of 21 to 23 feet bgs appears to be acting as a confining layer limiting downward migration of leachate. Field PID measurements in sandstones underlying the confining layer were consistent with background concentration levels.

Analytical results from the sandstones underlying the confining zone exhibited TPH fractionation concentrations of non-detect in SB-7 and a DRO concentration of 220 mg/kg in SB-6. It is likely that this anomalous DRO concentration in SB-6 is the result of sloughing of soil from DRO-impacted sections of the boring wall nearer the surface. This potential sloughing would explain the appearance of long-chain, less mobile DRO impacts at depth in SB-6. If the impact were, in fact, resulting from downward migration of leachate possibly containing benzene, the laboratory analyses at depth in SB-6 would have detected lighter, more mobile

TPH-GRO fractions, and elevated PID readings would most likely have been noted in the 23- to 25-foot interval.

Excavation Activities (May 6, through May 15, 2002)

Under the direction of Conoco, Maxim generated a work plan calling for excavation of impacted material at the Lockhart A-27 site. This plan was subsequently submitted to and approved by the OCD. Maxim provided oversight for all excavation and haulage activities conducted between May 6 and May 15, 2002. Maxim also performed field test work with a PID and a TPH test kit to guide excavation operations. As the excavation progressed, a layer of light-colored sandy material of varying thickness (one to two feet thick) began to consistently exhibit higher field PID and TPH readings at approximately 20 feet bgs than the overlying soil. This trend continued at approximately the 20-foot depth on the east and west sidewalls of the excavation, indicating that relatively impact-free soil appeared to be overlying a more impacted layer of material at depth. Due to the nature of the excavation, the extent of this layer north and south of the excavation was unknown and data on extent to the east and west was limited to the width of the excavation. Existence of this layer had not been evident from data generated by the initial investigation due to the fact that perimeter borings were not extended to the 20-foot bgs level. Due in part to this unforeseen development, Conoco decided to halt excavation activities and re-evaluate the project.

Follow-Up Subsurface Investigation (May 29, 2002)

Per Conoco's request, Maxim prepared a subsurface investigation plan to further define the lateral extent of the layer of impacted material appearing to underlie less-impacted material at the margins of the Lockhart A-27 excavation. Other data collected on May 29, 2002, included soil samples collected to determine soil chloride concentrations and whether a relationship existed between chloride levels and depth below ground surface. Maxim also collected soil samples from three stockpiles on site for analysis via EPA 1312 SPLP SW846 8015B for TPH DRO and GRO; SW846 8260B for benzene, toluene, ethylbenzene, and xylenes (BTEX); and SW846 9056 for chlorides.

The path-forward agreed upon at the site between Maxim and Conoco called for installation of borings in a pattern that would define the maximum extent of potential soil impacts remaining at the site (Figure 2). Field-testing of soil gathered from the first set of five borings (LB-1 through LB-5) indicated soil impacts at that radius were minimal, and Conoco subsequently directed Maxim to abandon the remainder of the borings. Boring logs have been included in Attachment 1.

Six borings were advanced using rotary drilling techniques in a perimeter around the existing fenced excavation north of the Lockhart A-27 Battery. Figure 2 illustrates the site features and soil boring locations. Shovel soil samples were collected from the borings at five-foot intervals. Soil samples gathered for hydrocarbon and chloride testing were split with approximately one half warmed for analysis in the field with a PID and a Dexsil Petroflag TPH meter. The other

half of each sample was placed on ice for potential submittal for laboratory analysis. Soil samples from the 20 to 25-foot bgs interval were saved for laboratory analysis in an effort to identify whether the impacted soil encountered at the 20-foot bgs depth in the excavation area extended laterally as far as the boring perimeter. The 25 to 30-foot bgs interval samples from LB-1 through LB-5 were also submitted to determine if impacts existed at that depth and that lateral extent. Submitted samples from borings LB-1 through LB-5 were analyzed by Severn Trent Laboratories, Inc. (STL) in Austin, Texas, for TPH GRO and DRO using EPA Method SW-846, 8015B; BTEX using EPA Method SW846 8260B; chloride using EPA Method MCAWW 300.0A; and percent moisture using ASTM D 2216-90. The soil sample from the 32-foot bgs interval of boring LB-6 was analyzed for chloride and percent moisture only. A composite soil sample (LB-7) obtained from hand borings placed in the deepest area of the excavation was also analyzed for chloride and percent moisture. Three more composite soil samples were obtained from soil piles around the site and analyzed for BTEX, TPH, and chloride using the EPA Method 1312 SPLP. The sampling results are summarized in Tables 3 and 4 and the laboratory report is included in Attachment 2.

In addition to boring rig supervision and sampling, Maxim used a Global Positioning device to make rough estimates of site size and location of major features. The device was operating with approximately 12 to 16 feet of error and measurements taken during the May 29 investigation episode are approximations only.

Soil Boring Activities and Results

Maxim advanced five borings around the perimeter of the excavation to a depth of approximately 30 feet. As noted above, the borings were sampled on five-foot intervals and field analyzed with a PID. Intervals believed to have greater potential for hydrocarbon impacts based on excavations conducted at the site were also analyzed with a field TPH kit. A sixth boring (LB-6) was placed as close as possible to the northeast edge of the excavation and was advanced to 32 feet bgs specifically to gather data on chloride concentrations at depths greater than the total depth of the other borings.

Maxim installed two hand borings as near as possible to the deepest point in the excavation to gather chloride data at that point. Soil from these borings was composited and shipped for analysis. Maxim also gathered composite soil samples from each of the soil piles on site. These samples were obtained by hand boring two to three feet deep into the side hills of each pile at six to eight points. The samples were shipped for analysis via EPA Method 1312.

Results of field analyses run on soil boring samples are tabulated in Table 2. PID readings indicated levels of soil vapors at concentrations less than 100 parts per million (ppm) volatile organic compounds (VOCs) consistently to total boring depth. Field TPH readings ranged from 84 ppm in the 15– to 20-foot interval of boring LB-2 to 189 ppm TPH in the 20- to 25-foot interval of LB-4 and the 20- to 25-foot interval of boring LB-5. No soil staining was observed.

Laboratory analytical results revealed benzene, BTEX and TPH concentrations in the sampled soil did not exceed the established OCD-recommended remediation action levels, as determined from guidance in *Guidelines for Remediation of Leaks, Spills and Releases, Oil Conservation Division, August 13, 1993* (Table 3).

Chloride analyses were performed by the laboratory on soil samples from the 25- to 30-foot bgs interval in samples LB-1 through LB-5. Chloride concentrations in the tested intervals ranged from 177 ppm in LB-5 to 253 ppm in LB-4. The soil sample gathered from the 32-foot bgs depth in LB-6 indicated 41.5 ppm chloride. The chloride concentration in the composite sample obtained from the bottom of the excavation was 10,500 ppm.

Laboratory results from SPLP samples obtained from three soil piles on the site were analyzed for benzene, BTEX and TPH (Table 4). Sample LB-8 was composited from several points on the north stockpile (Figure 2). This sample indicated 0.0037 ppm BTEX, which was comprised entirely of xylenes. Benzene levels were less than 0.001 ppm and TPH-DRO was 1.5 ppm. Sample LB-9 was composited from several points on the southwest stockpile (Figure 2). Benzene levels were less than 0.001 ppm, BTEX was less than the laboratory detection limits and the TPH-DRO level was 0.088 ppm. Sample LB-10 was composited from several points on the east stockpile (Figure 2). SPLP results for LB-10 indicate a benzene concentration of less than 0.001 ppm. Total BTEX and TPH were below the laboratory detection limits. Chloride levels in the three stockpiles were 70.6 ppm in LB-8, 14.9 ppm in LB-9 and 7.9 ppm in LB-10.

Conclusions

The following conclusions were drawn regarding activities and sampling results of the May 29, 2002 boring activities at Lockhart A-27:

- Hydrocarbon levels in the soil sampled from the perimeter borings (LB-1 through LB-5) were below OCD guidelines, suggesting that impacts did not extend laterally to that distance at the depths noted (Figure 2).

- Chloride levels ranged from 177 to 253 ppm at the 25- to 30-foot bgs level in the perimeter wells (LB-1 through LB-5) and dropped to 41.5 ppm at the 32-foot bgs level in LB-6, suggesting that the chloride concentration gradient decreases with depth in the area.

- SPLP sample results for composite samples obtained from the stockpiles on site suggest that the southwest and east stockpiles will be suitable for backfill into the excavation.

Path Forward

Based on observations and risk evaluation, Maxim is recommending that Conoco request that OCD consider closure of the Lockhart A-27 site after completion of the following activities:

- Remove the north stockpile from the site and deposit it at a Conoco-approved waste facility.
- Terminate excavation activities at the present level based on the fact that the stained soil (material of concern) (Figures 3 and 4) has been excavated and removed from the site; and the fact that an additional 10 vertical feet of soil underlying the material of concern has been removed from the site.
- Based on composite SPLP laboratory analysis results on soil sampled from the east and southwest stockpiles, blend soil from those stockpiles with soil purchased from the landowner to backfill the main and south excavations at the site to original grade.
- Install a clay cover at the site (approximately 1 foot thick) to reduce potential infiltration of precipitation through the excavated areas and immediately surrounding soil. The clay cover would subsequently be covered with a protective soil layer.
- Remove the fence at the site after completion of activities requiring site access control.

If you have any questions regarding this report, please contact Tom Tangen or Clyde Yancey at 505 237 8440. Thank you.

