

1R - 268

REPORTS

DATE:

2002



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.

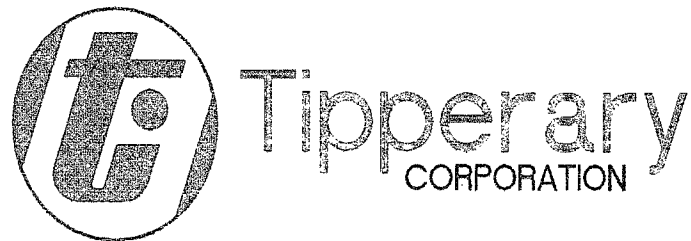
Detailed results are presented in tabular and graphical format for each monitor well. The monitor well data is grouped by site location in the report. The Exhibits Section contains the quarterly lab results and all associated quality control information. We will continue to sample the project quarterly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

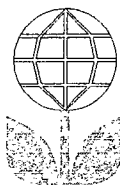


**Tipperary Corporation
Annual Report
Bagley Field
Monitor Well Sampling Results**

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.

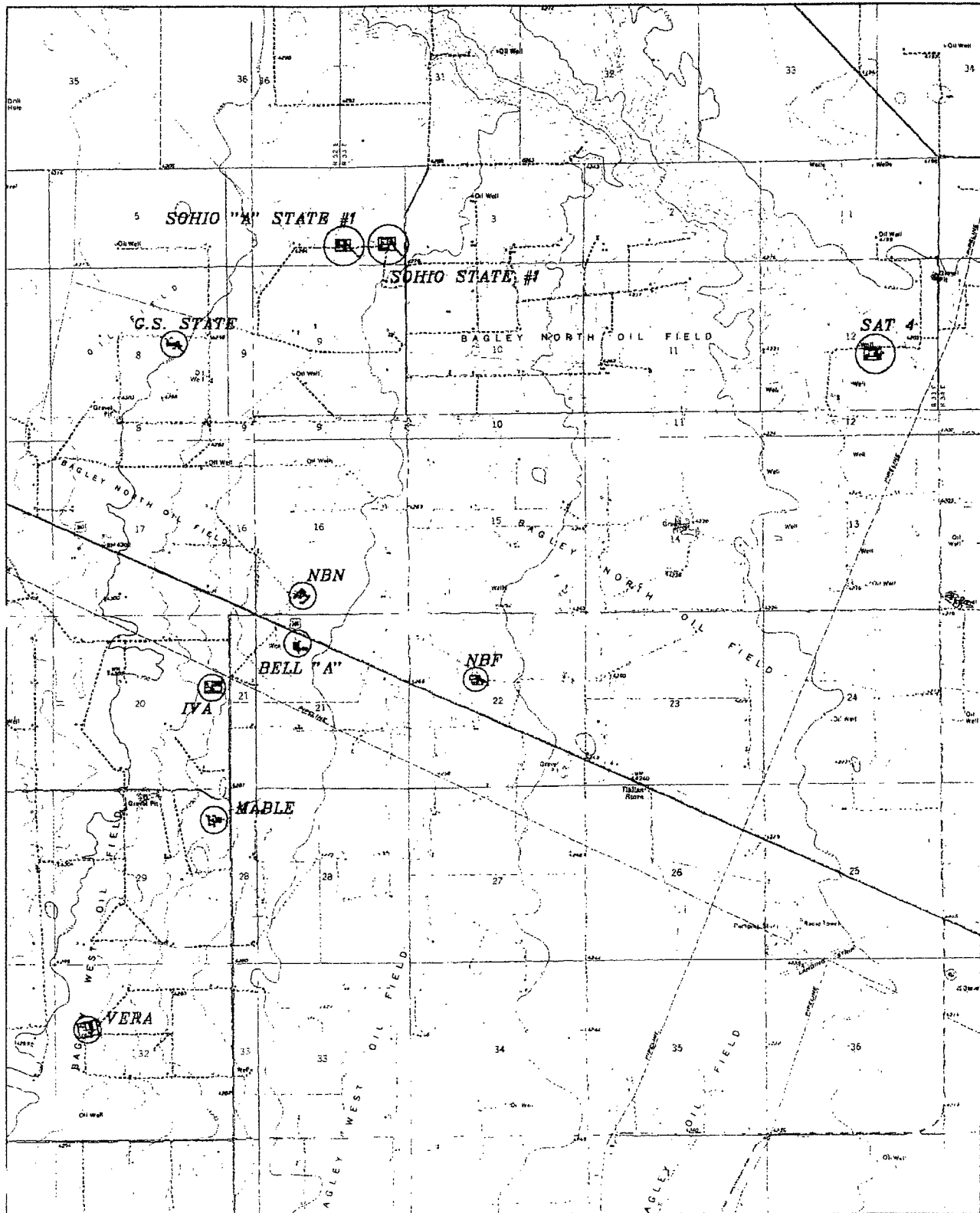
Collier # 1

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

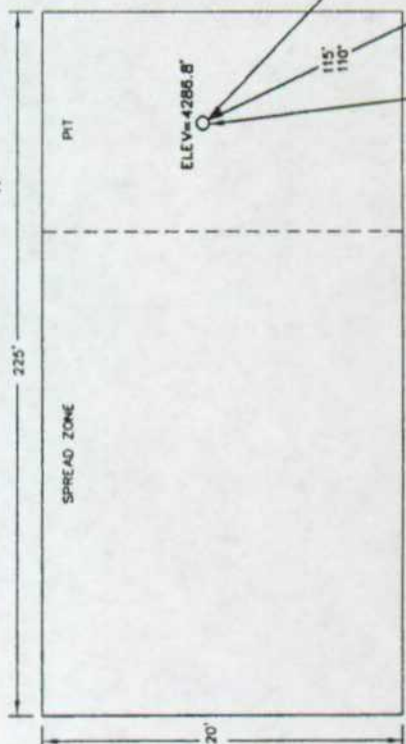
Disk: KJG #122 - WE9352.DWG

Tipperary Corporation
Tatum Bagley Field
Monitor Well Gradient Chart

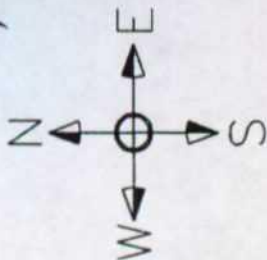
Well Name	Well No.	Surface Elevation	Water Elevation	Distance to Pit Center (Ft.)	Gradient (Ft. / Ft.)	Gradient (Ft. / 100Ft.)
Iva COM	Source Well	4,298.42	4,246.42			
	1	4,292.10	4,237.20	115	0.080174	8.02
	2	4,291.93	4,238.93	140	0.053500	5.35
Mable COM	Source Well	4,290.55	4,238.55			
	3	4,287.22	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

Sohio A

SOHIO "A" STATE #1



SCALE 1"=60'



MW 19
ELEV=4286.0'

MW 11
ELEV=4285.9'

MW 20
ELEV=4283.5'

MW 27
ELEV=4283.2'

MW 31
ELEV=4283.5'

