

1R - 260

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

RECEIVED

DEC 15 2000

ENVIRONMENTAL BUREAU
OIL CONSERVATION DIVISION



**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!"

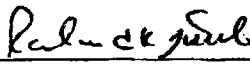
TIPPERARY
ATTN: VICTOR A. VICE
P.O. BOX 857
TATUM, N.M. 88267
FAX: 505-398-6510
FAX: 281-646-8996

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


Roland K. Tuttle

10-13-00
Date

ENVIRONMENTAL LAB OF , INC.

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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
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


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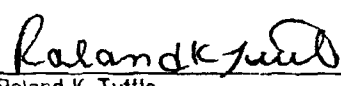
SampleType: Water
Sample Condition: Intact/ Iced/ HCl/ -2 deg. C
Project #: None Given
Project Name: None Given
Project Location: Tatum, N.M.

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


Roland K. Tuttle

10-13-00
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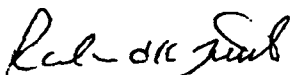
Sample Type: Water
Sample Condition: Intact/ Iced/ HCl/ 34 deg. F
Project #: Monitoring Well Quarterly Sampling
Project Name: None Given
Project Location: Tatum

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

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	0.026	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

ENVIRONMENTAL LAB OF , INC.

"Don't Treat Your Soil Like Dirt!"

TIPPERARY
ATTN: MR. VICTOR A. VICE
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FAX: 505-398-6510
FAX: 281-646-8996

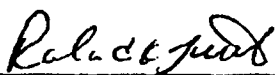
Sample Type: Water
Sample Condition: Intact/ Iced/ HCl/ 34 deg. F
Project #: Monitoring Well Quarterly Sampling
Project Name: None Given
Project Location: Tatum

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

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


Raland K. Tuttle

7-26-00
Date

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: <u>Elliot Werner</u>		Phone #: <u>(500) 854-4358</u>		FAX #: <u></u>		ANALYSIS REQUEST		Pg 1 of 3	
Company Name & Address: <u>Whole Earth/Tipponny</u>		Project Name: <u>Monitor well Quarterly Sampling</u>		Sampler Signature: <u>[Signature]</u>		TPH 418.1		TCLP Metals Ag As Ba Cd Cr Pb Hg Se	
Project #: <u>Tatum</u>		Project Location: <u></u>		Matrix: WATER ☒ SOIL ☐ AIR ☐ SLUDGE ☐ OTHER ☐		Preservative Method: HNO3 ☒ HCL ☐ NONE ☐ OTHER ☐		TCLP Volatiles	
Field Code		# Containers	Volume/Amount	Sampling Date		TIME		TCLP Semi Volatiles	
LAB # (LAB USE ONLY)									
28434	MW-1	1	X		7/20/01	4:30 PM			
28435	MW-4	1				10:30 AM			
28436	MW-2	1				11:30 AM			
28437	MW-16	1				12:00 PM			
28438	MW-3	1				10:30 AM			
28439	MW-1	1				11:30 AM			
28440	MW-6	1				12:45 PM			
28441	MW-10	1				1:30 PM			
28442	MW-11	1				2:00 PM			
28443	MW-13	1				12:10 PM			
28444	MW-14	1				12:15 PM			
Requisitioned by:	Date:	Time:	Received by:	REMARKS					
<u>[Signature]</u>	7-21-00	1100	<u>[Signature]</u>	Rec 34° F					
Requisitioned by:	Date:	Time:	Received by:						
Requisitioned by:	Date:	Time:	Received by:						

