

1R - 267

REPORTS

DATE:

2003



633 Seventeenth Street
Suite 1550
Denver, Colorado 80202-3622

February 12, 2003

VIA OVERNIGHT MAIL

Mr. William C. Olson
New Mexico Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, NM 87504

**RE: Progress Report for Year 2002
Tatum Pit Closure Project
Lea County, NM**

Dear Mr. Olson:

Please find enclosed the 2002 results from our monitor wells in the subject project area. This report summarizes the results from water samples taken on February 16, April 3, June 7 and October 19, 2002. These results represent 21 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:

- Discussion of results by location.
- Map of pit reclamation locations.
- Chart of monitor well gradients.
- Monitor well location maps.
- Wellbore logs of recently drilled monitor wells.

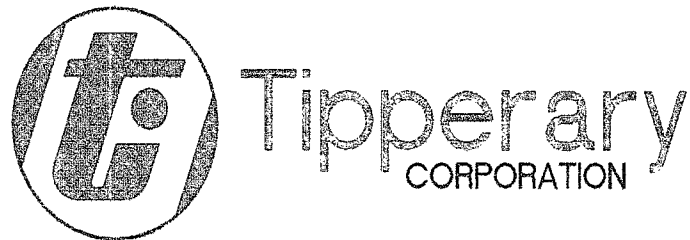
Detailed results are presented in tabular and graphical format for each monitor well. The monitor well data is grouped by site location in the report. The Exhibits Section contains the quarterly lab results and all associated quality control information. We will continue to sample the project quarterly 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: Mr. Paul Sheeley, NMOCD Hobbs Office

Enclosure

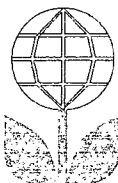


**Tipperary Corporation
Annual Report
Bagley Field
Monitor Well Sampling Results**

RECEIVED

FEB 13 2003

ENVIRONMENTAL BUREAU
OIL CONSERVATION DIVISION



**Whole Earth Environmental
19606 San Gabriel
Houston, Tx. 77084**



**Executive Summary
Tipperary Corporation
Bagley Field
2002 Water Sampling Results**

Activity Summary

We began the year bailing and sampling the Bagley Field monitor wells using a new Grunfos pump and having made extensive revisions to our decontamination procedures. The changes allowed us not only to pump approximately twice the volumes from each well than our previous methods but also have a greater confidence in the actual results obtained.

Iva Com

The BTEX concentrations within the recovery well are up approximately 5% from last year but down over 90% from the initial sampling period of four years ago. We estimate that the present oil / water cut within the recovery well is 3% based on visual examination of the fluids within the collection tank. The outlying wells continue to show essentially non-detect levels. The windmill and, collection and storage equipment all appear to be in good working order.

Mable Com

The BTEX concentrations within the recovery well are down approximately 5% from the previous year and over 50% from the initial sampling period of four years ago. We estimate that the present oil / water cut within the recovery well is 5% based on visual examination of the fluids within the collection tank.

Monitor well # 3 continues to show a significant amount of DNAPL within the well bore. We estimate the hydrocarbon fraction to be 85% of the volumes collected. The BTEX segment of the contaminant stream makes up approximately .01% of the total volume.

Monitor well # 4 continues to show essentially non-detect BTEX concentrations.

A new delineation monitor well (# 35) was drilled and developed during the second quarter of the year. Two rounds of sampling show non-detect BTEX concentrations.

Bell

Monitor well # 6 (nearest the pit), finished the year with two consecutive quarters of acceptable results after nineteen consecutive quarters of benzene concentrations in excess of standards.

Monitor well # 13 now has eleven consecutive quarters of acceptable results.

Monitor well # 14 shows a slight increase in benzene concentrations over the previous year but the overall BTEX concentrations are down approximately 78% over the initial 1998 results.

Monitor well # 25 now has thirteen consecutive quarters of acceptable results.

A new delineation monitor well (# 36) was drilled and developed during the second quarter of the year. The initial sample results showed non-detectable BTEX concentrations followed by a benzene concentration of 28 ppm. The most recent sampling conducted in late December and not included within this report are back to less than 1 ppm. The October results are most likely the result of cross contamination.

NBF

The well nearest the pit (# 8) remains clean.

Monitor well # 15 contains approximately 20% free product and continues to show increased BTEX elevations. Prior to the introduction of the Grunfos, this bore was especially difficult to bail due to the amount of built up sediment in the bore. Aggressive bailing resulted in a migration of the contaminant plume within the well and hence, dramatic increases in the contaminant concentrations.

Monitor well # 16 remains in excess of standards but within normal limits. The BTEX concentrations have dropped 53% over the previous year and 43% over the initial reporting period.

Monitor well # 26 remained within standards for three consecutive quarters and then increased dramatically in October. Results for December of 2002 (not included within this report) dropped back to non-detect concentrations indicating once again a probable cross contamination problem with the equipment.

A new delineation monitor well (# 37) was drilled and developed during the second quarter of the year and shows two consecutive quarters of non-detectable BTEX concentrations.

Sohio # 1

The three wells nearest the pit all contain free product and sulfides within the bores. We estimate the amount to be between 5-10% of fluid volume. The BTEX concentrations within the well nearest the pit (# 10) shows an increase of 85% over last years averages.

Monitor well # 17 again showed an increase in BTEX levels of 39% over the previous year and 154% over the initial sampling.

Monitor well # 18 again showed an increase in BTEX levels of 85% over the previous year and 455% over the initial sampling.

Monitor wells # 28 and # 29 fluctuate between non-detectable and minor BTEX concentrations.

The newest well, # 40 had a single spike in October. The newest readings, taken in December and not included within this report, show acceptable concentrations.

Sohio A

Monitor well # 11 (nearest the pit) shows a decline in overall BTEX concentrations of 41% over the previous years results and a marginal decline over the initial concentrations.

Monitor well # 19 continues to have ever increasing BTEX concentrations within the bore indicating that the main plume is traveling in a more westerly direction than the topography of the area would predict.

Monitor well # 20 has shown four consecutive quarters of acceptable results.

Monitor Well # 27 continues to display rather erratic readings – up one quarter and down the next. I believe that the June reading of non-detect BTEX was actually the results from well # 39 which was skipped in the June sampling round.

Well # 39 was skipped in both June and October due to an error of omission in our quarterly work plan for the Bagley Field Sampling Project. It was sampled in December and recorded a benzene concentration of .057 ppm. If the second quarter sampling results are again higher than WQCC standards, we will drill and complete yet another well in an attempt to delineate the plume spread.

G.S. State

The recovery well appears to be in good mechanical shape as does the collection and storage equipment. Observation of the storage tank indicates an oil / water cut ratio of approximately 93%.

Monitor well # 12 (nearest the pit) contains approximately 15% free product. BTEX concentrations continue to increase – possibly due to the drawdown created by additional bailing.

Monitor well # 21 shows a continuing decline in BTEX concentrations. Three of the past four quarter's results show acceptable concentrations.

Monitor well # **22** shows a continuing decline in BTEX concentrations. The last two quarter's results show acceptable concentrations for the first time ever.

Monitor well # **29** has shown four consecutive quarters of acceptable results.

The newest well, # **38** had significant development problems precluding us from effectively sampling it in the third quarter. We re-developed the bore and now have an effective 9.9' of water column. The December results (not included within this report) also show non-detect BTEX concentrations.

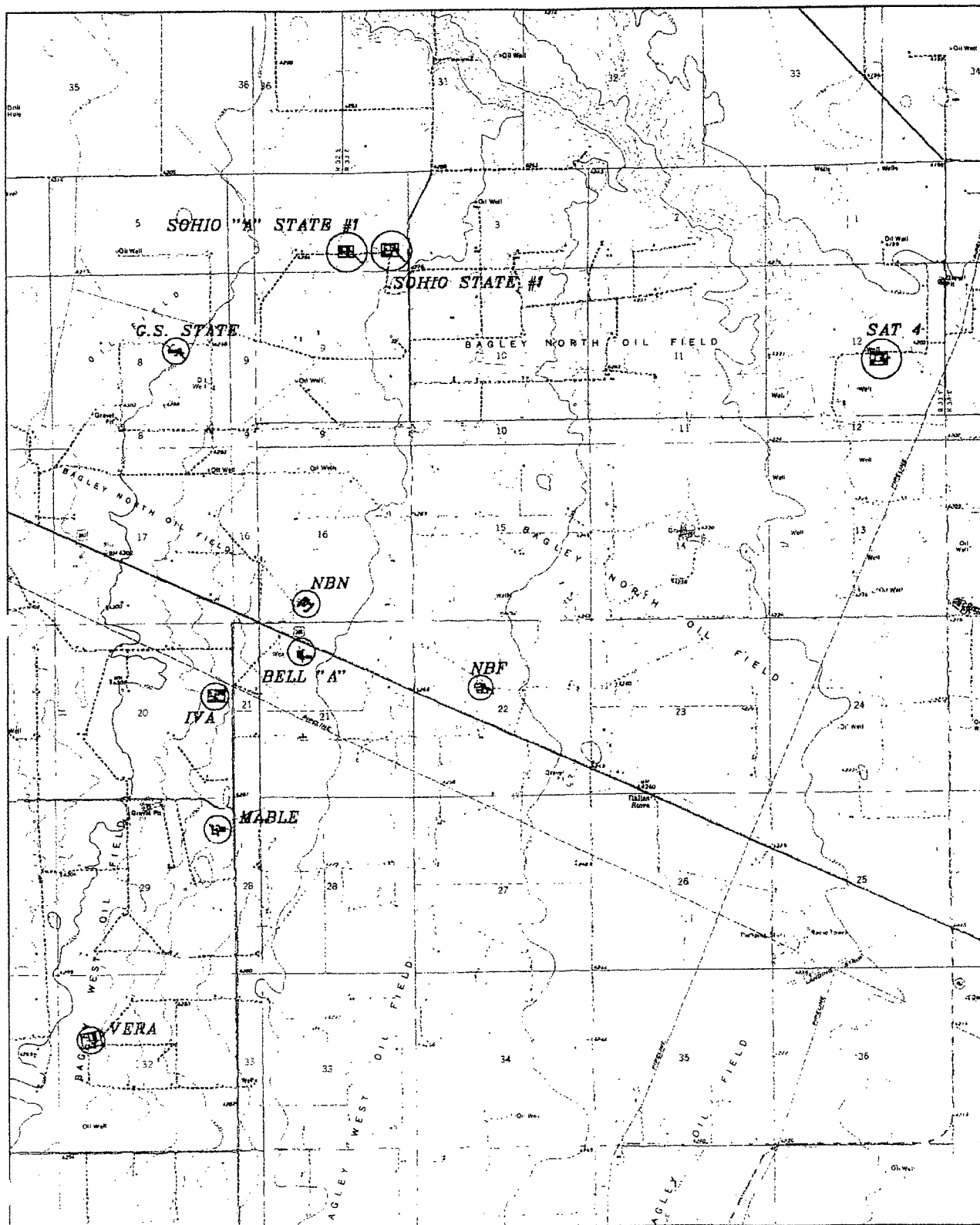
Collier # 1

The source well remains an open bore awaiting artificial lift equipment. BTEX concentrations within the bore have remained stable over four consecutive quarters.

Monitor wells # **33** & **34** remain marginally over WQCC standards.

The BTEX concentrations within monitor well # **35** have reached non-detectable concentrations.

WHOLE EARTH ENVIROMENTAL, INC.



4000 0 4000 8000

EXHIBIT 9

BASIN SURVEYS P.O. BOX 1786-HOBBS, NEW MEXICO

W.O. Number: 9352

Drawn By: K. GOAD

Date: 10-21-99

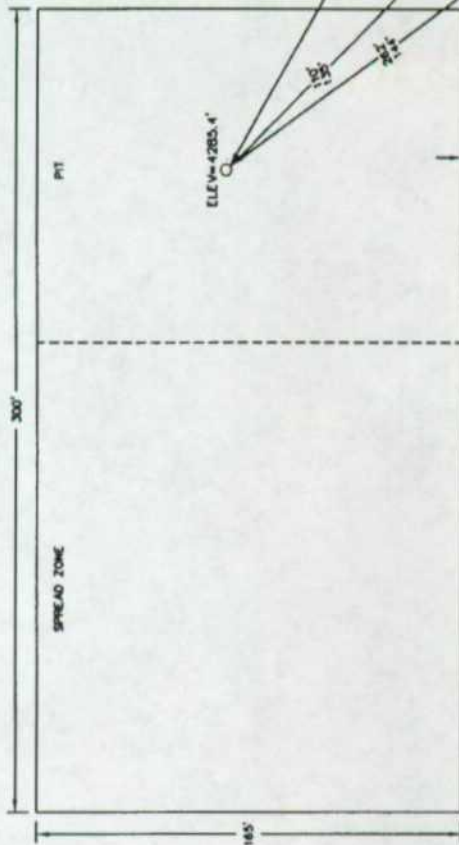
Disk: KJG #122 - WE9352.DWG

Tipperary Corporation
Tatum Bagley Field
Monitor Well Gradient Chart

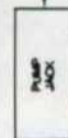
Well Name	Well No.	Surface Elevation	Water Elevation	Distance to Pit Center (Ft.)	Gradient (Ft. / Ft.)	Gradient (Ft. / 100Ft.)
Iva COM	Source Well	4,298.42	4,246.42			
	1	4,292.10	4,237.20	115	0.080174	8.02
	2	4,291.93	4,238.93	140	0.053500	5.35
Mable COM	Source Well	4,290.55	4,238.55			
	3	4,287.22	4,235.22	148	0.022500	2.25
	4	4,287.86	4,235.46	160	0.019313	1.93
	35			348		
Bell State	6	4,281.12	4,230.12	93	0.021183	2.12
	13	4,280.84	4,233.04	51	0.044118	4.41
	14	4,280.80	4,232.50	47	0.048723	4.87
	25	4,280.37	4,232.97	154	0.017662	1.77
	36			345		
NBF	8	4,259.41	4,211.41	165	0.045152	4.52
	15	4,259.68	4,212.68	198	0.036263	3.63
	16	4,259.06	4,211.96	247	0.031579	3.16
	26	4,258.04	4,215.04	387	0.022791	2.28
	37			298		
Sohio A	11	4,285.88	4,235.88	115	0.011835	0.83
	19	4,285.97	4,237.27	164	0.005305	0.53
	20	4,285.96	4,236.46	151	0.005822	0.58
	27	4,285.61	4,245.61	264	0.004659	0.47
	31	4,283.54	4,246.09	624	0.005288	0.53
	39			944		
Sohio # 1	10	4,283.63	4,233.63	110	0.016273	1.63
	17	4,283.31	4,233.91	262	0.000805	0.81
	18	4,283.59	4,234.99	176	0.010398	1.04
	28	4,283.21	4,236.96	552	0.004004	0.40
	30	4,281.13	4,235.82	776	0.005528	0.55
	40			1,006		
G.S. State	Source Well	4,307.00	4,259.00			
	12	4,303.27	4,255.27	52	0.071731	7.17
	21	4,303.08	4,255.08	151	0.025960	2.60
	22	4,302.77	4,255.27	148	0.025203	2.52
	29	4,303.20	4,254.14	295	0.016475	1.65
	38			351		
Collier	Source Well	4292.10	4249.3			
	33	4284.00	4240.40	400	0.109000	10.90
	34	4281.20	4239.00	640	0.065937	6.59
	35	4280.80	4237.40	919	0.047225	4.72

Solio 1

SOHIO STATE #1

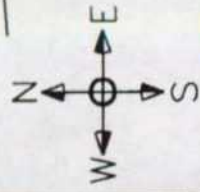


TO
SEPARATOR



177

LEASE ROAD



SCALE 1"=70'

EXHIBIT 4

PROPOSED
MW 40

254'

MW 30
ELEV=4281.1'

200'

MW 28
ELEV=4281.1'

200'

MW 17
ELEV=4283.2'

120'

MW 10
ELEV=4283.6'

MW 16
ELEV=4283.6'

4280'

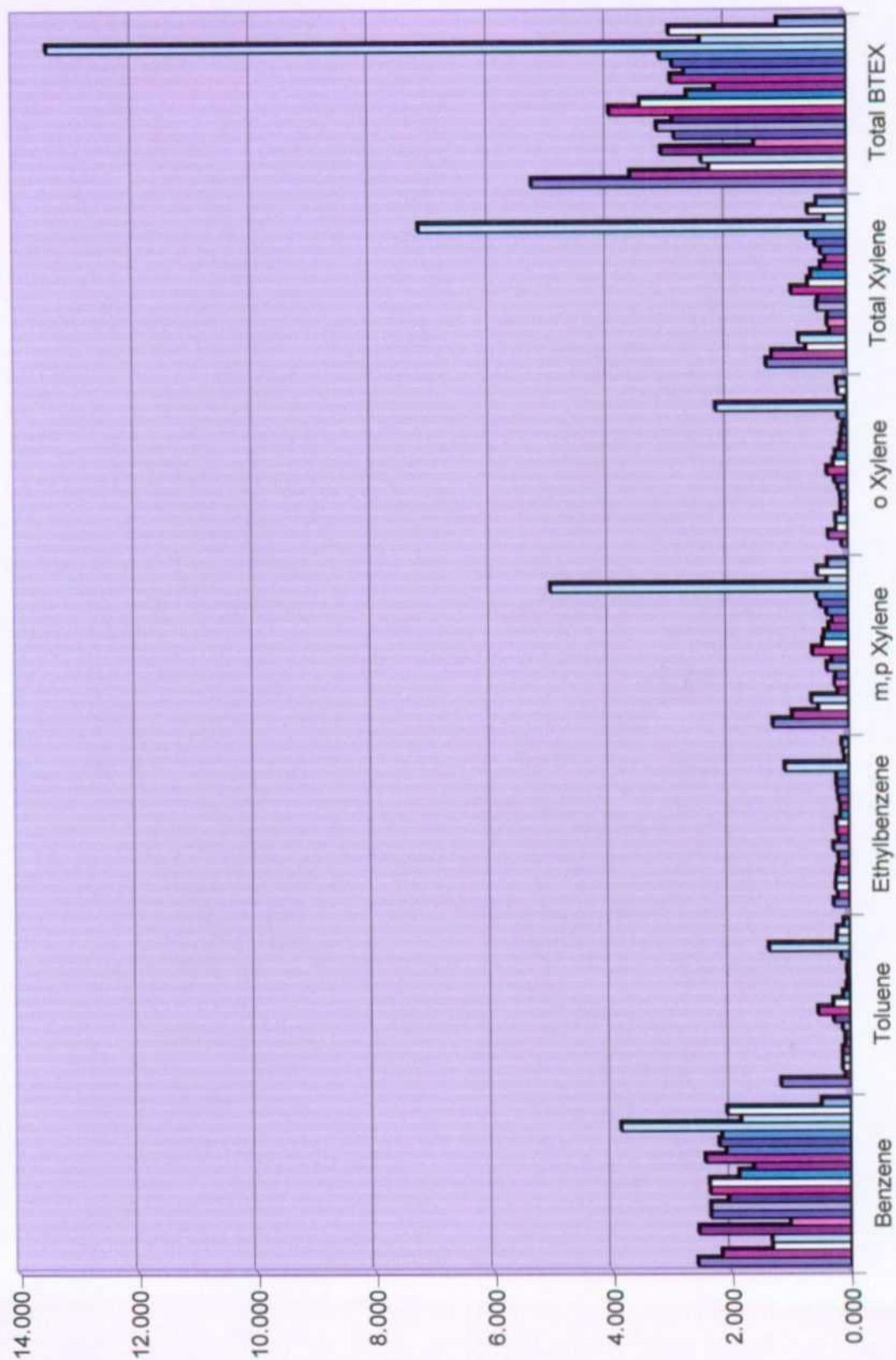
200'

4280'

Monitor Well # 10
 Sobio State # 1
 Sampling Results

Lab. #	12483	13186	14095	14664	15307	16004	17437	18695	20001	22763	25154	26441	31508	38143	38231	0101098-15	0107142-15	0202818-15	0203001-15	0203502-15	0204818-15
Sample Date	9/8/97	12/3/97	3/23/98	6/26/98	10/1/98	1/6/99	4/1/99	7/14/99	10/6/99	1/8/00	4/18/00	7/20/00	9/28/00	1/6/01	4/6/01	7/7/01	9/25/01	2/15/02	3/30/02	6/15/02	10/19/02
Benzene	2.559	2.148	1.301	1.313	2.541	1.000	2.340	2.340	2.040	2.350	2.300	1.950	1.620	2.430	2.080	2.200	2.150	3.850	1.830	2.060	0.871
Toluene	1.148	0.962	0.113	0.113	0.108	0.067	0.067	0.110	0.266	0.820	0.283	0.099	0.036	0.011	0.031	0.010	0.131	1.340	0.203	0.192	0.087
Ethylbenzene	0.243	0.173	0.209	0.206	0.182	0.166	0.168	0.243	0.157	0.187	0.195	0.132	0.127	0.163	0.179	0.190	0.189	1.060	0.569	0.076	0.099
m,p Xylene	1.257	0.930	0.490	0.811	0.187	0.214	0.203	0.343	0.281	0.596	0.421	0.391	0.308	0.251	0.342	0.455	0.510	5.000	0.335	0.498	0.327
o Xylene	0.961	0.313	0.179	0.160	0.068	0.065	0.100	0.129	0.200	0.329	0.216	0.188	0.109	0.089	0.074	0.052	0.137	2.200	0.514	0.138	0.158
Total Xylene	1.338	1.243	0.669	0.781	0.268	0.309	0.303	0.478	0.461	0.916	0.637	0.677	0.417	0.340	0.416	0.607	0.847	7.200	0.349	0.634	0.455
Total BTEX	6.288	3.526	2.292	2.423	3.096	1.632	2.878	3.172	2.913	3.972	3.455	2.668	2.200	2.934	2.706	2.907	3.117	13.460	2.441	2.962	1.142

The chart displays the concentration of various aromatic compounds in groundwater over time. The y-axis represents concentration in mg/L, ranging from 0.000 to 14.000. The x-axis lists the compounds: Benzene, Toluene, Ethylbenzene, m,p Xylene, o Xylene, Total Xylene, and Total BTEX. A legend at the top shows dates from 9/5/97 to 10/19/02. The chart shows that benzene and toluene concentrations are generally low, while ethylbenzene and m,p xylene concentrations are higher, peaking around 1999. Total BTEX concentrations are also high, peaking around 1999.



