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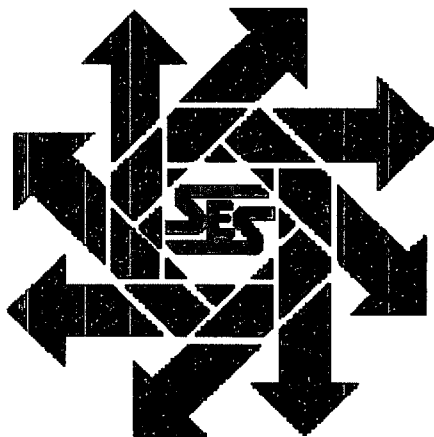
**Navajo Refining Company  
Crouch Mainline  
Site Investigation**

**Section 15, Township 17S, Range 36E  
Lea County, New Mexico**

UNIT  
LETTER  
N

**March 20, 2003**

~~SECRET~~



***Prepared for:***

**Navajo Refining Company  
P.O. Box 159  
Artesia, New Mexico 88211**

***By:***

***Safety & Environmental Solutions, Inc.  
703 E. Clinton Suite 103  
Hobbs, New Mexico 88240  
(505) 397-0510***

Navajo-94081  
facility-PPAC 0603932083  
application-PPAC 0603932223

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## I. Background

Safety & Environmental Solutions, Inc. (SESI) was contracted by Navajo Refining Corporation to perform a site investigation of the Crouch Pig Station. The subject area is located in Section 15, Township 17S, Range 36E, in Lea County, New Mexico.

## II. Surface and Ground Water

According to the database provided by the New Mexico State Engineer's Office, the groundwater depth for Section 15, Range 36E, Township 17S is 36.89. This measurement was taken on February 1, 1996.

## III. Soils

The soils in the area are predominantly sand and sandy loam.

12.1.1966  
water @ 40'  
SE 15 SW 4 of SW

## IV. Work Performed

### Drilling of Boreholes

On March 3, 2003 SESI drilled Borehole # 1 17.5' east of the Navajo Couch Pig Station to a depth of 5 feet. After drilling to the 5' depth the drilling rig had a mechanical failure. A sample was taken at that depth and sent under chain of custody to Cardinal Laboratories of Hobbs, New Mexico for analysis. The sample was analyzed for TPH (EPA method 600/4-79-020 418.1), BTEX (EPA Method SW-846), and Chlorides (EPA methods 4500-Cl<sup>-</sup>B). The results of the analysis are as follows:

ID	TPH	Cl <sup>-</sup>	Benzene	Toluene	Ethyl Benzene	Total Xylenes
BH-1 5'	19200	176	<0.005	0.008	<0.005	1.91

On March 4, 2003 SESI returned to location to resume drilling of borehole #1 and drilled Boreholes #2-#6.

Borehole # 1 was drilled to a depth of 14 feet. Samples were taken at 6', 9-10', and 13-14'. The samples were sent under chain of custody to Cardinal Laboratories for analysis. All samples were analyzed for TPH (EPA method 600/4-79-020 418.1) and BTEX (EPA Method SW-846). In addition to TPH and BTEX the 6' sample was tested for Chlorides (EPA methods 4500-Cl<sup>-</sup>B). The results of the analysis are as follows:

ID	TPH	Cl <sup>-</sup>	Benzene	Toluene	Ethyl Benzene	Total Xylenes
BH-1 6'	4060	112	<0.005	<0.005	0.016	0.795
BH-1 9-10'	790	-	<0.005	<0.005	<0.005	<0.015
BH-1 13-14'	<10	-	<0.005	<0.005	<0.005	<0.015

Borehole # 2 was drilled 16.5' east of the Crouch Pig Station to a depth of 8 feet. Samples were taken at 5', and 7-8'. The samples were sent under chain of custody to Cardinal Laboratories for analysis. All samples were analyzed for TPH (EPA method 600/4-79-020 418.1) and BTEX (EPA Method SW-846). In addition to TPH and BTEX the 5' sample was tested for Chlorides (EPA methods 4500-Cl<sup>-</sup>B). The results of the analysis are as follows:

ID	TPH	Cl <sup>-</sup>	Benzene	Toluene	Ethyl Benzene	Total Xylenes
BH-2 5'	1360	80	<0.005	<0.005	0.020	0.086
BH-2 7-8'	115	-	<0.005	<0.005	<0.005	<0.015

Borehole # 3 was drilled 21' north & 20' east of the Crouch Pig Station to a depth of 28 feet. Samples were taken at 3-4', 8-9', 15', 22-23' and 28'. The samples were sent under chain of Custody to Cardinal Laboratories for analysis. All samples were analyzed for TPH (EPA method 600/4-79-020 418.1) and BTEX (EPA Method SW-846). In addition to TPH and BTEX the 3-4' sample was tested for Chlorides (EPA methods 4500-Cl<sup>-</sup>B). The results of the analysis are as follows:

ID	TPH	Cl <sup>-</sup>	Benzene	Toluene	Ethyl Benzene	Total Xylenes
BH-3 3-4'	7570	64	<0.005	0.209	7.14	11.8
BH-3 8-9'	16000	-	<0.005	0.027	5.46	5.41
BH-3 15'	48.8	-	<0.005	<0.005	<0.005	<0.015
BH-3 18'	29.7	-	<0.005	<0.005	<0.005	<0.015
BH-3 22-23'	367	-	<0.005	<0.005	<0.005	<0.015
BH-3 28'	<10	-	<0.005	<0.005	<0.005	<0.015

During the installation of Borehole#3, SESI personnel detected an unusual odor from samples taken at 3-4 and 8-9 feet. For this reason, it was decided to analyze these samples for Volatiles (EPA method SW-846-8260). The following table represents the compounds detected in excess of regulatory limits. It should be noted that there were no chlorinated solvents detected. See appendix A for details.

BH-3, 3-4'	Sample Result
31 Toluene	0.209
40 Ethylbenzene	7.15
41 m, p-Xylene	10.1
44 o-Xylene	1.66
47 Isopropylbenzene	1.87
50 n-propylbenzene	2.24
52 1, 3, 5-Trimethylbenzene	1.45
54 1, 2, 4-Trimethylbenzene	4.62
56 sec-Butylbenzene	1.07
58 4-Isopropyltoluene	0.477
60 n-Butylbenzene	1.44
64 Naphthalene	1.31

BH-3, 8-9'	Sample Result
13 2-Butanone	14.4
40 Ethylbenzene	5.46
41 m, p-Xylene	5.27
44 o-Xylene	0.143
47 Isopropylbenzene	7.44
50 n-propylbenzene	0.503
52 1, 3, 5-Trimethylbenzene	2.84
54 1, 2, 4-Trimethylbenzene	6.31
56 sec-Butylbenzene	6.12
58 4-Isopropyltoluene	2.14
60 n-Butylbenzene	5.75
64 Naphthalene	0.445

Borehole # 4 was drilled 29' north & 38' east of the Crouch Pig Station to a depth of 15 feet. Samples were taken at 3-4', 6', 9', and 15'. The samples were sent under chain of Custody to Cardinal Laboratories for analysis. All samples were analyzed for TPH (EPA method 600/4-79-020 418.1) and BTEX (EPA Method SW-846). In addition to TPH and BTEX the 3-4' sample was tested for Chlorides (EPA methods 4500-Cl<sup>-</sup>B). The results of the analysis are as follows:

ID	TPH	Cl <sup>-</sup>	Benzene	Toluene	Ethyl Benzene	Total Xylenes
BH-4 3-4'	9740	80	0.046	12.1	30.0	51.7
BH-4 6'	4300	-	<0.005	0.019	0.135	0.680
BH-4 9'	24.5	-	<0.005	<0.005	<0.005	<0.015
BH-4 15'	<10	-	<0.005	<0.005	<0.005	<0.015

During the installation of Borehole #4, SESI personnel detected an unusual odor from the sample taken at 3-4 feet. For this reason, it was decided to analyze these samples for Volatiles (EPA method SW-846-8260). The following table represents the compounds detected in excess of regulatory limits. It should be noted that there were no chlorinated solvents detected. See appendix A for details.

