1R - 260

# ANNUAL MONITORING REPORT

# 4/05/2005

Tipperary CORPORATION

633 Seventeenth Street
Suite 1550
Denver, Colorado 80202-3622



April 5, 2005

VIA OVERNIGHT MAIL

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

IRP 263
264
260
269
261
262
267
268

**RE: Progress Report for Year 2004**
**Bagley Field**
**Pit Closure Project**
**Lea County, NM**

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 NMOCD 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 ENVIROMENTAL, INC.

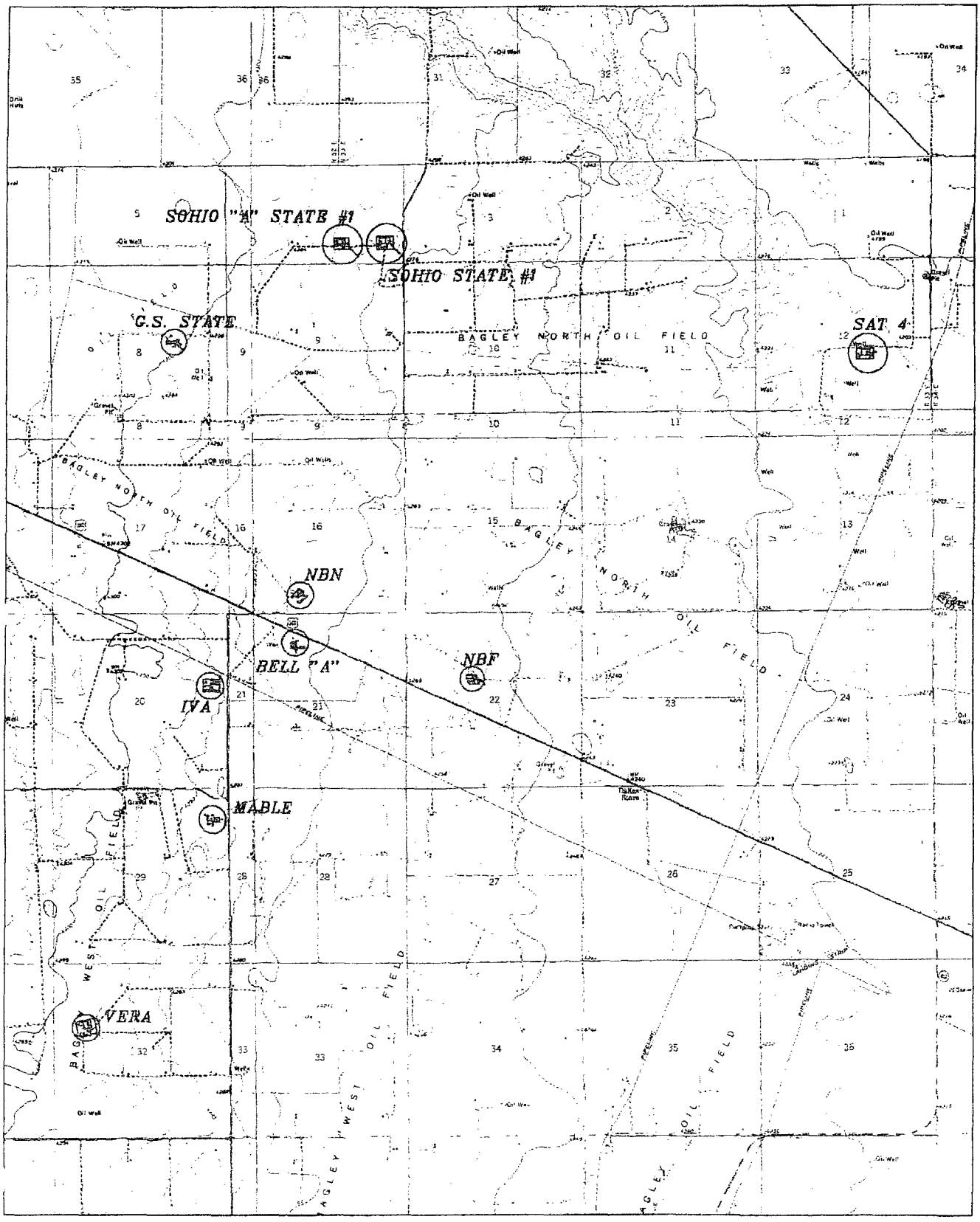



EXHIBIT 9

| | | |
|---|---|---|
| BASIN SURVEYS P.O. BOX 1786 – HOBBS, NEW MEXICO | W.O. Number: 9352 | Drawn By: K. GOAD |
| | Date: 10-21-99 | Disk: KJG #122 – WE9352.DWG |

# Tipperary Oil & Gas Corporation
# Bagley Field
# 2004 Annual Report

## Bell State A
## Section 21C-T11S-R33E

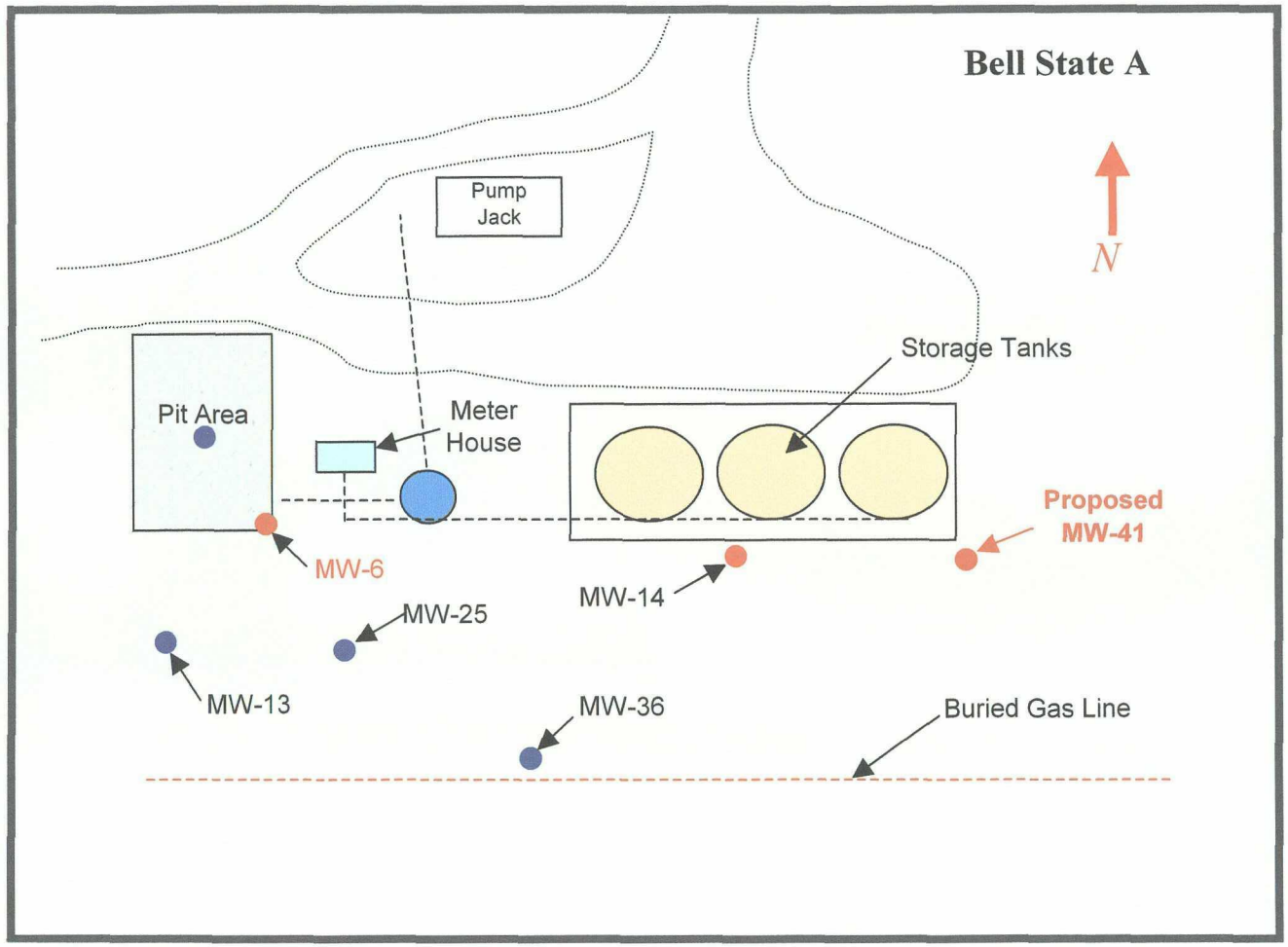
IRP 260

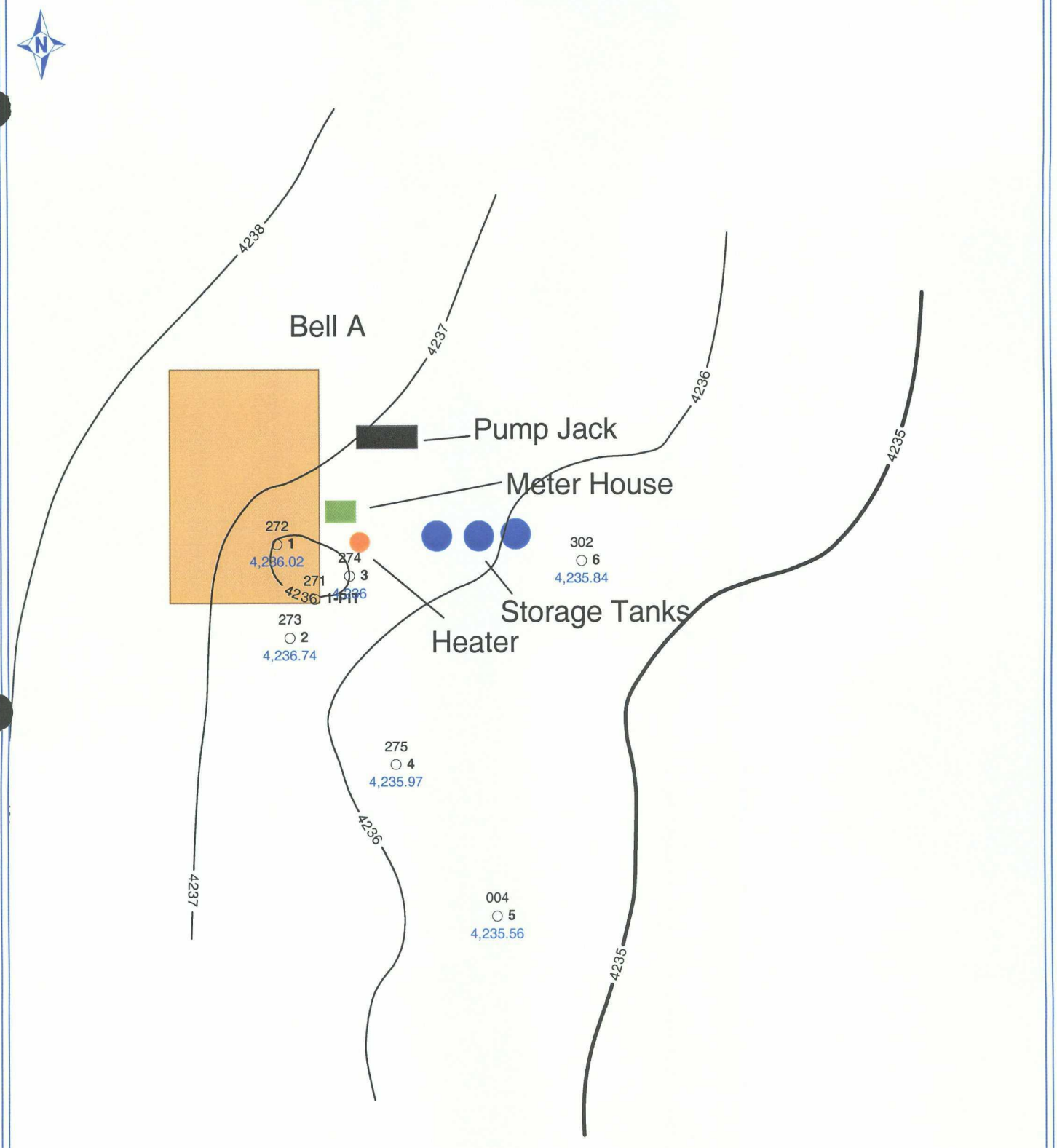
The Bell State A site consists of six monitor wells. The latest being constructed on June 16, 2003. The well nearest the pit, (MW 1) shows a decline in BTEX concentrations of 99.6% over the past six years. Monitor Wells Nos. 2, 4 and 5 all show acceptable results. Monitor Well No. 3 has increased in concentration significantly over last year as the plume appears to be passing.

