

1R - 268

REPORTS

DATE:

2000



Tipperary CORPORATION

633 Seventeenth Street
Suite 1550
Denver, Colorado 80202

December 7, 2000

VIA FEDERAL EXPRESS

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

**RE: Progress Report for Year 2000
Tatum Pit Closure Project
Lea County, NM**

RECEIVED
DEC 15 2000
ENVIRONMENTAL BUREAU
OIL CONSERVATION DIVISION

Dear Mr. Olson:

Please find enclosed additional results from our monitor wells in the subject project area. This report summarizes the results from water samples taken on January 8, April 13, July 20, and September 26, 2000. These results represent the tenth through thirteenth quarters of monitoring. In general, we are continuing to observe decreasing levels of BTEX in the monitor wells.

The Executive Summary section contains the following:

- Observations by well of sampling results.
- Summary of water depths in each monitor well.
- Lab results and chain of custody records for the water samples.

Detailed results are presented in tabular and graphical format for each monitor well. The monitor well data is grouped by site location in the report.

We will continue to sample the project quarterly and report the results to your office on an annual basis. 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

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DEC 15 2000

ENVIRONMENTAL BUREAU
OIL CONSERVATION DIVISION



Tipperary
CORPORATION

**Tipperary Corporation
Tatum Pit Closure Project
Monitor Wells
Sampling Results
For Year 2000**



Whole Earth Environmental
19606 San Gabriel
Houston, Tx. 77084

Bagley Field Water Sampling Results Summary

Iva COM

Monitor Wells # 1, 2

BTEX concentrations within the source well remain on a decline curve. They are approximately one half of the initial concentrations and one fifth of the peak concentrations. Monitor Well # 1 continues to show no criteria contaminant concentration exceeding NMWQCC standards however Monitor Well # 2 presented us with an unusual spike in the toluene and xylene concentrations. I'm certain that this is the result of cross contamination within the pump and tubing from Monitor Well # 3.

Mable COM

Monitor Wells # 3, 4

The BTEX concentrations within the source well continue to climb indicating that we are drawing free product. Monitor well # 3 pumped approximately 40% free product. We need to install a sock in the well bore to remove as much free oil as possible. Monitor Well # 4 shows the result of cross contamination from the Iva well # 3.

Bell

Monitor Wells # 6, 13, 14, 25

All wells within the Bell sample matrix continue to show a decline in BTEX concentrations. Two of the four wells are presently at acceptable levels and the other two very near. If this trend continues, we should show all four wells being at acceptable concentrations next year.

NBF

Monitor Wells # 8, 15, 16, 26

Well no. 8 (immediately adjacent to the pit site) continues to show acceptable concentrations. Wells # 15 & 26 have absorbent socks within the bores and resultantly showed a decline in BTEX concentrations of 58% over the last sampling round. Well # 16 shows large amounts of iron sulfide. I recommend that all three outlying wells be equipped with new absorbent socks.

Sohio State # 1

Monitor Wells # 10, 17, 18, 28, 30

Well # 10 continues to show modest declines over the last three sampling periods. Wells # 17 & 18 both have absorbent socks but still contain free product within the samples. I believe that the socks are now saturated beyond their useful lives and should be replaced. The two outermost wells both showed very significant reductions in concentrations. I hope that this is due to the upstream placement of the socks.

Sohio State "A"

Monitor Well # 11, 19, 20, 27, 31

The four nearest monitor wells show a 63% reduction in BTEX concentrations over the last sampling period. These four wells also showed the largest drop in the level of the water table. Only Well # 20 contains an absorbent sock but it registered an 87% reduction in BTEX concentrations. The outermost well, # 31 showed an increase in all BTEX concentrations.

GS State # 1

Monitor Wells # 12, 21, 22, 29

Wells # 12, 21, & 22 all contain absorbent socks and all showed a dramatic reduction in BTEX. Each well continues to contain free product and iron sulfide within the sample fluids. The outermost well, No. 29, also show a significant decline in concentrations over the previous sampling round.

Satellite # 4

Monitor Wells # 9, 23, 24

The Benzene concentrations within each of the three wells remain close to but above the water quality standards. Like Bell, we should have acceptable results next year.

Tipperary Corporation
Tatum Pit Closure Project
Depth to Water

Well Name	Monitor Well No.	Water Depth @ Drill Date	Water Depth 8/9/99	Water Depth 10/21/99	Water Depth 1/8/00	Water Depth 4/13/00	Water Depth 7/20/00	Water Depth 9/26/00
Iva	1	54.9	48.8	51.8	51.7	51.6	51.7	51.8
	2	53.0	49.2	51.5	51.4	51.5	51.6	51.7
Mable	3	52.0	48.8	52.5	52.4	53.7	53.7	53.7
	4	52.0	48.6	51.8	51.6	52.8	51.8	51.8
Bell	6	51.0	42.1	43.0	43.7	44.3	44.4	44.5
	13	47.8	40.8	43.7	44.2	44.0	43.9	44.0
	14	48.3	43.0	43.5	43.9	44.2	44.3	44.2
	25	47.4	43.5	43.5	43.9	44.0	44.0	44.0
NBF	8	48.0	35.8	35.8	36.1	37.1	35.6	35.9
	15	47.0	34.8	37.0	37.1	37.9	37.5	36.3
	16	47.1	36.0	36.1	36.2	36.2	36.2	36.2
	26	43.0	34.8	34.6	34.9	35.9	35.1	35.2
Sohio 1	10	50.0	44.5	44.9	43.9	44.2	45.0	44.9
	17	49.4	44.0	44.5	44.4	44.7	44.5	44.7
	18	48.6	43.8	44.1	45.4	46.4	45.7	45.4
	28	46.3	35.0	44.2	45.8	44.9	44.9	45.1
	30	45.3	45.3	44.1	44.2	44.8	44.3	44.3
Sohio A	11	50.0	38.3	38.5	37.8	38.3	38.3	38.8
	19	48.7	32.5	35.2	37.9	38.2	38.3	38.4
	20	49.5	38.0	38.7	38.0	38.4	38.5	38.4
	27	40.0	36.8	38.2	37.9	38.2	38.1	38.6
	31	37.5	37.5	38.9	39.7	38.5	38.5	38.1
G.S. State	12	48.0	42.8	42.9	44.1	43.2	44.7	44.2
	21	48.0	43.3	43.7	43.9	44.0	44.2	44.3
	22	47.5	43.5	43.9	44.0	44.0	44.0	44.1
	29	49.1	44.0	44.3	44.2	44.3	44.7	44.7
Sat. 4	9	31.0	26.2	26.8	26.8	27.1	27.0	27.0
	23	28.0	26.3	27.2	27.4	27.2	27.2	27.3
	24	28.9	26.1	26.5	26.8	26.9	26.8	26.8

ENVIRONMENTAL LAB OF , INC.