Sincerely,

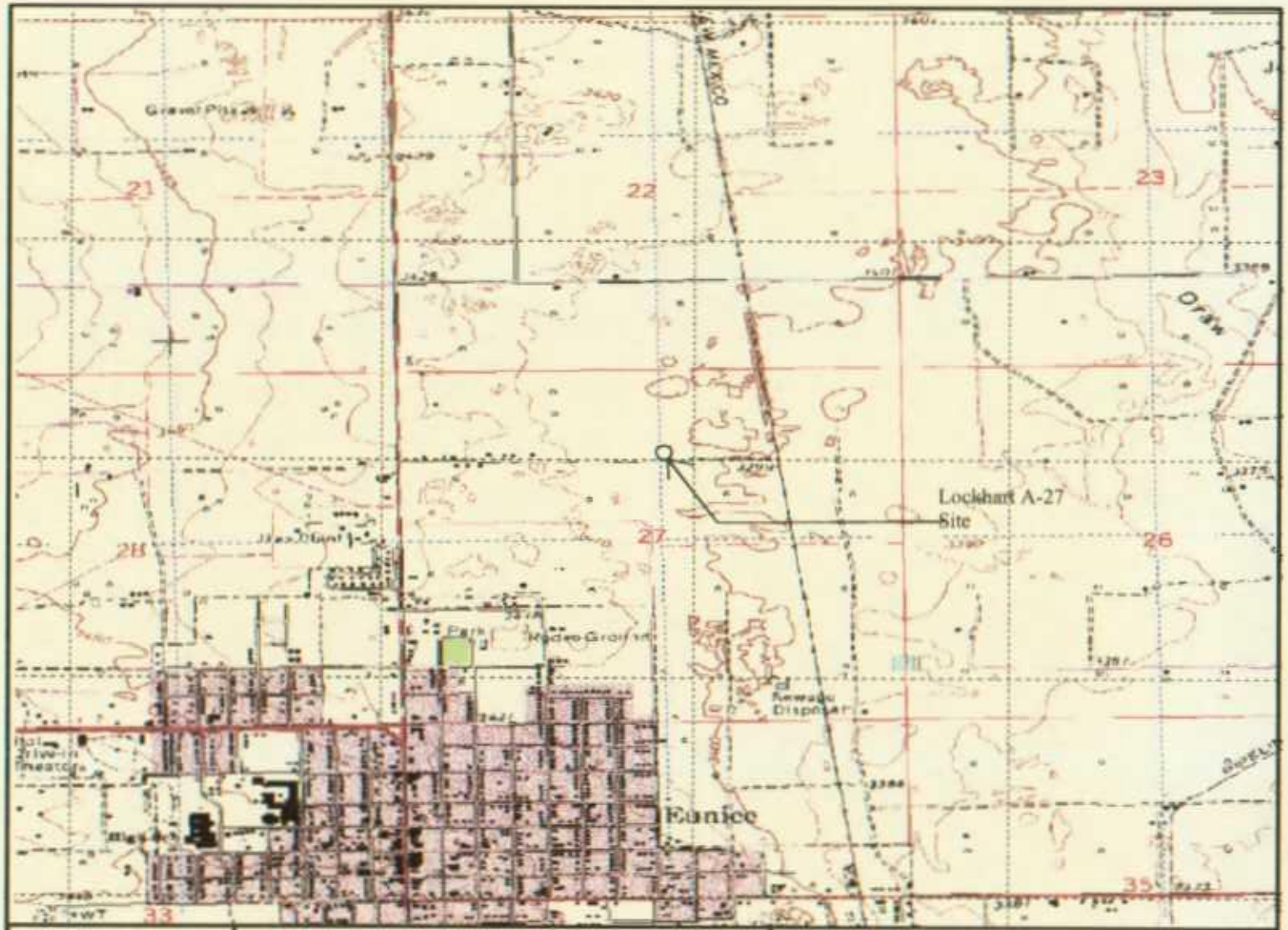
MAXIM TECHNOLOGIES, INC.

Clyde Yancey
Senior Project Manager
Vice President of Operations

Tom Tangen
Environmental Engineer

Attachments: Figures
Tables
Attachments A and B

FIGURES

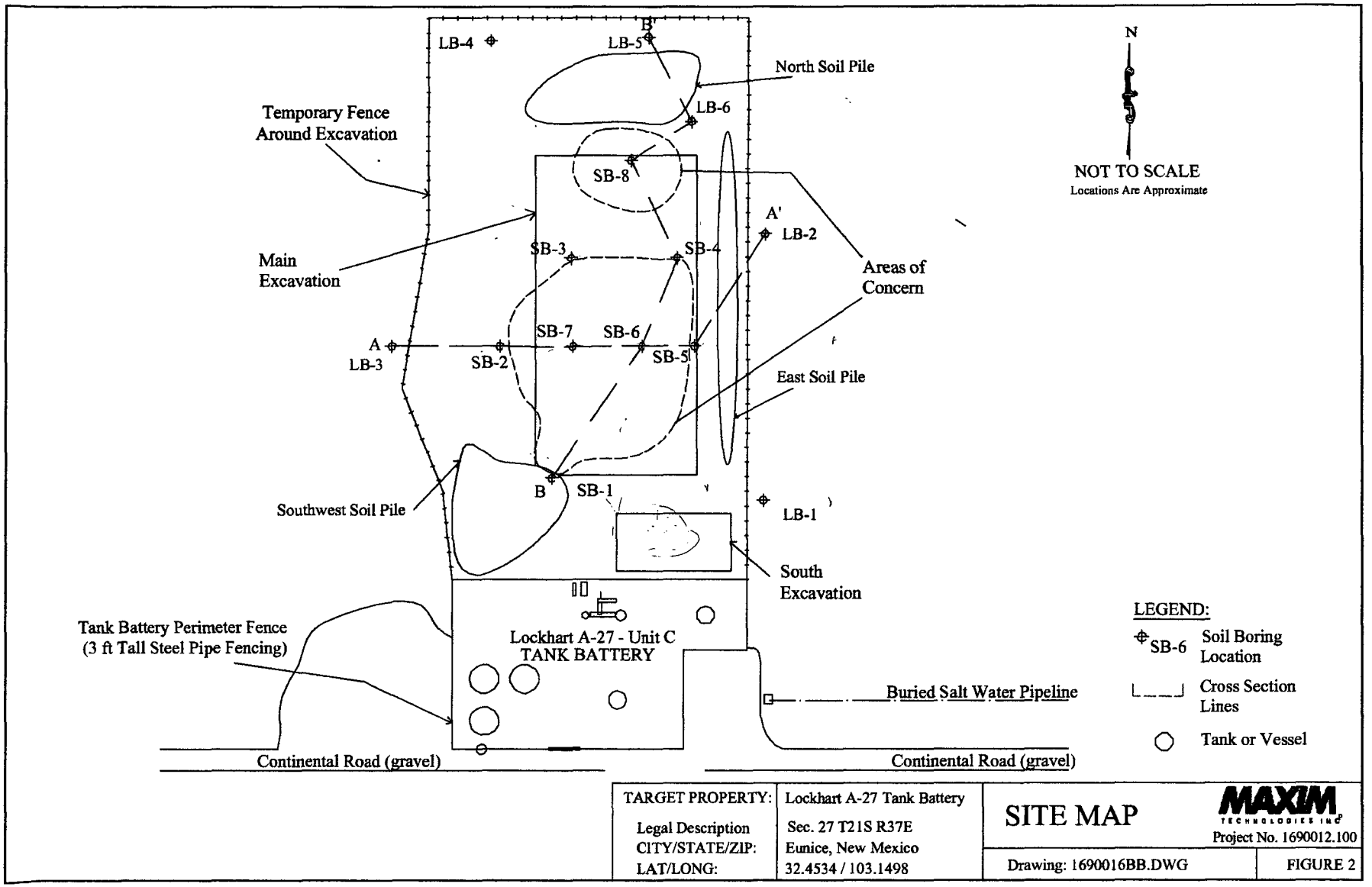


MAXIM TECHNOLOGIES INC

Figure 1. Vicinity Map

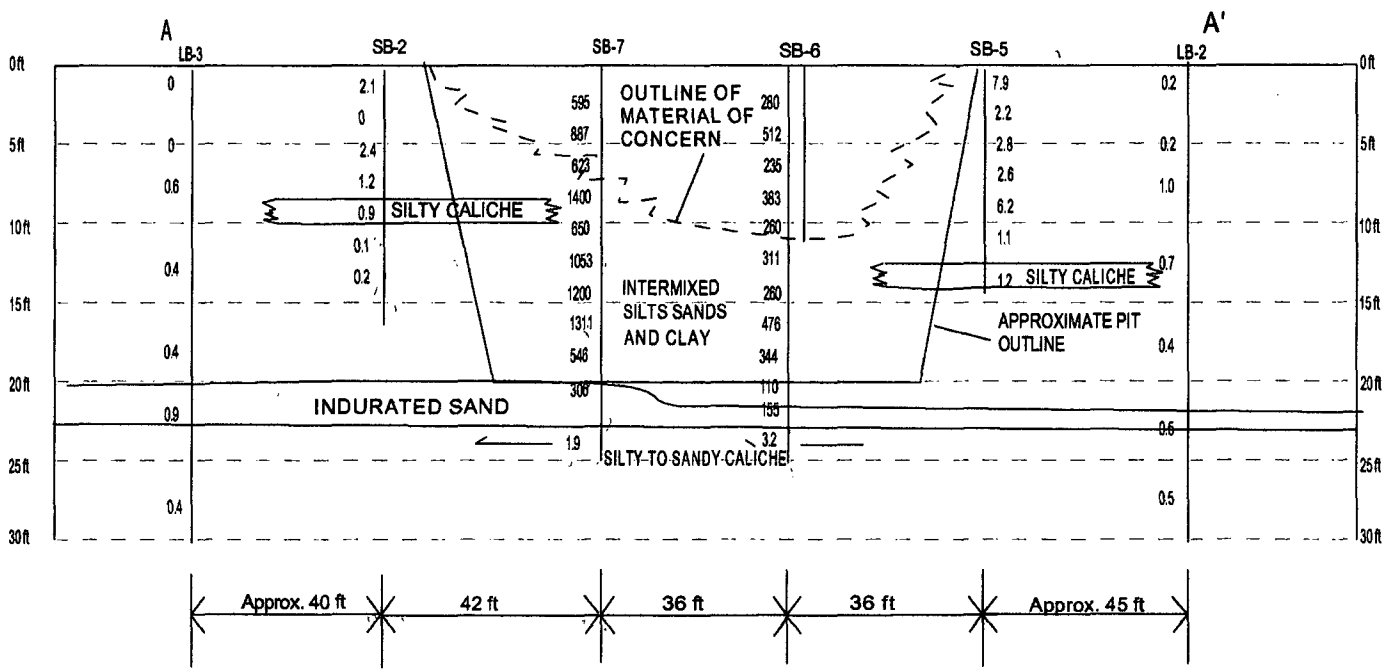
Project No. 2260022	Drawing By: TWT	Date: 07/15/02
File Name:Assim Fig. 1.def	Checked By: TWT	Date: 07/17/02

CONOCO Lockhart A-27 Tank Battery
Eunice, New Mexico.



