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ANNUAL MONITORING REPORT

YEAR(S):

2004

WESTGATE SUBDIVISION

GRIMES BATTERY & TASKER ROAD

2004 Quarterly Groundwater Monitoring Report

April 2005

**SHELL EXPLORATION & PRODUCTION
COMPANY
HOUSTON, TEXAS**

Prepared By:

BBC International, Inc.
World-Wide Environmental Specialists
Hobbs, New Mexico

Shell E&P Company

A Division of Shell Exploration & Production Company

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Oil Conservation Division

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April 20, 2005

Mr. Glenn Von Gonten
New Mexico Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, New Mexico 87505

**SUBJECT: SUBMITTAL OF 2004 GROUNDWATER MONITORING
REPORT, WESTGATE SUBDIVISION,
GRIMES BATTERY AND TASKER ROAD**

Dear Mr. Von Gonten:

Shell Exploration and Production Company (SEPCo) respectfully submits the enclosed 2004 Groundwater Monitoring Report for the Westgate Subdivision, Grimes Battery and Tasker Road.

This report details the groundwater monitoring and free product recovery activities for the four quarters of 2004. Also included are summary data tables, original laboratory data, and isopleth maps.

If you have any questions, please call me at (281) 544-2322 or Cliff Brunson at (505) 397-6388 or via e-mail to me at Wayne.Hamilton@shell.com or Cliff at cbrunson@bbcinternational.com.

Sincerely,

Cliff P. Brunson

for
Wayne A. Hamilton
Sr. Staff Engineer, Legacy Properties

cc: Chris Williams, NMOCD District 1 Supervisor, 2 copies
Cliff P. Brunson, BBC International, Inc.

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1.0 INTRODUCTION

The subject site is located in west Hobbs, New Mexico. Assessment activities (Stage 1 Abatement activities) were conducted on developed and undeveloped property bordered by Tasker Road to the east, the Los Cuatro, Inc. property to the west, Sanger Road to the south, and Princess Jeanne Drive to the North. Assessment activities also included undeveloped property extending approximately 400 feet west of Cobb Drive. Based on the results of the assessment activities (both Stage 1 and proposed Stage 2 Abatement activities), quarterly groundwater monitoring and remediation activities are being performed.

The Grimes Lease is an oil production property that has been in operation since the late 1920's. It consists of producing and injection wells, tank batteries, and associated flow lines. Oil and saltwater were produced from the wells on this lease and transported by flow lines to the Grimes Battery. Prior to decommissioning of the Grimes Battery in 1993, produced oil from the battery was transported south in a pipeline owned by Shell Pipeline (currently known as Equilon Pipeline). The pipeline is decommissioned and terminates at the former battery location.

2.0 2004 GROUNDWATER MONITORING ACTIVITIES

Per NMOCD requirements, there were originally sixteen groundwater monitoring wells in the Westgate Subdivision that were being monitored quarterly for BTEX using USEPA Method 8260-B and annually for PAHs using USEPA Method 8270-C. In 2002, five monitor wells (TMW-1 through TMW-5) were plugged and abandoned per NMOCD approval. There are only eleven monitoring wells that are now gauged and sampled during a calendar year. Three of the remaining eleven wells have had measurable free product hydrocarbons detected in them. These monitor wells are GMW-1, GMW-3B, and GMW-5.

2.1 LNAPL THICKNESS AND GROUNDWATER ELEVATIONS

Each quarter the eleven monitor wells were measured from the top of the casing for depth to groundwater, depth to LNAPL, LNAPL thickness, and corrected groundwater elevations prior to sampling (Tables 1, 2, 3, 4). Three wells were found to have measurable free product hydrocarbons. They are GMW-1, GMW-3B, and GMW-5. Groundwater gradient and elevations for the first quarter are depicted in Figure Q1, for the second quarter in Figure Q4, for the third quarter in Figure Q7, and for the fourth quarter in Figure Q10. LNAPL thicknesses for the first quarter are depicted in Figure Q2, for the second quarter in Figure Q5, for the third quarter in Figure Q8, and for the fourth quarter in Figure Q11.

**Table 1. 1st Quarter 2004 LNAPL and Groundwater Elevation
Westgate Subdivision - Hobbs, NM**

MONITORING WELL	TOP OF CASING	DATE	DEPTH TO GROUNDWATER	DEPTH TO LNAPL	LNAPL THICKNESS	CORRECTED GROUNDWATER
GMW-1	3647.84	3/10/2004	70.60	ND	0.00	3577.24
GMW-2	3648.51	3/10/2004	69.95	ND	0.00	3578.56
GMW-3B	3648.26	3/10/2004	69.82	ND	0.00	3578.44
GMW-4	3647.79	3/10/2004	69.48	ND	0.00	3578.31
GMW-5	3648.41	3/10/2004	70.98	70.95	0.02	3577.45
GMW-6	3648.22	3/10/2004	70.65	ND	0.00	3577.57
GMW-7	3644.98	3/10/2004	71.00	ND	0.00	3573.98
GMW-8	3645.66	3/10/2004	71.72	ND	0.00	3573.94
GMW-9	3646.27	3/10/2004	71.37	ND	0.00	3574.90
GMW-10	3645.65	3/10/2004	69.37	ND	0.00	3576.28
GMW-11	3644.07	3/10/2004	68.87	ND	0.00	3575.20

**Table 2. 2nd Quarter 2004 LNAPL and Groundwater Elevation
Westgate Subdivision - Hobbs, NM**

MONITORING WELL	TOP OF CASING	DATE	DEPTH TO GROUNDWATER	DEPTH TO LNAPL	LNAPL THICKNESS	CORRECTED GROUNDWATER
GMW-1	3647.84	6/18/2004	70.90	ND	0.00	3576.94
GMW-2	3648.51	6/18/2004	70.20	ND	0.00	3578.31
GMW-3B	3648.26	6/18/2004	70.10	ND	0.00	3578.16
GMW-4	3647.79	6/18/2004	69.79	ND	0.00	3579.89
GMW-5	3648.41	6/18/2004	71.36	ND	0.00	3577.05
GMW-6	3648.22	6/18/2004	70.94	ND	0.00	3579.17
GMW-7	3644.98	6/18/2004	71.28	ND	0.00	3573.70
GMW-8	3645.66	6/18/2004	71.96	ND	0.00	3573.70
GMW-9	3646.27	6/18/2004	71.68	ND	0.00	3574.59
GMW-10	3645.65	6/18/2004	69.60	ND	0.00	3576.05
GMW-11	3644.07	6/18/2004	68.86	ND	0.00	3576.08

**Table 3. 3rd Quarter 2004 LNAPL and Groundwater Elevation
Westgate Subdivision - Hobbs, NM**

MONITORING WELL	TOP OF CASING	DATE	DEPTH TO GROUNDWATER	DEPTH TO LNAPL	LNAPL THICKNESS	CORRECTED GROUNDWATER
GMW-1	3647.84	9/24/2004	71.18	ND	0.00	3576.66
GMW-2	3648.51	9/24/2004	70.43	ND	0.00	3578.08
GMW-3B	3648.26	9/24/2004	70.32	ND	0.00	3577.94
GMW-4	3647.79	9/24/2004	69.98	ND	0.00	3577.81
GMW-5	3648.41	9/24/2004	71.67	Sheen	0.00	3576.74
GMW-6	3648.22	9/24/2004	71.19	ND	0.00	3577.03
GMW-7	3644.98	9/24/2004	71.57	ND	0.00	3573.41
GMW-8	3645.66	9/24/2004	72.20	ND	0.00	3573.46
GMW-9	3646.27	9/24/2004	72.01	ND	0.00	3574.26
GMW-10	3645.65	9/24/2004	69.88	ND	0.00	3575.77
GMW-11	3644.07	9/24/2004	69.22	ND	0.00	3574.85

**Table 4. 4th Quarter 2004 LNAPL and Groundwater Elevation
Westgate Subdivision - Hobbs, NM**

MONITORING WELL	TOP OF CASING	DATE	DEPTH TO GROUNDWATER	DEPTH TO LNAPL	LNAPL THICKNESS	CORRECTED GROUNDWATER
GMW-1	3647.84	12/7/2004	71.21	ND	0.00	3576.63
GMW-2	3648.51	12/7/2004	70.40	ND	0.00	3578.11
GMW-3B	3648.26	12/7/2004	70.35	ND	0.00	3577.91
GMW-4	3647.79	12/7/2004	70.03	ND	0.00	3577.76
GMW-5	3648.41	12/7/2004	71.69	Sheen	0.00	3576.72
GMW-6	3648.22	12/7/2004	71.25	ND	0.00	3576.97
GMW-7	3644.98	12/7/2004	71.62	ND	0.00	3573.36
GMW-8	3645.66	12/7/2004	72.28	ND	0.00	3573.38
GMW-9	3646.27	12/7/2004	72.05	ND	0.00	3574.22
GMW-10	3645.65	12/7/2004	69.80	ND	0.00	3575.85
GMW-11	3644.07	12/7/2004	69.22	ND	0.00	3574.85

2.2 FREE PRODUCT RECOVERY

Down hole passive absorbing skimmers were utilized in monitor wells GMW-1, GMW-3B, GMW-5, and GMW-9 in 2004. Free product was removed periodically from GMW-1, GMW-3B, and GMW-5 (Table 5). All recovered fluids were transported to the Sundance Services NMOCD approved disposal facility near Eunice, NM for recycling and disposal.