PROPOSED
MW 35

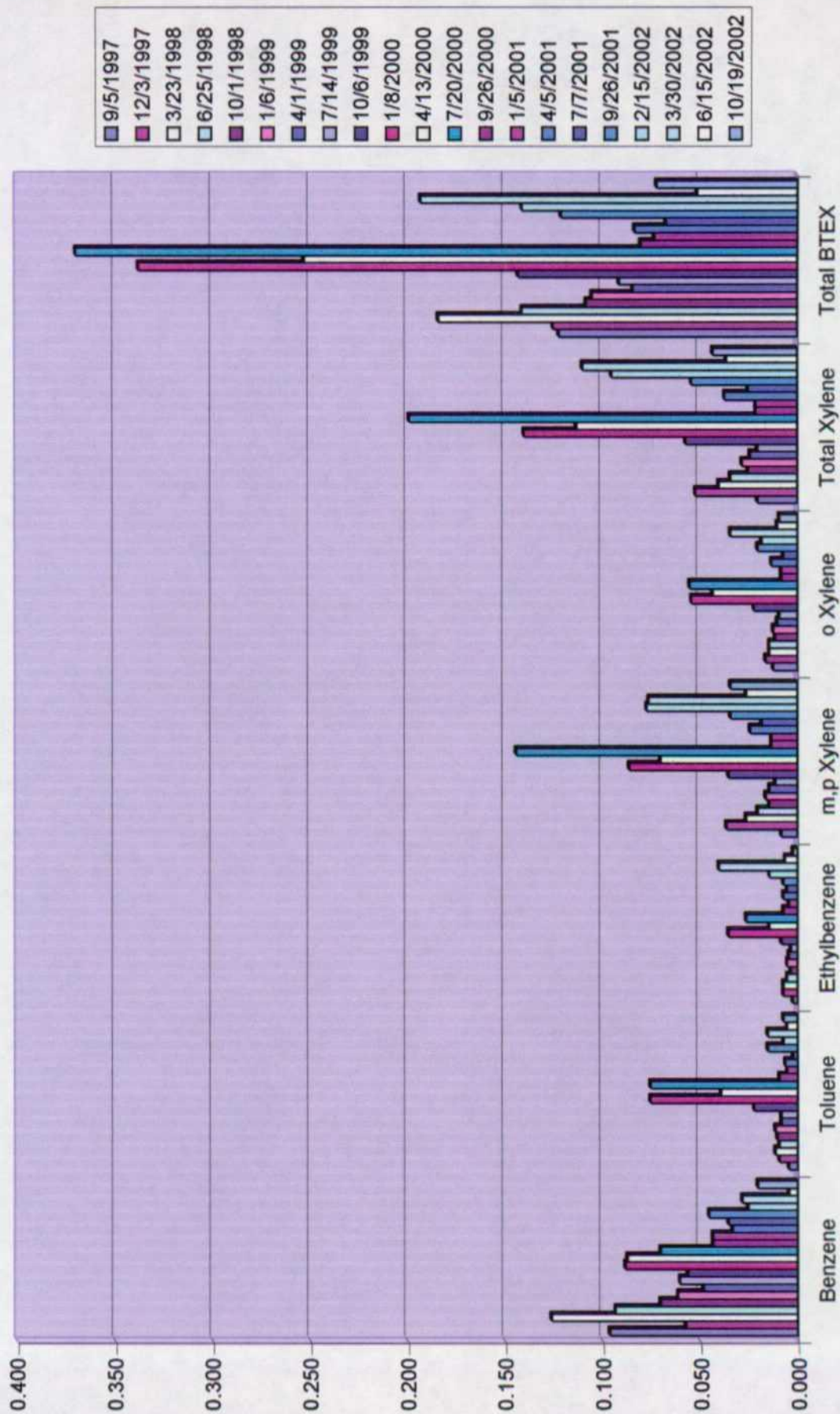
LEASE ROAD

EXHIBIT 5

Monitor Well # 11
Sohio State "A"
Sampling Results

Lab. #	12484	13132	14067	14869	15598	16605	17441	18596	20602	22763	26161	28432	31613	38142	38936	0101098-20	0101642-20	0101642-20	0101642-20	0203001-20	0203002-21	0204815-24
Sample Date	8/5/1997	12/3/1997	3/23/1998	8/25/1998	10/1/1998	1/8/1999	4/1/1999	7/14/1999	10/8/1999	1/8/2000	4/13/2000	7/20/2000	9/26/2000	1/5/2001	4/5/2001	7/7/2001	9/28/2001	2/15/2002	3/30/2002	6/15/2002	10/19/2002	
Benzene	0.096	0.067	0.128	0.083	0.070	0.061	0.048	0.060	0.056	0.088	0.087	0.070	0.043	0.043	0.033	0.035	0.045	0.025	0.028	0.004	0.020	
Toluene	0.004	0.009	0.011	0.009	0.010	0.011	0.008	0.008	0.022	0.075	0.039	0.075	0.009	0.005	0.006	0.002	0.015	0.007	0.015	0.005	0.007	
Ethylbenzene	0.002	0.007	0.007	0.005	0.003	0.005	0.004	0.003	0.008	0.035	0.014	0.028	0.007	0.004	0.007	0.005	0.007	0.014	0.006	0.002	0.002	
m,p Xylene	0.008	0.036	0.026	0.020	0.014	0.016	0.014	0.011	0.035	0.086	0.070	0.144	0.013	0.013	0.024	0.018	0.034	0.077	0.076	0.028	0.034	
o Xylene	0.012	0.016	0.014	0.014	0.011	0.012	0.010	0.008	0.022	0.064	0.043	0.065	0.008	0.008	0.013	0.007	0.020	0.018	0.034	0.010	0.008	
Total Xylene	0.020	0.052	0.040	0.034	0.025	0.028	0.024	0.020	0.067	0.140	0.113	0.199	0.021	0.021	0.037	0.025	0.064	0.095	0.110	0.036	0.043	
Total BTEX	0.122	0.125	0.184	0.141	0.108	0.105	0.084	0.091	0.143	0.338	0.253	0.370	0.080	0.073	0.083	0.067	0.121	0.141	0.193	0.051	0.072	

