

1R -

340

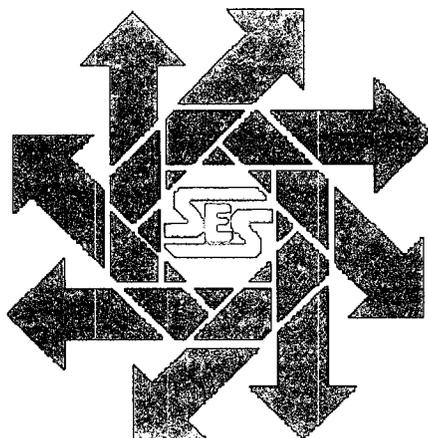
REPORTS

DATE:

2003

**ChevronTexaco
Additional Site Investigation
CDU Tract 19
Lea County, New Mexico**

July 15, 2003



Prepared for:

**ChevronTexaco
P.O. Box 1949
Eunice, New Mexico 88231**

By:

***Safety & Environmental Solutions, Inc.
703 E. Clinton, Suite 102
Hobbs, New Mexico 88240
(505) 397-0510***

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I. Background

An ongoing investigation of the site known as the CDU Tract 19 is being conducted on behalf of ChevronTexaco by Safety & Environmental Solutions, Inc. (SESI). Additional investigation was conducted upon approval by the New Mexico Oil Conservation Division from Mr. Wayne Price on May 13, 2003.

The purpose of this stage of the investigation is to determine the direction of groundwater flow beneath the subject site and to determine the concentrations of any contaminants in the groundwater.

II. Work Performed

Sampling & Measuring of Existing Monitor Wells

On April 17, 2003 SESI sampled all three existing Monitor Wells. Monitor well #1 is detailed in the Site Investigation dated February 9, 2001. Monitor Well #2 and #3 are detailed in the Additional Site Investigation dated May 25, 2002.

Monitor Well # 1 was purged with a hand bailer removing approximately 5.5 gallons of water. SESI retrieved groundwater samples after purging the well.

Monitor Well # 2 was purged with a hand bailer removing approximately 4.76 gallons of water. SESI retrieved groundwater samples after purging the well.

Monitor Well # 3 was purged with a hand bailer removing approximately 4.3 gallons of water. SESI retrieved groundwater samples after purging the well.

All three samples were sent under Chain of Custody to Cardinal Laboratories of Hobbs, New Mexico for analysis. The samples were analyzed for BTEX (EPA Method SW-846-8021B, 5030B) and Major Cations & Anions. Copies of the analytical results are found in Appendix A.

SESI took top of water measurements in all three wells on April 17, 2002. The measurements are as follows:

Well Name	TOC Elevation (ft.)	Date	Depth to Water (ft.)	Water Level Elevation (ft.)
MW - 1	3,468.72	04/17/03	92.87	3,375.85
MW - 2	3,469.91	04/17/03	93.71	3,376.20
MW - 3	3470.85	04/17/03	94.88	3,375.97

SESI prepared water level contour maps using the Plat of Location provided by Pettigrew and Associates on April 22, 2002 and the water level elevations. Copies of the water level

contour maps are found in Figure 1. The direction of the groundwater flow is from the northwest to the southeast beneath the subject site. The groundwater flow direction has not changed from the previous map dated March 18, 2002.

Installation of Groundwater Monitor Well #4

On June 23, 2003, SESI engaged Eades Drilling of Hobbs, New Mexico to install Monitor Well #4. Monitor Well # 4 was installed 95' to the west 90' north of monitor well #2.

On June 30, 2003, SESI developed Monitor Well #4. The well was purged by pumping approximately 25 gallons of water and sand from the well bore.

One July 1, 2003 SESI retrieved groundwater samples from Monitor Well #4 the samples were sent under Chain of Custody to Cardinal Laboratories for analysis. The samples were analyzed for BTEX (EPA Method SW-846-8021B, 5030B) and Major Cations & Anions. Copies of the analytical results are found in Appendix A.

On July 9, 2003, Pettigrew and Associates surveyed the tops of casing a location of the wells and produced a Plat of Location. A copy of the plat is found in Appendix B.

SESI took top of water measurements in all four wells on July 15, 2003. The measurements are as follows:

Well Name	TOC Elevation (ft.)	Date	Depth to Water (ft.)	Water Level Elevation (ft.)
MW - 1	3,468.72	07/15/03	92.83	3,375.89
MW - 2	3,469.91	07/15/03	93.64	3,376.27
MW - 3	3,470.85	07/15/03	94.84	3,376.01
MW - 4	3,469.03	07/15/03	92.49	3,376.54

SESI prepared water level contour maps using the Plat of Location provided by Pettigrew and Associates and the water level elevations. Copies of the water level contour maps are found in Figure 1. The direction of the groundwater flow is from the northwest to the southeast beneath the subject site. Monitor Well #4 is almost directly up-gradient of Monitor Well #2 and Monitor well # 2 is almost directly up-gradient of monitor well # 1.

III. Results of Groundwater Testing

Groundwater Sampling Results

The results for the groundwater sampling are tabulated in Table 1.