"Don't Treat Your Soil Like Dirt!"

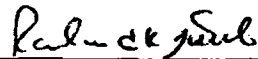
TIPPERARY
ATTN: VICTOR A. VICE
P.O. BOX 857
TATUM, N.M. 88267
FAX: 505-398-6510
FAX: 281-646-8996

SampleType: Water
Sample Condition: Intact/ Iced/ HCl/ -2 deg. C
Project #: None Given
Project Name: None Given
Project Location: Tatum, N.M.

Sampling Date: 09/26/00
Receiving Date: 09/28/00
Analysis Date: 10/06/00

ELT#	FIELD CODE	BENZENE mg/L	TOLUENE mg/L	ETHYLBENZENE mg/L	m,p-XYLENE mg/L	o-XYLENE mg/L
31487	MW 13	0.003	0.004	0.003	0.011	0.004
31488	MW 14	0.024	<0.001	0.006	0.011	0.004
31489	MW 25	0.001	<0.001	0.003	0.010	0.004
31490	MW 8	<0.001	<0.001	0.002	0.008	0.003
31491	MW 15	2.89	1.55	0.239	0.750	2.42
31492	MW 16	2.12	0.092	0.099	0.143	0.063
31493	MW 26	0.053	0.022	0.008	0.019	0.010
31494	Iva Source	0.865	0.495	0.080	0.833	0.636
31495	Mable Source	0.980	1.45	0.141	2.36	1.53
31496	G. S. Source	0.415	0.136	0.070	0.391	0.185
31497	MW 21	0.017	0.011	0.014	0.026	0.013
31498	MW 22	0.171	0.022	0.062	0.051	0.099
31499	MW 29	0.016	0.008	0.006	0.020	0.011
31500	MW 9	0.017	0.008	0.004	0.017	0.010
31501	MW 23	0.014	0.007	0.003	0.014	0.008
31502	MW 24	0.009	0.005	0.003	0.012	0.007
% IA		95	95	96	100	92
% EA		92	90	89	95	85
BLANK		<0.001	<0.001	<0.001	<0.001	<0.001

METHODS: SW 846-8021B,5030


Raland K. Tuttle

10-13-00
Date

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TIPPERARY
ATTN: VICTOR A. VICE
P.O. BOX 857
TATUM, N.M. 88267
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FAX: 281-646-8996

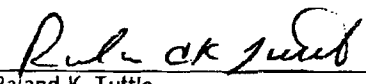
SampleType: Water
Sample Condition: Intact/ Iced/ HCl/ -2 deg. C
Project #: None Given
Project Name: None Given
Project Location: Tatum, N.M.

Sampling Date: 09/26/00
Receiving Date: 09/28/00
Analysis Date: 10/06/00

ELT#	FIELD CODE	BENZENE mg/L	TOLUENE mg/L	ETHYLBENZENE mg/L	m,p-XYLENE mg/L	o-XYLENE mg/L
31503	MW 1	<0.001	0.003	0.006	0.020	0.008
31504	MW 2	<0.010	0.088	<0.010	0.072	0.019
31505	MW 3	<0.200	6.81	1.21	6.38	12.6
31506	MW 4	0.129	2.95	<0.005	1.76	<0.005
31507	MW 6	0.016	<0.001	0.010	0.006	0.002
31508	MW 10	1.62	0.036	0.127	0.308	0.109
31509	MW 17	1.30	0.291	0.165	0.610	0.324
31510	MW 18	2.46	0.432	0.201	0.920	0.544
31511	MW 28	0.076	0.041	0.014	0.186	0.111
31512	MW 30	0.026	0.016	0.010	0.025	0.019
31513	MW 11	0.043	0.009	0.007	0.013	0.008

% IA	109	110	110	111	111
% FA	103	94	99	94	93
BLANK	<0.001	<0.001	<0.001	<0.001	<0.001

METHODS: SW 846-8021B,5030


Raland K. Tuttle

10-13-00
Date

ENVIRONMENTAL LAB OF , INC.

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FAX: 505-398-6510
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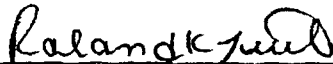
SampleType: Water
Sample Condition: Intact/ Iced/ HCl/ -2 deg. C
Project #: None Given
Project Name: None Given
Project Location: Tatum, N.M.

Sampling Date: 09/26/00
Receiving Date: 09/28/00
Analysis Date: 10/06/00

ELT#	FIELD CODE	BENZENE mg/L	TOLUENE mg/L	ETHYLBENZENE mg/L	m,p-XYLENE mg/L	o-XYLENE mg/L
31514	MW 19	0.229	0.005	0.003	0.011	0.004
31515	MW 20	0.008	0.005	0.004	0.012	0.007
31516	MW 27	0.249	0.004	0.003	0.023	0.010
31517	MW 31	0.118	0.004	0.004	0.010	0.004
31518	MW 12	0.820	0.066	0.354	1.48	0.365

% IA	109	110	110	111	111
% EA	102	101	104	103	102
BLANK	<0.001	<0.001	<0.001	<0.001	<0.001

METHODS: SW 846-8021B,5030


Raland K. Tuttle

10-13-00
Date

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

Project Name & Address:		Phone #:	FAX #:	ANALYSIS REQUEST	
Whole Earth Env.					
Project Name:					
Temporary Cemetery Sampling					
Project Location:					
Project Signature:					
M. G. H.					
LAB #	FIELD CODE	VOLUME/AMOUNT	DATE	TIME	ANALYSIS REQUEST
(LAB USE ONLY)					
31497	MW 21	2	9-26	✓	✓
31498	22				
31499	23				
31500	9				
31501	23				
31502	24				
31503	1				
31504	2				
31505	3				
31506	4				
31507	6				
Requisitioned by:		Date:		Time:	REMARKS
M. G. H.		9-28		0910	Rec. 20c
Requisitioned by:		Date:		Time:	
Requisitioned by:		Date:		Time:	

Environmental Lab of Texas, Inc. 12600 West I-20 East Odessa, Texas 79763
(915) 563-1800 FAX (915) 563-1713

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

Project Name: M. Griffin		Phone #: (800) 854-4358		ANALYSIS REQUEST	
Company Name & Address: Whole Earth Environ.		FAX #:			
Project #:		Project Name:			
Project Location: Tatum NM		Sampler Signature: M. Griffin			
LAB #	FIELD CODE	# CONTAINERS	VOLUME/AMOUNT	DATE	TIME
31487	MW 13	2	✓	9-26	✓
31488	14				
31489	25				
31490	8				
31491	15				
31492	16				
31493	26				
31494	Iva Source				
31495	Mable Source				
31496	GS Source				
LAB USE ONLY					
PRESERVATIVE METHOD					
WATER					
SOIL					
AIR					
SLUDGE					
OTHER					
ICE					
HOT					
OTHER					
DATE					
TIME					
TOTAL METALS Ag As Ba Cd Cr Pb Hg Se					
ICP Volatiles					
ICP Semi Volatiles					
HCS					
HCB					
INDEX MUZU/50.00					
IPI 418.1					
REMARKS		Rec. 20C			
Received by:		Time:		Received by:	
M. Griffin		9-28		J. Cunningham	
Time:		Date:		Time:	
Received by:		Time:		Received by:	
Received by:		Time:		Received by:	