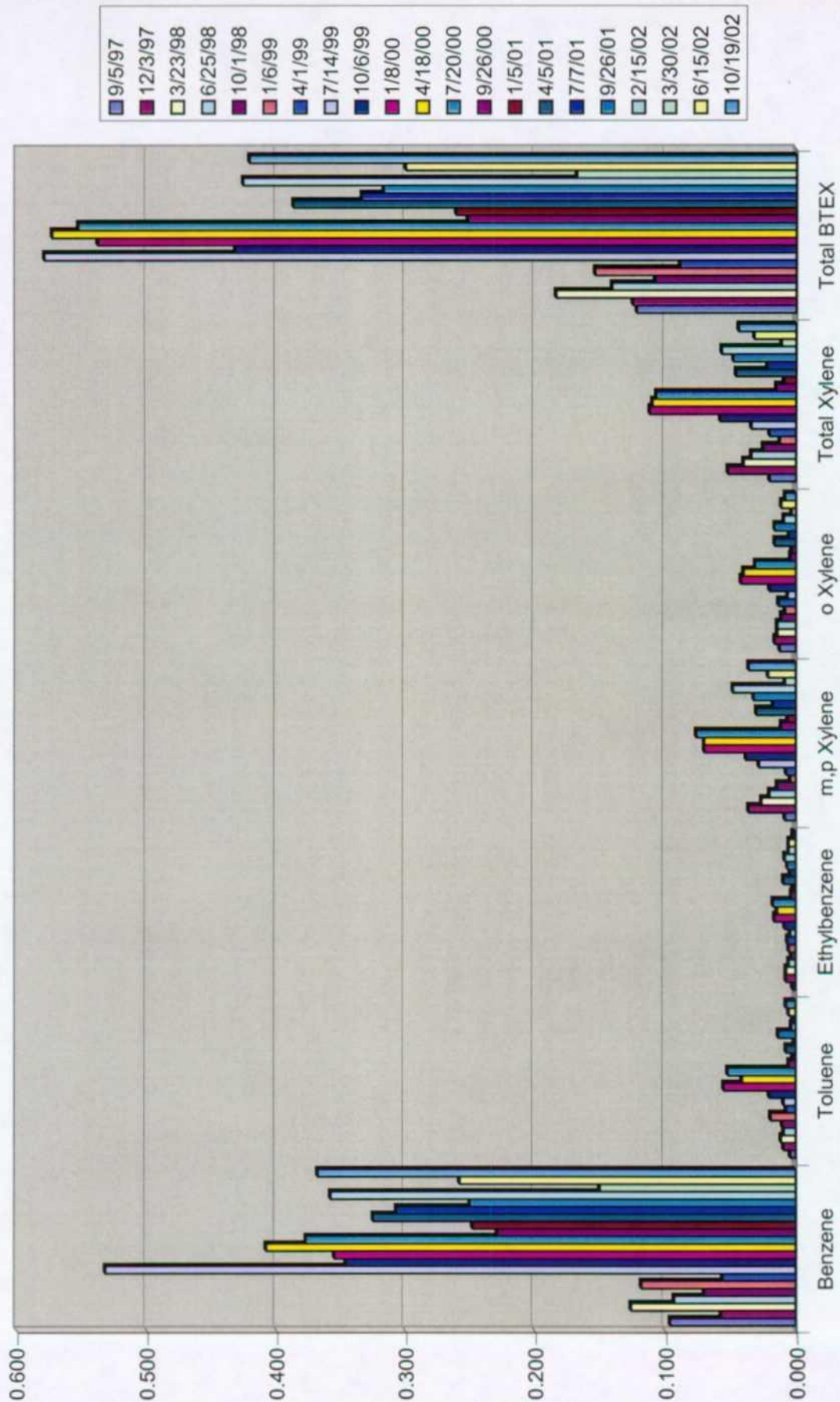
MW # 11



Monitor Well # 19
Sohio State "A"
Sampling Results

Lab. #	12484	13132	14087	14886	15598	16603	17441	18598	20602	22763	25151	28422	31513	36142	38937	0101098-21	0101642-21	0202619-21	0203001-21	0203602-22	0204815-25
Sample Date	9/5/97	12/3/97	3/23/98	6/25/98	10/1/98	16/99	4/1/99	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	0.096	0.057	0.126	0.093	0.070	0.118	0.056	0.532	0.346	0.355	0.408	0.377	0.229	0.248	0.325	0.307	0.250	0.368	0.150	0.258	0.368
Toluene	0.004	0.009	0.011	0.009	0.010	0.019	0.007	0.009	0.020	0.055	0.041	0.052	0.005	0.002	0.007	0.001	0.013	0.003	0.002	0.005	0.007
Ethylbenzene	0.002	0.007	0.007	0.005	0.003	0.005	0.006	0.004	0.008	0.016	0.014	0.017	0.003	0.002	0.009	0.004	0.006	0.008	0.005	0.005	0.002
m,p Xylene	0.008	0.036	0.026	0.020	0.014	0.004	0.007	0.028	0.038	0.070	0.070	0.076	0.011	0.008	0.030	0.017	0.032	0.048	0.008	0.021	0.036
o Xylene	0.012	0.016	0.014	0.014	0.011	0.008	0.013	0.008	0.020	0.042	0.040	0.031	0.004	0.003	0.016	0.005	0.016	0.009	0.003	0.011	0.008
Total Xylene	0.020	0.052	0.040	0.034	0.025	0.012	0.020	0.034	0.058	0.112	0.110	0.107	0.015	0.009	0.046	0.022	0.048	0.057	0.011	0.032	0.044
Total BTEX	0.122	0.125	0.184	0.141	0.108	0.154	0.089	0.578	0.432	0.538	0.573	0.553	0.252	0.261	0.387	0.334	0.317	0.426	0.168	0.300	0.421