The sample results show elevated chloride levels in all monitor wells. The highest chloride level is found in monitor well # 1, which is down-gradient of monitor well #2. Monitor

well # 2 is also generally up-gradient of the site. In addition, the new up-gradient monitor well # 4 exhibits elevated levels of chlorides similar to those found in monitor well # 2. The chloride levels in monitor well # 3 is only slightly above WQCC standards.

TDS levels in all wells were also elevated

No elevated BTEX levels were observed in any of the four wells.

Table 1. Groundwater Sampling Results, CDU Tract 19 Site Investigation, Lea County, New Mexico

DATE	SAMPLE ID	BENZENE	TOLUENE	ETHYL BENZENE	XYLENES
4/17/03	MW#1	<0.002	<0.002	<0.002	<0.006
4/17/03	MW#2	<0.002	<0.002	<0.002	<0.006
4/17/03	MW#3	<0.002	<0.002	<0.002	<0.006
7/01/03	MW#4	<0.002	<0.002	<0.002	<0.006

DATE	SAMPLE ID	Na (mg/L)	Ca (mg/L)	Mg (mg/L)	K (mg/L)	Conductivity (mS/cm)	T-Alkalinity (mgCaCO ₃ /L)
4/17/03	MW#1	610	488	114	6.34	6842	195
4/17/03	MW#2	305	349	118	6.47	4730	140
4/17/03	MW#3	93	105	51	6.08	1639	210
7/01/03	MW#4	354	200	77	7.95	3492	101

DATE	SAMPLE ID	Cl (mg/L)	SO ₄ (mg/L)	CO ₃ (mg/L)	HCO ₃ (mg/L)	pH (s.u.)	TDS (mg/L)
4/17/03	MW#1	1899	147	0	238	7.02	4124
4/17/03	MW#2	1080	353	0	171	7.12	3149
4/17/03	MW#3	272	85.1	0	256	7.28	1056
7/01/03	MW#4	900	220	0	123	7.47	2306

* Red exceeds NM WQCC Groundwater Standards

IV. Conclusions and Recommendations

Results of this investigation indicate elevated levels of chlorides in the up and down gradient wells installed at the subject site (MW4, MW-2 and MW-1, respectively). The off gradient well (MW-3) only shows slightly elevated concentrations of chlorides. The elevated concentrations in the up and down gradient wells may indicate that the chloride contamination is migrating beneath the subject site from a source somewhere up-gradient of the site.

The absence of BTEX concentrations in all four wells may indicate that TPH concentrations found on the subject site in previous investigations have not migrated to the groundwater at the time of sampling.

V. Report Figures

Figure 1. – Log of Boring

Figure 2. – Water Level Contour Maps 4/17/03 and 7/15/03

VI. Report Appendices

Appendix A. Plat of Location

Appendix B. Laboratory Analytical Reports – Groundwater

Figure 1.
Log of Boring



Safety & Environmental Solutions, Inc.

LOG OF MONITOR WELL MW-4

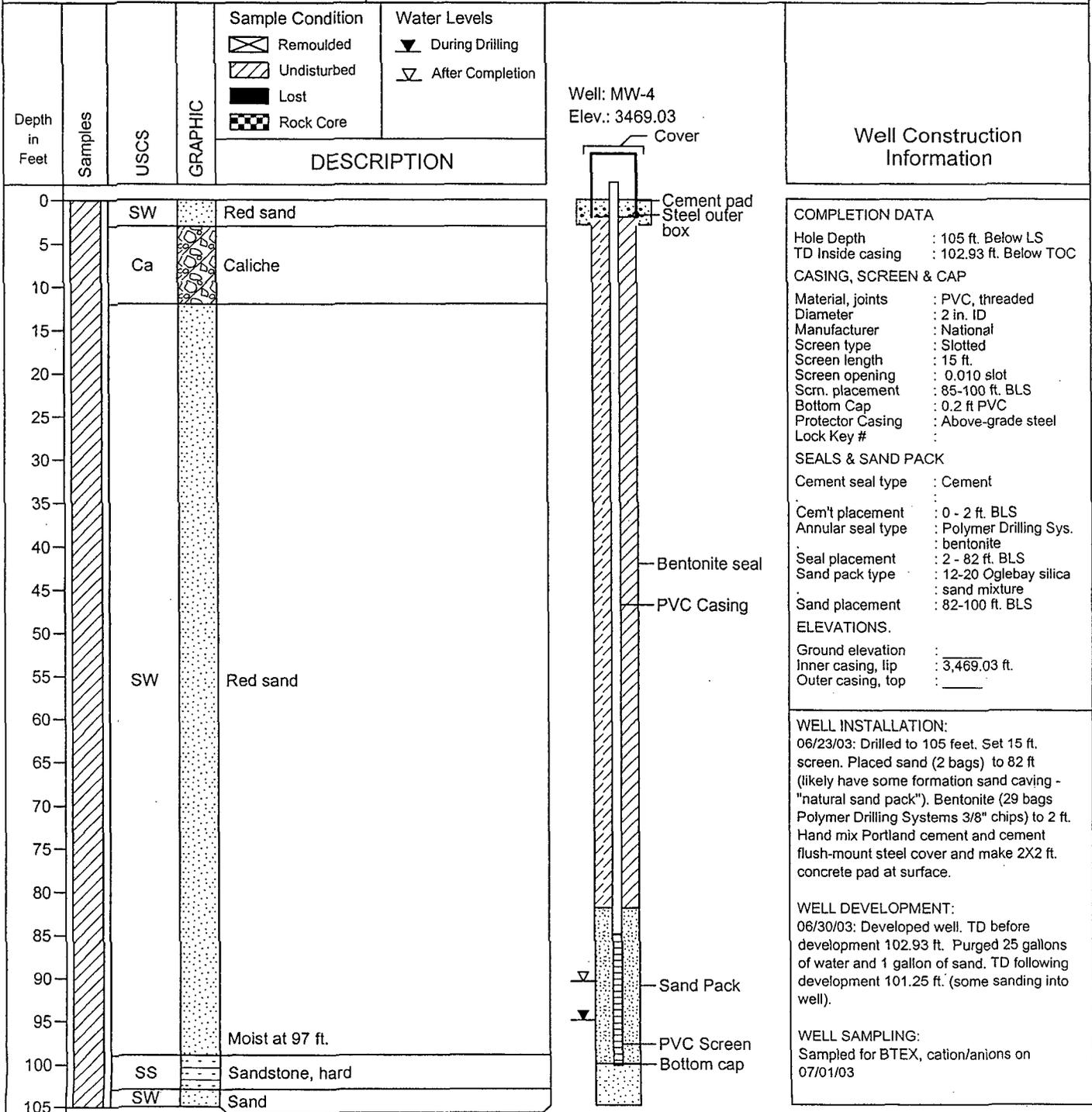
(Page 1 of 1)

