

1R - 268

REPORTS

DATE:

1999



Tipperary
CORPORATION

633 Seventeenth Street
Suite 1550
Denver, Colorado 80202

April 27, 1999

CERTIFIED MAIL

Mr. William C. Olson
New Mexico Oil Conservation Division
2040 South Pacheco
Santa Fe, NM 87505

**RE: April 1999 Progress Report
Tatum Pit Closure Project
Lea County, NM**

RECEIVED

MAY 06 1999

ENVIRONMENTAL BUREAU
OIL CONSERVATION DIVISION

Dear Mr. Olson:

Please find enclosed additional results from our monitor wells in the subject project area. These results are from water samples taken on April 1, 1999. These samples represent the seventh quarter of monitoring. We will continue to analyze water samples quarterly.

In our January 1999 progress report, we requested final closure for these projects: Vera (pit and monitor well #5) and State NBN (pit and monitor well #7). In your letter dated March 29, 1999, you requested a water table potentiometric map as well as the magnitude of the hydraulic gradient at these sites to complete your review of our request. Please be advised that we are currently constructing this data and it will be forwarded to you as soon as it is completed.

Additional monitor wells were constructed March 15-16 at the following pit sites: Bell A, State NBF, Sohio 1, Sohio A, and GS State. Complete water analyses from these new monitor wells are included in this report. It appears that an additional monitor well will be necessary for the Sohio 1 and Sohio A pit sites. These will be installed accordingly.

If you have any questions, please call me at (303) 293-9379.

Very truly yours,

Larry G. Sugano
Vice President - Engineering

cc: NMOCD Hobbs Office

Enclosures



Tipperary
CORPORATION

TATUM PIT CLOSURE PROJECT
WATER SAMPLING RESULTS
APRIL, 1999

Executive Summary

Iva COM

Having completed six consecutive quarters of sampling monitor wells 1 & 2 with no BTEX component exceeding WQCC standards, we began a sampling program from the source well. The results are presented in this report. We do not plan to continue to sample wells 1 & 2.

Mable COM

Monitor well #3 has passed six consecutive quarters with no BTEX component exceeding WQCC standards. We do not plan to continue monitoring the location, but will provide complete analyses (RCRA 8 metals, BTEX, and major cation / anions) at the conclusion of the sampling program for the source well. Monitor well #4 showed a slight increase in BTEX concentrations reflecting a normal seasonal increase in water table levels. The source well shows moderate benzene and xylene concentrations.

Vera

The analytical results of six consecutive quarterly samplings described in our February 16th summary revealed no BTEX component concentration in excess of WQCC standards. Tipperary requests final closure of this pit.

Bell A

Monitor wells 6, 13 & 14 show normal increases in BTEX concentrations due to seasonal changes within the water table. An additional delineation well (#25) was drilled a distance of 150' southeast of the mid-point of wells 13 & 14. The drilling log is included within this report. The analytical results of water samples obtained from this new well reflect no BTEX, RCRA 8 metals or cation / anion concentrations in excess of WQCC standards. (See Environmental Labs of Texas log no. 17265).

NBF

Monitor wells 8, 15 & 16 show normal increases in BTEX concentrations due to seasonal changes within the water table. An additional delineation well (#26) was drilled at a distance of 150' southeast of the mid-point of wells 15 & 16. The drilling log is included within this report. The analytical results of water samples obtained from this new well reflect no BTEX, RCRA 8 metals or cation / anion concentrations in excess of WQCC standards. (See Environmental Labs of Texas log no. 17266).

NBN

The analytical results of six consecutive quarterly samplings described in our February 16th summary revealed no BTEX component concentration in excess of WQCC standards. Tipperary requests final closure of this pit.

Sohio State #1

Monitor wells 10, 17 & 18 show normal increases in BTEX concentrations due to seasonal changes within the water table. An additional delineation well (#28) was drilled at a distance of 150' southeast of the mid-point of wells 17 & 18. The drilling log is included within this report. The analytical results of water samples obtained from this new wells reflect acceptable RCRA 8 metals and cation / anion concentrations however the BTEX concentrations are in excess of WQCC standards. (See Environmental Labs of Texas log no. 17268). A fifth monitor well will be drilled, cased, developed and tested.

Sohio State A

Monitor wells 10, 19 & 20 show normal increases in BTEX concentrations due to seasonal changes within the water table. An additional delineation well (#27) was drilled at a distance of 150' southeast of the mid-point of wells 19 & 20. The drilling log is included within this report. The analytical results of water samples obtained from this new well reflect acceptable RCRA 8 metals and cation / anion concentrations however the BTEX concentrations are in excess of WQCC standards. (See Environmental Labs of Texas log no. 17267). A fifth monitor well will be drilled, cased, developed and tested.

G.S. State

Monitor wells 21 & 22 show normal increases in BTEX concentrations due to seasonal changes within the water table. An additional delineation well (#29) was drilled at a distance of 150' southeast of the mid-point of wells 21 & 22. The drilling log is included within this report. The analytical results of water samples obtained from this new well reflect no BTEX, RCRA 8 metals or cation / anion concentrations in excess of WQCC standards. (See Environmental Labs of Texas log no. 17269).

