

1R - 262

**ANNUAL
MONITORING
REPORT**

4/05/2005



Tipperary
CORPORATION

633 Seventeenth Street
Suite 1550
Denver, Colorado 80202-3622

RECEIVED

APR 06 2005

April 5, 2005

Oil Conservation Division
Environmental Bureau

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 2004
Bagley Field
Pit Closure Project
Lea County, NM**

IRP 263
264
265
269
261
262 ✓
267
268

Dear Mr. Anderson:

Please find enclosed the 2004 results from our monitor wells in the subject project area. This report summarizes the results from water samples taken on October 1, 2004. These results represent seven years of monitoring. On April 19, 2004, the NMOCB modified the monitoring program for the project to allow sampling on an annual basis. In general, we are continuing to observe decreasing levels of BTEX in the monitor wells.

The Executive Summary section contains a general discussion of the project to date and a Location Map of the pit reclamation projects.

A summary of the 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 the 2004 sampling 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 new well.

We will continue to sample and prepare a progress report for 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 2004 Annual Report

Executive Summary

Site History

In response to a request by a 1996 request by the NMOCD, Tipperary Corporation began a program to close a series of ten surface impoundments located with their Bagley Field west of Tatum, New Mexico. The closure program consisted of excavating the impoundments and encapsulating the contaminant plume within high-density polyethylene. As part of the closure program, a groundwater investigation was conducted at each site. The investigation concluded that due to the relatively shallow depth to the surface of the aquifer, each site impacted the Ogallala Aquifer to varying degrees.

The remediation plan included passive monitoring of those sites showing no free product on the water table and active fluid removal by means of the erection of windmills at three sites found to have more significant concentrations. A series of water monitoring wells were placed down gradient of each location. Each such well has been sampled and tested on a quarterly basis with the results of each laboratory analyses provided to the NMOCD on an annual basis. To date, three sites have been remediated to final closure. On April 19, 2004, the NMOCD modified the monitoring program to allow sampling on an annual basis.

Procedures

Whole Earth employs a Grundfos electric submersible pump and individual bailers dedicated to each well. The well fluids are pumped into a trailer mounted storage tank and sent to disposal at the Burro Pipeline Station No. 1.

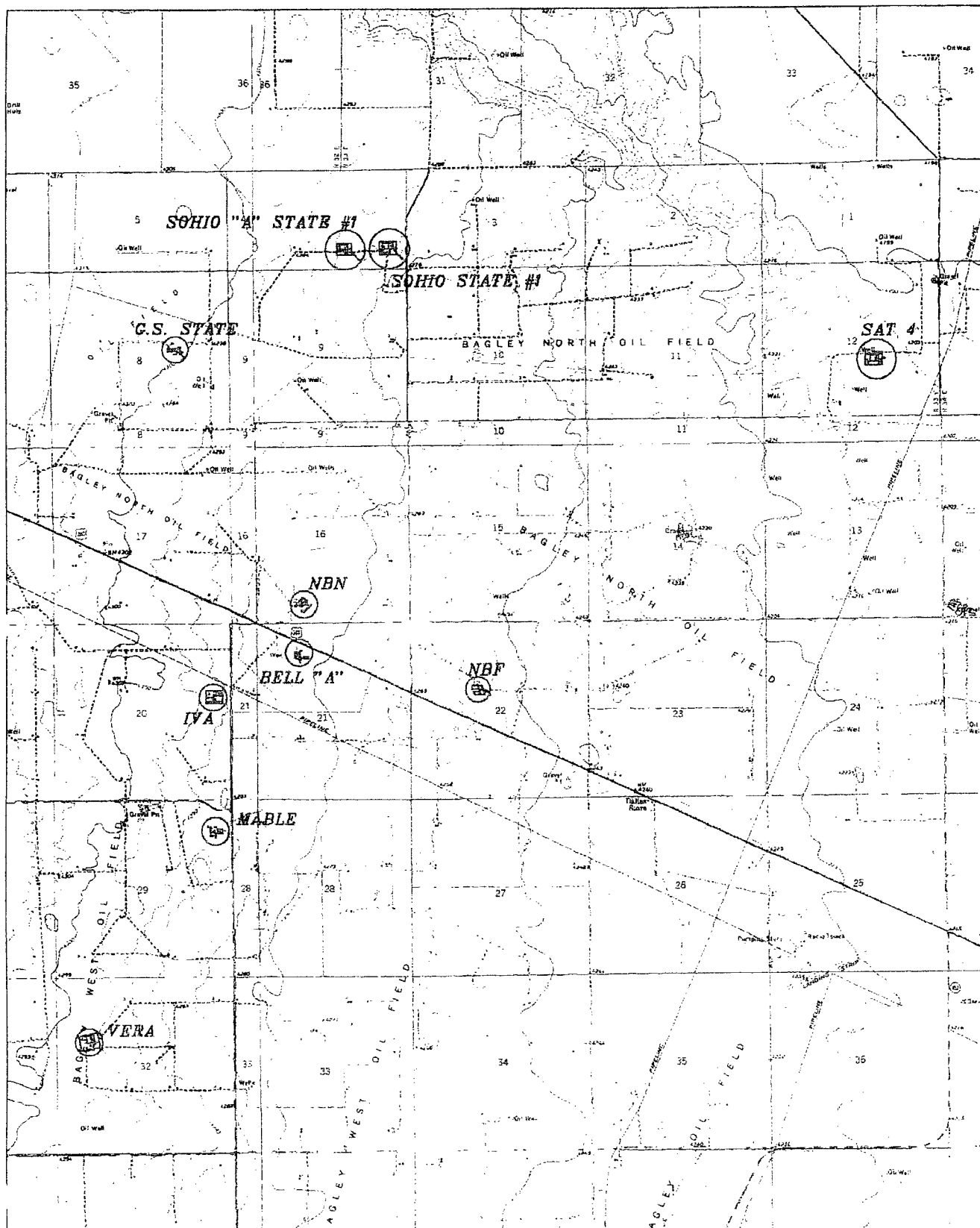
The submersible pump is thoroughly decontaminated between each well by spraying the exterior with detergent followed by a clear water rinse; the inside of the pump and hose assembly is cleaned by pumping a minimum volume of five gallons of Alquinox through the system between each well.

Results and Conclusions

Generally, the trend for each pit site is to show lower concentrations of BTEX within each recovery and monitor well bore. During this sampling round we noticed that those bores containing free products had increased volumes of hydrocarbons over all previous sampling rounds. We believe that this is due to the reduction of frequency in bailing the wells (once versus four times per year). In future bailings we will continue to pump sufficient volumes from each bore containing free product until such time as the oil is no longer visible within the discharge stream.

A map showing the project area is attached. The following sections present the investigation work results to date for each of the sites.

WHOLE EARTH ENVIRONMENTAL, 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 Oil & Gas Corporation
Bagley Field
2004 Annual Report**

**G.S. STATE #1
Section 8G-T11S-R33E**

IRP 262

The G.S. State #1 site consists of one recovery well and five monitor wells. The recovery well continues to show fluctuating BTEX concentrations over the monitoring period but continues trending downward.