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

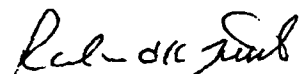
Sample Type: Water
Sample Condition: Intact/ Iced/ HCl/ 34 deg. F
Project #: Monitoring Well Quarterly Sampling
Project Name: None Given
Project Location: Tatum

Sampling Date: 07/20/00
Receiving Date: 07/21/00
Analysis Date: 07/24/00

ELT#	FIELD CODE	BENZENE (mg/L)	TOLUENE (mg/L)	ETHYLBENZENE (mg/L)	m,p-XYLENE (mg/L)	o-XYLENE (mg/L)
28434	MW-9	0.047	0.081	0.026	0.126	0.061
28435	MW-4	0.002	0.006	0.008	0.028	0.016
28436	MW-2	<0.001	0.003	0.002	0.006	0.003
28437	MW-16	2.62	0.278	0.149	0.424	0.178
28438	MW-3	<0.001	<0.001	0.107	0.790	0.380
28439	MW-1	<0.001	<0.001	0.004	0.018	0.008
28440	MW-6	0.048	0.002	0.015	0.006	0.002
28441	MW-10	1.86	0.099	0.132	0.391	0.186
28442	MW-11	0.070	0.075	0.028	0.144	0.055
28443	MW-13	0.002	0.002	0.001	0.004	0.002
28444	MW-14	0.038	0.002	0.003	0.005	0.002
28445	MW-15	2.63	4.32	0.655	3.86	6.66
28446	MW-17	1.28	0.203	0.150	0.546	0.294
28447	MW-18	2.18	0.643	0.204	1.10	0.683
28448	MW-19	0.377	0.052	0.017	0.076	0.031
28449	MW-20	0.038	0.074	0.023	0.106	0.042
28450	MW-21	0.084	0.122	0.067	0.236	0.076
28451	MW-22	0.275	0.122	0.088	0.292	0.103
28452	MW-23	0.031	0.058	0.020	0.097	0.048

% IA	94	94	94	104	96
% EA	92	99	89	110	92
BLANK	<0.001	<0.001	<0.001	<0.001	<0.001

METHODS: SW 846-8021B,5030


Raland K. Tuttle

7-26-00
Date

ENVIRONMENTAL LAB OF , INC.

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TIPPERARY
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FAX: 505-398-8510
FAX: 281-646-8996

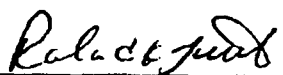
Sample Type: Water
Sample Condition: Intact/ Iced/ HCI/ 34 deg. F
Project #: Monitoring Well Quarterly Sampling
Project Name: None Given
Project Location: Tatum

Sampling Date: 07/20/00
Receiving Date: 07/21/00
Analysis Date: 07/25/00

ELT#	FIELD CODE	BENZENE (mg/L)	TOLUENE (mg/L)	ETHYLBENZENE (mg/L)	m,p-XYLENE (mg/L)	o-XYLENE (mg/L)
28453	MW-24	0.021	0.046	0.018	0.083	0.041
28454	MW-25	<0.001	0.001	0.002	0.005	0.002
28455	MW-26	0.177	0.230	0.036	0.128	0.075
28456	MW-27	0.385	0.048	0.017	0.092	0.038
28457	WM-28	0.219	0.180	0.042	0.233	0.128
28458	MW-29	0.045	0.080	0.027	0.121	0.053
28459	MW-30	0.080	0.100	0.028	0.133	0.075
28460	MW-31	0.137	0.046	0.017	0.078	0.032
28461	GS Source	0.481	0.153	0.083	0.378	0.188
28462	MW-12	1.09	<0.025	1.37	10.5	2.28
28463	MW-8	0.002	0.003	0.002	0.008	0.003
28464	IVA Source	1.00	0.815	0.104	0.866	0.676
28465	Mabel Source	0.552	0.622	0.166	1.67	1.01

% IA	94	94	94	104	96
% EA	92	99	89	110	92
BLANK	<0.001	<0.001	<0.001	<0.001	<0.001

METHODS: SW 846-8021B.5030


Roland K. Tuttle

7-26-00
Date

Environmental Lab of Texas, Inc. 12600 West 1-20 East Odessa, Texas 79763
(915) 563-1800 FAX (915) 563-1713

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: <i>Elliot Werner</i>		Phone #: (500) 854-4358		FAX #:		ANALYSIS REQUEST		Pg 1 of 3	
Company Name & Address: <i>Whole Earth/Tipponary</i>		Project Name: <i>Monitor well 11 Quarterly Sampling</i>		Sampler Signature: <i>[Signature]</i>		TPH 418.1			
Project #: <i>Tatum</i>		Project Location: <i>Tatum</i>		BTEX 80/20/50/30		TCLP Metals Ag As Ba Cd Cr Pb Hg Se			
						TCLP Volatiles			
						TCLP Semi Volatiles			
						TOS			
						RCI			

LAB # (LAB USE ONLY)	FIELD CODE	# CONTAINERS	Volume/Amount	MATRIX				PRESERVATIVE METHOD				SAMPLING		TIME
				WATER	SOIL	AIR	SLUDGE	OTHER	HCL	HNO3	ICE	NONE	OTHER	
28434	MW-1	1		X				X						7/20/03
28435	MW-4	1												AM 10:30
28436	MW-2	1												AM 11:30
28437	MW-16	1												PM 1:30
28438	MW-3	1												AM 10:30
28439	MW-1	1												AM 11:30
28440	MW-6	1												AM 12:45
28441	MW-10	1												AM 1:30
28442	MW-11	1												PM 2:00
28443	MW-13	1												AM 12:10
28444	MW-14	1												AM 12:15

Relinquished by: <i>[Signature]</i>	Date: 7-21-00	Time: 1100	Received by: <i>[Signature]</i>	REMARKS: Rec 34° F
Relinquished by:	Date:	Time:	Received by:	
Relinquished by:	Date:	Time:	Received by Laboratory:	

Environmental Lab of Texas, Inc. 12600 West I-20 East Odessa, Texas 79763 (915) 563-1800 FAX (915) 563-1713