BH-4, 3-4'	Sample Result
13 2-Butanone	1.09
21 Benzene	0.045
31 Toluene	12.1
40 Ethylbenzene	30.0
41 m, p-Xylene	35.1
44 o-Xylene	16.5
47 Isopropylbenzene	2.87
50 n-propylbenzene	3.96
52 1, 3, 5-Trimethylbenzene	1.77
54 1, 2, 4-Trimethylbenzene	8.36
56 sec-Butylbenzene	1.50
58 4-Isopropyltoluene	0.626
60 n-Butylbenzene	2.02
64 Naphthalene	1.88

Borehole # 5 was drilled 37' north & 52' east of the Crouch Pig Station to a depth of 15 feet. Samples were taken at 5', 7-8', and 15'. The samples were sent under chain of Custody to Cardinal Laboratories for analysis. All samples were analyzed for TPH (EPA method 600/4-79-020 418.1) and BTEX (EPA Method SW-846). In addition to TPH & BTEX the 5' sample was tested for Chlorides (EPA methods 4500-Cl<sup>-</sup>B). The results of the analysis are as follows:

ID	TPH	Cl <sup>-</sup>	Benzene	Toluene	Ethyl Benzene	Total Xylenes
BH-5 5'	1180	80	<0.005	0.007	0.402	0.916
BH-5 7-8'	777	-	<0.005	<0.005	0.055	0.202
BH-5 15'	<10	-	<0.005	<0.005	<0.005	<0.015

Borehole # 6 was drilled 19' east of the Crouch Pig Station to a depth of 20 feet. Samples were taken at 4-5', 8', 12-13', 15', and 20'. The samples were sent under chain of Custody to Cardinal Laboratories for analysis. All samples were analyzed for TPH (EPA method 600/4-79-020 418.1) and BTEX (EPA Method SW-846). In addition to TPH and BTEX the 4-5' sample was tested for Chlorides (EPA methods 4500-Cl<sup>-</sup>B). The results of the analysis are as follows:

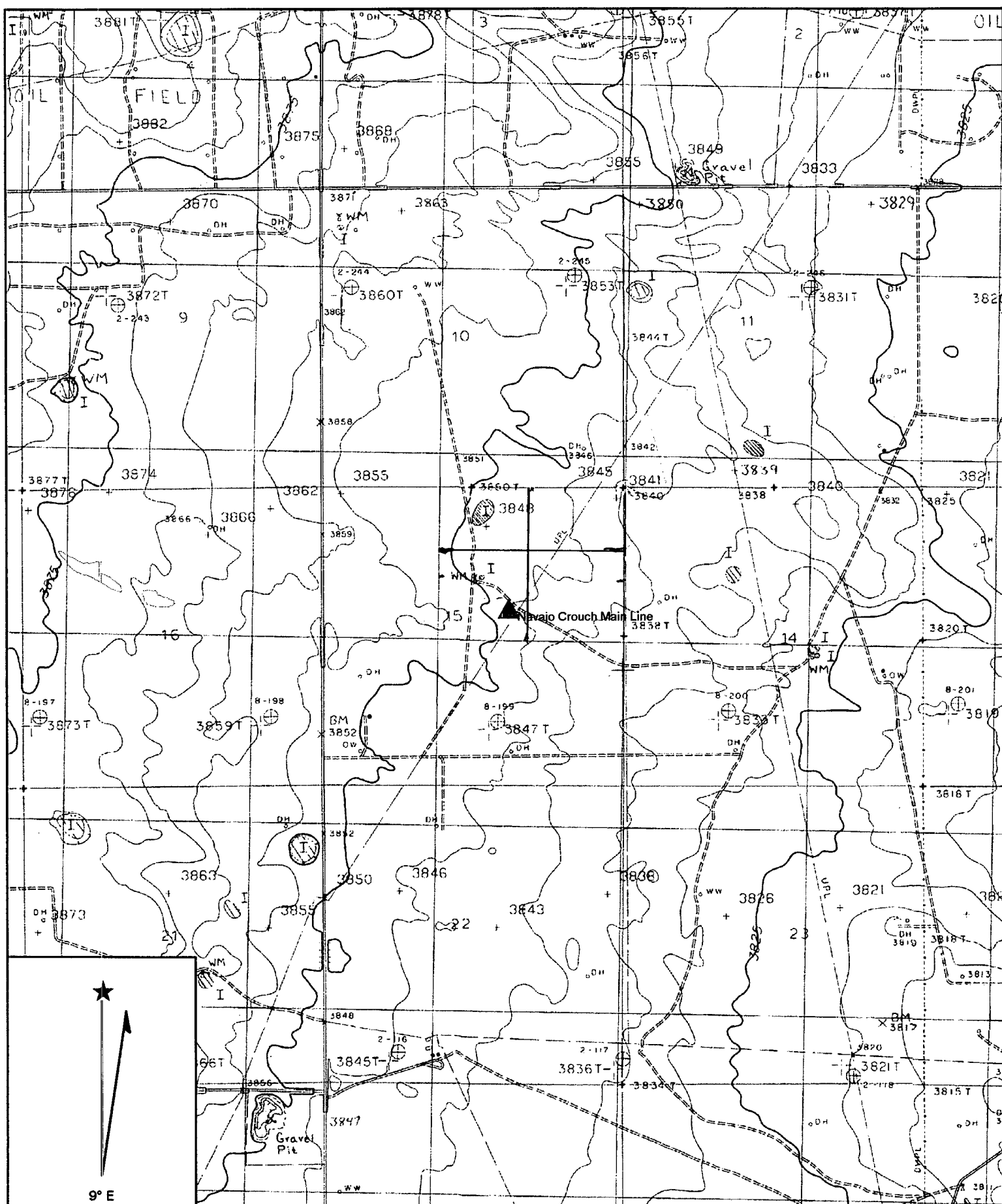
ID	TPH	Cl <sup>-</sup>	Benzene	Toluene	Ethyl Benzene	Total Xylenes
BH-6 4-5'	8330	64	<0.005	0.040	0.691	1.96
BH-6 8'	4920	-	<0.005	<0.005	0.008	0.030
BH-6 12-13'	806	-	<0.005	<0.005	<0.005	<0.015
BH-6 15'	45.0	-	<0.005	<0.005	<0.005	<0.015
BH-6 20'	<10	-	<0.005	<0.005	<0.005	<0.015

After sampling, all Boreholes were plugged to a depth of 5' with bentonite chips and then backfilled to the surface with drill cuttings.

**V. Figures & Appendices**

Figure 1 - Vicinity Map  
Figure 2 - Location of Boreholes  
Figure 3 - Log of Boring  
Appendix A - Analytical Results  
Appendix B - Site Photos

# **Figure 1 Vicinity Map**

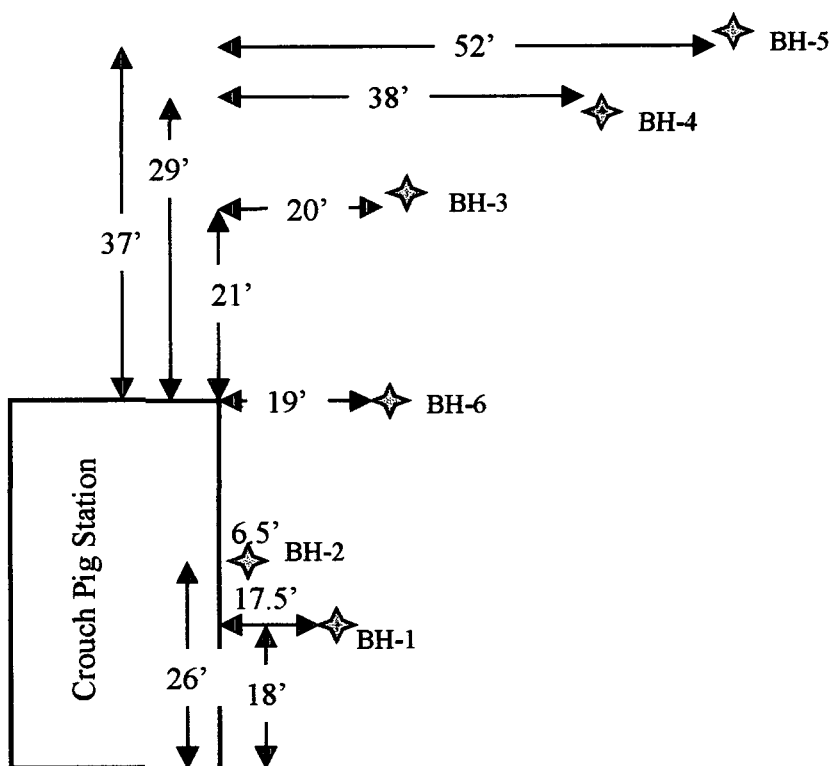
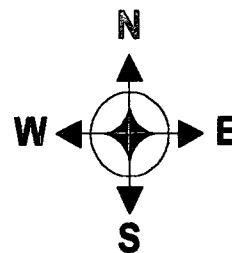


Name: LOVINGTON SE  
 Date: 9/23/2003  
 Scale: 1 inch equals 2222 feet

Location: 032° 50' 10.6" N 103° 20' 24.3" W  
 Caption: Navajo Refining Company  
 S15, T17S, R36E  
 Lea County, New Mexico



**Figure 2  
Location of Boreholes**



Date 3-3-03  
Not To Scale

**Navajo Refining  
Company**

**Crouch Pig Station  
Sec . 15 T17S R36E  
Lea County, New Mexico**

**Safety & Environmental  
Solutions, Inc.**







## **Figure 3 Log of Boring**



## LOG OF BORING BH-1

(Page 1 of 1)