Satellite #4

BTEX concentrations within monitor wells 9 & 23 remain essentially unchanged from the January, 1999 sampling round.

ENVIRONMENTAL LAB OF , INC.

"Don't Treat Your Soil Like Dirt!"

TIPPERARY
ATTN: MR. VICTOR A. VICE
P.O. BOX 857
TATUM, NM 88267
FAX: 505-398-6510
FAX: 281-646-8996

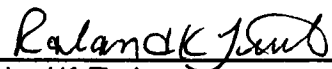
Receiving Date: 04/02/99
Sample Type: Water
Project : None Given
Project Location: None Given

Analysis Date: 4/05 & 4/06/99
Sampling Date: 04/01/99
Sample Condition: Intact/Iced

ELT#	FIELD CODE	BENZENE (mg/l)	TOLUENE (mg/l)	ETHYLBENZENE (mg/l)	m,p-XYLENE (mg/l)	o-XYLENE (mg/l)
17428	Iva Com Source Well	2.05	4.15	0.902	5.50	3.80
17429	Mable Com Source Well	0.486	0.432	0.066	1.00	0.713
17430	Mable Com #4	0.012	0.008	0.002	0.010	0.006
17431	Bell A #6	0.139	0.013	0.006	0.011	0.006
17432	Bell A #13	0.021	0.018	0.003	0.009	0.006
17433	Bell A #14	0.108	0.015	0.004	0.009	0.005
17434	NBF #8	0.032	0.002	0.004	0.003	0.001
17435	NBF #15	3.11	1.98	0.214	0.767	0.435
17436	NBF #16	3.15	0.164	0.078	0.219	0.098
17437	Sohio St. #1- #10	2.34	0.067	0.168	0.203	0.100
17438	Sohio St. #1- #17	1.35	0.092	0.079	0.248	0.138
17439	Sohio St. #1- #18	3.35	0.331	0.114	0.469	0.280
17440	Sohio St. #1- #28	0.446	0.065	0.011	0.041	0.058
17441	Sohio St. A - #11	0.048	0.008	0.004	0.014	0.010
17442	Sohio St. A - #19	0.026	0.010	0.006	0.016	0.010
17443	Sohio St. A - #20	0.547	0.011	0.005	0.030	0.009
17444	Sohio St. A - #27	0.056	0.007	0.006	0.007	0.013
17445	G.S. State #21	0.124	0.008	0.042	0.012	0.007
17446	G.S. State #22	0.059	0.010	0.036	0.022	0.014
17447	G.S. State #29	0.004	<0.001	<0.001	0.035	<0.001
17448	Satellite #4 - #9	0.027	0.005	0.004	0.004	0.002
17449	Satellite #4 - #23	0.004	0.004	0.001	0.003	0.002

% IA	102	99	97	97	99
% EA	100	97	97	91	95
BLANK	<0.001	<0.001	<0.001	<0.001	<0.001

METHODS: SW 846-8020,5030


Raland K. Tuttle

4-7-99
Date

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

Relinquished by:	Date:	Times:	Received by:	REMARKS
D. A. Vee	4-2-99	1010	Richard Ford	
Relinquished by:	Date:	Times:	Received by:	
Relinquished by:	Date:	Times:	Received by Laboratory:	

Environmental Lab of Texas, Inc. 12600 West I-2A st Odessa, Texas 79763

(915) 563-1800 FAX (915) 563-1713

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: Phone #: FAX #:

Company Name & Address: *Tipperary*

Project #: Project Name:

Project Location: Sampler Signature:

LAB # (LAB USE ONLY)	FIELD CODE	# CONTAINERS	Volume/Amount	MATRIX					PRESERVATIVE METHOD					SAMPLING	
				WATER	SOIL	AIR	SLUDGE	OTHER	HCL	HNO3	ICE	NONE	OTHER	DATE	TIME
17431	BELLA #6														
17432	↓ #13														
17433	↓ #14														
17434	NBF #8														
17435	↓ #15														
17436	↓ #16														
17437	Sohio St. #10														
17438	↓ #17														
17439	↓ #18														
17440	↓ #28														
17441	Sohio St. #A #11														

ANALYSIS REQUEST

BTEX 81120/50130
TPH 418.1
TCLP Metals Ag As Ba Cd Cr Pb Hg Se
Total Metals Ag As Ba Cd Cr Pb Hg Se
TCLP Volatiles
TCLP Semi Volatiles
TDS
RCI

REMARKS

Relinquished by:	Date:	04-02-99	Times:	1010	Received by:
Relinquished by:	Date:		Times:		Received by:
Relinquished by:	Date:		Times:		Received by Laboratory:

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

[illegible]

ENVIRONMENTAL LAB OF , INC.

"Don't Treat Your Soil Like Dirt!"