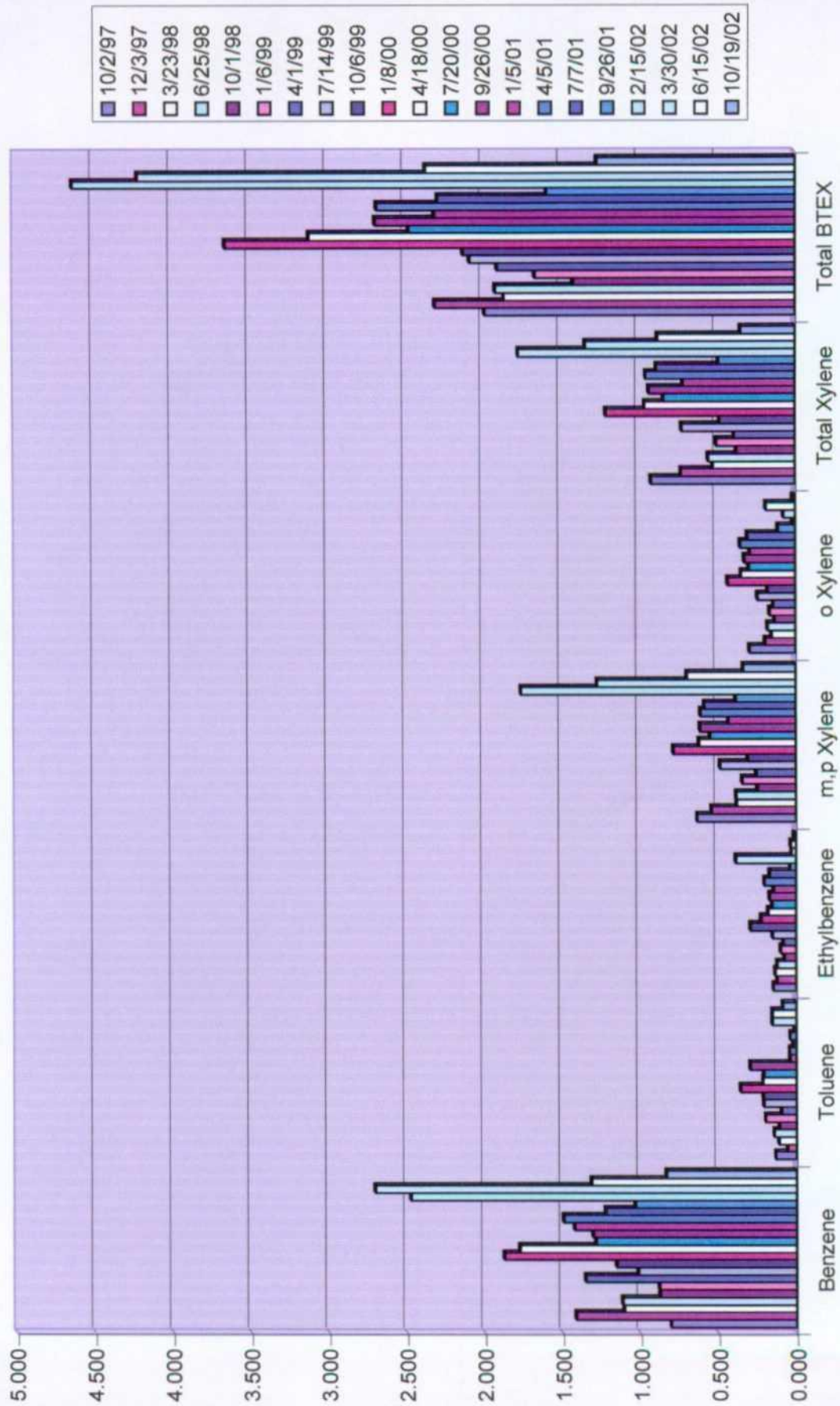
Monitor Well # 17

Sohio State # 1

Sampling Results

Lab. #	17273	13197	14051	14677	15001	15097	17436	18005	20015	22780	25155	28485	31508	36143	38932	0101008-10	1010642-16	0202518-16	0203001-16	0203002-16	0204815-16
Sample Date	10/2/97	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	8/25/00	1/6/01	4/5/01	7/7/01	9/25/01	2/18/02	3/30/02	6/15/02	10/15/02
Benzene	0.799	1.409	1.101	1.111	0.872	0.876	1.300	1.010	1.150	1.870	1.720	1.280	1.300	1.420	1.420	1.220	1.030	2.470	2.700	1.310	0.800
Toluene	0.128	0.063	0.108	0.138	0.106	0.193	0.082	0.205	0.206	0.363	0.209	0.203	0.291	0.036	0.038	0.017	0.036	0.007	0.148	0.149	0.081
Ethylbenzene	0.141	0.116	0.130	0.118	0.071	0.094	0.079	0.146	0.289	0.221	0.176	0.160	0.166	0.140	0.199	0.166	0.036	0.381	0.026	0.031	0.010
m,p Xylene	0.828	0.536	0.376	0.379	0.243	0.326	0.248	0.482	0.504	0.782	0.918	0.546	0.610	0.438	0.606	0.593	0.381	1.760	1.270	0.994	0.332
o Xylene	0.262	0.162	0.148	0.174	0.120	0.103	0.138	0.240	0.176	0.429	0.344	0.294	0.324	0.307	0.348	0.303	0.108	0.013	0.072	0.186	0.015
Total Xylene	0.920	0.728	0.624	0.653	0.371	0.802	0.386	0.722	0.490	1.211	0.960	0.840	0.934	0.716	0.984	0.896	0.489	1.773	1.342	0.979	0.347
Total BTEX	1.988	2.306	1.853	1.920	1.418	1.666	1.907	2.083	2.126	3.655	3.116	2.473	2.690	2.311	2.691	2.289	1.689	4.631	4.216	2.369	1.289

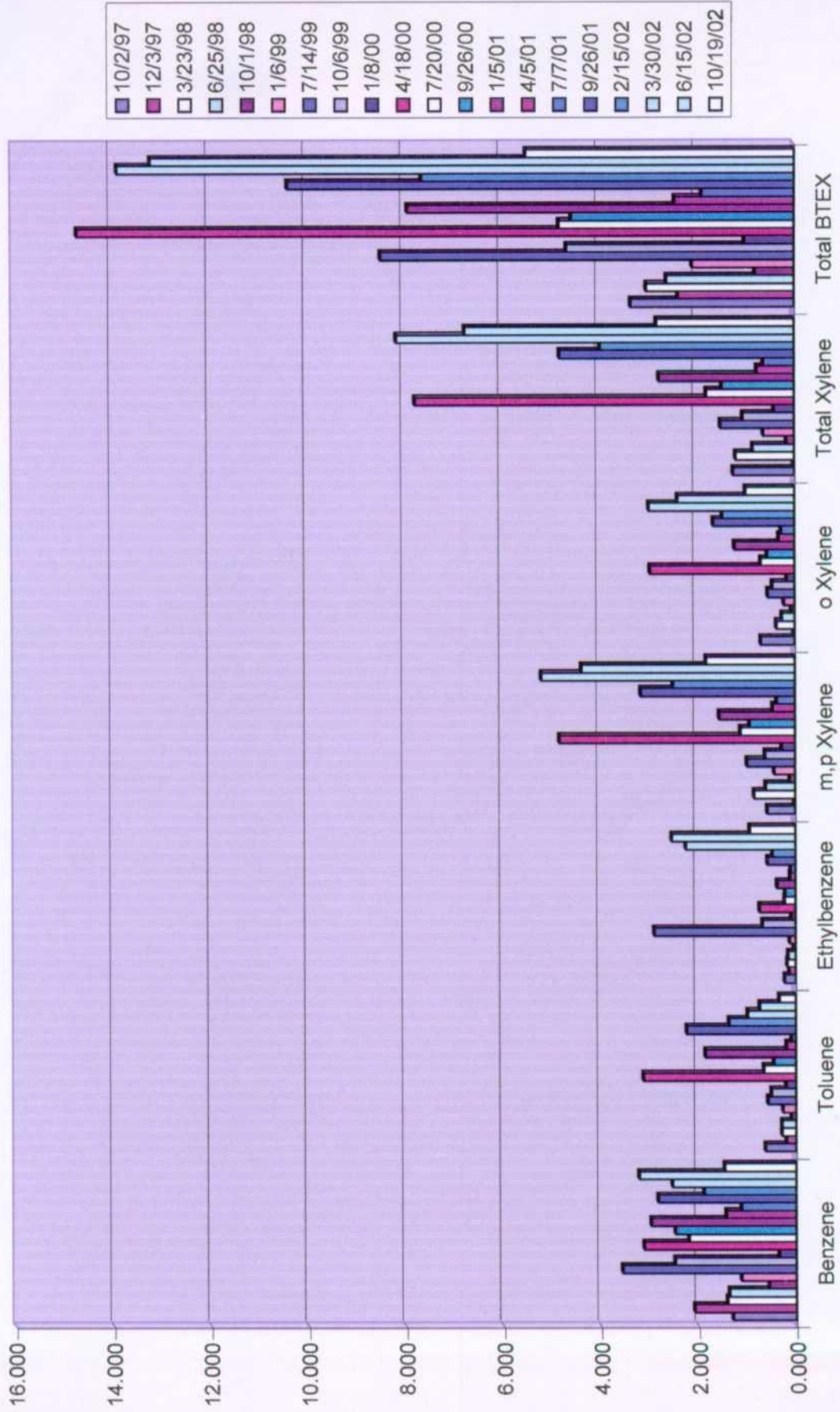
MW # 17



Monitor Well # 18
 Sohio State # 1
 Sampling Results

Lab. #	13724	13188	14062	14672	16603	16638	18506	20816	22760	26166	28447	31610	36149	38333	9101038-17	9101643-17	0202518-17	0303001-17	0303002-17	0304818-20
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	1/5/01	4/5/01	7/7/01	9/26/01	2/15/02	3/30/02	6/15/02	10/19/02
Benzene	1.276	2.043	1.356	1.367	0.642	1.100	3.540	2.470	0.334	3.100	2.180	2.460	2.560	1.410	1.100	2.810	1.870	2.620	3.200	1.460
Toluene	0.614	0.178	0.269	0.272	0.072	0.247	0.553	0.496	0.196	3.110	0.643	0.432	1.840	0.179	0.077	2.220	1.350	0.967	0.719	0.317
Ethylbenzene	0.206	0.118	0.159	0.131	0.025	0.107	2.880	0.660	0.074	0.723	0.204	0.201	0.364	0.095	0.082	0.554	0.453	2.330	2.620	0.920
m,p Xylene	0.663	0.601	0.823	0.689	0.683	0.416	0.967	0.634	0.267	4.820	1.100	0.320	1.640	0.443	0.364	3.160	2.490	6.190	4.370	1.810
o Xylene	0.584	0.001	0.366	0.262	0.664	0.203	0.632	0.444	0.443	2.950	0.683	0.644	1.220	0.306	0.267	1.560	1.470	2.570	2.380	0.994
Total Xylene	1.237	0.002	1.189	0.941	0.147	0.618	1.499	1.038	0.406	7.770	1.783	1.464	2.760	0.755	0.621	4.800	3.960	8.160	6.760	2.804
Total BTEX	3.333	2.361	3.013	2.601	0.786	2.072	8.472	4.654	1.000	14.703	4.810	4.657	7.914	2.439	1.880	10.384	7.633	13.877	13.189	5.491

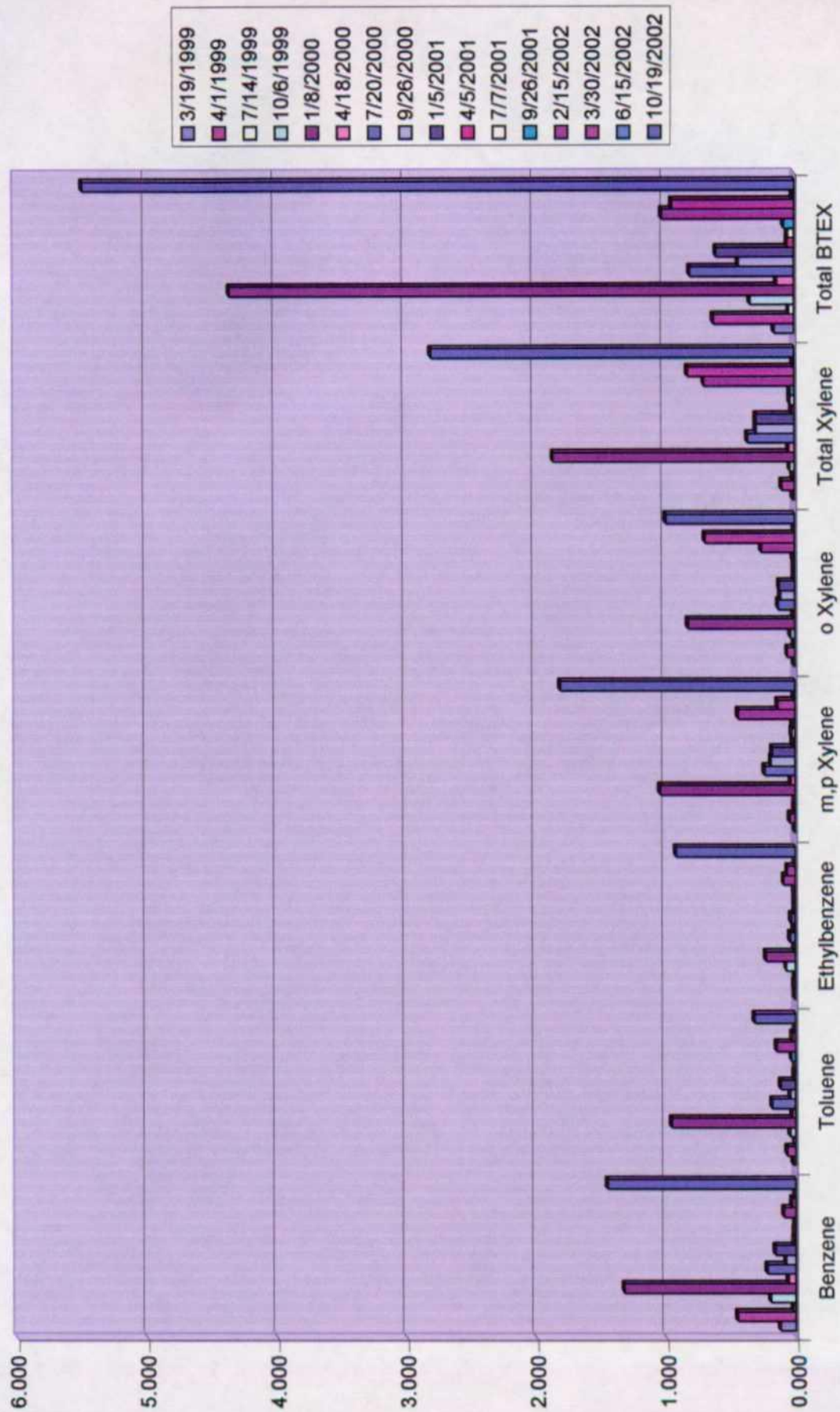
MW # 18



Monitor Well # 28
Sohio State # 1
Sampling Results

Lab. #	17267	17440	18607	20617	22781	26157	28457	31511	35144	38934	0101098-18	0101642-18	0202618-18	0203001-18	0203602-18	0204815-21
Sample Date	3/19/1999	4/1/1999	7/14/1999	10/6/1999	1/8/2000	4/18/2000	7/20/2000	9/26/2000	1/5/2001	4/5/2001	7/7/2001	9/26/2001	2/15/2002	3/30/2002	6/15/2002	10/19/2002
Benzene	0.118	0.446	0.019	0.192	1.320	0.055	0.219	0.076	0.156	0.014	0.009	0.005	0.091	0.030	0.001	1.450
Toluene	0.019	0.065	0.003	0.042	0.954	0.026	0.180	0.041	0.115	0.010	0.002	0.031	0.144	0.025	0.001	0.317
Ethylbenzene	0.005	0.011	0.004	0.070	0.227	0.010	0.042	0.014	0.034	0.007	0.006	0.010	0.089	0.062	0.001	0.920
m,p Xylene	0.004	0.041	0.008	0.001	1.040	0.033	0.233	0.186	0.175	0.016	0.025	0.020	0.438	0.134	0.009	1.810
o Xylene	0.008	0.058	0.005	0.034	0.822	0.011	0.128	0.111	0.120	0.006	0.007	0.014	0.259	0.590	0.002	0.994
Total Xylene	0.012	0.099	0.013	0.035	1.862	0.044	0.361	0.297	0.295	0.022	0.032	0.034	0.697	0.824	0.011	2.804
Total BTEX	0.154	0.621	0.039	0.339	4.363	0.135	0.802	0.428	0.600	0.053	0.049	0.080	1.021	0.941	0.014	5.491

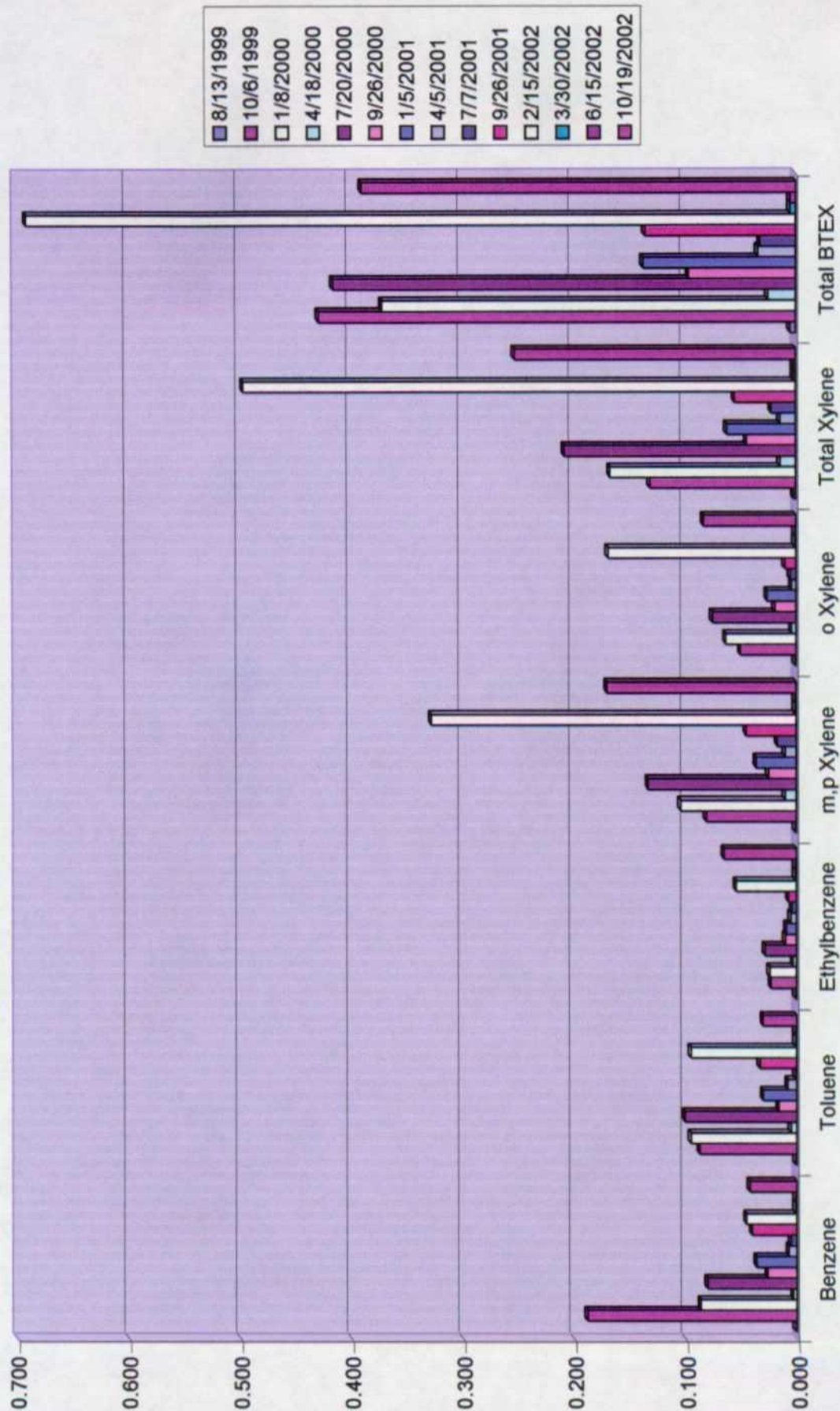
MW # 28



**Monitor Well # 30
Sohio State # 1
Sampling Results**

Lab. #	19165	20618	22776	25158	28459	31512	36161	38935	0101098-19	0101642-19	0202619-19	0203001-19	0203602-19	0204815-22
Sample Date	8/13/1999	10/6/1999	1/8/2000	4/18/2000	7/20/2000	9/26/2000	1/5/2001	4/5/2001	7/7/2001	9/26/2001	2/15/2002	3/30/2002	6/15/2002	10/19/2002
Benzene	0.001	0.188	0.086	0.003	0.080	0.026	0.036	0.007	0.005	0.040	0.045	0.001	0.001	0.042
Toluene	0.001	0.087	0.095	0.005	0.100	0.016	0.030	0.008	0.001	0.033	0.095	0.001	0.001	0.030
Ethylbenzene	0.001	0.023	0.024	0.003	0.028	0.010	0.009	0.005	0.004	0.007	0.054	0.001	0.001	0.065
m,p Xylene	0.001	0.081	0.104	0.010	0.133	0.025	0.036	0.010	0.017	0.045	0.328	0.001	0.001	0.170
o Xylene	0.001	0.050	0.063	0.004	0.075	0.019	0.026	0.004	0.005	0.010	0.169	0.001	0.001	0.083
Total Xylene	0.002	0.131	0.167	0.014	0.208	0.044	0.062	0.014	0.022	0.055	0.497	0.002	0.002	0.253
Total BTEX	0.005	0.429	0.372	0.025	0.416	0.096	0.137	0.034	0.032	0.135	0.691	0.005	0.005	0.390

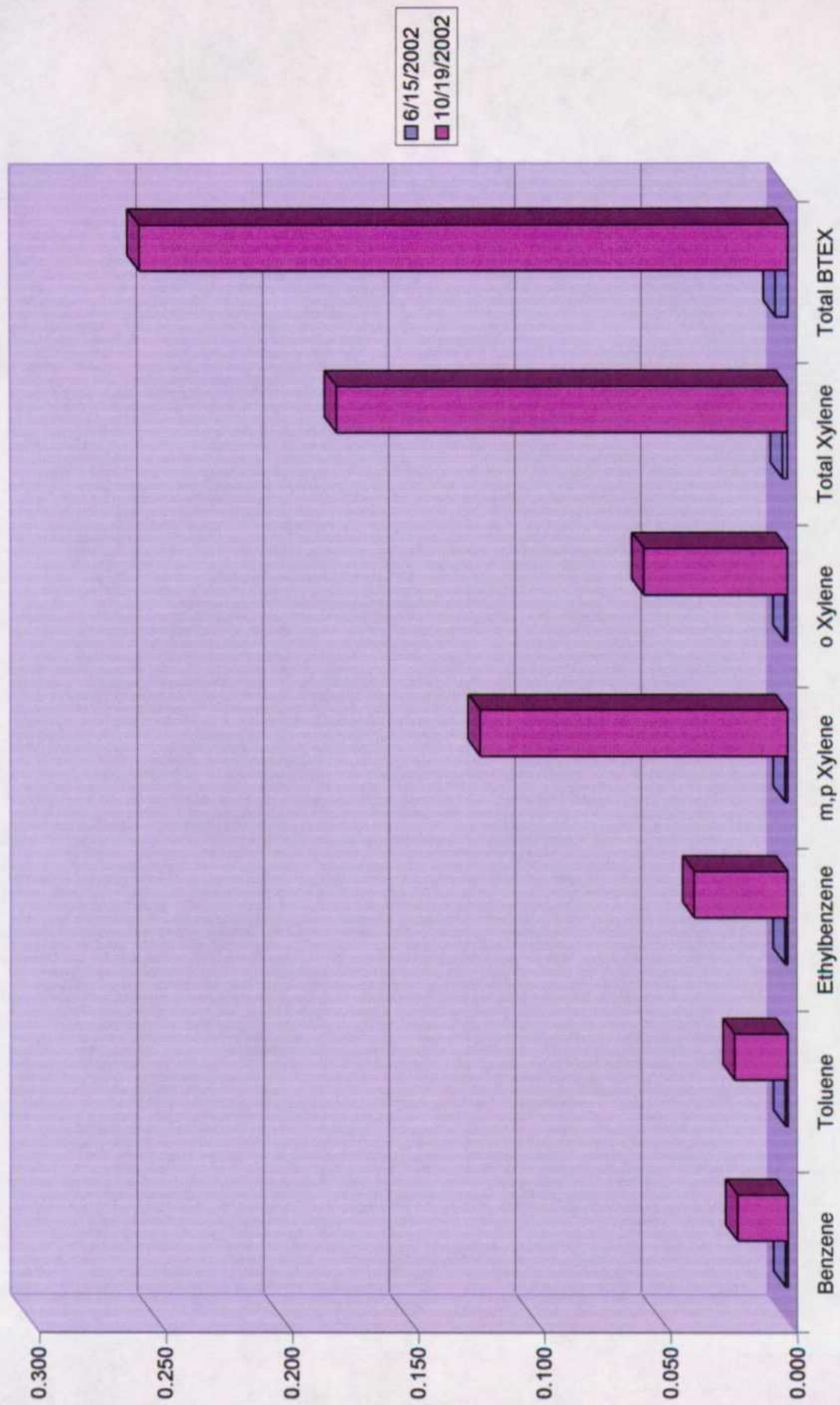
MW # 30



Sohio # 1
MW-40

Lab. #	0203602-20	0204815-23
Sample Date	6/15/2002	10/19/2002
Benzene	0.001	0.020
Toluene	0.001	0.021
Ethylbenzene	0.001	0.037
m,p Xylene	0.001	0.122
o Xylene	0.001	0.057
Total Xylene	0.002	0.179
Total BTEX	0.005	0.257

MW # 40



Atkins Engineering Associates, Inc. 2904 W. 2nd St., Roswell, NM 88202-3156				LOG OF BORING SOHIO STATE #1 MW 40 (Page 1 of 1)			
Whole Earth Environmental 19606 San Gabriel Houston, Texas 77084				Date : 6/05/02		Site Location : Caprock, NM	
Contact Mike Griffin				Drill Start : 730		Auger Type : Hollow Stem	
Project # CALLIER.MWD.02				Drill End : 1230		Logged By : Mort Bates	
Boring Location : SE of Location							

Depth in feet	GRAPHIC	USCS	Samples	DESCRIPTION	Lab mg/kg	
0	CL			Clay, brown, tan caliche rock, loose, dry		8"x12" monitor well cover Cement grout 2" PVC Casing Bentonite Seal 8/16 Silica Sand pack 2" .020" slot screen
5				Caliche, tan, firm, dry		
10	SP			Poorly graded sand w/caliche, loose, dry		
15						
20	SP			Poorly graded sand, tan, loose, dry		
25						
30	SS			Sandstone, tan, hard, dry		
35						
40	SS			Sandstone w/sand, tan, damp		
45						
50	SP			Poorly graded sand w/sandstone, tan, firm, wet		
55						
60	TD = 55 feet WL = 43 feet					



Exhibits

This section contains copies of the four individual quarterly laboratory sampling results and all associated quality control information.

ENVIRONMENTAL LAB OF I, LTD.

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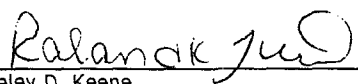
WHOLE EARTH ENVIRONMENTAL
ATTN: MIKE GRIFFIN
19606 SAN GABRIEL
HOUSTON, TEXAS 77084
FAX: 281-646-8996

Sample Type: Water
Sample Condition: Intact/ Iced/ HCl/ -1.0 deg C
Project Name: Quarterly Sampling
Project #: None Given
Project Location: Tatum, NM

Sampling Date: 02/16/02
Receiving Date: 02/18/02
Analysis Date: 02/20/02

ELT#	FIELD CODE	BENZENE mg/L	TOLUENE mg/L	ETHYLBENZENE mg/L	m,p-XYLENE mg/L	o-XYLENE mg/L
0202619-01	Iva Source Well	0.701	0.437	0.102	0.723	0.579
0202619-02	Iva MW 1	<0.001	0.001	0.004	0.012	0.004
0202619-03	Iva MW 2	<0.001	<0.001	0.002	0.008	0.002
0202619-04	Mable Source Well	0.486	0.418	0.149	1.14	0.801
0202619-05	Mable MW 3	<0.050	0.116	0.118	0.395	0.139
0202619-06	Mable MW 4	0.007	0.003	0.009	0.028	0.012
0202619-07	Bell MW 6	0.022	<0.001	0.005	0.008	0.002
0202619-08	Bell MW 13	<0.001	<0.001	0.002	0.006	0.002
0202619-09	Bell MW 14	0.378	0.003	0.005	0.023	0.004
0202619-10	Bell MW 25	<0.001	<0.001	0.002	0.008	0.003
0202619-11	NBF MW 8	0.001	<0.001	0.002	0.005	0.002
0202619-12	NBF MW 15	1.31	1.87	1.06	3.92	2.10
0202619-13	NBF MW 16	0.484	0.032	0.043	0.080	0.038
0202619-14	NBF MW 26	0.008	0.008	0.010	0.034	0.015
0202619-15	Sohio #1 MW 10	3.85	1.34	1.06	5.00	2.20
QUALITY CONTROL		0.098	0.101	0.109	0.228	0.115
TRUE VALUE		0.100	0.100	0.100	0.200	0.100
% INSTRUMENT ACCURACY		98	101	109	114	115
SPIKED AMOUNT		0.100	0.100	0.100	0.200	0.100
ORIGINAL SAMPLE		0.001	<0.001	0.002	0.005	0.002
SPIKE		0.097	0.100	0.108	0.224	0.113
SPIKE DUP		0.096	0.098	0.108	0.224	0.115
% EXTRACTION ACCURACY		96	100	106	110	111
BLANK		<0.001	<0.001	<0.001	<0.001	<0.001
RPD		1.04	2.02	0.00	0.00	1.75

METHODS: EPA SW 846-8021B ,5030


Celey D. Keene
Ralanda K. Tuttle

2-22-02
Date

ENVIRONMENTAL LAB OF I, LTD.