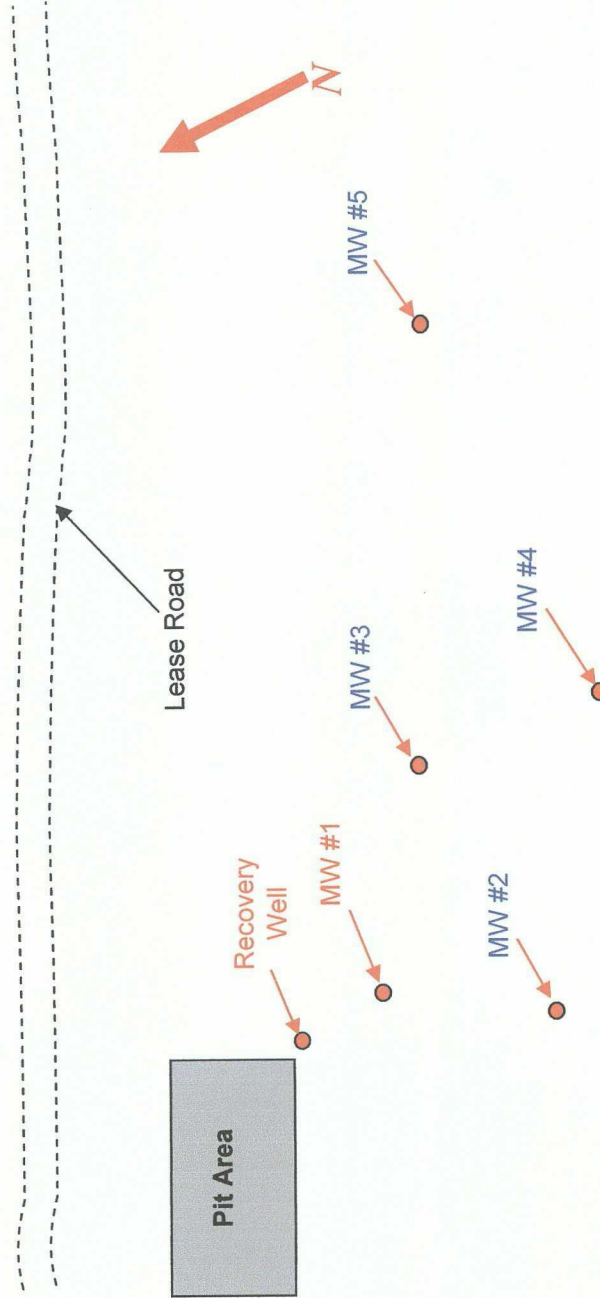
Monitor Well No. 1 is now consistently showing 3-4" of free product within the bailer along with a black sulfide. The well has silted in rather badly resulting in a short water column. The lack of fluid volume prevents us from bailing significant amounts of fluid.

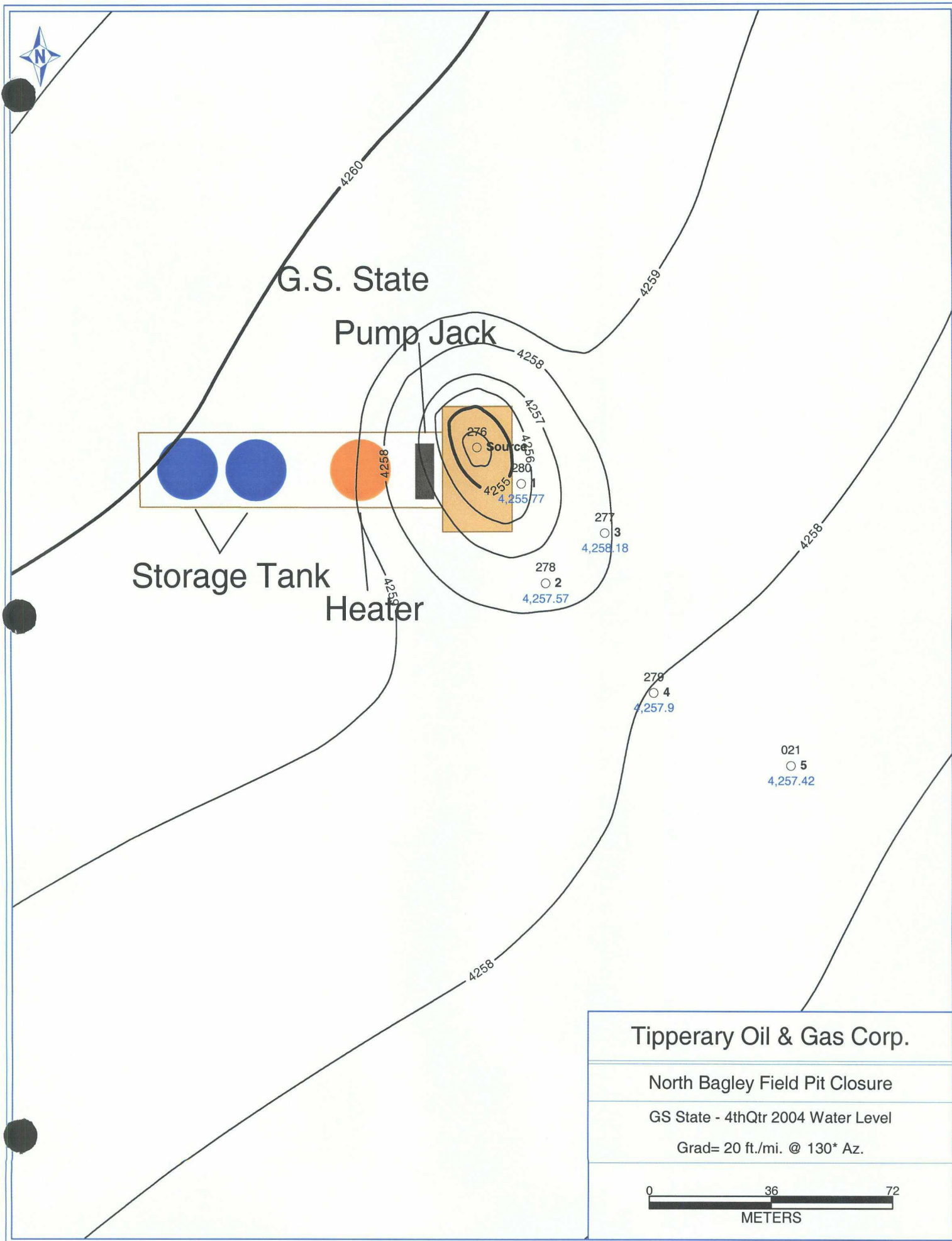
All other monitor wells show BTEX values within NMOCD standards. We will continue to monitor the results on an annual basis.

Please find the following data:

- Well-site plat with monitor well locations.
- Ground water potentiometric map for 2004 sampling 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.
- Copy of the recent laboratory sampling results with the QA/QC data.

**Tipperary Corporation
G.S. State # 1
Monitor Well Locations**





Tipperary Corporation
GS State 1 Recovery Well
Section 8G-T11S-R33E
Lea County, NM

YEAR	ESTIMATED GROUND WATER RECOVERY	ESTIMATED PRODUCT RECOVERY
	(BBLS)	(BBLS)
1997	3650	7.3
1998	7300	14.6
1999	7300	14.6
2000	7300	14.6
2001	7300	14.6
2002	7300	14.6
2003	7300	14.6
2004	7300	14.6
TOTAL	54750	109.5

All fluids pumped into the Burro Disposal System.
Production rate estimated to be 20 bwpd



GS

Monitor Well Bailing Log

GS Source

Lat: 33° 22.886'
Long. 103° 37.894'
Surf. Elev. 4307 Ft.

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

Date: 9/26/1997
Top of Water 48.76 Ft.
Bottom of Bore 64 Ft.

Date:	1/23/04	10/1/04			
Top of Water	NA	NA	NA	NA	Ft.
Bottom of Bore	NA	NA	NA	NA	Ft.
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.	NA	NA	NA	NA	Gal.
Actual Bailing Vol.	NA	NA	NA	NA	Gal.

Comments



GS

Monitor Well Bailing Log

GS MW #1

Lat: 33° 22.883'
Long. 103° 37.979'
Surf. Elev. Ft.

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

Date: 8/29/1997
Top of Water Ft.
Bottom of Bore 58 Ft.

Date:	12/28/02	10/1/04			
Top of Water	47.50	47.60			Ft.
Bottom of Bore	52.30	52.10			Ft.
Bore Volumn	0.77	0.73			Gal.
LPNL Top	47.50	47.50			Ft.
LPNL Bottom	50.20	50.20			Ft.
DPNL Top	NA	NA			Ft.
DPNL Bottom	NA	NA			Ft.
Min. Bailing Vol.	2.32	2.18			Gal.
Actual Bailing Vol.	10.00	10.00			Gal.

Comments

1/23 Free Product in bailing tube. Bail as long as possible.



GS

Monitor Well Bailing Log

GS MW #2

Lat: N33° 22.87242'
Long. W103° 37.86456'
Surf. Elev. 4302.77 Ft.

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

Date: 9/26/1997
Top of Water 48 Ft.
Bottom of Bore 59 Ft.