Table 5. 2004 Quarterly Product Recovery Volumes

Date	Location			
	GMW-1	GMW-3B	GMW-5	GMW-9
	Product Recovery (quarts)	Product Recovery (quarts)	Product Recovery (quarts)	Product Recovery (quarts)
First Quarter				
1/6/04	0.00	0.75	0.75	0.00
1/8/04	0.00	0.75	0.75	0.00
1/13/04	0.75	Trace of product	0.75	0.00
1/16/04	Trace of product	0.00	0.75	0.00
1/20/04	0.00	Trace of product	0.75	0.00
1/23/04	0.00	0.00	0.75	0.00
1/28/04	0.00	Trace of product	0.75	0.00
1/30/04	0.00	0.75	0.75	0.00
2/3/04	0.00	0.75	1.50	0.00
2/8/04	0.75	0.00	0.75	0.00
2/10/04	0.00	0.75	0.75	0.00
2/13/04	0.00	0.75	0.75	0.00
2/17/04	0.75	Trace of product	0.75	0.00
2/25/04	0.00	Trace of product	0.75	0.00
2/27/04	0.00	0.00	0.75	0.00
3/1/04	0.00	0.00	1.50	0.00
3/26/04	0.00	Trace of product	0.75	0.00
3/30/04	0.00	Trace of product	Trace of product	0.00
First Quarter Total	2.25	4.50	14.25	0.00
Year-to Date Totals	2.25	4.50	14.25	0.00

Second Quarter				
4/2/04	0.00	Trace of product	0.75	0.00
4/7/04	0.00	0.00	0.75	0.00
4/9/04	Trace of product	Trace of product	1.50	0.00
4/14/04	0.00	Trace of product	0.75	0.00
4/23/04	0.00	Trace of product	1.50	0.00
4/26/04	0.00	Trace of product	1.50	0.00
5/4/04	0.00	0.75	0.75	0.00
5/7/04	0.00	0.75	0.75	0.00
5/12/04	0.00	0.75	1.50	0.00
5/20/04	0.00	0.75	1.50	0.00
5/25/04	0.00	Trace of product	0.75	0.00
6/2/04	0.75	Trace of product	1.50	0.00
6/4/04	0.00	0.75	1.50	0.00
6/7/04	0.00	0.00	0.75	0.00
6/25/04	0.00	0.00	0.00	0.00
6/29/04	0.00	0.75	0.75	0.00
Second Quarter Total	0.75	4.50	16.50	0.00
Year-to Date Totals	3.00	9.00	30.75	0.00
Third Quarter				
7/2/04	0.00	0.75	1.50	0.00
7/7/04	Trace of product	0.75	0.75	0.00
7/9/04	0.00	0.75	0.75	0.00
7/13/04	0.00	0.75	1.50	0.00
7/19/04	0.00	Trace of product	0.75	0.00
7/23/04	0.00	0.75	1.50	0.00
8/20/04	0.00	0.75	1.50	0.00
8/24/04	0.00	0.75	1.50	0.00
8/27/04	0.00	Tip of soak-ease	0.75	0.00
8/31/04	0.00	0.75	0.75	0.00
9/2/04	0.00	0.00	0.75	0.00
9/8/04	0.00	0.75	0.75	0.00
9/14/04	0.00	0.75	0.75	0.00
9/16/04	0.00	0.00	0.75	0.00
9/20/04	0.75	0.75	1.50	0.00

Third Quarter Total	0.75	8.25	15.75	0.00
Year-to Date Totals	3.75	17.25	46.50	0.00
Forth Quarter				
10/7/04	0.00	Tip of soak-ease	0.75	0.00
10/12/04	0.00	0.00	0.75	0.00
10/18/04	0.00	Tip of soak-ease	0.00	0.00
10/21/04	0.00	0.00	Tip of soak-ease	0.00
10/26/04	0.00	Tip of soak-ease	0.75	0.00
11/2/04	0.00	Tip of soak-ease	0.75	0.00
11/5/04	0.00	Tip of soak-ease	0.75	0.00
11/9/04	0.00	Tip of soak-ease	0.75	0.00
11/12/04	0.00	Tip of soak-ease	0.75	0.00
11/30/04	0.00	Tip of soak-ease	0.75	0.00
12/3/04	0.00	Tip of soak-ease	0.75	0.00
12/10/04	0.00	0.00	Tip of soak-ease	0.00
12/28/04	0.00	0.00	Tip of soak-ease	0.00
12/30/04	0.75	Tip of soak-ease	0.00	0.00
Fourth Quarter Totals	0.75	0.00	6.75	0.00
Year-to Date Totals	4.50	17.25	53.25	0.00

2.3 PURGING AND SAMPLING ACTIVITIES

Each quarter, all eleven monitor wells were measured from the top of the casing for depth to groundwater, depth to LNAPL, LNAPL thickness, and corrected groundwater elevations prior to sampling (Table 1). All purged fluids were drummed, transported, and disposed of at Sundance Services NMOCD approved disposal facility near Eunice, NM for recycling and disposal.

The groundwater samples were sent to Trace Analysis Laboratories in Lubbock, TX to be analyzed for BTEX (USEPA Method 8260-B) and PAHs (USEPA Method 8270-C). The results per quarter per monitor well are summarized in Tables 6, 7, 8, and 9. Laboratory analytical results, QA/QC, and chain-of-custody reports for the groundwater samples collected and analyzed are included in Appendix I through Appendix IV.

Table 6. 1st & 2nd Quarter 2004 Sampling Reports

Grimes Monitor Wells - Westgate Subdivision BTEX: S-8260B Method

GMW-2

Analyte	Matrix	Method Taken	1 st Quarter				2 nd Quarter			
			Work Order Number: 4031127				Work Order Number: 4062211			
			Sample No.	Date Taken	µg/L		Sample No.	Date Taken	µg/L	
					Result	Detection Limit			Result	Detection Limit
Benzene	Water	S-8260B	29117	3/10/04	<1.00	1	37003	6/18/04	<1.00	1
Toluene	Water	S-8260B	29117	3/10/04	<1.00	1	37003	6/18/04	<1.00	1
Ethylbenzene	Water	S-8260B	29117	3/10/04	<1.00	1	37003	6/18/04	<1.00	1
M,p-Xylene	Water	S-8260B	29117	3/10/04	<1.00	1	37003	6/18/04	<1.00	1
o-Xylene	Water	S-8260B	29117	3/10/04	<1.00	1	37003	6/18/04	<1.00	1

GMW-7

Analyte	Matrix	Method Taken	1 st Quarter				2 nd Quarter			
			Work Order Number: 4031127				Work Order Number: 4062211			
			Sample No.	Date Taken	µg/L		Sample No.	Date Taken	µg/L	
					Result	Detection Limit			Result	Detection Limit
Benzene	Water	S-8260B	29119	3/10/04	<1.00	1	37005	6/18/04	<1.00	1
Toluene	Water	S-8260B	29119	3/10/04	<1.00	1	37005	6/18/04	<1.00	1
Ethylbenzene	Water	S-8260B	29119	3/10/04	<1.00	1	37005	6/18/04	<1.00	1
M,p-Xylene	Water	S-8260B	29119	3/10/04	<1.00	1	37005	6/18/04	<1.00	1
o-Xylene	Water	S-8260B	29119	3/10/04	<1.00	1	37005	6/18/04	<1.00	1

GMW-8

Analyte	Matrix	Method Taken	1 st Quarter				2 nd Quarter			
			Work Order Number: 4031127				Work Order Number: 4062211			
			Sample No.	Date Taken	µg/L		Sample No.	Date Taken	µg/L	
					Result	Detection Limit			Result	Detection Limit
Benzene	Water	S-8260B	29120	3/10/04	<1.00	1	37006	6/18/04	<1.00	1
Toluene	Water	S-8260B	29120	3/10/04	<1.00	1	37006	6/18/04	<1.00	1
Ethylbenzene	Water	S-8260B	29120	3/10/04	<1.00	1	37006	6/18/04	<1.00	1
M,p-Xylene	Water	S-8260B	29120	3/10/04	<1.00	1	37006	6/18/04	<1.00	1
o-Xylene	Water	S-8260B	29120	3/10/04	<1.00	1	37006	6/18/04	<1.00	1