"Don't Treat Your Soil Like Dirt!"

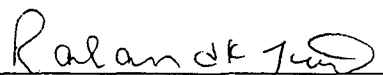
WHOLE EARTH ENVIRONMENTAL
ATTN: MIKE GRIFFIN
19606 SAN GABRIEL
HOUSTON, TEXAS 77084
FAX: 281-646-8996

Sample Type: Water
Sample Condition: Intact/ Iced/ HCl/ -1.0 deg C
Project Name: Quarterly Sampling
Project #: None Given
Project Location: Tatum, NM

Sampling Date: See Below
Receiving Date: 02/18/02
Analysis Date: 02/21/02

ELT#	FIELD CODE	BENZENE mg/L	TOLUENE mg/L	ETHYLBENZENE mg/L	m,p-XYLENE mg/L	o-XYLENE mg/L	Sample Date
0202619-16	Sohio #1 MW 17	2.47	0.007	0.381	1.76	0.013	02/16/02
0202619-17	Sohio #1 MW 18	1.87	1.35	0.453	2.49	1.47	02/16/02
0202619-18	Sohio #1 MW 28	0.091	0.144	0.089	0.438	0.259	02/16/02
0202619-19	Sohio #1 MW 30	0.046	0.095	0.064	0.328	0.169	02/16/02
0202619-20	Sohio "A" MW 11	0.025	0.007	0.014	0.077	0.018	02/16/02
0202619-21	Sohio "A" MW 19	0.358	0.003	0.008	0.048	0.009	02/17/02
0202619-22	Sohio "A" MW 20	0.004	0.003	0.013	0.074	0.015	02/17/02
0202619-23	Sohio "A" MW 27	0.123	0.001	0.007	0.041	0.008	02/17/02
0202619-24	Sohio "A" MW 31	0.325	0.003	0.007	0.056	0.015	02/17/02
0202619-25	GS Source Well	0.422	0.229	0.155	0.892	0.402	02/17/02
0202619-26	GS MW 12	1.20	0.612	0.968	4.62	1.09	02/17/02
0202619-27	GS MW 21	0.007	0.006	0.051	0.042	0.012	02/17/02
0202619-28	GS MW 22	0.124	0.015	0.140	0.050	0.124	02/17/02
0202619-29	GS MW 29	0.004	0.010	0.007	0.027	0.010	02/17/02
QUALITY CONTROL		0.099	0.106	0.114	0.228	0.115	
TRUE VALUE		0.100	0.100	0.100	0.200	0.100	
% INSTRUMENT ACCURACY		99	106	114	114	115	
SPIKED AMOUNT		0.100	0.100	0.100	0.200	0.100	
ORIGINAL SAMPLE		<0.001	0.001	<0.001	0.001	0.001	
SPIKE		0.101	0.105	0.114	0.230	0.115	
SPIKE DUP		0.098	0.104	0.110	0.228	0.114	
% EXTRACTION ACCURACY		98	103	110	114	113	
BLANK		<0.001	<0.001	<0.001	<0.001	<0.001	
RPD		3.02	0.96	3.57	0.87	0.87	

METHODS: EPA SW 846-8021B ,5030


Celey D. Keene
Ralanda K. Tuttle

2-22-02
Date

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

MIKE GRIFFIN
WHOLE EARTH
19606 SAN GABRIEL
HOUSTON, TX 77084

Order#: G0203001
Project:
Project Name: Quarterly Sampling
Location: Tatum New Mexico

Lab ID: 0203001-15
Sample ID: Sohio #1 MW-10

8021B/5030 BTEX

<u>Method</u> <u>Blank</u>	<u>Date</u> <u>Prepared</u>	<u>Date</u> <u>Analyzed</u>	<u>Sample</u> <u>Amount</u>	<u>Dilution</u> <u>Factor</u>	<u>Analyst</u>	<u>Method</u>
0001159-02		4/9/02 13:47	1	10	CK	8021B

Parameter	Result µg/L	RL
Benzene	1830	10.0
Ethylbenzene	203	10.0
Toluene	59.2	10.0
p/m-Xylene	335	10.0
o-Xylene	14.2	10.0

Lab ID: 0203001-16
Sample ID: Sohio #1 MW-17

8021B/5030 BTEX

<u>Method</u> <u>Blank</u>	<u>Date</u> <u>Prepared</u>	<u>Date</u> <u>Analyzed</u>	<u>Sample</u> <u>Amount</u>	<u>Dilution</u> <u>Factor</u>	<u>Analyst</u>	<u>Method</u>
0001159-02		4/9/02 19:49	1	10	CK	8021B

Parameter	Result µg/L	RL
Benzene	2700	10.0
Ethylbenzene	149	10.0
Toluene	24.6	10.0
p/m-Xylene	1270	10.0
o-Xylene	72.4	10.0

DL = Diluted N/A = Not RL = Reporting Limit

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ENVIRONMENTAL LAB OF TEXAS I, LTD. 12600 West I-20 East, Odessa, TX 79765 Ph: 915-563-1800

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

MIKE GRIFFIN
WHOLE EARTH
19606 SAN GABRIEL
HOUSTON, TX 77084

Order#: G0203001
Project:
Project Name: Quarterly Sampling
Location: Tatum New Mexico

Lab ID: 0203001-17
Sample ID: Sohio #1 MW 18

8021B/5030 BTEX

<u>Method</u> <u>Blank</u>	<u>Date</u> <u>Prepared</u>	<u>Date</u> <u>Analyzed</u>	<u>Sample</u> <u>Amount</u>	<u>Dilution</u> <u>Factor</u>	<u>Analyst</u>	<u>Method</u>
0001159-02		4/9/02 20:11	1	10	CK	8021B

Parameter	Result µg/L	RL
Benzene	2520	10.0
Ethylbenzene	967	10.0
Toluene	2230	10.0
p/m-Xylene	5190	10.0
o-Xylene	2970	10.0

Lab ID: 0203001-18
Sample ID: Sohio #1 MW-28

8021B/5030 BTEX

<u>Method</u> <u>Blank</u>	<u>Date</u> <u>Prepared</u>	<u>Date</u> <u>Analyzed</u>	<u>Sample</u> <u>Amount</u>	<u>Dilution</u> <u>Factor</u>	<u>Analyst</u>	<u>Method</u>
0001159-02		4/9/02 20:33	1	1	CK	8021B

Parameter	Result µg/L	RL
Benzene	30.4	1.00
Ethylbenzene	24.7	1.00
Toluene	62.2	1.00
p/m-Xylene	134	1.00
o-Xylene	69.0	1.00

DL = Diluted N/A = Not RL = Reporting Limit

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ENVIRONMENTAL LAB OF TEXAS I, LTD. 12600 West I-20 East, Odessa, TX 79765 Ph: 915-563-1800

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

MIKE GRIFFIN
WHOLE EARTH
19606 SAN GABRIEL
HOUSTON, TX 77084

Order#: G0203001
Project:
Project Name: Quarterly Sampling
Location: Tatum New Mexico

Lab ID: 0203001-19
Sample ID: Sohio #1 MW-30

8021B/5030 BTEX

<u>Method</u> <u>Blank</u>	<u>Date</u> <u>Prepared</u>	<u>Date</u> <u>Analyzed</u>	<u>Sample</u> <u>Amount</u>	<u>Dilution</u> <u>Factor</u>	<u>Analyst</u>	<u>Method</u>
0001159-02		4/9/02 20:56	1	1	CK	8021B

Parameter	Result µg/L	RL
Benzene	<1.00	1.00
Ethylbenzene	<1.00	1.00
Toluene	<1.00	1.00
p/m-Xylene	<1.00	1.00
o-Xylene	<1.00	1.00

Lab ID: 0203001-20
Sample ID: Sohio "A" MW-11

8021B/5030 BTEX

<u>Method</u> <u>Blank</u>	<u>Date</u> <u>Prepared</u>	<u>Date</u> <u>Analyzed</u>	<u>Sample</u> <u>Amount</u>	<u>Dilution</u> <u>Factor</u>	<u>Analyst</u>	<u>Method</u>
0001159-02		4/9/02 21:18	1	1	CK	8021B

Parameter	Result µg/L	RL
Benzene	28.3	1.00
Ethylbenzene	15.5	1.00
Toluene	39.5	1.00
p/m-Xylene	75.5	1.00
o-Xylene	34.4	1.00

DL = Diluted N/A = Not RL = Reporting Limit

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ENVIRONMENTAL LAB OF TEXAS I, LTD. 12600 West I-20 East, Odessa, TX 79765 Ph: 915-563-1800

ANALYTICAL REPORT

Prepared for:

**MIKE GRIFFIN
WHOLE EARTH
19606 SAN GABRIEL
HOUSTON, TX 77084**

Project: Quarterly Sampling

Order#: G0203602

Report Date: 07/01/2002

Certificates

US EPA Laboratory Code TX00158

ENVIRONMENTAL LAB OF TEXAS

SAMPLE WORK LIST

WHOLE EARTH
19606 SAN GABRIEL
HOUSTON, TX 77084
281-646-8996

Order#: G0203602
Project:
Project Name: Quarterly Sampling
Location: Tatum, New Mexico

The samples listed below were submitted to Environmental Lab of Texas and were received under chain of custody. Environmental Lab of Texas makes no representation or certification as to the method of sample collection, sample identification, or transportation/handling procedures used prior to the receipt of samples by Environmental Lab of Texas.

<u>b ID:</u>	<u>Sample :</u>	<u>Matrix:</u>	<u>Date / Time</u> <u>Collected</u>	<u>Date / Time</u> <u>Received</u>	<u>Container</u>	<u>Preservative</u>
	8021B/5030 BTEX					
03602-09	Bell MW 36	WATER	6/6/02	6/10/02 9:17	See COC	See COC
	<u>Lab Testing:</u>	Rejected: No		Temp: -2.5 C		
	8021B/5030 BTEX					
	Anions					
	Cations					
	Total Dissolved Solids (TDS)					
03602-10	NBF MW 8	WATER	6/6/02	6/10/02 9:17	See COC	See COC
	<u>Lab Testing:</u>	Rejected: No		Temp: -2.5 C		
	8021B/5030 BTEX					
03602-11	NBF MW 15	WATER	6/6/02	6/10/02 9:17	See COC	See COC
	<u>Lab Testing:</u>	Rejected: No		Temp: -2.5 C		
	8021B/5030 BTEX					
03602-12	NBF MW 16	WATER	6/6/02	6/10/02 9:17	See COC	See COC
	<u>Lab Testing:</u>	Rejected: No		Temp: -2.5 C		
	8021B/5030 BTEX					
03602-13	NBF MW 26	WATER	6/6/02	6/10/02 9:17	See COC	See COC
	<u>Lab Testing:</u>	Rejected: No		Temp: -2.5 C		
	8021B/5030 BTEX					
03602-14	NBF MW 37	WATER	6/6/02	6/10/02 9:17	See COC	See COC
	<u>Lab Testing:</u>	Rejected: No		Temp: -2.5 C		
	8021B/5030 BTEX					
	Anions					
	Cations					
	Total Dissolved Solids (TDS)					
03602-15	Sohio #1 MW 10	WATER	6/7/02	6/10/02 9:17	See COC	See COC
	<u>Lab Testing:</u>	Rejected: No		Temp: -2.5 C		

ENVIRONMENTAL LAB OF TEXAS

SAMPLE WORK LIST

WHOLE EARTH
19606 SAN GABRIEL
HOUSTON, TX 77084
281-646-8996

Order#: G0203602
Project:
Project Name: Quarterly Sampling
Location: Tatum, New Mexico

The samples listed below were submitted to Environmental Lab of Texas and were received under chain of custody. Environmental Lab of Texas makes no representation or certification as to the method of sample collection, sample identification, or transportation/handling procedures used prior to the receipt of samples by Environmental Lab of Texas.

<u>Lab ID:</u>	<u>Sample :</u>	<u>Matrix:</u>	<u>Date / Time</u> <u>Collected</u>	<u>Date / Time</u> <u>Received</u>	<u>Container</u>	<u>Preservative</u>
	8021B/5030 BTEX					
0203602-16	Sohio #1 MW 17	WATER	6/7/02	6/10/02 9:17	See COC	See COC
	<u>Lab Testing:</u>	Rejected: No		Temp: -2.5 C		
	8021B/5030 BTEX					
0203602-17	Sohio #1 MW 18	WATER	6/7/02	6/10/02 9:17	See COC	See COC
	<u>Lab Testing:</u>	Rejected: No		Temp: -2.5 C		
	8021B/5030 BTEX					
0203602-18	Sohio #1 MW 28	WATER	6/7/02	6/10/02 9:17	See COC	See COC
	<u>Lab Testing:</u>	Rejected: No		Temp: -2.5 C		
	8021B/5030 BTEX					
0203602-19	Sohio #1 MW 30	WATER	6/7/02	6/10/02 9:17	See COC	See COC
	<u>Lab Testing:</u>	Rejected: No		Temp: -2.5 C		
	8021B/5030 BTEX					
0203602-20	Sohio #1 MW 40	WATER	6/7/02	6/10/02 9:17	See COC	See COC
	<u>Lab Testing:</u>	Rejected: No		Temp: -2.5 C		
	8021B/5030 BTEX					
	Anions					
	Cations					
	Total Dissolved Solids (TDS)					
0203602-21	Sohio "A" MW 11	WATER	6/7/02	6/10/02 9:17	See COC	See COC
	<u>Lab Testing:</u>	Rejected: No		Temp: -2.5 C		
	8021B/5030 BTEX					
0203602-22	Sohio A" MW 19	WATER	6/7/02	6/10/02 9:17	See COC	See COC
	<u>Lab Testing:</u>	Rejected: No		Temp: -2.5 C		
	8021B/5030 BTEX					

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

MIKE GRIFFIN
WHOLE EARTH
19606 SAN GABRIEL
HOUSTON, TX 77084

Order#: G0203602
Project:
Project Name: Quarterly Sampling
Location: Tatum, New Mexico

Lab ID: 0203602-15
Sample ID: Sohio #1 MW 10

8021B/5030 BTEX

Method	Date	Date	Sample	Dilution	Analyst	Method
Blank	Prepared	Analyzed	Amount	Factor		
0002050-02		6/16/02 17:20	1	10	CK	8021B

Parameter	Result mg/L	RL
Benzene	2.06	0.010
Ethylbenzene	0.192	0.010
Toluene	0.076	0.010
p/m-Xylene	0.496	0.010
o-Xylene	0.138	0.010

Lab ID: 0203602-16
Sample ID: Sohio #1 MW 17

8021B/5030 BTEX

Method	Date	Date	Sample	Dilution	Analyst	Method
Blank	Prepared	Analyzed	Amount	Factor		
0002050-02		6/16/02 17:43	1	10	CK	8021B

Parameter	Result mg/L	RL
Benzene	1.31	0.010
Ethylbenzene	0.149	0.010
Toluene	0.031	0.010
p/m-Xylene	0.694	0.010
o-Xylene	0.185	0.010

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

MIKE GRIFFIN
WHOLE EARTH
19606 SAN GABRIEL
HOUSTON, TX 77084

Order#: G0203602
Project:
Project Name: Quarterly Sampling
Location: Tatum, New Mexico

Lab ID: 0203602-17
Sample ID: ~~Solio~~ #1 MW 18

8021B/5030 BTEX

Method	Date	Date	Sample	Dilution	Analyst	Method
Blank	Prepared	Analyzed	Amount	Factor		
0002050-02		6/16/02 18:05	1	100	CK	8021B

Parameter	Result mg/L	RL
Benzene	3.20	0.100
Ethylbenzene	0.719	0.100
Toluene	2.52	0.100
p/m-Xylene	4.37	0.100
o-Xylene	2.38	0.100

Lab ID: 0203602-18
Sample ID: ~~Solio~~ #1 MW 28

8021B/5030 BTEX

Method	Date	Date	Sample	Dilution	Analyst	Method
Blank	Prepared	Analyzed	Amount	Factor		
0002050-02		6/16/02 18:27	1	1	CK	8021B

Parameter	Result mg/L	RL
Benzene	<0.001	0.001
Ethylbenzene	<0.001	0.001
Toluene	0.001	0.001
p/m-Xylene	0.009	0.001
o-Xylene	0.002	0.001

DL = Diluted out N/A = Not Applicable RL = Reporting Limit

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ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

MIKE GRIFFIN
WHOLE EARTH
19606 SAN GABRIEL
HOUSTON, TX 77084

Order#: G0203602
Project:
Project Name: Quarterly Sampling
Location: Tatum, New Mexico

Lab ID: 0203602-19
Sample ID: ~~Site #1~~ MW 30

8021B/5030 BTEX

<u>Method</u> <u>Blank</u>	<u>Date</u> <u>Prepared</u>	<u>Date</u> <u>Analyzed</u>	<u>Sample</u> <u>Amount</u>	<u>Dilution</u> <u>Factor</u>	<u>Analyst</u>	<u>Method</u>
0002050-02		6/16/02 18:49	1	1	CK	8021B

Parameter	Result mg/L	RL
Benzene	<0.001	0.001
Ethylbenzene	<0.001	0.001
Toluene	<0.001	0.001
p/m-Xylene	<0.001	0.001
o-Xylene	<0.001	0.001

Lab ID: 0203602-20
Sample ID: ~~Site #1~~ MW 40

8021B/5030 BTEX

<u>Method</u> <u>Blank</u>	<u>Date</u> <u>Prepared</u>	<u>Date</u> <u>Analyzed</u>	<u>Sample</u> <u>Amount</u>	<u>Dilution</u> <u>Factor</u>	<u>Analyst</u>	<u>Method</u>
0002050-02		6/16/02 19:56	1	1	CK	8021B

Parameter	Result mg/L	RL
Benzene	<0.001	0.001
Ethylbenzene	<0.001	0.001
Toluene	<0.001	0.001
p/m-Xylene	<0.001	0.001
o-Xylene	<0.001	0.001

DL = Diluted out N/A = Not Applicable RL = Reporting Limit

Page 10 of 17

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

MIKE GRIFFIN
WHOLE EARTH
19606 SAN GABRIEL
HOUSTON, TX 77084

Order#: G0203602
Project:
Project Name: Quarterly Sampling
Location: Tatum, New Mexico

Lab ID: 0203602-14
Sample ID: NBF MW 37

Anions

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Bicarbonate Alkalinity	146	mg/L	1	2.00	310.1	6/11/02	SB
Carbonate Alkalinity	<0.10	mg/L	1	0.10	310.1	6/11/02	SB
Chloride	62.0	mg/L	1	5.00	9253	6/11/02	SB
Hydroxide Alkalinity	<0.10	mg/L	1	0.10	310.1	6/11/02	SB
SULFATE, 375.4	237	mg/L	8.33	4.16	375.4	6/13/02	MB

Cations

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Calcium	78.7	mg/L	10	0.10	7140	6/26/02	CK
Magnesium	18.8	mg/L	10	0.010	7460	6/26/02	CK
Potassium	5.51	mg/L	1	0.050	7610	6/26/02	CK
Sodium	55.0	mg/L	10	0.10	7770	7/1/02	MB

Test Parameters

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Total Dissolved Solids (TDS)	511	mg/L	1	5.0	160.1	6/11/02	SB

Lab ID: 0203602-20
Sample ID: Spbio #1 MW 40

Anions

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Bicarbonate Alkalinity	147	mg/L	1	2.00	310.1	6/11/02	SB
Carbonate Alkalinity	<0.10	mg/L	1	0.10	310.1	6/11/02	SB
Chloride	67.9	mg/L	1	5.00	9253	6/11/02	SB
Hydroxide Alkalinity	<0.10	mg/L	1	0.10	310.1	6/11/02	SB
SULFATE, 375.4	239	mg/L	8.33	4.16	375.4	6/13/02	MB

Cations

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Calcium	77.1	mg/L	10	0.10	7140	6/26/02	CK
Magnesium	27.5	mg/L	10	0.010	7460	6/26/02	CK
Potassium	6.09	mg/L	1	0.050	7610	6/26/02	CK
Sodium	53.0	mg/L	10	0.10	7770	7/1/02	MB

Test Parameters

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Total Dissolved Solids (TDS)	590	mg/L	1	5.0	160.1	6/11/02	SB

RL = Reporting Limit N/A = Not Applicable

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ANALYTICAL REPORT

Prepared for:

MIKE GRIFFIN
WHOLE EARTH
19606 SAN GABRIEL
HOUSTON, TX 77084

Project: Quarterly Sampling

PO#:

Order#: G0204815

Report Date: 10/30/2002

Certificates

US EPA Laboratory Code TX00158

ENVIRONMENTAL LAB OF TEXAS

SAMPLE WORK LIST

WHOLE EARTH
19606 SAN GABRIEL
HOUSTON, TX 77084
281-646-8996

Order#: G0204815
Project: None Given
Project Name: Quarterly Sampling
Location: Tatum, New Mexico

The samples listed below were submitted to Environmental Lab of Texas and were received under chain of custody. Environmental Lab of Texas makes no representation or certification as to the method of sample collection, sample identification, or transportation/handling procedures used prior to the receipt of samples by Environmental Lab of Texas, unless otherwise noted.

<u>Lab ID:</u>	<u>Sample :</u>	<u>Matrix:</u>	<u>Date / Time</u>	<u>Date / Time</u>	<u>Container</u>	<u>Preservative</u>
			<u>Collected</u>	<u>Received</u>		
0204815-01	Iva Source Well	WATER	10/19/02	10/21/02 12:50	40 mL VOA	See COC
	<u>Lab Testing:</u>	Rejected: No		Temp: 3 C		
	8021B/5030 BTEX					
0204815-02	Iva MW 1	WATER	10/19/02	10/21/02 12:50	40 mL VOA	See COC
	<u>Lab Testing:</u>	Rejected: No		Temp: 3 C		
	8021B/5030 BTEX					
0204815-03	Iva MW 2	WATER	10/19/02	10/21/02 12:50	40 mL VOA	See COC
	<u>Lab Testing:</u>	Rejected: No		Temp: 3 C		
	8021B/5030 BTEX					
0204815-04	Mable Source Well	WATER	10/19/02	10/21/02 12:50	40 mL VOA	See COC
	<u>Lab Testing:</u>	Rejected: No		Temp: 3 C		
	8021B/5030 BTEX					
0204815-05	Mable MW 3	WATER	10/19/02	10/21/02 12:50	40 mL VOA	See COC
	<u>Lab Testing:</u>	Rejected: No		Temp: 3 C		
	8021B/5030 BTEX					
0204815-06	Mable MW 4	WATER	10/19/02	10/21/02 12:50	40 mL VOA	See COC
	<u>Lab Testing:</u>	Rejected: No		Temp: 3 C		
	8021B/5030 BTEX					
0204815-08	Bell MW 6	WATER	10/19/02	10/21/02 12:50	40 mL VOA	See COC
	<u>Lab Testing:</u>	Rejected: No		Temp: 3 C		
	8021B/5030 BTEX					
0204815-09	Bell MW 13	WATER	10/19/02	10/21/02 12:50	40 mL VOA	See COC
	<u>Lab Testing:</u>	Rejected: No		Temp: 3 C		
	8021B/5030 BTEX					

ENVIRONMENTAL LAB OF TEXAS

SAMPLE WORK LIST

WHOLE EARTH
19606 SAN GABRIEL
HOUSTON, TX 77084
281-646-8996

Order#: G0204815
Project: None Given
Project Name: Quarterly Sampling
Location: Tatum, New Mexico

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<u>Lab ID:</u>	<u>Sample :</u>	<u>Matrix:</u>	<u>Date / Time</u>	<u>Date / Time</u>	<u>Container</u>	<u>Preservative</u>
			<u>Collected</u>	<u>Received</u>		
0204815-10	Bell MW 14	WATER	10/19/02	10/21/02 12:50	40 mL VOA	See COC
	<u>Lab Testing:</u>	Rejected: No		Temp: 3 C		
	8021B/5030 BTEX					
0204815-11	Bell MW 25	WATER	10/19/02	10/21/02 12:50	40 mL VOA	See COC
	<u>Lab Testing:</u>	Rejected: No		Temp: 3 C		
	8021B/5030 BTEX					
0204815-12	Bell MW 36	WATER	10/19/02	10/21/02 12:50	40 mL VOA	See COC
	<u>Lab Testing:</u>	Rejected: No		Temp: 3 C		
	8021B/5030 BTEX					
0204815-13	NBF MW 8	WATER	10/19/02	10/21/02 12:50	40 mL VOA	See COC
	<u>Lab Testing:</u>	Rejected: No		Temp: 3 C		
	8021B/5030 BTEX					
0204815-14	NBF MW 15	WATER	10/19/02	10/21/02 12:50	40 mL VOA	See COC
	<u>Lab Testing:</u>	Rejected: No		Temp: 3 C		
	8021B/5030 BTEX					
0204815-15	NBF MW 16	WATER	10/19/02	10/21/02 12:50	40 mL VOA	See COC
	<u>Lab Testing:</u>	Rejected: No		Temp: 3 C		
	8021B/5030 BTEX					
0204815-16	NBF MW 26	WATER	10/19/02	10/21/02 12:50	40 mL VOA	See COC
	<u>Lab Testing:</u>	Rejected: No		Temp: 3 C		
	8021B/5030 BTEX					
0204815-17	NBF MW 37	WATER	10/19/02	10/21/02 12:50	40 mL VOA	See COC
	<u>Lab Testing:</u>	Rejected: No		Temp: 3 C		
	8021B/5030 BTEX					