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 Number:		Phone #:		ANALYSIS REQUEST		Pg 2 of 3					
Client: Werner		(854) 854-4354									
Company Name & Address:		Project Name:									
Whole Earth Tipping		Quarterly Sampling									
Project #:		Sampler of Materials:									
Project Location:		Tatum									
LAB # (LAB USE ONLY)	FIELD CODE	# CONTAINERS	Volume/Amount	MATRIX			PRESERVATIVE METHOD			SAMPLING DATE	TIME
				WATER	SOIL	AIR	SLODGE	OTHER	HCL		
28445	MW-15	1	X	X	X	X	X	X	X	3/20/01	11:00 AM
28446	MW-17	1								3/20/01	3:40 PM
28447	MW-18	1								3/20/01	3:45 PM
28448	MW-19	1								3/20/01	3:55 PM
28449	MW-20	1								3/20/01	2:55 PM
28450	MW-21	1								3/20/01	2:00 PM
28451	MW-22	1								3/20/01	11:58 PM
28452	MW-23	1								3/20/01	4:45 PM
28453	MW-24	1								3/20/01	5:00 PM
28454	MW-25	1								3/20/01	12:05 PM
28455	MW-26	1								3/20/01	12:05 PM
Requisitioned by:		Date:		Time:		Received by:					
J. J. Johnson		7-21-00		1100		J. J. Johnson					
Requisitioned by:		Date:		Time:		Received by:					
Requisitioned by:		Date:		Time:		Received by Laboratory:					

REMARKS
Rec 340F

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

此

PAS #: (800) 852-435X

343

Name & Address
Whole Earth / Tiptonwy

Project Name:

Moniter Well Quarterly Sampling

Sample Signatures

[illegible]

References

Date:

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REMARKS

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Dates

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Received by Laboratory:

ENVIRONMENTAL LAB OF , INC.

"Don't Treat Your Soil Like Dirt!"

TIPPERARY
ATTN: MR. VICTOR A. VICE
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TATUM, NM 88267
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FAX: 281-646-8996

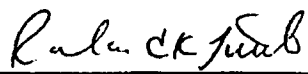
Sample Type: Water
Sample Condition: Intact/Iced/HCl
Project #: Tatum Water Samples
Project Name: None Given
Project Location: None Given

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>Exe (No.)</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


Ralund K. Tuttle

4-27-00
Date

ENVIRONMENTAL LAB OF , INC.

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FAX: 505-398-6510
FAX: 281-646-8996

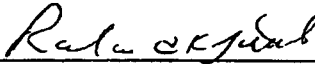
Sample Type: Water
Sample Condition: Intact/Iced/HCl
Project #: Tatum Water Samples
Project Name: None Given
Project Location: None Given

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


Randal 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. Gaffin

Phone #: (800) 854-4358

FAX #: (281) 646-8996

Company Name & Address:

Whole Earth Environmental

Project #:

Project Name:

Tatum Water Sampling

Project Location:

Sampler Signature:

LAB # (LAB USE ONLY)	FIELD CODE	# CONTAINERS	Volume/Amount	MATRIX						PRESERVATIVE METHOD				SAMPLING		BTX 8020/5030	TPH 418.1	TCLP Metals Ag As	Total Metals Ag As	TCLP Volatiles	TCLP Sem Volatiles	TDS	RCI	
				WATER	SOIL	AIR	SLUDGE	OTHER	HCL	HNO3	ICE	NONE	OTHER	DATE	TIME									
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	✓							

REMARKS

Received by: *R. de la Cruz*

Time: 6:04 PM

Date: 4-19-00

Relinquished by: *M. Gaffin*

Received by:

Time:

Date:

Relinquished by:

Received by Laboratory:

Time:

Date:

Relinquished by:

ANALYSIS REQUEST

TCLP Metals Ag As Ba Cd Cr Pb Hg Se	
TCLP Volatiles	
TCLP Semi Volatiles	
TDS	
RCI	
TPH 418.1	
BTEX 8020/5030	

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

Phone #: (800) 854-4358
FAX #: (281) 646-8896

Project Manager:

M. Griffin

Company Name & Address:

Whole Earth Environmental

Project #:

Tatum Water Sampling

Project Name:

Project Location:

Sampler Signature:

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

ANALYSIS REQUEST

LAB # (LAB USE ONLY)	FIELD CODE	# CONTAINERS	Volume/Amount	MATRIX				PRESERVATIVE METHOD				DATE	TIME	OTER	NONE	ICE	HNO3	HCL	OTHER	TPH 418.1	TCAP Metals Ag As Ba Cd Cr Pb Hg Se	Total Metals Ag As Ba Cd Cr Pb Hg Se	TCAP Volatiles	TCAP Semi Volatiles	TDS	RCI						
				WATER	AIR	SLUDGE	OTHER	SOIL	SLUDGE	OTHER	SOIL																OTHER					
25151	MW 11	✓		✓				✓				✓																				
25152	MW 19																															
25153	MW 207	✗																														
25154	MW 31																															
25155	MW 10																															
25156	MW 17																															
25157	MW 18																															
25158	MW 28																															
25159	MW 30																															
25160	MW-2A																															
25161	MW-20																															
Retrieved by:		Date:	Time:	Retrieved by:		Date:	Time:	Retrieved by:		Date:	Time:	Retrieved by:		Date:	Time:	Retrieved by:		Date:	Time:	Retrieved by:		Date:	Time:	Retrieved by:		Date:	Time:	Retrieved by:		Date:	Time:	
M. Griffin		4-19-00	6:10 pm	K. Griffin		4-19-00	6:10 pm	K. Griffin		4-19-00	6:10 pm	K. Griffin		4-19-00	6:10 pm	K. Griffin		4-19-00	6:10 pm	K. Griffin		4-19-00	6:10 pm	K. Griffin		4-19-00	6:10 pm	K. Griffin		4-19-00	6:10 pm	
Remarks:		Can't run Chlorides on sample because of HCL preservative MW-27 - Damaged in transport as per Mike 4/24/00																														

252.

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

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:

M. Gaffin

Phone #: (800) 854-4358

FAX #: (381) 646-8996

Company Name & Address:

Whole Earth Environmental

Project #:

Project Name:

Tatum Water Sampling

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	✓	✓	✓					✓		✓		
25141	MW # 16	✓	✓	✓									
25142	" 26	✓	✓	✓									
25143	" 9	✓	✓	✓									
25144	" 23	✓	✓	✓									
25145	" 24	✓	✓	✓									
25146	65 Sample	✓	✓	✓									
25147	MW # 12	✓	✓	✓									
25148	" 21	✓	✓	✓									
25149	" 22	✓	✓	✓									
25150	" 29	✓	✓	✓									

Relinquished by:

M. Gaffin

Date:

4-19-00

Times:

1810

Received by:

Robert Judd

Relinquished by:

Times:

Received by:

Received by Laboratory:

Relinquished by:

Times:

Received by Laboratory:

Received by Laboratory:

REMARKS:

Missing Sample MW27 & MW24

ANALYSIS REQUEST

BTEX 81020/5030
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 Semi Volatiles

TDS
RCI

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	0.086	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	0.068	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	#28	0.140	0.158	0.030	0.119	0.064
22789	KW-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	94	85
BLANK	<0.001	<0.001	<0.001	<0.001	<0.001

METHODS: SW 846-8021B,5030


Roland 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

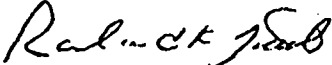
Sample Type: Water
Sample Condition: Intact/Iced/HCl
Project #: None Given
Project Name: None Given
Project Location: Tatum, N.M.

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	0.854
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	0.338	1.24	8.03	2.09
22765	#8	0.170	0.007	0.028	0.022	0.008
22768	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	0.064	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	IVA Source	2.35	3.78	0.458	3.21	1.91
22775	Mable Source	0.534	0.548	0.136	1.03	0.948

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

METHODS: SW 846-8021B, 5030


Raland 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: 281-646-8996

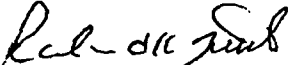
Sample Type: Water
Sample Condition: Intact/ Iced/ HCl/ 34 deg. F
Project #: Monitoring Well Quarterly Sampling
Project Name: None Given
Project Location: Tatum

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	0.026	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	0.282	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