GMW-10

Analyte	Matrix	Method Taken	1 st Quarter				2 nd Quarter			
			Work Order Number: 4031127				Work Order Number: 4062211			
			Sample No.	Date Taken	µg/L		Sample No.	Date Taken	µg/L	
					Result	Detection Limit			Result	Detection Limit
Benzene	Water	S-8260B	29118	3/10/04	<1.00	1	37004	6/18/04	<1.00	1
Toluene	Water	S-8260B	29118	3/10/04	<1.00	1	37004	6/18/04	<1.00	1
Ethylbenzene	Water	S-8260B	29118	3/10/04	<1.00	1	37004	6/18/04	<1.00	1
M,p-Xylene	Water	S-8260B	29118	3/10/04	<1.00	1	37004	6/18/04	<1.00	1
o-Xylene	Water	S-8260B	29118	3/10/04	<1.00	1	37004	6/18/04	<1.00	1

Table 7. 3rd & 4th Quarter 2004 Sampling Reports

Grimes Monitor Wells - Westgate Subdivision BTEX: S-8260B Method and PAH: S-8270C

GMW-2

Analyte	Matrix	Method Taken	3 rd Quarter				4 th Quarter			
			Work Order Number: 4092806				Work Order Number: 4120920			
			Sample No.	Date Taken	µg/L		Sample No.	Date Taken	µg/L	
					Result	Detection Limit			Result	Detection Limit
Benzene	Water	S-8260B	44587	9/24/04	<1.00	1	50098	12/07/04	<1.00	1
Toluene	Water	S-8260B	44587	9/24/04	<1.00	1	50098	12/07/04	1.73	1
Ethylbenzene	Water	S-8260B	44587	9/24/04	<1.00	1	50098	12/07/04	<1.00	1
M,p-Xylene	Water	S-8260B	44587	9/24/04	<1.00	1	50098	12/07/04	<1.00	1
o-Xylene	Water	S-8260B	44587	9/24/04	<1.00	1	50098	12/07/04	<1.00	1
Analyte	Matrix	Method Taken	Sample No.	Date Taken	mg/L		Sample No.	Date Taken	mg/L	
					Result	Detection Limit			Result	Detection Limit
Naphthalene	Water	S-8270C					50098	12/07/04	<0.0002	0.200
Acenaphthylene	Water	S-8270C					50098	12/07/04	<0.0002	0.200
Acenaphthene	Water	S-8270C					50098	12/07/04	<0.0002	0.200
Fluorene	Water	S-8270C					50098	12/07/04	<0.0002	0.200
Phenanthrene	Water	S-8270C					50098	12/07/04	<0.0002	0.200
Anthracene	Water	S-8270C					50098	12/07/04	<0.0002	0.200
Fluoranthene	Water	S-8270C					50098	12/07/04	<0.0002	0.200
Pyrene	Water	S-8270C					50098	12/07/04	<0.0002	0.200
Benzo[a]anthracene	Water	S-8270C					50098	12/07/04	<0.0002	0.200
Chrysene	Water	S-8270C					50098	12/07/04	<0.0002	0.200
Benzo[b]fluoranthene	Water	S-8270C					50098	12/07/04	<0.0002	0.200
Benzo[k]fluoranthene	Water	S-8270C					50098	12/07/04	<0.0002	0.200
Benzo[a]pyrene	Water	S-8270C					50098	12/07/04	<0.0002	0.200
Indeno[1,2,3-cd]pyrene	Water	S-8270C					50098	12/07/04	<0.0002	0.200
Dibenz[a,h]anthracene	Water	S-8270C					50098	12/07/04	<0.0002	0.200
Benzo[g,h,i]perylene	Water	S-8270C					50098	12/07/04	<0.0002	0.200

GMW-7

Analyte	Matrix	Method Taken	3 rd Quarter				4 th Quarter			
			Order ID Number: 4092806				Work Order Number: 4120920			
			Sample No.	Date Taken	µg/L		Sample No.	Date Taken	µg/L	
					Result	Detection Limit			Result	Detection Limit
Benzene	Water	S-8260B	44589	9/24/04	<1.00	1	50101	12/07/04	<1.00	1
Toluene	Water	S-8260B	44589	9/24/04	<1.00	1	50101	12/07/04	<1.00	1
Ethylbenzene	Water	S-8260B	44589	9/24/04	<1.00	1	50101	12/07/04	<1.00	1
m,p-Xylene	Water	S-8260B	44589	9/24/04	<1.00	1	50101	12/07/04	<1.00	1
o-Xylene	Water	S-8260B	44589	9/24/04	<1.00	1	50101	12/07/04	<1.00	1
Analyte	Matrix	Method Taken	Sample No.	Date Taken	mg/L		Sample No.	Date Taken	mg/L	
					Result	Detection Limit			Result	Detection Limit
Naphthalene	Water	S-8270C					50101	12/07/04	<0.0002	0.200
Acenaphthylene	Water	S-8270C					50101	12/07/04	<0.0002	0.200
Acenaphthene	Water	S-8270C					50101	12/07/04	<0.0002	0.200
Fluorene	Water	S-8270C					50101	12/07/04	<0.0002	0.200
Phenanthrene	Water	S-8270C					50101	12/07/04	<0.0002	0.200
Anthracene	Water	S-8270C					50101	12/07/04	<0.0002	0.200
Fluoranthene	Water	S-8270C					50101	12/07/04	<0.0002	0.200
Pyrene	Water	S-8270C					50101	12/07/04	<0.0002	0.200
Benzo[a]anthracene	Water	S-8270C					50101	12/07/04	<0.0002	0.200
Chrysene	Water	S-8270C					50101	12/07/04	<0.0002	0.200
Benzo[b]fluoranthene	Water	S-8270C					50101	12/07/04	<0.0002	0.200
Benzo[k]fluoranthene	Water	S-8270C					50101	12/07/04	<0.0002	0.200
Benzo[a]pyrene	Water	S-8270C					50101	12/07/04	<0.0002	0.200
Indeno[1,2,3-cd]pyrene	Water	S-8270C					50101	12/07/04	<0.0002	0.200
Dibenz[a,h]anthracene	Water	S-8270C					50101	12/07/04	<0.0002	0.200
Benzo[g,h,i]perylene	Water	S-8270C					50101	12/07/04	<0.0002	0.200

GMW-8

Analyte	Matrix	Method Taken	3 rd Quarter				4 th Quarter			
			Order ID Number: 4092806				Work Order Number: 4120920			
			Sample No.	Date Taken	µg/L		Sample No.	Date Taken	µg/L	
					Result	Detection Limit			Result	Detection Limit
Benzene	Water	S-8260B	44590	9/24/04	<1.00	1	50102	12/07/04	<1.00	1
Toluene	Water	S-8260B	44590	9/24/04	<1.00	1	50102	12/07/04	<1.00	1
Ethylbenzene	Water	S-8260B	44590	9/24/04	<1.00	1	50102	12/07/04	<1.00	1
m,p-Xylene	Water	S-8260B	44590	9/24/04	<1.00	1	50102	12/07/04	<1.00	1
o-Xylene	Water	S-8260B	44590	9/24/04	<1.00	1	50102	12/07/04	<1.00	1
Analyte	Matrix	Method Taken	Sample No.	Date Taken	mg/L		Sample No.	Date Taken	mg/L	
					Result	Detection Limit			Result	Detection Limit
Naphthalene	Water	S-8270C					50102	12/07/04	<0.0002	0.200
Acenaphthylene	Water	S-8270C					50102	12/07/04	<0.0002	0.200
Acenaphthene	Water	S-8270C					50102	12/07/04	<0.0002	0.200
Fluorene	Water	S-8270C					50102	12/07/04	0.000780	0.200
Phenanthrene	Water	S-8270C					50102	12/07/04	0.000570	0.200
Anthracene	Water	S-8270C					50102	12/07/04	<0.0002	0.200
Fluoranthene	Water	S-8270C					50102	12/07/04	<0.0002	0.200
Pyrene	Water	S-8270C					50102	12/07/04	<0.0002	0.200
Benzo[a]anthracene	Water	S-8270C					50102	12/07/04	<0.0002	0.200
Chrysene	Water	S-8270C					50102	12/07/04	<0.0002	0.200
Benzo[b]fluoranthene	Water	S-8270C					50102	12/07/04	<0.0002	0.200
Benzo[k]fluoranthene	Water	S-8270C					50102	12/07/04	<0.0002	0.200
Benzo[a]pyrene	Water	S-8270C					50102	12/07/04	<0.0002	0.200
Indeno[1,2,3-cd]pyrene	Water	S-8270C					50102	12/07/04	<0.0002	0.200
Dibenz[a,h]anthracene	Water	S-8270C					50102	12/07/04	<0.0002	0.200
Benzo[g,h,i]perylene	Water	S-8270C					50102	12/07/04	<0.0002	0.200