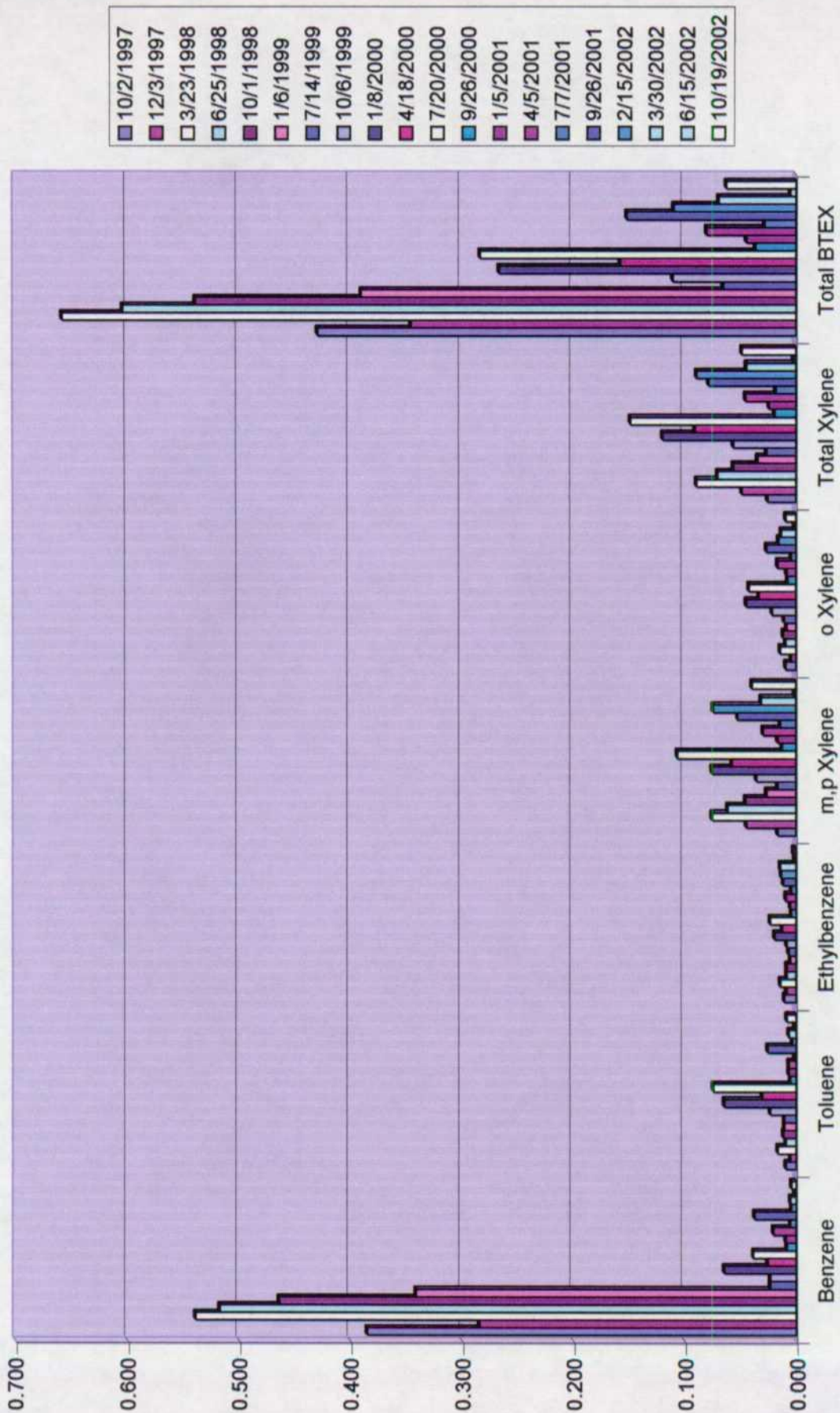
MW-19



Monitor Well # 20
Sohio State "A"
Sampling Results

Lab. #	12726	13150	14054	14674	15610	16530	18608	20620	22765	25160	26445	31515	35148	38538	0101038-22	0101842-22	0202619-22	0203001-22	0203603-23	0204815-23
Sample Date	10/21/1997	12/31/1997	3/23/1998	6/25/1998	10/11/1998	1/6/1999	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	0.385	0.284	0.539	0.517	0.464	0.341	0.023	0.023	0.064	0.025	0.038	0.008	0.009	0.020	0.005	0.037	0.004	0.005	0.001	0.004
Toluene	0.009	0.005	0.016	0.009	0.011	0.010	0.010	0.023	0.064	0.030	0.074	0.005	0.006	0.006	0.001	0.025	0.003	0.006	0.001	0.008
Ethylbenzene	0.010	0.008	0.014	0.008	0.008	0.005	0.006	0.008	0.019	0.012	0.023	0.004	0.005	0.005	0.004	0.011	0.013	0.014	0.001	0.002
m,p Xylene	0.016	0.044	0.075	0.061	0.045	0.026	0.016	0.035	0.075	0.057	0.106	0.012	0.016	0.029	0.014	0.052	0.074	0.031	0.001	0.039
o Xylene	0.009	0.004	0.014	0.009	0.011	0.008	0.010	0.021	0.044	0.033	0.042	0.007	0.008	0.016	0.004	0.026	0.015	0.013	0.001	0.009
Total Xylene	0.025	0.048	0.089	0.070	0.066	0.034	0.026	0.066	0.119	0.090	0.148	0.019	0.024	0.045	0.018	0.078	0.089	0.044	0.002	0.048
Total BTEX	0.429	0.345	0.656	0.604	0.539	0.390	0.065	0.110	0.266	0.157	0.283	0.036	0.044	0.080	0.028	0.151	0.109	0.069	0.005	0.062