Chevron USA
Site Assessment
CDU Tract 19

Date, Time Started: : 06/23/03, 11:45
Date, Time Completed : 06/23/03, 15:15
Hole Diameter: : 6-1/8 in.
Drilling Method: : Air Rotary
Sampling Method: : Cuttings

Drilled By: : Eades Drilling
Logged By: : Bob Allen
Northing Coordinate : 529153.007
Easting Coordinate : 896804.429
Survey By : Pettigrew & Associates

Eunice, New Mexico
(Section 29, T 21 S, R 37 E, Lea County)



COMPLETION DATA
 Hole Depth : 105 ft. Below LS
 TD Inside casing : 102.93 ft. Below TOC

CASING, SCREEN & CAP
 Material, joints : PVC, threaded
 Diameter : 2 in. ID
 Manufacturer : National
 Screen type : Slotted
 Screen length : 15 ft.
 Screen opening : 0.010 slot
 Scrn. placement : 85-100 ft. BLS
 Bottom Cap : 0.2 ft PVC
 Protector Casing : Above-grade steel
 Lock Key # :

SEALS & SAND PACK
 Cement seal type : Cement
 Cem't placement : 0 - 2 ft. BLS
 Annular seal type : Polymer Drilling Sys.
 : bentonite
 Seal placement : 2 - 82 ft. BLS
 Sand pack type : 12-20 Oglebay silica
 : sand mixture
 Sand placement : 82-100 ft. BLS

ELEVATIONS.
 Ground elevation :
 Inner casing, lip : 3,469.03 ft.
 Outer casing, top :

WELL INSTALLATION:
 06/23/03: Drilled to 105 feet. Set 15 ft. screen. Placed sand (2 bags) to 82 ft (likely have some formation sand caving - "natural sand pack"). Bentonite (29 bags Polymer Drilling Systems 3/8" chips) to 2 ft. Hand mix Portland cement and cement flush-mount steel cover and make 2X2 ft. concrete pad at surface.

WELL DEVELOPMENT:
 06/30/03: Developed well. TD before development 102.93 ft. Purged 25 gallons of water and 1 gallon of sand. TD following development 101.25 ft. (some sanding into well).