GMW-10

Analyte	Matrix	Method Taken	3 rd Quarter				4 th Quarter			
			Order ID Number: 4092806				Work Order Number: 4120920			
			Sample No.	Date Taken	µg/L		Sample No.	Date Taken	µg/L	
					Result	Detection Limit			Result	Detection Limit
Benzene	Water	S-8260B	44588	9/24/04	<1.00	1	50099	12/07/04	<1.00	1
Toluene	Water	S-8260B	44588	9/24/04	<1.00	1	50099	12/07/04	<1.00	1
Ethylbenzene	Water	S-8260B	44588	9/24/04	<1.00	1	50099	12/07/04	<1.00	1
M,p-Xylene	Water	S-8260B	44588	9/24/04	<1.00	1	50099	12/07/04	<1.00	1
o-Xylene	Water	S-8260B	44588	9/24/04	<1.00	1	50099	12/07/04	<1.00	1
Analyte	Matrix	Method Taken	Sample No.	Date Taken	mg/L		Sample No.	Date Taken	mg/L	
					Result	Detection Limit			Result	Detection Limit
Naphthalene	Water	S-8270C					50099	12/07/04	<0.0002	0.200
Acenaphthylene	Water	S-8270C					50099	12/07/04	<0.0002	0.200
Acenaphthene	Water	S-8270C					50099	12/07/04	<0.0002	0.200
Fluorene	Water	S-8270C					50099	12/07/04	<0.0002	0.200
Phenanthrene	Water	S-8270C					50099	12/07/04	<0.0002	0.200
Anthracene	Water	S-8270C					50099	12/07/04	<0.0002	0.200
Fluoranthene	Water	S-8270C					50099	12/07/04	<0.0002	0.200
Pyrene	Water	S-8270C					50099	12/07/04	<0.0002	0.200
Benzo[a]anthracene	Water	S-8270C					50099	12/07/04	<0.0002	0.200
Chrysene	Water	S-8270C					50099	12/07/04	<0.0002	0.200
Benzo[b]fluoranthene	Water	S-8270C					50099	12/07/04	<0.0002	0.200
Benzo[k]fluoranthene	Water	S-8270C					50099	12/07/04	<0.0002	0.200
Benzo[a]pyrene	Water	S-8270C					50099	12/07/04	<0.0002	0.200
Indeno[1,2,3-cd]pyrene	Water	S-8270C					50099	12/07/04	<0.0002	0.200
Dibenz[a,h]anthracene	Water	S-8270C					50099	12/07/04	<0.0002	0.200
Benzo[g,h,i]perylene	Water	S-8270C					50099	12/07/04	<0.0002	0.200

GMW-4

Analyte	Matrix	Method Taken	3 rd Quarter				4 th Quarter			
			Order ID Number: A03030507				Work Order Number: 4120920			
			Sample No.	Sample No.	Sample No.		Sample No.	Sample No.	µg/L	
									Result	Detection Limit
Benzene	Water	S-8260B					50100	12/07/04	<1.00	1
Toluene	Water	S-8260B					50100	12/07/04	<1.00	1
Ethylbenzene	Water	S-8260B					50100	12/07/04	<1.00	1
M,p-Xylene	Water	S-8260B					50100	12/07/04	<1.00	1
o-Xylene	Water	S-8260B					50100	12/07/04	<1.00	1

GMW-6

Analyte	Matrix	Method Taken	3 rd Quarter				4 th Quarter			
			Order ID Number:				Work Order Number: 4120920			
			Sample No.	Date Taken	µg/L		Sample No.	Date Taken	µg/L	
					Result	Detection Limit			Result	Detection Limit
Benzene	Water	S-8260B					50103	12/07/04	<1.00	1
Toluene	Water	S-8260B					50103	12/07/04	<1.00	1
Ethylbenzene	Water	S-8260B					50103	12/07/04	<1.00	1
M,p-Xylene	Water	S-8260B					50103	12/07/04	<1.00	1
o-Xylene	Water	S-8260B					50103	12/07/04	<1.00	1

GMW-11

Analyte	Matrix	Method Taken	3 rd Quarter				4 th Quarter			
			Order ID Number:				Work Order Number: 4120920			
			Sample No.	Date Taken	µg/L		Sample No.	Date Taken	µg/L	
					Result	Detection Limit			Result	Detection Limit
Benzene	Water	S-8260B					50104	12/07/04	<1.00	1
Toluene	Water	S-8260B					50104	12/07/04	<1.00	1
Ethylbenzene	Water	S-8260B					50104	12/07/04	<1.00	1
M,p-Xylene	Water	S-8260B					50104	12/07/04	<1.00	1
o-Xylene	Water	S-8260B					50104	12/07/04	<1.00	1

In the first quarter of 2004, all analytes tested non-detect in all of the wells. Figure Q3 is an isopleth map of total BTEX concentration detected in the groundwater samples.

In the second quarter of 2004, all analytes tested non-detect in all of the wells. Figure Q6 is an isopleth map of total BTEX concentrations detected in the groundwater samples.

In the third quarter of 2004, all analytes tested non-detect in all of the wells. Figure Q9 is an isopleth map of total BTEX concentrations detected in the groundwater samples.

In the fourth quarter of 2004, fluorene and phenanthrene was detected in GMW #8 at a concentration of 0.000780 and 0.000570 parts per million (ppm) respectively. Toluene was detected in GMW-2 at a concentration of 1.73 ppb. All other analytes tested non-detect in all of the wells. Figure Q12 is an isopleth map of total BTEX concentrations detected in the groundwater samples.

3.0 CONCLUSION

Monitor wells GMW-2, GMW-7, GMW-8, GMW-9, and GMW-10 will be sampled quarterly for BTEX using USEPA Method 8260-B. Monitor wells GMW-2, GMW-4, GMW-6, GMW-7, GMW-8, GMW-10, and GMW-11 will be sampled annually for PAHs using USEPA Method 8270-C. Based on sample results for one year (four quarters), sampling frequency will be reviewed and may be revised.

Sampling will be discontinued when eight quarters of sample results indicate analyte concentrations below New Mexico Water Quality Control Commission, Title 20, Chapter 6, part 2 (20 NMAC 6.2 Standards). If no 20 NMAC 6.2 Standard is available for a detected analyte, USEPA standards will be used. Free product recovery will continue until no free product is recovered for an extended period of time.

Sample results will be submitted to NMOCD annually on or about April 1. All recovered fluids will be recycled and disposed of at an NMOCD approved facility.

Per discussions with the NMOCD in early 2000 it was agreed that Shell would not be required to sample any monitor wells that have free product until such time that free product is no longer detected in the wells. These wells would be sampled quarterly when no measurable free product exists.

APPENDIX I

TRACE ANALYSIS, INC.
Laboratory Results
1st Quarter 2004

Westgate Subdivision
Grimes Battery & Tasker Road

April 2005

Shell Exploration & Production Company
Houston, Texas

Prepared by:
BBC International, Inc.

Summary Report

Cliff Brunson
BBC International
1324 W. Marland
Hobbs, NM 88240

Report Date: March 17, 2004

Work Order: 4031127

Project Location: Hobbs,NM
Project Name: Shell Westgate

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
29117	MW-2	water	2004-03-10	10:40	2004-03-11
29118	MW-10	water	2004-03-10	11:35	2004-03-11
29119	MW-7	water	2004-03-10	12:20	2004-03-11
29120	MW-8	water	2004-03-10	13:40	2004-03-11

Sample - Field Code	BTEX by 8260				
	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	m,p-Xylene (µg/L)	o-Xylene (µg/L)
29117 - MW-2	<1.00	<1.00	<1.00	<1.00	<1.00
29118 - MW-10	<1.00	<1.00	<1.00	<1.00	<1.00
29119 - MW-7	<1.00	<1.00	<1.00	<1.00	<1.00
29120 - MW-8	<1.00	<1.00	<1.00	<1.00	<1.00

TRACEANALYSIS, INC.

leer, Suite 9 Lubbock, Texas 79424 800•378•1296 806•794•1296 FAX 806•794•1298
cheon, Suite H El Paso, Texas 79932 888•588•3443 915•585•3443 FAX 915•585•4944
E-Mail: lab@traceanalysis.com

Analytical and Quality Control Report

Report Date: March 17, 2004

Work Order: 4031127

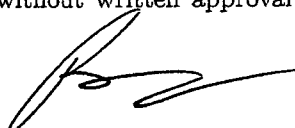
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Westgate
Westgate

al Report and Quality Control Report for the following sample(s) submitted to TraceAnalysis, Inc.