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: Elliot Werner		Phone #: (805) 854-4354		ANALYSIS REQUEST		Pg 2 of 3						
Company Name & Address: Whole Earth/Improvement		Project Name: Monitor Well Quarterly Sampling		TCLP Metals Ag As Ba Cd Cr Pb Hg Se		TCLP Sem Volatiles						
Project Location: Tatum		Sampler Signature: <i>[Signature]</i>		TCLP Volatiles		TOS						
				Total Metals Ag As Ba Cd Cr Pb Hg Se		HCL						
				TPH 418.1								
				BTEX #020/5000								
LAB # (LAB USE ONLY)	FIELD CODE	# CONTAINERS	Volume/Amount	MATRIX			PRESERVATIVE METHOD			SAMPLING		
				WATER	AIR	SLUDGE	OTHER	HCL	HIOS	ICE	NONE	OTHER
28445	MW-15	1	X				X	X	X		3:00 am	
28446	MW-17	1									3:40 pm	
28447	MW-18	1									4:15 pm	
28448	MW-19	1									4:45 pm	
28449	MW-20	1									2:55 pm	
28450	MW-21	1									2:00 pm	
28451	MW-22	1									1:58 pm	
28452	MW-23	1									4:45 pm	
28453	MW-24	1									5:00 pm	
28454	MW-25	1									12:05 pm	
28455	MW-26	1									2:00 pm	
Requisitioned by: <i>[Signature]</i>		Date:	Time:	Received by:		REMARKS						
Requisitioned by:		Date:	Time:	Received by:		Rec 340F						
Requisitioned by:		Date:	Time:	Received by Laboratory:								

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager:		Phone #:		ANALYSIS REQUEST		3 of 3						
Elliot Werner		FAX #: (800) 857-435X										
Company Name & Address:												
Whole Earth / Tipperary												
Project #:		Project Name :										
Monitor Well Quarterly Sampling		Sampler Signature:										
Project Location:		Tatum										
LAB # (LAB USE ONLY)	FIELD CODE	# CONTAINERS	Volume/Amount	MATRIX			PRESERVATIVE METHOD			SAMPLING		TIME
				WATER	SOIL	AIR	SUDGE	OTHER	ICL	IMCO	ICE	
28456	MW-27	1		X				X	X			7:20 PM
28457	MW-28	1										3:50 PM
28458	MW-29	1										3:15 PM
28459	MW-30	1										3:15 PM
28460	MW-31	1										2:50 PM
28461	G.S Source	1										5:10 PM
28462	MW-12	1										5:53 PM
28463	MW-8	1										2 PM
28464	TUA Source	1										1:20 AM
28465	Mabel Source	1										11:10 AM

Requisitioned by: [Signature] **Date:** 7-21-00 **Time:** 11:10 AM **Received by:**

Requisitioned by: [Signature] **Date:** **Time:** **Received by:**

Requisitioned by: [Signature] **Date:** **Time:** **Received by Laboratory:**

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

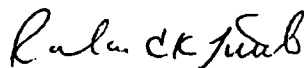
Sample Type: Water
Sample Condition: Intact/Iced/HCl
Project #: Tatum Water Samples
Project Name: None Given
Project Location: None Given

Sampling Date: See Below
Receiving Date: 04/19/00
Analysis Date: 04/25/00

ELT#	FIELD CODE	BENZENE (mg/L)	TOLUENE (mg/L)	ETHYLBENZENE (mg/L)	m,p-XYLENE (mg/L)	o-XYLENE (mg/L)	Sample Date
25151	MW # 11	0.087	0.039	0.014	0.070	0.043	04/18/00
25152	MW #19	0.408	0.041	0.014	0.070	0.040	04/18/00
25153	MW #31	0.602	0.067	0.020	0.121	0.070	04/18/00
25154	MW #10	2.36	0.263	0.195	0.421	0.216	04/18/00
25155	MW #17	1.77	0.209	0.176	0.616	0.344	04/18/00
25156	MW #18 <i>Far #2</i>	3.10	3.11	0.723	4.82	2.95	04/18/00
25157	MW #28	0.055	0.026	<0.010	0.033	0.011	04/18/00
25158	MW #30	0.003	0.005	0.003	0.010	0.004	04/18/00
25159	MW #2A	<0.001	0.011	0.005	0.014	0.006	04/13/00
25160	MW #20	0.025	0.030	0.012	0.057	0.033	04/18/00
25161	Mable Source	0.485	0.342	0.048	0.978	0.685	04/13/00
25162	MW #3	<0.001	0.030	0.022	0.062	0.023	04/13/00
25163	MW #4	0.006	0.009	0.004	0.011	0.005	04/13/00

% IA	99	96	96	103	96
% EA	103	94	98	112	97
BLANK	<0.001	<0.001	<0.001	<0.001	<0.001

METHODS: SW 846-8021B,5030


Ralanda K. Tuttle

4-27-00
Date

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

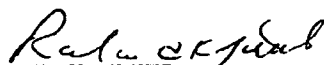
Sample Type: Water
Sample Condition: Intact/Iced/HCl
Project #: Tatum Water Samples
Project Name: None Given
Project Location: None Given

Sampling Date: See Below
Receiving Date: 04/19/00
Analysis Date: 04/24/00

ELT#	FIELD CODE	BENZENE (mg/L)	TOLUENE (mg/L)	ETHYLBENZENE (mg/L)	m,p-XYLENE (mg/L)	o-XYLENE (mg/L)	Sample Date
25140	MW #15	2.40	1.78	0.254	1.08	0.540	04/13/00
25141	MW #16	3.05	0.226	0.153	0.473	0.203	04/13/00
25142	MW #26	0.092	0.108	0.024	0.090	0.048	04/13/00
25143	MW #9	0.048	0.065	0.016	0.054	0.030	04/13/00
25144	MW #23	0.030	0.056	0.014	0.051	0.027	04/13/00
25145	MW #24	0.020	0.041	0.012	0.043	0.022	04/13/00
25146	G.S. Source	0.763	0.184	0.068	0.434	0.189	04/14/00
25147	MW #12	0.871	0.162	0.246	0.932	0.261	04/14/00
25148	MW # 21	0.085	0.009	0.054	0.015	0.006	04/14/00
25149	MW #22	0.413	0.057	0.017	0.082	0.048	04/14/00
25150	MW # 29	0.006	0.008	0.003	0.016	0.018	04/18/00

% IA	96	95	95	98	93
% EA	102	98	89	88	83
BLANK	<0.001	<0.001	<0.001	<0.001	<0.001

METHODS: SW 846-8021B.5030


Raland K. Tuttle

4-27-00
Date

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

Sample Type: Water
Sample Condition: Intact/Iced/HCl
Project #: Tatum Water Samples
Project Name: None Given
Project Location: None Given