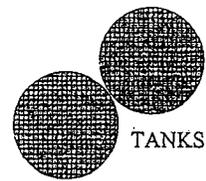
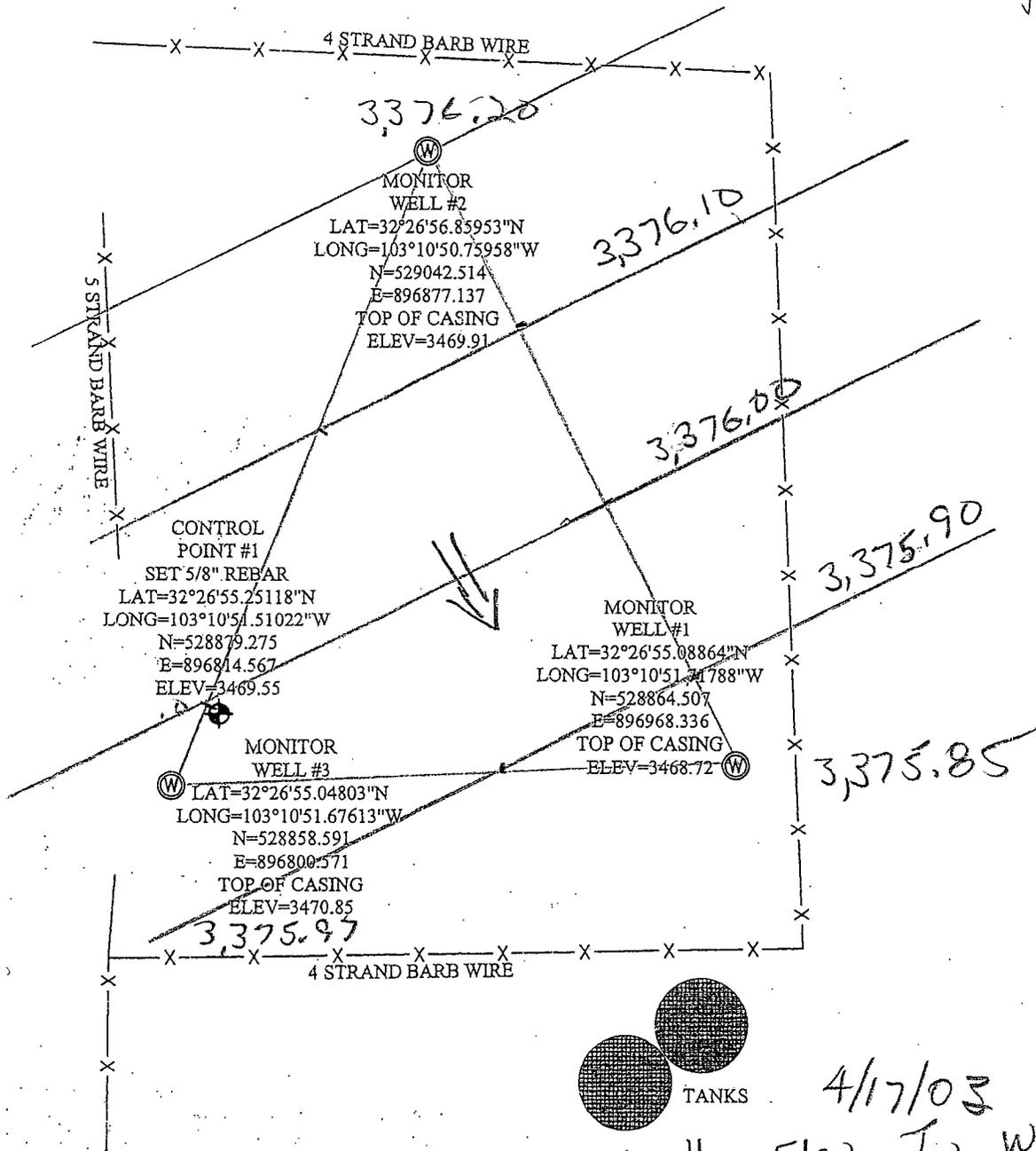
WELL SAMPLING:
 Sampled for BTEX, cation/anions on 07/01/03

Notes:
 Well drilled using Ingersoll-Rand TH75W HR2900.
 Water levels: 92.51 ft. below top of casing (BTOC) on 06/30/03
 92.47 ft. BTOC on 07/01/03
 92.49 ft. BTOC on 07/15/03

07-17-2003

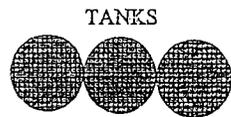
Figure 2.
Water Level Contour Maps
4/17/03
7/15/03

Original



4/17/03

Well	Elev	Tw	Wt	Elev
MW-1	3468.72	92.87		3,375.85
MW-2	3469.91	93.71		3,376.20
MW-3	3470.85	94.88		3,375.97