TIPPERARY OIL & GAS
633 17TH
DENVER, COLORADO 80202
FAX: 281-646-8996 (Mike Griffin)

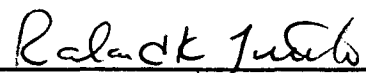
Receiving Date: 03/17/99
Sample Type: Water
Project : Tatum Dileneation
Project Location: Tatum, New Mexico

Analysis Date: 03/17/99
Sampling Date: 03/17/99
Sample Condition: Intact/Iced

ELT#	FIELD CODE	BENZENE (mg/l)	TOLUENE (mg/l)	ETHYLBENZENE (mg/l)	m,p-XYLENE (mg/l)	o-XYLENE (mg/l)
17265	#25 Bell	0.006	0.004	0.004	0.005	0.004
17266	#26 NBF	0.002	0.003	0.001	0.002	0.001
17267	#27 Sohio A	0.118	0.019	0.005	0.004	0.008
17268	#28 Sohio #1	0.156	0.008	0.003	0.010	0.005
17269	#29 G.S. State	0.012	0.012	0.004	0.021	0.041

% IA	104	100	99	98	99
% EA	108	104	101	102	103
BLANK	<0.001	<0.001	<0.001	<0.001	<0.001

METHODS: SW 846-8020,5030


Ralack K. Tuttle

3-26-99
Date

ENVIRONMENTAL LAB OF , INC.

"Don't Treat Your Soil Like Dirt!"

TIPPERARY OIL & GAS
633 17TH
DENVER, COLORADO 80202
FAX: 281-646-8996(Mike Griffin)

Receiving Date: 03/17/99
Sample Type: Water
Project : Tatum Dileneation
Project Location: Tatum, N.M.

Analysis Date: Hg 3/23/99
Analysis Date: 3/25/99
Sampling Date: 3/17/99
Sample Condition: Intact/Iced

TOTAL METALS (mg/L)

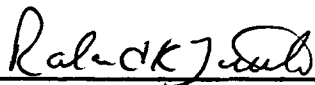
ELT#	Field Code	Ag	As	Ba	Cd	Cr	Hg	Pb	Se
17265	#25 Bell	ND	ND	0.250	ND	0.0110	ND	ND	ND
17266	#26 NBF	ND	ND	0.201	ND	0.0060	ND	ND	ND
17267	#27 Sohio A	ND	ND	0.276	ND	0.0110	ND	ND	ND
17268	#28 Sohio #1	ND	0.028	0.709	ND	0.0220	ND	0.0090	ND
17269	#29 G.S. State	ND	ND	0.369	ND	0.0080	ND	ND	ND

REPORTING LIMIT	0.0050	0.005	0.010	0.0010	0.0050	0.00020	0.0030	0.0050
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ND = Not detected at the reporting limit.

% INSTRUMENT ACCURACY	100	106	95	100	94	103	98	112
% EXTRACTION ACCURACY	96	104	97	100	96	96	99	102

METHODS: EPA 200.7, 245.2


Raland K. Tuttle

3-26-99
Date



GULF STATES JALYTICAL
6310 Rothway Houston, Texas 77040
(713) 690-4444, Fax (713) 690-5646

Request for Analysis

5

Company: **Denver, CO** Tele #: **80208**
Address: **Tippenary 086** 633 17th
Reports Sent To: **Whole Earth** P.O. #: **Project #:**

Project Name: **Tatum Dismantment**
Project Location: **Tatum, NM**

Sampler(s) Name: (Signature) **M. G. [Signature]**

Courier: **1**

Field Sample ID

1. # 25 Bell (17265) 3-17 8:10
2. # 26 NBF (17264) 3-17 8:26
3. # 27 Sahia A (17267) 3-17 8:44
4. # 28 Sahia #1 (17268) 3-17 9:05
5. # 29 G.S. State (17269) 3-17 9:25

Haz. Sample (Y/N)
of Containers
Matrix
Water
Soil
Sludge
Oil
Other

3 N
3 N
3 N
3 N
3 N

Special Detection Limits

QC Package: (check one)
☐ CLP ☐ Site Specific
☐ Tier 1 ☐ Tier 2 ☐ QC Summary

Relinquished by Sampler: (Signature)

M. G. [Signature]

Relinquished by: (Signature)

Date

Time

Date

Time

Received by: (Signature)

Date

Time

Received by: (Signature)

Ruback [Signature]

Received by: (Signature)

Date

Time

Date

Time

Received by Laboratory: (Signature)

Date

Time

Remarks:

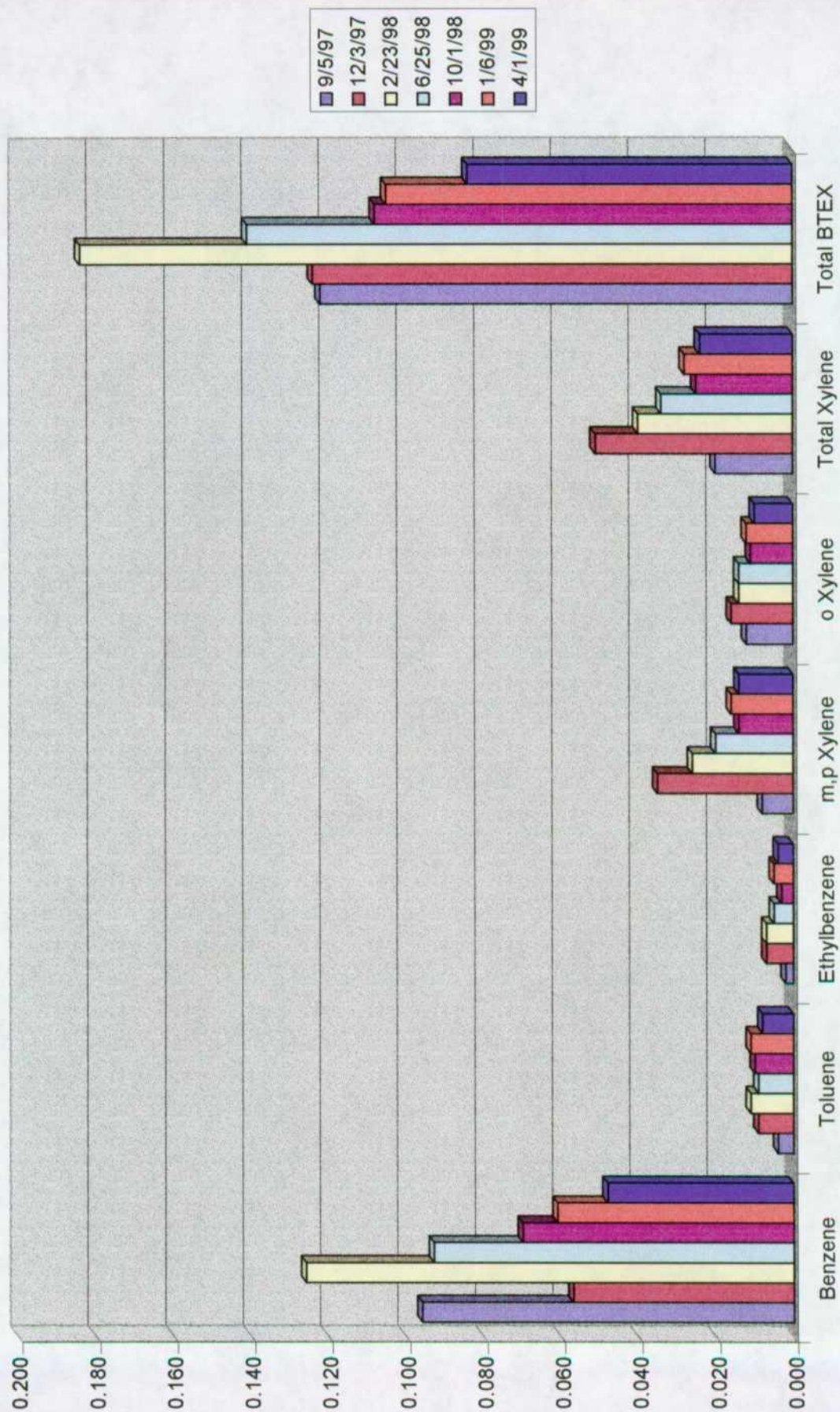
6

Solio A

Monitor Well # 11
Sohio State "A"
Sampling Results

Lab #	12484	13132	14067	14666	15598	16605	17441
Sample Date	9/5/97	12/3/97	2/23/98	6/25/98	10/1/98	1/6/99	4/1/99
Benzene	0.096	0.057	0.126	0.093	0.070	0.061	0.048
Toluene	0.004	0.009	0.011	0.009	0.010	0.011	0.008
Ethylbenzene	0.002	0.007	0.007	0.005	0.003	0.005	0.004
m,p Xylene	0.008	0.035	0.026	0.02	0.014	0.016	0.014
o Xylene	0.012	0.016	0.014	0.014	0.011	0.012	0.010
Total Xylene	0.020	0.051	0.04	0.034	0.025	0.028	0.024
Total BTEX	0.122	0.124	0.184	0.141	0.108	0.105	0.084