Site Investigation  
Crouch Pig StationDate, Time Started: : 03/03/03  
Date, Time Completed : 03/04/03, 0930  
Hole Diameter: : 8-1/4 in.Drilled By: : Eco Drilling  
Logged By: : D.G. BoyerNavajo Refining Company  
Artesia, New MexicoDrilling Method: : Hollow-stem auger, CME-75  
Sampling Method: : Cuttings, core barrel

Depth in Feet	Samples	Sample Type	Recovery (ft.)	USCS	GRAPHIC	Sample Condition	Sample Type:	DESCRIPTION	Lab No.
						 Remoulded  Undisturbed  Lost  Rock Core	AR Air Rotary Cuttings CB Core Barrel (2.5' or 5') CT Auger Cuttings NR No recovery		
0								1-3 ft. Surface soil, top fill, gravel and caliche	
		CB	--	AR					
				CA				3-5 ft. CALICHE	
5				SM				5-6 ft. SILTY SAND, light brown, sandstone fragments, slight H/C odor	H7507-1
				SS				6-7.6 ft. SANDSTONE, light brown, partially cemented, soft in spots, sand very fine-grained, no or slight H/C odor	H7514-1
		CB	2.6	SW/SS				SAND and SANDSTONE	
10									
		CB	3.3	SW				10.5-13.3 ft. SAND, light brown to brown, very fine grained, no H/C odor	H7514-2
15									
20									
25									
30									

## Notes:

Plugged hole to 5 ft. BLS with bentonite chips (hydrated)

Backfilled 5 ft. to surface with cuttings

H/C - Petroleum hydrocarbons

Laboratory analyses by Cardinal Laboratories



# LOG OF BORING BH-2

(Page 1 of 1)

Site Investigation  
Crouch Pig Station

Date, Time Started: : 03/04/03, 0935

Drilled By: : Eco Drilling

Date, Time Completed : 03/04/03, 1015

Logged By: : D.G. Boyer

Hole Diameter: : 8-1/4 in.

Drilling Method: : Hollow-stem auger, CME-75

Sampling Method: : Cuttings, core barrel

Navajo Refining Company  
Artesia, New Mexico

Depth in Feet	Samples	Sample Type	Recovery (ft.)	USCS	GRAPHIC	Sample Condition	Sample Type:	Lab No.
						<div><div></div> Remoulded</div> <div><div></div> Undisturbed</div> <div><div></div> Lost</div> <div><div></div> Rock Core</div>	AR Air Rotary Cuttings CB Core Barrel (2.5' or 5') CT Auger Cuttings NR No recovery	
DESCRIPTION								
0	<div></div>	CB	0	Soil	<div></div>	0-0.5 ft. Surface soil, black (organic), roots		H7514-4
				CA/SM	<div></div>	No core recovery, log from cuttings		
				SW	<div></div>	3 ft. CALICHE, fragments, and SILTY SAND or SANDY SILT		
5		CB	3.3	SM	<div></div>	4-5 ft. SAND, very fine grained, H/C odor		H7514-5
	5-7.6 ft. SILTY SAND, light brown, with occasional soft sandstone, with sandstone and caliche fragments, no H/C odor							
						7.6-8.3 ft. SILTY SAND, with sandstone and caliche fragments, light brown to chalk white, no H/C odor, sandstone hard with carbonate cement.		
10								
15								
20								
25								
30								

## Notes:

Plugged hole to 5 ft. BLS with 2 bags bentonite chips (hydrated)

Backfilled 5 ft. to surface with cuttings

H/C - Petroleum hydrocarbons

Laboratory analyses by Cardinal Laboratories



# LOG OF BORING BH-3

(Page 1 of 1)

Site Investigation  
Crouch Pig Station

Date, Time Started: : 03/04/03, 1020

Drilled By: : Eco Drilling

Date, Time Completed : 03/04/03, 1230












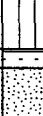



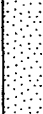




Logged By: : D.G. Boyer

Hole Diameter: : 8-1/4 in.

Drilling Method: : Hollow-stem auger, CME-75

Sampling Method: : Cuttings, core barrel

Navajo Refining Company  
Artesia, New Mexico

Depth in Feet	Samples	Sample Type	Recovery (ft.)	USCS	GRAPHIC	Sample Condition	Sample Type:	Lab No.
						 Remoulded  Undisturbed  Lost  Rock Core	AR Air Rotary Cuttings CB Core Barrel (2.5' or 5') CT Auger Cuttings NR No recovery	
DESCRIPTION								
0		CB	0.5	CA/ML		0-0.5 ft. Surface soil, dark, roots, no H/C odor		H7514-6
						0.5-3 ft. CALICHE and SANDY SILT		
		CB	2.6	ML		3-5 ft. SANDY SILT, with caliche fragments, strong H/C odor		H7514-7
5						5-6.5 ft. SANDY SILT and SILTY SAND, light brown, caliche fragments, strong H/C odor		
		CB	2.6	ML		6.5-7.6 ft. SANDY SILT, with frequent caliche and fragments, light brown to chalk white		H7514-8
						10-10.5 ft. SANDSTONE (fragments), well cemented		
10		CB	2.6	SS		10.5-11.8 ft. SAND, with silt and sandstone fragments, possible H/C odor		H7514-9
						11.8-12.6 ft. SAND, light brown, uniform, very fine grained, possible H/C odor		
15		CB	3.5	SW		15-18.5 ft. SAND, very fine grained, uniform, occasional sandstone fragments, H/C odor on cuttings		H7514-10
						20-25 ft. SAND, very fine grained to 25 ft. sandstone in core tip		
20		CB	0.8	SW		25-28.6 ft. SAND, light brown, very fine grained, occasional sandstone fragment		H7514-11
						29-30 ft. SAND, with numerous sandstone fragments 29-30 ft. None or possibly only slight H/C odor		
25		CB	3.6	SW				
30		CB						

## Notes:

Plugged hole to 10 ft. BLS with 8 bags bentonite chips (hydrated)

Backfilled 10 ft. to surface with cuttings

H/C - Petroleum hydrocarbons

Laboratory analyses by Cardinal Laboratories



# LOG OF BORING BH-4

(Page 1 of 1)

Site Investigation  
Crouch Pig Station

Date, Time Started: : 03/04/03, 1300

Drilled By: : Eco Drilling

Date, Time Completed : 03/04/03, 1350




















Logged By: : D.G. Boyer

Hole Diameter: : 8-1/4 in.

Drilling Method: : Hollow-stem auger, CME-75

Sampling Method: : Cuttings, core barrel

Navajo Refining Company  
Artesia, New Mexico

Depth in Feet	Samples	Sample Type	Recovery (ft.)	USCS	GRAPHIC	Sample Condition	Sample Type:	Lab No.
						 Remoulded  Undisturbed  Lost  Rock Core	AR Air Rotary Cuttings CB Core Barrel (2.5' or 5') CT Auger Cuttings NR No recovery	
						DESCRIPTION		
0		CB	2	Topsoil		0-0.4 ft. Surface rock, soil		H7514-12
				ML		0.4-0.5 ft. Dark brown/gray zone, noH/C odor		
				CA		0.5-1.8 ft. SILT, with caliche fragments, H/C odor		
				ML		1.8-2.0 ft. CALICHE, in core barrel tip		
		CB	3.7			SILT, with caliche fragments		H7514-13
5				CA		5-5.5 ft. CALICHE, with silty sand		
				SM/SS		5.5-8.7 ft. SILTY SAND and SANDSTONE, partially consolidated, H/C odor to approximately 7 ft.		
				CA/SS				
10		CB	2.6	SS		10-10.2 ft. Caliche and sandstone (fragments)		H7514-14
				SW		10.2-10.7 SAND, light brown, very fine grained, sandstone fragments		
				SS		10.7-11.3 ft. SANDSTONE, mostly consolidated		
				SW		11.3-12.6 ft. SAND, very light brown, very fine to fine grained, no H/C odor		
15								H7514-15
20								
25								
30								

## Notes:

Plugged hole to 5 ft. BLS with 4 bags bentonite chips (hydrated)

Backfilled 5 ft. to surface with cuttings

H/C - Petroleum hydrocarbons

Laboratory analyses by Cardinal Laboratories



## LOG OF BORING BH-5

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Site Investigation  
Crouch Pig Station

Date, Time Started: : 03/04/03, 1405

Drilled By: : Eco Drilling

Date, Time Completed : 03/04/03, 1455













Logged By: : D.G. Boyer

Hole Diameter: : 8-1/4 in.