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.
- 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.


Bell State A
N
Pump Jack
Storage Tanks
Pit Area
Meter House
Proposed MW-41
MW-6
MW-14
MW-25
MW-13
MW-36
Buried Gas Line




# Tipperary Oil & Gas Corp.

North Bagley Field Pit Closure

Bell A 1 - 4thQtr 2004 Water Level

Grad= 25 ft./mi. @ 130* Az.

0 48 96

METERS

PETRA 4/4/2005 9:31:01 PM

Bell

# Monitor Well Bailing Log

## Bell MW #1

| | |
|---|---|
| Lat: | N33$^0$ 21.3688495' |
| Long. | W103$^0$ 37.31095483' |
| Surf. Elev. | 4281.18 Ft. |

| As Drilled | | | As Measured | | | | | |
|---|---|---|---|---|---|---|---|---|
| Date: | 8/28/1997 | | Date: | 1/23/04 | 9/29/04 | | | |
| Top of Water | 51 | Ft. | Top of Water | 45.00 | 45.00 | | | Ft. |
| Bottom of Bore | 60 | Ft. | Bottom of Bore | 55.80 | 55.80 | | | Ft. |
| | | | Bore Volumn | 1.74 | 1.74 | | | Gal. |
| | | | LPNL Top | NA | NA | | | Ft. |
| | | | LPNL Bottom | NA | NA | | | Ft. |
| | | | DPNL Top | NA | NA | | | Ft. |
| | | | DPNL Bottom | NA | NA | | | Ft. |
| | | | Min. Bailing Vol. | 5.23 | 5.23 | | | Gal. |
| | | | Actual Bailing Vol. | 12 | 12 | | | Gal. |

## Comments

Bell

# Monitor Well Bailing Log

## Bell MW #2

| | |
|---|---|
| Lat: | N33$^0$ 21.3518603' |
| Long. | W103$^0$ 37.3084305' |
| Surf. Elev. | 4280.89 Ft. |

| As Drilled | | As Measured | | | | | |
|---|---|---|---|---|---|---|---|
| Date: | 10/2/1997 | Date: | 1/23/04 | 9/29/04 | | | |
| Top of Water | 47.75 Ft. | Top of Water | 44.40 | 44.60 | | | Ft. |
| Bottom of Bore | 60 Ft. | Bottom of Bore | 55.90 | 55.60 | | | Ft. |
| | | Bore Volumn | 1.85 | 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. | 5.56 | 5.32 | | | Gal. |
| | | Actual Bailing Vol. | 12 | 10 | | | Gal. |

## Comments

Bell

# Monitor Well Bailing Log

## Bell MW #3

| | |
|---|---|
| Lat: | N33$^0$ 21.3628858' |
| Long. | W103$^0$ 37.29505033' |
| Surf. Elev. | 4280.8 Ft. |

| As Drilled | | As Measured | | | | | |
|---|---|---|---|---|---|---|---|
| Date: | 10/2/1997 | Date: | 1/23/04 | 9/29/04 | | | |
| Top of Water | 48.32 Ft. | Top of Water | 44.80 | 44.80 | | | Ft. |
| Bottom of Bore | 60 Ft. | Bottom of Bore | 55.40 | 55.40 | | | Ft. |
| | | Bore Volumn | 1.71 | 1.71 | | | Gal. |
| | | LPNL Top | NA | NA | | | Ft. |
| | | LPNL Bottom | NA | NA | | | Ft. |
| | | DPNL Top | NA | NA | | | Ft. |
| | | DPNL Bottom | NA | NA | | | Ft. |
| | | Min. Bailing Vol. | 5.13 | 5.13 | | | Gal. |
| | | Actual Bailing Vol. | 12 | 12 | | | Gal. |

## Comments

Bell

# Monitor Well Bailing Log

## Bell MW #4

| | |
|---|---|
| Lat: | N33$^0$ 21.3285547' |
| Long. | W103$^0$ 37.28553883' |
| Surf. Elev. | 4280.54 Ft. |

| As Drilled | | As Measured | | | | | |
|---|---|---|---|---|---|---|---|
| Date: | 3/15/1999 | Date: | 1/23/04 | 9/29/04 | | | |
| Top of Water | 47.44 Ft. | Top of Water | 44.50 | 44.50 | | | Ft. |
| Bottom of Bore | 60 Ft. | Bottom of Bore | 58.30 | 58.20 | | | Ft. |
| | | Bore Volumn | 2.23 | 2.21 | | | Gal. |
| | | LPNL Top | NA | NA | | | Ft. |
| | | LPNL Bottom | NA | NA | | | Ft. |
| | | DPNL Top | NA | NA | | | Ft. |
| | | DPNL Bottom | NA | NA | | | Ft. |
| | | Min. Bailing Vol. | 6.68 | 6.63 | | | Gal. |
| | | Actual Bailing Vol. | 15 | 15 | | | Gal. |

## Comments

Bell

# Monitor Well Bailing Log

## Bell MW #5

| | |
|---|---|
| Lat: | N33$^0$ 21.3006243' |
| Long. | W103$^0$ 37.26371767' |
| Surf. Elev. | 4280.54 Ft. |

| As Drilled | | As Measured | | | | |
|---|---|---|---|---|---|---|
| Date: | 6/3/2002 | Date: | 1/23/04 | 9/29/04 | | |
| Top of Water | 41 Ft. | Top of Water | 44.30 | 44.30 | | Ft. |
| Bottom of Bore | 62 Ft. | Bottom of Bore | 57.10 | 56.50 | | Ft. |
| | | Bore Volumn | 2.06 | 1.97 | | Gal. |
| | | LPNL Top | NA | NA | | Ft. |
| | | LPNL Bottom | NA | NA | | Ft. |
| | | DPNL Top | NA | NA | | Ft. |
| | | DPNL Bottom | NA | NA | | Ft. |
| | | Min. Bailing Vol. | 6.19 | 5.90 | | Gal. |
| | | Actual Bailing Vol. | 15 | 10 | | Gal. |

## Comments

Bell

# Monitor Well Bailing Log

## Bell MW #6

| | |
|---|---|
| Lat: | N33$^0$ 21.3650' |
| Long. | W103$^0$ 37.24385' |
| Surf. Elev. | 4280.64 Ft. |

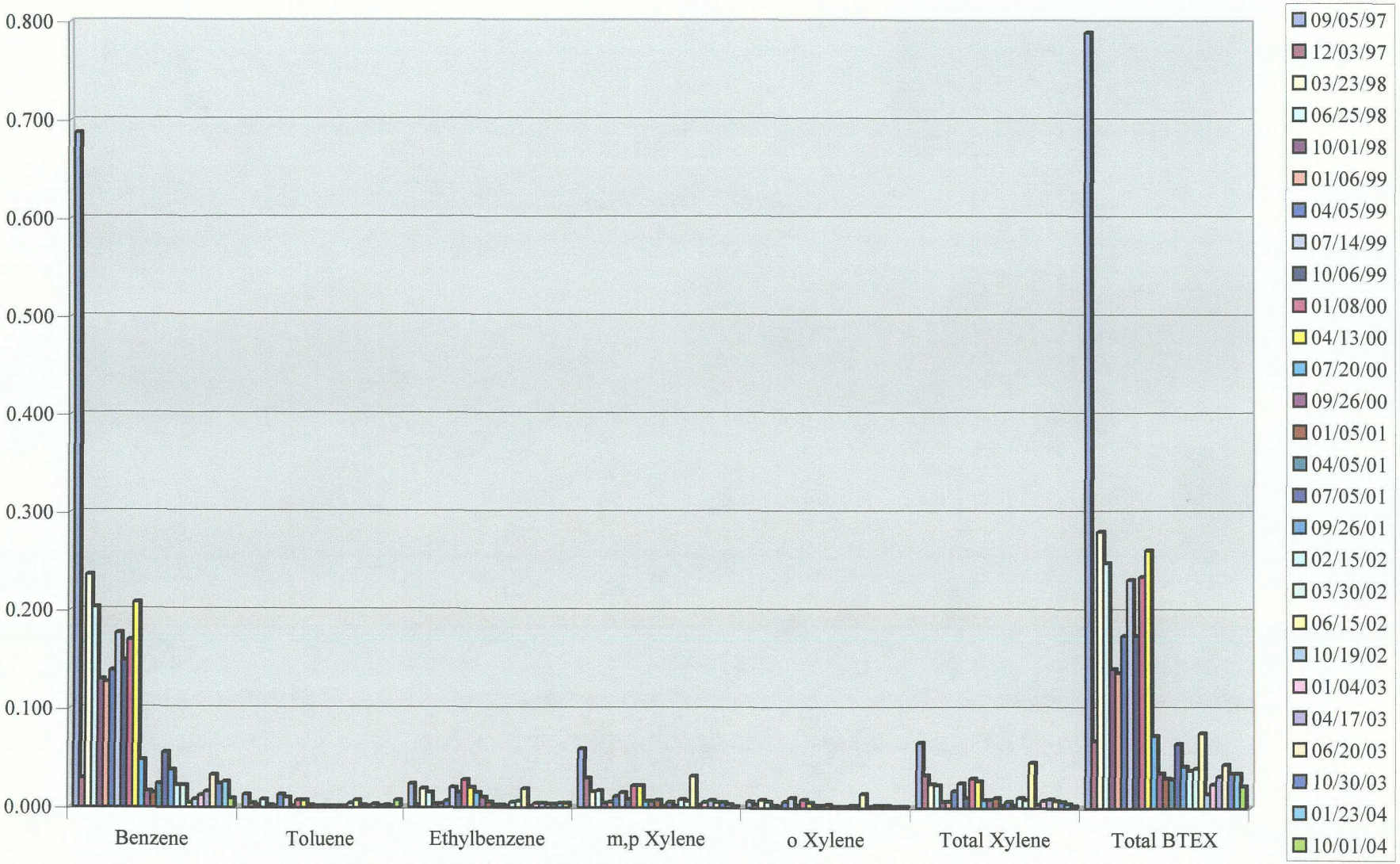
| As Drilled | | | As Measured | | | | | |
|---|---|---|---|---|---|---|---|---|
| Date: | 6/16/2003 | | Date: | 1/23/04 | 9/29/04 | | | |
| Top of Water | 44 | Ft. | Top of Water | 44.90 | 44.90 | | | Ft. |
| Bottom of Bore | 55 | Ft. | Bottom of Bore | 51.10 | 50.90 | | | Ft. |
| | | | Bore Volumn | 1.00 | 0.97 | | | Gal. |
| | | | LPNL Top | NA | NA | | | Ft. |
| | | | LPNL Bottom | NA | NA | | | Ft. |
| | | | DPNL Top | NA | NA | | | Ft. |
| | | | DPNL Bottom | NA | NA | | | Ft. |
| | | | Min. Bailing Vol. | 3.00 | 2.90 | | | Gal. |
| | | | Actual Bailing Vol. | 10 | 10 | | | Gal. |