TARGET PROPERTY:	Lockhart A-27 Tank Battery	SITE MAP	MAXIM TECHNOLOGIES INC
Legal Description	Sec. 27 T21S R37E		Project No. 1690012.100
CITY/STATE/ZIP:	Eunice, New Mexico	Drawing: 1690016BB.DWG	FIGURE 2
LAT/LONG:	32.4534 / 103.1498		

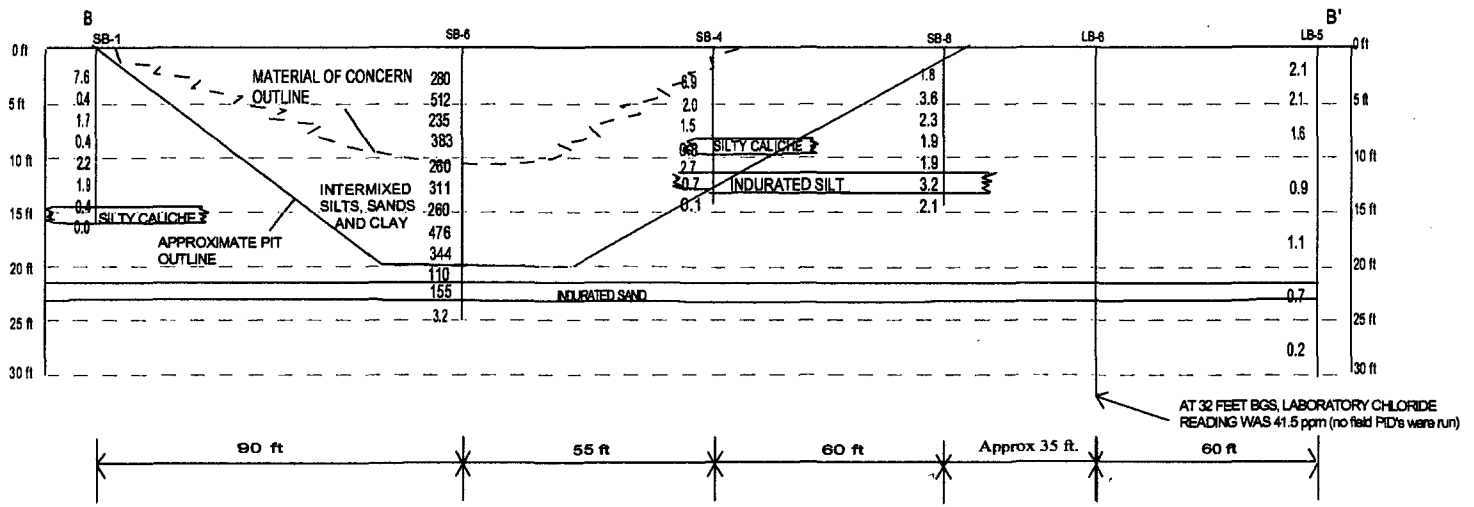
CROSS SECTION A -- A'



NOT TO SCALE - VERTICAL SCALE EXAGGERATED

CONOCO INC. - LOCKHART A-27 TANK BATTERY CROSS SECTION A -- A'		
2690022	MAXIM	FIGURE 3

CROSS SECTION B -- B'



NOT TO SCALE - VERTICAL SCALE EXAGGERATED

CONOCO INC. - LOCKHART A-27 TANK BATTERY CROSS SECTION B – B'		
1690016	MAXIM	FIGURE 4

TABLES

TABLE 1. Soil Boring Analytical Results March, 2001

	Total Pet. Hydrocarb.		SPLP	
Soil Borings	DRO	GRO	Benzene	3-Methylphenol
	mg/kg	mg/kg	ug/L	ug/L
SB-1				
0-2'	ND	ND	NA	NA
14-16'	ND	ND	NA	NA
SB-2				
0-2'	ND	ND	NA	NA
14-16'	ND	ND	NA	NA
SB-3				
2-4'	6500	28	NA	NA
18-20	ND	ND	NA	NA
SB-4				
0-2'	150	ND	NA	NA
12-14'	ND	ND	NA	NA
SB-5				
0-2'	62	ND	NA	NA
12-14'	ND	ND	NA	NA
SB-6				
2-6'	NA	NA	54	16
23-25'	220	ND	NA	NA
SB-7				
4-8'	NA	NA	68	ND
23-25'	ND	ND	NA	NA
SB-8				
0-2'	57	ND	NA	NA
10-12'	190	ND	NA	NA

ND - Not Detected
NA - Not Analyzed

Table 2. Conoco Lockhart A Site Investigation - Field Analysis, May 2002

Sample Depth (feet bgs)	Results Reported in Parts Per Million (mg/kg)									
	LB-1		LB-2		LB-3		LB-4		LB-5	
	VOC	TPH	VOC	TPH	VOC	TPH	VOC	TPH	VOC	TPH
0-2	0		0.2		0		1.3		2.1	
2-5	0		0.2		0		1.3		2.1	
5-10	0.4		1		0.6		1.1		1.6	
10-15	0.5		0.7		0.4		1.3		0.9	
15-20	0.3	109	0.4	84	0.4	154	0.9	141	1.1	
20-25	1	111	0.5	104	0.9	171	0.6	189	0.7	189
25-30	0		0.5		0.4		0.9		0.2	109

Table 3. Conoco Lockhart A-27 Investigation Soil Analytical Results, May 2002

Sample Location	Date Sampled	Sample Depth (feet bgs)	Results Reported in Parts Per Million (mg/kg)									ASTM D 2216-90
			MCAWW 300.0A	EPA Method SW846 8260B					EPA Method SW-846, 8015B			
			Chloride	Benzene	Toluene	Ethyl-benzene	Xylenes	Total BTEX	TPH-GRO	TPH-DRO	Total TPH	% Moisture
LB-1	05/29/02	20-25		<0.005	<0.005	<0.005	<0.005	<LDL	<0.097	2.4	2.4	7.3
	05/29/02	25-30	179									9.5
LB-2	05/29/02	20-25		<0.0049	<0.0049	<0.0049	<0.0049	<LDL	<0.095	<1.7	2.5	15.3
	05/29/02	25-30	178									8.1
LB-3	05/29/02	20-25		<0.005	<0.005	<0.005	<0.005	<LDL	<0.090	2.5	2.5	3.4
	05/29/02	25-30	241									5
LB-4	05/29/02	20-25		<0.005	<0.005	<0.005	<0.005	<LDL	<0.088	6.1	6.1	6.1
	05/29/02	25-30	253									6.9
LB-5	05/29/02	20-25		<0.005	<0.005	<0.005	<0.005	<LDL	<0.089	38	38	4.4
	05/29/02	25-30	177									5.3
LB-6	05/29/02	32	41.5									9.8
LB-7	05/29/02	Bottom of Pit	10,500									14.3
Applicable OCD Cleanup Levels			NE	10	NE	NE	NE	50	NE	NE	100	NA

* If blank, not analyzed

TPH-GRO = Total petroleum hydrocarbons - gasoline range organics
TPH-DRO = Total petroleum hydrocarbons - diesel range organics
BTEX = benzene, toluene, ethylbenzene, and xylenes
<LDL = Less than laboratory detection limits
NE = Not established by ODC
NA = Not Applicable
bgs = Below ground surface
OCD = Oil Conservation Division
EPA = Environmental Protection Agency
B = Boring

Table 4. Conoco Lockhart A Site Investigation - SPLP Soil Analyses May, 2002

Sample ID	Date Sampled	Composite Collection Location	Results Reported in Parts Per Million (mg/L)									
			EPA Method MCAWW 300.0A	EPA Method SW-846, 8260B					EPA Method SW-846, 8015B			ASTM D 2216-90
			Chloride	Benzene	Ethylbenzene	Toluene	Xylenes	Total BTEX	TPH-GRO	TPH-DRO	Total TPH	% Moisture
LB-8	05/29/02	Stockpile	70.6	<0.0010	<0.0010	<0.0010	0.0037	0.0037	<0.1	1.5	1.5	
LB-9	05/29/02	Stockpile	14.9	<0.0010	<0.0010	<0.0010	<0.0020	<LDL	<0.1	0.088	0.088	
LB-10	05/29/02	Stockpile	7.9	<0.0010	<0.0010	<0.0010	<0.0020	<LDL	<0.1	<0.05	<LDL	
Applicable OCD Cleanup Levels			NE	10	NE	NE	NE	50	NE	NE	100	

* If blank, not analyzed
SPLP = Synthetic precipitation leaching procedure
TPH-GRO = Total petroleum hydrocarbons - gasoline range organics
TPH-DRO = Total petroleum hydrocarbons - diesel range organics
BTEX = Benzene, toluene, ethylbenzene, and xylenes
<LDL = Less than laboratory detection limits
NE = Not established by OCD
OCD = Oil Conservation Division
EPA = Environmental Protection Agency

ATTACHMENT A

Boring Logs

PROJECT NAME: Lockhart [redacted]7 Tank Battery

MONITORING WELL NO.: SB-1

LOCATION:

DRILL TYPE: Ingersoll-Rand

ELEVATION: TOP OF BORING (MSL): (ft)

GROUNDWATER ELEVATION (MSL): Dry (ft)

DRILLED BY: HARRISON & COOPER, INC.

BORE HOLE DIAMETER: 4 3/4 (in)

LOGGED BY: Clyde Yancey

DATE: HOLE STARTED: 2/19/01

COMPLETED: 2/19/01

REMARKS: ND=Non Detect

BGS=Below Ground Surface

NS=No Sample

ELEVATION (MSL) - ft	SAMPLE INTERVAL	CLASSIFICATION AND DESCRIPTION	USCS SYMBOL	BLOW COUNT	SAMPLE TO LAB	TIME	% RECOVERY	FID RESULT (ppm)
0.0		SAND, red to brown	SP	Hand-Auger	Y	800		7.6
		Silty SAND, red to brown	SM	Hand-Auger				0.4
-5.0		Silty SAND, red to brown	SM	Hand-Auger				1.7
		Silty SAND, red to brown	SM	PUSHED				0.4
		Silty SAND, red to brown	SM	PUSHED				2.2
-10.0		Sandy SILT, red to brown	ML	PUSHED				1.9
		SILT interbedded with clay, red to brown with green to gray clay layers	ML	PUSHED				0.4
-15.0		SILT with caliche and interbedded with clay, red	ML	PUSHED	Y	850		ND

16.0

Split Spoon Sample (ASTM D1586)

1690016-100

MAXIM TECHNOLOGIES, INC.

EXPLORATORY BORING LOG

SB-1

PROJECT NAME: Lockhart [illegible]7 Tank Battery

MONITORING WELL NO: SB-2

LOCATION:

DRILL TYPE: Ingersoll-Rand

ELEVATION: TOP OF BORING (MSL): (ft)

GROUNDWATER ELEVATION (MSL): Dry (ft)

DRILLED BY: HARRISON & COOPER, INC.