ENVIRONMENTAL LAB OF TEXAS

SAMPLE WORK LIST

WHOLE EARTH
19606 SAN GABRIEL
HOUSTON, TX 77084
281-646-8996

Order#: G0204815
Project: None Given
Project Name: Quarterly Sampling
Location: Tatum, New Mexico

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<u>Lab ID:</u>	<u>Sample :</u>	<u>Matrix:</u>	<u>Date / Time</u> <u>Collected</u>	<u>Date / Time</u> <u>Received</u>	<u>Container</u>	<u>Preservative</u>
0204815-18	Sohio #1 MW 10	WATER	10/19/02	10/21/02 12:50	40 mL VOA	See COC
	<u>Lab Testing:</u> 8021B/5030 BTEX	Rejected: No		Temp: 3 C		
0204815-19	Sohio #1 MW 17	WATER	10/19/02	10/21/02 12:50	40 mL VOA	See COC
	<u>Lab Testing:</u> 8021B/5030 BTEX	Rejected: No		Temp: 3 C		
0204815-20	Sohio #1 MW 18	WATER	10/19/02	10/21/02 12:50	40 mL VOA	See COC
	<u>Lab Testing:</u> 8021B/5030 BTEX	Rejected: No		Temp: 3 C		
0204815-21	Sohio #1 MW 28	WATER	10/19/02	10/21/02 12:50	40 mL VOA	See COC
	<u>Lab Testing:</u> 8021B/5030 BTEX	Rejected: No		Temp: 3 C		
0204815-22	Sohio #1 MW 30	WATER	10/19/02	10/21/02 12:50	40 mL VOA	See COC
	<u>Lab Testing:</u> 8021B/5030 BTEX	Rejected: No		Temp: 3 C		
0204815-23	Sohio #1 MW 40	WATER	10/19/02	10/21/02 12:50	40 mL VOA	See COC
	<u>Lab Testing:</u> 8021B/5030 BTEX	Rejected: No		Temp: 3 C		
0204815-24	Sohio "A" MW 11	WATER	10/19/02	10/21/02 12:50	40 mL VOA	See COC
	<u>Lab Testing:</u> 8021B/5030 BTEX	Rejected: No		Temp: 3 C		
0204815-25	Sohio "A" MW 19	WATER	10/19/02	10/21/02 12:50	40 mL VOA	See COC
	<u>Lab Testing:</u> 8021B/5030 BTEX	Rejected: No		Temp: 3 C		

ENVIRONMENTAL LAB OF TEXAS

SAMPLE WORK LIST

WHOLE EARTH
19606 SAN GABRIEL
HOUSTON, TX 77084
281-646-8996

Order#: G0204815
Project: None Given
Project Name: Quarterly Sampling
Location: Tatum, New Mexico

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<u>Lab ID:</u>	<u>Sample :</u>	<u>Matrix:</u>	<u>Date / Time</u>	<u>Date / Time</u>	<u>Container</u>	<u>Preservative</u>
			<u>Collected</u>	<u>Received</u>		
1204815-26	Sohio "A" MW 20	WATER	10/19/02	10/21/02 12:50	40 mL VOA	See COC
	<u>Lab Testing:</u>	Rejected: No		Temp: 3 C		
	8021B/5030 BTEX					
1204815-27	Sohio "A" MW 27	WATER	10/19/02	10/21/02 12:50	40 mL VOA	See COC
	<u>Lab Testing:</u>	Rejected: No		Temp: 3 C		
	8021B/5030 BTEX					
1204815-28	Sohio "A" MW 31	WATER	10/19/02	10/21/02 12:50	40 mL VOA	See COC
	<u>Lab Testing:</u>	Rejected: No		Temp: 3 C		
	8021B/5030 BTEX					
1204815-29	GS Source Well	WATER	10/19/02	10/21/02 12:50	40 mL VOA	See COC
	<u>Lab Testing:</u>	Rejected: No		Temp: 3 C		
	8021B/5030 BTEX					
1204815-30	GS MW 12	WATER	10/19/02	10/21/02 12:50	40 mL VOA	See COC
	<u>Lab Testing:</u>	Rejected: No		Temp: 3 C		
	8021B/5030 BTEX					

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

MIKE GRIFFIN
WHOLE EARTH
19606 SAN GABRIEL
HOUSTON, TX 77084

Order#: G0204815
Project: None Given
Project Name: Quarterly Sampling
Location: Tatum, New Mexico

Lab ID: 0204815-01
Sample ID: Iva Source Well

8021B/5030 BTEX

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
0003551-02		10/28/02 13:50	1	1	CK	8021B

Parameter	Result mg/L	RL
Benzene	0.411	0.001
Ethylbenzene	0.043	0.001
Toluene	0.080	0.001
p/m-Xylene	0.487	0.001
o-Xylene	0.380	0.001

Surrogates	% Recovered	QC Limits (%)	
aaa-Toluene	110%	80	120
Bromofluorobenzene	105%	80	120

Lab ID: 0204815-02
Sample ID: Iva MW 1

8021B/5030 BTEX

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
0003551-02		10/28/02 14:12	1	1	CK	8021B

Parameter	Result mg/L	RL
Benzene	<0.001	0.001
Ethylbenzene	0.002	0.001
Toluene	<0.001	0.001
p/m-Xylene	0.004	0.001
o-Xylene	0.002	0.001

Surrogates	% Recovered	QC Limits (%)	
aaa-Toluene	91%	80	120
Bromofluorobenzene	90%	80	120

DL = Diluted out N/A = Not Applicable RL = Reporting Limit

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ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

MIKE GRIFFIN
WHOLE EARTH
19606 SAN GABRIEL
HOUSTON, TX 77084

Order#: G0204815
Project: None Given
Project Name: Quarterly Sampling
Location: Tatum, New Mexico

Lab ID: 0204815-03
Sample ID: Iva MW 2

8021B/5030 BTEX

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
0003551-02		10/28/02 14:40	1	1	CK	8021B

Parameter	Result mg/L	RL
Benzene	<0.001	0.001
Ethylbenzene	0.001	0.001
Toluene	<0.001	0.001
p/m-Xylene	0.003	0.001
o-Xylene	0.001	0.001

Surrogates	% Recovered	QC Limits (%)	
aaa-Toluene	85%	80	120
Bromofluorobenzene	88%	80	120

Lab ID: 0204815-04
Sample ID: Mable Source Well

8021B/5030 BTEX

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
0003551-02		10/28/02 15:02	1	5	CK	8021B

Parameter	Result mg/L	RL
Benzene	0.272	0.005
Ethylbenzene	0.093	0.005
Toluene	0.216	0.005
p/m-Xylene	0.878	0.005
o-Xylene	0.649	0.005

Surrogates	% Recovered	QC Limits (%)	
aaa-Toluene	109%	80	120
Bromofluorobenzene	96%	80	120

DL = Diluted out N/A = Not Applicable RL = Reporting Limit

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ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

MIKE GRIFFIN
WHOLE EARTH
19606 SAN GABRIEL
HOUSTON, TX 77084

Order#: G0204815
Project: None Given
Project Name: Quarterly Sampling
Location: Tatum, New Mexico

Lab ID: 0204815-05
Sample ID: Mable MW 3

8021B/5030 BTEX

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
0003551-02		10/28/02 15:24	1	10	CK	8021B

Parameter	Result mg/L	RL
Benzene	0.622	0.010
Ethylbenzene	1.38	0.010
Toluene	1.76	0.010
p/m-Xylene	5.58	0.010
o-Xylene	1.23	0.010

Surrogates	% Recovered	QC Limits (%)	
aaa-Toluene	1560%	80	120
Bromofluorobenzene	186%	80	120

Lab ID: 0204815-06
Sample ID: Mable MW 4

8021B/5030 BTEX

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
0003551-02		10/28/02 16:02	1	1	CK	8021B

Parameter	Result mg/L	RL
Benzene	0.002	0.001
Ethylbenzene	0.004	0.001
Toluene	0.001	0.001
p/m-Xylene	0.007	0.001
o-Xylene	0.004	0.001

Surrogates	% Recovered	QC Limits (%)	
aaa-Toluene	102%	80	120
Bromofluorobenzene	98%	80	120

DL = Diluted out N/A = Not Applicable RL = Reporting Limit

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ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

MIKE GRIFFIN
WHOLE EARTH
19606 SAN GABRIEL
HOUSTON, TX 77084

Order#: G0204815
Project: None Given
Project Name: Quarterly Sampling
Location: Tatum, New Mexico

Lab ID: 0204815-08
Sample ID: Bell MW 6

8021B/5030 BTEX

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
0003551-02		10/28/02 16:24	1	1	CK	8021B

Parameter	Result mg/L	RL
Benzene	0.008	0.001
Ethylbenzene	0.002	0.001
Toluene	<0.001	0.001
p/m-Xylene	0.002	0.001
o-Xylene	<0.001	0.001

Surrogates	% Recovered	QC Limits (%)	
aaa-Toluene	92%	80	120
Bromofluorobenzene	95%	80	120

Lab ID: 0204815-09
Sample ID: Bell MW 13

8021B/5030 BTEX

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
0003551-02		10/28/02 16:47	1	1	CK	8021B

Parameter	Result mg/L	RL
Benzene	<0.001	0.001
Ethylbenzene	<0.001	0.001
Toluene	<0.001	0.001
p/m-Xylene	0.003	0.001
o-Xylene	<0.001	0.001

Surrogates	% Recovered	QC Limits (%)	
aaa-Toluene	97%	80	120
Bromofluorobenzene	98%	80	120

DL = Diluted out N/A = Not Applicable RL = Reporting Limit

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ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

MIKE GRIFFIN
WHOLE EARTH
19606 SAN GABRIEL
HOUSTON, TX 77084

Order#: G0204815
Project: None Given
Project Name: Quarterly Sampling
Location: Tatum, New Mexico

Lab ID: 0204815-10
Sample ID: Bell MW 14

8021B/5030 BTEX

Method <u>Blank</u>	Date <u>Prepared</u>	Date <u>Analyzed</u>	Sample <u>Amount</u>	Dilution <u>Factor</u>	Analyst	Method
0003551-02		10/28/02 17:09	1	1	CK	8021B

Parameter	Result mg/L	RL
Benzene	0.031	0.001
Ethylbenzene	0.001	0.001
Toluene	<0.001	0.001
p/m-Xylene	0.002	0.001
o-Xylene	<0.001	0.001

Surrogates	% Recovered	QC Limits (%)	
aaa-Toluene	89%	80	120
Bromofluorobenzene	88%	80	120

Lab ID: 0204815-11
Sample ID: Bell MW 25

8021B/5030 BTEX

Method <u>Blank</u>	Date <u>Prepared</u>	Date <u>Analyzed</u>	Sample <u>Amount</u>	Dilution <u>Factor</u>	Analyst	Method
0003563-02		10/28/02 20:27	1	1	CK	8021B

Parameter	Result mg/L	RL
Benzene	0.001	0.001
Ethylbenzene	0.003	0.001
Toluene	0.004	0.001
p/m-Xylene	0.008	0.001
o-Xylene	0.001	0.001

Surrogates	% Recovered	QC Limits (%)	
aaa-Toluene	110%	80	120
Bromofluorobenzene	102%	80	120

DL = Diluted out N/A = Not Applicable RL = Reporting Limit

Page 5 of 15

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

MIKE GRIFFIN
WHOLE EARTH
19606 SAN GABRIEL
HOUSTON, TX 77084

Order#: G0204815
Project: None Given
Project Name: Quarterly Sampling
Location: Tatum, New Mexico

Lab ID: 0204815-12
Sample ID: Bell MW 36

8021B/5030 BTEX

<u>Method</u> <u>Blank</u>	<u>Date</u> <u>Prepared</u>	<u>Date</u> <u>Analyzed</u>	<u>Sample</u> <u>Amount</u>	<u>Dilution</u> <u>Factor</u>	<u>Analyst</u>	<u>Method</u>
0003563-02		10/29/02 9:19	1	1	CK	8021B

Parameter	Result mg/L	RL
Benzene	0.028	0.001
Ethylbenzene	0.024	0.001
Toluene	0.030	0.001
p/m-Xylene	0.117	0.001
o-Xylene	0.053	0.001

Surrogates	% Recovered	QC Limits (%)	
aaa-Toluene	122%	80	120
Bromofluorobenzene	100%	80	120

Lab ID: 0204815-13
Sample ID: NBF MW 8

8021B/5030 BTEX

<u>Method</u> <u>Blank</u>	<u>Date</u> <u>Prepared</u>	<u>Date</u> <u>Analyzed</u>	<u>Sample</u> <u>Amount</u>	<u>Dilution</u> <u>Factor</u>	<u>Analyst</u>	<u>Method</u>
0003563-02		10/29/02 9:41	1	1	CK	8021B

Parameter	Result mg/L	RL
Benzene	0.018	0.001
Ethylbenzene	0.009	0.001
Toluene	0.046	0.001
p/m-Xylene	0.034	0.001
o-Xylene	0.020	0.001

Surrogates	% Recovered	QC Limits (%)	
aaa-Toluene	97%	80	120
Bromofluorobenzene	95%	80	120

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ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

MIKE GRIFFIN
WHOLE EARTH
19606 SAN GABRIEL
HOUSTON, TX 77084

Order#: G0204815
Project: None Given
Project Name: Quarterly Sampling
Location: Tatum, New Mexico

Lab ID: 0204815-14
Sample ID: NBF MW 15

8021B/5030 BTEX

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
0003563-02		10/29/02 10:03	1	100	CK	8021B

Parameter	Result mg/L	RL
Benzene	1.93	0.100
Ethylbenzene	0.569	0.100
Toluene	2.28	0.100
p/m-Xylene	2.21	0.100
o-Xylene	1.22	0.100

Surrogates	% Recovered	QC Limits (%)	
aaa-Toluene	99%	80	120
Bromofluorobenzene	96%	80	120

Lab ID: 0204815-15
Sample ID: NBF MW 16

8021B/5030 BTEX

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
0003563-02		10/29/02 10:25	1	5	CK	8021B

Parameter	Result mg/L	RL
Benzene	0.308	0.005
Ethylbenzene	0.038	0.005
Toluene	0.013	0.005
p/m-Xylene	0.021	0.005
o-Xylene	0.008	0.005

Surrogates	% Recovered	QC Limits (%)	
aaa-Toluene	97%	80	120
Bromofluorobenzene	93%	80	120

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ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

MIKE GRIFFIN
WHOLE EARTH
19606 SAN GABRIEL
HOUSTON, TX 77084

Order#: G0204815
Project: None Given
Project Name: Quarterly Sampling
Location: Tatum, New Mexico

Lab ID: 0204815-16
Sample ID: NBF MW 26

8021B/5030 BTEX

Method	Date	Date	Sample	Dilution	Analyst	Method
<u>Blank</u>	<u>Prepared</u>	<u>Analyzed</u>	<u>Amount</u>	<u>Factor</u>		
0003563-02		10/29/02 10:47	1	1	CK	8021B

Parameter	Result mg/L	RL
Benzene	<0.001	0.001
Ethylbenzene	<0.001	0.001
Toluene	<0.001	0.001
p/m-Xylene	<0.001	0.001
o-Xylene	<0.001	0.001

Surrogates	% Recovered	QC Limits (%)	
aaa-Toluene	91%	80	120
Bromofluorobenzene	92%	80	120

Lab ID: 0204815-17
Sample ID: NBF MW 37

8021B/5030 BTEX

Method	Date	Date	Sample	Dilution	Analyst	Method
<u>Blank</u>	<u>Prepared</u>	<u>Analyzed</u>	<u>Amount</u>	<u>Factor</u>		
0003563-02		10/29/02 11:09	1	1	CK	8021B

Parameter	Result mg/L	RL
Benzene	<0.001	0.001
Ethylbenzene	<0.001	0.001
Toluene	<0.001	0.001
p/m-Xylene	<0.001	0.001
o-Xylene	<0.001	0.001

Surrogates	% Recovered	QC Limits (%)	
aaa-Toluene	91%	80	120
Bromofluorobenzene	92%	80	120

DL = Diluted out N/A = Not Applicable RL = Reporting Limit

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ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

MIKE GRIFFIN
WHOLE EARTH
19606 SAN GABRIEL
HOUSTON, TX 77084

Order#: G0204815
Project: None Given
Project Name: Quarterly Sampling
Location: Tatum, New Mexico

Lab ID: 0204815-18
Sample ID: Sohio #1 MW 10

8021B/5030 BTEX

Method	Date	Date	Sample	Dilution		
<u>Blank</u>	<u>Prepared</u>	<u>Analyzed</u>	<u>Amount</u>	<u>Factor</u>	<u>Analyst</u>	<u>Method</u>
0003563-02		10/29/02 11:31	1	10	CK	8021B

Parameter	Result mg/L	RL
Benzene	0.471	0.010
Ethylbenzene	0.087	0.010
Toluene	0.099	0.010
p/m-Xylene	0.327	0.010
o-Xylene	0.158	0.010

Surrogates	% Recovered	QC Limits (%)	
aaa-Toluene	108%	80	120
Bromofluorobenzene	94%	80	120

Lab ID: 0204815-19
Sample ID: Sohio #1 MW 17

8021B/5030 BTEX

Method	Date	Date	Sample	Dilution		
<u>Blank</u>	<u>Prepared</u>	<u>Analyzed</u>	<u>Amount</u>	<u>Factor</u>	<u>Analyst</u>	<u>Method</u>
0003563-02		10/29/02 11:53	1	10	CK	8021B

Parameter	Result mg/L	RL
Benzene	0.830	0.010
Ethylbenzene	0.081	0.010
Toluene	<0.010	0.010
p/m-Xylene	0.332	0.010
o-Xylene	0.015	0.010

Surrogates	% Recovered	QC Limits (%)	
aaa-Toluene	97%	80	120
Bromofluorobenzene	94%	80	120

DL = Diluted out N/A = Not Applicable RL = Reporting Limit

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ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

MIKE GRIFFIN
WHOLE EARTH
19606 SAN GABRIEL
HOUSTON, TX 77084

Order#: G0204815
Project: None Given
Project Name: Quarterly Sampling
Location: Tatum, New Mexico

Lab ID: 0204815-20
Sample ID: Sohio #1 MW 18

8021B/5030 BTEX

Method	Date	Date	Sample	Dilution	Analyst	Method
<u>Blank</u>	<u>Prepared</u>	<u>Analyzed</u>	<u>Amount</u>	<u>Factor</u>		
0003563-02		10/29/02 12:15	1	100	CK	8021B

Parameter	Result mg/L	RL
Benzene	1.45	0.100
Ethylbenzene	0.317	0.100
Toluene	0.920	0.100
p/m-Xylene	1.81	0.100
o-Xylene	0.994	0.100

Surrogates	% Recovered	QC Limits (%)	
aaa-Toluene	92%	80	120
Bromofluorobenzene	86%	80	120

Lab ID: 0204815-21
Sample ID: Sohio #1 MW 28

8021B/5030 BTEX

Method	Date	Date	Sample	Dilution	Analyst	Method
<u>Blank</u>	<u>Prepared</u>	<u>Analyzed</u>	<u>Amount</u>	<u>Factor</u>		
0003563-02		10/29/02 12:37	1	1	CK	8021B

Parameter	Result mg/L	RL
Benzene	0.143	0.001
Ethylbenzene	0.014	0.001
Toluene	0.104	0.001
p/m-Xylene	0.160	0.001
o-Xylene	0.163	0.001

Surrogates	% Recovered	QC Limits (%)	
aaa-Toluene	114%	80	120
Bromofluorobenzene	95%	80	120

DL = Diluted out N/A = Not Applicable RL = Reporting Limit

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ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

MIKE GRIFFIN
WHOLE EARTH
19606 SAN GABRIEL
HOUSTON, TX 77084

Order#: G0204815
Project: None Given
Project Name: Quarterly Sampling
Location: Tatum, New Mexico

Lab ID: 0204815-22
Sample ID: Sohio #1 MW 30

8021B/5030 BTEX

Method <u>Blank</u>	Date <u>Prepared</u>	Date <u>Analyzed</u>	Sample <u>Amount</u>	Dilution <u>Factor</u>	<u>Analyst</u>	<u>Method</u>
0003563-02		10/29/02 12:59	1	1	CK	8021B

Parameter	Result mg/L	RL
Benzene	0.042	0.001
Ethylbenzene	0.030	0.001
Toluene	0.065	0.001
p/m-Xylene	0.170	0.001
o-Xylene	0.083	0.001

Surrogates	% Recovered	QC Limits (%)	
aaa-Toluene	124%	80	120
Bromofluorobenzene	92%	80	120

Lab ID: 0204815-23
Sample ID: Sohio #1 MW 40

8021B/5030 BTEX

Method <u>Blank</u>	Date <u>Prepared</u>	Date <u>Analyzed</u>	Sample <u>Amount</u>	Dilution <u>Factor</u>	<u>Analyst</u>	<u>Method</u>
0003563-02		10/29/02 13:21	1	1	CK	8021B

Parameter	Result mg/L	RL
Benzene	0.020	0.001
Ethylbenzene	0.021	0.001
Toluene	0.037	0.001
p/m-Xylene	0.122	0.001
o-Xylene	0.057	0.001

Surrogates	% Recovered	QC Limits (%)	
aaa-Toluene	108%	80	120
Bromofluorobenzene	92%	80	120

DL = Diluted out N/A = Not Applicable RL = Reporting Limit

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ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

MIKE GRIFFIN
WHOLE EARTH
19606 SAN GABRIEL
HOUSTON, TX 77084

Order#: G0204815
Project: None Given
Project Name: Quarterly Sampling
Location: Tatum, New Mexico

Lab ID: 0204815-24
Sample ID: Sohio "A" MW 11

8021B/5030 BTEX

Method	Date	Date	Sample	Dilution		
<u>Blank</u>	<u>Prepared</u>	<u>Analyzed</u>	<u>Amount</u>	<u>Factor</u>	<u>Analyst</u>	<u>Method</u>
0003563-02		10/29/02 13:44	1	1	CK	8021B

Parameter	Result mg/L	RL
Benzene	0.020	0.001
Ethylbenzene	0.007	0.001
Toluene	0.002	0.001
p/m-Xylene	0.034	0.001
o-Xylene	0.009	0.001

Surrogates	% Recovered	QC Limits (%)	
aaa-Toluene	97%	80	120
Bromofluorobenzene	91%	80	120

Lab ID: 0204815-25
Sample ID: Sohio "A" MW 19

8021B/5030 BTEX

Method	Date	Date	Sample	Dilution		
<u>Blank</u>	<u>Prepared</u>	<u>Analyzed</u>	<u>Amount</u>	<u>Factor</u>	<u>Analyst</u>	<u>Method</u>
0003563-02		10/29/02 14:57	1	1	CK	8021B

Parameter	Result mg/L	RL
Benzene	0.368	0.001
Ethylbenzene	0.007	0.001
Toluene	0.002	0.001
p/m-Xylene	0.036	0.001
o-Xylene	0.008	0.001

Surrogates	% Recovered	QC Limits (%)	
aaa-Toluene	99%	80	120
Bromofluorobenzene	91%	80	120

DL = Diluted out N/A = Not Applicable RL = Reporting Limit

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ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

MIKE GRIFFIN
WHOLE EARTH
19606 SAN GABRIEL
HOUSTON, TX 77084

Order#: G0204815
Project: None Given
Project Name: Quarterly Sampling
Location: Tatum, New Mexico

Lab ID: 0204815-26
Sample ID: Sohio "A" MW 20

8021B/5030 BTEX

Method	Date	Date	Sample	Dilution	Analyst	Method
<u>Blank</u>	<u>Prepared</u>	<u>Analyzed</u>	<u>Amount</u>	<u>Factor</u>		
0003563-02		10/29/02 15:19	1	1	CK	8021B

Parameter	Result mg/L	RL
Benzene	0.004	0.001
Ethylbenzene	0.008	0.001
Toluene	0.002	0.001
p/m-Xylene	0.039	0.001
o-Xylene	0.009	0.001

Surrogates	% Recovered	QC Limits (%)	
aaa-Toluene	93%	80	120
Bromofluorobenzene	85%	80	120

Lab ID: 0204815-27
Sample ID: Sohio "A" MW 27

8021B/5030 BTEX

Method	Date	Date	Sample	Dilution	Analyst	Method
<u>Blank</u>	<u>Prepared</u>	<u>Analyzed</u>	<u>Amount</u>	<u>Factor</u>		
0003563-02		10/29/02 15:41	1	1	CK	8021B

Parameter	Result mg/L	RL
Benzene	0.178	0.001
Ethylbenzene	0.011	0.001
Toluene	0.003	0.001
p/m-Xylene	0.056	0.001
o-Xylene	0.013	0.001

Surrogates	% Recovered	QC Limits (%)	
aaa-Toluene	109%	80	120
Bromofluorobenzene	94%	80	120

DL = Diluted out N/A = Not Applicable RL = Reporting Limit

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ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

MIKE GRIFFIN
WHOLE EARTH
19606 SAN GABRIEL
HOUSTON, TX 77084

Order#: G0204815
Project: None Given
Project Name: Quarterly Sampling
Location: Tatum, New Mexico

Lab ID: 0204815-28
Sample ID: Sohio "A" MW 31

8021B/5030 BTEX

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
0003563-02		10/29/02 16:03	1	1	CK	8021B

Parameter	Result mg/L	RL
Benzene	0.322	0.001
Ethylbenzene	0.011	0.001
Toluene	0.004	0.001
p/m-Xylene	0.068	0.001
o-Xylene	0.018	0.001

Surrogates	% Recovered	QC Limits (%)	
aaa-Toluene	120%	80	120
Bromofluorobenzene	97%	80	120

Lab ID: 0204815-29
Sample ID: GS Source Well

8021B/5030 BTEX

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
0003563-02		10/29/02 16:25	1	5	CK	8021B

Parameter	Result mg/L	RL
Benzene	0.621	0.005
Ethylbenzene	0.331	0.005
Toluene	0.441	0.005
p/m-Xylene	1.75	0.005
o-Xylene	0.852	0.005

Surrogates	% Recovered	QC Limits (%)	
aaa-Toluene	480%	80	120
Bromofluorobenzene	121%	80	120

DL = Diluted out N/A = Not Applicable RL = Reporting Limit

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ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

MIKE GRIFFIN
WHOLE EARTH
19606 SAN GABRIEL
HOUSTON, TX 77084

Order#: G0204815
Project: None Given
Project Name: Quarterly Sampling
Location: Tatum, New Mexico

Lab ID: 0204815-30
Sample ID: GS MW 12

8021B/5030 BTEX

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
0003563-02		10/30/02 9:21	1	1000	CK	8021B

Parameter	Result mg/L	RL
Benzene	3.65	1.00
Ethylbenzene	4.16	1.00
Toluene	2.79	1.00
p/m-Xylene	23.9	1.00
o-Xylene	3.68	1.00

Surrogates	% Recovered	QC Limits (%)	
aaa-Toluene	140%	80	120
Bromofluorobenzene	105%	80	120

Approval:

Raland K. Tuttle, Lab Director, QA Officer
Celey D. Keene, Org. Tech. Director
Jeanne McMurrey, Inorg. Tech. Director
Sandra Biezugbe, Lab Tech.
Sara Molina, Lab Tech.