Drilling Method: : Hollow-stem auger, CME-75

Sampling Method: : Cuttings, core barrel

Navajo Refining Company  
Artesia, New Mexico

Depth in Feet	Samples	Sample Type	Recovery (ft.)	USCS	GRAPHIC	Sample Condition	Sample Type:	Lab No.	
						 Remoulded  Undisturbed  Lost  Rock Core	AR Air Rotary Cuttings CB Core Barrel (2.5' or 5') CT Auger Cuttings NR No recovery		
						DESCRIPTION			
0		CT	--	CA/Topsoil		0-1 ft. CALICHE and undisturbed topsoil			
				CA/ML		1-3 ft. CALICHE and SANDY SILT 3-4 ft. CALICHE			
5		CB	2	ML		4-5 ft. SANDY SILT with caliche fragments 5-5.7 ft. SANDY SILT with caliche fragments, light brown and gray, strong H/C odor 5.7-6.2 ft. SANDY SILT, light brown		H7514-16	
				CA		6.2-7 ft. CALICHE with silty sand, strong H/C odor at 8 ft.		H7514-17	
10				SS/SW		10 ft. CALICHE and sandstone slough 10.3-11.4 ft. SANDSTONE and SAND, poorly consolidated sandstone			
				SS		11.4-12.2 ft. SANDSTONE, medium consolidation			
		CB	3.2	SW		12.2-13.2 ft. SAND, light brown, very fine grained, no H/C odor		H7514-18	
15									
20									
25									
30									

## Notes:

Plugged hole to 5 ft. BLS with 4 bags bentonite chips (hydrated)

Backfilled 5 ft. to surface with cuttings

H/C - Petroleum hydrocarbons

Laboratory analyses by Cardinal Laboratories





## LOG OF BORING BH-6

(Page 1 of 1)

Site Investigation  
Crouch Pig Station

Date, Time Started: 03/04/03, 1500

Drilled By: Eco Drilling

Date, Time Completed: 03/04/03, 1610

Logged By: D.G. Boyer

Hole Diameter: 8-1/4 in.

Drilling Method: Hollow-stem auger, CME-75

Sampling Method: Cuttings, core barrel

Navajo Refining Company  
Artesia, New Mexico

Depth in Feet	Samples	Sample Type	Recovery (ft.)	USCS	GRAPHIC	Sample Condition	Sample Type:	DESCRIPTION	Lab No.
						Remoulded Undisturbed Lost Rock Core	AR Air Rotary Cuttings CB Core Barrel (2.5' or 5') CT Auger Cuttings NR No recovery		
0						Topsoil/CAT		0-1 ft. Topsoil and caliche	
		CB	1			CA/ML		From cuttings, 1-5 ft. Alternating CALICHE and sandy SANDY SILT	H7514-19
5		CB	1.6			SM		5-10 ft. SILTY SAND, with occasional caliche fragments, H/C odor	H7514-20
10						SM/SS		10.0-10.5 ft. SILTY SAND and soft SANDSTONE, light brown, H/C odor	
						SS		10.5-11.2 ft. SANDSTONE, brown, hard	
		CB	2.4			SW/SS		11.2-12.4 ft. SAND and partially consolidated SANDSTONE, light brown, no H/C odor	H7514-21
15		CB	3.6			SW		15-18.6 ft. SAND, light brown, fine grained, uniform, no H/C odor	H7514-22
20						SS		18.6 ft. SANDSTONE rock in core tip	H7514-23
25									
30									

## Notes:

Plugged hole to 5 ft. BLS with 6 bags bentonite chips (hydrated)

Backfilled 5 ft. to surface with cuttings

H/C - Petroleum hydrocarbons

Laboratory analyses by Cardinal Laboratories

## **Appendix A Analytical Results**



# ARDINAL LABORATORIES

PHONE (915) 673-7001 • 2111 BEECHWOOD • ABILENE, TX 79603

PHONE (505) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

ANALYTICAL RESULTS FOR  
SAFETY & ENVIRONMENTAL SOLUTIONS, INC.  
ATTN: BOB ALLEN  
703 E. CLINTON, #103  
HOBBS, NM 88240  
FAX TO: (505) 393-4388

Receiving Date: 03/03/03  
Reporting Date: 03/04/03  
Project Number: NAV-03-001  
Project Name: CROUCH PIG STATION  
Project Location: NOT GIVEN


Sampling Date: 03/03/03  
Sample Type: SOIL  
Sample Condition: COOL & INTACT  
Sample Received By: BC  
Analyzed By: BC/AH

LAB NUMBER	SAMPLE ID	TPH (mg/Kg)	CI* (mg/Kg)	BENZENE (mg/Kg)	TOLUENE (mg/Kg)	ETHYL BENZENE (mg/Kg)	TOTAL XYLENES (mg/Kg)
------------	-----------	----------------	----------------	--------------------	--------------------	-----------------------------	-----------------------------

ANALYSIS DATE:	03/04/03	03/04/03	03/03/03	03/03/03	03/03/03	03/03/03
H7507-1 BH #15'	19200	176	<0.005	0.008	<0.005	1.91
Quality Control	227	1080	0.105	0.101	0.106	0.308
True Value QC	240	1000	0.100	0.100	0.100	0.300
% Recovery	94.4	108	105	101	106	103.0
Relative Percent Difference	0.7	8.0	5.9	6.0	7.2	7.8

METHODS: TRPHC-EPA 600/4-79-020 418.1; CI-Std. Methods 4500-CI'B; BTEX-EPA SW-846 8260

\*Analyses performed on 1:4 w:v aqueous extracts.

  
Burgess J. A. Cooke, Ph. D.

3/4/03  
Date

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CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Page 1 of 1

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PHONE (505) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

ANALYTICAL RESULTS FOR  
SAFETY & ENVIRONMENTAL SOLUTIONS, INC.ATTN: BOB ALLEN  
703 E. CLINTON, #103  
HOBBS, NM 88240  
FAX TO: (505) 393-4388Receiving Date: 03/04/03  
Reporting Date: 03/10/03  
Project Number: NAV-03-001  
Project Name: PIG STATION  
Project Location: U BAR RANCHSampling Date: 03/04/03  
Sample Type: SOIL  
Sample Condition: COOL & INTACT  
Sample Received By: GP  
Analyzed By: BC/AH

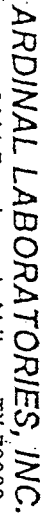
LAB NUMBER	SAMPLE ID	TPH (mg/Kg)	CI* (mg/Kg)	BENZENE (mg/Kg)	TOLUENE (mg/Kg)	ETHYL BENZENE (mg/Kg)	TOTAL XYLENES (mg/Kg)
ANALYSIS DATE:		03/05/03	03/06/03	03/06/03	03/06/03	03/06/03	03/06/03
H7514-1	BH-1, 6'	4060	112	<0.005	<0.005	0.016	0.796
H7514-2	BH-1, 9-10'	790	-	<0.005	<0.005	<0.005	<0.015
H7514-3	BH-1, 13-14'	<10	-	<0.005	<0.005	<0.005	<0.015
H7514-4	BH-2, 5'	1360	80	<0.005	<0.005	0.020	0.086
H7514-5	BH-2, 7-8'	115	-	<0.005	<0.005	<0.005	<0.015
H7514-6	BH-3, 3-4'	7570	64	<0.005	0.209	7.14	11.8
H7514-7	BH-3, 8-9'	16000	-	<0.005	0.027	5.46	5.41
H7514-8	BH-3, 15'	48.8	-	<0.005	<0.005	<0.005	<0.015
H7514-9	BH-3, 18'	29.7	-	<0.005	<0.005	<0.005	<0.015
H7514-10	BH-3, 22-23'	367	-	<0.005	<0.005	<0.005	<0.015
H7514-11	BH-3, 28'	<10	-	<0.005	<0.005	<0.005	<0.015
H7514-12	BH-4, 3-4'	9740	80	0.046	12.1	30.0	51.7
H7514-13	BH-4, 6'	4300	-	<0.005	0.019	0.135	0.680
H7514-14	BH-4, 9'	24.5	-	<0.005	<0.005	<0.005	<0.015
H7514-15	BH-4, 15'	<10	-	<0.005	<0.005	<0.005	<0.015
H7514-16	BH-5, 5'	1180	80	<0.005	0.007	0.402	0.916
H7514-17	BH-5, 7-8'	777	-	<0.005	<0.005	0.055	0.202
H7514-18	BH-5, 15'	<10	-	<0.005	<0.005	<0.005	<0.015
H7514-19	BH-6, 4-5'	8330	64	<0.005	0.040	0.691	1.96
H7514-20	BH-6, 8'	4920	-	<0.005	<0.005	0.008	0.030
H7514-21	BH-6, 12-13'	806	-	<0.005	<0.005	<0.005	<0.015
H7514-22	BH-6, 15'	45.0	-	<0.005	<0.005	<0.005	<0.015
H7514-23	BH-6, 20'	<10	-	<0.005	<0.005	<0.005	<0.015
Quality Control		240	1080	0.098	0.098	0.098	0.283
True Value QC		240	1000	0.100	0.100	0.100	0.300
% Recovery		100	108	98.0	97.9	97.8	94.2
Relative Percent Difference		7.1	8.0	7.5	3.5	8.1	9.1

METHODS: TRPHC-EPA 600/4-79-020 418.1; CI-Std. Methods 4500-CI'B; BTEX-EPA SW-846 8260

\*Analyses performed on 1:4 w:v aqueous extracts.