Date:	1/23/04	10/1/04			
Top of Water	45.00	45.20			Ft.
Bottom of Bore	55.70	55.40			Ft.
Bore Volume	1.73	1.65			Gal.
LPNL Top	NA	NA			Ft.
LPNL Bottom	NA	NA			Ft.
DPNL Top	NA	NA			Ft.
DPNL Bottom	NA	NA			Ft.
Min. Bailing Vol.	5.18	4.94			Gal.
Actual Bailing Vol.	15.00	10.00			Gal.

Comments



GS

Monitor Well Bailing Log

GS MW #3

Lat: N33° 22.87242'
Long. W103° 37.96106'
Surf. Elev. 4303.08 Ft.

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

Date: 8/29/1997
Top of Water 47.5 Ft.
Bottom of Bore 59 Ft.

Date:	1/23/04	10/1/04		
Top of Water	45.00	45.10		Ft.
Bottom of Bore	58.00	57.90		Ft.
Bore Volumn	2.10	2.06		Gal.
LPNL Top	NA	NA		Ft.
LPNL Bottom	NA	NA		Ft.
DPNL Top	NA	NA		Ft.
DPNL Bottom	NA	NA		Ft.
Min. Bailing Vol.	6.29	6.19		Gal.
Actual Bailing Vol.	12.00	10.00		Gal.

Comments



GS

Monitor Well Bailing Log

GS MW #4

Lat: N33° 22.84678'
Long. W103° 37.95211'
Surf. Elev. 4303.2 Ft.

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

Date: 3/16/1999
Top of Water 49.06 Ft.
Bottom of Bore 57 Ft.

Date:	1/23/04	10/1/04		
Top of Water	45.30	45.30		Ft.
Bottom of Bore	56.50	56.30		Ft.
Bore Volume	1.81	1.77		Gal.
LPNL Top	NA	NA		Ft.
LPNL Bottom	NA	NA		Ft.
DPNL Top	NA	NA		Ft.
DPNL Bottom	NA	NA		Ft.
Min. Bailing Vol.	5.42	5.32		Gal.
Actual Bailing Vol.	10.00	10.00		Gal.

Comments



GS

Monitor Well Bailing Log

GS MW #5

Lat: N33° 22.83475'
Long. W103° 37.92597'
Surf. Elev. 4303.2 Ft.

As Drilled	As Measured
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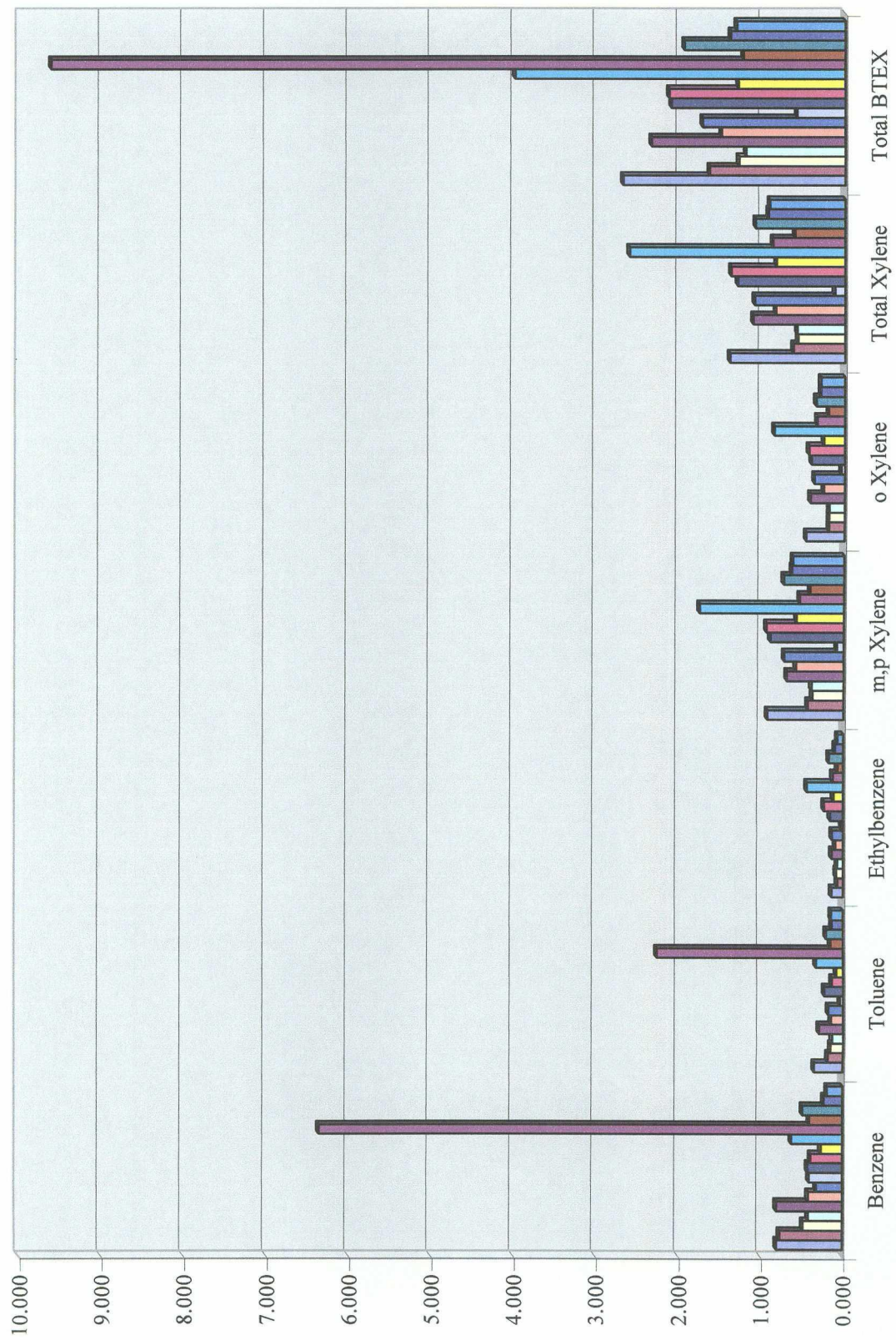
Date: 6/18/2002
Top of Water 44.44 Ft.
Bottom of Bore 55 Ft.

Date:	1/23/04	10/1/04			
Top of Water	45.00	45.00			Ft.
Bottom of Bore	54.50	54.50			Ft.
Bore Volume	1.53	1.53			Gal.
LPNL Top	NA	NA			Ft.
LPNL Bottom	NA	NA			Ft.
DPNL Top	NA	NA			Ft.
DPNL Bottom	NA	NA			Ft.
Min. Bailing Vol.	4.60	4.60			Gal.
Actual Bailing Vol.	10.00	10.00			Gal.

Comments

**Source Well
G.S. State # 1**

Lab. #	Sample Date	Benzene	Toluene	Ethylbenzene	m,p Xylene	o Xylene	Total Xylene	Total BTEX
22782	01/08/00	0.804	0.348	0.139	0.925	0.464	1.389	2.680
25146	04/14/00	0.763	0.184	0.068	0.434	0.189	0.623	1.638
28461	07/20/00	0.481	0.153	0.083	0.378	0.188	0.566	1.283
31496	09/26/00	0.415	0.136	0.070	0.391	0.185	0.576	1.197
36160	01/05/01	0.805	0.292	0.136	0.692	0.414	1.106	2.339
38941	04/05/01	0.417	0.148	0.091	0.582	0.254	0.836	1.492
0101098-25	07/07/01	0.318	0.180	0.133	0.722	0.368	1.090	1.721
0101642-24	09/26/01	0.406	0.038	0.014	0.083	0.040	0.123	0.581
0202619-25	02/15/02	0.422	0.229	0.155	0.892	0.402	1.294	2.100
0203001-25	03/30/02	0.386	0.138	0.230	0.942	0.433	1.375	2.129
0203602-26	06/15/02	0.262	0.082	0.116	0.576	0.253	0.829	1.289
0204815-29	10/29/02	0.621	0.331	0.441	1.750	0.852	2.602	3.995
0205349-29	01/04/03	6.360	2.260	0.126	0.537	0.335	0.872	9.618
0306249-30	04/17/03	0.403	0.152	0.068	0.411	0.195	0.606	1.229
0306756-01	06/22/03	0.487	0.206	0.172	0.734	0.346	1.080	1.945
0307790-14	10/30/03	0.227	0.134	0.098	0.636	0.290	0.926	1.385
4A26009-01	01/23/04	0.190	0.143	0.070	0.621	0.288	0.909	1.312