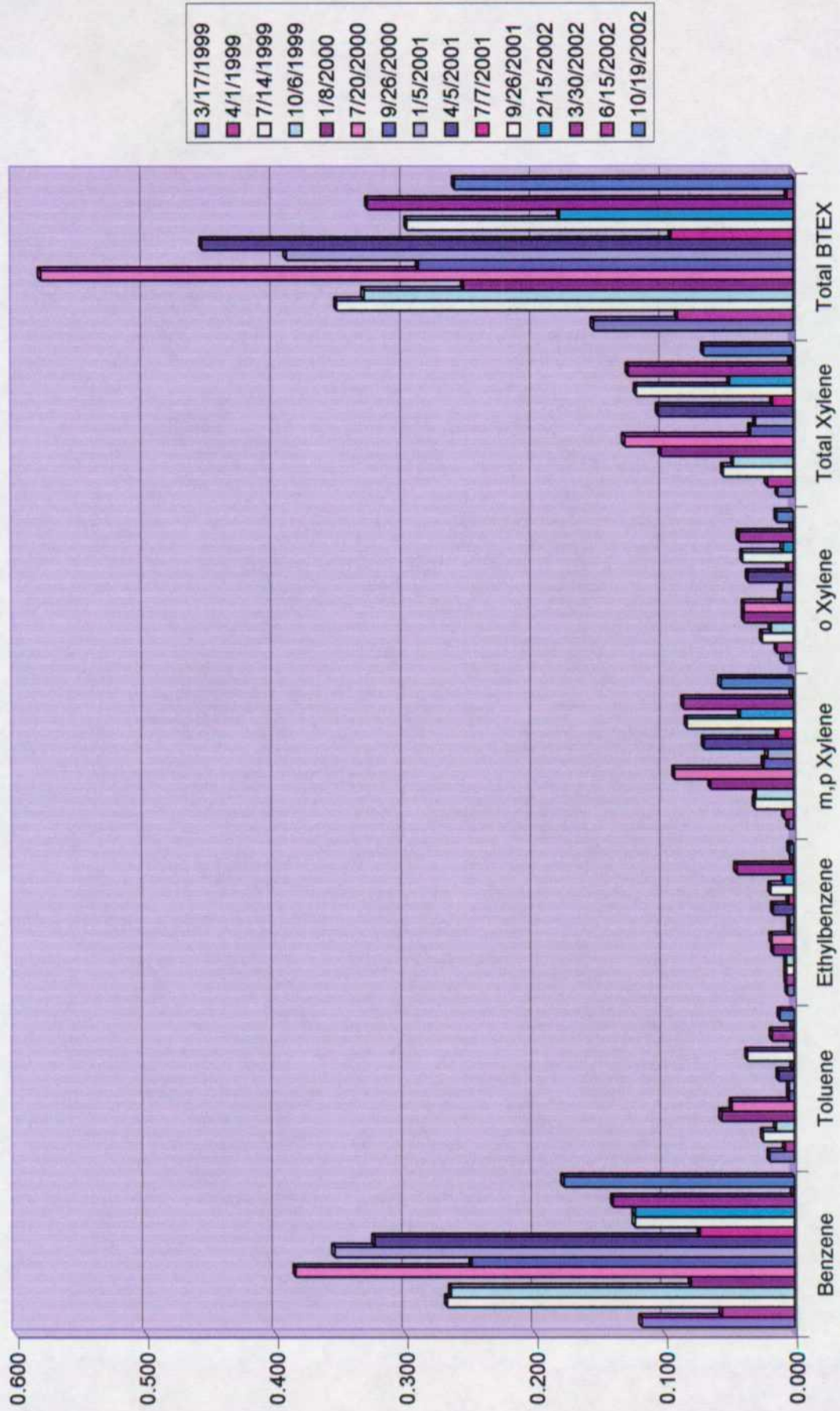
MW # 20



Monitor Well # 27
Sohio State "A"
Sampling Results

Lab. #	17267	17444	18610	20621	22780	28466	31516	36163	38939	0101098-23	0101642-23	0202619-23	0203001-23	0203602-24	0204815-27
Sample Date	3/17/1999	4/1/1999	7/14/1999	10/6/1999	1/8/2000	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	0.056	0.268	0.265	0.080	0.385	0.249	0.355	0.324	0.073	0.123	0.123	0.140	0.001	0.178
Toluene	0.019	0.007	0.024	0.014	0.056	0.048	0.004	0.004	0.012	0.001	0.036	0.001	0.017	0.001	0.011
Ethylbenzene	0.005	0.006	0.006	0.006	0.016	0.017	0.003	0.003	0.016	0.004	0.018	0.007	0.044	0.001	0.003
m,p Xylene	0.004	0.007	0.030	0.029	0.064	0.092	0.023	0.020	0.069	0.012	0.082	0.041	0.085	0.001	0.056
o Xylene	0.008	0.013	0.024	0.017	0.038	0.038	0.010	0.009	0.035	0.004	0.039	0.008	0.042	0.001	0.013
Total Xylene	0.012	0.020	0.054	0.046	0.102	0.130	0.033	0.029	0.104	0.016	0.121	0.049	0.127	0.002	0.069
Total BTEX	0.154	0.089	0.352	0.331	0.254	0.580	0.289	0.391	0.456	0.094	0.298	0.180	0.328	0.005	0.261

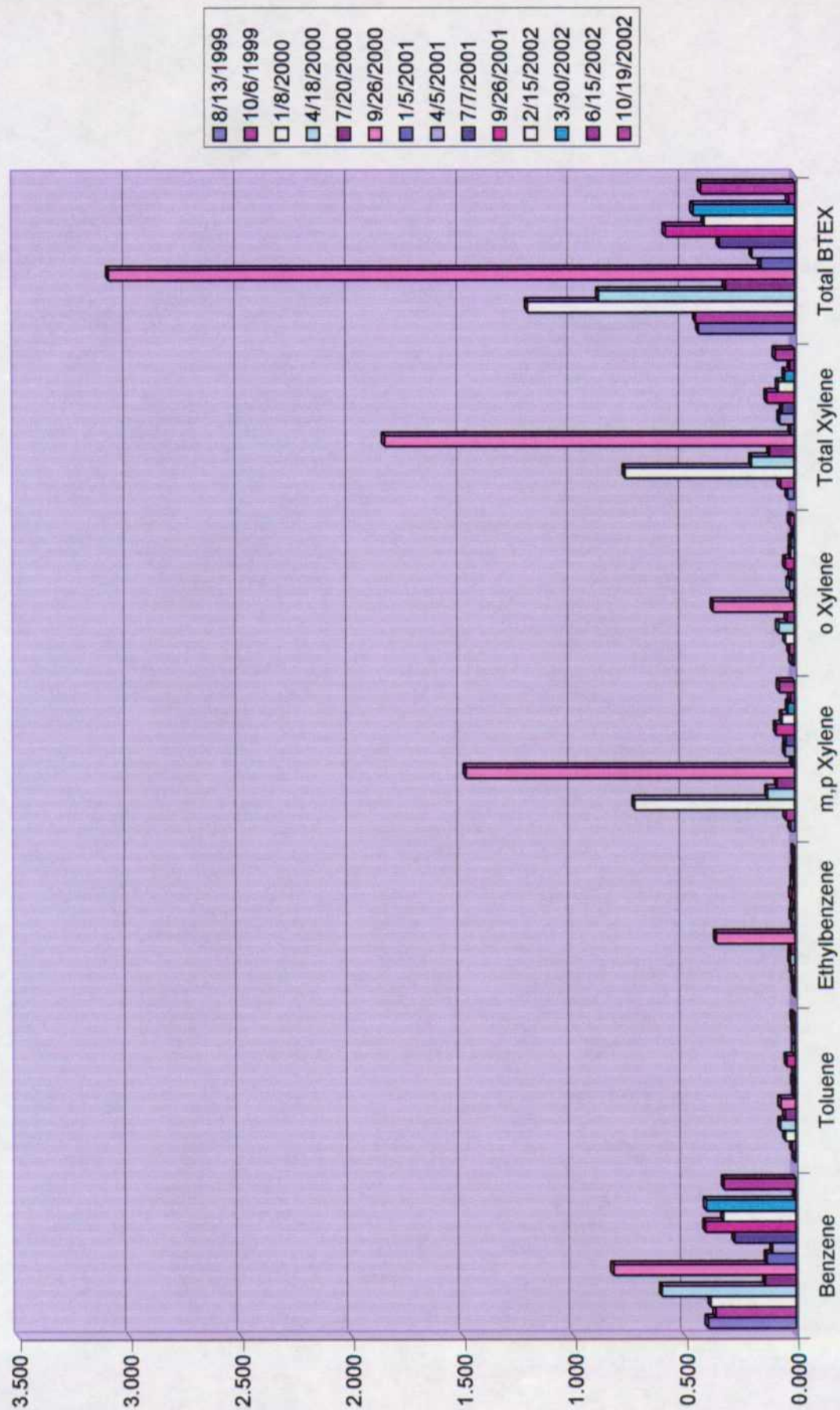
MW # 27



Monitor Well # 31
Sohio State "A"
Sampling Results

Lab. #	19166	20622	22787	25153	28460	31517	36162	38940	0101098-24	0101642-24	0202619-24	0203001-24	0203602-31	0203602-31
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	0.396	0.362	0.383	0.602	0.137	0.820	0.130	0.105	0.275	0.406	0.325	0.402	0.001	0.322
Toluene	0.004	0.015	0.044	0.067	0.046	0.066	0.004	0.008	0.003	0.038	0.003	0.003	0.006	0.011
Ethylbenzene	0.001	0.006	0.013	0.020	0.017	0.354	0.003	0.013	0.007	0.014	0.007	0.009	0.001	0.004
m,p Xylene	0.017	0.039	0.720	0.121	0.078	1.480	0.010	0.042	0.039	0.083	0.056	0.029	0.019	0.068
o Xylene	0.012	0.022	0.040	0.070	0.032	0.365	0.005	0.023	0.014	0.040	0.015	0.013	0.001	0.018
Total Xylene	0.029	0.061	0.760	0.191	0.110	1.845	0.015	0.065	0.053	0.123	0.071	0.042	0.020	0.086
Total BTEX	0.430	0.444	1.200	0.880	0.310	3.085	0.152	0.191	0.338	0.581	0.406	0.456	0.028	0.423

MW # 31



Sohio "A"
MW-39

Lab. #	0203719-02
Sample Date	6/21/02
Benzene	0.118
Toluene	0.002
Ethylbenzene	0.006
m,p Xylene	0.009
o Xylene	0.006
Total Xylene	0.015
Total BTEX	0.141

Atkins Engineering
Associates, Inc.