BORE HOLE DIAMETER: 4 3/4 (in)

LOGGED BY: Clyde Yancey

DATE: HOLE STARTED: 2/19/01

COMPLETED: 2/19/01

REMARKS: ND=Non Detect

BGS=Below Ground Surface

NS=No Sample

ELEVATION (MSL) - ft	SAMPLE INTERVAL	CLASSIFICATION AND DESCRIPTION	USCS SYMBOL	BLOW COUNT	SAMPLE TO LAB	TIME	% RECOVERY	FID RESULT (ppm)
0.0		Silty SAND, red to brown, no odor	SM	Hand-Auger	Y	1020		2.1
		Silty SAND, red to brown, no odor	SM	Hand-Auger				ND
-5.0		Silty SAND, tan	SM	Hand-Auger				2.4
		SAND, red to brown	SP	PUSHED				1.2
		SAND with caliche, tan	SP	PUSHED				0.98
-10.0		Sandy SILT, tan	ML	PUSHED				0.1
		Silty SAND, white, fine - grained	SM	PUSHED				0.2
-15.0		Silty SAND, mottled white to tan, fine - grained	SM	PUSHED	Y	1110		0.5

PROJECT NAME: Lockhart [redacted] Tank Battery

MONITORING WELL NO.: SB-3

LOCATION:

DRILL TYPE: Ingersoll-Rand

ELEVATION: TOP OF BORING (MSL): (ft)

GROUNDWATER ELEVATION (MSL): Dry (ft)

DRILLED BY: HARRISON & COOPER, INC.

BORE HOLE DIAMETER: 4 3/4 (in)

LOGGED BY: Clyde Yancey

DATE: HOLE STARTED: 2/19/01

COMPLETED: 2/19/01

REMARKS: ND=Non Detect

BGS=Below Ground Surface

NS=No Sample

ELEVATION (MSL) - ft	SAMPLE INTERVAL	CLASSIFICATION AND DESCRIPTION	USCS SYMBOL	BLOW COUNT	SAMPLE TO LAB	TIME	% RECOVERY	FID RESULT (ppm)
0.0		SAND, dark brown to tan, odor	SP	Hand-Auger		1115		13.9
		Silty SAND, dark brown, some oil present	SM	Hand-Auger	Y			71.0
-5.0		SAND wtih caliche, reddish tan	SP	Hand-Auger				34.0
		Silty SAND, reddish tan	SM	PUSHED				11.2
		Sandy SILT, reddish tan	ML	PUSHED				7.5
-10.0		Sandy SILT, light green to gray	ML	PUSHED				4.3
		Sandy SILT with interbedded clay, light green to gray and brown	ML	PUSHED				25.2
-15.0		Silty SAND, tan, clean	SM	PUSHED				5.3
		SILT with caliche from 17.5 to 18.0 ft, tan	ML	PUSHED				5.2
		SILT with caliche, tanish white	ML	PUSHED	Y	1205		2.3
-20.0								

20.0

Split Spoon Sample (ASTM D1586)

1690016-100 | MAXIM TECHNOLOGIES, INC. | EXPLORATORY BORING LOG | SB-3

PROJECT NAME: Lockhart [redacted] Tank Battery

MONITORING WELL NO.: SB-4

LOCATION:

DRILL TYPE: Ingersoll-Rand

ELEVATION: TOP OF BORING (MSL): (ft)

GROUNDWATER ELEVATION (MSL): Dry (ft)

DRILLED BY: HARRISON & COOPER, INC.

BORE HOLE DIAMETER: 4 3/4 (in)

LOGGED BY: Clyde Yancey

DATE: HOLE STARTED: 2/19/01

COMPLETED: 2/19/01

REMARKS: ND=Non Detect

BGS=Below Ground Surface

NS=No Sample

ELEVATION (MSL) - ft	SAMPLE INTERVAL	CLASSIFICATION AND DESCRIPTION	USCS SYMBOL	BLOW COUNT	SAMPLE TO LAB	TIME	% RECOVERY	FID RESULT (ppm)
0.0		Silty SAND, dark brown	SM	Hand-Auger	Y	1220		6.9
		Silty SAND, dark brown	SM					
		SILT with caliche, white	ML	Hand-Auger				2.0
-5.0		Silty SAND, tan	SM	Hand-Auger				1.5
		Silty SAND, tan	SM					
		SILT with caliche	SM	PUSHED				0.8
		Sandy SILT, dark brown	ML	PUSHED				2.7
-10.0		Sandy SILT, dark tan, indurated	ML	PUSHED				0.7
		Silty SAND, white, fine - grained	SM	PUSHED	Y	1230		0.1

14.0

Split Spoon Sample (ASTM D1586)

1690016-100 | MAXIM TECHNOLOGIES, INC. | EXPLORATORY BORING LOG | SB-4

PROJECT NAME: Lockhart A-27 Tank Battery

MONITORING WELL NO.: SB-5

LOCATION:

DRILL TYPE: Ingersoll-Rand

ELEVATION: TOP OF BORING (MSL): (ft)

GROUNDWATER ELEVATION (MSL): Dry (ft)

DRILLED BY: HARRISON & COOPER, INC.

BORE HOLE DIAMETER: 4 3/4 (in)

LOGGED BY: Clyde Yancey

DATE: HOLE STARTED: 2/19/01

COMPLETED: 2/19/01

REMARKS: ND=Non Detect

BGS=Below Ground Surface

NS=No Sample

ELEVATION (MSL) - ft	SAMPLE INTERVAL	CLASSIFICATION AND DESCRIPTION	USCS SYMBOL	BLOW COUNT	SAMPLE TO LAB	TIME	% RECOVERY	FID RESULT (ppm)
0.0		Silty SAND, reddish brown	SM	Hand-Auger	Y	1240		7.9
		Sandy SILT, brown	ML	Hand-Auger				2.2
-5.0		Sandy SILT with caliche, brown	ML	Hand-Auger				2.8
		Sandy SILT, brown, indurated	ML					
		Sandy SILT, with caliche, brown	ML	PUSHED				2.6
		Sandy SILT, white, indurated	ML	PUSHED				6.2
-10.0		Sandy SILT, white, increasing caliche content	ML	PUSHED				1.1
		SILT with caliche, white	ML	PUSHED	Y	1305		1.2

PROJECT NAME: Lockhart [redacted] Tank Battery

MONITORING WELL NO.: SB-6

LOCATION:

DRILL TYPE: Ingersoll-Rand

ELEVATION: TOP OF BORING (MSL): (ft)

GROUNDWATER ELEVATION (MSL): Dry (ft)

DRILLED BY: HARRISON & COOPER, INC.

BORE HOLE DIAMETER: 4 3/4 (in)

LOGGED BY: Clyde Yancey

DATE: HOLE STARTED: 2/19/01

COMPLETED: 2/19/01

REMARKS: ND=Non Detect

BGS=Below Ground Surface

NS=No Sample

ELEVATION (MSL) - ft	SAMPLE INTERVAL	CLASSIFICATION AND DESCRIPTION	USCS SYMBOL	BLOW COUNT	SAMPLE TO LAB	TIME	% RECOVERY	FID RESULT (ppm)
0.0		Silty SAND intermixed with hydrocarbon saturation	SM	PUSHED		1310		280.0
		Silty SAND intermixed with hydrocarbon saturation	SM	PUSHED	Y			512.0
-5.0		Silty SAND intermixed with hydrocarbon saturation	SM	PUSHED	Y			235.0
		Silty SAND intermixed with hydrocarbon saturation	SM	PUSHED				383.0
		Silty SAND intermixed with hydrocarbon saturation	SM	PUSHED				260.0
-10.0		Silty SAND intermixed with hydrocarbon saturation						
		Clayey SILT, tan	ML	PUSHED				311.0
		Sandy SILT, light green	ML	PUSHED				260.0
-15.0		Clayey SILT, gray to green	ML	PUSHED				476.0
		Clayey SILT, gray to green	ML	PUSHED				344.0
		Clayey SILT, gray to green	ML	PUSHED				110.0
-20.0		SILT, tan, very hard, indurated	ML	PUSHED				155.0
		SILT, tan, very hard, indurated	ML					
		SILT with sand, white, very hard, indurated						
		SAND, white, indurated	SP	PUSHED	Y	1415		3.2
-25.0								

25.0

Split Spoon Sample (ASTM D1586)

1690016-100 | MAXIM TECHNOLOGIES, INC. | **EXPLORATORY BORING LOG** | **SB-6**

PROJECT NAME: Lockhart A-27 Tank Battery

LOCATION:

DRILL TYPE: Ingersoll-Rand

DRILLED BY: HARRISON & COOPER, INC.

LOGGED BY: Clyde Yancey

REMARKS: ND=Non Detect
BGS=Below Ground Surface

MONITORING WELL NO. SB-7

ELEVATION: TOP OF BORING (MSL): (ft)

GROUNDWATER ELEVATION (MSL): Dry (ft)

BORE HOLE DIAMETER: 4 3/4 (in)

DATE: HOLE STARTED: 2/19/01

COMPLETED: 2/19/01

NS=No Sample

ELEVATION (MSL) - ft	SAMPLE INTERVAL	CLASSIFICATION AND DESCRIPTION	USCS SYMBOL	BLOW COUNT	SAMPLE TO LAB	TIME	% RECOVERY	FID RESULT (ppm)
0.0		Silty SAND intermixed with hydrocarbon saturation	SM	PUSHED		1420		595.0
		Silty SAND intermixed with hydrocarbon saturation	SM	PUSHED				887.0
-5.0		Silty SAND intermixed with hydrocarbon saturation	SM	PUSHED	Y			623.0
		Silty SAND intermixed with hydrocarbon saturation	SM	PUSHED	Y			1400.(
		Silty SAND intermixed with hydrocarbon saturation	SM					
		Clay, brown to green	SM	PUSHED				650.0
-10.0		Sandy SILT, brown	ML	PUSHED				1053.(
		Sandy SILT, tan	ML	PUSHED				1200.(
-15.0		Sandy SILT, tan	ML	PUSHED				1311.(
		Sandy SILT, tan	ML	PUSHED				546.0
		SILT, gray to green	ML	PUSHED				306.0
-20.0		SAND, hard	SP					
		SILT with caliche, white	ML	PUSHED	Y	1515		1.9
-25.0								

25.0

Split Spoon Sample (ASTM D1586)

1690016-100 | MAXIM TECHNOLOGIES, INC. | EXPLORATORY BORING LOG | SB-7

PROJECT NAME: Lockhart [illegible]27 Tank Battery

LOCATION:

DRILL TYPE: Ingersoll-Rand

DRILLED BY: HARRISON & COOPER, INC.