  
Burgess J.A. Cooke, Ph. D.3/10/03  
Date

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101 East Marland, Hobbs, NM 88240  
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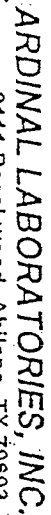
# CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Page 1 of 2

Company Name: SEST						
Project Manager: Bob Miller						
Address: 703 E. CLINTON #103						
City: HOBBS State: NM Zip: 88240						
Phone #: (505) 397-0510						
Fax #: (505) 393-4388						
Project #: NHTV-OS-001 Project Owner: NHTVHCO						
Project Name: P.O. Stat 2003						
Project Location: N Stat 2003						
FOR LAB USE ONLY						
						SAMPLING
LAB I.D.						PRES.
Sample I.D.						MATRIX
(G)RAB OR (C)OMP.						DATE TIME
# CONTAINERS						TIME
GROUNDWATER						RTEX
WASTEWATER						IPH 418.1
SOIL						CL-
OIL						
SLUDGE						
OTHER:						
ACID:						
ICE / COOL						
OTHER:						
DATE						
TIME						
A7S14-1	BH-1, 6'	G 1	X	X	0850	X
A7S14-2	BH-1, 9-10'	G 1	X	X	0905	X
A7S14-3	BH-1, 13-14'	G 1	X	X	0915	X
A7S14-4	BH-2, 7-8'	G 1	X	X	0905	-
A7S14-5	BH-2, 5'	G 1	X	X	0950	X
A7S14-6	BH-2, 7-8'	G 1	X	X	1005	X
A7S14-7	BH-3, 3-4'	G 1	X	X	1005	X
A7S14-8	BH-3, 8-9'	G 1	X	X	1055	X
A7S14-9	BH-3, 15'	G 1	X	X	1110	X
A7S14-10	BH-3, 18'	G 1	X	X	1125	X

Firms and Conditions listed will be charged at \$200 per more than  
30 days past due at the rate of 2% per annum from the original date of invoice,  
and all costs of collection, including attorney's fees.

REMARKS:  
Phone Result: Yes No Additional Fax #:  
Fax Result: Yes No



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Page 2 of 3

# CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name: SEST		BILL TO		PO #:		ANALYSIS REQUEST																																									
Project Manager: Bob Allen		Company: SAME																																													
Address: 703 E. CLINTON, #103		Attn: KRISTE																																													
City: HOBBS		Address:																																													
Phone #: (505) 397-0510		City:																																													
Fax #: (505) 393-4388		State:																																													
Project #: NM10-03-00		Project Owner: NMHA		Zip:																																											
Project Name: Big Station		Phone #:																																													
Project Location: 11 BAR Ranch		Fax #:																																													
FOR LAB USE ONLY		MATRIX		PRES.		SAMPLING																																									
LAB I.D.		Sample I.D.		(G)RAB OR (C)OMP.		# CONTAINERS		GROUNDWATER		WASTEWATER		SOIL		OIL		SLUDGE		OTHER:		ACID:		ICE / COOL		OTHER:		DATE		TIME		BTEX		TPH		CL													
H7514-10		BH-3, 22-33		G 1		1																				3/4		1/35		X		X															
H7514-11		BH-3, 28		G 1		1																				3/4		1/305		X		X															
H7514-12		BH-4, 3-4		G 1		1																				13/10		X		X		X															
H7514-13		BH-4, 6'		G 1		1																				13/17		X		X		X															
H7514-14		BH-4, 9'		G 1		1																				13/20		X		X		X															
H7514-15		BH-4, 15'		G 1		1																				13/28		X		X		X															
H7514-16		BH-5, 5'		G 1		1																				14/10		X		X		X															
H7514-17		BH-5, 7-8		G 1		1																				14/30		X		X		X															
H7514-18		BH-5, 13'		G 1		1																				14/35		X		X		X															
H7514-19		BH-6, 4-5'		G 1		1																				3/4		15/25		X		X		X													
LEASE NOTE: Utility and Damages. Cardina's liability and client's exclusive remedy for any claim arising within the contract or term, shall be limited to the amount paid by the client for the analysis. At taking including those for negligence and any other causes whatsoever shall be deemed waived unless made in writing and received by Cardina within 30 days after completion of the applicable service. In no event shall Cardina 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 rendered by Cardina, regardless of whether such claim is based upon any of the above stated reasons or otherwise.		Sampler Relinquished By: [Signature]		Date: 3/4/03		Time: 1825		Received By: [Signature]		Date: 3/4/03		Time: 1825		Sample Condition: Cool / Intact		Checked By: [Signature]		Phone Result: [X] Yes [ ] No		Fax Result: [X] Yes [ ] No		Additional Fax #:		REMARKS:		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 collection, including attorney's fees.																					
Relinquished By: [Signature]		Date: 3/4/03		Time: 1825		Sample Condition: Cool / Intact		Checked By: [Signature]		Phone Result: [X] Yes [ ] No		Fax Result: [X] Yes [ ] No		Additional Fax #:		REMARKS:																															
Delivered By: (Circle One)		Date: 3/4/03		Time: 1825		Sample Condition: Cool / Intact		Checked By: [Signature]		Phone Result: [X] Yes [ ] No		Fax Result: [X] Yes [ ] No		Additional Fax #:		REMARKS:																															
Sampler: UPS - Bus - Other:		Date: 3/4/03		Time: 1825		Sample Condition: Cool / Intact		Checked By: [Signature]		Phone Result: [X] Yes [ ] No		Fax Result: [X] Yes [ ] No		Additional Fax #:		REMARKS:																															



Page 3 of 4

## CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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# ARDINAL LABORATORIES

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## ANALYTICAL RESULTS FOR SAFETY & ENVIRONMENTAL SOLUTIONS, INC.

ATTN: BOB ALLEN  
703 E. CLINTON, #103  
HOBBS, NM 88240  
FAX TO: (505) 393-4388

Receiving Date: 03/04/03  
Reporting Date: 03/17/03  
Project Number: NAV-03-001  
Project Name: PIG STATION  
Project Location: U BAR RANCH  
Lab Number: H7514-6  
Sample ID: BH-3, 3-4'

Analysis Date: 03/06/03  
Sampling Date: 03/04/03  
Sample Type: SOIL  
Sample Condition: COOL & INTACT  
Sample Received By: GP  
Analyzed By: BC

## ADDITIONAL ANALYSIS

VOLATILES - 8260 (ppm)		Sample Result	Method	True Value	
		H7514-6	Blank	QC %Recov.	QC
1	Dichlorodifluoromethane	<0.025	<0.025	0.101	0.100
2	Chloromethane	<0.025	<0.025	0.119	0.100
3	Vinyl chloride	<0.025	<0.025	0.085	0.100
4	Bromomethane	<0.025	<0.025	0.087	0.100
5	Chloroethane	<0.025	<0.025	0.084	0.100
6	Iodomethane	<0.025	<0.025	0.097	0.100
7	1,1-Dichloroethene	<0.025	<0.025	0.114	0.100
8	Trichlorofluoromethane	<0.025	<0.025	0.088	0.100
9	Carbon Disulfide	<0.025	<0.025	0.112	0.100
10	Methylene chloride	<0.025	<0.025	0.114	0.100
11	trans-1,2-Dichloroethene	<0.025	<0.025	0.107	0.100
12	1,1-Dichloroethane	<0.025	<0.025	0.114	0.100
13	2-Butanone	<0.250	<0.250	0.094	0.100
14	cis-1,2-Dichloroethene	<0.025	<0.025	0.098	0.100
15	2,2-Dichloropropane	<0.025	<0.025	0.114	0.100
16	Chloroform	<0.025	<0.025	0.112	0.100
17	Bromochloromethane	<0.025	<0.025	0.082	0.100
18	1,1,1-Trichloroethane	<0.025	<0.025	0.117	0.100
19	1,2-Dichloroethane	<0.025	<0.025	0.106	0.100
20	1,1-Dichloropropene	<0.025	<0.025	0.084	0.100
21	Benzene	<0.025	<0.025	0.102	0.100
22	Carbon tetrachloride	<0.025	<0.025	0.099	0.100
23	Trichloroethene	<0.025	<0.025	0.095	0.100
24	Dibromomethane	<0.025	<0.025	0.093	0.100
25	Bromodichloromethane	<0.025	<0.025	0.083	0.100
26	(2-Chloroethoxy)ethene	<0.025	<0.025	0.074	0.100
27	trans-1,3-Dichloropropene	<0.025	<0.025	0.112	0.100
28	4-methyl-2-pentanone	<0.250	<0.250	0.084	0.100
29	1,2-Dichloropropane	<0.025	<0.025	0.089	0.100
30	cis-1,3-Dichloropropene	<0.025	<0.025	0.117	0.100
31	Toluene	0.209	<0.025	0.107	0.100