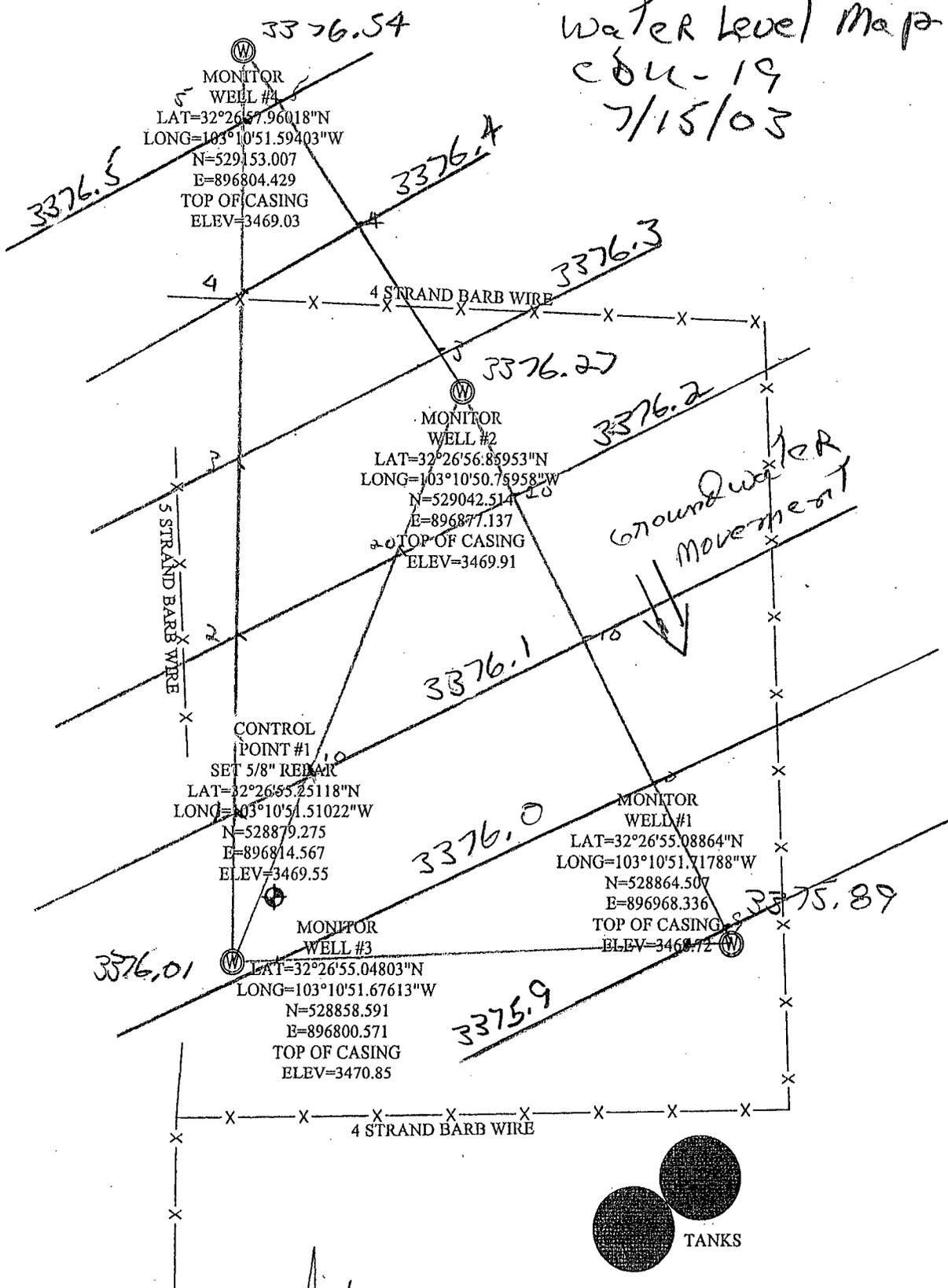


CBU Tract 19 Date 4/17/03

BASIS OF BEARING:
ALL POSITIONS WERE OBSERVED USING GLOBAL POSITIONING

SCALE 1" = 50'

Water Level Map
 CDU-19
 7/15/03



3376.5
 MONITOR WELL #4
 LAT=32°26'57.96018"N
 LONG=103°10'51.59403"W
 N=529153.007
 E=896804.429
 TOP OF CASING
 ELEV=3469.03

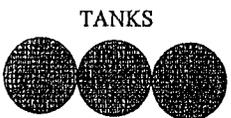
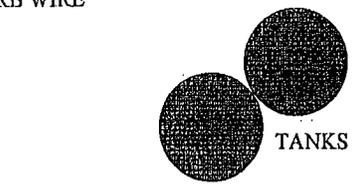
3376.27
 MONITOR WELL #2
 LAT=32°26'56.85953"N
 LONG=103°10'50.75958"W
 N=529042.514
 E=896877.137
 TOP OF CASING
 ELEV=3469.91

CONTROL POINT #1
 SET 5/8" REBAR
 LAT=32°26'55.25118"N
 LONG=103°10'51.51022"W
 N=528879.275
 E=896814.567
 ELEV=3469.55

3376.01
 MONITOR WELL #3
 LAT=32°26'55.04803"N
 LONG=103°10'51.67613"W
 N=528858.591
 E=896800.571
 TOP OF CASING
 ELEV=3470.85