Sampling Date: 04/13/00
Receiving Date: 04/19/00
Analysis Date: 04/26/00

ELT#	FIELD CODE	BENZENE (mg/L)	TOLUENE (mg/L)	ETHYLBENZENE (mg/L)	m,p-XYLENE (mg/L)	o-XYLENE (mg/L)
25164	Iva Source	1.43	1.51	0.176	1.52	1.10
25165	MW #1	<0.001	0.006	0.005	0.015	0.007
25166	MW #2	<0.001	0.007	0.005	0.016	0.006
25167	MW #6	0.208	0.007	0.020	0.022	0.005
25168	MW #13	0.004	0.002	0.002	0.006	0.002
25169	MW #14	0.195	0.004	0.004	0.009	0.003
25170	MW #25	0.002	0.002	0.002	0.005	0.002
25171	MW #8	0.002	0.002	0.002	0.003	0.001
25172	Sohio B (Blank)	<0.001	0.001	<0.001	0.001	<0.001

% IA	100	98	100	107	99
% EA	102	97	98	106	95
BLANK	<0.001	<0.001	<0.001	<0.001	<0.001

METHODS: SW 846-8021B,5030


Raland K. Tuttle

4-27-00
Date

Environmental Lab of Texas, Inc. 12600 West 1-20 East Odessa, Texas 79763
(915) 563-1800 FAX (915) 563-1713

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager:

M. G. H. in

Phone #: (800) 854-4358

FAX #: (281) 646-8996

Company Name & Address:

Whole Earth Environmental

Project #:

Tatum Water Sampling

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
25161	Mable Source	✓	1	✓						✓	✓			4-13 9:33
25162	MW 3	✓												9:35
25163	" 4	✓												9:20
25164	Iva Source	✓												9:50
25165	MW 1	✓												10:33
25166	" 2	✓												10:10
25167	" 6	✓												11:15
25168	" 13	✓												11:49
25169	" 14	✓												11:32
25170	" 25	✓												1:46
25171	" 8	✓												2:12

BTEX RI/20/5030
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 Sem Volatiles
TDS
RCI

ANALYSIS REQUEST

REMARKS

Received by: R. L. Clark

Date: 4-19-00 Time: 6:04 PM

Received by:

Date: Time:

Received by Laboratory:

Received by:

Date: Time:

Received by:

Date: Time:

Received by Laboratory:

EMBERS Can't run Chlanides on sample
because of HCl preservative
MW-27 - damaged in transport
as per Mike 4/12/60

* ALSO Fax Tipperary @ 303-291-0398 Attn: Larry Sugano

Environmental Lab of Texas, Inc. 12600 West 1-20 East Odessa, Texas 79763
(915) 563-1800 FAX (915) 563-1713

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager:

M. Gaffin

Phone #: (800) 854-4358

FAX #: (881) 646-8996

Company Name & Address:

Whole Earth Environmental

Project #:

Tatum Water Sampling

Project Name:

Project Location:

Sampler Signature:

M. Gaffin

LAB # (LAB USE ONLY)	FIELD CODE	# CONTAINERS	Volume/Amount	MATRIX				PRESERVATIVE METHOD				SAMPLING	
				WATER	SOIL	AIR	SLUDGE	OTHER	HCL	HNO3	ICE	NONE	OTHER
25140	MW # 15	✓ 1	✓	✓					✓		✓		4-13 2:31 ✓
25141	MW # 16	✓	✓	✓									2:47 ✓
25142	" 26	✓	✓	✓									3:05 ✓
25143	" 9	✓	✓	✓									3:28 ✓
25144	" 23	✓	✓	✓									3:44 ✓
25145	" 24	✓	✓	✓									4:08 ✓
25146	GS Sample	✓	✓	✓									4-14 8:15 ✓
25147	MW # 12	✓	✓	✓									9:15 ✓
25148	" 21	✓	✓	✓									8:40 ✓
25149	" 22	✓	✓	✓									9:48 ✓
25150	" 29	✓	✓	✓									4-18 8:15 ✓

Relinquished by:

M. Gaffin

Date:

4-19-00

Times:

1810

Received by:

Robert Judd

REMARKS

Missing Sample MW 27 & 28

Relinquished by:

Date:

Times:

Received by:

Received by Laboratory:

Relinquished by:

Date:

Times:

Received by Laboratory:

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

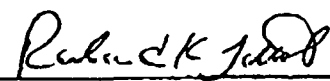
Sample Type: Water
Sample Condition: Intact/Iced/HCl
Project #: None Given
Project Name: None Given
Project Location: Tatum, N.M.

Sampling Date: 01/08/00
Receiving Date: 01/13/00
Analysis Date: 01/16/00

ELT#	FIELD CODE	BENZENE (mg/L)	TOLUENE (mg/L)	ETHYLBENZENE (mg/L)	m,p-XYLENE (mg/L)	o-XYLENE (mg/L)
22776	#30	0.088	0.095	0.024	0.104	0.063
22777	#23	0.019	0.031	0.019	0.083	0.033
22778	#24	0.016	0.030	0.016	0.071	0.030
22779	#13	0.056	0.005	0.004	0.008	0.004
22780	#4 SOH# 27	0.080	0.056	0.016	0.064	0.038
22781	#28	1.32	0.954	0.227	1.04	0.822
22782	G.S. SW	0.804	0.348	0.139	0.925	0.484
22783	#22	0.204	0.058	0.108	0.294	0.083
22784	#25	0.002	0.001	0.001	0.004	0.002
22785	#21	0.089	0.041	0.091	0.131	0.046
22786	#19	0.355	0.055	0.016	0.070	0.042
22787	#31	0.383	0.044	0.013	0.072	0.040
22788	#26	0.140	0.158	0.030	0.119	0.064
22789	MW-2	0.002	0.002	0.001	0.004	0.002
22790	#17	1.87	0.353	0.221	0.782	0.429

% IA	92	90	86	88	86
% EA	90	86	86	84	85
BLANK	<0.001	<0.001	<0.001	<0.001	<0.001

METHODS: SW 846-8021B,5030


Rajand K. Tuttle

1-19-00
Date

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: 281-846-8996

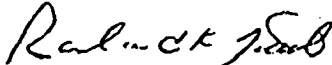
Sample Type: Water
Sample Condition: Intact/Iced/HCl
Project #: None Given
Project Name: None Given
Project Location: Tatum, N.M.