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Monitor Well # 1
G.S. State # 1

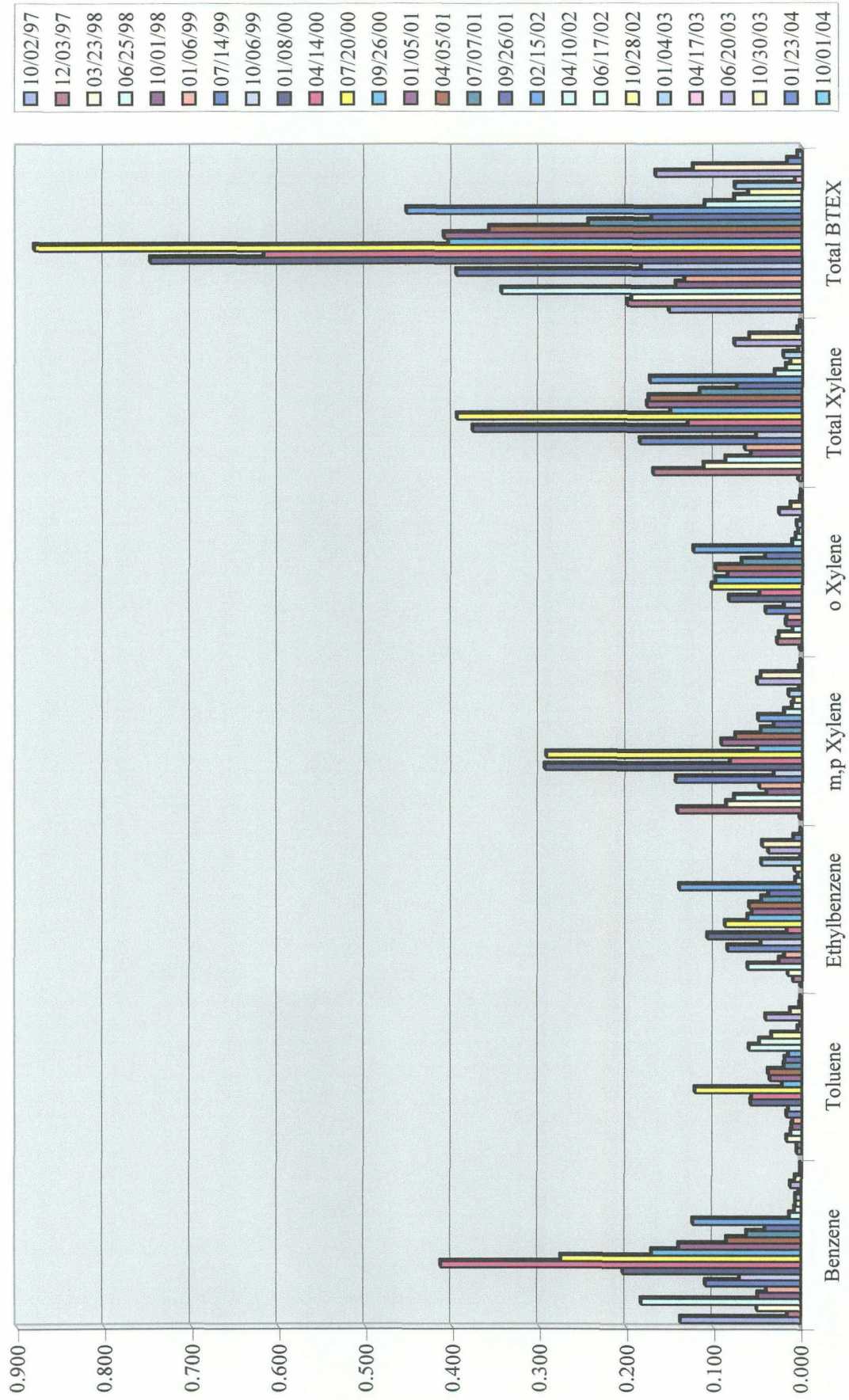
Lab. #	Sample Date	Benzene	Toluene	Ethylbenzene	m,p Xylene	o Xylene	Total Xylene	Total BTEX
12478	09/06/97	0.092	0.010	0.015	0.082	0.002	0.084	0.285
20625	10/06/99	0.008	0.007	0.006	0.024	0.007	0.031	0.052
22764	01/08/00	1.030	0.336	1.240	8.030	2.090	10.120	12.726
25147	04/14/00	0.871	0.162	0.246	0.932	0.261	1.193	2.472
28462	07/20/00	1.090	0.025	1.370	10.500	2.280	12.780	15.265
31518	09/26/00	0.820	0.066	0.354	1.480	0.365	1.845	3.085
36169	01/05/01	1.070	1.710	0.945	5.660	1.580	7.240	10.965
38942	04/05/01	0.394	0.022	0.180	0.767	0.200	0.967	1.563
0101098-26	07/07/01	0.350	0.026	0.010	0.483	0.150	0.633	1.019
0101642-26	09/26/01	0.553	0.078	0.267	1.120	0.309	1.429	2.327
0202619-26	02/15/02	1.200	0.612	0.968	4.620	1.090	5.710	8.490
0203001-26	04/10/02	0.031	0.072	0.051	0.234	0.071	0.305	0.459
0203602-27	06/16/02	1.660	3.020	2.690	16.800	3.160	19.960	27.330
0204815-30	10/30/02	3.650	4.160	2.790	23.900	3.680	27.580	38.180
0205349-30	01/04/03	3.950	5.780	6.930	43.700	5.680	49.380	66.040
0306249-31	04/17/03	0.819	0.668	0.847	4.760	0.903	5.663	7.997
0306733-35	06/20/03	1.030	0.431	0.771	3.890	0.554	4.444	6.676
0307790-15	10/30/03	66.900	37.400	43.000	127.000	24.900	151.900	299.200
4A26009-02	01/23/04	3.190	6.440	15.200	89.000	24.700	113.700	138.530
4J04009-01	10/01/04	237.000	210.000	196.000	933.000	167.000	1100.000	1743.000

[illegible]

Monitor Well # 2 G.S. State # 1 Sampling Results

[illegible]