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

LOG OF BORING SOHIO A MW 39

(Page 1 of 1)

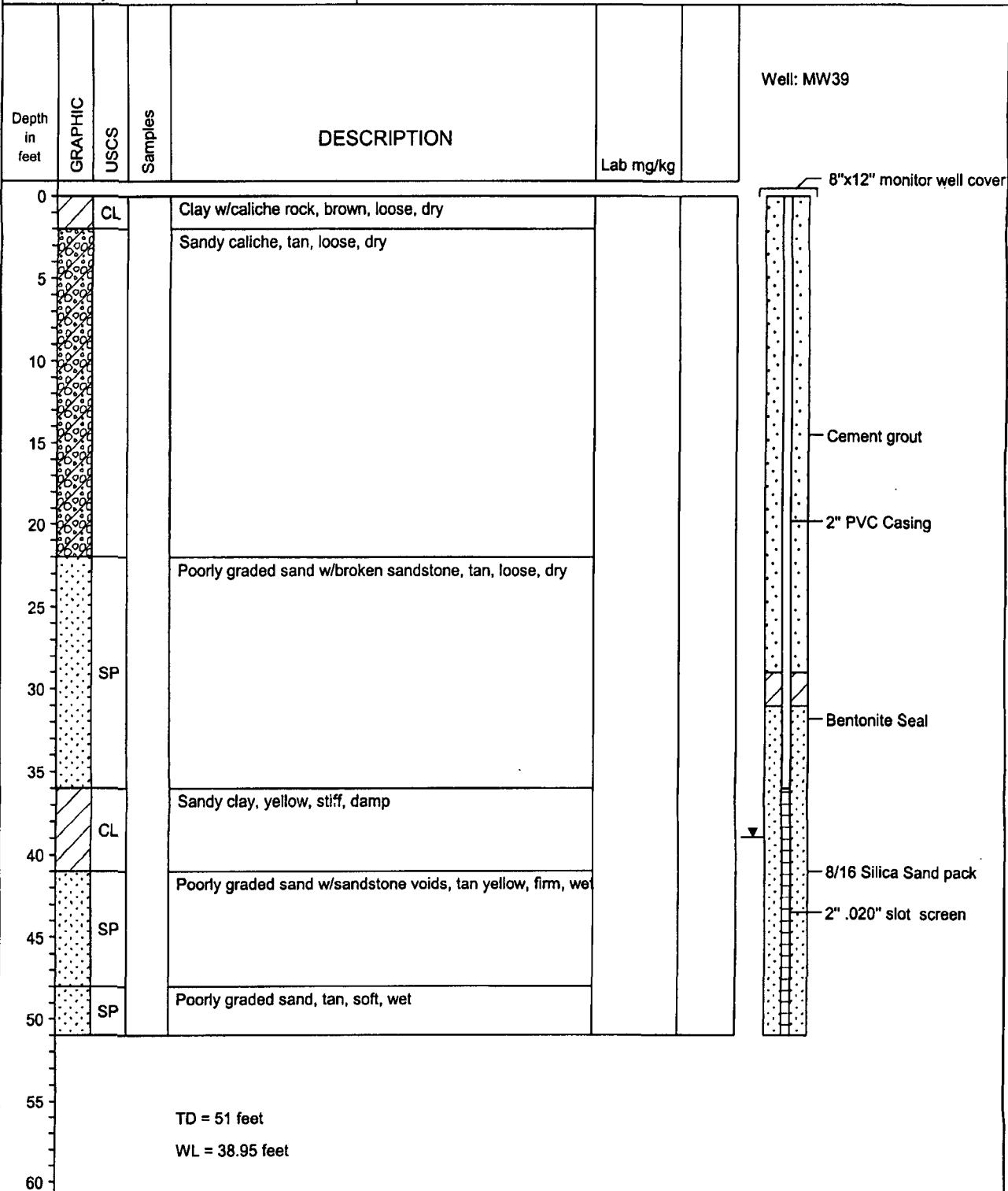
Whole Earth Environmental
19606 San Gabriel
Houston, Texas 77084

Contact Mike Griffin

Project # CALLIER.MWD.02

Date : 6/05/02
Drill Start : 1500
Drill End : 2030
Boring Location : SE of Pump site

Site Location : Caprock, NM
Auger Type : Hollow Stem
Logged By : Mort Bates





Exhibits

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

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	Sohlo #1 MW 17	2.47	0.007	0.381	1.76	0.013	02/16/02
0202619-17	Sohlo #1 MW 18	1.87	1.35	0.453	2.49	1.47	02/16/02
0202619-18	Sohlo #1 MW 28	0.091	0.144	0.089	0.438	0.259	02/16/02
0202619-19	Sohlo #1 MW 30	0.046	0.095	0.064	0.328	0.169	02/16/02
0202619-20	Sohlo "A" MW 11	0.025	0.007	0.014	0.077	0.018	02/16/02
0202619-21	Sohlo "A" MW 19	0.358	0.003	0.008	0.048	0.009	02/17/02
0202619-22	Sohlo "A" MW 20	0.004	0.003	0.013	0.074	0.015	02/17/02
0202619-23	Sohlo "A" MW 27	0.123	0.001	0.007	0.041	0.008	02/17/02
0202619-24	Sohlo "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

Raland K. Tuttle
Celey D. Keene
Raland 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: 0203001-19
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	RL
	µg/L	
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	RL
	µg/L	
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

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: 0203001-21
Sample ID: Sohio "A" MW-19

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 21:40	1	1	CK	8021B

Parameter	Result μg/L	RL
Benzene	150	1.00
Ethylbenzene	1.73	1.00
Toluene	5.34	1.00
p/m-Xylene	8.04	1.00
o-Xylene	3.45	1.00

Lab ID: 0203001-22
Sample ID: Sohio "A" MW-20

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 22:02	1	1	CK	8021B

Parameter	Result μg/L	RL
Benzene	4.95	1.00
Ethylbenzene	6.33	1.00
Toluene	14.4	1.00
p/m-Xylene	30.5	1.00
o-Xylene	12.6	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: 0203001-23
Sample ID: **Sohio** "A" MW-27

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 22:46	1	1	CK	8021B

Parameter	Result µg/L	RL
Benzene	140	1.00
Ethylbenzene	17.1	1.00
Toluene	44.1	1.00
p/m-Xylene	85.3	1.00
o-Xylene	41.7	1.00

Lab ID: 0203001-24
Sample ID: **Sohio** "A" MW-31

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 23:08	1	1	CK	8021B

Parameter	Result µg/L	RL
Benzene	402	1.00
Ethylbenzene	3.00	1.00
Toluene	8.82	1.00
p/m-Xylene	29.2	1.00
o-Xylene	12.6	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>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

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>
0203602-23	Sohio "A" MW 20	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					
0203602-24	Sohio "A" MW 27	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					
0203602-25	Sohio "A" MW 31	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					
0203602-26	GS Source Well	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					
0203602-27	GS MW 12	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					
0203602-28	GS MW 21	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					
0203602-29	GS MW 22	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					
0203602-30	GS MW 29	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: 0203602-21
Sample ID: Sohio "A" MW 11

8021B/5030 BTEX

<u>Method</u>	<u>Date</u>	<u>Date</u>	<u>Sample</u>	<u>Dilution</u>	<u>Analyst</u>	<u>Method</u>
<u>Blank</u>	<u>Prepared</u>	<u>Analyzed</u>	<u>Amount</u>	<u>Factor</u>		
0002051-02		6/16/02 21:02	1	1	CK	8021B

Parameter	Result mg/L	RL
Benzene	0.004	0.001
Ethylbenzene	0.005	0.001
Toluene	0.006	0.001
p/m-Xylene	0.026	0.001
o-Xylene	0.010	0.001