LOGGED BY: Clyde Yancey

REMARKS: ND=Non Detect
BGS=Below Ground Surface

MONITORING WELL NO. SB-7

ELEVATION: TOP OF BORING (MSL): (ft)

GROUNDWATER ELEVATION (MSL): Dry (ft)

BORE HOLE DIAMETER: 4 3/4 (in)

DATE: HOLE STARTED: 2/19/01

COMPLETED: 2/19/01

NS=No Sample

ELEVATION (MSL) - ft	SAMPLE INTERVAL	CLASSIFICATION AND DESCRIPTION	USCS SYMBOL	BLOW COUNT	SAMPLE TO LAB	TIME	% RECOVERY	FID RESULT (ppm)
0.0		Silty SAND intermixed with hydrocarbon saturation	SM	PUSHED		1420		595.0
		Silty SAND intermixed with hydrocarbon saturation	SM	PUSHED				887.0
-5.0		Silty SAND intermixed with hydrocarbon saturation	SM	PUSHED	Y			623.0
		Silty SAND intermixed with hydrocarbon saturation	SM	PUSHED	Y			1400.0
		Silty SAND intermixed with hydrocarbon saturation	SM					
		Clay, brown to green	SM	PUSHED				650.0
-10.0		Sandy SILT, brown	ML	PUSHED				1053.0
		Sandy SILT, tan	ML	PUSHED				1200.0
-15.0		Sandy SILT, tan	ML	PUSHED				1311.0
		Sandy SILT, tan	ML	PUSHED				546.0
		SILT, gray to green	ML	PUSHED				306.0
-20.0		SAND, hard	SP					
		SILT with caliche, white	ML	PUSHED	Y	1515		1.9
-25.0								

25.0

Split Spoon Sample (ASTM D1586)

1690016-100

MAXIM TECHNOLOGIES, INC.

EXPLORATORY BORING LOG **SB-7**

PROJECT NAME: Lockhart A-27 Tank Battery

MONITORING WELL NO: SB-8

LOCATION:

DRILL TYPE: Ingersoll-Rand

ELEVATION: TOP OF BORING (MSL): (ft)

GROUNDWATER ELEVATION (MSL): Dry (ft)

DRILLED BY: HARRISON & COOPER, INC.

BORE HOLE DIAMETER: 4 3/4 (in)

LOGGED BY: Clyde Yancey

DATE: HOLE STARTED: 2/19/01

COMPLETED: 2/19/01

REMARKS: ND=Non Detect

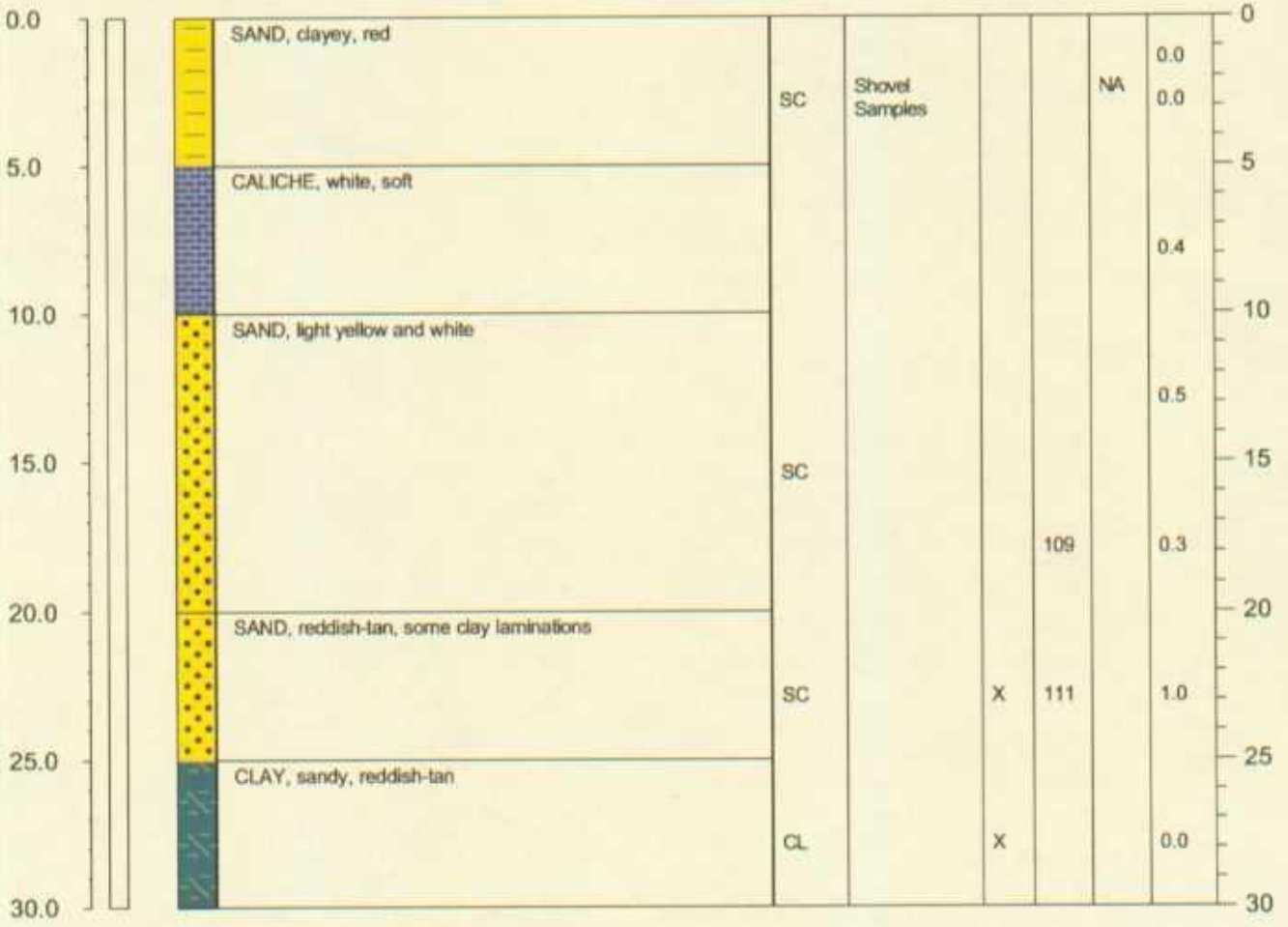
BGS=Below Ground Surface

NS=No Sample

ELEVATION (MSL) - ft	SAMPLE INTERVAL	CLASSIFICATION AND DESCRIPTION	USCS SYMBOL	BLOW COUNT	SAMPLE TO LAB	TIME	% RECOVERY	FID RESULT (ppm)
0.0		Silty SAND, red to brown	SM	PUSHED	Y	1520		1.8
		Silty SAND, red to brown	SM					
		Sandy SILT, gray	ML	PUSHED				3.6
-5.0		Sandy SILT, gray	ML	PUSHED				2.3
		Sandy SILT, gray to dark brown	ML	PUSHED				1.9
		Sandy SILT, dark brown to grayish green, indurated	ML	PUSHED				3.2
-10.0		SILT, greenish gray to tan	ML	PUSHED	Y	1600		2.1

PROJECT NAME: Maxim #2690022/100
LOCATION: Lockhart A-27; Eunice, Lea County, NM
DRILLED BY: Scott Scarbourough
DATE HOLE DRILLED: 5/29/02
DATE ABANDONED: 5/29/02
REMARKS: bgs = below ground surface
NS=Not Sampled
NA=Not Applicable
TPH=total petrolem hydrocarbons

SOIL VAPOR BORING NO. LB-1
FIELD LOGGED BY: F. Lichnovsky
GROUNDWATER LEVEL (bgs): Not Encountered (ft)
DRILL TYPE: Air Rotary
Ford Midway
BORE HOLE DIAMETER: 6.25 (in)



Boring Terminated at 30.0' bgs

* TPH measured using PetroFlag Kit

2690022/100	MAXIM TECHNOLOGIES INC*	EXPLORATORY BORING LOG	LB-1

PROJECT NAME: Maxim #2690022/100
LOCATION: Lockhart A-27; Eunice, Lea County, NM

DRILLED BY: Scott Scarbourough
DATE HOLE DRILLED: 5/29/02
DATE ABANDONED: 5/29/02
REMARKS: bgs = below ground surface
NS=Not Sampled
NA=Not Applicable
TPH=total petroleum hydrocarbons

SOIL VAPOR BORING NO.: LB-2
FIELD LOGGED BY: F. Lichnovsky
GROUNDWATER LEVEL (bgs): Not Encountered (ft)
DRILL TYPE: Air Rotary
Ford Midway
BORE HOLE DIAMETER: 6.25 (in)

DEPTH (bgs) - ft	SAMPLE INTERVAL/ID #	CLASSIFICATION AND DESCRIPTION	USCS SYMBOL	BLOW COUNT	LAB ANALYTICAL	*TPH Field Result	% RECOVERY	PID RESULT (ppm)	DEPTH (bgs) - ft
0.0		SAND, clayey, red	SC	Shovel Samples			NA	0.2	0
								0.2	
5.0		CALICHE, white, soft							5
								1.0	
10.0		CLAY, sandy, reddish-tan							10
								0.7	
15.0		SAND, light yellow and white	SC						15
			SC			84		0.4	
20.0		CLAY, sandy, white							20
			CL		X	104		0.5	
25.0		CLAY, sandy, light yellow and tan							25
			CL		X			0.5	
30.0									30