Description	Matrix	Date Taken	Time Taken	Date Received
-2	water	2004-03-10	10:40	2004-03-11
-10	water	2004-03-10	11:35	2004-03-11
-7	water	2004-03-10	12:20	2004-03-11
-8	water	2004-03-10	13:40	2004-03-11

only the samples received in the laboratory. The Quality Control Report is generated on a batch
that in this report is for the analytical batch(es) in which your sample(s) were analyzed.

total of 5 pages and shall not be reproduced except in its entirety, without written approval of



Dr. Blair Leftwich, Director

Analytical Report

Sample: 29117 - MW-2

Analysis: BTEX by 8260
QC Batch: 8245
Prep Batch: 7352

Analytical Method: S 8260B
Date Analyzed: 2004-03-15
Date Prepared: 2004-03-15

Prep Method: S 5030B
Analyzed By: JG
Prepared By: JG

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		<1.00	µg/L	1	1.00
Toluene		<1.00	µg/L	1	1.00
Ethylbenzene		<1.00	µg/L	1	1.00
m,p-Xylene		<1.00	µg/L	1	1.00
o-Xylene		<1.00	µg/L	1	1.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Dibromofluoromethane		49.6	µg/L	1	50.0	99	70 - 130
Toluene-d8		48.8	µg/L	1	50.0	98	70 - 130
4-Bromofluorobenzene (4-BFB)		46.6	µg/L	1	50.0	93	70 - 130

Sample: 29118 - MW-10

Analysis: BTEX by 8260
QC Batch: 8245
Prep Batch: 7352

Analytical Method: S 8260B
Date Analyzed: 2004-03-15
Date Prepared: 2004-03-15

Prep Method: S 5030B
Analyzed By: JG
Prepared By: JG

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		<1.00	µg/L	1	1.00
Toluene		<1.00	µg/L	1	1.00
Ethylbenzene		<1.00	µg/L	1	1.00
m,p-Xylene		<1.00	µg/L	1	1.00
o-Xylene		<1.00	µg/L	1	1.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Dibromofluoromethane		51.5	µg/L	1	50.0	103	70 - 130
Toluene-d8		49.3	µg/L	1	50.0	99	70 - 130
4-Bromofluorobenzene (4-BFB)		46.8	µg/L	1	50.0	94	70 - 130

Sample: 29119 - MW-7

Analysis: BTEX by 8260
QC Batch: 8245
Prep Batch: 7352

Analytical Method: S 8260B
Date Analyzed: 2004-03-15
Date Prepared: 2004-03-15

Prep Method: S 5030B
Analyzed By: JG
Prepared By: JG

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		<1.00	µg/L	1	1.00
Toluene		<1.00	µg/L	1	1.00

continued ...

Sample 29119 continued ...

Parameter	Flag	RL Result	Units	Dilution	RL
Ethylbenzene		<1.00	µg/L	1	1.00
m,p-Xylene		<1.00	µg/L	1	1.00
o-Xylene		<1.00	µg/L	1	1.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Dibromofluoromethane		54.6	µg/L	1	50.0	109	70 - 130
Toluene-d8		51.3	µg/L	1	50.0	103	70 - 130
4-Bromofluorobenzene (4-BFB)		44.9	µg/L	1	50.0	90	70 - 130

Sample: 29120 - MW-8

Analysis: BTEX by 8260
QC Batch: 8245
Prep Batch: 7352

Analytical Method: S 8260B
Date Analyzed: 2004-03-15
Date Prepared: 2004-03-15

Prep Method: S 5030B
Analyzed By: JG
Prepared By: JG

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		<1.00	µg/L	1	1.00
Toluene		<1.00	µg/L	1	1.00
Ethylbenzene		<1.00	µg/L	1	1.00
m,p-Xylene		<1.00	µg/L	1	1.00
o-Xylene		<1.00	µg/L	1	1.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Dibromofluoromethane		53.6	µg/L	1	50.0	107	70 - 130
Toluene-d8		50.2	µg/L	1	50.0	100	70 - 130
4-Bromofluorobenzene (4-BFB)		44.7	µg/L	1	50.0	89	70 - 130

Method Blank (1) QC Batch: 8245

Parameter	Flag	Result	Units	RL
1,1-Dichloroethene		<1.00	µg/L	1
Benzene		<1.00	µg/L	1
Trichloroethene (TCE)		<1.00	µg/L	1
Toluene		<1.00	µg/L	1
Chlorobenzene		<1.00	µg/L	1
Ethylbenzene		<1.00	µg/L	1
m,p-Xylene		<1.00	µg/L	1
o-Xylene		<1.00	µg/L	1

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Dibromofluoromethane		47.6	µg/L	1	50.0	95	70 - 130
Toluene-d8		48.4	µg/L	1	50.0	97	70 - 130
4-Bromofluorobenzene (4-BFB)		47.8	µg/L	1	50.0	96	70 - 130

Laboratory Control Spike (LCS-1) QC Batch: 8245

Param	LCS Result	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	RPD	Rec. Limit	RPD Limit
1,1-Dichloroethene	95.4	93.0	µg/L	1	100	<0.136	95	2	70 - 130	20
Benzene	99.0	97.2	µg/L	1	100	<0.146	99	2	70 - 130	20
Trichloroethene (TCE)	94.9	93.5	µg/L	1	100	0.14	95	1	70 - 130	20
Toluene	98.7	97.3	µg/L	1	100	0.49	99	1	70 - 130	20
Chlorobenzene	97.2	96.9	µg/L	1	100	<0.0540	97	0	70 - 130	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Dibromofluoromethane	46.9	46.5	µg/L	1	50.0	94	93	70 - 130
Toluene-d8	49.0	48.7	µg/L	1	50.0	98	97	70 - 130
4-Bromofluorobenzene (4-BFB)	49.3	48.7	µg/L	1	50.0	99	97	70 - 130

Standard (CCV-1) QC Batch: 8245

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Vinyl Chloride		µg/L	50.0	44.4	89	80 - 120	2004-03-15
1,1-Dichloroethene		µg/L	50.0	54.0	108	80 - 120	2004-03-15
Chloroform		µg/L	50.0	50.4	101	80 - 120	2004-03-15
2-Dichloropropane		µg/L	50.0	51.8	104	80 - 120	2004-03-15
Toluene		µg/L	50.0	55.4	111	80 - 120	2004-03-15
Chlorobenzene		µg/L	50.0	52.3	105	80 - 120	2004-03-15
Ethylbenzene		µg/L	50.0	54.7	109	80 - 120	2004-03-15

Page 1 of 1

TraceAnalysis, Inc. 6701 Aberdeen Avenue, Ste. 9 Lubbock, Texas 79424 Tel (806) 794 1296 Fax (806) 794 1298 1 (800) 378 1296		CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST LAB Order ID # <u>4031127</u>																																																																										
Company Name: <u>BBC INTERNATIONAL INC.</u> Phone #: <u>(505) 397 6388</u> Address: <u>1324 W. Mainland, Hobbs, NM 88240</u> Fax #: <u>(505) 397 0397</u> Contact Person: <u>W. M. Benson</u> Invoice to: <u>Shell E-P Company - Westgate</u> Attn: <u>Wayne Hamilton</u> Project #: <u>Westgate</u> Project Name: <u>Hobbs New Mexico</u> Project Location: <u>Hobbs New Mexico</u> Sampler Signature: <u>[Signature]</u>		ANALYSIS REQUEST (Circle or Specify Method No.) <table border="1" style="width:100%; border-collapse: collapse;"> <tr><td>PAH 8270</td><td></td></tr> <tr><td>TPH</td><td></td></tr> <tr><td>BTX 8020/602</td><td></td></tr> <tr><td>GC/MS Vol. 8240/8260/624</td><td></td></tr> <tr><td>GC/MS Semi Vol 8270/625</td><td></td></tr> <tr><td>PCB's 8080/608</td><td></td></tr> <tr><td>Pest. 8080/608</td><td></td></tr> <tr><td>BOD, TSS, PH</td><td></td></tr> <tr><td>Turn Around Time if different from standard</td><td></td></tr> </table>		PAH 8270		TPH		BTX 8020/602		GC/MS Vol. 8240/8260/624		GC/MS Semi Vol 8270/625		PCB's 8080/608		Pest. 8080/608		BOD, TSS, PH		Turn Around Time if different from standard																																																								
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<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th rowspan="2">LAB # (LAB USE ONLY)</th> <th rowspan="2">FIELD CODE</th> <th rowspan="2"># CONTAINERS</th> <th rowspan="2">Volume/Amount</th> <th colspan="4">MATRIX</th> <th colspan="3">PRESERVATIVE METHOD</th> <th rowspan="2">DATE</th> <th rowspan="2">TIME</th> </tr> <tr> <th>WATER</th> <th>SOIL</th> <th>AIR</th> <th>SLUDGE</th> <th>HCL</th> <th>HNO3</th> <th>ICE</th> <th>NONE</th> </tr> </thead> <tbody> <tr> <td>2947</td> <td>MNH 2</td> <td>2</td> <td>40</td> <td>✓</td> <td></td> <td></td> <td></td> <td>✓</td> <td></td> <td></td> <td>3-10-4</td> <td>10:40</td> </tr> <tr> <td>118</td> <td>MNH 10</td> <td>2</td> <td>40</td> <td>✓</td> <td></td> <td></td> <td></td> <td>✓</td> <td></td> <td></td> <td>3-10-4</td> <td>11:35</td> </tr> <tr> <td>119</td> <td>MNH 7</td> <td>2</td> <td>40</td> <td>✓</td> <td></td> <td></td> <td></td> <td>✓</td> <td></td> <td></td> <td>3-10-4</td> <td>12:20</td> </tr> <tr> <td>120</td> <td>MNH 8</td> <td>2</td> <td>40</td> <td>✓</td> <td></td> <td></td> <td></td> <td>✓</td> <td></td> <td></td> <td>3-10-4</td> <td>1:40</td> </tr> </tbody> </table>		LAB # (LAB USE ONLY)	FIELD CODE	# CONTAINERS	Volume/Amount	MATRIX				PRESERVATIVE METHOD			DATE	TIME	WATER	SOIL	AIR	SLUDGE	HCL	HNO3	ICE	NONE	2947	MNH 2	2	40	✓				✓			3-10-4	10:40	118	MNH 10	2	40	✓				✓			3-10-4	11:35	119	MNH 7	2	40	✓				✓			3-10-4	12:20	120	MNH 8	2	40	✓				✓			3-10-4	1:40	LAB USE ONLY Intact <u>Y</u> <u>N</u> Headspace <u>Y</u> <u>N</u> Temp <u>4°C</u> Log-in Review <u>MP</u> REMARKS:	
LAB # (LAB USE ONLY)	FIELD CODE					# CONTAINERS	Volume/Amount	MATRIX				PRESERVATIVE METHOD			DATE	TIME																																																												
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120	MNH 8	2	40	✓				✓			3-10-4	1:40																																																																
Relinquished by: <u>[Signature]</u> Date: <u>3-10-4</u> Time: <u>3:40pm</u> Relinquished by: <u>[Signature]</u> Date: <u>3-10-4</u> Time: <u>3:40pm</u> Relinquished by: <u>[Signature]</u> Date: <u>3-11-04</u> Time: <u>12:35</u>		Received by: <u>[Signature]</u> Date: <u>3-11-04</u> Time: <u>12:35</u> Received by: <u>[Signature]</u> Date: <u>3-11-04</u> Time: <u>12:35</u> Received by: <u>[Signature]</u> Date: <u>3-11-04</u> Time: <u>12:35</u>																																																																										
Submittal of samples constitutes agreement to Terms and Conditions listed on reverse side of C.O.C. ORIGINAL COPY																																																																												