10-31-02
Date

DL = Diluted out N/A = Not Applicable RL = Reporting Limit

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CASE NARRATIVE

ENVIRONMENTAL LAB OF TEXAS

Prepared for:

WHOLE EARTH
19606 SAN GABRIEL
HOUSTON, TX 77084

Order#: G0204815

Project: Quarterly Sampling

The following samples were received as indicated below and on the attached Chain of Custody record. All analyses were performed within the holding time and with acceptable quality control results unless otherwise noted.

SAMPLE ID	LAB ID	MATRIX	Date Collected	Date Received
Iva Source Well	0204815-01	WATER	10/19/2002	10/21/2002
Iva MW 1	0204815-02	WATER	10/19/2002	10/21/2002
Iva MW 2	0204815-03	WATER	10/19/2002	10/21/2002
Mable Source Well	0204815-04	WATER	10/19/2002	10/21/2002
Mable MW 3	0204815-05	WATER	10/19/2002	10/21/2002
Mable MW 4	0204815-06	WATER	10/19/2002	10/21/2002
Bell MW 6	0204815-08	WATER	10/19/2002	10/21/2002
Bell MW 13	0204815-09	WATER	10/19/2002	10/21/2002
Bell MW 14	0204815-10	WATER	10/19/2002	10/21/2002
Bell MW 25	0204815-11	WATER	10/19/2002	10/21/2002
Bell MW 36	0204815-12	WATER	10/19/2002	10/21/2002
NBF MW 8	0204815-13	WATER	10/19/2002	10/21/2002
NBF MW 15	0204815-14	WATER	10/19/2002	10/21/2002
NBF MW 16	0204815-15	WATER	10/19/2002	10/21/2002
NBF MW 26	0204815-16	WATER	10/19/2002	10/21/2002
NBF MW 37	0204815-17	WATER	10/19/2002	10/21/2002
Sohio #1 MW 10	0204815-18	WATER	10/19/2002	10/21/2002
Sohio #1 MW 17	0204815-19	WATER	10/19/2002	10/21/2002
Sohio #1 MW 18	0204815-20	WATER	10/19/2002	10/21/2002
Sohio #1 MW 28	0204815-21	WATER	10/19/2002	10/21/2002
Sohio #1 MW 30	0204815-22	WATER	10/19/2002	10/21/2002
Sohio #1 MW 40	0204815-23	WATER	10/19/2002	10/21/2002
Sohio "A" MW 11	0204815-24	WATER	10/19/2002	10/21/2002
Sohio "A" MW 19	0204815-25	WATER	10/19/2002	10/21/2002
Sohio "A" MW 20	0204815-26	WATER	10/19/2002	10/21/2002
Sohio "A" MW 27	0204815-27	WATER	10/19/2002	10/21/2002
Sohio "A" MW 31	0204815-28	WATER	10/19/2002	10/21/2002
GS Source Well	0204815-29	WATER	10/19/2002	10/21/2002

CASE NARRATIVE

ENVIRONMENTAL LAB OF TEXAS

Prepared for:

WHOLE EARTH
19606 SAN GABRIEL
HOUSTON, TX 77084

Order#: G0204815

Project: Quarterly Sampling

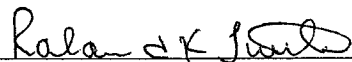
The following samples were received as indicated below and on the attached Chain of Custody record. All analyses were performed within the holding time and with acceptable quality control results unless otherwise noted.

GS MW 12	0204815-30	WATER	10/19/2002	10/21/2002
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Surrogate recoveries are outside control limits due to matrix interference from coeluting compounds.

The enclosed results of analyses are representative of the samples as received by the laboratory. Environmental Lab of Texas makes no representations or certifications as to the methods of sample collection, sample identification, or transportation handling procedures used prior to our receipt of samples. To the best of my knowledge, the information contained in this report is accurate and complete.

Approved By:


Environmental Lab of Texas I, Ltd.

Date:

10-31-02

ENVIRONMENTAL LAB OF TEXAS

QUALITY CONTROL REPORT

8021B/5030 BTEX

Order#: G0204815

BLANK		LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
	WATER						
Benzene-mg/L		0003551-02			<0.001		
Benzene-mg/L		0003563-02			<0.001		
Ethylbenzene-mg/L		0003551-02			<0.001		
Ethylbenzene-mg/L		0003563-02			<0.001		
Toluene-mg/L		0003551-02			<0.001		
Toluene-mg/L		0003563-02			<0.001		
p/m-Xylene-mg/L		0003551-02			<0.001		
p/m-Xylene-mg/L		0003563-02			<0.001		
o-Xylene-mg/L		0003551-02			<0.001		
o-Xylene-mg/L		0003563-02			<0.001		
MS		LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
	WATER						
Benzene-mg/L		0204813-01	0	0.1	0.097	97.0%	
Benzene-mg/L		0204815-16	0	0.1	0.090	90.0%	
Ethylbenzene-mg/L		0204813-01	0	0.1	0.102	102.0%	
Ethylbenzene-mg/L		0204815-16	0	0.1	0.094	94.0%	
Toluene-mg/L		0204813-01	0	0.1	0.097	97.0%	
Toluene-mg/L		0204815-16	0	0.1	0.092	92.0%	
m-Xylene-mg/L		0204813-01	0	0.2	0.216	108.0%	
p/m-Xylene-mg/L		0204815-16	0	0.2	0.201	100.5%	
o-Xylene-mg/L		0204813-01	0	0.1	0.104	104.0%	
o-Xylene-mg/L		0204815-16	0	0.1	0.096	96.0%	
MSD		LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
	WATER						
Benzene-mg/L		0204813-01	0	0.1	0.091	91.0%	6.4%
Benzene-mg/L		0204815-16	0	0.1	0.090	90.0%	0.0%
Ethylbenzene-mg/L		0204813-01	0	0.1	0.094	94.0%	8.2%
Ethylbenzene-mg/L		0204815-16	0	0.1	0.095	95.0%	1.1%
Toluene-mg/L		0204813-01	0	0.1	0.092	92.0%	5.3%
Toluene-mg/L		0204815-16	0	0.1	0.094	94.0%	2.2%
p/m-Xylene-mg/L		0204813-01	0	0.2	0.202	101.0%	6.7%
p/m-Xylene-mg/L		0204815-16	0	0.2	0.202	101.0%	0.5%
o-Xylene-mg/L		0204813-01	0	0.1	0.098	98.0%	5.9%
o-Xylene-mg/L		0204815-16	0	0.1	0.096	96.0%	0.0%
SRM		LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
	WATER						
Benzene-mg/L		0003551-05		0.1	0.098	98.0%	
Benzene-mg/L		0003563-05		0.1	0.091	91.0%	
Ethylbenzene-mg/L		0003551-05		0.1	0.102	102.0%	
Ethylbenzene-mg/L		0003563-05		0.1	0.096	96.0%	
Toluene-mg/L		0003551-05		0.1	0.100	100.0%	

ENVIRONMENTAL LAB OF TEXAS

QUALITY CONTROL REPORT

8021B/5030 BTEX

Order#: G0204815

SRM	WATER	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Toluene-mg/L		0003563-05		0.1	0.092	92.%	
p/m-Xylene-mg/L		0003551-05		0.2	0.216	108.%	
p/m-Xylene-mg/L		0003563-05		0.2	0.212	106.%	
o-Xylene-mg/L		0003551-05		0.1	0.105	105.%	
o-Xylene-mg/L		0003563-05		0.1	0.100	100.%	

**12600 West I-20 East
Odessa, Texas 79763**

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST.

Project Name: Quarterly Sampling

Project #:

Project Loc: Tatum, New Mexico

PO#:

Fax No: (281) 646-8996

	FIELD CODE	Date Sampled	Time Sampled	No. of Containers	Preservative							Matrix						TDS / CL / SAR / EC TPH 418.1 TPH TX 1005/1008 TPH 8015M GRO/DRO Metals: As Ag Ba Cd Cr Pb Hg Se Volatiles Semivolatiles BTEX 8021B/5030 Clonides Cations/Anions TDS	Analyze For:
					HNO ₃	HCl	NaOH	H ₂ SO ₄	None	Other (Specify)	Water	Mud/Sediment	Soil	Other (specify):					
Iva Source Well		10/19/02 6/6/02		2	X	X					X						X		RUSH TAT (Pre-Schedule) Standard TAT
Iva MW 1		10/19/02 6/6/02		2	X	X					X						X		
Iva MW 2		10/19/02 6/6/02		2	X	X					X						X		
Mable Source Well		10/19/02 6/6/02		2	X	X					X						X		
Mable MW 3		10/19/02 6/6/02		2	X	X					X						X		
Mable MW 4		10/19/02 6/6/02		2	X	X					X						X		
Iva MW-35 • Missing Sample		10/19/02 6/6/02		3	X	X					X						X	X X do not analyze portion only	
Bell MW 6		10/19/02 6/6/02		2	X	X					X						X		
Bell MW 13		10/19/02 6/6/02		2	X	X					X						X		
Bell MW 14		10/19/02 6/6/02		2	X	X					X						X		

Special Instructions:

Relinquished by:

Date / Time

Received by:

Time

Relinquished by:

Date	Time
12/10/20	

○

100

* Missing Sample Iva MW-35

Environmental Lab of Texas, Inc.

12600 West I-20 East
Odessa, Texas 79763

Phone: 915-563-1800

Fax: 915-563-1713

Project Manager:

Project Name: Quarterly Sampling

Company Name Whole Earth Environmental, Inc.

Project #:

Company Address: 19808 San Gabriel

Project Loc: Tatum, New Mexico

City/State/Zip: Houston, Tx. 77084

PO #:

Telephone No: (800) 864-4368

Fax No: (281) 646-8986

Sampler Signature:

FIELD CODE	Date Sampled	Time Sampled	No. of Containers	Preservative						Matrix				Analyze For:											
				HNO ₃	HCl	NaOH	H ₂ SO ₄	None	Other (Specify)	Water	Sludge	Soil	Other (Specify)	TDS / CL / SAR / EC	TPH 418.1	TPH TX 1005/1006	TPH 8015M GRO/DRO	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	BTEX 80218/6030	Chlorides	Cations/Anions, TDS	Standard TAT	RUSH TAT (Pre-Schedule)
Bell MW 25	6/6/02		2	X	X							X									X				
Bell MW 36	6/6/02		3	X	X							X									X				
NBF MW 8	6/6/02		2	X	X							X									X				
NBF MW 15	6/6/02		2	X	X							X									X				
NBF MW 16	6/6/02		2	X	X							X									X				
NBF MW 26	6/6/02		2	X	X							X									X				
NBF MW 37	6/6/02		3	X	X							X									X				
Sohio #1 MW 10	6/7/02		2	X	X							X									X				
Sohio #1 MW 17	6/7/02		2	X	X							X									X				
Sohio #1 MW 18	6/7/02		2	X	X							X									X				
Sohio #1 MW 28	6/7/02		2	X	X							X									X				

Special instructions:

Relinquished by: [Signature] Date: 6/12/02 Time: 12:45

Relinquished by:

Date

Time

**12600 West I-20 East
Odessa, Texas 79763**

Project Name: Quarterly Sampling

Project #:

Project Loc: Tatum, New Mexico

PO#:

Fax No: (281) 646-8996

Analyze For:

Special Instructions:

Received by:

Date	Time
------	------

Date	Time
------	------

Time.

1R - 267

REPORTS

DATE:

2003



Tipperary CORPORATION

633 Seventeenth Street
Suite 1550
Denver, Colorado 80202-3622

March 23, 2004

VIA OVERNIGHT MAIL

Mr. Roger C. Anderson
New Mexico Oil Conservation Division
1220 S. St. Francis Drive
Santa Fe, NM 87505

**RE: Progress Report for Year 2003
Bagley Field
Pit Closure Project
Lea County, NM**

RECEIVED

MAR 24 2004

Oil Conservation Division
Environmental Bureau

Dear Mr. Anderson:

Please find enclosed the 2003 results from our monitor wells in the subject project area. This report summarizes the results from water samples taken on January 4, April 17, June 20, and October 30, 2003. These results represent 25 quarters of monitoring. In general, we are continuing to observe decreasing levels of BTEX in the monitor wells.

The Executive Summary section contains a general discussion and the following data:

- Map of pit reclamation locations.
- Survey coordinates of ten new monitor well locations.
- Cross reference listing of revised monitor well numbers.

A summary of investigation work and results to date for each pit closure site is included. The following data is presented for each site:

- Well site plat with monitor well locations.
- Ground water potentiometric map for each sampling event with the direction and magnitude of the hydraulic gradient.
- Table of ground water recovery volumes (where applicable).
- Well bailing log for each well.
- Summary table and chart of water quality results for each well.
- Geologic/lithologic log and well construction diagram for each well.

2003 Annual Report
Page 2.

A CD is enclosed and contains all of the laboratory analytical and quality assurance information for 2003. 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,

Tipperary Oil & Gas Corporation



Larry G. Sugano
Vice President - Engineering

Enclosures

cc: NMOCD Hobbs Office
Whole Earth Environmental

**Tipperary Oil & Gas Corporation
Bagley Field
2003 Annual Report**

Executive Summary

The 2003 Bagley Field monitor well survey project was especially busy. In addition to the installation of ten additional wells within the field, we made great strides in perfecting our bailing procedures to minimize any potential for cross contamination. Each well now has its own dedicated bailer used to obtain water samples after pumping an average of ten well volumes from each bore. New decontamination procedures and equipment blank analyses were instituted to insure the accuracy of the reported results.

We believe that all sites have been completely delineated. The outer ring of wells on each site have BTEX concentrations falling within NMOCD standards. A table of monitor well number revisions is attached for your reference. A table listing the surveyed locations of all recently installed monitor wells is attached. The following sections present the investigation work and results to date for each of the sites.

WHOLE EARTH ENVIROMENTAL, INC.

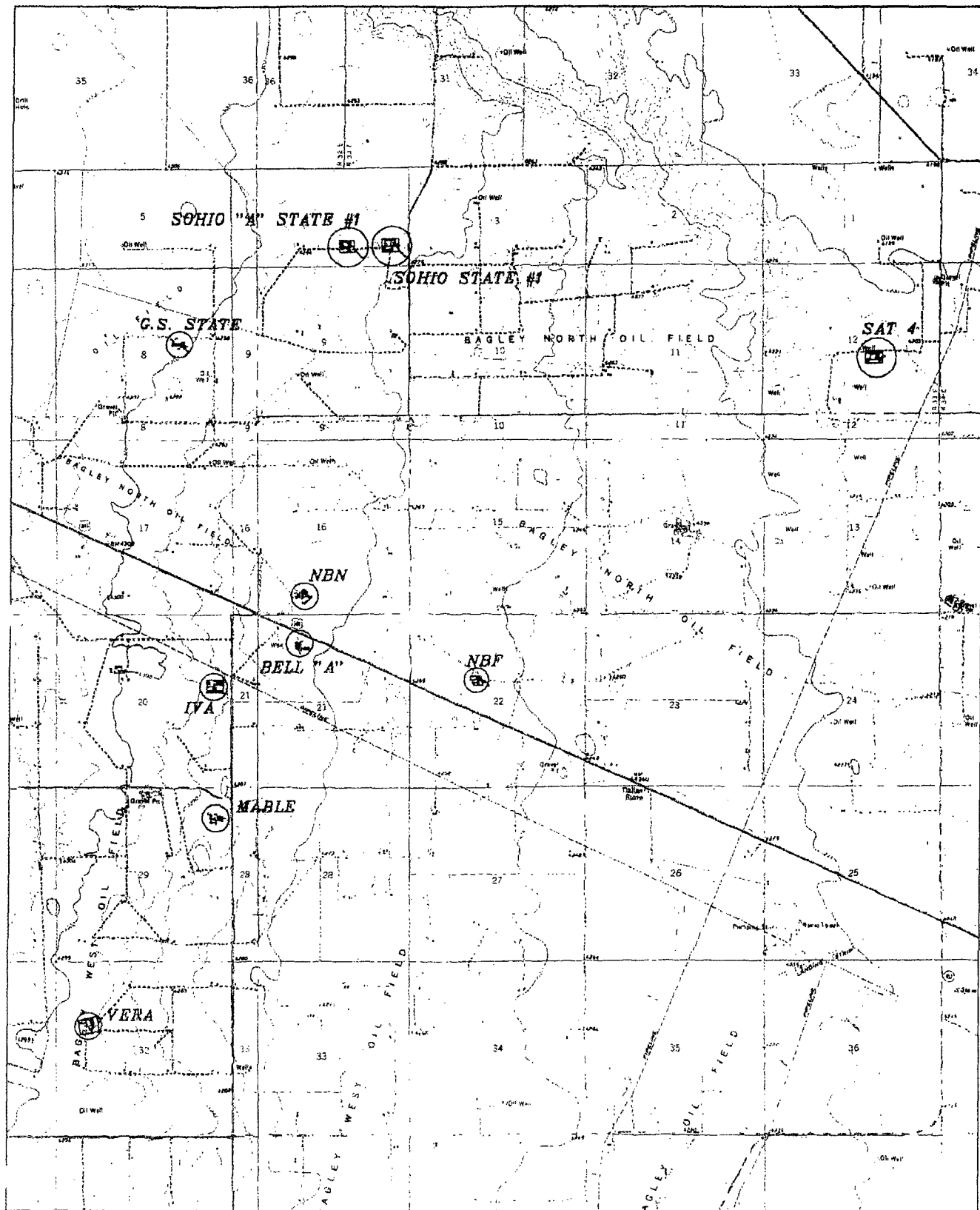


EXHIBIT 9

BASIN SURVEYS P.O. BOX 1786 - HOBBS, NEW MEXICO

W.O. Number: 9352

Drawn By: K. GOAD

Date: 10-21-99

Diak: KJG #122 - WE9352.DWG

WHOLEEARTH

SOHIO STATE 1

WELL		LATITUDE	LONGITUDE	ELEVATION
MW4	N 33	23' 22.56781"	W 103 36' 38.95930"	4282.71
MW8	N 33	23' 17.11074"	W 103 36' 42.59112"	4280.10

SOHIO A STATE 1

WELL		LATITUDE	LONGITUDE	ELEVATION
MW4	N 33	23' 22.80984"	W 103 36' 55.56751"	4285.06
MW6	N 33	23' 21.21826"	W 103 36' 54.49003"	4284.50
MW8	N 33	23' 16.75221"	W 103 36' 56.54969"	4283.84
MW10	N 33	23' 16.78983"	W 103 36' 49.48521"	4281.32
MW11	N 33	23' 14.05096"	W 103 36' 49.64146"	4280.55

COLLIER WELLS

WELL		LATITUDE	LONGITUDE	ELEVATION
MW1	N 33	22' 55.89915"	W 103 37' 14.87439"	4290.13
MW2	N 33	22' 56.31201"	W 103 37' 10.72284"	4286.90
MW5	N 33	22' 51.16167"	W 103 37' 15.53811"	4290.58

BELL A 1

WELL		LATITUDE	LONGITUDE	ELEVATION
MW6	N 33	21' 21.90236"	W 103 37' 14.63097"	4280.64

STATE NBF 1

WELL		LATITUDE	LONGITUDE	ELEVATION
MW6	N 33	21' 10.65698"	W 103 36' 08.88434"	4258.24

GS STATE 1

WELL		LATITUDE	LONGITUDE	ELEVATION
MW5	N 33	22' 50.08279"	W 103 37' 55.56043"	4302.52

HORIZONTAL DATUM NAD-83
VERTICAL DATUM NAVD-88

Tipperary - Bagley Field **Well Number Revisions**

	Original No.	New No.		Original No.	New No.
Iva COM	Source	Source	Sohio 1	10	1
	1	1		17	2
	2	2		18	3
Mable				East	4
	Source	Source		28	5
	3	1		30	6
	4	2		40	7
Bell	35	3			8
	6	1	Sohio A	11	1
	13	2		20	2
	14	3		19	3
	25	4		44	4
	36	5		27	5
NBF	41	6		45	6
	8	1		31	7
	15	2		46	8
	16	3		39	9
	26	4		47	10
	37	5			11
GS	42	6			
	Source	Source			
	12	1			
	22	2			
	21	3			
Collier	29	4			
	38	5			
	Source	Source			
	37	1			
	36	2			
	32	3			
	33	4			
	35	5			
	34	6			

**Tipperary Oil & Gas Corporation
Bagley Field
2003 Annual Report**

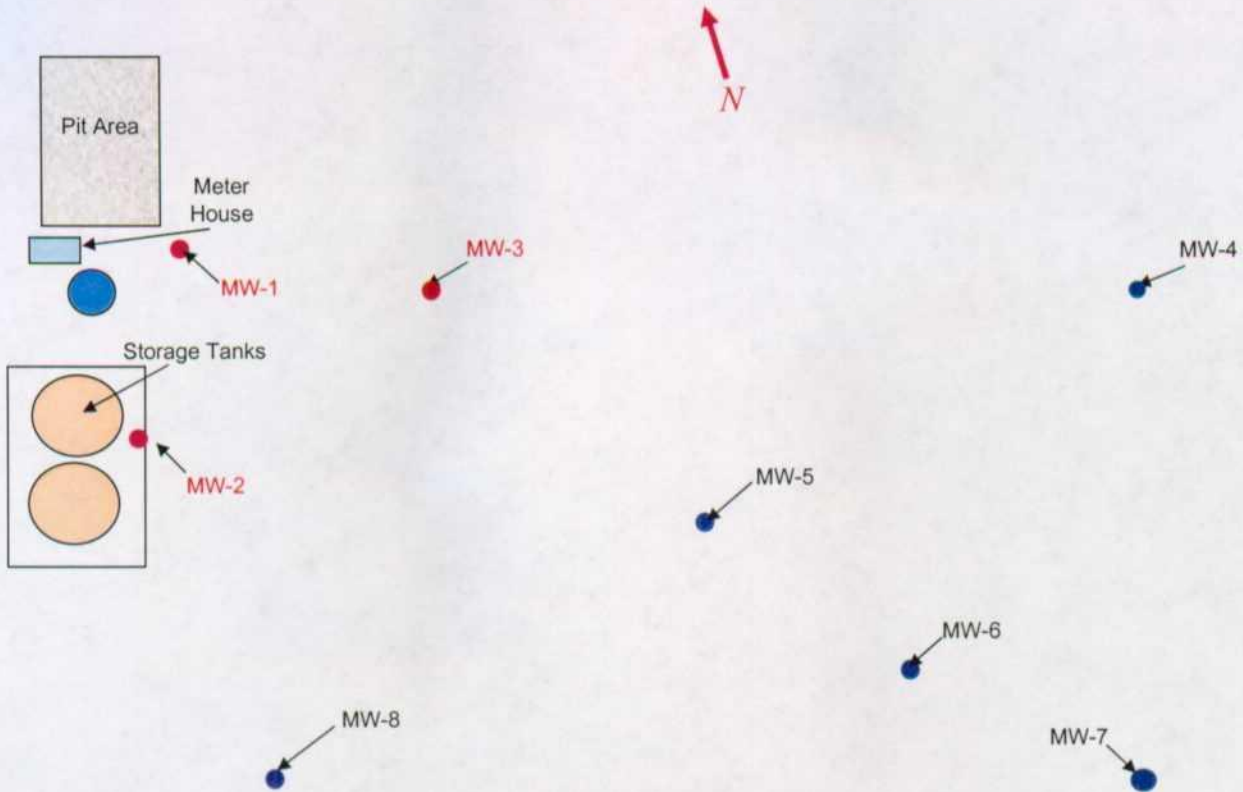
**Sohio State #1
Section 4P-T11S-R33E**

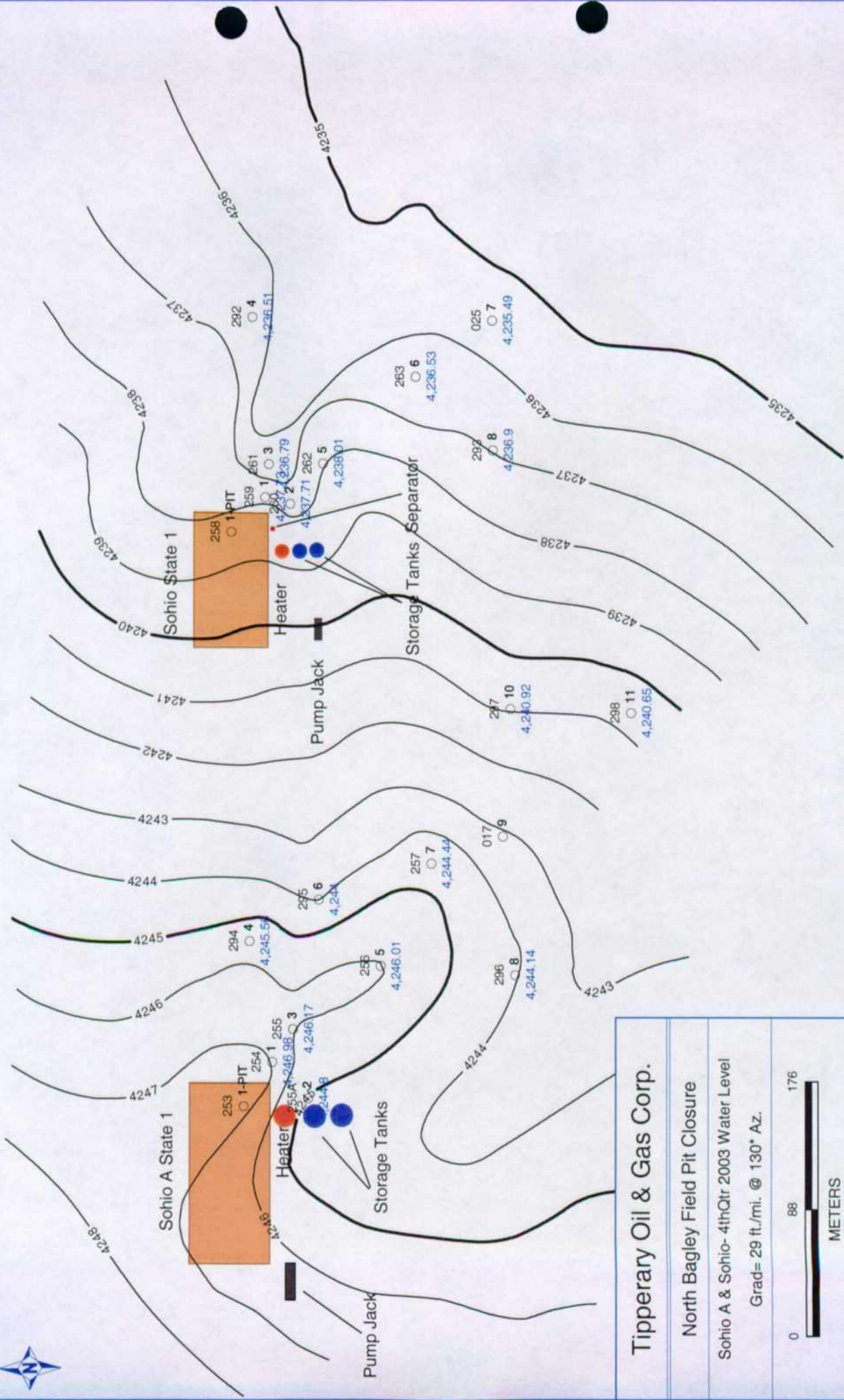
The Sohio #1 site consists of eight monitor wells. The two nearest the pit show increasing BTEX concentrations and some minor amounts of free product and sulfides. Monitor wells nos. 3 and 5 have slightly increased concentrations but no free product. Monitor well no. 4, drilled in June, 2003 shows acceptable results and effectively delineates the eastern edge of the plume. All other wells within the area show acceptable results.