## Comments

# Monitor Well # 1
# Bell State "A"
# Sampling Results

| Lab. # | Sample Date | Benzene | Toluene | Ethylbenzene | m,p Xylene | o Xylene | Total Xylene | Total BTEX |
|---|---|---|---|---|---|---|---|---|
| 12481 | 09/05/97 | 0.687 | 0.013 | 0.024 | 0.060 | 0.006 | 0.066 | 0.790 |
| 13179 | 12/03/97 | 0.029 | 0.004 | 0.002 | 0.030 | 0.003 | 0.033 | 0.068 |
| 14062 | 03/23/98 | 0.236 | 0.002 | 0.019 | 0.016 | 0.008 | 0.024 | 0.281 |
| 14661 | 06/25/98 | 0.203 | 0.008 | 0.015 | 0.017 | 0.006 | 0.023 | 0.249 |
| 15593 | 10/01/98 | 0.130 | 0.002 | 0.003 | 0.004 | 0.002 | 0.006 | 0.141 |
| 16600 | 01/06/99 | 0.127 | 0.001 | 0.003 | 0.005 | 0.001 | 0.006 | 0.137 |
| 17431 | 04/05/99 | 0.139 | 0.013 | 0.006 | 0.011 | 0.006 | 0.017 | 0.175 |
| 18593 | 07/14/99 | 0.177 | 0.010 | 0.020 | 0.015 | 0.010 | 0.025 | 0.232 |
| 20599 | 10/06/99 | 0.149 | 0.001 | 0.015 | 0.008 | 0.002 | 0.010 | 0.175 |
| 22765 | 01/08/00 | 0.170 | 0.007 | 0.028 | 0.022 | 0.008 | 0.030 | 0.235 |
| 25167 | 04/13/00 | 0.208 | 0.007 | 0.020 | 0.022 | 0.005 | 0.027 | 0.262 |
| 28440 | 07/20/00 | 0.048 | 0.002 | 0.015 | 0.006 | 0.002 | 0.008 | 0.073 |
| 31507 | 09/26/00 | 0.016 | 0.001 | 0.010 | 0.006 | 0.002 | 0.008 | 0.035 |
| 36136 | 01/05/01 | 0.014 | 0.001 | 0.005 | 0.007 | 0.003 | 0.010 | 0.030 |
| 38923 | 04/05/01 | 0.024 | 0.001 | 0.002 | 0.001 | 0.001 | 0.002 | 0.029 |
| 0101098-07 | 07/05/01 | 0.056 | 0.001 | 0.002 | 0.005 | 0.001 | 0.006 | 0.065 |
| 0101642-07 | 09/26/01 | 0.038 | 0.001 | 0.001 | 0.001 | 0.001 | 0.002 | 0.042 |
| 0202619-07 | 02/15/02 | 0.022 | 0.001 | 0.005 | 0.008 | 0.002 | 0.010 | 0.038 |
| 0203001-07 | 03/30/02 | 0.022 | 0.004 | 0.006 | 0.006 | 0.002 | 0.008 | 0.040 |
| 0203602-05 | 06/15/02 | 0.004 | 0.007 | 0.019 | 0.032 | 0.014 | 0.046 | 0.076 |
| 0203602-05 | 10/19/02 | 0.008 | 0.002 | 0.001 | 0.002 | 0.001 | 0.003 | 0.014 |
| 0205349-07 | 01/04/03 | 0.012 | 0.001 | 0.004 | 0.005 | 0.002 | 0.007 | 0.024 |
| 0306249-08 | 04/17/03 | 0.016 | 0.003 | 0.004 | 0.007 | 0.002 | 0.009 | 0.032 |
| 0306733-24 | 06/20/03 | 0.033 | 0.001 | 0.003 | 0.005 | 0.002 | 0.007 | 0.044 |
| 0307790-01 | 10/30/03 | 0.024 | 0.002 | 0.003 | 0.005 | 0.001 | 0.006 | 0.035 |
| 4A26007-01 | 01/23/04 | 0.026 | 0.001 | 0.004 | 0.003 | 0.001 | 0.004 | 0.035 |
| 4J04003-01 | 10/01/04 | 0.009 | 0.007 | 0.004 | 0.001 | 0.001 | 0.002 | 0.022 |

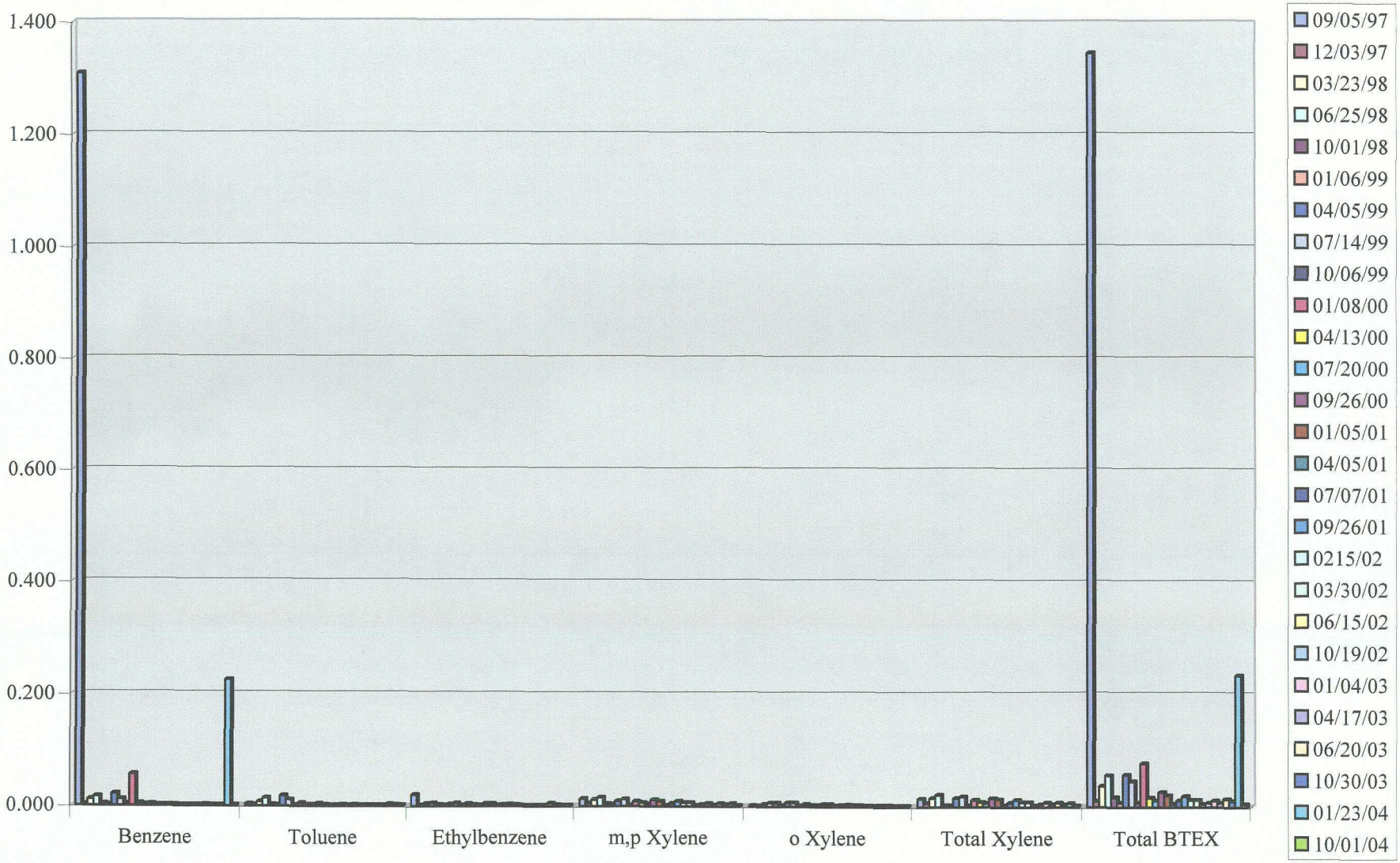
## Bell MW #1


0.800
0.700
0.600
0.500
0.400
0.300
0.200
0.100
0.000
Benzene
Toluene
Ethylbenzene
m,p Xylene
o Xylene
Total Xylene
Total BTEX
09/05/97
12/03/97
03/23/98
06/25/98
10/01/98
01/06/99
04/05/99
07/14/99
10/06/99
01/08/00
04/13/00
07/20/00
09/26/00
01/05/01
04/05/01
07/05/01
09/26/01
02/15/02
03/30/02
06/15/02
10/19/02
01/04/03
04/17/03
06/20/03
10/30/03
01/23/04
10/01/04