MONITOR WELL #1
 LAT=32°26'55.08864"N
 LONG=103°10'51.71788"W
 N=528864.507
 E=896968.336
 TOP OF CASING
 ELEV=3468.72

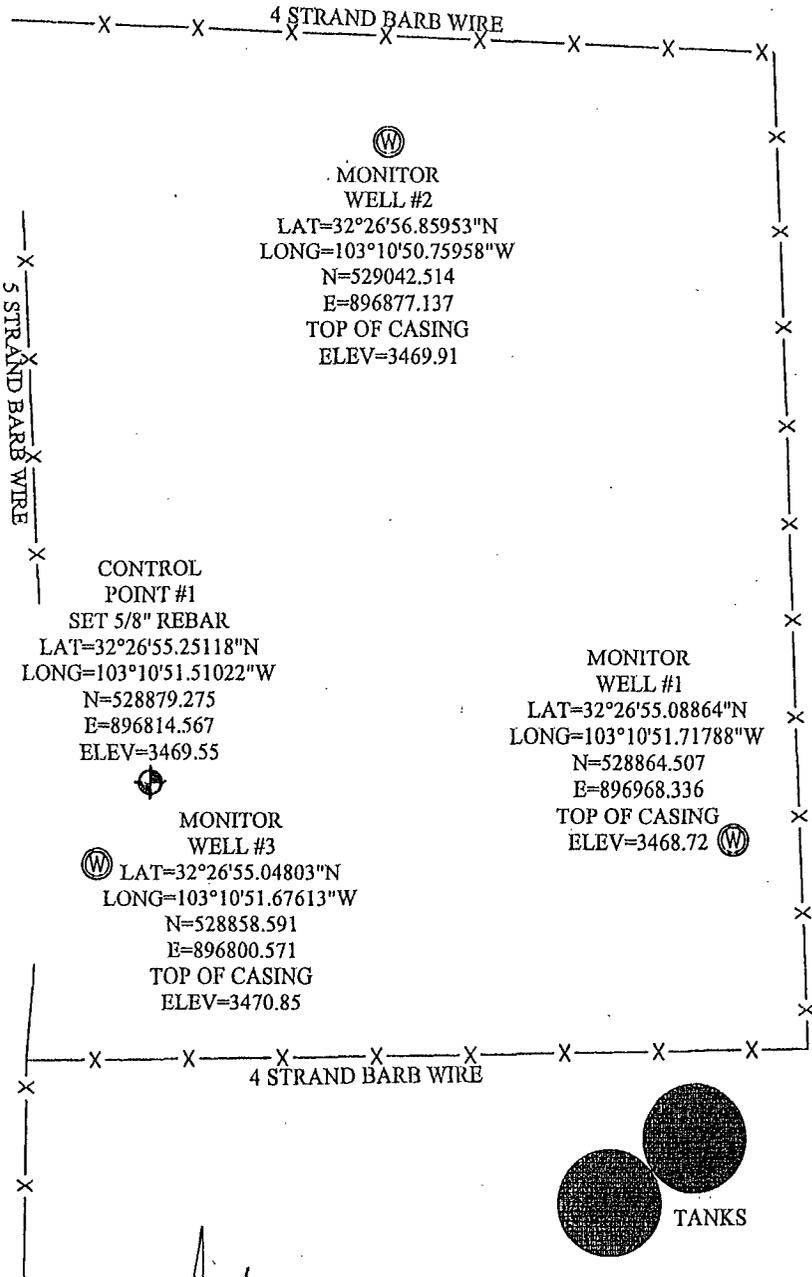
DANIEL R. MATH
 NEW MEXICO
 REGISTERED PROFESSIONAL SURVEYOR
 13239
 7/9/03



Appendix A
Plat of Location

(W)
 MONITOR
 WELL #4
 LAT=32°26'57.96018"N
 LONG=103°10'51.59403"W
 N=529153.007
 E=896804.429
 TOP OF CASING
 ELEV=3469.03

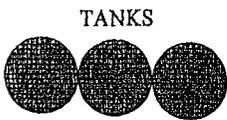
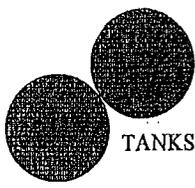
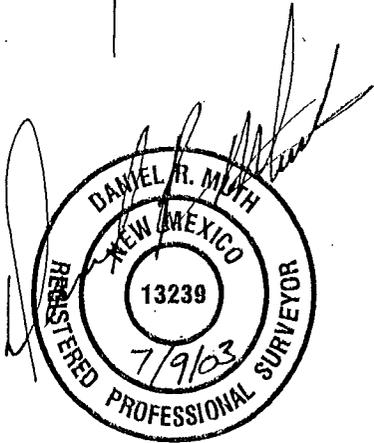
(W)
 MONITOR
 WELL #2
 LAT=32°26'56.85953"N
 LONG=103°10'50.75958"W
 N=529042.514
 E=896877.137
 TOP OF CASING
 ELEV=3469.91



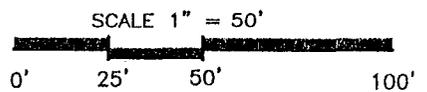
CONTROL
 POINT #1
 SET 5/8" REBAR
 LAT=32°26'55.25118"N
 LONG=103°10'51.51022"W
 N=528879.275
 E=896814.567
 ELEV=3469.55

MONITOR
 WELL #1
 LAT=32°26'55.08864"N
 LONG=103°10'51.71788"W
 N=528864.507
 E=896968.336
 TOP OF CASING
 ELEV=3468.72 (W)

MONITOR
 WELL #3
 (W) LAT=32°26'55.04803"N
 LONG=103°10'51.67613"W
 N=528858.591
 E=896800.571
 TOP OF CASING
 ELEV=3470.85



BASIS OF BEARING:
 ALL POSITIONS WERE OBSERVED USING GLOBAL POSITIONING
 SYSTEM TECHNIQUES BASED UPON THE AUTONOMOUS POSITION
 AT CONTROL POINT #1.



PETTIGREW AND ASSOCIATES

1110 N. GRIMES HOBBS, N.M. 88240
(505) 393-9827

**INDEXING INFORMATION
FOR COUNTY CLERK**

OWNER: CHEVRON CDU
 LOC: TRACT #19 OF THE NW1/4
 OF THE SE1/4 OF SEC. 29,
 T21S R37E, N.M.P.M.,
 LEA COUNTY, NEW MEXICO

PLAT OF LOCATION SURVEY FOR
Safety & Environmental Solutions
Monitoring Well Locations

REV	DATE	DESCRIPTION
0	7/09/2003	PLOTTED
00	4/22/2002	PRELIMINARY PLAT
	4/22/2002	DATE OF SURVEY

PROJ. No.	2002.1049	DRN BY:	D.MUTH
DWG	VACAD SES WELL/DWG/WELLS.DWG		
BOOK	HOBBS LOCAL #8	SHT.	1 OF 1

Appendix B
Laboratory Analytical Reports
Groundwater



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

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

ANALYTICAL RESULTS FOR:

SESI
 ATTN: BOB ALLEN
 703 E. CLINTON, #103
 HOBBS, NM 88240
 FAX TO: 505-397-0510

Receiving Date: 04/17/03
 Project Owner: CHEVRON TEXACO
 Project Number: CHE-01-003
 Project Name: CHEVRON CDU TRACT 19
 Project Location: EUNICE

Sampling Dates: 04/17/03
 Sample Type: GROUNDWATER
 Sample Condition: 4°C & INTACT
 Sample Received By: AH
 Analyzed By: JA

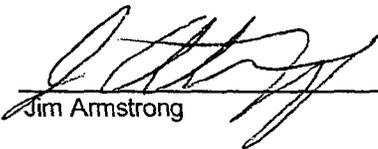
LAB ID SAMPLE ID

		MTBE (ug/L)	BENZENE (ug/L)	TOLUENE (ug/L)	ETHYL- TOTAL	
					BENZENE (ug/L)	XYLENES (ug/L)
H7603-1	MW-2	<2.00	<2.00	<2.00	<2.00	<6.00
H7603-2	MW-3	<2.00	<2.00	<2.00	<2.00	<6.00
H7603-3	MW-1	<2.00	<2.00	<2.00	<2.00	<6.00

Extraction Date:	4/22/03	4/22/03	4/22/03	4/22/03	4/22/03
Analysis Date:	4/22/03	4/22/03	4/22/03	4/22/03	4/22/03
Method Blank	<2.00	<2.00	<2.00	<2.00	<6.00
Sample LCS	111	103	101	93.9	270
True Value LCS	100	100	100	100	300
LCS % Recovery	111.0%	103.0%	101.0%	93.9%	90.0%
Matrix Spike	115	105	108	101	293
True Value Matrix Spike	100	100	100	100	300
Matrix Spike % Recovery	115.0%	105.0%	108.0%	101.0%	97.7%
Matrix Spike RSD (%)	0.6%	0.7%	0.0%	0.8%	1.4%

METHODS:

BTEX/MTBE--EPA SW-846 8021B, 5030B


 Jim Armstrong

4-23-03
 Date



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, STE. 103
HOBBS, NM 88240
FAX TO: (505) 393-4388

Receiving Date: 04/17/03
Reporting Date: 04/22/03
Project Number: CHE-01-003
Project Name: CHEVRON CDU TRACT 19
Project Location: EUNICE, NM

Sampling Date: 04/17/03
Sample Type: GROUNDWATER
Sample Condition: COOL & INTACT
Sample Received By: AH
Analyzed By: AH

LAB NUMBER	SAMPLE ID	Na (mg/L)	Ca (mg/L)	Mg (mg/L)	K (mg/L)	Conductivity (μ S/cm)	T-Alkalinity (mgCaCO ₃ /L)
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ANALYSIS DATE:	04/21/03	04/21/03	04/21/03	04/21/03	04/21/03	04/21/03	04/21/03
H7603-1 MW2	305	349	118	6.47	4730	140	
H7603-2 MW3	93	105	51	6.08	1639	210	
H7603-3 MW1	610	488	114	6.34	6842	195	
Quality Control	NR	43	55	5.22	1322	NR	
True Value QC	NR	50	50	5.00	1413	NR	
% Recovery	NR	86	110	104	93.6	NR	
Relative Percent Difference	NR	0	0	2.6	0.7	NR	

METHODS:	SM3500-Ca-D	3500-Mg E	8049	120.1	310.1
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Cl ⁻ (mg/L)	SO ₄ (mg/L)	CO ₃ (mg/L)	HCO ₃ (mg/L)	pH (s.u.)	TDS (mg/L)
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ANALYSIS DATE:	04/21/03	04/21/03	04/21/03	04/21/03	04/21/03	04/22/03
H7603-1 MW2	1080	353	0	171	7.12	3149
H7603-2 MW3	272	85.1	0	256	7.28	1056
H7603-3 MW1	1899	147	0	238	7.02	4124
Quality Control	1030	54.39	NR	1068	6.99	NR
True Value QC	1000	50.00	NR	1000	7.00	NR
% Recovery	103	109	NR	107	99.9	NR
Relative Percent Difference	2.0	0.7	NR	7.7	0.3	12.1

METHODS:	SM4500-Cl-B	375.4	310.1	310.1	150.1	160.1
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Amy Hill
Chemist

4/22/03
Date

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 client for 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 thirty (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.



CARDINAL LABORATORIES, INC.

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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

ANALYSIS REQUEST

Company Name: SEST
 Project Manager: Bob Allen
 Address: 703 E. CLINTON, #103
 City: HOBBS State: NM Zip: 88240
 Phone #: (505) 397-0510
 Fax #: (505) 393-4388
 Project #: CHE-01-003 Project Owner: Chevron Baco
 Project Name: Chevron site Tract 19
 Project Location: Furnace
 Company: SAME PO #: 11110
 Attn: KRISTE
 Address:
 City:
 State: Zip:
 Phone #: Fax #:

LAB I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX						PRES.	SAMPLING	DATE	TIME	ANALYSIS
				GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER:					
H7603-1	MLO-2	G	3	X							4/17	0935	BTX	
-8	MLO-3	G	3	X							4/17	1035	Cations Anions	
-3	MLO-1	G	3	X							4/17	1120		

PLEASE NOTE: Utility and Demopex, Cardinal's liability and client's liability are hereby released in contract or not, shall be limited to the amount paid by the client for the analysis. No claim 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 respective 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.