Please find the following data:

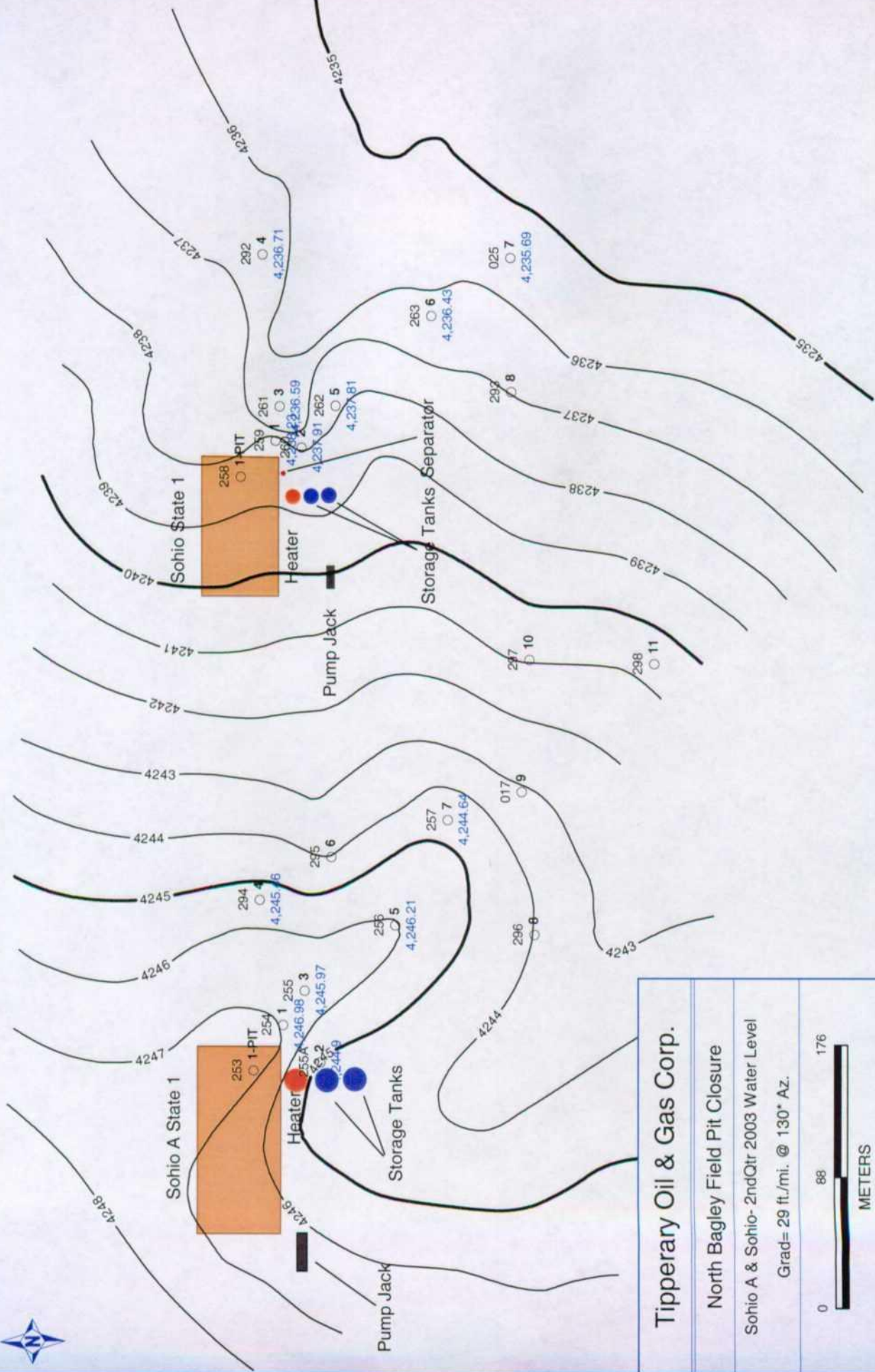
- Well-site plat with monitor well locations.
- Ground water potentiometric map for each sampling event with direction and magnitude of the hydraulic gradient.
- Table of ground water recovery volumes.
- Well bailing log for each well.
- Summary table and chart of ground water quality results for each well.
- Well completion diagram for each well.

Tipperary Corporation
Sohio 1
Monitor Well Locations





Tipperary Oil & Gas Corp.
North Bagley Field Pit Closure
Sohio A & Sohio- 4thQtr 2003 Water Level
Grad= 29 ft./mi. @ 130° Az.
0 88 176 METERS



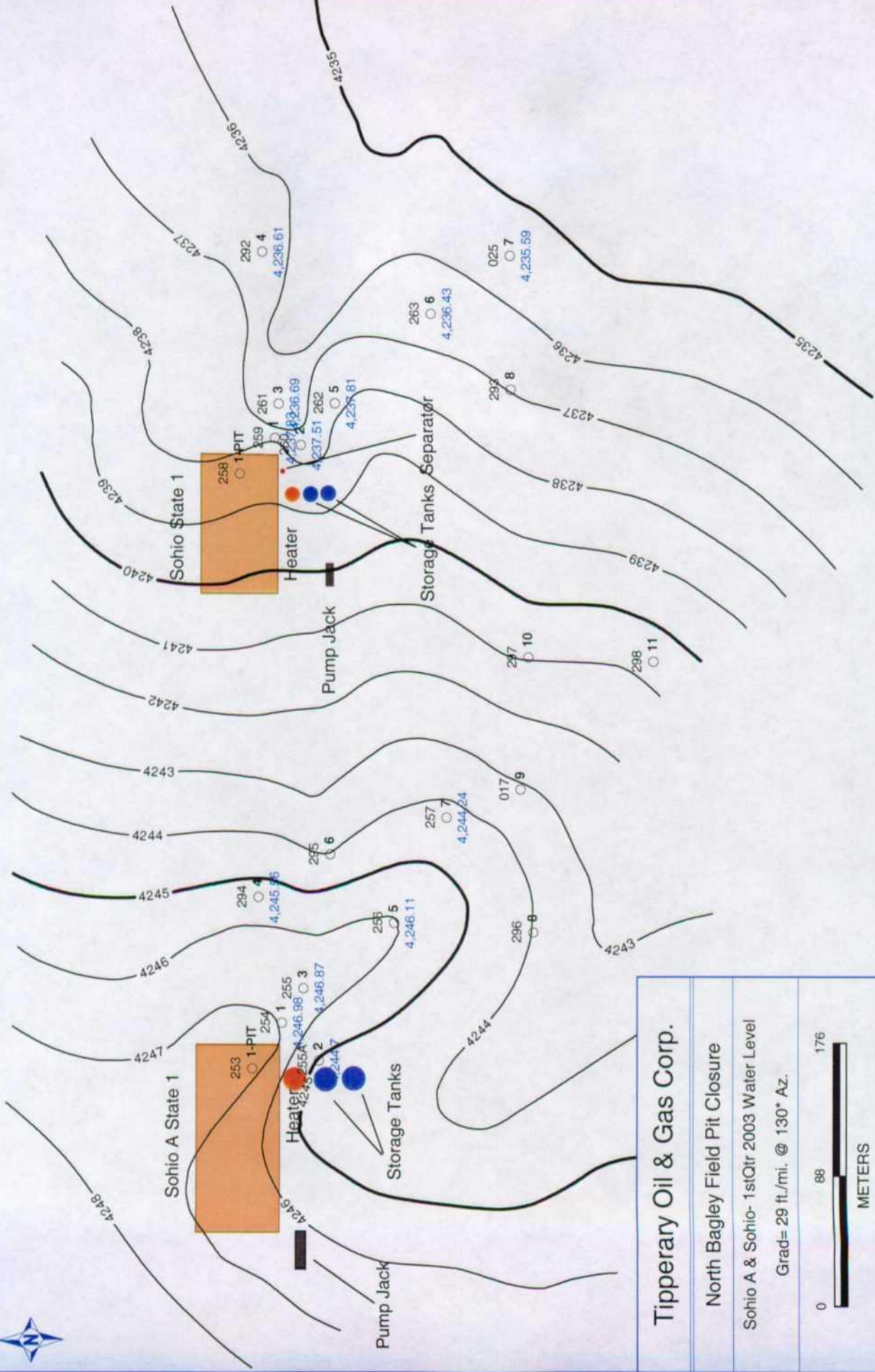
Tipperary Oil & Gas Corp.

North Bagley Field Pit Closure

Sohio A & Sohio- 2ndQtr 2003 Water Level

Grad= 29 ft./mi. @ 130° Az.





Tipperary Oil & Gas Corp.
North Bagley Field Pit Closure
Sohio A & Sohio- 1stQtr 2003 Water Level
Grad= 29 ft./mi. @ 130° Az.
0 88 176 METERS



Sohio 1

Monitor Well Bailing Log

Sohio 1 MW #1

Lat: N33° 23.3627'
Long. W103° 36.2156'
Surf. Elev. 4283.31 Ft.

As Drilled	As Measured
------------	-------------

Date: 8/29/1997
Top of Water 50 Ft.
Bottom of Bore 60 Ft.

Date:	12/28/02	4/12/03	6/12/03	10/25/03	
Top of Water	45.80	45.40	45.60	45.90	Ft.
Bottom of Bore	59.60	59.60	59.40	60.00	Ft.
Bore Volumn	2.23	2.29	2.23	2.27	Gal.
LPNL Top	45.80	45.40	45.60	45.90	Ft.
LPNL Bottom	?	?	?	?	Ft.
DPNL Top	NA	NA	NA	NA	Ft.
DPNL Bottom	NA	NA	NA	NA	Ft.
Min. Bailing Vol.	6.68	6.87	6.68	6.82	Gal.
Actual Bailing Vol.	15.00	20.00	20.00	10.00	Gal.

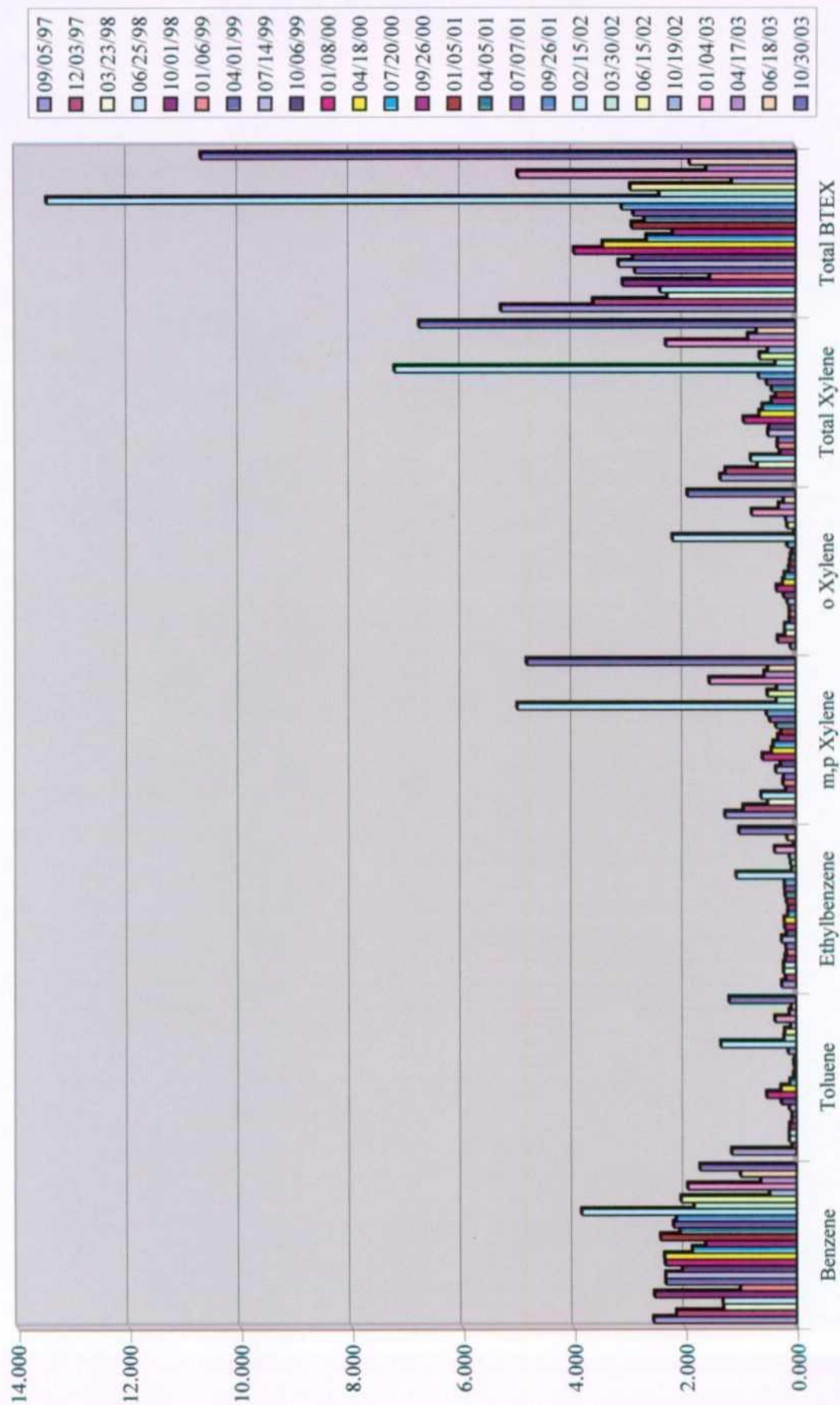
Comments

6-12 2" product in Bailer

**Monitor Well # 1
Sohio State # 1
Sampling Results**

Lab. #	Sample Date	Benzene	Toluene	Ethylbenzene	m,p Xylene	o Xylene	Total Xylene	Total BTEX
12483	09/05/97	2.559	1.148	0.243	1.257	0.081	1.338	5.288
13186	12/03/97	2.148	0.062	0.173	0.930	0.313	1.243	3.626
14066	03/23/98	1.301	0.113	0.209	0.490	0.179	0.669	2.292
14665	06/25/98	1.313	0.113	0.206	0.611	0.180	0.791	2.423
15597	10/01/98	2.541	0.108	0.182	0.167	0.098	0.265	3.096
16604	01/06/99	1.000	0.067	0.156	0.214	0.095	0.309	1.532
17437	04/01/99	2.340	0.067	0.168	0.203	0.100	0.303	2.878
18595	07/14/99	2.340	0.110	0.243	0.343	0.136	0.479	3.172
20601	10/06/99	2.040	0.255	0.157	0.261	0.200	0.461	2.913
22762	01/08/00	2.350	0.520	0.187	0.586	0.329	0.915	3.972
25154	04/18/00	2.360	0.263	0.195	0.421	0.216	0.637	3.455
28441	07/20/00	1.860	0.099	0.132	0.391	0.186	0.577	2.668
31508	09/26/00	1.620	0.036	0.127	0.308	0.109	0.417	2.200
36143	01/05/01	2.430	0.011	0.153	0.251	0.089	0.340	2.934
38931	04/05/01	2.080	0.031	0.179	0.342	0.074	0.416	2.706
0101098-15	07/07/01	2.200	0.010	0.190	0.455	0.052	0.507	2.907
0101642-15	09/26/01	2.150	0.131	0.189	0.510	0.137	0.647	3.117
0202619-15	02/15/02	3.850	1.340	1.060	5.000	2.200	7.200	13.450
0203001-15	03/30/02	1.830	0.203	0.059	0.335	0.014	0.349	2.441
0203602-15	06/15/02	2.060	0.192	0.076	0.496	0.138	0.634	2.962
0204815-18	10/19/02	0.471	0.087	0.099	0.327	0.158	0.485	1.142
0205349-17	01/04/03	1.940	0.367	0.367	1.540	0.774	2.314	4.988
0306249-18	04/17/03	0.628	0.108	0.024	0.552	0.290	0.842	1.602
0306733-01	06/18/03	0.992	0.072	0.144	0.490	0.198	0.688	1.896
0307790-33	10/30/03	1.720	1.190	1.010	4.830	1.930	6.760	10.680

Sohio 1 MW #1





Sohio 1

Monitor Well Bailing Log

Sohio 1 MW #2

Lat: _____
Long. _____
Surf. Elev. _____ Ft.

As Drilled	As Measured
------------	-------------

Date: 10/1/1997
Top of Water 48.58 Ft.
Bottom of Bore 60 Ft.

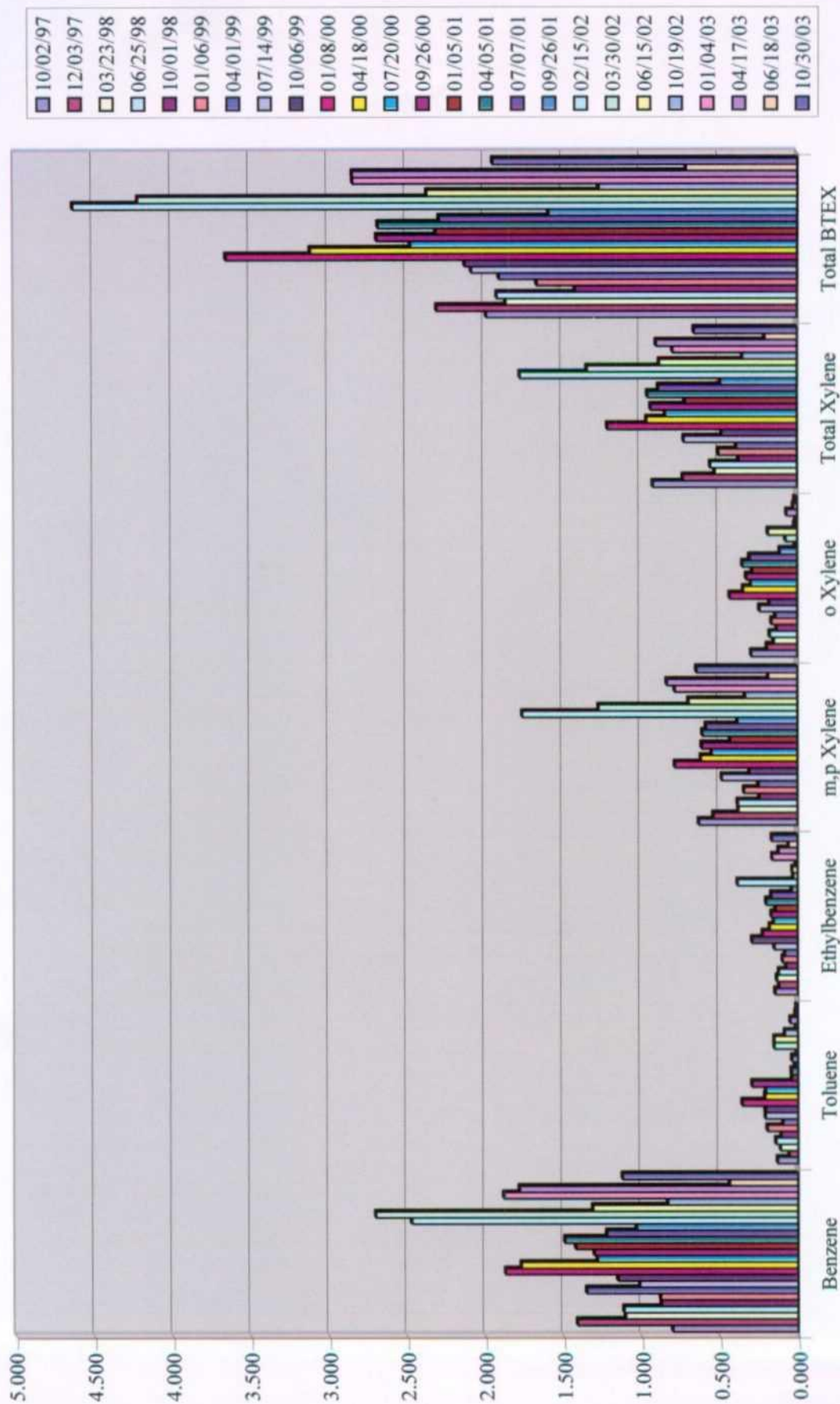
Date:	12/28/02	4/12/03	6/12/03	10/25/03	
Top of Water	45.80	45.40	45.90	45.60	Ft.
Bottom of Bore	59.90	59.40	59.50	59.60	Ft.
Bore Volumn	2.27	2.26	2.19	2.26	Gal.
LPNL Top	45.80	45.40	45.90	45.60	Ft.
LPNL Bottom	?	?	?	?	Ft.
DPNL Top	NA	NA	NA	NA	Ft.
DPNL Bottom	NA	NA	NA	NA	Ft.
Min. Bailing Vol.	6.82	6.77	6.58	6.77	Gal.
Actual Bailing Vol.	15.00	15.00	15.00	15.00	Gal.