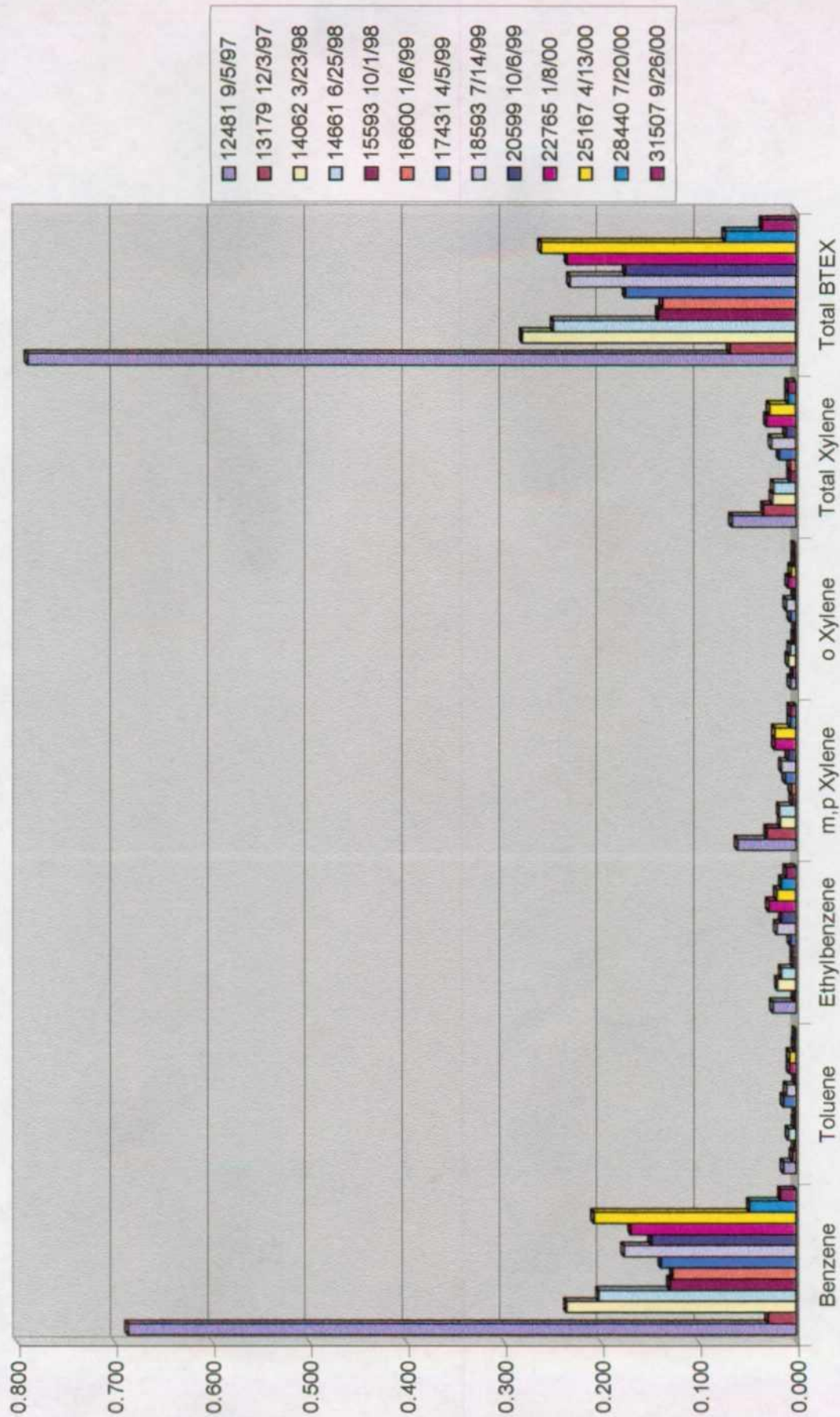

Roland K. Tuttle

7-26-00
Date

Monitor Well # 6
Bell State "A"
Sampling Results

Lab. #	12481	13179	14062	14661	15593	16600	17431	18593	20599	22765	25167	28440	31507
Sample Date	9/5/97	12/3/97	3/23/98	6/25/98	10/1/98	1/6/99	4/5/99	7/14/99	10/6/99	1/8/00	4/13/00	7/20/00	9/26/00
Benzene	0.687	0.029	0.236	0.203	0.130	0.127	0.139	0.177	0.149	0.170	0.208	0.048	0.016
Toluene	0.013	0.004	0.002	0.008	0.002	0.001	0.013	0.010	0.001	0.007	0.007	0.002	0.001