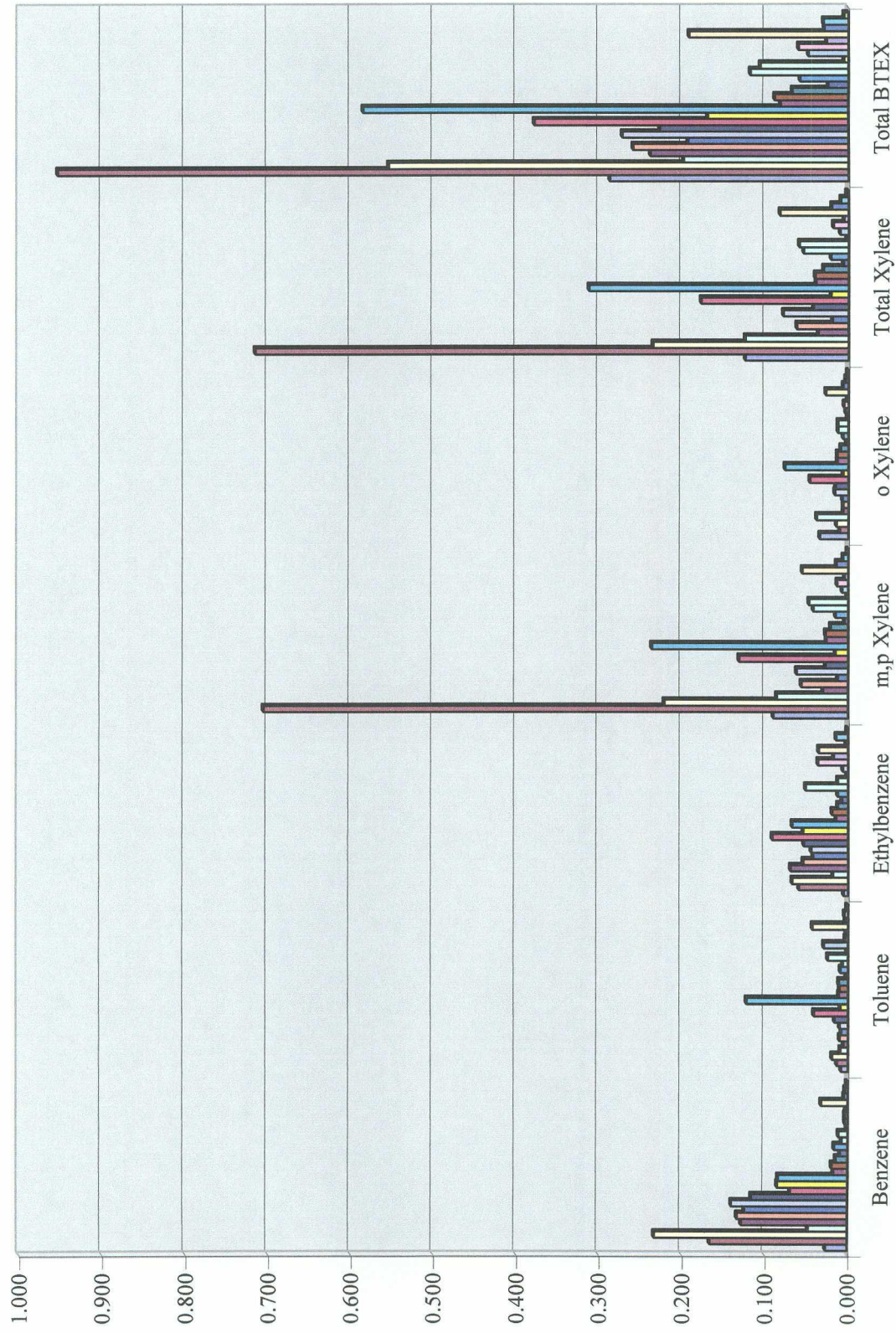
GS MW #2



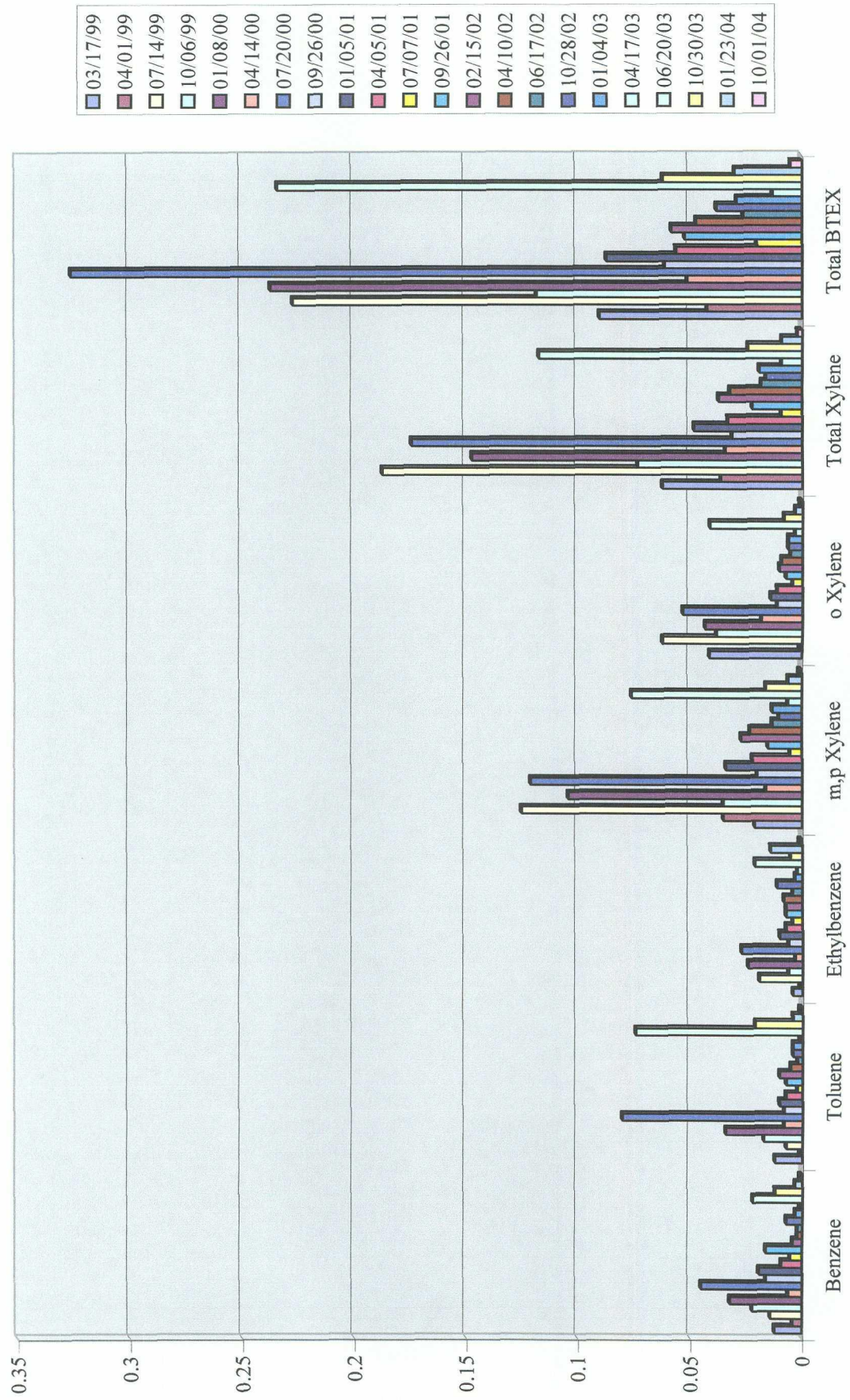
Sampling Results

Lab. #	Sample Date	Benzene	Toluene	Ethylbenzene	m,p Xylene	o Xylene	Total Xylene	Total BTEX
12721	10/02/97	0.026	0.008	0.005	0.090	0.034	0.124	0.287
13185	12/03/97	0.166	0.013	0.059	0.705	0.01	0.715	0.953
14055	03/23/98	0.233	0.019	0.067	0.221	0.014	0.235	0.554
14675	06/25/98	0.047	0.009	0.018	0.086	0.038	0.124	0.198
15603	10/01/98	0.128	0.005	0.069	0.030	0.006	0.036	0.238
16591	01/06/99	0.133	0.010	0.054	0.056	0.006	0.062	0.259
17445	04/01/99	0.124	0.008	0.042	0.012	0.007	0.019	0.193
18597	07/14/99	0.140	0.010	0.044	0.062	0.016	0.078	0.272
20603	10/06/99	0.116	0.016	0.053	0.027	0.015	0.042	0.227
22785	01/08/00	0.069	0.041	0.091	0.131	0.046	0.177	0.378
25148	04/14/00	0.085	0.009	0.054	0.015	0.006	0.021	0.169
28450	07/20/00	0.084	0.122	0.067	0.236	0.076	0.312	0.585
31497	09/26/00	0.017	0.011	0.014	0.026	0.013	0.039	0.081
36150	01/05/01	0.019	0.010	0.019	0.027	0.013	0.040	0.088
38943	04/05/01	0.014	0.011	0.012	0.021	0.009	0.030	0.067
0101098-27	07/07/01	0.009	0.002	0.007	0.004	0.002	0.006	0.024
0101642-27	09/26/01	0.016	0.009	0.012	0.015	0.006	0.021	0.058
0202619-27	02/15/02	0.007	0.006	0.051	0.042	0.012	0.054	0.118
0203001-27	04/10/02	0.011	0.024	0.012	0.047	0.012	0.059	0.106
0203602-28	06/16/02	0.001	0.001	0.001	0.001	0.001	0.002	0.005
0204814-06	10/28/02	0.003	0.029	0.006	0.007	0.003	0.010	0.048
0205349-32	01/04/03	0.003	0.003	0.036	0.013	0.005	0.018	0.06
0306249-33	04/17/03	0.002	0.002	0.017	0.004	0.001	0.005	0.026
0306733-37	06/20/03	0.032	0.043	0.035	0.055	0.027	0.082	0.192
0307790-17	10/30/03	0.004	0.003	0.002	0.014	0.006	0.020	0.029
4A26009-04	01/23/04	0.003	0.004	0.014	0.006	0.003	0.009	0.030
4J04009-03	10/01/04	0.001	0.001	0.001	0.001	0.001	0.002	0.005

The chart displays the concentration of various aromatic compounds in groundwater over time. The y-axis represents concentration from 0.000 to 1.000. The x-axis lists the compounds: Benzene, Toluene, Ethylbenzene, m,p Xylene, o Xylene, Total Xylene, and Total BTEX. The legend shows dates from 10/02/97 to 10/01/04. The chart shows that concentrations for all compounds are generally low, with a notable peak in total BTEX around 1999.