Comments

**Monitor Well # 2
Sohio State # 1
Sampling Results**

Lab. #	Sample Date	Benzene	Toluene	Ethylbenzene	m,p Xylene	o Xylene	Total Xylene	Total BTEX
12723	10/02/97	0.799	0.128	0.141	0.628	0.292	0.920	1.988
13187	12/03/97	1.409	0.053	0.116	0.536	0.192	0.728	2.306
14051	03/23/98	1.101	0.108	0.130	0.376	0.148	0.524	1.863
14671	06/25/98	1.111	0.138	0.118	0.379	0.174	0.553	1.920
15601	10/01/98	0.872	0.105	0.071	0.242	0.129	0.371	1.419
16587	01/06/99	0.876	0.193	0.094	0.339	0.163	0.502	1.665
17438	04/01/99	1.350	0.092	0.079	0.248	0.138	0.386	1.907
18605	07/14/99	1.010	0.205	0.146	0.482	0.240	0.722	2.083
20615	10/06/99	1.150	0.206	0.289	0.304	0.176	0.480	2.125
22790	01/08/00	1.870	0.353	0.221	0.782	0.429	1.211	3.655
25155	04/18/00	1.770	0.209	0.176	0.616	0.344	0.960	3.115
28446	07/20/00	1.280	0.203	0.150	0.546	0.294	0.840	2.473
31509	09/26/00	1.300	0.291	0.165	0.610	0.324	0.934	2.690
36143	01/05/01	1.420	0.036	0.140	0.428	0.287	0.715	2.311
38932	04/05/01	1.490	0.038	0.199	0.606	0.348	0.954	2.681
0101098-16	07/07/01	1.220	0.017	0.166	0.583	0.303	0.886	2.289
1010642-16	09/26/01	1.030	0.035	0.035	0.381	0.108	0.489	1.589
0202619-16	02/15/02	2.470	0.007	0.381	1.760	0.013	1.773	4.631
0203001-16	03/30/02	2.700	0.149	0.025	1.270	0.072	1.342	4.216
0203602-16	06/15/02	1.310	0.149	0.031	0.694	0.185	0.879	2.369
0204815-19	10/19/02	0.830	0.081	0.010	0.332	0.015	0.347	1.268
0205349-18	01/04/03	1.880	0.010	0.160	0.783	0.010	0.793	2.843
0306249-19	04/17/03	1.780	0.045	0.120	0.833	0.066	0.899	2.844
0306733-02	06/18/03	0.435	0.013	0.055	0.184	0.022	0.206	0.709
0307790-34	10/30/03	1.120	0.007	0.162	0.644	0.014	0.658	1.947

Sohio 1 MW #2



Atkins Engineering Associates, Inc.
P.O. Box 3156
Roswell, New Mexico 88202

LOG OF BORING Sohio State 1, MW 2

(Page 1 of 1)

Tipperary Corp. (Whole Earth Environmental)
633 17th Street
Denver, CO 80202

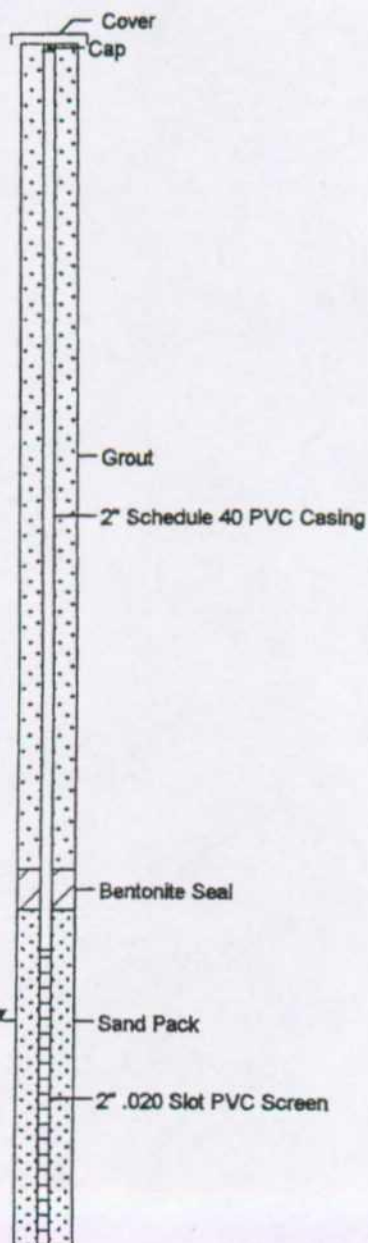
Date Completed : 10-1-97 Site Location : 17 miles W. of Tatum
Drill Start : 9:10 a.m. Auger Type : Hollow Stem
Drill End : 11:45 a.m. Logged By : Mori Bates
Boring Location : Sohio State 1, Sec. 4; 150 ft. S. SE. of Center of Pit

Job #97260

Depth in feet	GRAPHIC	USCS	DESCRIPTION
0		CL	Clay w/Caliche Rock, Brown, Stiff, Damp
5			Caliche Rock w/Silty Clay, Hard, Dry
10			Clay w/Caliche, Tan, Stiff, Dry
15		CL	
20			
25			Sandy Clay w/Caliche, Tan, Stiff, Dry
30		CL	
35			
40			Silty Sandy Clay, Tan, Stiff, Damp
45		CL	
50			Silty Sandy Clay w/Gravel, Tan, Loose, Wet to Saturated WL = 48.58 ft.
55		CL	
60			TD = 60 ft.
65			Bailed and Developed well

Well: MW 2

Elev.:





Sohio 1

Monitor Well Bailing Log

Sohio 1 MW #3

Lat: N33° 23.3706'
Long. W103° 36.7147'
Surf. Elev. 4283.59 Ft.

As Drilled	As Measured
------------	-------------

Date: 9/29/1997
Top of Water 49.37 Ft.
Bottom of Bore 60 Ft.

Date:	12/28/02	4/12/03	6/12/03	10/25/03	
Top of Water	46.90	47.00	47.10	46.80	Ft.
Bottom of Bore	58.50	58.40	58.10	58.20	Ft.
Bore Volume	1.87	1.84	1.77	1.84	Gal.
LPNL Top	NA	NA	NA	NA	Ft.
LPNL Bottom	NA	NA	NA	NA	Ft.
DPNL Top	NA	NA	NA	NA	Ft.
DPNL Bottom	NA	NA	NA	NA	Ft.
Min. Bailing Vol.	5.61	5.52	5.32	5.52	Gal.
Actual Bailing Vol.	15.00	20.00	20.00	10.00	Gal.

Comments

**Monitor Well # 3
Sohio State # 1
Sampling Results**

Lab. #	Sample Date	Benzene	Toluene	Ethylbenzene	m,p Xylene	o Xylene	Total Xylene	Total BTEX
12724	10/02/97	1.276	0.614	0.206	0.553	0.684	1.237	3.333
13188	12/03/97	2.063	0.178	0.118	0.001	0.001	0.002	2.361
14052	03/23/98	1.396	0.269	0.159	0.823	0.366	1.189	3.013
14672	06/25/98	1.357	0.272	0.131	0.589	0.252	0.841	2.601
15609	10/01/98	0.542	0.072	0.025	0.093	0.054	0.147	0.786
16588	01/06/99	1.100	0.247	0.107	0.415	0.203	0.618	2.072
18606	07/14/99	3.540	0.553	2.880	0.967	0.532	1.499	8.472
20616	10/06/99	2.470	0.486	0.660	0.594	0.444	1.038	4.654
22760	01/08/00	0.334	0.186	0.074	0.257	0.149	0.406	1.000
25156	04/18/00	3.100	3.110	0.723	4.820	2.950	7.770	14.703
28447	07/20/00	2.180	0.643	0.204	1.100	0.683	1.783	4.810
31510	09/26/00	2.460	0.432	0.201	0.920	0.544	1.464	4.557
36149	01/05/01	2.950	1.840	0.364	1.540	1.220	2.760	7.914
38933	04/05/01	1.410	0.179	0.095	0.449	0.306	0.755	2.439
0101098-17	07/07/01	1.100	0.077	0.082	0.364	0.257	0.621	1.880
0101642-17	09/26/01	2.810	2.220	0.554	3.150	1.650	4.800	10.384
0202619-17	02/15/02	1.870	1.350	0.453	2.490	1.470	3.960	7.633
0203001-17	03/30/02	2.520	0.967	2.230	5.190	2.970	8.160	13.877
0203602-17	06/15/02	3.200	0.719	2.520	4.370	2.380	6.750	13.189
0204815-20	10/19/02	1.450	0.317	0.920	1.810	0.994	2.804	5.491
0205349-19	01/04/03	1.580	2.730	1.910	14.300	6.980	21.280	27.500
0306249-20	04/17/03	1.010	0.714	0.199	1.440	0.746	2.186	4.109
0306733-03	06/18/03	2.340	1.500	0.534	2.540	1.360	3.900	8.274
0307790-35	10/30/03	1.670	2.800	3.550	19.000	3.920	22.920	30.940

Sohio 1 MW #3



Atkins Engineering Associates, Inc.
P.O. Box 3156
Roswell, New Mexico 88202

LOG OF BORING Sohio State 1, MW 3

(Page 1 of 1)

Tipperary Corp. (Whole Earth Environmental)
633 17th Street
Denver, CO 80202

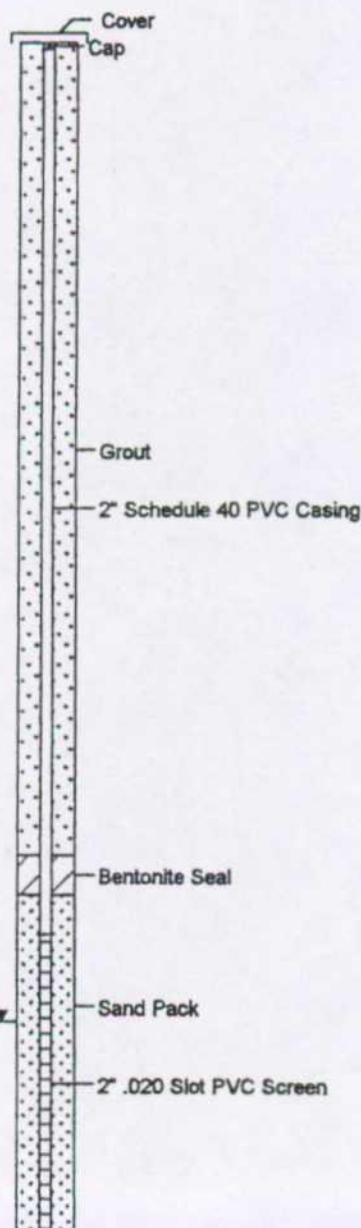
Date Completed : 9-29-97 / 10-1-97
Drill Start : 4:25 p.m. / 7:10 a.m.
Drill End : 5:15 p.m. / 9:00 a.m.
Boring Location : Sohio State 1, Sec. 4; 150 ft. E. SE. of Ctr of Plt

Site Location : 17 miles W. of Tatum
Auger Type : Hollow Stem
Logged By : Mori Bates

Job #97260

Depth in feet	GRAPHIC	USCS	DESCRIPTION
0		CL	Silty Clay w/Caliche, Brown, Stiff, Damp
5			Silty Clay w/Caliche, Tan, Stiff, Dry
10		CL	
15			
20			
25			Clay w/Caliche, Tan, Stiff, Dry
30		CL	
35			Silty Sandy Clay, Tan, Stiff, Damp
40		CL	
45			
50		CL	Silty Sandy Clay, Tan, Stiff, Moist
55			Silty Sand, Tan, Loose, Saturated WL = 49.37 ft.
60		SM	
65			TD = 60 ft. Bailed well for 45 mins

Well: MW 3
Elev.:





Sohio 1

Monitor Well Bailing Log

Sohio 1 MW #4

Lat: N33° 23.3761'
Long. W103° 36.6493'
Surf. Elev. 4282.71 Ft.

As Drilled	As Measured
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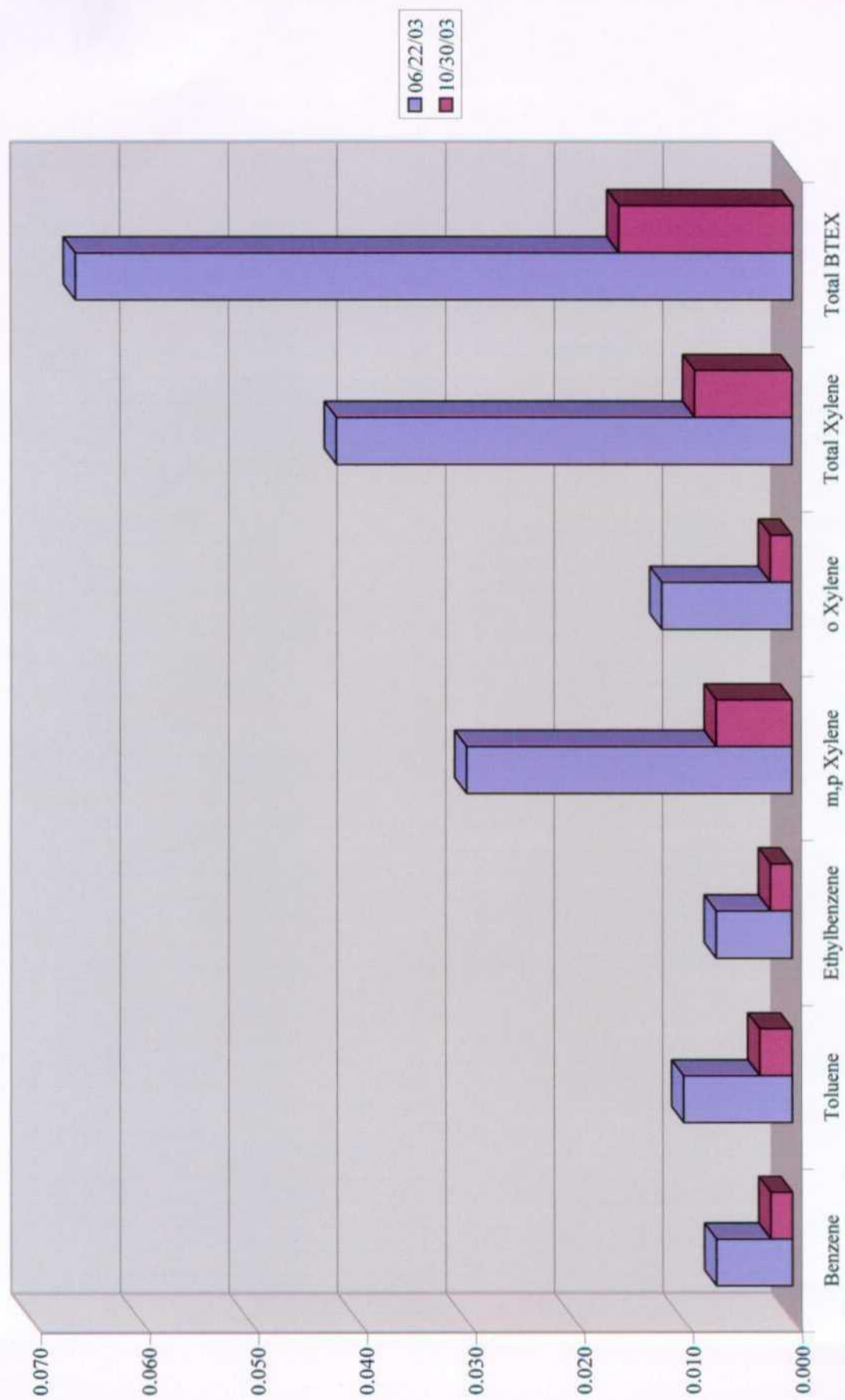
Date:	6/13/2003	Date:			6/12/03	10/25/03	
Top of Water	44.6 Ft.	Top of Water			46.00	46.20	Ft.
Bottom of Bore	60 Ft.	Bottom of Bore			57.10	57.40	Ft.
		Bore Volume			1.79	1.81	Gal.
		LPNL Top			NA	NA	Ft.
		LPNL Bottom			NA	NA	Ft.
		DPNL Top			NA	NA	Ft.
		DPNL Bottom			NA	NA	Ft.
		Min. Bailing Vol.			5.37	5.42	Gal.
		Actual Bailing Vol.			15.00	15.00	Gal.

Comments

**Monitor Well # 4
Sohio State # 1
Sampling Results**

Lab. #	Sample Date	Benzene	Toluene	Ethylbenzene	m,p Xylene	o Xylene	Total Xylene	Total BTEX
0306751-01	06/22/03	0.007	0.010	0.007	0.030	0.012	0.042	0.066
0307791-36	10/30/03	0.002	0.003	0.002	0.007	0.002	0.009	0.016

Sohio 1 MW #4



Atkins Engineering
Associates, Inc.

2904 W. 2nd St., Roswell, NM 88202-3156

LOG OF BORING MW 4

(Page 1 of 1)

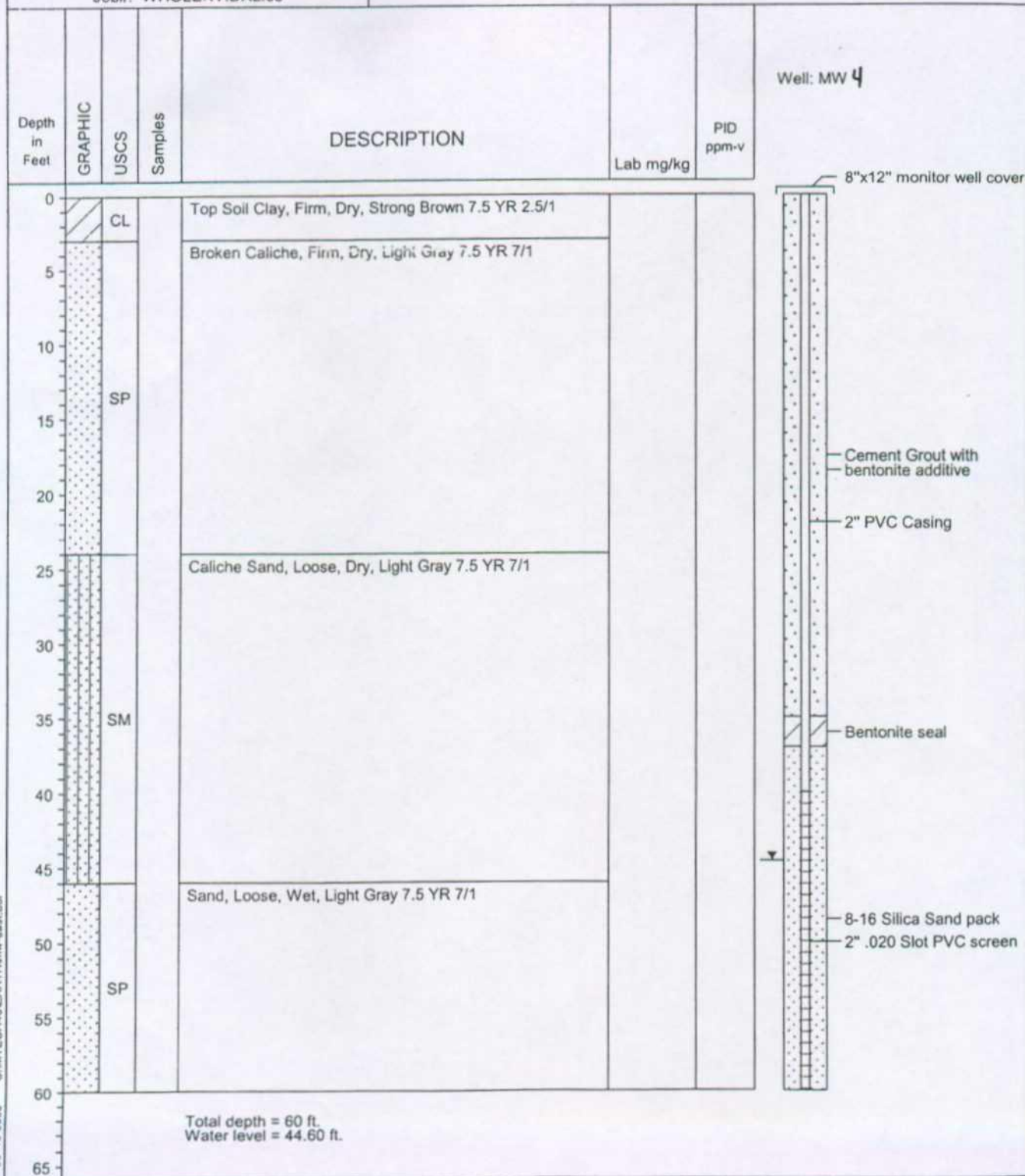
Whole Earth Environmental
19606 San Gabriel
Houston, TX 77084

Contact: Mike Griffin

Job#: WHOLENV.DRL.03

Date : 6/13/03
Drill Start/Drill End :
Boring Location :

Site Location : SOHIO State 1 SE,SE.
Section 4
Auger Type : Hollow stem
Logged By : Mort Bates





Sohio 1

Monitor Well Bailing Log

Sohio 1 MW #5

Lat: _____
Long. _____
Surf. Elev. _____ Ft.

As Drilled	As Measured
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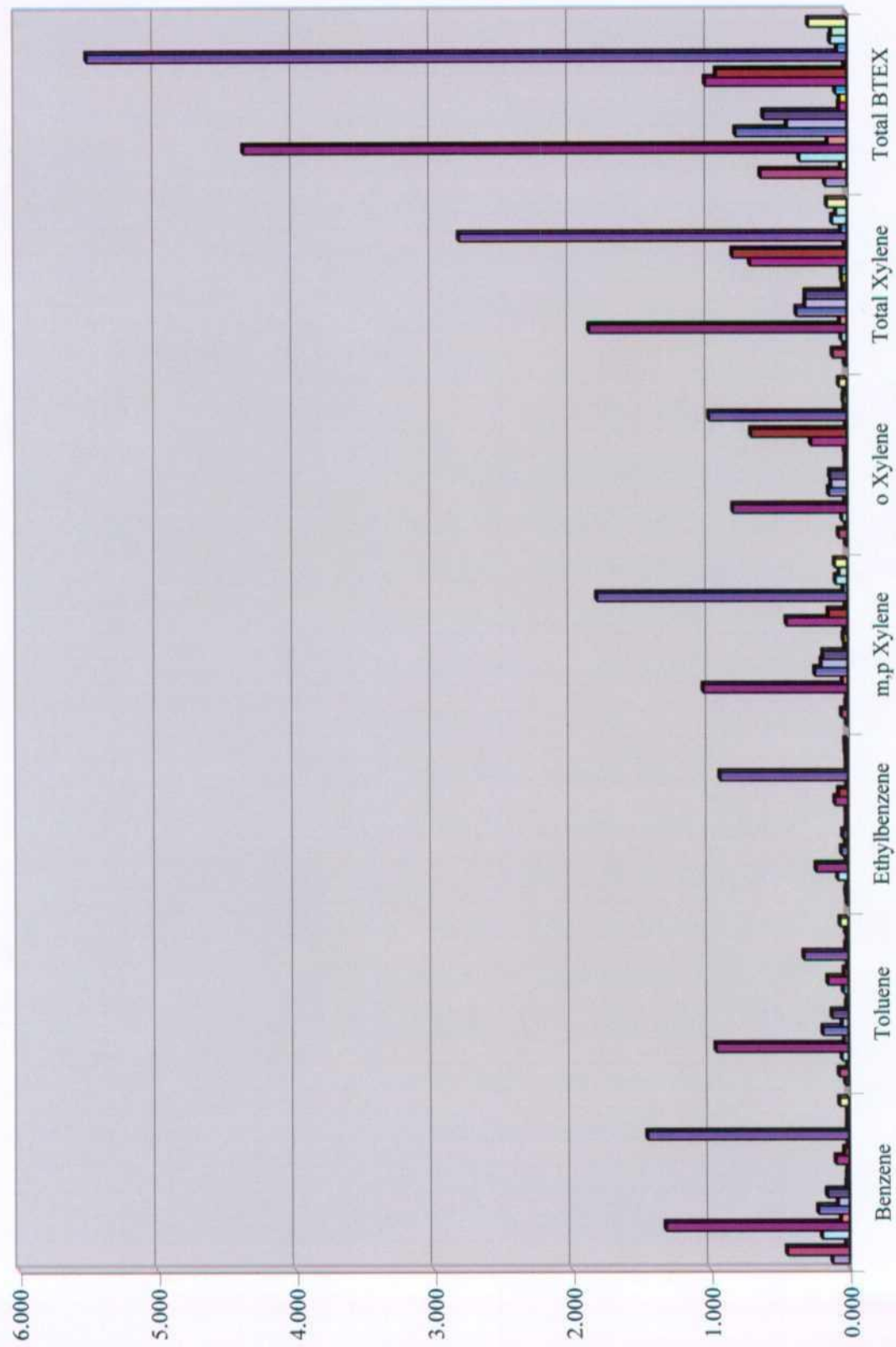
Date: 3/16/1999
Top of Water 40 Ft.
Bottom of Bore 51 Ft.

Date:	12/28/02	4/12/03	6/12/03	10/25/03	
Top of Water	45.40	45.40	45.50	45.20	Ft.
Bottom of Bore	55.40	55.30	54.10	56.20	Ft.
Bore Volume	1.61	1.60	1.39	1.77	Gal.
LPNL Top	NA	NA	NA	NA	Ft.
LPNL Bottom	NA	NA	NA	NA	Ft.
DPNL Top	NA	NA	NA	NA	Ft.
DPNL Bottom	NA	NA	NA	NA	Ft.
Min. Bailing Vol.	4.84	4.79	4.16	5.32	Gal.
Actual Bailing Vol.	15.00	20.00	20.00	10.00	Gal.