Lab ID: 0203602-22
Sample ID: Sohio A" MW 19

8021B/5030 BTEX

<u>Method</u>	<u>Date</u>	<u>Date</u>	<u>Sample</u>	<u>Dilution</u>	<u>Analyst</u>	<u>Method</u>
<u>Blank</u>	<u>Prepared</u>	<u>Analyzed</u>	<u>Amount</u>	<u>Factor</u>		
0002051-02		6/16/02 21:24	1	1	CK	8021B

Parameter	Result mg/L	RL
Benzene	0.258	0.001
Ethylbenzene	0.005	0.001
Toluene	0.005	0.001
p/m-Xylene	0.021	0.001
o-Xylene	0.011	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: 0203602-23
Sample ID: Sohio "A" MW 20

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
0002051-02		6/16/02 21:46	1	1	CK	8021B

Parameter	Result mg/L	RL
Benzene	0.002	0.001
Ethylbenzene	0.005	0.001
Toluene	0.006	0.001
p/m-Xylene	0.031	0.001
o-Xylene	0.012	0.001

Lab ID: 0203602-24
Sample ID: Sohio "A" MW 27

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
0002051-02		6/16/02 22:08	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

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: 0203602-25
Sample ID: Sohio "A" MW 31

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>		
0002051-02		6/16/02 22:30	1	1	CK	8021B

Parameter	Result mg/L	RL
Benzene	<0.001	0.001
Ethylbenzene	0.006	0.001
Toluene	<0.001	0.001
p/m-Xylene	0.019	0.001
o-Xylene	0.001	0.001

Lab ID: 0203602-26
Sample ID: GS Source Well

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>		
0002051-02		6/16/02 22:52	1	5	CK	8021B

Parameter	Result mg/L	RL
Benzene	0.262	0.005
Ethylbenzene	0.082	0.005
Toluene	0.116	0.005
p/m-Xylene	0.576	0.005
o-Xylene	0.253	0.005

ANALYTICAL REPORT

Prepared for:

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

Project: Tipperary Bagley Field

Order#: G0203719

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#: G0203719
Project:
Project Name: Tipperary Bagley Field
Location: Tatum, NM

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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>
0203719-01	GS MW 38	WATER	6/18/02 14:30	6/20/02 10:10	See COC	See COC
<u>Lab Testing:</u>		Rejected: No	Temp: 9 C			
8021B/5030 BTEX						
Anions						
Cations						
Total Dissolved Solids (TDS)						
0203719-02	Sohio "A" MW 39	WATER	6/18/02 20:00	6/20/02 10:10	See COC	See COC
<u>Lab Testing:</u>		Rejected: No	Temp: 9 C			
8021B/5030 BTEX						
Anions						
Cations						
Total Dissolved Solids (TDS)						

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

MIKE GRIFFIN
WHOLE EARTH
19606 SAN GABRIEL
HOUSTON, TX 77084

Order#: G0203719
Project:
Project Name: Tipperary Bagley Field
Location: Tatum, NM

Lab ID: 0203719-01
Sample ID: GS MW 38

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>		
0002165-02		6/23/02 19:59	1	1	CK	8021B

Parameter	Result mg/L	RL
Benzene	0.002	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: 0203719-02
Sample ID: Sohio "A" MW 39

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>		
0002165-02		6/23/02 20:21	1	1	CK	8021B

Parameter	Result mg/L	RL
Benzene	0.118	0.001
Ethylbenzene	0.002	0.001
Toluene	0.006	0.001
p/m-Xylene	0.009	0.001
o-Xylene	0.006	0.001

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.

Date

Raland K Tuttle 7-01-02

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

MIKE GRIFFIN
WHOLE EARTH
19606 SAN GABRIEL
HOUSTON, TX 77084

Order#: G0203719
Project:
Project Name: Tipperary Bagley Field
Location: Tatum, NM

Lab ID: 0203719-01
Sample ID: GS MW 38

Anions

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Bicarbonate Alkalinity	190	mg/L	1	2.00	310.1	6/20/02	SB
Carbonate Alkalinity	<0.10	mg/L	1	0.10	310.1	6/20/02	SB
Chloride	523	mg/L	1	5.00	9253	6/20/02	SB
Hydroxide Alkalinity	<0.10	mg/L	1	<0.10	310.1	6/20/02	SB
SULFATE, 375.4	110	mg/L	5	2.5	375.4	6/25/02	CC

Cations

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Calcium	266	mg/L	10	0.10	7140	6/26/02	CK
Magnesium	39.8	mg/L	20	0.020	7460	6/26/02	CK
Potassium	10.9	mg/L	1	0.050	7610	6/26/02	CK
Sodium	99.0	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)	1400	mg/L	1	5.0	160.1	6/20/02	SB

Lab ID: 0203719-02
Sample ID: Sohio "A" MW 39

Anions

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Bicarbonate Alkalinity	152	mg/L	1	2.00	310.1	6/20/02	SB
Carbonate Alkalinity	<0.10	mg/L	1	0.10	310.1	6/20/02	SB
Chloride	6560	mg/L	1	5.00	9253	6/20/02	SB
Hydroxide Alkalinity	<0.10	mg/L	1	<0.10	310.1	6/20/02	SB
SULFATE, 375.4	167	mg/L	5	2.5	375.4	6/25/02	CC

Cations

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Calcium	2460	mg/L	100	1.0	7140	6/26/02	CK
Magnesium	244	mg/L	100	0.10	7460	6/26/02	CK
Potassium	19.9	mg/L	10	0.50	7610	6/26/02	CK
Sodium	1650	mg/L	100	1.0	7770	7/1/02	MB

Test Parameters

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Total Dissolved Solids (TDS)	10700	mg/L	1	5.0	160.1	6/20/02	SB

RL = Reporting Limit N/A = Not Applicable

Page 1 of 2

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

MIKE GRIFFIN
WHOLE EARTH
19606 SAN GABRIEL
HOUSTON, TX 77084

Order#: G0203719
Project:
Project Name: Tipperary Bagley Field
Location: Tatum, NM

Approval:

Raland K Tuttle 7-01-02

Raland K. Tuttle, Lab Director, QA Officer

Date

Celey D. Keene, Org. Tech. Director

Jeanne McMurrey, Inorg. Tech. Director

Sandra Biezugbe, Lab Tech.

Sara Molina, Lab Tech.