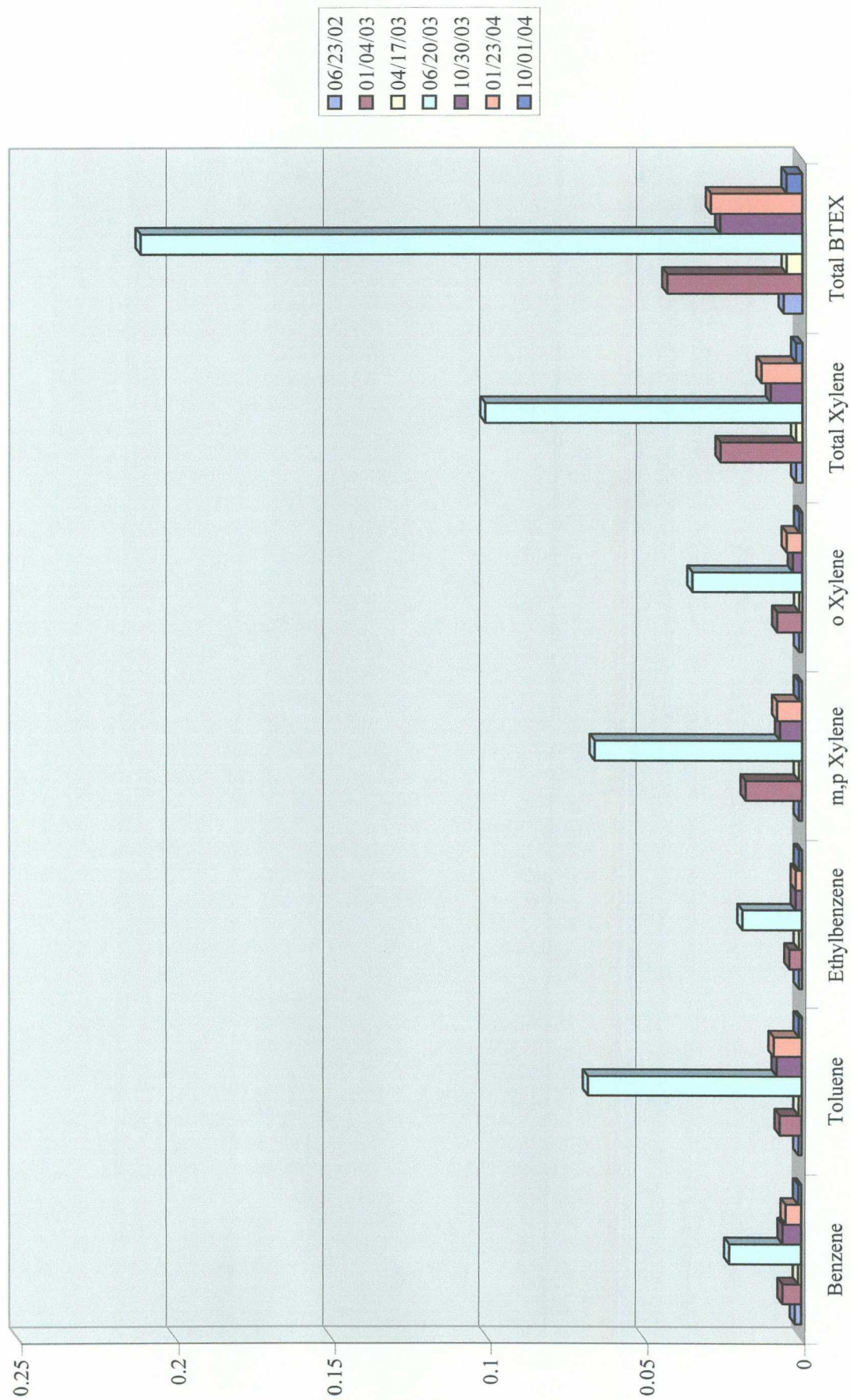








GS MW #5





Analytical Report

Prepared for:

Mike Griffin

WHOLE EARTH ENVIRONMENTAL

2103 Arbor Cove

Katy, TX 77494

Project: GS

Project Number: None Given

Location: None Given

Lab Order Number: 4J04009

Report Date: 10/18/04

WHOLE EARTH ENVIRONMENTAL
2103 Arbor Cove
Katy TX, 77494

Project: GS
Project Number: None Given
Project Manager: Mike Griffin

Fax: (281) 394-2051

Reported:
10/18/04 14:53

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-1	4J04009-01	Water	10/01/04 00:00	10/03/04 13:00
MW-2	4J04009-02	Water	10/01/04 00:00	10/03/04 13:00
MW-3	4J04009-03	Water	10/01/04 00:00	10/03/04 13:00
MW-4	4J04009-04	Water	10/01/04 00:00	10/03/04 13:00
MW-5	4J04009-05	Water	10/01/04 00:00	10/03/04 13:00
Source Well	4J04009-06	Water	10/01/04 00:00	10/03/04 13:00

WHOLE EARTH ENVIRONMENTAL
2103 Arbor Cove
Katy TX, 77494

Project: GS
Project Number: None Given
Project Manager: Mike Griffin

Fax: (281) 394-2051

Reported:
10/18/04 14:53

Organics by GC
Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-1 (4J04009-01) Water									
Benzene	237	1.00	mg/L	1000	EJ41205	10/11/04	10/11/04	EPA 8021B	
Toluene	210	1.00	"	"	"	"	"	"	
Ethylbenzene	196	1.00	"	"	"	"	"	"	
Xylene (p/m)	933	1.00	"	"	"	"	"	"	
Xylene (o)	167	1.00	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		1970 %	80-120		"	"	"	"	S-04
Surrogate: 4-Bromofluorobenzene		83.6 %	80-120		"	"	"	"	
MW-2 (4J04009-02) Water									
Benzene	ND	0.00100	mg/L	1	EJ41205	10/11/04	10/12/04	EPA 8021B	
Toluene	0.00126	0.00100	"	"	"	"	"	"	
Ethylbenzene	ND	0.00100	"	"	"	"	"	"	
Xylene (p/m)	ND	0.00100	"	"	"	"	"	"	
Xylene (o)	ND	0.00100	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		89.4 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		99.2 %	80-120		"	"	"	"	
MW-3 (4J04009-03) Water									
Benzene	ND	0.00100	mg/L	1	EJ41205	10/11/04	10/11/04	EPA 8021B	
Toluene	ND	0.00100	"	"	"	"	"	"	
Ethylbenzene	ND	0.00100	"	"	"	"	"	"	
Xylene (p/m)	ND	0.00100	"	"	"	"	"	"	
Xylene (o)	ND	0.00100	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		84.5 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		88.4 %	80-120		"	"	"	"	
MW-4 (4J04009-04) Water									
Benzene	ND	0.00100	mg/L	1	EJ41205	10/11/04	10/11/04	EPA 8021B	
Toluene	ND	0.00100	"	"	"	"	"	"	
Ethylbenzene	ND	0.00100	"	"	"	"	"	"	
Xylene (p/m)	ND	0.00100	"	"	"	"	"	"	
Xylene (o)	ND	0.00100	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		86.7 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		87.5 %	80-120		"	"	"	"	