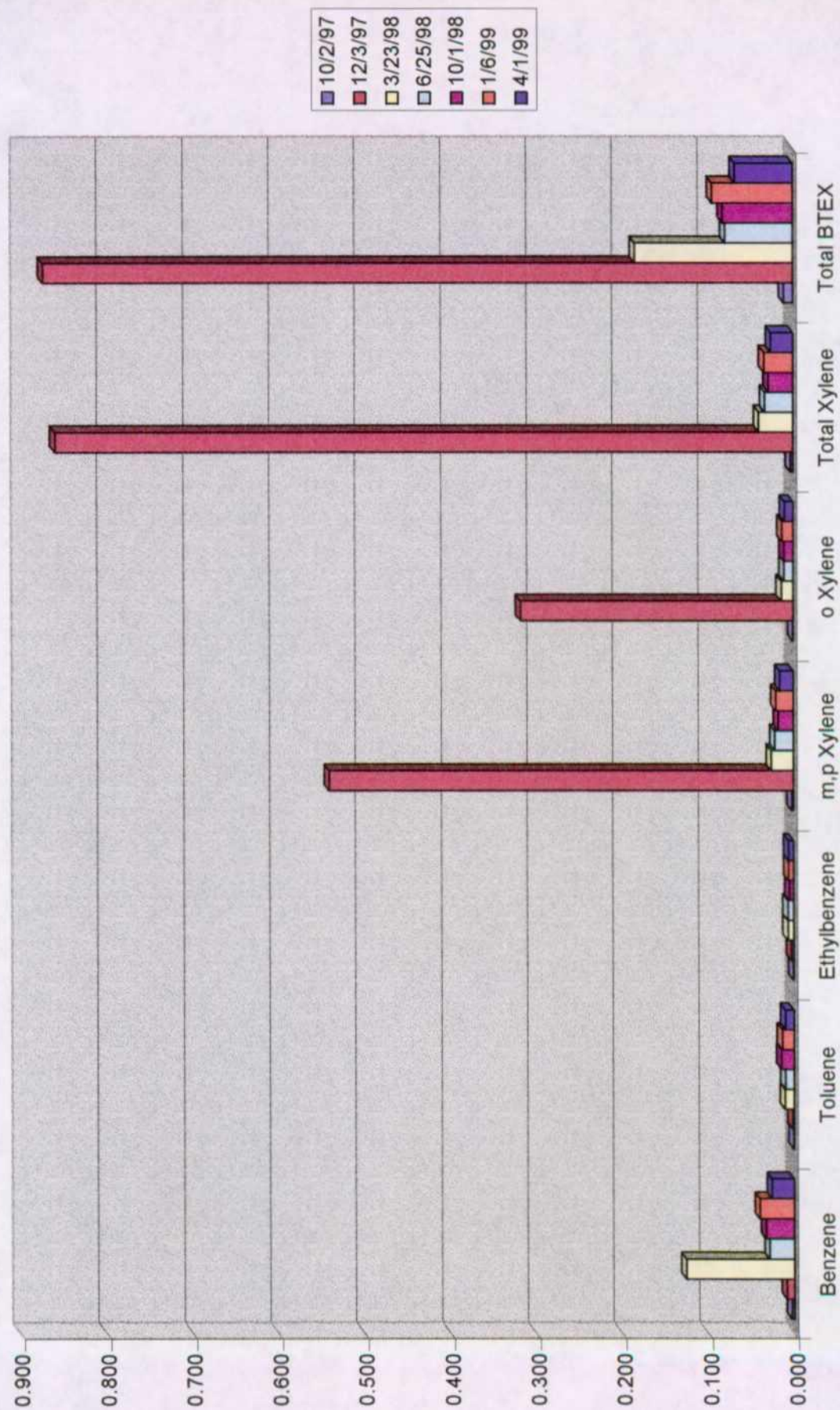
Sohio State "A" # 11



Monitor Well # 19
Sohio State "A"
Sampling Results

Lab. #	12725	13189	14067	14673	15602	16589	17442
Sample Date	10/2/97	12/3/97	3/23/98	6/25/98	10/1/98	1/6/99	4/1/99
Benzene	0.003	0.009	0.126	0.029	0.033	0.04	0.026
Toluene	0.001	0.002	0.011	0.010	0.015	0.014	0.01
Ethylbenzene	0.001	0.003	0.007	0.007	0.005	0.006	0.006
m,p Xylene	0.002	0.541	0.026	0.022	0.018	0.021	0.016
o Xylene	0.001	0.318	0.014	0.011	0.011	0.013	0.01
Total Xylene	0.003	0.859	0.04	0.033	0.029	0.034	0.026
Total BTEX	0.011	0.873	0.184	0.079	0.082	0.094	0.068