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PHONE (505) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

ANALYTICAL RESULTS FOR  
SAFETY & ENVIRONMENTAL SOLUTIONS, INC.  
ATTN: BOB ALLEN  
703 E. CLINTON, #103  
HOBBS, NM 88240  
FAX TO: (505) 393-4388

Receiving Date: 03/04/03  
Reporting Date: 03/17/03  
Project Number: NAV-03-001  
Project Name: PIG STATION  
Project Location: U BAR RANCH  
Lab Number: H7514-6  
Sample ID: BH-3, 3-4'

Analysis Date: 03/06/03  
Sampling Date: 03/04/03  
Sample Type: SOIL  
Sample Condition: COOL & INTACT  
Sample Received By: GP  
Analyzed By: BC

## ADDITIONAL ANALYSIS

VOLATILES - 8260 (ppm)      Sample Result      Method      True Value  
H7514-6      Blank      QC %Recov.      QC

32	1,1,2-Trichloroethane	<0.025	<0.025	0.080	80	0.100
33	1,3-Dichloropropane	<0.025	<0.025	0.083	83	0.100
34	2-Hexanone	<0.250	<0.250	0.075	75	0.100
35	Dibromochloromethane	<0.025	<0.025	0.090	90	0.100
36	1,2-Dibromoethane	<0.025	<0.025	0.094	94	0.100
37	Tetrachloroethene	<0.025	<0.025	0.101	101	0.100
38	Chlorobenzene	<0.025	<0.025	0.099	99	0.100
39	1,1,1,2-Tetrachloroethane	<0.025	<0.025	0.095	95	0.100
40	Ethylbenzene	7.15	<0.025	0.102	102	0.100
41	m, p - Xylene	10.1	<0.050	0.212	106	0.200
42	Bromoform	<0.025	<0.025	0.115	115	0.100
43	Styrene	<0.025	<0.025	0.094	94	0.100
44	o-Xylene	1.66	<0.025	0.104	104	0.100
45	1,1,2,2-Tetrachloroethane	<0.025	<0.025	0.088	88	0.100
46	1,2,3-Trichloropropane	<0.025	<0.025	0.098	98	0.100
47	Isopropylbenzene	1.87	<0.025	0.113	113	0.100
48	Bromobenzene	<0.025	<0.025	0.095	95	0.100
49	2-Chlorotoluene	<0.025	<0.025	0.106	106	0.100
50	n-propylbenzene	2.24	<0.025	0.106	106	0.100
51	4-Chlorotoluene	<0.025	<0.025	0.111	111	0.100
52	1,3,5-Trimethylbenzene	1.45	<0.025	0.104	104	0.100
53	tert-Butylbenzene	<0.025	<0.025	0.096	96	0.100
54	1,2,4-Trimethylbenzene	4.62	<0.025	0.102	102	0.100
55	1,3-Dichlorobenzene	<0.025	<0.025	0.091	91	0.100
56	sec-Butylbenzene	1.07	<0.025	0.109	109	0.100
57	1,4 Dichlorobenzene	<0.025	<0.025	0.100	100	0.100
58	4-Isopropyltoluene	0.477	<0.025	0.105	105	0.100
59	1,2-Dichlorobenzene	<0.025	<0.025	0.090	90	0.100
60	n-Butylbenzene	1.44	<0.025	0.102	102	0.100
61	1,2-dibromo-3-chloropropane	<0.025	<0.025	0.083	83	0.100
62	1,2,3-Trichlorobenzene	<0.025	<0.025	0.090	90	0.100

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ATTN: BOB ALLEN  
703 E. CLINTON, #103  
HOBBS, NM 88240  
FAX TO: (505) 393-4388

Receiving Date: 03/04/03  
Reporting Date: 03/17/03  
Project Number: NAV-03-001  
Project Name: PIG STATION  
Project Location: U BAR RANCH  
Lab Number: H7514-6  
Sample ID: BH-3, 3-4'

Analysis Date: 03/06/03  
Sampling Date: 03/04/03  
Sample Type: SOIL  
Sample Condition: COOL & INTACT  
Sample Received By: GP  
Analyzed By: BC

VOLATILES - 8260 (ppm)	Sample Result	Method			True Value
	H7514-6	Blank	QC	%Recov.	QC

63	Hexachlorobutadiene	<0.025	<0.025	0.106	106	0.100
64	<b>Naphthalene</b>	<b>1.31</b>	<b>&lt;0.025</b>	0.082	82	0.100
65	1,2,4-Trichlorobenzene	<0.025	<0.025	0.088	88	0.100

66	Dibromofluoromethane	94
67	Toluene-d8	94
68	4-Bromofluorobenzene	107

NOTE: The three highest BTEX samples were reprocessed using the daily 8260 calibration in order to check for halocarbon pollutants. None were detected.

Burgess J. A. Cooke  
Burgess J. A. Cooke, Ph. D.

3/17/03  
Date



# ARDINAL LABORATORIES

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ANALYTICAL RESULTS FOR  
SAFETY & ENVIRONMENTAL SOLUTIONS, INC.  
ATTN: BOB ALLEN  
703 E. CLINTON, #103  
HOBBS, NM 88240  
FAX TO: (505) 393-4388

Receiving Date: 03/04/03  
Reporting Date: 03/17/03  
Project Number: NAV-03-001  
Project Name: PIG STATION  
Project Location: U BAR RANCH  
Lab Number: H7514-7  
Sample ID: BH-3, 8-9'

Analysis Date: 03/06/03  
Sampling Date: 03/04/03  
Sample Type: SOIL  
Sample Condition: COOL & INTACT  
Sample Received By: GP  
Analyzed By: BC

## ADDITIONAL ANALYSIS

VOLATILES - 8260 (ppm)		Sample Result	Method	True Value	
		H7514-7	Blank	QC %Recov:	QC
1	Dichlorodifluoromethane	<0.050	<0.050	0.101	101
2	Chloromethane	<0.050	<0.050	0.119	119
3	Vinyl chloride	<0.050	<0.050	0.085	85
4	Bromomethane	<0.050	<0.050	0.087	87
5	Chloroethane	<0.050	<0.050	0.084	84
6	Iodomethane	<0.050	<0.050	0.097	97
7	1,1-Dichloroethene	<0.050	<0.050	0.114	114
8	Trichlorofluoromethane	<0.050	<0.050	0.088	88
9	Carbon Disulfide	<0.050	<0.050	0.112	112
10	Methylene chloride	<0.050	<0.050	0.114	114
11	trans-1,2-Dichloroethene	<0.050	<0.050	0.107	107
12	1,1-Dichloroethane	<0.050	<0.050	0.114	114
13	2-Butanone	14.4	<0.050	0.094	94
14	cis-1,2-Dichloroethene	<0.050	<0.050	0.098	98
15	2,2-Dichloropropane	<0.050	<0.050	0.114	114
16	Chloroform	<0.050	<0.050	0.112	112
17	Bromochloromethane	<0.050	<0.050	0.082	82
18	1,1,1-Trichloroethane	<0.050	<0.050	0.117	117
19	1,2-Dichloroethane	<0.050	<0.050	0.106	106
20	1,1-Dichloropropene	<0.050	<0.050	0.084	84
21	Benzene	<0.050	<0.050	0.102	102
22	Carbon tetrachloride	<0.050	<0.050	0.099	99
23	Trichloroethene	<0.050	<0.050	0.095	95
24	Dibromomethane	<0.050	<0.050	0.093	93
25	Bromodichloromethane	<0.050	<0.050	0.083	83
26	(2-Chloroethoxy)ethene	<0.050	<0.050	0.074	74
27	trans-1,3-Dichloropropene	<0.050	<0.050	0.112	112
28	4-methyl-2-pentanone	<0.050	<0.050	0.084	84
29	1,2-Dichloropropane	<0.050	<0.050	0.089	89
30	cis-1,3-Dichloropropene	<0.050	<0.050	0.117	117
31	Toluene	<0.050	<0.050	0.107	107

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# ARDINAL LABORATORIES

PHONE (915) 673-7001 • 2111 BEECHWOOD • ABILENE, TX 79603

PHONE (505) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

ANALYTICAL RESULTS FOR  
SAFETY & ENVIRONMENTAL SOLUTIONS, INC.  
ATTN: BOB ALLEN  
703 E. CLINTON, #103  
HOBBS, NM 88240  
FAX TO: (505) 393-4388

Receiving Date: 03/04/03  
Reporting Date: 03/17/03  
Project Number: NAV-03-001  
Project Name: PIG STATION  
Project Location: U BAR RANCH  
Lab Number: H7514-7  
Sample ID: BH-3, 8-9'

Analysis Date: 03/06/03  
Sampling Date: 03/04/03  
Sample Type: SOIL  
Sample Condition: COOL & INTACT  
Sample Received By: GP  
Analyzed By: BC