Carner # IN-111170 903176 986-8

6701 Aberdeen Avenue, Ste. 9 Lubbock, Texas 79424
Tel (806) 794 1296 Fax (806) 794 1298
1 (800) 378 1296

LAB Order ID

#: (505) 397 6388

1630763 (505)

Invoice to: Shell E-P Company - Merfate Attn: Wayne Hamilton
(If different from above)

Project Name: _____

Attn: Wayne Hamilton

Signature: Robert J. Linn

[illegible]

Date: _____ Time: _____

Doyle Kennard 3:10.4 3:40pm

Date: _____ Time: _____

Date: _____ Time: _____

Received at Laboratory by 166 Date: 3/1/04 Time: 12:35

ORIGINAL COPY

Carrier # TNAVD 903176 986-B

(Circle or Specify Method No.)

[illegible]

REMARKS:

LAB USE ONLY

Intact

Headence: YGN

Headspace 11.9

Temp 70 11/11

Carrier # TNAVD 903176 986-B

APPENDIX II

TRACE ANALYSIS, INC.
Laboratory Results
2nd Quarter 2004

Westgate Subdivision
Grimes Battery & Tasker Road

April 2005

Shell Exploration & Production Company
Houston, Texas

Prepared by:
BBC International, Inc.

Summary Report

Cliff Brunson
BBC International
1324 W. Marland
Hobbs, NM 88240

Report Date: June 30, 2004

Work Order: 4062211

Project Location: Hobbs, NM
Project Name: Shell Westgate

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
37003	MW-2	water	2004-06-18	09:30	2004-06-22
37004	MW-10	water	2004-06-18	10:38	2004-06-22
37005	MW-7	water	2004-06-18	11:00	2004-06-22
37006	MW-8	water	2004-06-18	11:35	2004-06-22

Sample - Field Code	BTEX by 8260				
	Benzene ($\mu\text{g/L}$)	Toluene ($\mu\text{g/L}$)	Ethylbenzene ($\mu\text{g/L}$)	m,p-Xylene ($\mu\text{g/L}$)	o-Xylene ($\mu\text{g/L}$)
37003 - MW-2	<1.00	<1.00	<1.00	<1.00	<1.00
37004 - MW-10	<1.00	<1.00	<1.00	<1.00	<1.00
37005 - MW-7	<1.00	<1.00	<1.00	<1.00	<1.00
37006 - MW-8	<1.00	<1.00	<1.00	<1.00	<1.00

TRACE ANALYSIS, INC.

6701 Aberdeen Avenue, Suite 9
155 McCutcheon, Suite H

Lubbock, Texas 79424
El Paso, Texas 79932

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888•588•3443
E-Mail: lab@traceanalysis.com

806•794•1296
915•585•3443

FAX 806•794•1298
FAX 915•585•4944

Analytical and Quality Control Report

Cliff Brunson
BBC International
1324 W. Marland
Hobbs, NM 88240

Report Date: June 30, 2004

Work Order: 4062211

Project Location: Hobbs, NM
Project Name: Shell Westgate
Project Number: Shell Westgate

Enclosed are the Analytical Report and Quality Control Report for the following sample(s) submitted to TraceAnalysis, Inc.

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
37003	MW-2	water	2004-06-18	09:30	2004-06-22
37004	MW-10	water	2004-06-18	10:38	2004-06-22
37005	MW-7	water	2004-06-18	11:00	2004-06-22
37006	MW-8	water	2004-06-18	11:35	2004-06-22

These results represent only the samples received in the laboratory. The Quality Control Report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed.

This report consists of a total of 7 pages and shall not be reproduced except in its entirety, without written approval of TraceAnalysis, Inc.


Dr. Blair Leftwich, Director

Analytical Report

Sample: 37003 - MW-2

Analysis: BTEX by 8260
QC Batch: 10656
Prep Batch: 9430

Analytical Method: S 8260B
Date Analyzed: 2004-06-23
Date Prepared: 2004-06-23

Prep Method: S 5030B
Analyzed By: JG
Prepared By: JG

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		<1.00	µg/L	1	1.00
Toluene		<1.00	µg/L	1	1.00
Ethylbenzene		<1.00	µg/L	1	1.00
m,p-Xylene		<1.00	µg/L	1	1.00
o-Xylene		<1.00	µg/L	1	1.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Dibromofluoromethane		55.3	µg/L	1	50.0	111	70 - 130
Toluene-d8		50.8	µg/L	1	50.0	102	70 - 130
4-Bromofluorobenzene (4-BFB)		44.1	µg/L	1	50.0	88	70 - 130

Sample: 37004 - MW-10

Analysis: BTEX by 8260
QC Batch: 10656
Prep Batch: 9430

Analytical Method: S 8260B
Date Analyzed: 2004-06-23
Date Prepared: 2004-06-23

Prep Method: S 5030B
Analyzed By: JG
Prepared By: JG

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		<1.00	µg/L	1	1.00
Toluene		<1.00	µg/L	1	1.00
Ethylbenzene		<1.00	µg/L	1	1.00
m,p-Xylene		<1.00	µg/L	1	1.00
o-Xylene		<1.00	µg/L	1	1.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Dibromofluoromethane		55.7	µg/L	1	50.0	111	70 - 130
Toluene-d8		50.5	µg/L	1	50.0	101	70 - 130
4-Bromofluorobenzene (4-BFB)		43.9	µg/L	1	50.0	88	70 - 130

Sample: 37005 - MW-7

Analysis: BTEX by 8260
QC Batch: 10662
Prep Batch: 9434

Analytical Method: S 8260B
Date Analyzed: 2004-06-24
Date Prepared: 2004-06-24

Prep Method: S 5030B
Analyzed By: JG
Prepared By: JG

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		<1.00	µg/L	1	1.00
Toluene		<1.00	µg/L	1	1.00

continued ...

sample 37005 continued ...