Sampler Relinquished: [Signature] Date: 4/17/03
 Relinquished By: [Signature] Date: 4/16/03
 Received By: Lab Staff
 Sample Condition: Yes No
 Cobi In tact: Yes No
 CHECKED BY: [Signature] (Initials)

Delivered By: (Circle One)
 Sampler - UPS - Bus - Other:
 Remarks:
 Phone Result: Yes No
 Fax Result: Yes No
 Additional Fax #:

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



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, STE. 103
 HOBBS, NM 88240
 FAX TO: (505) 393-4388

Receiving Date: 07/01/03
 Reporting Date: 07/03/03
 Project Number: NOT GIVEN
 Project Name: CDU TRACT 19
 Project Location: NOT GIVEN

Sampling Date: 07/01/04
 Sample Type: GROUNDWATER
 Sample Condition: COOL & INTACT
 Sample Received By: AH
 Analyzed By: BC

LAB NUMBER	SAMPLE ID	BENZENE (mg/L)	TOLUENE (mg/L)	ETHYL BENZENE (mg/L)	TOTAL XYLENES (mg/L)
ANALYSIS DATE		07/02/03	07/02/03	07/02/03	07/02/03
H7780-1	MONITOR WELL #4	<0.002	<0.002	<0.002	<0.006
Quality Control		0.097	0.101	0.093	0.274
True Value QC		0.100	0.100	0.100	0.300
% Recovery		97.2	101	93.2	91.3
Relative Percent Difference		5.5	6.3	5.3	4.2

METHOD: EPA SW-846 8260

Burjess J. Albrecht
 Chemist

7/13/03
 Date

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 client for 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 thirty (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 any other persons 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.



**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, STE. 103
HOBBS, NM 88240
FAX TO: (505) 393-4388

Receiving Date: 07/01/03
Reporting Date: 07/03/03
Project Number: NOT GIVEN
Project Name: CDU TRACT 19
Project Location: NOT GIVEN

Sampling Date: 07/01/03
Sample Type: GROUNDWATER
Sample Condition: COOL & INTACT
Sample Received By: AH
Analyzed By: AH

LAB NUMBER	SAMPLE ID	Na (mg/L)	Ca (mg/L)	Mg (mg/L)	K (mg/L)	Conductivity (uS/cm)	T-Alkalinity (mgCaCO ₃ /L)
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ANALYSIS DATE:	07/02/03	07/02/03	07/02/03	07/02/03	07/02/03	07/02/03
H7780-1 MONITOR WELL #4	354	200	77	7.95	3492	101
Quality Control	NR	43	55	5.22	1322	NR
True Value QC	NR	50	50	5.00	1413	NR
% Recovery	NR	86	110	104	93.6	NR
Relative Percent Difference	NR	0	0	2.6	0.7	NR

METHODS: SM3500-Ca-D 3500-Mg E 8049 120.1 310.1

Cl ⁻ (mg/L)	SO ₄ (mg/L)	CO ₃ (mg/L)	HCO ₃ (mg/L)	pH (s.u.)	TDS (mg/L)
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ANALYSIS DATE:	07/02/03	07/02/03	07/02/03	07/02/03	07/02/03	07/03/03
H7780-1 MONITOR WELL #4	900	220	0	123	7.47	2306
Quality Control	990	54.39	NR	1068	6.97	NR
True Value QC	1000	50.00	NR	1000	7.00	NR
% Recovery	99.0	109	NR	107	100	NR
Relative Percent Difference	6.0	0.7	NR	7.7	0.4	12.1

METHODS: SM4500-Cl-B 375.4 310.1 310.1 150.1 160.1

Amy Hill
Chemist

7/3/03
Date



CARDINAL LABORATORIES, INC.

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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

ANALYSIS REQUEST

Company Name: SEST	Company: SAME
Project Manager:	PO #:
Address: 703 E. CLINTON, #103	City: HOBBS
City: HOBBS	State: NM Zip: 88240
Phone #: (505) 397-0510	Address:
Fax #: (505) 393-4388	City:
Project #: Project Owner:	State: Zip:
Project Name: CDUTRACT19	Phone #:
Project Location:	Fax #:

LAB I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX						DATE	TIME	REMARKS
				GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER:			
A7780-1	Monsieur Wood Dr	6	5							7-1-03 1:15	Stex COPATE in JAR	

PLEASE NOTE: Utility and Damages: Cardinal liability and start's analysis remedy for any claim arising whether based in contract or tort, shall be limited to the amount paid by the client for the analysis. 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 interruption, 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.

Sampler Relinquished: 7-1-03 Date: 7-1-03 Received By: Alan Jee
 Relinquished By: Alan Jee Date: 7/1/03 Received By: (Lab Staff) Alan Jee
 Delivered By: (Circle One) Other Sample Condition Yes No
 Cooler Yes No

Checked By: (Initials) Alan Jee

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

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