ENVIRONMENTAL LAB OF TEXAS

QUALITY CONTROL REPORT

8021B/5030 BTEX

Order#: G0203719

BLANK						
	WATER	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery
						RPD
Benzene-mg/L		0002165-02			<0.001	
Ethylbenzene-mg/L		0002165-02			<0.001	
Toluene-mg/L		0002165-02			<0.001	
p/m-Xylene-mg/L		0002165-02			<0.001	
o-Xylene-mg/L		0002165-02			<0.001	
MS						
	WATER	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery
						RPD
Benzene-mg/L		0203725-01	0.022	0.1	0.135	113.%
Ethylbenzene-mg/L		0203725-01	0.003	0.1	0.112	109.%
Toluene-mg/L		0203725-01	0	0.1	0.109	109.%
p/m-Xylene-mg/L		0203725-01	0.003	0.2	0.223	110.%
o-Xylene-mg/L		0203725-01	0	0.1	0.110	110.%
MSD						
	WATER	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery
						RPD
Benzene-mg/L		0203725-01	0.022	0.1	0.134	112.%
Ethylbenzene-mg/L		0203725-01	0.003	0.1	0.115	112.%
Toluene-mg/L		0203725-01	0	0.1	0.111	111.%
p/m-Xylene-mg/L		0203725-01	0.003	0.2	0.227	112.%
o-Xylene-mg/L		0203725-01	0	0.1	0.113	113.%
SRM						
	WATER	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery
						RPD
Benzene-mg/L		0002165-05		0.1	0.109	109.%
Ethylbenzene-mg/L		0002165-05		0.1	0.107	107.%
Toluene-mg/L		0002165-05		0.1	0.108	108.%
p/m-Xylene-mg/L		0002165-05		0.2	0.216	108.%
o-Xylene-mg/L		0002165-05		0.1	0.106	106.%

ENVIRONMENTAL LAB OF TEXAS

QUALITY CONTROL REPORT

Cations

Order#: G0203719

BLANK						
	WATER	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery RPD
Calcium-mg/L		0002262-02			<0.010	
Magnesium-mg/L		0002262-02			<0.001	
Potassium-mg/L		0002262-02			<0.050	
Sodium-mg/L		0002262-02			<0.010	
CONTROL						
	WATER	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery RPD
Calcium-mg/L		0002262-03		10	9.7	97.%
Magnesium-mg/L		0002262-03		5	4.9	98.%
Potassium-mg/L		0002262-03		10	9.2	92.%
Sodium-mg/L		0002262-03		5	5.0	100.%
DUPLICATE						
	WATER	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery RPD
Calcium-mg/L		0203734-11	136		140	2.9%
Magnesium-mg/L		0203734-11	146		140	4.2%
Potassium-mg/L		0203734-11	43.1		43	0.2%
Sodium-mg/L		0203734-11	1310		1300	0.8%
SRM						
	WATER	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery RPD
Calcium-mg/L		0002262-05		10	9.7	97.%
Magnesium-mg/L		0002262-05		5	4.9	98.%
Potassium-mg/L		0002262-05		10	9.9	99.%
Sodium-mg/L		0002262-05		5	5.3	106.%

ENVIRONMENTAL LAB OF TEXAS

QUALITY CONTROL REPORT

Anions

Order#: G0203719

BLANK	WATER	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Bicarbonate Alkalinity-mg/L		0002110-01			<2.00		
Carbonate Alkalinity-mg/L		0002111-01			<0.10		
Chloride-mg/L		0002105-01			<5.00		
Hydroxide Alkalinity-mg/L		0002112-01			<0.10		
SULFATE, 375.4-mg/L		0002176-01			<0.5		
DUPLICATE	WATER	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
SULFATE, 375.4-mg/L		0203579-01	135		137		1.5%
MS	WATER	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Chloride-mg/L		0203657-01	337	500	833	99.2%	
MSD	WATER	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Chloride-mg/L		0203657-01	337	500	842	101.1%	1.1%
SRM	WATER	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Bicarbonate Alkalinity-mg/L		0002110-04		0.05	0.0496	99.2%	
Chloride-mg/L		0002105-04		5000	5050	101.1%	
Hydroxide Alkalinity-mg/L		0002112-04		0.05	0.0496	99.2%	
SULFATE, 375.4-mg/L		0002176-04		50	46.5	93.0%	

ENVIRONMENTAL LAB OF TEXAS

QUALITY CONTROL REPORT

Test Parameters

Order#: G0203719

BLANK	WATER	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Total Dissolved Solids (TDS)-mg/L		0002115-01			<5.00		
DUPLICATE	WATER	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Total Dissolved Solids (TDS)-mg/L		0203691-01	27100		27400		1.1%

12600 West I-20 East
Odessa, Texas 79763
Phone: 915-563-1800
Fax: 915-563-1713

Project Manager:

Project Name: Tipperary Bagley Field

Company Name Whole Earth Environmental, Inc.

Project #:

Company Address: 19606 San Gabriel

Project Loc: Tatum, NM

City/State/Zip: Houston, Tx. 77084

PO#

Telephone No: (800) 854-4358

Fax No: (281) 646-8996

Sampler Signature:

E-mail results

[illegible]

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>Collected</u>	<u>Date / Time</u> <u>Received</u>	<u>Container</u>	<u>Preservative</u>
0204815-01	Iva Source Well	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		
0204815-02	Iva MW 1	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		
0204815-03	Iva MW 2	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		
0204815-04	Mable Source Well	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		
0204815-05	Mable MW 3	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		
0204815-06	Mable MW 4	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		
0204815-08	Bell MW 6	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		
0204815-09	Bell MW 13	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

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>Collected</u>	<u>Date / Time</u> <u>Received</u>	<u>Container</u>	<u>Preservative</u>
0204815-10	Bell MW 14	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		
0204815-11	Bell MW 25	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		
0204815-12	Bell MW 36	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		
0204815-13	NBF MW 8	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		
0204815-14	NBF MW 15	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		
0204815-15	NBF MW 16	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		
0204815-16	NBF MW 26	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		
0204815-17	NBF MW 37	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

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>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

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>		
0204815-26	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					
0204815-27	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					
0204815-28	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					
0204815-29	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					
0204815-30	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

Page 4 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: 0204815-10
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

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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: 0204815-12
Sample ID: Bell MW 36

8021B/5030 BTEX

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
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

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
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

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: 0204815-14
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

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: 0204815-16
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 <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 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 <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 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 Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
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 Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
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>	Analyst	Method
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>	Analyst	Method
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 Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
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 Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
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 <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 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 <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 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.

Date

10-31-02

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

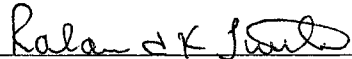
The following samples were received as indicated below and on the attached Chain of Custody record. All analyses were performed within the holding time and with acceptable quality control results unless otherwise noted.

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	WATER	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
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	WATER	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
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%	
p/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	WATER	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
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	WATER	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
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.%	

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

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

Project Name: Quarterly Sampling

Project #:

Project Loc: Tatum, New Mexico

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Fax No: (281) 646-8998

FIELD CODE	Date Sampled	Time Sampled	No. of Containers	Preservative								Matrix				Analyze For:										Standard TAT	RUSH TAT (Pre-Schedule)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
				Ice	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 1005/1008	TPH 8015M GRO/DRO	Metals: As Ba Cd Cr Pb Hg Se	Volatiles	SemiVolatiles	BTEX 80218/5030	Chlorides	Cations/Anions, TDS	TCCLP:			TOTAL:																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
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Special instructions:

Relinquished by:

Date	Time	R
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Received by:

Relinquished by:

Date _____

Time

Time

Date _____

Time

* Missing Sample Iva MW-35

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager:

Company Name Whole Earth Environmental, Inc.

Company Address: 19806 San Gabriel

City/State/Zip: Houston, Tx. 77084

Telephone No: (800) 854-4358

Sampler Signature:

Fax No: (281) 848-8996

Project Name: Quarterly Sampling

Project #:

Project Loc: Tatum, New Mexico

PO#

[illegible]

Special instructions:

Relinquished by:

Date	Time
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Received by:

Relinquished by:

Date	Time
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