Parameter	Flag	RL Result	Units	Dilution	RL
Ethylbenzene		<1.00	µg/L	1	1.00
m,p-Xylene		<1.00	µg/L	1	1.00
o-Xylene		<1.00	µg/L	1	1.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Dibromofluoromethane		52.1	µg/L	1	50.0	104	70 - 130
Toluene-d8		51.4	µg/L	1	50.0	103	70 - 130
4-Bromofluorobenzene (4-BFB)		44.2	µg/L	1	50.0	88	70 - 130

Sample: 37006 - MW-8

Analysis: BTEX by 8260
QC Batch: 10669
Prep Batch: 9438

Analytical Method: S 8260B
Date Analyzed: 2004-06-26
Date Prepared: 2004-06-26

Prep Method: S 5030B
Analyzed By: JG
Prepared By: JG

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		<1.00	µg/L	1	1.00
Toluene		<1.00	µg/L	1	1.00
Ethylbenzene		<1.00	µg/L	1	1.00
m,p-Xylene		<1.00	µg/L	1	1.00
o-Xylene		<1.00	µg/L	1	1.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Dibromofluoromethane		55.8	µg/L	1	50.0	112	70 - 130
Toluene-d8		51.8	µg/L	1	50.0	104	70 - 130
4-Bromofluorobenzene (4-BFB)		47.0	µg/L	1	50.0	94	70 - 130

Method Blank (1) QC Batch: 10656

Parameter	Flag	Result	Units	RL
1,1-Dichloroethene		<1.00	µg/L	1
Benzene		<1.00	µg/L	1
Trichloroethene (TCE)		<1.00	µg/L	1
Toluene		<1.00	µg/L	1
Chlorobenzene		<1.00	µg/L	1
Ethylbenzene		<1.00	µg/L	1
m,p-Xylene		<1.00	µg/L	1
o-Xylene		<1.00	µg/L	1

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Dibromofluoromethane		51.5	µg/L	1	50.0	103	70 - 130
Toluene-d8		49.5	µg/L	1	50.0	99	70 - 130
4-Bromofluorobenzene (4-BFB)		46.0	µg/L	1	50.0	92	70 - 130

Method Blank (1) QC Batch: 10662

Parameter	Flag	Result	Units	RL
1,1-Dichloroethene		<1.00	µg/L	1
Benzene		<1.00	µg/L	1
Trichloroethene (TCE)		<1.00	µg/L	1
Toluene		<1.00	µg/L	1
Chlorobenzene		<1.00	µg/L	1
Ethylbenzene		<1.00	µg/L	1
m,p-Xylene		<1.00	µg/L	1
o-Xylene		<1.00	µg/L	1

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Dibromofluoromethane		52.8	µg/L	1	50.0	106	70 - 130
Toluene-d8		51.7	µg/L	1	50.0	103	70 - 130
4-Bromofluorobenzene (4-BFB)		44.5	µg/L	1	50.0	89	70 - 130

Method Blank (1) QC Batch: 10669

Parameter	Flag	Result	Units	RL
1,1-Dichloroethene		<1.00	µg/L	1
Benzene		<1.00	µg/L	1
Trichloroethene (TCE)		<1.00	µg/L	1
Toluene		<1.00	µg/L	1
Chlorobenzene		<1.00	µg/L	1
Ethylbenzene		<1.00	µg/L	1
m,p-Xylene		<1.00	µg/L	1
o-Xylene		<1.00	µg/L	1

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Dibromofluoromethane		53.2	µg/L	1	50.0	106	70 - 130
Toluene-d8		52.0	µg/L	1	50.0	104	70 - 130
4-Bromofluorobenzene (4-BFB)		45.0	µg/L	1	50.0	90	70 - 130

Laboratory Control Spike (LCS-1) QC Batch: 10656

Param	LCS Result	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	RPD	Rec. Limit	RPD Limit
1,1-Dichloroethene	108	109	µg/L	1	100	<0.136	108	1	70 - 130	20
Benzene	109	107	µg/L	1	100	<0.146	109	2	70 - 130	20
Trichloroethene (TCE)	107	107	µg/L	1	100	<0.117	107	0	70 - 130	20
Toluene	110	108	µg/L	1	100	0.13	110	2	70 - 130	20
Chlorobenzene	105	104	µg/L	1	100	<0.0540	105	1	70 - 130	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

continued ...

control spikes continued...

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Dibromofluoromethane	52.5	51.4	µg/L	1	50.0	105	103	70 - 130
Toluene-d8	50.6	50.5	µg/L	1	50.0	101	101	70 - 130
4-Bromofluorobenzene (4-BFB)	50.0	49.5	µg/L	1	50.0	100	99	70 - 130

Laboratory Control Spike (LCS-1) QC Batch: 10662

Param	LCS Result	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	RPD	Rec. Limit	RPD Limit
1,1-Dichloroethene	103	106	µg/L	1	100	<0.136	103	3	70 - 130	20
Benzene	104	105	µg/L	1	100	<0.146	104	1	70 - 130	20
Trichloroethene (TCE)	99.1	100	µg/L	1	100	0.14	99	1	70 - 130	20
Toluene	101	103	µg/L	1	100	0.19	101	2	70 - 130	20
Chlorobenzene	103	104	µg/L	1	100	<0.0540	103	1	70 - 130	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Dibromofluoromethane	52.3	52.6	µg/L	1	50.0	105	105	70 - 130
Toluene-d8	50.9	51.1	µg/L	1	50.0	102	102	70 - 130
4-Bromofluorobenzene (4-BFB)	44.9	44.9	µg/L	1	50.0	90	90	70 - 130

Laboratory Control Spike (LCS-1) QC Batch: 10669

Param	LCS Result	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	RPD	Rec. Limit	RPD Limit
1,1-Dichloroethene	109	109	µg/L	1	100	<0.136	109	0	70 - 130	20
Benzene	104	106	µg/L	1	100	<0.146	104	2	70 - 130	20
Trichloroethene (TCE)	100	102	µg/L	1	100	<0.117	100	2	70 - 130	20
Toluene	100	103	µg/L	1	100	0.33	100	3	70 - 130	20
Chlorobenzene	101	104	µg/L	1	100	<0.0540	101	3	70 - 130	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Dibromofluoromethane	52.9	52.6	µg/L	1	50.0	106	105	70 - 130
Toluene-d8	50.8	51.0	µg/L	1	50.0	102	102	70 - 130
4-Bromofluorobenzene (4-BFB)	45.3	45.4	µg/L	1	50.0	91	91	70 - 130

Standard (CCV-1) QC Batch: 10656

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Vinyl Chloride		µg/L	50.0	49.5	99	80 - 120	2004-06-23
1,1-Dichloroethene		µg/L	50.0	51.8	104	80 - 120	2004-06-23

continued...

standard continued...

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloroform		µg/L	50.0	51.1	102	80 - 120	2004-06-23
1,2-Dichloropropane		µg/L	50.0	53.2	106	80 - 120	2004-06-23
Toluene		µg/L	50.0	53.0	106	80 - 120	2004-06-23
Chlorobenzene		µg/L	50.0	52.9	106	80 - 120	2004-06-23
Ethylbenzene		µg/L	50.0	55.6	111	80 - 120	2004-06-23

Standard (CCV-1) QC Batch: 10662

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Vinyl Chloride		µg/L	50.0	57.4	115	80 - 120	2004-06-24
1,1-Dichloroethene		µg/L	50.0	52.9	106	80 - 120	2004-06-24
Chloroform		µg/L	50.0	54.2	108	80 - 120	2004-06-24
1,2-Dichloropropane		µg/L	50.0	56.8	114	80 - 120	2004-06-24
Toluene		µg/L	50.0	55.0	110	80 - 120	2004-06-24
Chlorobenzene		µg/L	50.0	53.4	107	80 - 120	2004-06-24
Ethylbenzene		µg/L	50.0	57.2	114	80 - 120	2004-06-24

Standard (CCV-1) QC Batch: 10669

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Vinyl Chloride		µg/L	50.0	55.1	110	80 - 120	2004-06-26
1,1-Dichloroethene		µg/L	50.0	52.8	106	80 - 120	2004-06-26
Chloroform		µg/L	50.0	52.8	106	80 - 120	2004-06-26
1,2-Dichloropropane		µg/L	50.0	55.0	110	80 - 120	2004-06-26
Toluene		µg/L	50.0	53.8	108	80 - 120	2004-06-26
Chlorobenzene		µg/L	50.0	52.8	106	80 - 120	2004-06-26
Ethylbenzene		µg/L	50.0	56.2	112	80 - 120	2004-06-26

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

LAB Order ID # 4062211

155 McCutcheon Suite H
El Paso, Texas 79902
Tel (915) 585-3443
Fax (915) 585-4944
1 (800) 588-3443

TraceAnalysis, Inc.

8701 Aberdeen Avenue, Ste. 9
Lubbock, Texas 79424
Tel (806) 794-1296
Fax (806) 794-1298
1 (800) 378-1296

Company Name: BBC International Phone #: 505-399-6388

Address: 1324 W. Marland Hobbs 88240 Fax #: 505-399-0397

Contact Person: C. P. P. Dawson

Invoice to: Shell LP Company Attn: Wayne Hamilton

Project #: West Gate Project Name: Santa

Project Location: Hobbs NM Sample Signature: [Signature]

LAB # (LAB USE ONLY)	FIELD CODE	# CONTAINERS	Volume/Amount	MATRIX				PRESERVATIVE METHOD						SAMPLING	
				WATER	SOIL	AIR	SLUDGE	HCl	HNO ₃	H ₂ SO ₄	NaOH	ICE	NONE	DATE	TIME
137003	M.W.#2	2	VOA	✓										6-16-04 9:30	
64	M.W.#10	2	VOA	✓										6-18-04 10:18	
05	M.W.#7	2	VOA	✓										6-18-04 11:00	
06	M.W.#8	2	VOA	✓										6-18-04 11:35	

Relinquished by: <u>[Signature]</u>	Date: <u>6-18-04</u>	Time: <u>1:30</u>	Received by: <u>[Signature]</u>	Date: <u>6-23-04</u>	Time: <u>10:16</u>
Relinquished by: <u>[Signature]</u>	Date: <u>6-23-04</u>	Time: <u>10:16</u>	Received by: <u>[Signature]</u>	Date: <u>6-23-04</u>	Time: <u>10:16</u>
Relinquished by: <u>[Signature]</u>	Date: <u>6-23-04</u>	Time: <u>10:16</u>	Received by: <u>[Signature]</u>	Date: <u>6-23-04</u>	Time: <u>10:16</u>

ANALYSIS REQUEST

(Circle or Specify Method No.)