## ADDITIONAL ANALYSIS

VOLATILES - 8260 (ppm)		Sample Result	Method	True Value		
		H7514-7	Blank	QC %Recov.	QC	
32	1,1,2-Trichloroethane	<0.050	<0.050	0.080	80	0.100
33	1,3-Dichloropropane	<0.050	<0.050	0.083	83	0.100
34	2-Hexanone	<0.050	<0.050	0.075	75	0.100
35	Dibromochloromethane	<0.050	<0.050	0.090	90	0.100
36	1,2-Dibromoethane	<0.050	<0.050	0.094	94	0.100
37	Tetrachloroethene	<0.050	<0.050	0.101	101	0.100
38	Chlorobenzene	<0.050	<0.050	0.099	99	0.100
39	1,1,1,2-Tetrachloroethane	<0.050	<0.050	0.095	95	0.100
40	Ethylbenzene	5.46	<0.050	0.102	102	0.100
41	m, p - Xylene	5.27	<0.050	0.212	106	0.200
42	Bromoform	<0.050	<0.050	0.115	115	0.100
43	Styrene	<0.050	<0.050	0.094	94	0.100
44	o-Xylene	0.143	<0.050	0.104	104	0.100
45	1,1,2,2-Tetrachloroethane	<0.050	<0.050	0.088	88	0.100
46	1,2,3-Trichloropropane	<0.050	<0.050	0.098	98	0.100
47	Isopropylbenzene	7.44	<0.050	0.113	113	0.100
48	Bromobenzene	<0.050	<0.050	0.095	95	0.100
49	2-Chlorotoluene	<0.050	<0.050	0.106	106	0.100
50	n-propylbenzene	0.503	<0.050	0.106	106	0.100
51	4-Chlorotoluene	<0.050	<0.050	0.111	111	0.100
52	1,3,5-Trimethylbenzene	2.84	<0.050	0.104	104	0.100
53	tert-Butylbenzene	<0.050	<0.050	0.096	96	0.100
54	1,2,4-Trimethylbenzene	6.31	<0.050	0.102	102	0.100
55	1,3-Dichlorobenzene	<0.050	<0.050	0.091	91	0.100
56	sec-Butylbenzene	6.12	<0.050	0.109	109	0.100
57	1,4 Dichlorobenzene	<0.050	<0.050	0.100	100	0.100
58	4-Isopropyltoluene	2.14	<0.050	0.105	105	0.100
59	1,2-Dichlorobenzene	<0.050	<0.050	0.090	90	0.100
60	n-Butylbenzene	5.75	<0.050	0.102	102	0.100
61	1,2-dibromo-3-chloropropane	<0.050	<0.050	0.083	83	0.100
62	1,2,3-Trichlorobenzene	<0.050	<0.050	0.090	90	0.100

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ANALYTICAL RESULTS FOR  
SAFETY & ENVIRONMENTAL SOLUTIONS, INC.  
ATTN: BOB ALLEN  
703 E. CLINTON, #103  
HOBBS, NM 88240  
FAX TO: (505) 393-4388

Receiving Date: 03/04/03  
Reporting Date: 03/17/03  
Project Number: NAV-03-001  
Project Name: PIG STATION  
Project Location: U BAR RANCH  
Lab Number: H7514-7  
Sample ID: BH-3, 8-9'

Analysis Date: 03/06/03  
Sampling Date: 03/04/03  
Sample Type: SOIL  
Sample Condition: COOL & INTACT  
Sample Received By: GP  
Analyzed By: BC


## ADDITIONAL ANALYSIS

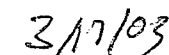
VOLATILES - 8260 (ppm)	Sample Result H7514-7	Method Blank	True Value	
			QC %Recov.	QC
63 Hexachlorobutadiene	<0.050	<0.050	106	0.100
64 Naphthalene	0.445	<0.050	82	0.100
65 1,2,4-Trichlorobenzene	<0.050	<0.050	88	0.100

% Recovery	
66 Dibromofluoromethane	94
67 Toluene-d8	94
68 4-Bromofluorobenzene	107

METHODS: EPA SW-846-8260.

NOTE: The three highest BTEX samples were reprocessed using the daily 8260 calibration in order to check for halocarbon pollutants. None were detected.

  
Burgess J. A. Cooke, Ph. D.

  
Date.



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ATTN: BOB ALLEN  
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HOBBS, NM 88240  
FAX TO: (505) 393-4388

Receiving Date: 03/04/03  
Reporting Date: 03/17/03  
Project Number: NAV-03-001  
Project Name: PIG STATION  
Project Location: U BAR RANCH  
Lab Number: H7514-12  
Sample ID: BH-4, 3-4"

Analysis Date: 03/06/03  
Sampling Date: 03/04/03  
Sample Type: SOIL  
Sample Condition: COOL & INTACT  
Sample Received By: GP  
Analyzed By: BC

#### ADDITIONAL ANALYSIS

VOLATILES - 8260 (ppm)		Sample Result	Method	True Value	
		H7514-12	Blank	QC %Recov.	QC
1	Dichlorodifluoromethane	<0.025	<0.025	0.101	0.100
2	Chloromethane	<0.025	<0.025	0.119	0.100
3	Vinyl chloride	<0.025	<0.025	0.085	0.100
4	Bromomethane	<0.025	<0.025	0.087	0.100
5	Chloroethane	<0.025	<0.025	0.084	0.100
6	Iodomethane	<0.025	<0.025	0.097	0.100
7	1,1-Dichloroethene	<0.025	<0.025	0.114	0.100
8	Trichlorofluoromethane	<0.025	<0.025	0.088	0.100
9	Carbon Disulfide	<0.025	<0.025	0.112	0.100
10	Methylene chloride	<0.025	<0.025	0.114	0.100
11	trans-1,2-Dichloroethene	<0.025	<0.025	0.107	0.100
12	1,1-Dichloroethane	<0.025	<0.025	0.114	0.100
13	<b>2-Butanone</b>	<b>1.09</b>	<b>&lt;0.250</b>	0.094	0.100
14	cis-1,2-Dichloroethene	<0.025	<0.025	0.098	0.100
15	2,2-Dichloropropane	<0.025	<0.025	0.114	0.100
16	Chloroform	<0.025	<0.025	0.112	0.100
17	Bromochloromethane	<0.025	<0.025	0.082	0.100
18	1,1,1-Trichloroethane	<0.025	<0.025	0.117	0.100
19	1,2-Dichloroethane	<0.025	<0.025	0.106	0.100
20	1,1-Dichloropropene	<0.025	<0.025	0.084	0.100
21	<b>Benzene</b>	<b>0.045</b>	<b>&lt;0.025</b>	0.102	0.100
22	Carbon tetrachloride	<0.025	<0.025	0.099	0.100
23	Trichloroethene	<0.025	<0.025	0.095	0.100
24	Dibromomethane	<0.025	<0.025	0.093	0.100
25	Bromodichloromethane	<0.025	<0.025	0.083	0.100
26	(2-Chloroethoxy)ethene	<0.025	<0.025	0.074	0.100
27	trans-1,3-Dichloropropene	<0.025	<0.025	0.112	0.100
28	4-methyl-2-pentanone	<0.250	<0.250	0.084	0.100
29	1,2-Dichloropropane	<0.025	<0.025	0.089	0.100
30	cis-1,3-Dichloropropene	<0.025	<0.025	0.117	0.100
31	<b>Toluene</b>	<b>12.1</b>	<b>&lt;0.025</b>	0.107	0.100

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FAX TO: (505) 393-4388

Receiving Date: 03/04/03  
Reporting Date: 03/17/03  
Project Number: NAV-03-001  
Project Name: PIG STATION  
Project Location: U BAR RANCH  
Lab Number: H7514-12  
Sample ID: BH-4, 3-4"

Analysis Date: 03/06/03  
Sampling Date: 03/04/03  
Sample Type: SOIL  
Sample Condition: COOL & INTACT  
Sample Received By: GP  
Analyzed By: BC

## ADDITIONAL ANALYSIS

VOLATILES - 8260 (ppm)      Sample Result      Method      True Value  
H7514-12      Blank      QC %Recov.      QC