Ethylbenzene	0.024	0.002	0.019	0.015	0.003	0.003	0.006	0.020	0.015	0.028	0.020	0.015	0.010
m,p Xylene	0.060	0.03	0.016	0.017	0.004	0.005	0.011	0.015	0.008	0.022	0.022	0.006	0.006
o Xylene	0.006	0.003	0.008	0.006	0.002	0.001	0.006	0.010	0.002	0.008	0.005	0.002	0.002
Total Xylene	0.066	0.033	0.024	0.023	0.006	0.006	0.017	0.025	0.010	0.030	0.027	0.008	0.008
Total BTEX	0.790	0.068	0.281	0.249	0.141	0.137	0.175	0.232	0.175	0.235	0.262	0.073	0.035

Monitor Well # 6



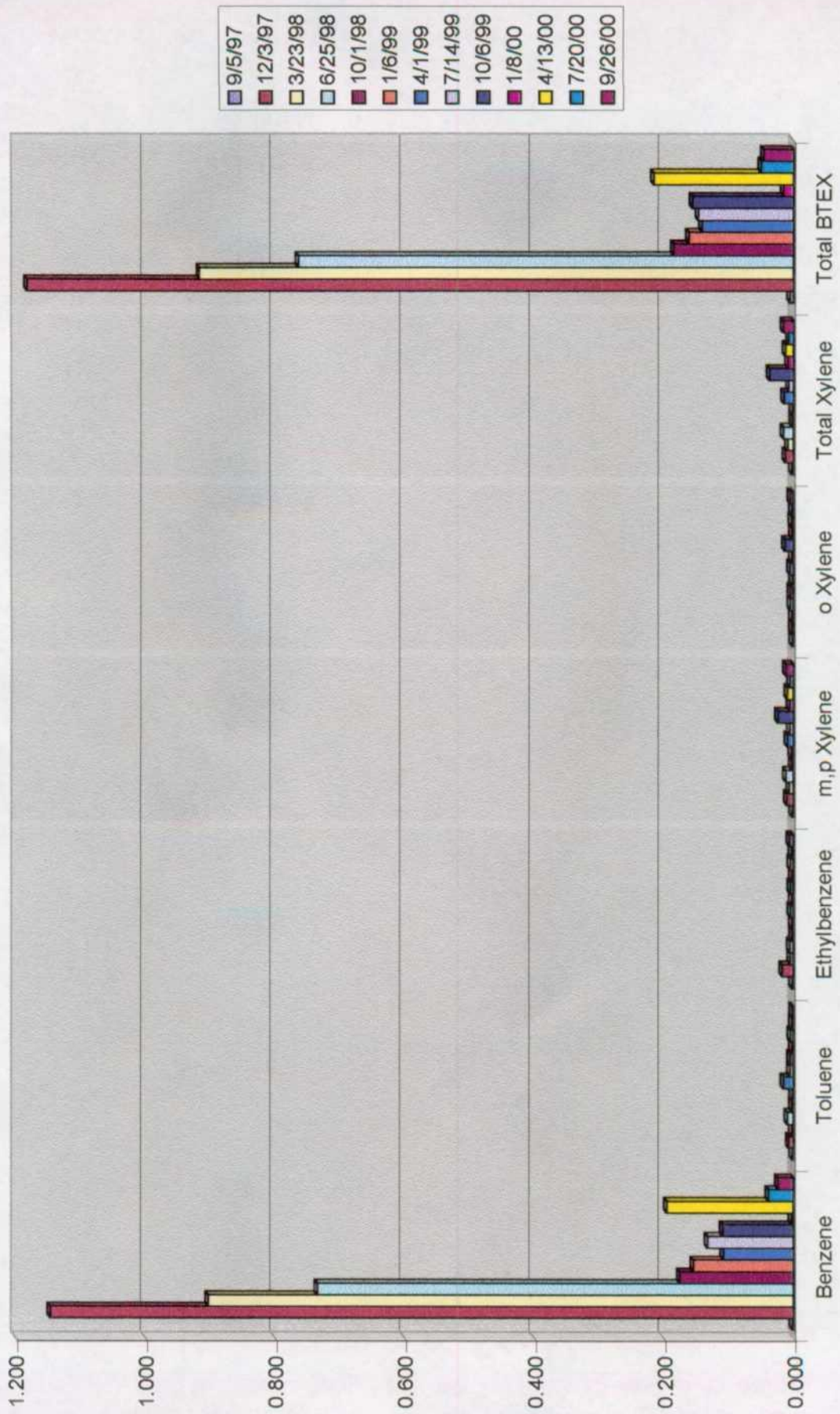
Monitor Well # 13
Bell State "A"
Sampling Results