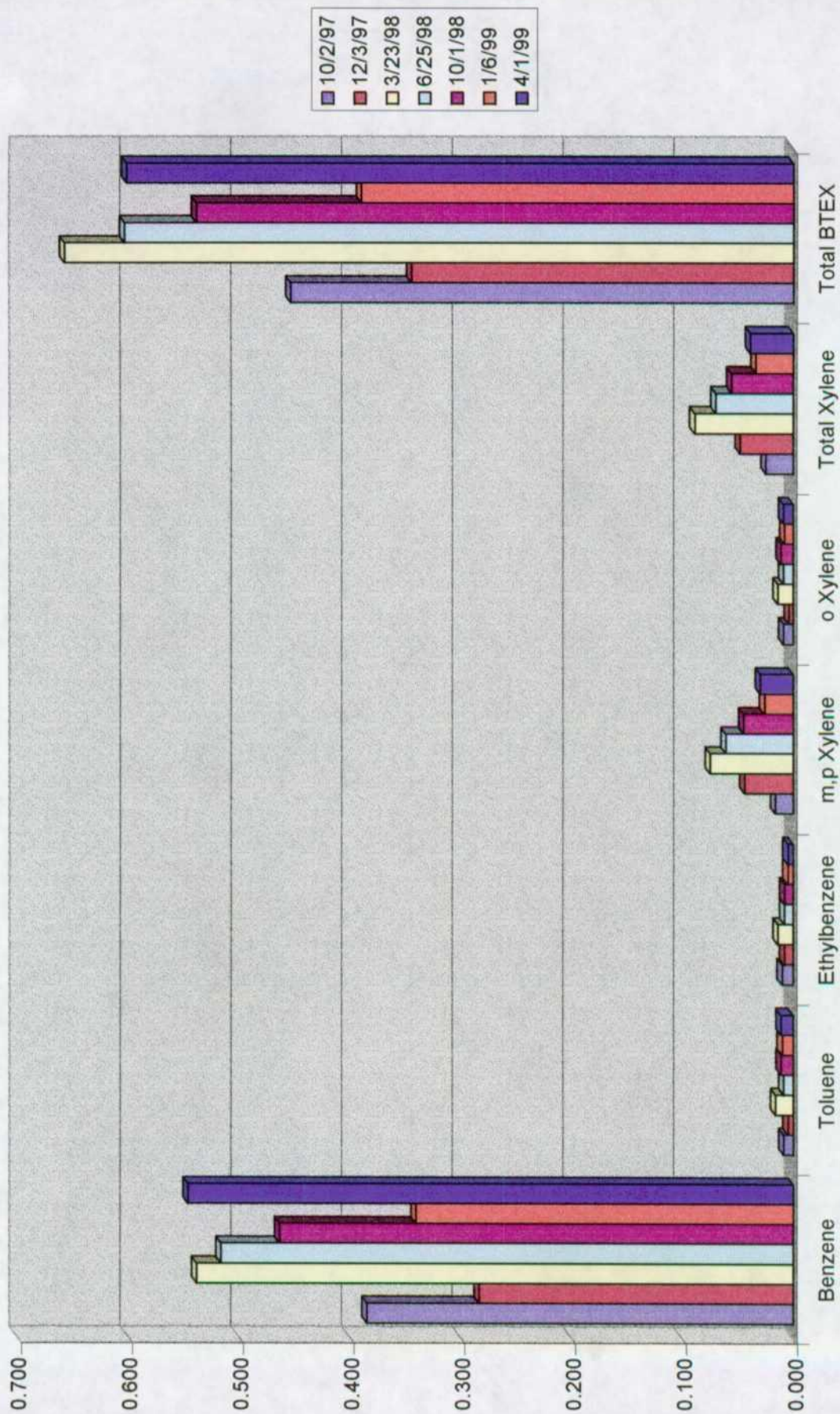
Sohio State "A" # 19



Monitor Well # 20
Sohio State "A"
Sampling Results

Lab. #	12726	13190	14054	14674	15610	16590	17443
Sample Date	10/2/97	12/3/97	3/23/98	6/25/98	10/1/98	1/6/99	4/1/99
Benzene	0.385	0.284	0.539	0.517	0.464	0.341	0.547
Toluene	0.009	0.005	0.016	0.009	0.011	0.01	0.011
Ethylbenzene	0.010	0.008	0.014	0.008	0.008	0.005	0.005
m,p Xylene	0.016	0.044	0.075	0.061	0.045	0.026	0.030
o Xylene	0.009	0.004	0.014	0.009	0.011	0.008	0.009
Total Xylene	0.025	0.048	0.089	0.07	0.056	0.034	0.039
Total BTEX	0.454	0.345	0.658	0.604	0.539	0.39	0.602