Sampling Date: 01/08/00
Receiving Date: 01/13/00
Analysis Date: 01/16/00

ELT#	FIELD CODE	BENZENE (mg/L)	TOLUENE (mg/L)	ETHYLBENZENE (mg/L)	m,p-XYLENE (mg/L)	o-XYLENE (mg/L)
22759	#15	3.25	2.55	0.335	1.24	0.654
22760	#18	0.334	0.186	0.074	0.257	0.149
22761	#8	0.007	0.008	0.007	0.015	0.008
22762	#10	2.35	0.520	0.187	0.588	0.329
22763	#11	0.088	0.075	0.035	0.086	0.054
22764	#12	1.03	0.398	1.24	8.03	2.09
22765	#6	0.170	0.007	0.028	0.022	0.008
22766	MW-3	0.022	0.032	0.046	0.215	0.131
22767	MW-1	0.002	0.002	<0.001	0.003	0.002
22768	MW-4	0.004	0.004	0.004	0.011	0.004
22769	#20	0.064	0.084	0.019	0.075	0.044
22770	#14	0.003	0.002	0.002	0.008	0.002
22771	G.S. Last #29	0.032	0.034	0.024	0.104	0.043
22772	#16	1.17	0.122	0.068	0.163	0.083
22773	#9	0.030	0.036	0.021	0.088	0.036
22774	I/A Source	2.35	3.76	0.458	3.21	1.91
22775	Mable Source	0.534	0.548	0.138	1.03	0.946

% IA	92	90	88	88	88
% EA	90	86	86	94	85
BLANK	<0.001	<0.001	<0.001	<0.001	<0.001

METHODS: SW 846-8021B.5030


Ralund K. Tuttle

1-19-00
Date

ENVIRONMENTAL LAB OF , INC.

"Don't Treat Your Soil Like Dirt!"

TIPPERARY
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FAX: 505-398-6510
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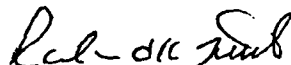
Sample Type: Water
Sample Condition: Intact/ Iced/ HCl/ 34 deg. F
Project #: Monitoring Well Quarterly Sampling
Project Name: None Given
Project Location: Tatum

Sampling Date: 07/20/00
Receiving Date: 07/21/00
Analysis Date: 07/24/00

ELTW	FIELD CODE	BENZENE (mg/L)	TOLUENE (mg/L)	ETHYLBENZENE (mg/L)	m,p-XYLENE (mg/L)	o-XYLENE (mg/L)
28434	MW-9	0.047	0.081	0.026	0.126	0.061
28435	MW-4	0.002	0.006	0.008	0.028	0.016
28436	MW-2	<0.001	0.003	0.002	0.006	0.003
28437	MW-16	2.62	0.278	0.149	0.424	0.178
28438	MW-3	<0.001	<0.001	0.107	0.790	0.380
28439	MW-1	<0.001	<0.001	0.004	0.018	0.008
28440	MW-6	0.048	0.002	0.015	0.006	0.002
28441	MW-10	1.86	0.099	0.132	0.391	0.186
28442	MW-11	0.070	0.075	0.026	0.144	0.055
28443	MW-13	0.002	0.002	0.001	0.004	0.002
28444	MW-14	0.038	0.002	0.003	0.005	0.002
28445	MW-15	2.63	4.32	0.655	3.86	6.66
28446	MW-17	1.28	0.203	0.150	0.546	0.294
28447	MW-18	2.18	0.643	0.204	1.10	0.683
28448	MW-19	0.377	0.052	0.017	0.076	0.031
28449	MW-20	0.038	0.074	0.023	0.106	0.042
28450	MW-21	0.084	0.122	0.067	0.236	0.076
28451	MW-22	0.275	0.122	0.088	0.292	0.103
28452	MW-23	0.031	0.058	0.020	0.097	0.048

% IA	94	94	94	104	96
% EA	92	99	89	110	92
BLANK	<0.001	<0.001	<0.001	<0.001	<0.001

METHODS: SW 846-8021B.5030


Roland K. Tuttle

7-26-00
Date

Sohio "A"

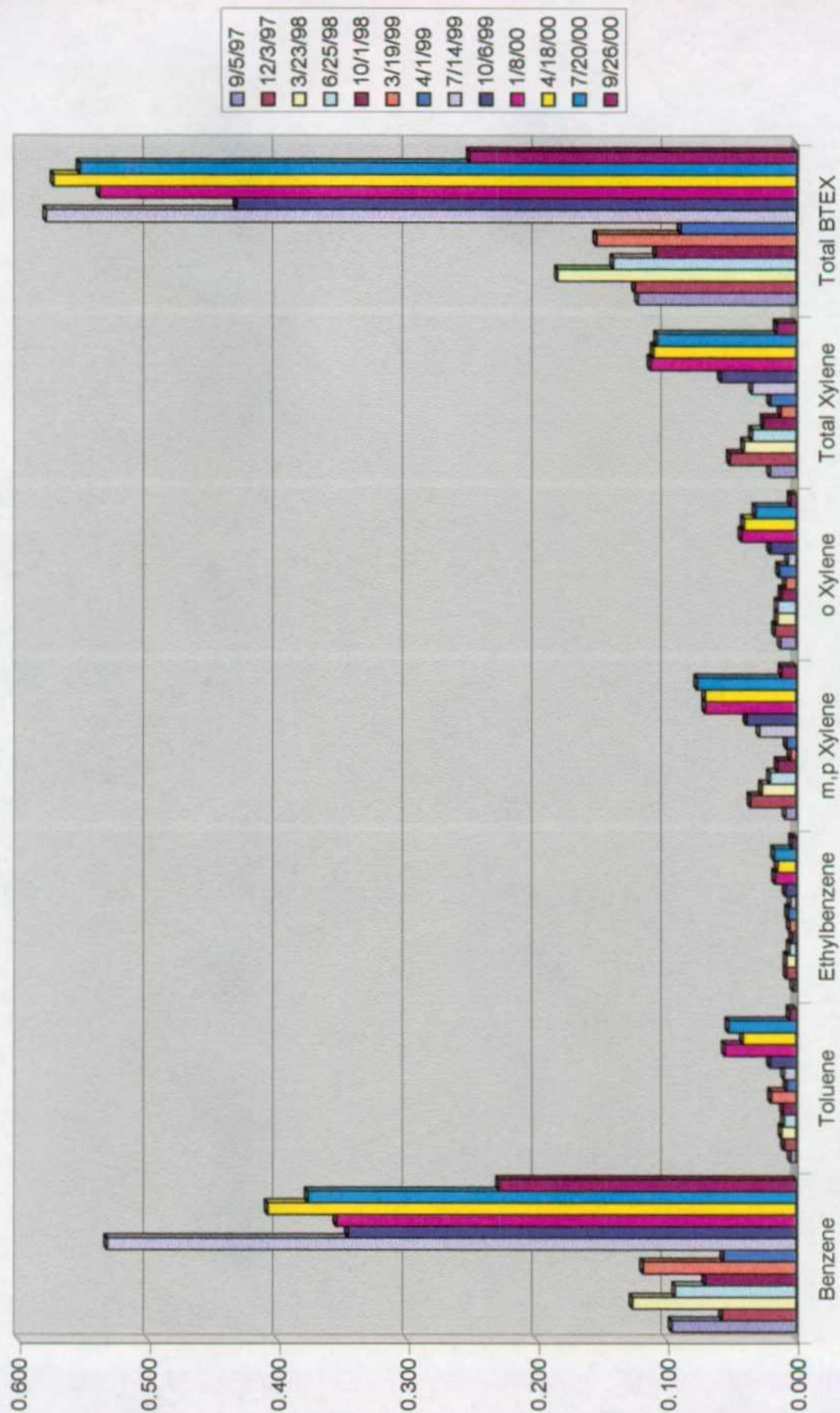
Monitor Well # 11
Sohio State "A"
Sampling Results