Lab. #	12731	13180	13180	13180	14667	15599	16606	17432	18599	20609	22779	25168	28443	31487
Sample Date	9/5/97	12/3/97	3/23/98	6/25/98	10/1/98	1/6/99	4/5/99	7/14/99	10/6/99	1/8/00	4/13/00	7/20/00	9/26/00	
Benzene	1.309	0.002	0.011	0.016	0.003	0.001	0.021	0.011	0.003	0.056	0.004	0.002	0.003	
Toluene	0.003	0.001	0.007	0.014	0.002	0.001	0.018	0.011	0.001	0.005	0.002	0.002	0.004	
Ethylbenzene	0.02	0.001	0.004	0.005	0.002	0.001	0.003	0.005	0.001	0.004	0.002	0.001	0.004	
m,p Xylene	0.013	0.005	0.011	0.015	0.004	0.003	0.009	0.012	0.001	0.008	0.006	0.004	0.011	
o Xylene	0.001	0.001	0.004	0.006	0.006	0.001	0.006	0.006	0.001	0.004	0.002	0.002	0.004	
Total Xylene	0.014	0.006	0.015	0.021	0.002	0.002	0.015	0.018	0.002	0.012	0.008	0.006	0.015	
Total BTEX	1.346	0.010	0.037	0.056	0.017	0.007	0.057	0.045	0.007	0.077	0.016	0.011	0.026	

Monitor Well # 14
Bell State "A"
Sampling Results

Lab. #	12732	13181	14048	14668	15607	16607	17433	18600	20610	22770	25169	28444	31488
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	4/13/00	7/20/00	9/26/00
Benzene	0.001	1.147	0.904	0.735	0.175	0.154	0.108	0.132	0.109	0.003	0.195	0.038	0.024
Toluene	0.001	0.007	0.002	0.009	0.002	0.001	0.015	0.005	0.005	0.002	0.004	0.002	0.001
Ethylbenzene	0.001	0.017	0.004	0.005	0.001	0.002	0.004	0.002	0.004	0.002	0.004	0.003	0.006
m,p Xylene	0.001	0.010	0.006	0.011	0.002	0.003	0.009	0.005	0.024	0.006	0.009	0.005	0.011
o Xylene	0.001	0.002	0.002	0.004	0.004	0.001	0.005	0.002	0.013	0.002	0.003	0.002	0.004
Total Xylene	0.002	0.012	0.008	0.015	0.001	0.001	0.014	0.007	0.037	0.008	0.012	0.007	0.015
Total BTEX	0.005	1.183	0.918	0.764	0.184	0.161	0.141	0.146	0.155	0.015	0.215	0.050	0.046

Monitor Well # 14



Monitor Well # 25
Bell State "A"
Sampling Results

Lab. #	17265	18601	20611	22784	25170	28454	31489
Sample Date	4/1/99	7/14/99	10/6/99	1/8/00	4/13/00	7/20/00	9/26/00
Benzene	0.006	0.012	0.001	0.002	0.002	0.001	0.001
Toluene	0.004	0.010	0.001	0.001	0.002	0.001	0.001
Ethylbenzene	0.004	0.002	0.001	0.001	0.002	0.002	0.003
m,p Xylene	0.005	0.006	0.001	0.004	0.005	0.005	0.010
o Xylene	0.004	0.004	0.001	0.002	0.002	0.002	0.004
Total Xylene	0.009	0.010	0.002	0.006	0.007	0.007	0.014
Total BTEX	0.023	0.034	0.005	0.010	0.013	0.011	0.019

Monitor Well # 25