Boring Terminated at 30.0' bgs

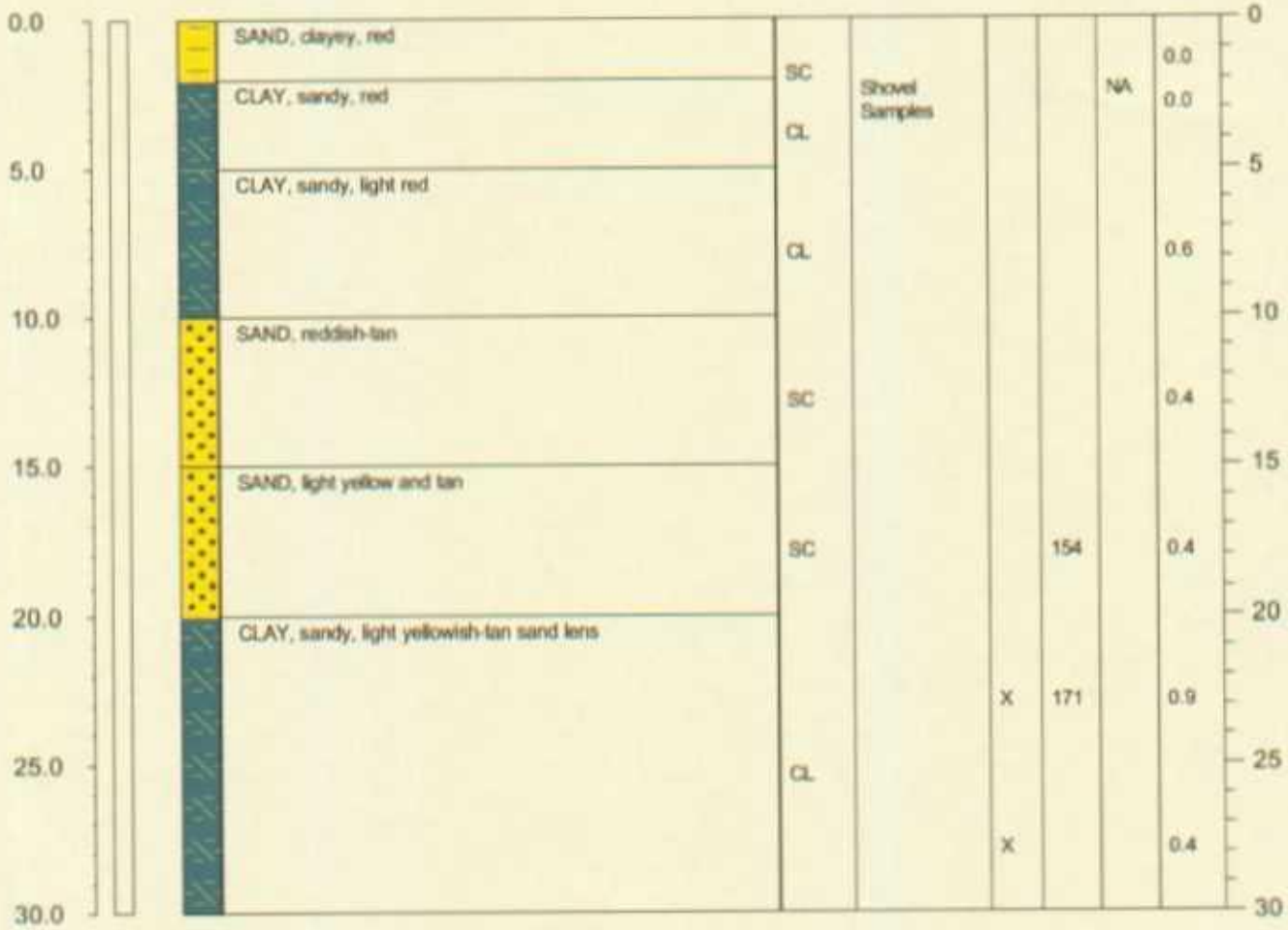
* TPH measured using PetroFlag Kit

2690022/100	MAXIM TECHNOLOGIES INC	EXPLORATORY BORING LOG	LB-2

PROJECT NAME: Maxim #2690022/100
LOCATION: Lockhart A-27; Eunice, Lea County, NM

DRILLED BY: Scott Scarbourough
DATE HOLE DRILLED: 5/29/02
DATE ABANDONED: 5/29/02
REMARKS: bgs = below ground surface
NS=Not Sampled
NA=Not Applicable
TPH=total petrolem hydrocarbons

SOIL VAPOR BORING NO.: LB-3
FIELD LOGGED BY: F. Lichnovsky
GROUNDWATER LEVEL (bgs): Not Encountered (ft)
DRILL TYPE: Air Rotary
Ford Midway
BORE HOLE DIAMETER: 6.25 (in)



Boring Terminated at 30.0' bgs

* TPH measured using PetroFlag Kit

2690022/100	MAXIM TECHNOLOGIES INC	EXPLORATORY BORING LOG	LB-3

PROJECT NAME: Maxim #2690022/100
LOCATION: Lockhart A-27; Eunice, Lea County, NM

DRILLED BY: Scott Scarbourough
DATE HOLE DRILLED: 5/29/02
DATE ABANDONED: 5/29/02
REMARKS: bgs = below ground surface
NS=Not Sampled
NA=Not Applicable
TPH=total petrolem hydrocarbons

SOIL VAPOR BORING NO: LB-4
FIELD LOGGED BY: F. Lichnovsky
GROUNDWATER LEVEL (bgs): Not Encountered (ft)
DRILL TYPE: Air Rotary
Ford Midway
BORE HOLE DIAMETER: 6.25 (in)

DEPTH (bgs) - ft	SAMPLE INTERVAL/ID #	CLASSIFICATION AND DESCRIPTION	USCS SYMBOL	BLOW COUNT	LAB ANALYTICAL	*TPH Field Result	% RECOVERY	PID RESULT (ppm)	DEPTH (bgs) - ft
0.0		SAND, clayey, red	SC	Shovel Samples			NA	1.3	0
		CLAY, sandy, red	CL					1.3	
5.0		CLAY, sandy, light red	CL					1.1	5
10.0		SAND, light yellow to white	SC					1.3	10
15.0						141		0.9	15
20.0		CLAY, sandy, light yellowish-tan sand lens	CL		X	189		0.6	20
25.0		SAND, light yellow to light tan	SC		X			0.9	25
30.0									30

Boring Terminated at 30.0' bgs

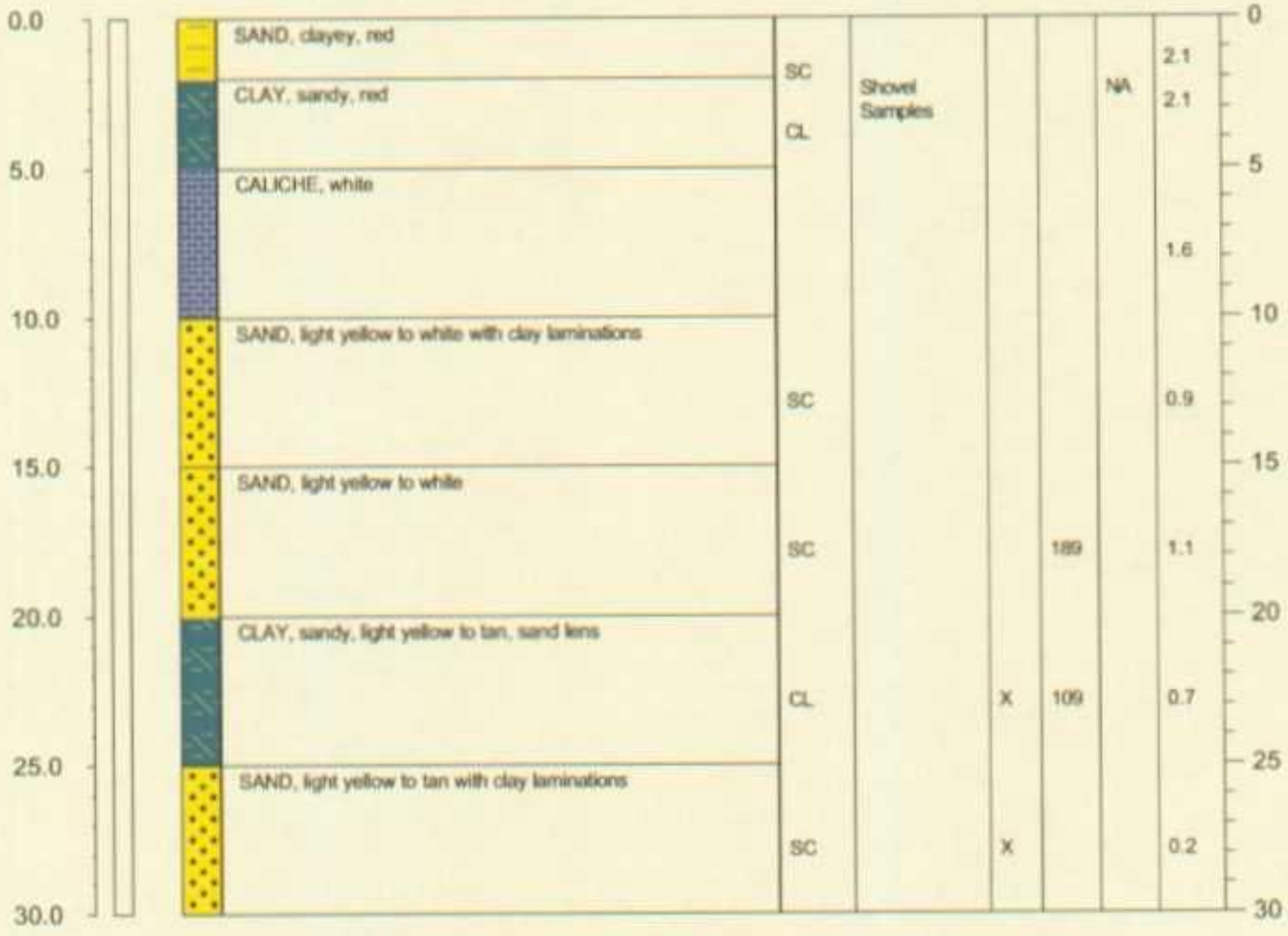
* TPH measured using PetroFlag Kit

2690022/100	MAXIM TECHNOLOGIES INC.	EXPLORATORY BORING LOG	LB-4

PROJECT NAME: Maxim #2690022/100
LOCATION: Lockhart A-27; Eunice, Lea County, NM

DRILLED BY: Scott Scarbourough
DATE HOLE DRILLED: 5/29/02
DATE ABANDONED: 5/29/02
REMARKS: bgs = below ground surface
NS=Not Sampled
NA=Not Applicable
TPH=total petrolem hydrocarbons

SOIL VAPOR BORING NO: LB-5
FIELD LOGGED BY: F. Lichnovsky
GROUNDWATER LEVEL (bgs): Not Encountered (ft)
DRILL TYPE: Air Rotary
Ford Midway
BORE HOLE DIAMETER: 6.25 (in)