Lab #	12484	13132	14067	14866	15598	16605	17441	18596	20602	22783	25151	28442	31513
Sample Date	9/5/97	12/3/97	3/23/98	6/25/98	10/1/98	1/6/99	4/1/99	7/14/99	10/6/99	1/8/00	4/18/00	7/20/00	9/26/00
Benzene	0.096	0.057	0.126	0.093	0.070	0.061	0.048	0.060	0.056	0.088	0.087	0.070	0.043
Toluene	0.004	0.009	0.011	0.009	0.010	0.011	0.008	0.008	0.022	0.075	0.039	0.075	0.009
Ethylbenzene	0.002	0.007	0.007	0.005	0.003	0.005	0.004	0.003	0.008	0.035	0.014	0.026	0.007
m,p Xylene	0.008	0.035	0.026	0.02	0.014	0.016	0.014	0.011	0.035	0.086	0.070	0.144	0.013
o Xylene	0.012	0.016	0.014	0.014	0.011	0.012	0.010	0.009	0.022	0.054	0.043	0.055	0.008
Total Xylene	0.020	0.051	0.04	0.034	0.025	0.028	0.024	0.020	0.057	0.140	0.113	0.199	0.021
Total BTEX	0.122	0.124	0.184	0.141	0.108	0.105	0.084	0.091	0.143	0.338	0.253	0.370	0.080

Monitor Well # 19
Sohio State "A"
Sampling Results

Lab. #	12484	13132	14067	14666	15598	17267	17444	18608	20619	22786	25152	28448	31514
Sample Date	9/5/97	12/3/97	3/23/98	6/25/98	10/1/98	3/19/99	4/1/99	7/14/99	10/6/99	1/8/00	4/18/00	7/20/00	9/26/00
Benzene	0.096	0.057	0.126	0.093	0.070	0.118	0.056	0.532	0.346	0.355	0.408	0.377	0.229
Toluene	0.004	0.009	0.011	0.009	0.010	0.019	0.007	0.009	0.02	0.055	0.041	0.052	0.005
Ethylbenzene	0.002	0.007	0.007	0.005	0.003	0.005	0.006	0.004	0.008	0.016	0.014	0.017	0.003
m,p Xylene	0.008	0.035	0.026	0.020	0.014	0.004	0.007	0.028	0.038	0.070	0.070	0.076	0.011
o Xylene	0.012	0.016	0.014	0.014	0.011	0.008	0.013	0.006	0.020	0.042	0.040	0.031	0.004
Total Xylene	0.020	0.051	0.040	0.034	0.025	0.012	0.020	0.034	0.058	0.112	0.110	0.107	0.015
Total BTEX	0.122	0.124	0.184	0.141	0.108	0.154	0.089	0.579	0.432	0.538	0.573	0.553	0.252