# Monitor Well # 2
# Bell State "A"
# Sampling Results

| Lab. # | Sample Date | Benzene | Toluene | Ethylbenzene | m,p Xylene | o Xylene | Total Xylene | Total BTEX |
|---|---|---|---|---|---|---|---|---|
| 12731 | 09/05/97 | 1.309 | 0.003 | 0.02 | 0.013 | 0.001 | 0.014 | 1.346 |
| 13180 | 12/03/97 | 0.002 | 0.001 | 0.001 | 0.005 | 0.001 | 0.006 | 0.010 |
| 13180 | 03/23/98 | 0.011 | 0.007 | 0.004 | 0.011 | 0.004 | 0.015 | 0.037 |
| 14667 | 06/25/98 | 0.016 | 0.014 | 0.005 | 0.015 | 0.006 | 0.021 | 0.056 |
| 15599 | 10/01/98 | 0.003 | 0.002 | 0.002 | 0.004 | 0.006 | 0.002 | 0.017 |
| 16606 | 01/06/99 | 0.001 | 0.001 | 0.001 | 0.003 | 0.001 | 0.002 | 0.007 |
| 17432 | 04/05/99 | 0.021 | 0.018 | 0.003 | 0.009 | 0.006 | 0.015 | 0.057 |
| 18599 | 07/14/99 | 0.011 | 0.011 | 0.005 | 0.012 | 0.006 | 0.018 | 0.045 |
| 20609 | 10/06/99 | 0.003 | 0.001 | 0.001 | 0.001 | 0.001 | 0.002 | 0.007 |
| 22779 | 01/08/00 | 0.056 | 0.005 | 0.004 | 0.008 | 0.004 | 0.012 | 0.077 |
| 25168 | 04/13/00 | 0.004 | 0.002 | 0.002 | 0.006 | 0.002 | 0.008 | 0.016 |
| 28443 | 07/20/00 | 0.002 | 0.002 | 0.001 | 0.004 | 0.002 | 0.006 | 0.011 |
| 31487 | 09/26/00 | 0.003 | 0.004 | 0.004 | 0.011 | 0.004 | 0.015 | 0.026 |
| 36140 | 01/05/01 | 0.001 | 0.002 | 0.004 | 0.009 | 0.004 | 0.013 | 0.020 |
| 38924 | 04/05/01 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.002 | 0.005 |
| 0101098-08 | 07/07/01 | 0.001 | 0.001 | 0.002 | 0.005 | 0.002 | 0.007 | 0.011 |
| 0101642-08 | 09/26/01 | 0.002 | 0.002 | 0.003 | 0.009 | 0.003 | 0.012 | 0.019 |
| 0202619-08 | 0215/02 | 0.001 | 0.001 | 0.002 | 0.006 | 0.002 | 0.008 | 0.012 |
| 0203001-08 | 03/30/02 | 0.001 | 0.002 | 0.001 | 0.006 | 0.002 | 0.008 | 0.012 |
| 0203602-06 | 06/15/02 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.002 | 0.005 |
| 0204815-09 | 10/19/02 | 0.001 | 0.001 | 0.001 | 0.003 | 0.001 | 0.004 | 0.007 |
| 0205349-08 | 01/04/03 | 0.002 | 0.001 | 0.001 | 0.005 | 0.002 | 0.007 | 0.011 |
| 0306249-09 | 04/17/03 | 0.001 | 0.001 | 0.001 | 0.002 | 0.002 | 0.004 | 0.007 |
| 0306733-25 | 06/20/03 | 0.001 | 0.001 | 0.005 | 0.005 | 0.002 | 0.007 | 0.014 |
| 0307790-02 | 10/30/03 | 0.001 | 0.003 | 0.002 | 0.003 | 0.001 | 0.004 | 0.010 |
| 4A26007-02 | 01/23/04 | 0.225 | 0.002 | 0.001 | 0.005 | 0.001 | 0.006 | 0.234 |
| 4J04003-02 | 10/01/04 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.002 | 0.005 |

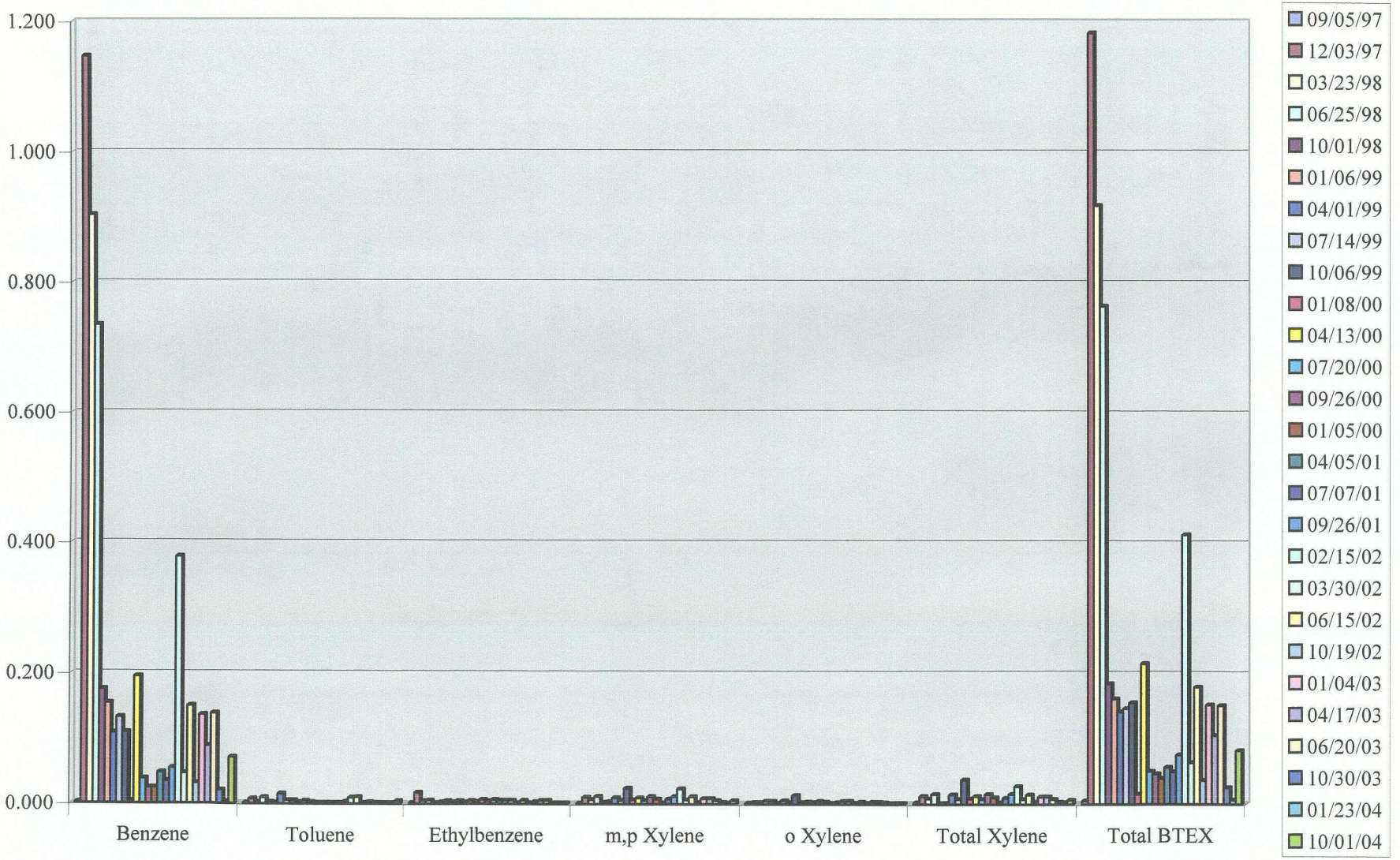
## Bell MW #2


1.400
1.200
1.000
0.800
0.600
0.400
0.200
0.000
Benzene
Toluene
Ethylbenzene
m,p Xylene
o Xylene
Total Xylene
Total BTEX
09/05/97
12/03/97
03/23/98
06/25/98
10/01/98
01/06/99
04/05/99
07/14/99
10/06/99
01/08/00
04/13/00
07/20/00
09/26/00
01/05/01
04/05/01
07/07/01
09/26/01
0215/02
03/30/02
06/15/02
10/19/02
01/04/03
04/17/03
06/20/03
10/30/03
01/23/04
10/01/04

# Monitor Well # 3
# Bell State "A"
# Sampling Results

| Lab. # | Sample Date | Benzene | Toluene | Ethylbenzene | m,p Xylene | o Xylene | Total Xylene | Total BTEX |
|---|---|---|---|---|---|---|---|---|
| 12732 | 09/05/97 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.002 | 0.005 |
| 13181 | 12/03/97 | 1.147 | 0.007 | 0.017 | 0.010 | 0.002 | 0.012 | 1.183 |
| 14048 | 03/23/98 | 0.904 | 0.002 | 0.004 | 0.006 | 0.002 | 0.008 | 0.918 |
| 14668 | 06/25/98 | 0.735 | 0.009 | 0.005 | 0.011 | 0.004 | 0.015 | 0.764 |
| 15607 | 10/01/98 | 0.175 | 0.002 | 0.001 | 0.002 | 0.004 | 0.001 | 0.184 |
| 16607 | 01/06/99 | 0.154 | 0.001 | 0.002 | 0.003 | 0.001 | 0.001 | 0.161 |
| 17433 | 04/01/99 | 0.108 | 0.015 | 0.004 | 0.009 | 0.005 | 0.014 | 0.141 |
| 18600 | 07/14/99 | 0.132 | 0.005 | 0.002 | 0.005 | 0.002 | 0.007 | 0.146 |
| 20610 | 10/06/99 | 0.109 | 0.005 | 0.004 | 0.024 | 0.013 | 0.037 | 0.155 |
| 22770 | 01/08/00 | 0.003 | 0.002 | 0.002 | 0.006 | 0.002 | 0.008 | 0.015 |
| 25169 | 04/13/00 | 0.195 | 0.004 | 0.004 | 0.009 | 0.003 | 0.012 | 0.215 |
| 28444 | 07/20/00 | 0.038 | 0.002 | 0.003 | 0.005 | 0.002 | 0.007 | 0.050 |
| 31488 | 09/26/00 | 0.024 | 0.001 | 0.006 | 0.011 | 0.004 | 0.015 | 0.046 |
| 36141 | 01/05/00 | 0.024 | 0.001 | 0.004 | 0.007 | 0.003 | 0.010 | 0.039 |
| 38925 | 04/05/01 | 0.047 | 0.001 | 0.006 | 0.001 | 0.001 | 0.002 | 0.056 |
| 01010098-09 | 07/07/01 | 0.034 | 0.001 | 0.005 | 0.007 | 0.002 | 0.009 | 0.049 |
| 0101642-09 | 09/26/01 | 0.054 | 0.001 | 0.005 | 0.011 | 0.004 | 0.015 | 0.075 |
| 0202619-09 | 02/15/02 | 0.378 | 0.003 | 0.005 | 0.023 | 0.004 | 0.027 | 0.413 |
| 0203001-09 | 03/30/02 | 0.046 | 0.009 | 0.001 | 0.006 | 0.001 | 0.007 | 0.063 |
| 0203602-08 | 06/15/02 | 0.150 | 0.010 | 0.005 | 0.011 | 0.003 | 0.014 | 0.179 |
| 0204815-10 | 10/19/02 | 0.031 | 0.001 | 0.001 | 0.002 | 0.001 | 0.003 | 0.036 |
| 0205349-09 | 01/04/03 | 0.136 | 0.002 | 0.003 | 0.008 | 0.003 | 0.011 | 0.152 |
| 0306249-10 | 04/17/03 | 0.088 | 0.001 | 0.005 | 0.008 | 0.003 | 0.011 | 0.105 |
| 0306733-26 | 06/20/03 | 0.138 | 0.001 | 0.005 | 0.005 | 0.002 | 0.007 | 0.151 |
| 0307790-03 | 10/30/03 | 0.020 | 0.001 | 0.001 | 0.002 | 0.001 | 0.003 | 0.025 |
| 4A26007-03 | 01/23/04 | 0.002 | 0.001 | 0.001 | 0.001 | 0.001 | 0.002 | 0.006 |
| 4J04003-03 | 10/01/04 | 0.071 | 0.004 | 0.001 | 0.005 | 0.001 | 0.006 | 0.082 |