32	1,1,2-Trichloroethane	<0.025	<0.025	0.080	80	0.100
33	1,3-Dichloropropane	<0.025	<0.025	0.083	83	0.100
34	2-Hexanone	<0.250	<0.250	0.075	75	0.100
35	Dibromochloromethane	<0.025	<0.025	0.090	90	0.100
36	1,2-Dibromoethane	<0.025	<0.025	0.094	94	0.100
37	Tetrachloroethene	<0.025	<0.025	0.101	101	0.100
38	Chlorobenzene	<0.025	<0.025	0.099	99	0.100
39	1,1,1,2-Tetrachloroethane	<0.025	<0.025	0.095	95	0.100
40	Ethylbenzene	30.0	<0.025	0.102	102	0.100
41	m, p - Xylene	35.1	<0.050	0.212	106	0.200
42	Bromoform	<0.025	<0.025	0.115	115	0.100
43	Styrene	<0.025	<0.025	0.094	94	0.100
44	o-Xylene	16.5	<0.025	0.104	104	0.100
45	1,1,2,2-Tetrachloroethane	<0.025	<0.025	0.088	88	0.100
46	1,2,3-Trichloropropane	<0.025	<0.025	0.098	98	0.100
47	Isopropylbenzene	2.87	<0.025	0.113	113	0.100
48	Bromobenzene	<0.025	<0.025	0.095	95	0.100
49	2-Chlorotoluene	<0.025	<0.025	0.106	106	0.100
50	n-propylbenzene	3.96	<0.025	0.106	106	0.100
51	4-Chlorotoluene	<0.025	<0.025	0.111	111	0.100
52	1,3,5-Trimethylbenzene	1.77	<0.025	0.104	104	0.100
53	tert-Butylbenzene	<0.025	<0.025	0.096	96	0.100
54	1,2,4-Trimethylbenzene	8.36	<0.025	0.102	102	0.100
55	1,3-Dichlorobenzene	<0.025	<0.025	0.091	91	0.100
56	sec-Butylbenzene	1.50	<0.025	0.109	109	0.100
57	1,4 Dichlorobenzene	<0.025	<0.025	0.100	100	0.100
58	4-Isopropyltoluene	0.626	<0.025	0.105	105	0.100
59	1,2-Dichlorobenzene	<0.025	<0.025	0.090	90	0.100
60	n-Butylbenzene	2.02	<0.025	0.102	102	0.100
61	1,2-dibromo-3-chloropropane	<0.025	<0.025	0.083	83	0.100
62	1,2,3-Trichlorobenzene	<0.025	<0.025	0.090	90	0.100

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ANALYTICAL RESULTS FOR  
SAFETY & ENVIRONMENTAL SOLUTIONS, INC.  
ATTN: BOB ALLEN  
703 E. CLINTON, #103  
HOBBS, NM 88240  
FAX TO: (505) 393-4388

Receiving Date: 03/04/03  
Reporting Date: 03/17/03  
Project Number: NAV-03-001  
Project Name: PIG STATION  
Project Location: U BAR RANCH  
Lab Number: H7514-12  
Sample ID: BH-4, 3-4"

Analysis Date: 03/06/03  
Sampling Date: 03/04/03  
Sample Type: SOIL  
Sample Condition: COQL & INTACT  
Sample Received By: GP  
Analyzed By: BC

## ADDITIONAL ANALYSIS

VOLATILES - 8260 (ppm)	Sample Result H7514-12	Method Blank	QC %Recov.	True Value QC
------------------------	---------------------------	-----------------	------------	------------------

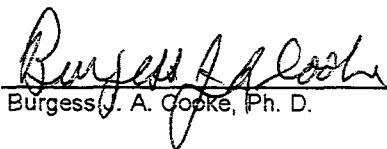
63	Hexachlorobutadiene	<0.025	<0.025	0.106	106	0.100
64	Naphthalene	1.88	<0.025	0.082	82	0.100
65	1,2,4-Trichlorobenzene	<0.025	<0.025	0.088	88	0.100

## % Recovery

66	Dibromofluoromethane	93
67	Toluene-d8	90
68	4-Bromofluorobenzene	88

METHODS: EPA SW-846-8260.

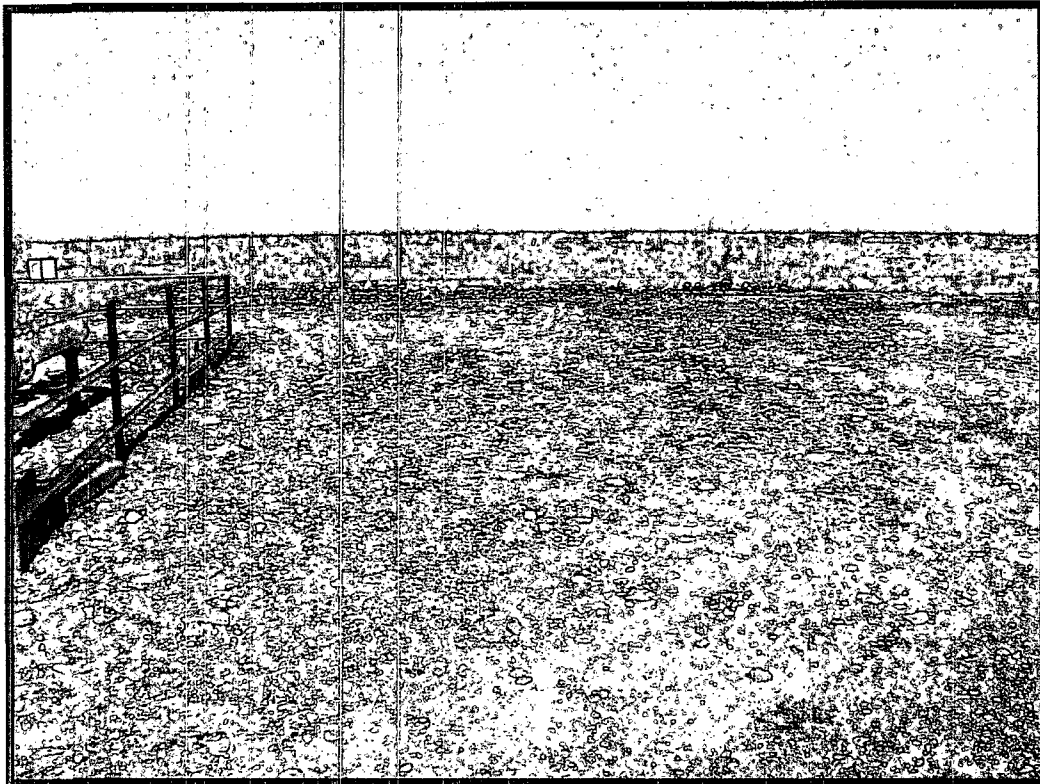
NOTE: The three highest BTEX samples were reprocessed using the daily 8260 calibration in order to check for halocarbon pollutants. None were detected.

  
Burgess A. Cooke, Ph. D.

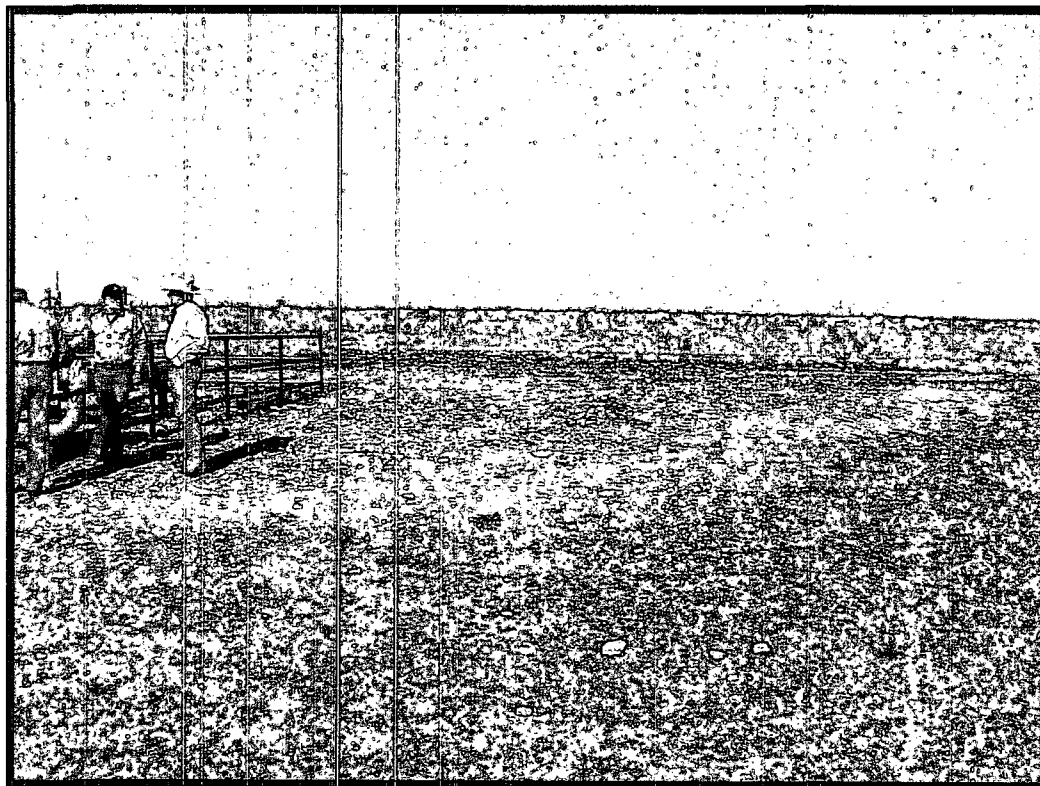
3/17/03  
Date

## **Appendix B**

## **Site Photos**



Subject Area Looking North



Subject Area Looking Northwest