Boring Terminated at 30.0' bgs

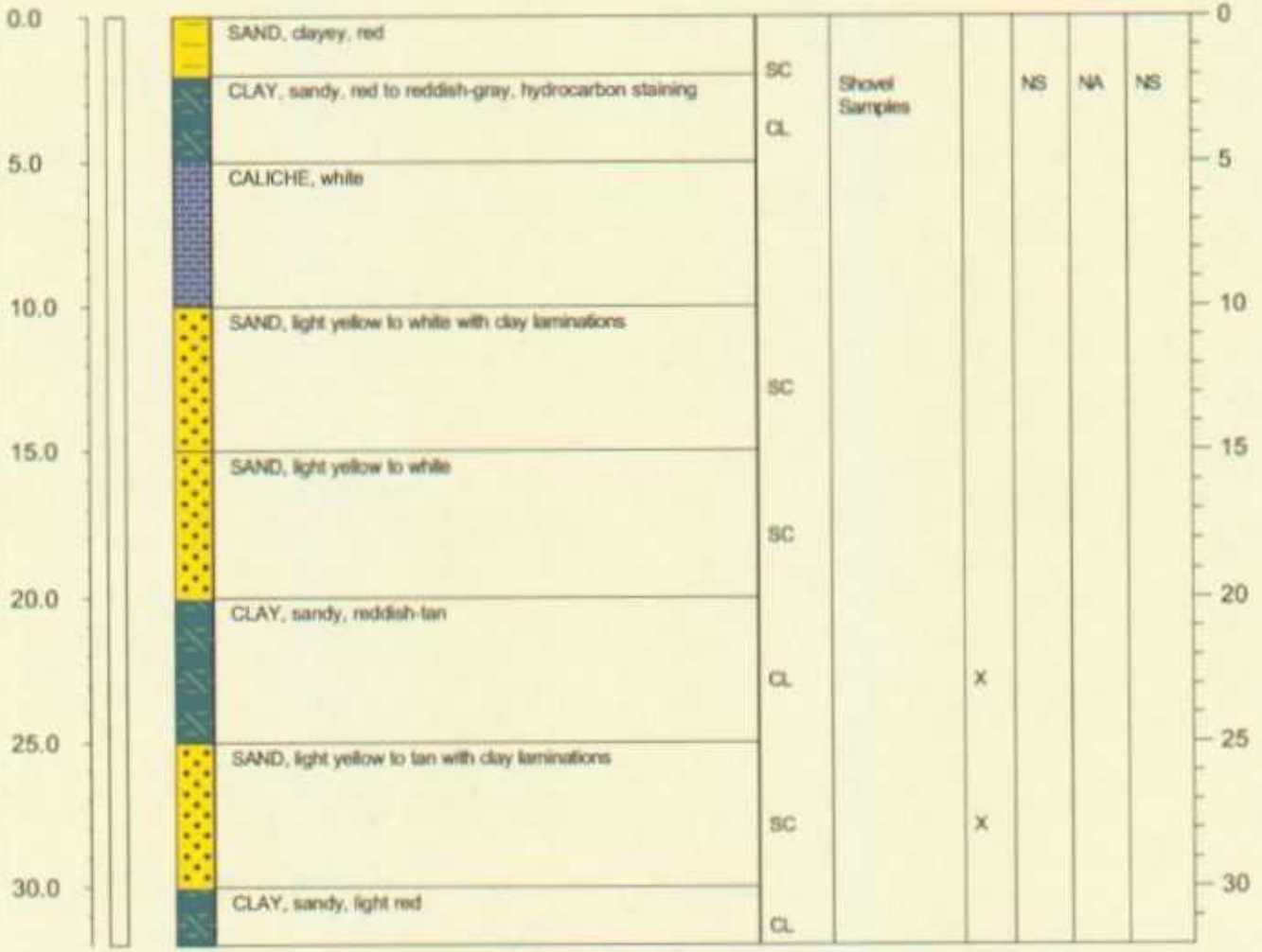
* TPH measured using PetroFlag Kit

2690022/100	MAXIM TECHNOLOGIES INC	EXPLORATORY BORING LOG	LB-5

PROJECT NAME: Maxim #2690022/100
LOCATION: Lockhart A-27; Eunice, Lea County, NM

DRILLED BY: Scott Scarbourough
DATE HOLE DRILLED: 5/29/02
DATE ABANDONED: 5/29/02
REMARKS: bgs = below ground surface
NS=Not Sampled
NA=Not Applicable
TPH=total petrolem hydrocarbons

SOIL VAPOR BORING NO: LB-6
FIELD LOGGED BY: F. Lichnovsky
GROUNDWATER LEVEL (bgs): Not Encountered (ft)
DRILL TYPE: Air Rotary
Ford Midway
BORE HOLE DIAMETER: 6.25 (in)



Boring Terminated at 32.0' bgs

* TPH measured using PetroFlag Kit

2690022/100	MAXIM TECHNOLOGIES INC	EXPLORATORY BORING LOG	LB-6

Price, Wayne

From: Price, Wayne
Sent: Monday, April 01, 2002 8:33 AM
To: 'Robert Harrington'; Price, Wayne
Cc: Neal Goates (E-mail); Tom Tangen
Subject: RE: Lockhart A-27 Excavation, Eunice New

APPROVED!

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

-----Original Message-----
From: Robert Harrington [mailto:rharring@maximusa.com]
Sent: Friday, March 29, 2002 9:01 AM
To: 'Price, Wayne'
Cc: Neal Goates (E-mail); Tom Tangen
Subject: RE: Lockhart A-27 Excavation, Eunice New Mexico

Wayne,

As requested, we are submitting a project completion date extension request via e-mail as discussed in previous emails between OCD, Conoco and Maxim and you and during a phone conversation with you on March 28, 2002. As noted below in past communications via email, a completion date of the first portion of April was set for the Lockart A-27 project. Due to work schedules and other issues concerning this project we request a project completion date extension to June 17, 2002. We are currently scheduling the work and anticipate field activities to begin in two weeks.

Please let me know if this extension is acceptable to OCD. Thank you for your time.

Robert L. Harrington
Maxim Technologies, Inc.
10601 Lomas NE, Suite 106
Albuquerque, New Mexico 87112

-----Original Message-----
From: Price, Wayne [mailto:WPrice@state.nm.us]
Sent: Thursday, March 28, 2002 10:25 AM
To: 'Robert Harrington'
Subject: RE: Lockhart A-27 Excavation, Eunice New Mexico

Please supply OCD with your anticipated date and request an extension.

-----Original Message-----
From: Robert Harrington [mailto:rharring@maximusa.com]
Sent: Thursday, March 28, 2002 9:14 AM
To: Wayne Price (E-mail)
Cc: Neal Goates (E-mail); ','
Subject: Lockhart A-27 Excavation, Eunice New Mexico

Wayne,

I would like to take this opportunity to introduce myself and to communicate the progress of the Lockhart A-27 OCD Case #1R0345 located north of Eunice, New Mexico.

I will be taking over the closure activities of the above mentioned project to lighten Tom's load a little. I am a Civil Engineer with Maxim and have been working out of the Albuquerque office for over a year now, mostly on uranium mine reclamation. I hope that I may be of any service to you as we commence work at the above noted project.

I would like to get you up to date on the Lockhart A-27 activities. In an e-mail letter from you to Neal Goates with Conoco dated February 26, 2002, you outlined a submittal date for the closure report of April 02, 2002. Due to work schedules and other issues concerning this project, the excavation and haulage of the impacted soils have not yet begun. We do not anticipate meeting that tentative date and would like to discuss an extension to allow the completion of this project. The work at the Lockart A-27 site is currently being scheduled.

Please feel free to contact me to discuss this further at your earliest convenience.

Thank you,

Robert L. Harrington
Maxim Technologies, Inc.
10601 Lomas NE, Suite 106
Albuquerque, New Mexico 87112

Price, Wayne

From: Tom Tangen

Sent: Monday, February 25, 2002 2:06 PM

To: Wayne Price (wprice@state.nm.us)

Wayne,
Sorry about the date confusion. Here is the correct document with the correct date.

Tom Tangen
Maxim Technologies, Inc.
10601 Lomas NE, Suite 106
Albuquerque, NM 87112
ph: 505.237.8440
fax: 505.237.8656
email: ttangen@maximusa.com

MAXIM
TECHNOLOGIES INC
10601 Lomas NE, Suite 106
Albuquerque, New Mexico 87112
Office: 505-237-8440
Fax: 505-237-8656

January 15, 2002

Mr. Neal Goates
Conoco Inc.
600 North Dairy Ashford
Houston, TX 77079-1175

RE: Work Plan – Lockhart A-27 Excavation
Eunice, New Mexico
Maxim Project

Dear Neal:

Maxim Technologies, Inc. (Maxim) proposes the following work plan to address the hydrocarbon impacted soil at the Lockhart A-27 site based on the results of initial investigation activities conducted in the area north of the existing tank battery. This work plan was developed from discussions with Conoco's Remediation Technologies (RT) group and E&P Americas, and contains one task. Task 1 describes the agreed-upon approach for treatment of hydrocarbon impacted soil. Maxim's understanding is that dirt work to remediate the hydrocarbon impacted soil at the site (Task 1) can proceed after review of this plan by stakeholders.

A Preliminary Exposure Pathway Analysis (PEPA) was performed on the site by Maxim in 2001. The PEPA indicated that depth to groundwater in the area is approximately 50 – 55 feet below ground surface (bgs). Drilling conducted as part of the initial site investigation did not proceed to groundwater, but did indicate that a strata of relatively impermeable silty caliche material occurs about 20 – 22 feet below ground surface and appears to be the vertical limit of impacts. Based on these findings, Maxim and Conoco decided to excavate and haul impacted soil from the area to an appropriate receiving site and to backfill the excavation with clean soil. This approach was chosen because it provides protection for both groundwater and anticipated surface uses for the area.

Maxim will prepare a Health and Safety Plan (HASP) for the work to be conducted at the site. In addition to defining Personal Protective Equipment (PPE) requirements, site access restrictions, emergency procedures, the HASP will detail handling of site specific concerns such as traffic control on public roads used for haulage.

Scope of Work

Task 1: Excavation of Hydrocarbon Impacted Soil

Maxim will supervise and direct all subcontractor activities. Excavation of hydrocarbon impacted soil at the Lockhart A-27 site will continue until average soil concentrations of the following parameters are reached:

- 1000 parts per million (ppm) TPH,
- 50 ppm BTEX,
- 10 ppm Benzene.

These remediation targets are based on guidelines presented in *Guidelines for Remediation of Leaks, Spills, and Releases* promulgated on August 13, 1993 by the New Mexico Oil Conservation Division. Maxim will perform field screening of samples from the walls and floor of the excavation with a photoionization detector (PID) and/or with a Total Petroleum Hydrocarbon (TPH) field screening kit. Confirmation sampling of ultimate excavation walls and floor will be conducted. Soil samples will be analyzed at Severn-Trent Laboratories (STL) for TPH, BTEX, and chlorides.

Excavation and haulage will be performed by a loader and dumptrucks. If hard rock is encountered in the excavation, a trackhoe will be used break the material out for the loader. Excavated soil will be hauled to the Sundance landfill facility for disposal. Maxim is proposing to obtain clean soil from a borrow source belonging to the landowner. Replacement soil will be placed in the excavation by a dozer. No compaction is planned at the site other than will occur as a result of the dozer tracking into the excavation.

A complete report on activities and results associated with Task 1 will be submitted for Conoco review and dissemination to appropriate parties.

Project Schedule and Management

Maxim is prepared to commence work on this project immediately following receipt of your notification to proceed. Actual work start dates will be dependent upon how quickly subcontractors can be mobilized and miscellaneous final planning can be concluded. Maxim will keep Conoco RT and E&P Americas apprised of the status of all field activities. It should be noted that this scope of work may be subject to change.

Cost Estimate Assumptions

Equipment Direct Costs quoted for Task 1 in the attached Cost Estimate assume excavation and haulage of approximately 6,000 cubic yards. This assumption is based on soil volume estimates made after the initial investigation drilling and could be subject to adjustment in the field. Labor and direct costs do not include seeding the site. Additional assumptions are as follows:

- Compaction of replacement soil to engineering specifications will not be required,
- No rock will be encountered that cannot be excavated with a loader. If an additional machine is required to break rock, it will be charged on an hourly basis and is not reflected in the cost estimate,
- Replacement soil procurement was bid at $2.50 per cubic yard. Backhaul distance for replacement soil was assumed to be the same as distance to Sundance landfill,
- Decontamination of equipment will take place at completion of the project.