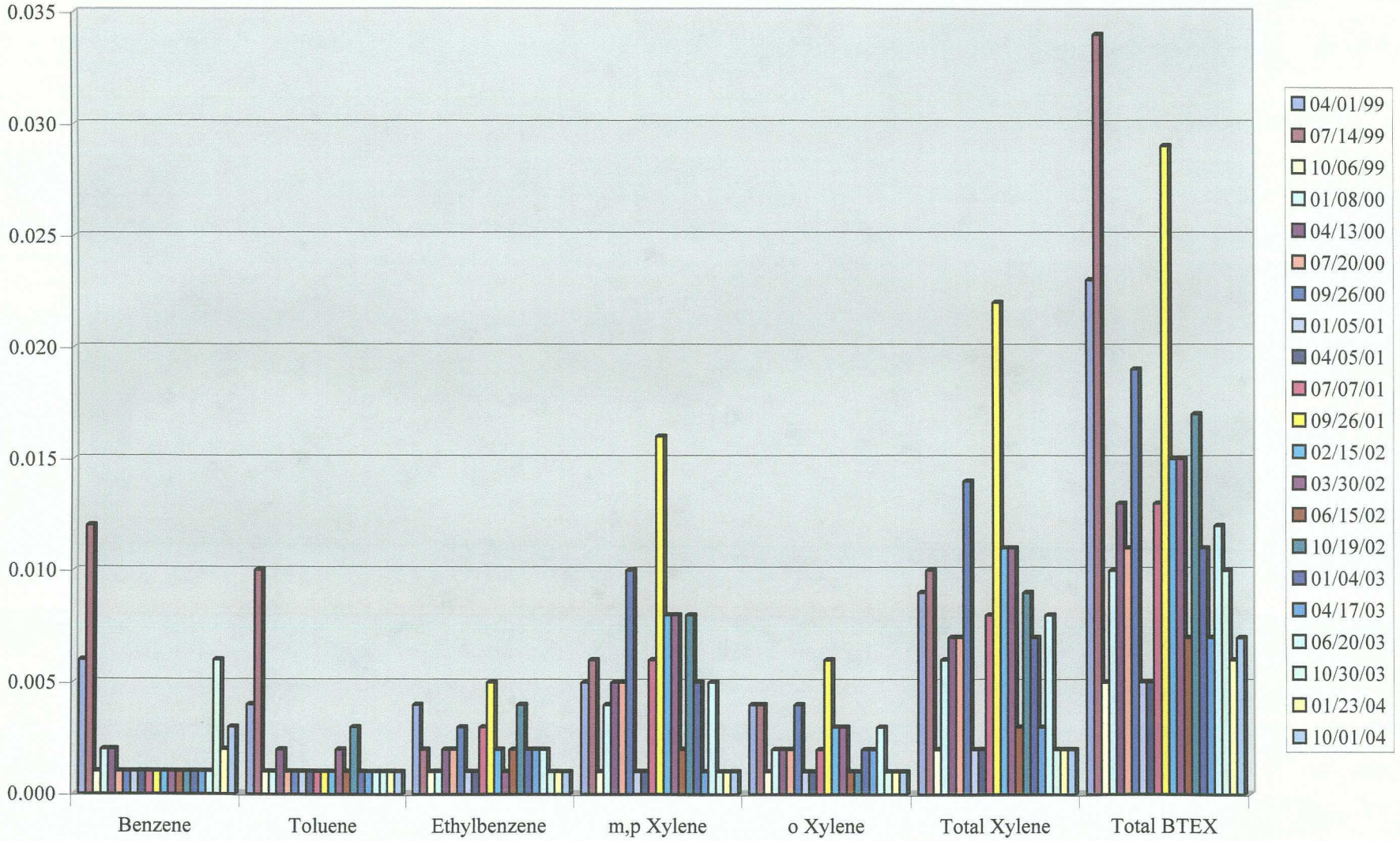
## Bell MW #3


1.200
1.000
0.800
0.600
0.400
0.200
0.000
Benzene
Toluene
Ethylbenzene
m,p Xylene
o Xylene
Total Xylene
Total BTEX
09/05/97
12/03/97
03/23/98
06/25/98
10/01/98
01/06/99
04/01/99
07/14/99
10/06/99
01/08/00
04/13/00
07/20/00
09/26/00
01/05/00
04/05/01
07/07/01
09/26/01
02/15/02
03/30/02
06/15/02
10/19/02
01/04/03
04/17/03
06/20/03
10/30/03
01/23/04
10/01/04

# Monitor Well # 4
# Bell State "A"
# Sampling Results

| Lab. # | Sample Date | Benzene | Toluene | Ethylbenzene | m,p Xylene | o Xylene | Total Xylene | Total BTEX |
|---|---|---|---|---|---|---|---|---|
| 17265 | 04/01/99 | 0.006 | 0.004 | 0.004 | 0.005 | 0.004 | 0.009 | 0.023 |
| 18601 | 07/14/99 | 0.012 | 0.010 | 0.002 | 0.006 | 0.004 | 0.010 | 0.034 |
| 20611 | 10/06/99 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.002 | 0.005 |
| 22784 | 01/08/00 | 0.002 | 0.001 | 0.001 | 0.004 | 0.002 | 0.006 | 0.010 |
| 25170 | 04/13/00 | 0.002 | 0.002 | 0.002 | 0.005 | 0.002 | 0.007 | 0.013 |
| 28454 | 07/20/00 | 0.001 | 0.001 | 0.002 | 0.005 | 0.002 | 0.007 | 0.011 |
| 31489 | 09/26/00 | 0.001 | 0.001 | 0.003 | 0.010 | 0.004 | 0.014 | 0.019 |
| 36152 | 01/05/01 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.002 | 0.005 |
| 38926 | 04/05/01 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.002 | 0.005 |
| 0101098-10 | 07/07/01 | 0.001 | 0.001 | 0.003 | 0.006 | 0.002 | 0.008 | 0.013 |
| 0101642-10 | 09/26/01 | 0.001 | 0.001 | 0.005 | 0.016 | 0.006 | 0.022 | 0.029 |
| 0202619-10 | 02/15/02 | 0.001 | 0.001 | 0.002 | 0.008 | 0.003 | 0.011 | 0.015 |
| 0203001-10 | 03/30/02 | 0.001 | 0.002 | 0.001 | 0.008 | 0.003 | 0.011 | 0.015 |
| 0203602-08 | 06/15/02 | 0.001 | 0.001 | 0.002 | 0.002 | 0.001 | 0.003 | 0.007 |
| 0204815-11 | 10/19/02 | 0.001 | 0.003 | 0.004 | 0.008 | 0.001 | 0.009 | 0.017 |
| 0205349-10 | 01/04/03 | 0.001 | 0.001 | 0.002 | 0.005 | 0.002 | 0.007 | 0.011 |
| 0306249-11 | 04/17/03 | 0.001 | 0.001 | 0.002 | 0.001 | 0.002 | 0.003 | 0.007 |
| 0306733-27 | 06/20/03 | 0.001 | 0.001 | 0.002 | 0.005 | 0.003 | 0.008 | 0.012 |
| 0307790-04 | 10/30/03 | 0.006 | 0.001 | 0.001 | 0.001 | 0.001 | 0.002 | 0.010 |
| 4A26007-04 | 01/23/04 | 0.002 | 0.001 | 0.001 | 0.001 | 0.001 | 0.002 | 0.006 |
| 4J04003-04 | 10/01/04 | 0.003 | 0.001 | 0.001 | 0.001 | 0.001 | 0.002 | 0.007 |