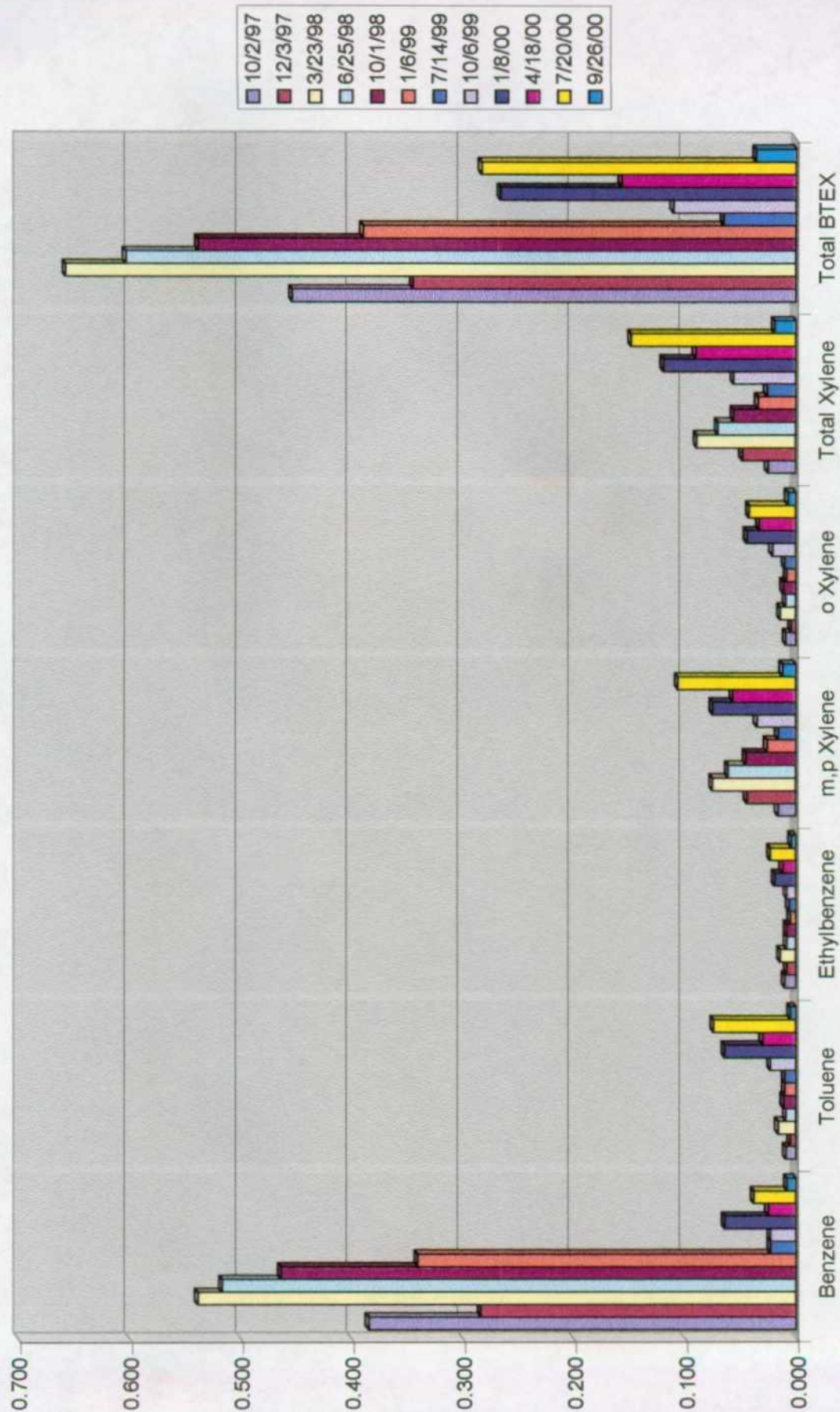
Monitor Well # 19



Monitor Well # 20
Sohio State "A"
Sampling Results

Lab. #	12726	13190	14054	14674	15610	16590	18609	20620	22769	25160	28449	31515
Sample Date	10/2/97	12/3/97	3/23/98	6/25/98	10/1/98	1/6/99	7/14/99	10/6/99	1/8/00	4/18/00	7/20/00	9/26/00
Benzene	0.385	0.284	0.539	0.517	0.464	0.341	0.023	0.023	0.064	0.025	0.038	0.008
Toluene	0.009	0.005	0.016	0.009	0.011	0.010	0.010	0.023	0.064	0.030	0.074	0.005
Ethylbenzene	0.010	0.008	0.014	0.008	0.008	0.005	0.006	0.008	0.019	0.012	0.023	0.004
m,p Xylene	0.016	0.044	0.075	0.061	0.045	0.026	0.016	0.035	0.075	0.057	0.106	0.012
o Xylene	0.009	0.004	0.014	0.009	0.011	0.008	0.010	0.021	0.044	0.033	0.042	0.007
Total Xylene	0.025	0.048	0.089	0.07	0.056	0.034	0.026	0.056	0.119	0.09	0.148	0.019
Total BTEX	0.454	0.345	0.658	0.604	0.539	0.39	0.065	0.110	0.266	0.157	0.283	0.036

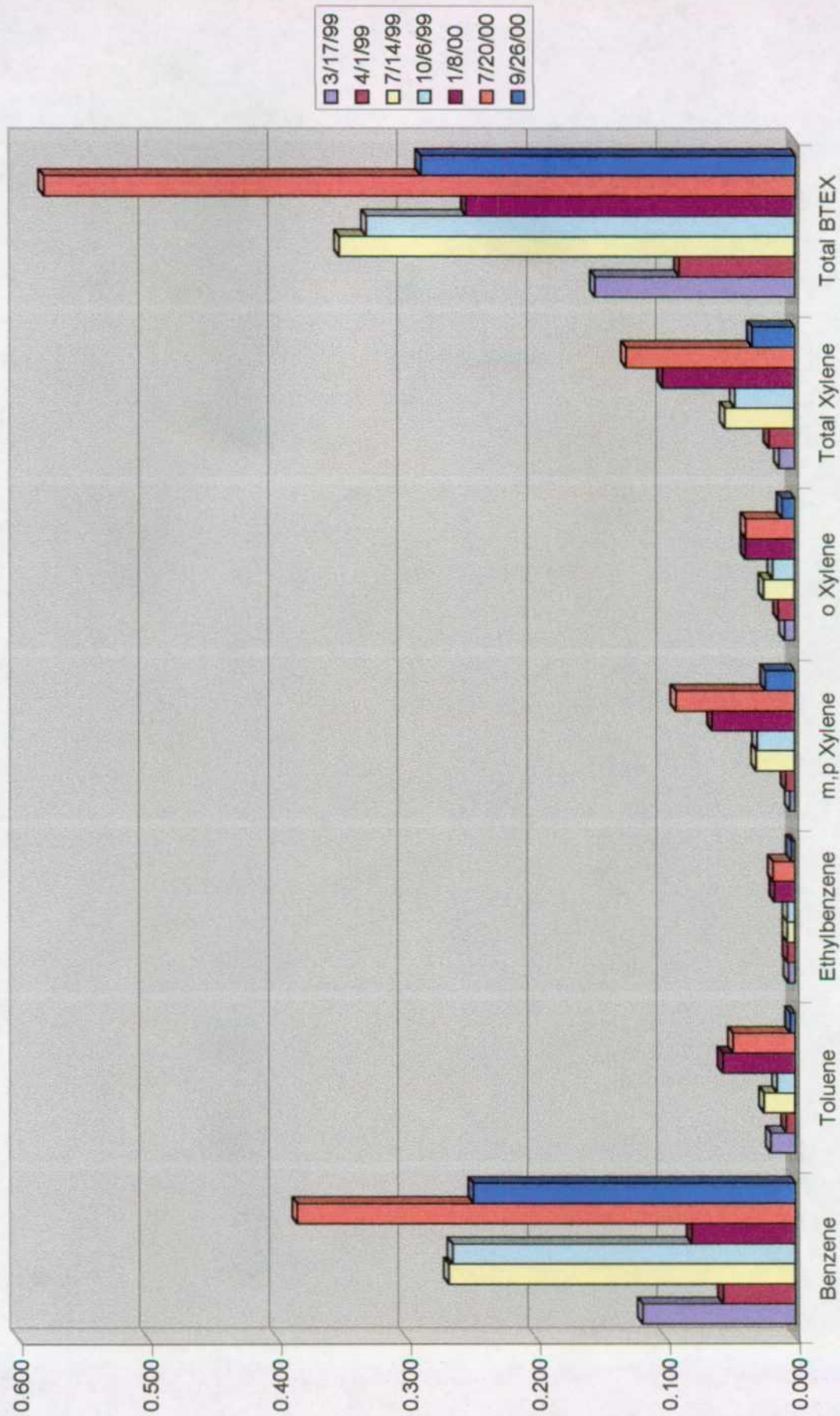
Monitor Well # 20



Monitor Well # 27
Sohio State "A"
Sampling Results

Lab. #	17267	17444	18610	20621	22780	28456	31516
Sample Date	3/17/99	4/1/99	7/14/99	10/6/99	1/8/00	7/20/00	9/26/00
Benzene	0.118	0.056	0.268	0.265	0.080	0.385	0.249
Toluene	0.019	0.007	0.024	0.014	0.056	0.048	0.004
Ethylbenzene	0.005	0.006	0.006	0.006	0.016	0.017	0.003
m,p Xylene	0.004	0.007	0.030	0.029	0.064	0.092	0.023
o Xylene	0.008	0.013	0.024	0.017	0.038	0.038	0.010
Total Xylene	0.012	0.020	0.054	0.046	0.102	0.130	0.033
Total BTEX	0.154	0.089	0.352	0.331	0.254	0.580	0.289

Monitor Well # 27



Monitor Well # 31

Sohio State "A"

Sampling Results

Lab. #	19166	20622	22787	25153	28460	31517
Sample Date	8/13/99	10/6/99	1/8/00	4/18/00	7/20/00	9/26/00
Benzene	0.396	0.362	0.383	0.602	0.137	0.820
Toluene	0.004	0.015	0.044	0.067	0.046	0.066
Ethylbenzene	0.001	0.006	0.013	0.020	0.017	0.354
m,p Xylene	0.017	0.039	0.720	0.121	0.078	1.480
o Xylene	0.012	0.022	0.040	0.070	0.032	0.365
Total Xylene	0.029	0.061	0.760	0.191	0.110	1.845
Total BTEX	0.430	0.444	1.200	0.880	0.310	3.085

Monitor Well # 31