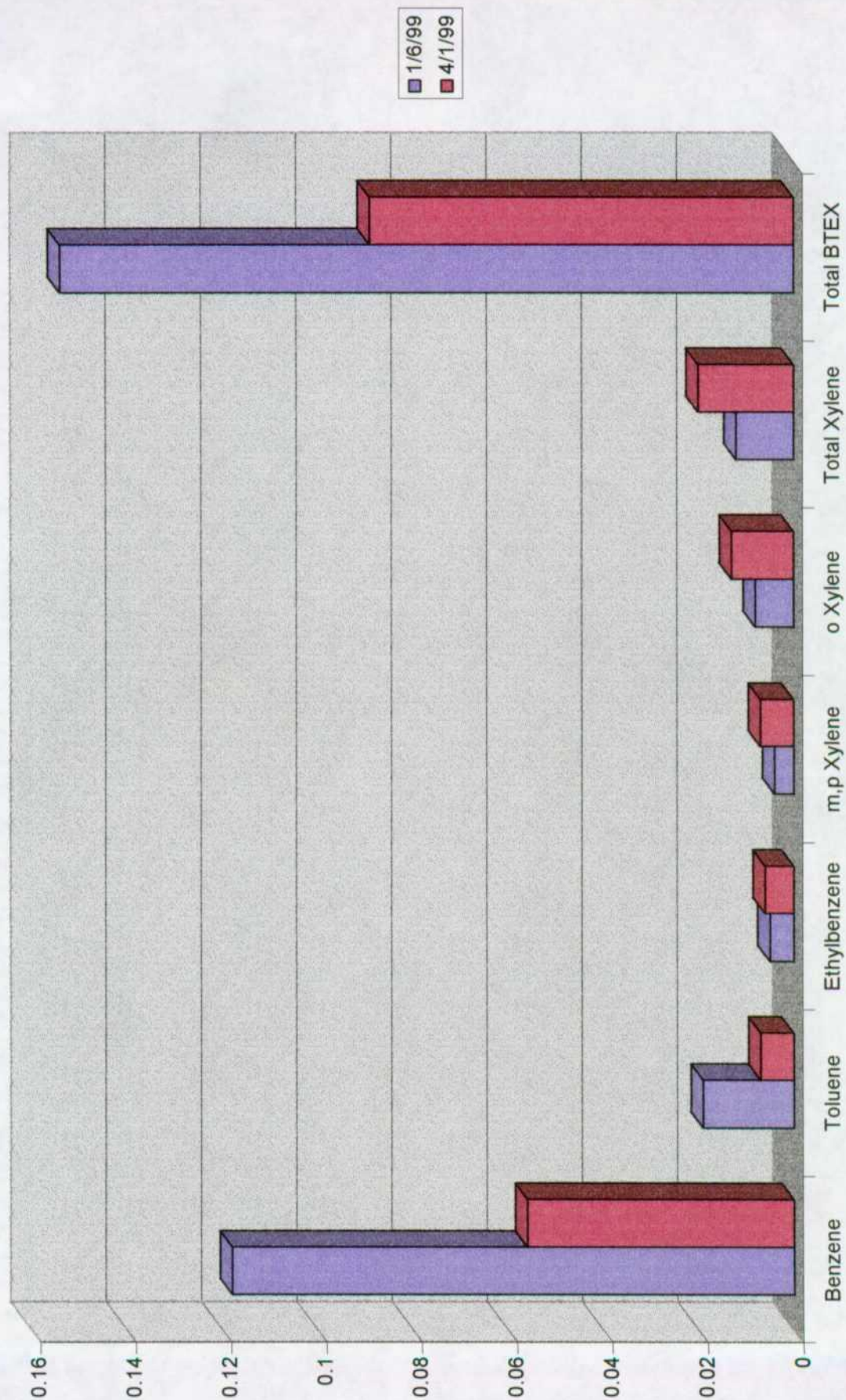
Sohio State "A" # 20



Monitor Well # 27
Sohio State "A"
Sampling Results

Lab. #	17267	17444
Sample Date	3/19/99	4/1/99
Benzene	0.118	0.056
Toluene	0.019	0.007
Ethylbenzene	0.005	0.006
m,p Xylene	0.004	0.007
o Xylene	0.008	0.013
Total Xylene	0.012	0.020
Total BTEX	0.154	0.089

Sohio State "A" # 27



ENVIRONMENTAL LAB OF , INC.

"Don't Treat Your Soil Like Dirt!"

TIPPERARY OIL & GAS
633 17TH
DENVER, COLORADO 80202
FAX: 281-646-8996 (Mike Griffin)

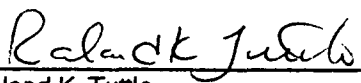
Receiving Date: 03/17/99
Sample Type: Water
Project: Tatum Dileneation
Project Location: Tatum, New Mexico

Analysis Date: 03/17/99
Sampling Date: 03/17/99
Sample Condition: Intact/Iced

ELT#	FIELD CODE	BENZENE (mg/l)	TOLUENE (mg/l)	ETHYLBENZENE (mg/l)	m,p-XYLENE (mg/l)	o-XYLENE (mg/l)
17265	#25 Bell	0.006	0.004	0.004	0.005	0.004
17266	#26 NBF	0.002	0.003	0.001	0.002	0.001
17267	#27 Sohio A	0.118	0.019	0.005	0.004	0.008
17268	#28 Sohio #1	0.156	0.008	0.003	0.010	0.005
17269	#29 G.S. State	0.012	0.012	0.004	0.021	0.041

% IA	104	100	99	98	99
% EA	108	104	101	102	103
BLANK	<0.001	<0.001	<0.001	<0.001	<0.001

METHODS: SW 846-8020,5030


Raland K. Tuttle

3-26-99
Date

ENVIRONMENTAL LAB OF , INC.

"Don't Treat Your Soil Like Dirt!"

TIPPERARY OIL & GAS
633 17TH
DENVER, COLORADO 80202
FAX: 281-646-8996(Mike Griffin)

Receiving Date: 03/17/99
Sample Type: Water
Project : Tatum Dileneation
Project Location: Tatum, N.M.

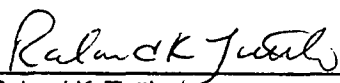
Analysis Date: See below
Sampling Date: 3/17/99
Sample Condition: Intact/Iced

ELT#	Field Code	Ca (mg/L)	Mg (mg/L)	Na (mg/L)	K (mg/L)	Chloride (mg/L)	Sulfate (mg/L)	CO3 (mg/L)	HCO3 (mg/L)
17265	#25 Bell	189	46	281	8.7	851	300	0	159
17266	#26 NBF	31.4	16	65	6.4	53	175	0	159
17267	#27 Sohio A	144	78	377	16.2	1028	195	0	329
17268	#28 Sohio #1	715	140	4660	20.8	8685	195	0	329
17269	#29 G.S. State	178	44	102	8.1	487	150	0	281

ANALYSIS DATE	3/24/99	3/24/99	3/24/99	3/24/99	3/18/99	3/18/99	3/18/99	3/18/99
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QUALITY CONTROL	53.9	5.1	55.9	5.2	5140	48	*	*
TRUE VALUE	50.0	5.0	50.0	5.0	5000	50	*	*
% PRECISION	108	102	111	104	103	96	*	*

METHODS: EPA 4.1.1, 215.1, 242.1, 273.1, 258.1, 325.3, 375.4, 310.2.