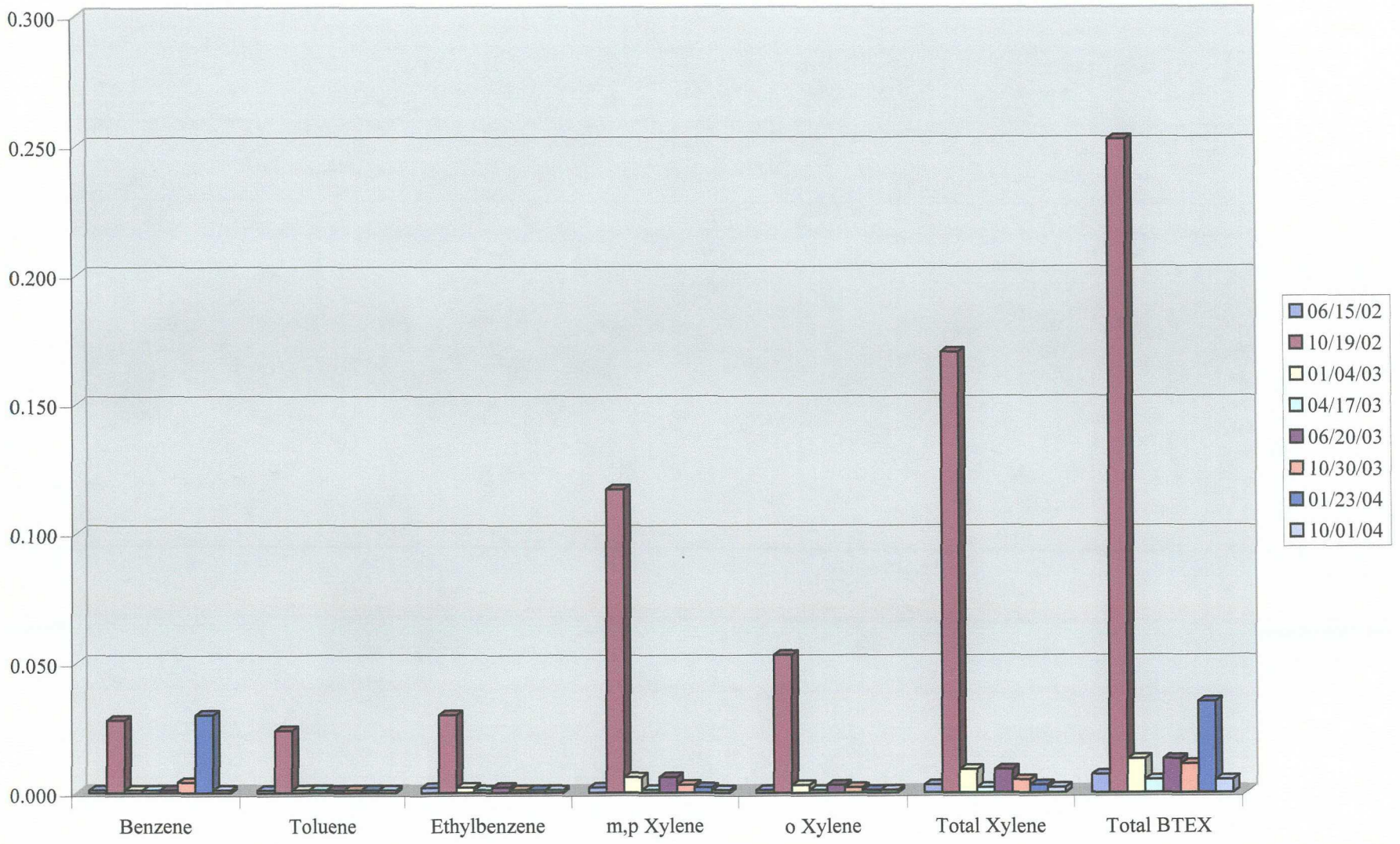
## Bell MW #4


0.035
0.030
0.025
0.020
0.015
0.010
0.005
0.000
Benzene
Toluene
Ethylbenzene
m,p Xylene
o Xylene
Total Xylene
Total BTEX
04/01/99
07/14/99
10/06/99
01/08/00
04/13/00
07/20/00
09/26/00
01/05/01
04/05/01
07/07/01
09/26/01
02/15/02
03/30/02
06/15/02
10/19/02
01/04/03
04/17/03
06/20/03
10/30/03
01/23/04
10/01/04

## Bell State
## MW-5

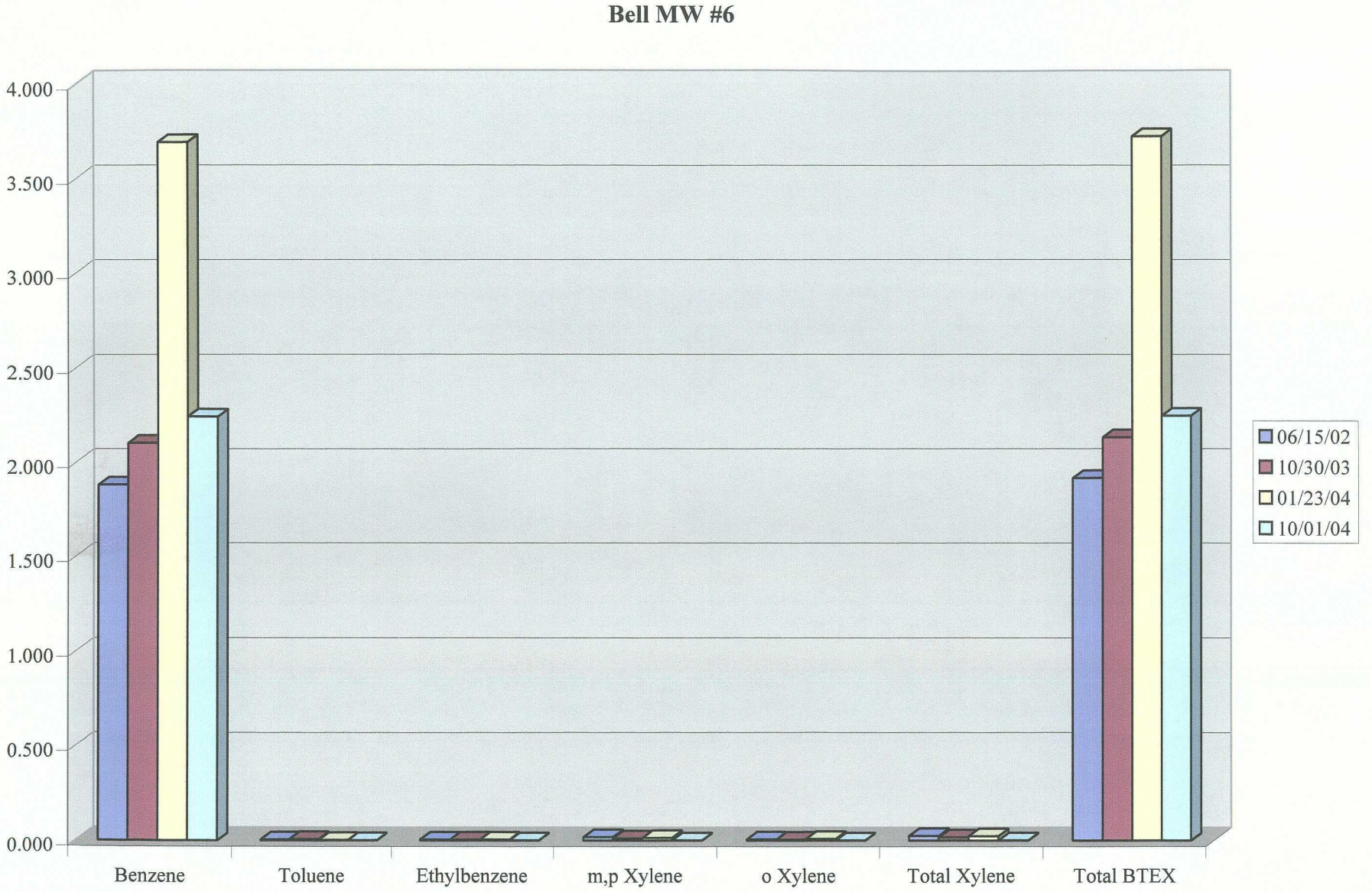
| Lab. # | Sample Date | Benzene | Toluene | Ethylbenzene | m,p Xylene | o Xylene | Total Xylene | Total BTEX |
|---|---|---|---|---|---|---|---|---|
| 0203602-09 | 06/15/02 | 0.001 | 0.001 | 0.002 | 0.002 | 0.001 | 0.003 | 0.007 |
| 0204815-12 | 10/19/02 | 0.028 | 0.024 | 0.03 | 0.117 | 0.053 | 0.170 | 0.252 |
| 0205349-11 | 01/04/03 | 0.001 | 0.001 | 0.002 | 0.006 | 0.003 | 0.009 | 0.013 |
| 0306246-11 | 04/17/03 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.002 | 0.005 |
| 0306733-28 | 06/20/03 | 0.001 | 0.001 | 0.002 | 0.006 | 0.003 | 0.009 | 0.013 |
| 0307790-05 | 10/30/03 | 0.004 | 0.001 | 0.001 | 0.003 | 0.002 | 0.005 | 0.011 |
| 4A26007-05 | 01/23/04 | 0.030 | 0.001 | 0.001 | 0.002 | 0.001 | 0.003 | 0.035 |
| 4J04003-05 | 10/01/04 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.002 | 0.005 |

## Bell MW #5


0.300
0.250
0.200
0.150
0.100
0.050
0.000
Benzene
Toluene
Ethylbenzene
m,p Xylene
o Xylene
Total Xylene
Total BTEX
06/15/02
10/19/02
01/04/03
04/17/03
06/20/03
10/30/03
01/23/04
10/01/04

**Bell State**
**MW-6**

| Lab. # | Sample Date | Benzene | Toluene | Ethylbenzene | m,p Xylene | o Xylene | Total Xylene | Total BTEX |
|---|---|---|---|---|---|---|---|---|
| 0203602-09 | 06/15/02 | 1.880 | 0.005 | 0.005 | 0.018 | 0.007 | 0.025 | 1.915 |
| 0307790-06 | 10/30/03 | 2.100 | 0.008 | 0.005 | 0.012 | 0.005 | 0.017 | 2.130 |
| 4A26007-06 | 01/23/04 | 3.690 | 0.003 | 0.006 | 0.015 | 0.009 | 0.024 | 3.723 |
| 4J04003-06 | 10/01/04 | 2.240 | 0.001 | 0.001 | 0.001 | 0.001 | 0.002 | 2.244 |


Bell MW #6
4.000
3.500
3.000
2.500
2.000
1.500
1.000
0.500
0.000
Benzene
Toluene
Ethylbenzene
m,p Xylene
o Xylene
Total Xylene
Total BTEX
06/15/02
10/30/03
01/23/04
10/01/04

ENVIRONMENTAL LAB OF

12600 West I-20 East - Odessa, Texas 79765

# Analytical Report

**Prepared for:**

Mike Griffin

WHOLE EARTH ENVIRONMENTAL

2103 Arbor Cove

Katy, TX 77494

Project: Bell

Project Number: None Given

Location: None Given

Lab Order Number: 4J04003

Report Date: 10/15/04

| | | |
|---|---|---|
| WHOLE EARTH ENVIRONMENTAL | Project: Bell | Fax: (281) 394-2051 |
| 2103 Arbor Cove | Project Number: None Given | **Reported:** |
| Katy TX, 77494 | Project Manager: Mike Griffin | 10/15/04 16:48 |

## ANALYTICAL REPORT FOR SAMPLES

| Sample ID | Laboratory ID | Matrix | Date Sampled | Date Received |
|---|---|---|---|---|
| MW-1 | 4J04003-01 | Water | 10/01/04 00:00 | 10/03/04 13:00 |
| MW-2 | 4J04003-02 | Water | 10/01/04 00:00 | 10/03/04 13:00 |
| MW-3 | 4J04003-03 | Water | 10/01/04 00:00 | 10/03/04 13:00 |
| MW-4 | 4J04003-04 | Water | 10/01/04 00:00 | 10/03/04 13:00 |
| MW-5 | 4J04003-05 | Water | 10/01/04 00:00 | 10/03/04 13:00 |
| MW-6 | 4J04003-06 | Water | 10/01/04 00:00 | 10/03/04 13:00 |



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| | | |
|---|---|---|
| WHOLE EARTH ENVIRONMENTAL | Project: Bell | Fax: (281) 394-2051 |
| 2103 Arbor Cove | Project Number: None Given | **Reported:** |
| Katy TX, 77494 | Project Manager: Mike Griffin | 10/15/04 16:48 |