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Page 2 of 12

WHOLE EARTH ENVIRONMENTAL
2103 Arbor Cove
Katy TX, 77494

Project: GS
Project Number: None Given
Project Manager: Mike Griffin

Fax: (281) 394-2051

Reported:
10/18/04 14:53

Organics by GC
Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-5 (4J04009-05) Water									
Benzene	ND	0.00100	mg/L	1	EJ41205	10/11/04	10/11/04	EPA 8021B	
Toluene	ND	0.00100	"	"	"	"	"	"	
Ethylbenzene	ND	0.00100	"	"	"	"	"	"	
Xylene (p/m)	ND	0.00100	"	"	"	"	"	"	
Xylene (o)	ND	0.00100	"	"	"	"	"	"	
Surrogate: <i>a,a,a</i> -Trifluorotoluene		86.5 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		80.7 %	80-120		"	"	"	"	
Source Well (4J04009-06) Water									
Benzene	0.190	0.00100	mg/L	1	EJ41205	10/11/04	10/11/04	EPA 8021B	
Toluene	0.143	0.00100	"	"	"	"	"	"	
Ethylbenzene	0.0697	0.00100	"	"	"	"	"	"	
Xylene (p/m)	0.621	0.00100	"	"	"	"	"	"	
Xylene (o)	0.288	0.00100	"	"	"	"	"	"	
Surrogate: <i>a,a,a</i> -Trifluorotoluene		164 %	80-120		"	"	"	"	S-04
Surrogate: 4-Bromofluorobenzene		144 %	80-120		"	"	"	"	S-04

WHOLE EARTH ENVIRONMENTAL
2103 Arbor Cove
Katy TX, 77494

Project: GS
Project Number: None Given
Project Manager: Mike Griffin

Fax: (281) 394-2051

Reported:
10/18/04 14:53

General Chemistry Parameters by EPA / Standard Methods
Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-1 (4J04009-01) Water									
Carbonate Alkalinity	ND	0.200	mg/L	2	EJ40902	10/09/04	10/09/04	EPA 310.2M	O-04
Bicarbonate Alkalinity	348	4.00	"	"	"	"	"	"	O-04
Hydroxide Alkalinity	ND	0.200	"	"	"	"	"	"	O-04
Chloride	31.9	5.00	"	1	EJ40908	10/09/04	10/09/04	EPA 325.3M	
Sulfate	103	2.50	"	5	EJ40905	10/09/04	10/09/04	EPA 375.4	
MW-2 (4J04009-02) Water									
Carbonate Alkalinity	ND	0.200	mg/L	2	EJ40902	10/09/04	10/09/04	EPA 310.2M	O-04
Bicarbonate Alkalinity	224	4.00	"	"	"	"	"	"	O-04
Hydroxide Alkalinity	ND	0.200	"	"	"	"	"	"	O-04
Chloride	142	5.00	"	1	EJ40908	10/09/04	10/09/04	EPA 325.3M	
Sulfate	55.1	0.500	"	"	EJ40905	10/09/04	10/09/04	EPA 375.4	
MW-3 (4J04009-03) Water									
Carbonate Alkalinity	ND	0.200	mg/L	2	EJ40902	10/09/04	10/09/04	EPA 310.2M	O-04
Bicarbonate Alkalinity	220	4.00	"	"	"	"	"	"	O-04
Hydroxide Alkalinity	ND	0.200	"	"	"	"	"	"	O-04
Chloride	115	5.00	"	1	EJ40908	10/09/04	10/09/04	EPA 325.3M	
Sulfate	30.8	0.500	"	"	EJ40905	10/09/04	10/09/04	EPA 375.4	
MW-4 (4J04009-04) Water									
Carbonate Alkalinity	ND	0.200	mg/L	2	EJ40902	10/09/04	10/09/04	EPA 310.2M	O-04
Bicarbonate Alkalinity	222	4.00	"	"	"	"	"	"	O-04
Hydroxide Alkalinity	ND	0.200	"	"	"	"	"	"	O-04
Chloride	248	5.00	"	1	EJ40908	10/09/04	10/09/04	EPA 325.3M	
Sulfate	122	1.25	"	2.5	EJ40905	10/09/04	10/09/04	EPA 375.4	
MW-5 (4J04009-05) Water									
Carbonate Alkalinity	ND	0.200	mg/L	2	EJ40902	10/09/04	10/09/04	EPA 310.2M	O-04
Bicarbonate Alkalinity	204	4.00	"	"	"	"	"	"	O-04
Hydroxide Alkalinity	ND	0.200	"	"	"	"	"	"	O-04
Chloride	452	5.00	"	1	EJ40908	10/09/04	10/09/04	EPA 325.3M	
Sulfate	138	1.25	"	2.5	EJ40905	10/09/04	10/09/04	EPA 375.4	

Environmental Lab of Texas

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Page 4 of 12

WHOLE EARTH ENVIRONMENTAL
2103 Arbor Cove
Katy TX, 77494

Project: GS
Project Number: None Given
Project Manager: Mike Griffin

Fax: (281) 394-2051

Reported:
10/18/04 14:53

General Chemistry Parameters by EPA / Standard Methods
Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Source Well (4J04009-06) Water									
Carbonate Alkalinity	ND	0.200	mg/L	2	EJ40902	10/09/04	10/09/04	EPA 310.2M	O-04
Bicarbonate Alkalinity	192	4.00	"	"	"	"	"	"	O-04
Hydroxide Alkalinity	ND	0.200	"	"	"	"	"	"	O-04
Chloride	1440	5.00	"	1	EJ40908	10/09/04	10/09/04	EPA 325.3M	
Sulfate	152	1.25	"	2.5	EJ40905	10/09/04	10/09/04	EPA 375.4	

Environmental Lab of Texas

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Page 5 of 12

WHOLE EARTH ENVIRONMENTAL
2103 Arbor Cove
Katy TX, 77494

Project: GS
Project Number: None Given
Project Manager: Mike Griffin

Fax: (281) 394-2051

Reported:
10/18/04 14:53

Total Metals by EPA / Standard Methods
Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-1 (4J04009-01) Water									
Calcium	99.2	1.00	mg/L	100	EJ41305	10/12/04	10/12/04	EPA 6010B	
Magnesium	3.31	0.00200	"	2	"	"	"	"	
Potassium	8.25	0.250	"	5	"	"	"	"	
Sodium	30.4	0.100	"	10	"	"	"	"	
MW-2 (4J04009-02) Water									
Calcium	102	1.00	mg/L	100	EJ41305	10/12/04	10/12/04	EPA 6010B	
Magnesium	10.7	0.0100	"	10	"	"	"	"	
Potassium	36.4	0.500	"	"	"	"	"	"	
Sodium	79.8	1.00	"	100	"	"	"	"	
MW-3 (4J04009-03) Water									
Calcium	70.2	1.00	mg/L	100	EJ41305	10/12/04	10/12/04	EPA 6010B	
Magnesium	6.47	0.0100	"	10	"	"	"	"	
Potassium	10.9	0.500	"	"	"	"	"	"	
Sodium	67.2	1.00	"	100	"	"	"	"	
MW-4 (4J04009-04) Water									
Calcium	172	1.00	mg/L	100	EJ41305	10/12/04	10/12/04	EPA 6010B	
Magnesium	22.3	0.0100	"	10	"	"	"	"	
Potassium	6.03	0.100	"	2	"	"	"	"	
Sodium	104	1.00	"	100	"	"	"	"	
MW-5 (4J04009-05) Water									
Calcium	267	1.00	mg/L	100	EJ41305	10/12/04	10/12/04	EPA 6010B	
Magnesium	35.9	0.0100	"	10	"	"	"	"	
Potassium	8.41	0.100	"	2	"	"	"	"	
Sodium	82.8	1.00	"	100	"	"	"	"	
Source Well (4J04009-06) Water									
Calcium	466	1.00	mg/L	100	EJ41305	10/12/04	10/12/04	EPA 6010B	
Magnesium	73.9	0.100	"	"	"	"	"	"	
Potassium	11.3	0.500	"	10	"	"	"	"	
Sodium	402	1.00	"	100	"	"	"	"	

Environmental Lab of Texas

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Page 6 of 12

WHOLE EARTH ENVIRONMENTAL
2103 Arbor Cove
Katy TX, 77494

Project: GS
Project Number: None Given
Project Manager: Mike Griffin

Fax: (281) 394-2051

Reported:
10/18/04 14:53

Organics by GC - Quality Control
Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC Limits	RPD	RPD Limit	Notes
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Batch EJ41205 - EPA 5030C (GC)

Blank (EJ41205-BLK1)

Prepared & Analyzed: 10/11/04

Benzene	ND	0.00100	mg/L						
Toluene	ND	0.00100	"						
Ethylbenzene	ND	0.00100	"						
Xylene (p/m)	ND	0.00100	"						
Xylene (o)	ND	0.00100	"						
Surrogate: a,a,a-Trifluorotoluene	85.4		ug/l	100		85.4	80-120		
Surrogate: 4-Bromofluorobenzene	83.1		"	100		83.1	80-120		