Project Team

Mr. Clyde L. Yancey will serve as the Project Manager, and will have the authority to commit whatever resources are necessary to support the project team. It will be his responsibility to assure that the Clients needs are met in terms of scope of work and schedule. Mr. Tom Tangen, Environmental Engineer, will oversee and direct all field related activities with assistance from Mr. Frank Lichnovsky of Maxim's Midland field office.

Maxim appreciates this opportunity to provide Conoco with this scope of work. If you should have any questions, please do not hesitate to call Clyde or me at 505-237-8440.

Sincerely,
MAXIM TECHNOLOGIES, INC.

Tom Tangen
Environmental Engineer

Price, Wayne

From: Price, Wayne
Sent: Monday, February 25, 2002 1:45
To: 'Goates, R. Neal'; Price, Wayne
Cc: Tom Tangen; Clyde L. Yancey
Subject: RE: Lockhart A27 Workplan (final)

Dear Neal:

The attached letter is dated Jan 15, 2001, however the recent report received in the mail is June 7, 2001. They have different recommendations for clean-up. Which one does Conoco proposes to submit for OCD approval.

-----Original Message-----
From: Goates, R. Neal [mailto:R-Neal.Goates@conoco.com]
Sent: Wednesday, February 13, 2002 3:11 PM
To: Wayne Price
Cc: Tom Tangen; Clyde L. Yancey
Subject: FW: Lockhart A27 Workplan (final)
Importance: High

Wayne,
To my knowledge the Lockhart A-27 site is the only project left that is still in progress that was not forwarded to NMOCD for concurrence prior to work commencement. The investigation was done in 2000 prior to my new assignment within the RT group via John Skopak and the work plan was just simply discussed during our annual meeting in Santa Fe on August 16, 2001 when Tom, Clyde and I visited You, Bill, and Roger. Tom will forward the assessment hard copy due to the attachments and below is the work plan. Your concurrence or comments would be appreciated. For your reference, this work plan has no deviations from the current guidelines (numeric ranking criteria) for leaks, spills, drips, and pits. Getting AFE approval from partners takes months and now that we have it funded I realized you did not comment. The site is owned by the Kannan Ranch and I want to do it right the first time.

Thanks.

Neal Goates
Remediation Project Manager
Mid-Continent BU, EP Americas, NG&GP

Conoco Inc.
600 N. Dairy Ashford
P.O. Box 2197
Houston, TX 77252-2197
(281) 293-3822
Fax (281)293-3305
Cell Phone: 832-465-4123

Price, Wayne

From: Goates, R. Neal [R-

Sent: Wednesday, February 13, 2002 3:11 PM

To: Wayne Price

Cc: Tom Tangen; Clyde L. Yancey

Subject: FW: Lockhart A27 Workplan (final)

Importance: High

Wayne,
To my knowledge the Lockhart A-27 site is the only project left that is still in progress that was not forwarded to NMOCD for concurrence prior to work commencement. The investigation was done in 2000 prior to my new assignment within the RT group via John Skopak and the work plan was just simply discussed during our annual meeting in Santa Fe on August 16, 2001 when Tom, Clyde and I visited You, Bill, and Roger. Tom will forward the assessment hard copy due to the attachments and below is the work plan. Your concurrence or comments would be appreciated. For your reference, this work plan has no deviations from the current guidelines (numeric ranking criteria) for leaks, spills, drips, and pits. Getting AFE approval from partners takes months and now that we have it funded I realized you did not comment. The site is owned by the Kannan Ranch and I want to do it right the first time.

Thanks.

Neal Goates
Remediation Project Manager
Mid-Continent BU, EP Americas, NG&GP

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MAXIM
TECHNOLOGIES INC
10601 Lomas NE, Suite 106
Albuquerque, New Mexico 87112
Office: 505-237-8440
Fax: 505-237-8656

January 15, 2001

Mr. Neal Goates
Conoco Inc.
600 North Dairy Ashford
Houston, TX 77079-1175

RE: Work Plan – Lockhart A-27 Excavation
Eunice, New Mexico
Maxim Project

Dear Neal:

Maxim Technologies, Inc. (Maxim) proposes the following work plan to address the hydrocarbon impacted soil at the Lockhart A-27 site based on the results of initial investigation activities conducted in the area north of the existing tank battery. This work plan was developed from discussions with Conoco's Remediation Technologies (RT) group and E&P Americas, and contains one task. Task 1 describes the agreed-upon approach for treatment of hydrocarbon impacted soil. Maxim's understanding is that dirt work to remediate the hydrocarbon impacted soil at the site (Task 1) can proceed after review of this plan by stakeholders.

A Preliminary Exposure Pathway Analysis (PEPA) was performed on the site by Maxim in 2001. The PEPA indicated that depth to groundwater in the area is approximately 50 – 55 feet below ground surface (bgs). Drilling conducted as part of the initial site investigation did not proceed to groundwater, but did indicate that a strata of relatively impermeable silty caliche material occurs about 20 – 22 feet below ground surface and appears to be the vertical limit of impacts. Based on these findings, Maxim and Conoco decided to excavate and haul impacted soil from the area to an appropriate receiving site and to backfill the excavation with clean soil. This approach was chosen because it provides protection for both groundwater and anticipated surface uses for the area.

Maxim will prepare a Health and Safety Plan (HASP) for the work to be conducted at the site. In addition to defining Personal Protective Equipment (PPE) requirements, site access restrictions, emergency procedures, the HASP will detail handling of site specific concerns such as traffic control on public roads used for haulage.

Scope of Work

Task 1: Excavation of Hydrocarbon Impacted Soil

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- 1000 parts per million (ppm) TPH,
- 50 ppm BTEX,
- 10 ppm Benzene.

These remediation targets are based on guidelines presented in *Guidelines for Remediation of Leaks, Spills, and Releases* promulgated on August 13, 1993 by the New Mexico Oil Conservation Division. Maxim will perform field screening of samples from the walls and floor of the excavation with a photoionization detector (PID) and/or with a Total Petroleum Hydrocarbon (TPH) field screening kit. Confirmation sampling of ultimate excavation walls and floor will be conducted. Soil samples will be analyzed at Severn-Trent Laboratories (STL) for TPH, BTEX, and chlorides.

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A complete report on activities and results associated with Task 1 will be submitted for Conoco review and dissemination to appropriate parties.

Project Schedule and Management

Maxim is prepared to commence work on this project immediately following receipt of your notification to proceed. Actual work start dates will be dependent upon how quickly subcontractors can be mobilized and miscellaneous final planning can be concluded. Maxim will keep Conoco RT and E&P Americas apprised of the status of all field activities. It should be noted that this scope of work may be subject to change.

Cost Estimate Assumptions

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- Compaction of replacement soil to engineering specifications will not be required,
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Mr. Clyde L. Yancey will serve as the Project Manager, and will have the authority to commit whatever resources are necessary to support the project team. It will be his responsibility to assure that the Clients needs are met in terms of scope of work and schedule. Mr. Tom Tangen, Environmental Engineer, will oversee and direct all field related activities with assistance from Mr. Frank Lichnovsky of Maxim's Midland field office.

Maxim appreciates this opportunity to provide Conoco with this scope of work. If you should have any questions, please do not hesitate to call Clyde or me at 505-237-8440.

Sincerely,
MAXIM TECHNOLOGIES, INC.

Tom Tangen
Environmental Engineer

Price, Wayne

From: Price, Wayne

Sent: Thursday, February 14, 2002 4:44

To: 'Goates, R. Neal'

Subject: RE: Lockhart A27 Workplan (final)

Please provide a few quality photos.

-----Original Message-----
From: Goates, R. Neal [mailto:R-Neal.Goates@conoco.com]
Sent: Wednesday, February 13, 2002 3:11 PM
To: Wayne Price
Cc: Tom Tangen; Clyde L. Yancey
Subject: FW: Lockhart A27 Workplan (final)
Importance: High

Wayne,
To my knowledge the Lockhart A-27 site is the only project left that is still in progress that was not forwarded to NMOCD for concurrence prior to work commencement. The investigation was done in 2000 prior to my new assignment within the RT group via John Skopak and the work plan was just simply discussed during our annual meeting in Santa Fe on August 16, 2001 when Tom, Clyde and I visited You, Bill, and Roger. Tom will forward the assessment hard copy due to the attachments and below is the work plan. Your concurrence or comments would be appreciated. For your reference, this work plan has no deviations from the current guidelines (numeric ranking criteria) for leaks, spills, drips, and pits. Getting AFE approval from partners takes months and now that we have it funded I realized you did not comment. The site is owned by the Kannan Ranch and I want to do it right the first time.

Thanks.

Neal Goates
Remediation Project Manager
Mid-Continent BU, EP Americas, NG&GP

Conoco Inc.
600 N. Dairy Ashford
P.O. Box 2197
Houston, TX 77252-2197
(281) 293-3822
Fax (281)293-3305
Cell Phone: 832-465-4123

Price, Wayne

From: Goates, R. Neal [R-Neal.Goates@conoco.com]
Sent: Friday, February 15, 2002 7:42 AM
To: Wayne Price
Cc: Clyde L. Yancey
Subject: FW: Lockhart A27 Workplan (final)


pa050005.jpg


pa050005.jpg

This is all I have as a current photo. I hope this will suffice.

See ya next week at the chlorides meeting.

Neal Goates
Remediation Project Manager
Mid-Continent BU, EP Americas, NG&GP

Conoco Inc.
600 N. Dairy Ashford
P.O. Box 2197
Houston, TX 77252-2197
(281) 293-3822
Fax (281)293-3305
Cell Phone: 832-465-4123

-----Original Message-----
From: Gatson, Leo
Sent: Friday, February 15, 2002 8:32 AM
To: Goates, R. Neal
Subject: RE: Lockhart A27 Workplan (final)

<<pa050005.jpg>>

-----Original Message-----
From: Goates, R. Neal
Sent: Friday, February 15, 2002 8:22 AM
To: Gatson, Leo
Subject: FW: Lockhart A27 Workplan (final)
Importance: High

Leo,
Do you have any Lockhart A 27 JPG. Photos outside of the historic photo?

Neal Goates
Remediation Project Manager
Mid-Continent BU, EP Americas, NG&GP

Conoco Inc.
600 N. Dairy Ashford
P.O. Box 2197
Houston, TX 77252-2197
(281) 293-3822
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<<pa050005.jpg>>