## Organics by GC

## Environmental Lab of Texas

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **MW-1 (4J04003-01) Water** | | | | | | | | | |
| **Benzene** | **0.00897** | 0.00100 | mg/L | 1 | EJ40716 | 10/06/04 | 10/07/04 | EPA 8021B | |
| **Toluene** | **0.00722** | 0.00100 | " | " | " | " | " | " | |
| **Ethylbenzene** | **0.00432** | 0.00100 | " | " | " | " | " | " | |
| **Xylene (p/m)** | **0.00122** | 0.00100 | " | " | " | " | " | " | |
| Xylene (o) | ND | 0.00100 | " | " | " | " | " | " | |
| *Surrogate: a,a,a-Trifluorotoluene* | | *81.6 %* | *80-120* | | " | " | " | " | |
| *Surrogate: 4-Bromofluorobenzene* | | *84.4 %* | *80-120* | | " | " | " | " | |
| **MW-2 (4J04003-02) Water** | | | | | | | | | |
| Benzene | ND | 0.00100 | mg/L | 1 | EJ40716 | 10/06/04 | 10/07/04 | 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* | | *82.5 %* | *80-120* | | " | " | " | " | |
| *Surrogate: 4-Bromofluorobenzene* | | *84.9 %* | *80-120* | | " | " | " | " | |
| **MW-3 (4J04003-03) Water** | | | | | | | | | |
| **Benzene** | **0.0706** | 0.00100 | mg/L | 1 | EJ40716 | 10/06/04 | 10/07/04 | EPA 8021B | |
| **Toluene** | **0.00378** | 0.00100 | " | " | " | " | " | " | |
| **Ethylbenzene** | **0.00146** | 0.00100 | " | " | " | " | " | " | |
| **Xylene (p/m)** | **0.00533** | 0.00100 | " | " | " | " | " | " | |
| Xylene (o) | ND | 0.00100 | " | " | " | " | " | " | |
| *Surrogate: a,a,a-Trifluorotoluene* | | *147 %* | *80-120* | | " | " | " | " | *S-04* |
| *Surrogate: 4-Bromofluorobenzene* | | *87.0 %* | *80-120* | | " | " | " | " | |
| **MW-4 (4J04003-04) Water** | | | | | | | | | |
| **Benzene** | **0.00276** | 0.00100 | mg/L | 1 | EJ40716 | 10/06/04 | 10/08/04 | 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* | | *89.2 %* | *80-120* | | " | " | " | " | |
| *Surrogate: 4-Bromofluorobenzene* | | *99.2 %* | *80-120* | | " | " | " | " | |







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| | | |
|---|---|---|
| WHOLE EARTH ENVIRONMENTAL | Project: Bell | Fax: (281) 394-2051 |
| 2103 Arbor Cove | Project Number: None Given | **Reported:** |
| Katy TX, 77494 | Project Manager: Mike Griffin | 10/15/04 16:48 |

## Organics by GC

## Environmental Lab of Texas

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **MW-5 (4J04003-05) Water** | | | | | | | | | |
| Benzene | ND | 0.00100 | mg/L | 1 | EJ40716 | 10/06/04 | 10/08/04 | 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* | | *90.0 %* | *80-120* | | " | " | " | " | |
| *Surrogate: 4-Bromofluorobenzene* | | *86.1 %* | *80-120* | | " | " | " | " | |
| **MW-6 (4J04003-06) Water** | | | | | | | | | |
| **Benzene** | **2.24** | 0.00500 | mg/L | 5 | EJ40716 | 10/06/04 | 10/08/04 | EPA 8021B | |
| Toluene | ND | 0.00500 | " | " | " | " | " | " | |
| Ethylbenzene | ND | 0.00500 | " | " | " | " | " | " | |
| Xylene (p/m) | ND | 0.00500 | " | " | " | " | " | " | |
| Xylene (o) | ND | 0.00500 | " | " | " | " | " | " | |
| *Surrogate: a,a,a-Trifluorotoluene* | | *143 %* | *80-120* | | " | " | " | " | *S-04* |
| *Surrogate: 4-Bromofluorobenzene* | | *102 %* | *80-120* | | " | " | " | " | |







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| | | |
|---|---|---|
| WHOLE EARTH ENVIRONMENTAL | Project: Bell | Fax: (281) 394-2051 |
| 2103 Arbor Cove | Project Number: None Given | **Reported:** |
| Katy TX, 77494 | Project Manager: Mike Griffin | 10/15/04 16:48 |

## General Chemistry Parameters by EPA / Standard Methods

## Environmental Lab of Texas

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **MW-1 (4J04003-01) Water** | | | | | | | | | |
| Carbonate Alkalinity | ND | 0.200 | mg/L | 2 | EJ40901 | 10/05/04 | 10/05/04 | EPA 310.2M | O-04 |
| **Bicarbonate Alkalinity** | **312** | 4.00 | " | " | " | " | " | " | O-04 |
| Hydroxide Alkalinity | ND | 0.200 | " | " | " | " | " | " | O-04 |
| **Chloride** | **603** | 5.00 | " | 1 | EJ40906 | 10/09/04 | 10/09/04 | EPA 325.3M | |
| **Sulfate** | **225** | 2.50 | " | 5 | EJ40703 | 10/05/04 | 10/05/04 | EPA 375.4 | |
| **MW-2 (4J04003-02) Water** | | | | | | | | | |
| Carbonate Alkalinity | ND | 0.200 | mg/L | 2 | EJ40901 | 10/05/04 | 10/05/04 | EPA 310.2M | O-04 |
| **Bicarbonate Alkalinity** | **296** | 4.00 | " | " | " | " | " | " | O-04 |
| Hydroxide Alkalinity | ND | 0.200 | " | " | " | " | " | " | O-04 |
| **Chloride** | **567** | 5.00 | " | 1 | EJ40906 | 10/09/04 | 10/09/04 | EPA 325.3M | |
| **Sulfate** | **250** | 2.50 | " | 5 | EJ40703 | 10/05/04 | 10/05/04 | EPA 375.4 | |
| **MW-3 (4J04003-03) Water** | | | | | | | | | |
| Carbonate Alkalinity | ND | 0.200 | mg/L | 2 | EJ40901 | 10/05/04 | 10/05/04 | EPA 310.2M | O-04 |
| **Bicarbonate Alkalinity** | **260** | 4.00 | " | " | " | " | " | " | O-04 |
| Hydroxide Alkalinity | ND | 0.200 | " | " | " | " | " | " | O-04 |
| **Chloride** | **177** | 5.00 | " | 1 | EJ40906 | 10/09/04 | 10/09/04 | EPA 325.3M | |
| **Sulfate** | **12.9** | 0.500 | " | " | EJ40703 | 10/05/04 | 10/05/04 | EPA 375.4 | |
| **MW-4 (4J04003-04) Water** | | | | | | | | | |
| Carbonate Alkalinity | ND | 0.200 | mg/L | 2 | EJ40901 | 10/05/04 | 10/05/04 | EPA 310.2M | O-04 |
| **Bicarbonate Alkalinity** | **156** | 4.00 | " | " | " | " | " | " | O-04 |
| Hydroxide Alkalinity | ND | 0.200 | " | " | " | " | " | " | O-04 |
| **Chloride** | **851** | 5.00 | " | 1 | EJ40906 | 10/09/04 | 10/09/04 | EPA 325.3M | |
| **Sulfate** | **262** | 2.50 | " | 5 | EJ40703 | 10/05/04 | 10/05/04 | EPA 375.4 | |
| **MW-5 (4J04003-05) Water** | | | | | | | | | |
| Carbonate Alkalinity | ND | 0.200 | mg/L | 2 | EJ40901 | 10/05/04 | 10/05/04 | EPA 310.2M | O-04 |
| **Bicarbonate Alkalinity** | **128** | 4.00 | " | " | " | " | " | " | O-04 |
| Hydroxide Alkalinity | ND | 0.200 | " | " | " | " | " | " | O-04 |
| **Chloride** | **354** | 5.00 | " | 1 | EJ40906 | 10/09/04 | 10/09/04 | EPA 325.3M | |
| **Sulfate** | **282** | 2.50 | " | 5 | EJ40703 | 10/05/04 | 10/05/04 | EPA 375.4 | |







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| | | |
|---|---|---|
| WHOLE EARTH ENVIRONMENTAL | Project: Bell | Fax: (281) 394-2051 |
| 2103 Arbor Cove | Project Number: None Given | **Reported:** |
| Katy TX, 77494 | Project Manager: Mike Griffin | 10/15/04 16:48 |

## General Chemistry Parameters by EPA / Standard Methods

## Environmental Lab of Texas

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **MW-6 (4J04003-06) Water** | | | | | | | | | |
| Carbonate Alkalinity | ND | 0.200 | mg/L | 2 | EJ40901 | 10/05/04 | 10/05/04 | EPA 310.2M | O-04 |
| **Bicarbonate Alkalinity** | **540** | 4.00 | " | " | " | " | " | " | O-04 |
| Hydroxide Alkalinity | ND | 0.200 | " | " | " | " | " | " | O-04 |
| **Chloride** | **319** | 5.00 | " | 1 | EJ40906 | 10/09/04 | 10/09/04 | EPA 325.3M | |
| **Sulfate** | **161** | 2.50 | " | 5 | EJ40703 | 10/05/04 | 10/05/04 | EPA 375.4 | |







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| | | |
|---|---|---|
| WHOLE EARTH ENVIRONMENTAL | Project: Bell | Fax: (281) 394-2051 |
| 2103 Arbor Cove | Project Number: None Given | **Reported:** |
| Katy TX, 77494 | Project Manager: Mike Griffin | 10/15/04 16:48 |

## Total Metals by EPA / Standard Methods

## Environmental Lab of Texas

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **MW-1 (4J04003-01) Water** | | | | | | | | | |
| **Calcium** | **38.6** | 0.100 | mg/L | 10 | EJ41304 | 10/11/04 | 10/11/04 | EPA 6010B | |
| **Magnesium** | **4.30** | 0.0100 | " | " | " | " | " | " | |
| **Potassium** | **8.83** | 0.250 | " | 5 | " | " | " | " | |
| **Sodium** | **538** | 1.00 | " | 100 | " | " | " | " | |
| **MW-2 (4J04003-02) Water** | | | | | | | | | |
| **Calcium** | **251** | 1.00 | mg/L | 100 | EJ41304 | 10/11/04 | 10/11/04 | EPA 6010B | |
| **Magnesium** | **67.0** | 0.100 | " | " | " | " | " | " | |
| **Potassium** | **7.83** | 0.100 | " | 2 | " | " | " | " | |
| **Sodium** | **205** | 1.00 | " | 100 | " | " | " | " | |
| **MW-3 (4J04003-03) Water** | | | | | | | | | |
| **Calcium** | **93.0** | 1.00 | mg/L | 100 | EJ41304 | 10/11/04 | 10/11/04 | EPA 6010B | |
| **Magnesium** | **14.9** | 0.0100 | " | 10 | " | " | " | " | |
| **Potassium** | **9.56** | 0.500 | " | " | " | " | " | " | |
| **Sodium** | **75.7** | 1.00 | " | 100 | " | " | " | " | |
| **MW-4 (4J04003-04) Water** | | | | | | | | | |
| **Calcium** | **426** | 1.00 | mg/L | 100 | EJ41304 | 10/11/04 | 10/11/04 | EPA 6010B | |
| **Magnesium** | **46.8** | 0.0100 | " | 10 | " | " | " | " | |
| **Potassium** | **8.74** | 0.100 | " | 2 | " | " | " | " | |
| **Sodium** | **169** | 1.00 | " | 100 | " | " | " | " | |
| **MW-5 (4J04003-05) Water** | | | | | | | | | |
| **Calcium** | **280** | 1.00 | mg/L | 100 | EJ41304 | 10/11/04 | 10/11/04 | EPA 6010B | |
| **Magnesium** | **19.2** | 0.0100 | " | 10 | " | " | " | " | |
| **Potassium** | **17.0** | 0.250 | " | 5 | " | " | " | " | |
| **Sodium** | **118** | 1.00 | " | 100 | " | " | " | " | |
| **MW-6 (4J04003-06) Water** | | | | | | | | | |
| **Calcium** | **159** | 1.00 | mg/L | 100 | EJ41304 | 10/11/04 | 10/11/04 | EPA 6010B | |
| **Magnesium** | **46.3** | 0.0100 | " | 10 | " | " | " | " | |
| **Potassium** | **7.11** | 0.250 | " | 5 | " | " | " | " | |
| **Sodium** | **187** | 1.00 | " | 100 | " | " | " | " | |