LCS (EJ41205-BS1)

Prepared & Analyzed: 10/11/04

Benzene	91.9		ug/l	100		91.9	80-120		
Toluene	91.6		"	100		91.6	80-120		
Ethylbenzene	82.7		"	100		82.7	80-120		
Xylene (p/m)	176		"	200		88.0	80-120		
Xylene (o)	84.7		"	100		84.7	80-120		
Surrogate: a,a,a-Trifluorotoluene	104		"	100		104	80-120		
Surrogate: 4-Bromofluorobenzene	111		"	100		111	80-120		

Calibration Check (EJ41205-CCV1)

Prepared: 10/11/04 Analyzed: 10/12/04

Benzene	89.8		ug/l	100		89.8	80-120		
Toluene	91.6		"	100		91.6	80-120		
Ethylbenzene	82.5		"	100		82.5	80-120		
Xylene (p/m)	176		"	200		88.0	80-120		
Xylene (o)	83.6		"	100		83.6	80-120		
Surrogate: a,a,a-Trifluorotoluene	102		"	100		102	80-120		
Surrogate: 4-Bromofluorobenzene	117		"	100		117	80-120		

Matrix Spike (EJ41205-MS1)

Source: 4J04013-02

Prepared: 10/11/04 Analyzed: 10/12/04

Benzene	88.4		ug/l	100	ND	88.4	80-120		
Toluene	89.2		"	100	ND	89.2	80-120		
Ethylbenzene	80.4		"	100	ND	80.4	80-120		
Xylene (p/m)	165		"	200	ND	82.5	80-120		
Xylene (o)	80.4		"	100	ND	80.4	80-120		
Surrogate: a,a,a-Trifluorotoluene	101		"	100		101	80-120		
Surrogate: 4-Bromofluorobenzene	107		"	100		107	80-120		

Environmental Lab of Texas

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Page 7 of 12

WHOLE EARTH ENVIRONMENTAL
2103 Arbor Cove
Katy TX, 77494

Project: GS
Project Number: None Given
Project Manager: Mike Griffin

Fax: (281) 394-2051

Reported:
10/18/04 14:53

Organics by GC - Quality Control
Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EJ41205 - EPA 5030C (GC)										
Matrix Spike Dup (EJ41205-MSD1)		Source: 4J04013-02		Prepared: 10/11/04 Analyzed: 10/12/04						
Benzene	91.3		ug/l	100	ND	91.3	80-120	3.23	20	
Toluene	92.0		"	100	ND	92.0	80-120	3.09	20	
Ethylbenzene	82.3		"	100	ND	82.3	80-120	2.34	20	
Xylene (p/m)	174		"	200	ND	87.0	80-120	5.31	20	
Xylene (o)	83.2		"	100	ND	83.2	80-120	3.42	20	
Surrogate: a,a,a-Trifluorotoluene	103		"	100		103	80-120			
Surrogate: 4-Bromofluorobenzene	110		"	100		110	80-120			

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Page 8 of 12

WHOLE EARTH ENVIRONMENTAL
2103 Arbor Cove
Katy TX, 77494

Project: GS
Project Number: None Given
Project Manager: Mike Griffin

Fax: (281) 394-2051

Reported:
10/18/04 14:53

General Chemistry Parameters by EPA / Standard Methods - Quality Control
Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch EJ40902 - General Preparation (WetChem)

Blank (EJ40902-BLK1)

Prepared & Analyzed: 10/09/04

Carbonate Alkalinity	ND	0.200	mg/L
Bicarbonate Alkalinity	ND	4.00	"
Hydroxide Alkalinity	ND	0.200	"

Duplicate (EJ40902-DUP1)

Source: 4J04007-02

Prepared & Analyzed: 10/09/04

Carbonate Alkalinity	0.00	0.200	mg/L	0.00				20	O-04
Bicarbonate Alkalinity	174	4.00	"	172			1.16	20	O-04
Hydroxide Alkalinity	0.00	0.200	"	0.00				20	O-04

Reference (EJ40902-SRM1)

Prepared & Analyzed: 10/09/04

Carbonate Alkalinity	0.0501		mg/L	0.0500		100	80-120		
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Batch EJ40905 - General Preparation (WetChem)

Blank (EJ40905-BLK1)

Prepared & Analyzed: 10/09/04

Sulfate	ND	0.500	mg/L
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Calibration Check (EJ40905-CCV1)

Prepared & Analyzed: 10/09/04

Sulfate	48.3		mg/L	50.0		96.6	80-120		
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Duplicate (EJ40905-DUP1)

Source: 4J04007-02

Prepared & Analyzed: 10/09/04

Sulfate	230	2.50	mg/L	222			3.54	20	
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Batch EJ40908 - General Preparation (WetChem)

Blank (EJ40908-BLK1)

Prepared & Analyzed: 10/09/04

Chloride	ND	5.00	mg/L
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WHOLE EARTH ENVIRONMENTAL
2103 Arbor Cove
Katy TX, 77494

Project: GS
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Project Manager: Mike Griffin

Fax: (281) 394-2051

Reported:
10/18/04 14:53

General Chemistry Parameters by EPA / Standard Methods - Quality Control
Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EJ40908 - General Preparation (WetChem)										
Matrix Spike (EJ40908-MS1)		Source: 4J04009-02			Prepared & Analyzed: 10/09/04					
Chloride	638	5.00	mg/L	500	142	99.2	80-120			
Matrix Spike Dup (EJ40908-MSD1)		Source: 4J04009-02			Prepared & Analyzed: 10/09/04					
Chloride	629	5.00	mg/L	500	142	97.4	80-120	1.42	20	
Reference (EJ40908-SRM1)		Prepared & Analyzed: 10/09/04								
Chloride	4960		mg/L	5000		99.2	80-120			

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Page 10 of 12

WHOLE EARTH ENVIRONMENTAL
2103 Arbor Cove
Katy TX, 77494

Project: GS
Project Number: None Given
Project Manager: Mike Griffin

Fax: (281) 394-2051

Reported:
10/18/04 14:53

Total Metals by EPA / Standard Methods - Quality Control
Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch EJ41305 - 6010B/No Digestion

Blank (EJ41305-BLK1)

Prepared & Analyzed: 10/12/04

Calcium	ND	0.0100	mg/L
Magnesium	ND	0.00100	"
Potassium	ND	0.0500	"
Sodium	ND	0.0100	"

Calibration Check (EJ41305-CCV1)

Prepared & Analyzed: 10/12/04

Calcium	2.18		mg/L	2.00		109	85-115
Magnesium	2.25		"	2.00		112	85-115
Potassium	1.84		"	2.00		92.0	85-115
Sodium	1.89		"	2.00		94.5	85-115

Duplicate (EJ41305-DUP1)

Source: 4J04009-02

Prepared & Analyzed: 10/12/04

Calcium	104	1.00	mg/L	102		1.94	20
Magnesium	10.9	0.0100	"	10.7		1.85	20
Potassium	33.9	0.500	"	36.4		7.11	20
Sodium	79.8	1.00	"	79.8		0.00	20

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Page 11 of 12

WHOLE EARTH ENVIRONMENTAL
2103 Arbor Cove
Katy TX, 77494

Project: GS
Project Number: None Given
Project Manager: Mike Griffin

Fax: (281) 394-2051
Reported:
10/18/04 14:53

Notes and Definitions

S-04 The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
O-04 This sample was analyzed outside the EPA recommended holding time.
DET Analyte DETECTED
ND Analyte NOT DETECTED at or above the reporting limit
NR Not Reported
dry Sample results reported on a dry weight basis
RPD Relative Percent Difference
LCS Laboratory Control Spike
MS Matrix Spike
Dup Duplicate

Report Approved By:

Raland K. Tuttle

Date:

10/18/04

Raland K. Tuttle, Lab Manager
Celey D. Keene, Lab Director, Org. Tech Director
Peggy Allen, QA Officer

Jeanne Mc Murrey, Inorg. Tech Director
James L. Hawkins, Chemist/Geologist
Sandra Biezugbe, Lab Tech.

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