Comments

**Monitor Well # 5
Sohio State # 1
Sampling Results**

Lab. #	Sample Date	Benzene	Toluene	Ethylbenzene	m,p Xylene	o Xylene	Total Xylene	Total BTEX
17267	03/19/99	0.118	0.019	0.005	0.004	0.008	0.012	0.154
17440	04/01/99	0.446	0.065	0.011	0.041	0.058	0.099	0.621
18607	07/14/99	0.019	0.003	0.004	0.008	0.005	0.013	0.039
20617	10/06/99	0.192	0.042	0.070	0.001	0.034	0.035	0.339
22781	01/08/00	1.320	0.954	0.227	1.040	0.822	1.862	4.363
25157	04/18/00	0.055	0.026	0.010	0.033	0.011	0.044	0.135
28457	07/20/00	0.219	0.180	0.042	0.233	0.128	0.361	0.802
31511	09/26/00	0.076	0.041	0.014	0.186	0.111	0.297	0.428
36144	01/05/01	0.156	0.115	0.034	0.175	0.120	0.295	0.600
38934	04/05/01	0.014	0.010	0.007	0.016	0.006	0.022	0.053
0101098-18	07/07/01	0.009	0.002	0.006	0.025	0.007	0.032	0.049
0101642-18	09/26/01	0.005	0.031	0.010	0.020	0.014	0.034	0.080
0202619-18	02/15/02	0.091	0.144	0.089	0.438	0.259	0.697	1.021
0203001-18	03/30/02	0.030	0.025	0.062	0.134	0.690	0.824	0.941
0203602-18	06/15/02	0.001	0.001	0.001	0.009	0.002	0.011	0.014
0204815-21	10/16/02	1.450	0.317	0.920	1.810	0.994	2.804	5.491
0205349-20	01/04/03	0.006	0.014	0.007	0.026	0.013	0.039	0.066
0306249-21	04/17/03	0.004	0.002	0.008	0.081	0.022	0.103	0.117
0306733-04	06/18/03	0.007	0.016	0.013	0.055	0.018	0.073	0.109
0307790-37	10/30/03	0.063	0.055	0.016	0.088	0.054	0.142	0.276



Atkins Engineering Associates, Inc. P.O. Box 3156 Roswell, New Mexico 86202			LOG OF BORING Sohio State #1 MW-5 <i>Formerly MW 28</i> (Page 1 of 2)		
Tipperary Corporation 633 17th Street, Suite 1550 Denver, CO 80202			Date : 3-18-99 Site Location : Lee County, NM Drill Start : 9:35 A.M. Auger Type : Hollow Stem Drill End : 12:45 P.M. Logged By : Mori Bates Boring Location : 100 ft. SE of MW-18		
Contact: Mike Griffin Job #99174.00					

Depth in feet	GRAPHIC	USCS	Samples	DESCRIPTION	
0	CL			Silty Clay, Brown, Firm, Dry	Well: MW-5 Elev.:
5				Caliche Rock w/Silty Clay, Tan, Firm, Dry	
10				Caliche, Chalky, Tan, Firm, Dry	
15					
20					
25					
30					
32	SP			Sand, Tan, Firm, Damp	
34	SP			Sand w/Cemented Gravel, Tan, Firm, Damp	
35					

DS-18-19902 C:\mtech\481\Tipp\99\mw-28.log

Atkins Engineering Associates, Inc. P.O. Box 3156 Roswell, New Mexico 88202			LOG OF BORING Sohio State #1 MW-5 <i>Formerly MW 28</i> (Page 2 of 2)		
Tipperary Corporation 633 17th Street, Suite 1550 Denver, CO 80202			Date : 3-18-99 Site Location : Lee County, NM Drill Start : 9:35 A.M. Auger Type : Hollow Stem Drill End : 12:45 P.M. Logged By : Mort Bates Boring Location : 100 ft. SE of MW. 18		
Contact: Mike Griffin Job #99174.00					

Depth in feet	GRAPHIC	USCS	Samples	DESCRIPTION	
35					
	SP			Sand, Tan, Firm, Moist	
40				WL @ 40 ft.	
	SP				
45					
50				TD = 51 ft.	
55					
60					
65					
70					

Well: MW-5
Elev.:

2" PVC Casing
8" Sand Pack
2" PVC .020 Slot Screen



Sohio 1

Monitor Well Bailing Log

Sohio 1 MW #6

Lat: _____
Long. _____
Surf. Elev. _____ Ft.

As Drilled	As Measured
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Date: 8/9/1999
Top of Water 45.31 Ft.
Bottom of Bore 67 Ft.

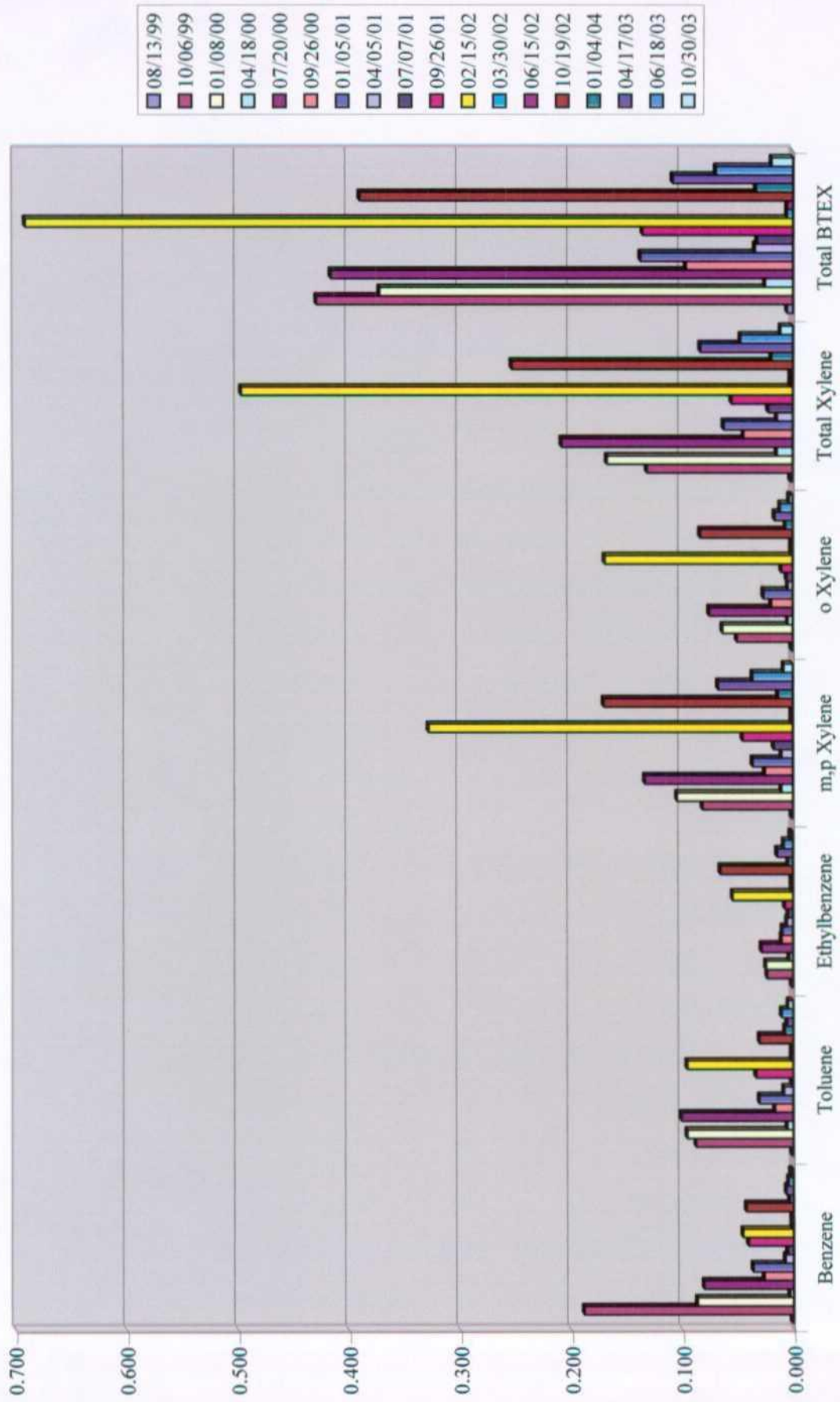
Date:	12/28/02	4/12/03	6/12/03	10/25/03	
Top of Water	44.70	44.70	44.80	44.60	Ft.
Bottom of Bore	59.80	59.80	60.20	60.10	Ft.
Bore Volumn	2.44	2.44	2.48	2.50	Gal.
LPNL Top	NA	NA	NA	NA	Ft.
LPNL Bottom	NA	NA	NA	NA	Ft.
DPNL Top	NA	NA	NA	NA	Ft.
DPNL Bottom	NA	NA	NA	NA	Ft.
Min. Bailing Vol.	7.31	7.31	7.45	7.50	Gal.
Actual Bailing Vol.	15.00	20.00	20.00	10.00	Gal.

Comments

**Monitor Well # 6
Sohio State # 1
Sampling Results**

Lab. #	Sample Date	Benzene	Toluene	Ethylbenzene	m,p Xylene	o Xylene	Total Xylene	Total BTEX
19165	08/13/99	0.001	0.001	0.001	0.001	0.001	0.002	0.005
20618	10/06/99	0.188	0.087	0.023	0.081	0.050	0.131	0.429
22776	01/08/00	0.086	0.095	0.024	0.104	0.063	0.167	0.372
25158	04/18/00	0.003	0.005	0.003	0.010	0.004	0.014	0.025
28459	07/20/00	0.080	0.100	0.028	0.133	0.075	0.208	0.416
31512	09/26/00	0.026	0.016	0.010	0.025	0.019	0.044	0.096
36161	01/05/01	0.036	0.030	0.009	0.036	0.026	0.062	0.137
38935	04/05/01	0.007	0.008	0.005	0.010	0.004	0.014	0.034
0101098-19	07/07/01	0.005	0.001	0.004	0.017	0.005	0.022	0.032
0101642-19	09/26/01	0.040	0.033	0.007	0.045	0.010	0.055	0.135
0202619-19	02/15/02	0.045	0.095	0.054	0.328	0.169	0.497	0.691
0203001-19	03/30/02	0.001	0.001	0.001	0.001	0.001	0.002	0.005
0203602-19	06/15/02	0.001	0.001	0.001	0.001	0.001	0.002	0.005
0204815-22	10/19/02	0.042	0.030	0.065	0.170	0.083	0.253	0.390
0205349-21	01/04/04	0.003	0.007	0.004	0.013	0.006	0.019	0.033
0306249-22	04/17/03	0.006	0.005	0.014	0.067	0.016	0.083	0.108
0306733-05	06/18/03	0.004	0.010	0.008	0.036	0.011	0.047	0.069
0307790-38	10/30/03	0.002	0.004	0.002	0.008	0.003	0.011	0.019

Sohio 1 MW #6



Atkins Engineering Associates, Inc.
P.O. Box 3156
Roswell, New Mexico 88202

LOG OF BORING Sohio State 1 MW 6 Formerly MW 30

(Page 1 of 2)

Tipperary Corporation
633 17th Street, Suite 1550
Denver, CO 80202

Date : 8-9-99
Drill Start : 8:20 A.M.
Drill End : 1:00 P.M.
Boring Location : 300 ft. S.E. of MW 5

Site Location : SE/SE Section 4, T11S,
Auger Type : Hollow Stem R33E
Logged By : Mort Bates

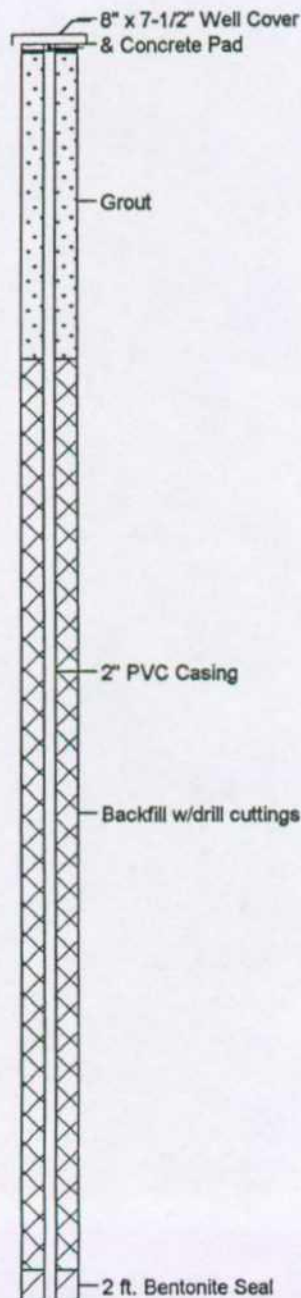
Job #99280.00

Depth in feet	GRAPHIC	USCS	Samples	DESCRIPTION
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0		CL		Silty Clay w/Caliche Rock, Brown, Firm
2.5				Caliche w/Clay, Tan, Firm, Dry
5				
10				Silty Sand, Tan, Loose, Dry
15		SM		
20				Caliche w/Silty Sand, Firm, Dry
25				
30				Silty Sand, Tan, Firm, Dry
35		SM		Caliche w/Silty Clayey Sand, Tan, Firm, Dry
40				

Well: MW 6

Elev.:



Atkins Engineering Associates, Inc.
P.O. Box 3156
Roswell, New Mexico 88202

LOG OF BORING Sohio State 1 MW 6 Formerly MW 30

(Page 2 of 2)

Tipperary Corporation
633 17th Street, Suite 1550
Denver, CO 80202

Date : 8-9-99
Drill Start : 8:20 A.M.
Drill End : 1:00 P.M.
Boring Location : 300 ft. S.E. of MW 5

Site Location : SE/SE Section 4, T11S,
Auger Type : Hollow Stem R33E
Logged By : Mort Bates

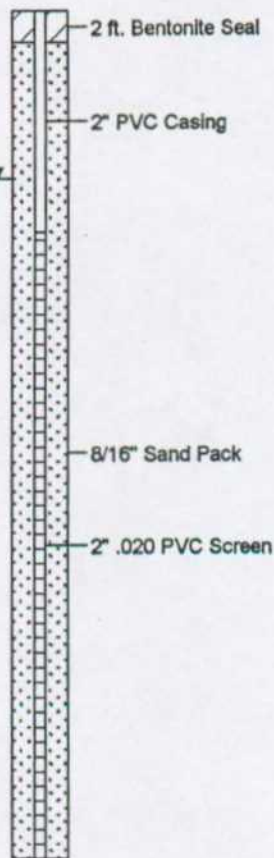
Job #99280.00

Depth in feet	GRAPHIC	USCS	Samples	DESCRIPTION
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Well: MW- 6

Elev.:

40	CL			Sandy Clay, Tan, Firm, Moist
45	SW			Sand w/Gravel, Tan, Firm, Moist WL @ 45.31
55	CL			Sandy Clay, Tan, Firm, Wet
65	CL			Clay, Red, Stiff, Moist
70				TD = 67 Ft.





Sohio 1

Monitor Well Bailing Log

Sohio 1 MW #7

Lat: _____
Long. _____
Surf. Elev. _____ Ft.

As Drilled	As Measured
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Date: 6/5/2002
Top of Water 50 Ft.
Bottom of Bore 60 Ft.

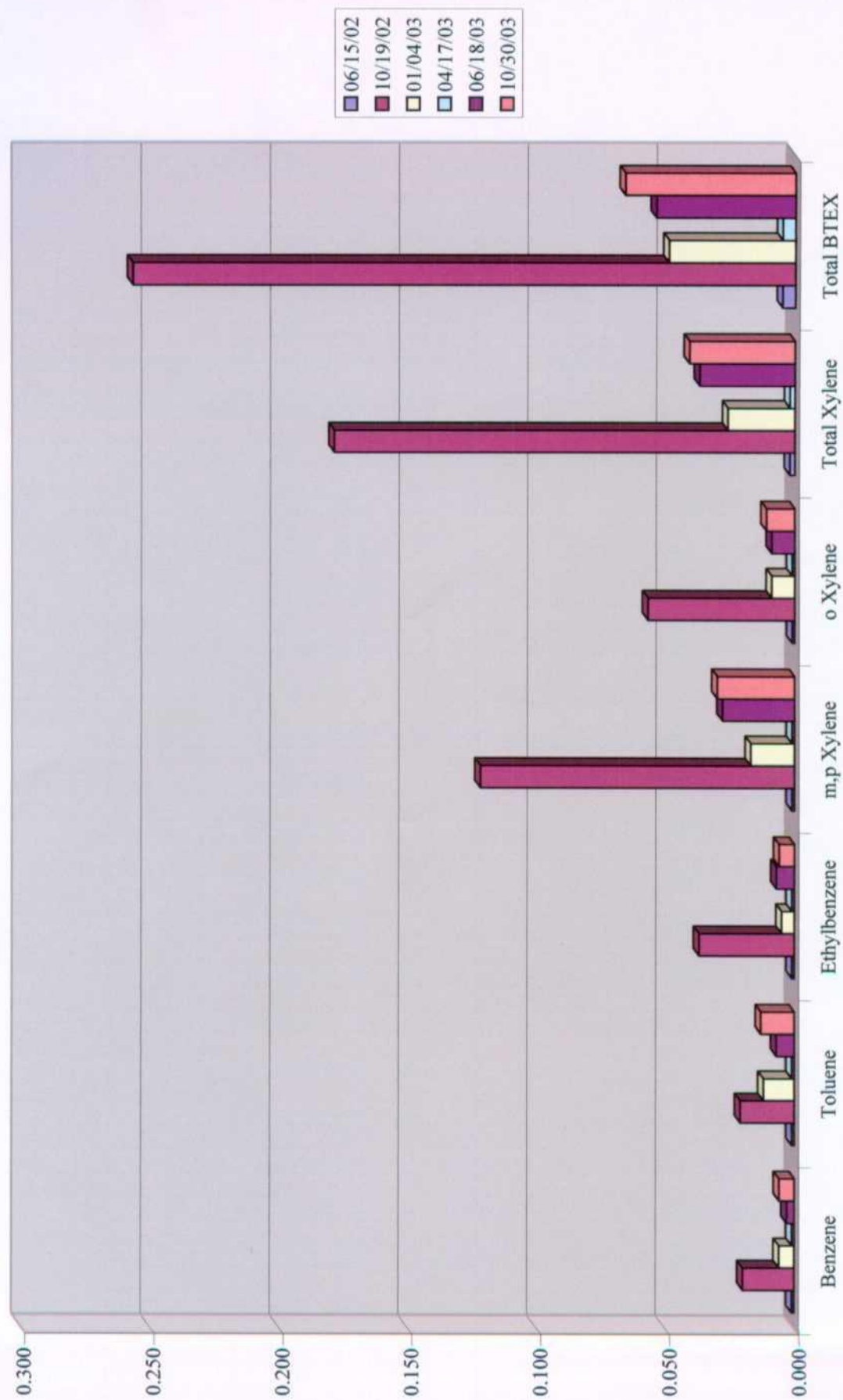
Date:	1/28/02	4/12/03	6/12/03	10/25/03	
Top of Water	43.40	43.30	43.30	43.50	Ft.
Bottom of Bore	56.30	55.90	56.00	56.20	Ft.
Bore Volume	2.08	2.03	2.05	2.05	Gal.
LPNL Top	NA	NA	NA	NA	Ft.
LPNL Bottom	NA	NA	NA	NA	Ft.
DPNL Top	NA	NA	NA	NA	Ft.
DPNL Bottom	NA	NA	NA	NA	Ft.
Min. Bailing Vol.	6.24	6.10	6.15	6.15	Gal.
Actual Bailing Vol.	15.00	20.00	20.00	10.00	Gal.

Comments

**Monitor Well # 7
Sohio State # 1
Sampling Results**

Lab. #	Sample Date	Benzene	Toluene	Ethylbenzene	m,p Xylene	o Xylene	Total Xylene	Total BTEX
0203602-20	06/15/02	0.001	0.001	0.001	0.001	0.001	0.002	0.005
0204815-23	10/19/02	0.020	0.021	0.037	0.122	0.057	0.179	0.257
0205349-22	01/04/03	0.006	0.012	0.005	0.017	0.009	0.026	0.049
0306249-23	04/17/03	0.001	0.001	0.001	0.001	0.001	0.002	0.005
0306733-06	06/18/03	0.003	0.007	0.007	0.028	0.009	0.037	0.054
0307790-39	10/30/03	0.006	0.013	0.006	0.030	0.011	0.041	0.066

Sohio 1 MW #7



Atkins Engineering Associates, Inc. 2904 W. 2nd St., Roswell, NM 88202-3156			LOG OF BORING SOHIO STATE #1 MW 7 (Page 1 of 1)										
Whole Earth Environmental 19606 San Gabriel Houston, Texas 77084 Contact Mike Griffin Project # CALLIER.MWD.02			<table style="width: 100%;"> <tr> <td style="width: 33%;">Date : 6/05/02</td> <td style="width: 33%;">Site Location : Caprock, NM</td> </tr> <tr> <td>Drill Start : 730</td> <td>Auger Type : Hollow Stem</td> </tr> <tr> <td>Drill End : 1230</td> <td>Logged By : Mort Bates</td> </tr> <tr> <td colspan="2">Boring Location : SE of Location</td> </tr> </table>			Date : 6/05/02	Site Location : Caprock, NM	Drill Start : 730	Auger Type : Hollow Stem	Drill End : 1230	Logged By : Mort Bates	Boring Location : SE of Location	
Date : 6/05/02	Site Location : Caprock, NM												
Drill Start : 730	Auger Type : Hollow Stem												
Drill End : 1230	Logged By : Mort Bates												
Boring Location : SE of Location													

Depth in feet	GRAPHIC	USCS	Samples	DESCRIPTION	Lab mg/kg	
0		CL		Clay, brown, tan caliche rock, loose, dry		Well: MW 7 8"x12" monitor well cover Cement grout 2" PVC Casing Bentonite Seal 8/16 Silica Sand pack 2" .020" slot screen
5				Caliche, tan, firm, dry		
10	SP		Poorly graded sand w/caliche, loose, dry			
15						
20	SP		Poorly graded sand, tan, loose, dry			
25						
30	SS		Sandstone, tan, hard, dry			
35						
40	SS		Sandstone w/sand, tan, damp			
45			Poorly graded sand w/sandstone, tan, firm, wet			
50	SP					
55						
60						

TD = 55 feet
 WL = 43 feet

06-24-2002 C:\MTECH\CALLIER\mw40 bor



Sohio 1

Monitor Well Bailing Log

Sohio 1 MW #8

Lat: N33° 23.28517'
Long. W103° 36.70985'
Surf. Elev. 4280.1 Ft.

As Drilled	As Measured
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Date: 6/13/2003
Top of Water 44.6 Ft.
Bottom of Bore 60 Ft.

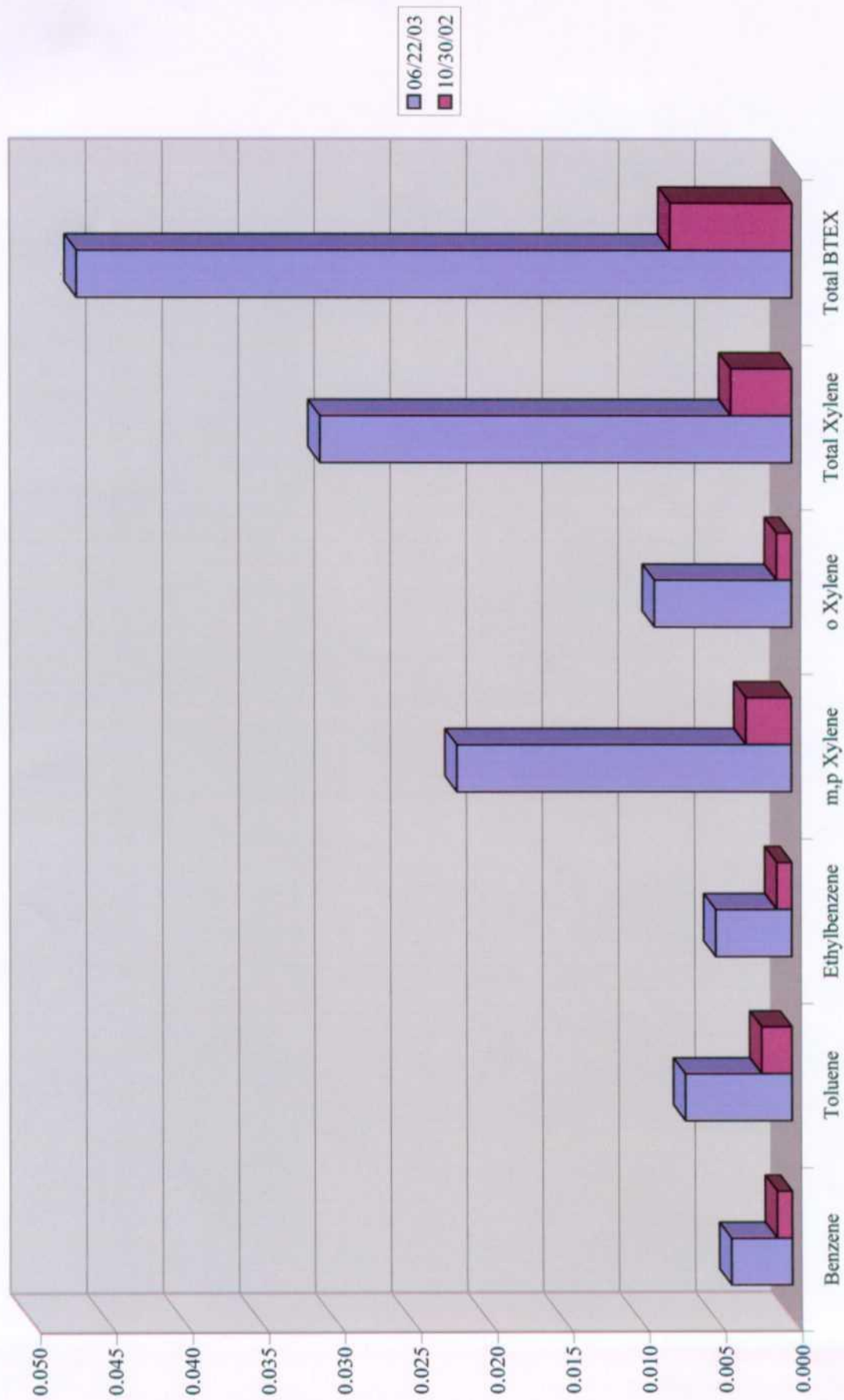
Date:			6/12/03	10/25/03	
Top of Water			43.20	43.20	Ft.
Bottom of Bore			57.40	57.60	Ft.
Bore Volumn			2.29	2.32	Gal.
LPNL Top			NA	NA	Ft.
LPNL Bottom			NA	NA	Ft.
DPNL Top			NA	NA	Ft.
DPNL Bottom			NA	NA	Ft.
Min. Bailing Vol.			6.87	6.97	Gal.
Actual Bailing Vol.			20.00	20.00	Gal.

Comments

Monitor Well # 8
Sohio State # 1
Sampling Results

Lab. #	Sample Date	Benzene	Toluene	Ethylbenzene	m,p Xylene	o Xylene	Total Xylene	Total BTEX
0306751-02	06/22/03	0.004	0.007	0.005	0.022	0.009	0.031	0.047
0307790-40	10/30/02	0.001	0.002	0.001	0.003	0.001	0.004	0.008

Sohio 1 MW #8



Atkins Engineering
Associates, Inc.

2904 W. 2nd St., Roswell, NM 88202-3156

LOG OF BORING MW-8

(Page 1 of 1)

Whole Earth Environmental
19606 San Gabriel
Houston, TX 77084

Contact: Mike Griffin

Job#: WHOLENV.DRL.03

Date : 6/14/03
Drill Start/Drill End :
Boring Location :

Site Location : SOHIO State 1 SE,SE.
: Sec. 4, T11S., R33E.
Auger Type : Hollow stem
Logged By : Mort Bates