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## 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 EJ40716 - EPA 5030C (GC)** | | | | | | | | | | |
| **Blank (EJ40716-BLK1)** | | | | Prepared: 10/06/04 Analyzed: 10/07/04 | | | | | | |
| 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* | *81.8* | | *ug/l* | *100* | | *81.8* | *80-120* | | | |
| *Surrogate: 4-Bromofluorobenzene* | *88.0* | | *"* | *100* | | *88.0* | *80-120* | | | |
| **LCS (EJ40716-BS1)** | | | | Prepared: 10/06/04 Analyzed: 10/07/04 | | | | | | |
| Benzene | 83.8 | | ug/l | 100 | | 83.8 | 80-120 | | | |
| Toluene | 82.6 | | " | 100 | | 82.6 | 80-120 | | | |
| Ethylbenzene | 80.9 | | " | 100 | | 80.9 | 80-120 | | | |
| Xylene (p/m) | 179 | | " | 200 | | 89.5 | 80-120 | | | |
| Xylene (o) | 84.6 | | " | 100 | | 84.6 | 80-120 | | | |
| *Surrogate: a,a,a-Trifluorotoluene* | *106* | | *"* | *100* | | *106* | *80-120* | | | |
| *Surrogate: 4-Bromofluorobenzene* | *118* | | *"* | *100* | | *118* | *80-120* | | | |
| **Calibration Check (EJ40716-CCV1)** | | | | Prepared: 10/05/04 Analyzed: 10/06/04 | | | | | | |
| Benzene | 83.1 | | ug/l | 100 | | 83.1 | 80-120 | | | |
| Toluene | 83.4 | | " | 100 | | 83.4 | 80-120 | | | |
| Ethylbenzene | 80.8 | | " | 100 | | 80.8 | 80-120 | | | |
| Xylene (p/m) | 167 | | " | 200 | | 83.5 | 80-120 | | | |
| Xylene (o) | 83.4 | | " | 100 | | 83.4 | 80-120 | | | |
| *Surrogate: a,a,a-Trifluorotoluene* | *102* | | *"* | *100* | | *102* | *80-120* | | | |
| *Surrogate: 4-Bromofluorobenzene* | *117* | | *"* | *100* | | *117* | *80-120* | | | |
| **Matrix Spike (EJ40716-MS1)** | **Source: 4J05006-03** | | | Prepared: 10/06/04 Analyzed: 10/07/04 | | | | | | |
| Benzene | 82.5 | | ug/l | 100 | ND | 82.5 | 80-120 | | | |
| Toluene | 82.7 | | " | 100 | ND | 82.7 | 80-120 | | | |
| Ethylbenzene | 80.8 | | " | 100 | ND | 80.8 | 80-120 | | | |
| Xylene (p/m) | 168 | | " | 200 | ND | 84.0 | 80-120 | | | |
| Xylene (o) | 82.5 | | " | 100 | ND | 82.5 | 80-120 | | | |
| *Surrogate: a,a,a-Trifluorotoluene* | *97.6* | | *"* | *100* | | *97.6* | *80-120* | | | |
| *Surrogate: 4-Bromofluorobenzene* | *114* | | *"* | *100* | | *114* | *80-120* | | | |

## 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 EJ40716 - EPA 5030C (GC)** | | | | | | | | | | |
| **Matrix Spike Dup (EJ40716-MSD1)** | **Source: 4J05006-03** | | | Prepared: 10/06/04 Analyzed: 10/07/04 | | | | | | |
| Benzene | 83.3 | | ug/l | 100 | ND | 83.3 | 80-120 | 0.965 | 20 | |
| Toluene | 83.8 | | " | 100 | ND | 83.8 | 80-120 | 1.32 | 20 | |
| Ethylbenzene | 80.8 | | " | 100 | ND | 80.8 | 80-120 | 0.00 | 20 | |
| Xylene (p/m) | 166 | | " | 200 | ND | 83.0 | 80-120 | 1.20 | 20 | |
| Xylene (o) | 82.8 | | " | 100 | ND | 82.8 | 80-120 | 0.363 | 20 | |
| *Surrogate: a,a,a-Trifluorotoluene* | *104* | | " | *100* | | *104* | *80-120* | | | |
| *Surrogate: 4-Bromofluorobenzene* | *114* | | " | *100* | | *114* | *80-120* | | | |

## 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 EJ40703 - General Preparation (WetChem)** | | | | | | | | | | |
| **Blank (EJ40703-BLK1)** | | | | Prepared & Analyzed: 10/05/04 | | | | | | |
| Sulfate | ND | 0.500 | mg/L | | | | | | | |
| **Calibration Check (EJ40703-CCV1)** | | | | Prepared & Analyzed: 10/05/04 | | | | | | |
| Sulfate | 49.0 | | mg/L | 50.0 | | 98.0 | 80-120 | | | |
| **Duplicate (EJ40703-DUP1)** | **Source: 4I28007-01** | | | Prepared & Analyzed: 10/05/04 | | | | | | |
| Sulfate | 86.8 | 1.25 | mg/L | | 89.0 | | | 2.50 | 20 | |
| **Batch EJ40901 - General Preparation (WetChem)** | | | | | | | | | | |
| **Blank (EJ40901-BLK1)** | | | | Prepared & Analyzed: 10/05/04 | | | | | | |
| Carbonate Alkalinity | ND | 0.200 | mg/L | | | | | | | |
| Bicarbonate Alkalinity | ND | 4.00 | " | | | | | | | |
| Hydroxide Alkalinity | ND | 0.200 | " | | | | | | | |
| **Duplicate (EJ40901-DUP1)** | **Source: 4J04003-01** | | | Prepared & Analyzed: 10/05/04 | | | | | | |
| Carbonate Alkalinity | 0.00 | 0.200 | mg/L | | 0.00 | | | | 20 | O-04 |
| Bicarbonate Alkalinity | 310 | 4.00 | " | | 312 | | | 0.643 | 20 | O-04 |
| Hydroxide Alkalinity | 0.00 | 0.200 | " | | 0.00 | | | | 20 | O-04 |
| **Reference (EJ40901-SRM1)** | | | | Prepared & Analyzed: 10/05/04 | | | | | | |
| Carbonate Alkalinity | 0.0501 | | mg/L | 0.0500 | | 100 | 80-120 | | | |
| **Batch EJ40906 - General Preparation (WetChem)** | | | | | | | | | | |
| **Blank (EJ40906-BLK1)** | | | | Prepared & Analyzed: 10/09/04 | | | | | | |
| Chloride | ND | 5.00 | mg/L | | | | | | | |

| | | |
|---|---|---|
| WHOLE EARTH ENVIRONMENTAL | Project: Bell | Fax: (281) 394-2051 |
| 2103 Arbor Cove | Project Number: None Given | **Reported:** |
| Katy TX, 77494 | Project Manager: Mike Griffin | 10/15/04 16:48 |

## 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 EJ40906 - General Preparation (WetChem)** | | | | | | | | | | |
| **Matrix Spike (EJ40906-MS1)** | **Source: 4J04003-01** | | | Prepared & Analyzed: 10/09/04 | | | | | | |
| Chloride | 1100 | 5.00 | mg/L | 500 | 603 | 99.4 | 80-120 | | | |
| **Matrix Spike Dup (EJ40906-MSD1)** | **Source: 4J04003-01** | | | Prepared & Analyzed: 10/09/04 | | | | | | |
| Chloride | 1090 | 5.00 | mg/L | 500 | 603 | 97.4 | 80-120 | 0.913 | 20 | |
| **Reference (EJ40906-SRM1)** | | | | Prepared & Analyzed: 10/09/04 | | | | | | |
| Chloride | 4960 | | mg/L | 5000 | | 99.2 | 80-120 | | | |







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## 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 |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch EJ41304 - 6010B/No Digestion** | | | | | | | | | | |
| **Blank (EJ41304-BLK1)** | | | | Prepared & Analyzed: 10/11/04 | | | | | | |
| Calcium | ND | 0.0100 | mg/L | | | | | | | |
| Magnesium | ND | 0.00100 | " | | | | | | | |
| Potassium | ND | 0.0500 | " | | | | | | | |
| Sodium | ND | 0.0100 | " | | | | | | | |
| **Calibration Check (EJ41304-CCV1)** | | | | Prepared & Analyzed: 10/11/04 | | | | | | |
| Calcium | 2.14 | | mg/L | 2.00 | | 107 | 85-115 | | | |
| Magnesium | 2.16 | | " | 2.00 | | 108 | 85-115 | | | |
| Potassium | 1.80 | | " | 2.00 | | 90.0 | 85-115 | | | |
| Sodium | 1.82 | | " | 2.00 | | 91.0 | 85-115 | | | |
| **Duplicate (EJ41304-DUP1)** | **Source: 4J04003-01RE1** | | | Prepared & Analyzed: 10/11/04 | | | | | | |
| Calcium | 367 | 1.00 | mg/L | | 385 | | | 4.79 | 20 | |
| Magnesium | 48.7 | 0.0100 | " | | 49.0 | | | 0.614 | 20 | |
| Potassium | 24.2 | 0.500 | " | | 24.2 | | | 0.00 | 20 | |
| Sodium | 654 | 10.0 | " | | 679 | | | 3.75 | 20 | |

| | | |
|---|---|---|
| WHOLE EARTH ENVIRONMENTAL | Project: Bell | Fax: (281) 394-2051 |
| 2103 Arbor Cove | Project Number: None Given | **Reported:** |
| Katy TX, 77494 | Project Manager: Mike Griffin | 10/15/04 16:48 |

## 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: 10/15/04

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