Ralund K. Tuttle

3-26-99
Date

ENVIRONMENTAL LAB OF , INC.

"Don't Treat Your Soil Like Dirt!"

TIPPERARY OIL & GAS
633 17TH
DENVER, COLORADO 80202
FAX: 281-646-8996(Mike Griffin)

Receiving Date: 03/17/99
Sample Type: Water
Project: Tatum Dileneation
Project Location: Tatum, N.M.

Analysis Date: Hg 3/23/99
Analysis Date: 3/25/99
Sampling Date: 3/17/99
Sample Condition: Intact/Iced

TOTAL METALS (mg/L)

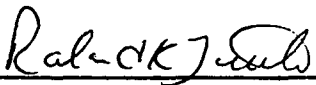
ELT#	Field Code	Ag	As	Ba	Cd	Cr	Hg	Pb	Se
17265	#25 Bell	ND	ND	0.250	ND	0.0110	ND	ND	ND
17266	#26 NBF	ND	ND	0.201	ND	0.0060	ND	ND	ND
17267	#27 Sohio A	ND	ND	0.276	ND	0.0110	ND	ND	ND
17268	#28 Sohio #1	ND	0.028	0.709	ND	0.0220	ND	0.0090	ND
17269	#29 G.S. State	ND	ND	0.369	ND	0.0080	ND	ND	ND

REPORTING LIMIT	0.0050	0.005	0.010	0.0010	0.0050	0.00020	0.0030	0.0050
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ND = Not detected at the reporting limit.

% INSTRUMENT ACCURACY	100	106	95	100	94	103	98	112
% EXTRACTION ACCURACY	96	104	97	100	96	96	99	102

METHODS: EPA 200.7, 245.2


Raland K. Tuttle

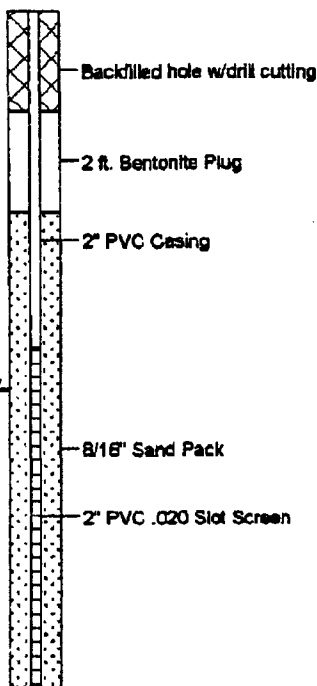
3-26-99
Date

Atkins Engineering Associates, Inc. P.O. Box 3156 Roswell, New Mexico 88202			LOG OF BORING Sohio State A MW-27 (Page 1 of 2)		
Tipperary Corporation 633 17th Street, Suite 1550 Denver, CO 80202			Date : 3-15-99 Drill Start : 4:10 P.M. Drill End : 5:45 P.M. Boring Location : 100 ft. SE of Center Line		Site Location : Lea County, NM Auger Type : Hollow Stem Logged By : Mori Bates
Contact: Mike Griffin Job #99174.00					

Depth in feet	GRAPHIC	USCS	Samples	DESCRIPTION	
0				Silty Clay w/Caliche Clay, Brown, Firm, Dry	6" x 12" Well Cover Concrete Cap Backfilled hole w/drill cutting 2" PVC Casing
5	CL				
10				Caliche w/Silty Clay, Tan, Firm, Dry	
15				Caliche, Chalky, Tan, Hard, Dry	
20				Caliche w/Silty Clay, Tan, Firm, Dry	
25					
30					
35		SP		Sand, Tan, Firm, Damp	

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Atkins Engineering Associates, Inc. P.O. Box 3156 Roswell, New Mexico 88202			LOG OF BORING Sohio State A MW-27 (Page 2 of 2)		
Tipperary Corporation 633 17th Street, Suite 1550 Denver, CO 80202 Contact: Mike Griffin Job #99174.00			Date : 3-15-99 Drill Start : 4:10 P.M. Drill End : 5:45 P.M. Boring Location : 100 ft. SE of Center Line		Site Location : Lea County, NM Auger Type : Hollow Stem Logged By : Mort Bates

Depth in feet	GRAPHIC	USCS	Samples	DESCRIPTION	
35	SP				 Backfilled hole w/drill cutting 2 ft. Bentonite Plug 2" PVC Casing 8/16" Sand Pack 2" PVC .020 Slot Screen
40					
45					
50	SP			Sand, Tan, Loose, Moist WL @ 46.25 ft.	
55					
60				TD = 55 ft.	
65					
70					

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