MTBE 8021B/602	
BTEX 8021B/602	
TPH 418 1/1X1005	
PAH 8270C	
Total Metals Ag As Ba Cd Cr Pb Se Hg 6010B/2007	
TCMP Volatiles	
TCMP Semi Volatiles	
TCMP Pesticides	
RCI	
GC/MS Vol 8260B/624	
GC/MS Semi Vol 8270C/625	
PCBs 8082/608	
Pesticides 8081A/608	
BOD TSS pH	
Hold	

REMARKS:

LAB USE ONLY

Intact ☒ Y ☐ N
Headspace ☒ Y ☐ N
Temp 16.2 112.6
Log-in Review [Signature]
☐ Check if Special Reporting Limits Are Needed

Carrier # TRUMP 902-069 115-3

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Trace Analysis, Inc.
 6701 Aberdeen Ave., Ste. 9
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McCUTCHEON, Suite H
 El Paso, Texas 79932
 Tel (915) 585-3443
 Fax (915) 585-4944
 1 (888) 588-3443

Company Name: BBC International Phone #: 505-397-6388
 Address: 1324 W. Marland Hobbs 88240 Fax #: 505-397-0397
 Contact Person: CLIFF P. BRANSON
 Invoice to: Shell E.P. Company Attn: Wayne Hamilton
 Project #: West Gate Project Name: Santa
 Project Location: Hobbs N.M. Sample Signature: [Signature]

LAB # (LAB USE ONLY)	FIELD CODE	# CONTAINERS	Volume/Amount	MATRIX				PRESERVATIVE METHOD					DATE	TIME
				WATER	SOIL	AIR	SLUDGE	HCl	HNO ₃	H ₂ SO ₄	NaOH	ICE		
137003	M.W.#2	2	VOA ✓					✓					6-18-04	9:30
64	M.W.#10	2	VOA ✓					✓					6-18-04	10:18
05	M.W.#7	2	VOA ✓					✓					6-18-04	11:00
66	M.W.#8	2	VOA ✓					✓					6-18-04	11:35

Relinquished by: [Signature] Date: 6-18-04 Time: 1:30 Received by: _____ Date: _____ Time: _____
 Relinquished by: [Signature] Date: _____ Time: _____ Received by: _____ Date: _____ Time: _____
 Relinquished by: _____ Date: _____ Time: _____ Received at Laboratory by: [Signature] Date: 6-22-04 Time: 10:06

Submittal of samples constitutes agreement to Terms and Conditions listed on reverse side of C.O.C.
 ORIGINAL COPY

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST
 LAB Order ID # 4662211

ANALYSIS REQUEST
 (Circle or Specify Method No.)

MTBE 8021B/602	
BTEX 8021B/602	
TPH 418.1/TX1005	
PAH 8270C	
Total Metals Ag As Ba Cd Cr Pb Se Hg 6010B/200.7	
TCLP Metals Ag As Ba Cd Cr Pb Se Hg	
TCLP Volatiles	
TCLP Semi Volatiles	
TCLP Pesticides	
RCI	
GC/MS Vol. 8260B/624	
GC/MS Semi. Vol. 8270C/625	
PCB's 8082/608	
Pesticides 8081A/608	
BOD, TSS, pH	

LAB USE ONLY

Intact (Y) N
 Headspace Y (N)
 Temp 16°C
 Log-in Review [Signature]

Check if Special Reporting Limits Are Needed ☐ 7/1/04

Carrier # TDMD 902-069 115-3

APPENDIX III

TRACE ANALYSIS, INC.
Laboratory Results
3rd Quarter 2004

Westgate Subdivision
Grimes Battery & Tasker Road

April 2005

Shell Exploration & Production Company
Houston, Texas

Prepared by:
BBC International, Inc.

Summary Report

Cliff Brunson
BBC International
1324 W. Marland
Hobbs, NM 88240

Report Date: October 4, 2004

Work Order: 4092806

Project Location: Hobbs, NM
Project Name: Shell Westgate

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
44587	MW-2	water	2004-09-24	10:16	2004-09-28
44588	MW-10	water	2004-09-24	10:41	2004-09-28
44589	MW-7	water	2004-09-24	13:10	2004-09-28
44590	MW-8	water	2004-09-24	13:38	2004-09-28

Sample - Field Code	BTEX by 8260				
	Benzene ($\mu\text{g/L}$)	Toluene ($\mu\text{g/L}$)	Ethylbenzene ($\mu\text{g/L}$)	m,p-Xylene ($\mu\text{g/L}$)	o-Xylene ($\mu\text{g/L}$)
44587 - MW-2	<1.00	<1.00	<1.00	<1.00	<1.00
44588 - MW-10	<1.00	<1.00	<1.00	<1.00	<1.00
44589 - MW-7	<1.00	<1.00	<1.00	<1.00	<1.00
44590 - MW-8	<1.00	<1.00	<1.00	<1.00	<1.00

TRACE ANALYSIS, INC.

6701 Aberdeen Avenue, Suite 9
155 McCutcheon, Suite H

Lubbock, Texas 79424
El Paso, Texas 79932

800•378•1296
888•588•3443
E-Mail: lab@traceanalysis.com

806•794•1296
915•585•3443

FAX 806•794•1298
FAX 915•585•4944

Analytical and Quality Control Report

Cliff Brunson
BBC International
1324 W. Marland
Hobbs, NM 88240

Report Date: October 4, 2004

Work Order: 4092806

Project Location: Hobbs, NM
Project Name: Shell Westgate
Project Number: Shell Westgate

Enclosed are the Analytical Report and Quality Control Report for the following sample(s) submitted to TraceAnalysis, Inc.

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
44587	MW-2	water	2004-09-24	10:16	2004-09-28
44588	MW-10	water	2004-09-24	10:41	2004-09-28
44589	MW-7	water	2004-09-24	13:10	2004-09-28
44590	MW-8	water	2004-09-24	13:38	2004-09-28

These results represent only the samples received in the laboratory. The Quality Control Report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed.

This report consists of a total of 5 pages and shall not be reproduced except in its entirety, without written approval of TraceAnalysis, Inc.



Dr. Blair Leftwich, Director

Analytical ReportAnalytical Method: S 8260B
Date Analyzed: 2004-10-01
Date Prepared: 2004-10-01Prep Method: S 5030B
Analyzed By: JG
Prepared By: JG

Flag	RL Result	Units	Dilution	RL
	<1.00	µg/L	1	1.00
	<1.00	µg/L	1	1.00
	<1.00	µg/L	1	1.00
	<1.00	µg/L	1	1.00
	<1.00	µg/L	1	1.00

Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
	51.8	µg/L	1	50.0	104	70 - 130
	47.9	µg/L	1	50.0	96	70 - 130
B)	50.6	µg/L	1	50.0	101	70 - 130

Analytical Method: S 8260B
Date Analyzed: 2004-10-01
Date Prepared: 2004-10-01Prep Method: S 5030B
Analyzed By: JG
Prepared By: JG

Flag	RL Result	Units	Dilution	RL
	<1.00	µg/L	1	1.00
	<1.00	µg/L	1	1.00
	<1.00	µg/L	1	1.00
	<1.00	µg/L	1	1.00
	<1.00	µg/L	1	1.00

Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
	53.6	µg/L	1	50.0	107	70 - 130
	48.3	µg/L	1	50.0	97	70 - 130
B)	49.5	µg/L	1	50.0	99	70 - 130

Analytical Method: S 8260B
Date Analyzed: 2004-10-01
Date Prepared: 2004-10-01Prep Method: S 5030B
Analyzed By: JG
Prepared By: JG

Flag	RL Result	Units	Dilution	RL
	<1.00	µg/L	1	1.00
	<1.00	µg/L	1	1.00

continued ...

sample 44589 continued ...

Parameter	Flag	RL Result	Units	Dilution	RL
Ethylbenzene		<1.00	µg/L	1	1.00
m,p-Xylene		<1.00	µg/L	1	1.00
o-Xylene		<1.00	µg/L	1	1.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Dibromofluoromethane		52.6	µg/L	1	50.0	105	70 - 130
Toluene-d8		48.0	µg/L	1	50.0	96	70 - 130
4-Bromofluorobenzene (4-BFB)		49.4	µg/L	1	50.0	99	70 - 130

Sample: 44590 - MW-8

Analysis: BTEX by 8260
QC Batch: 13044
Prep Batch: 11536

Analytical Method: S 8260B
Date Analyzed: 2004-10-01
Date Prepared: 2004-10-01

Prep Method: S 5030B
Analyzed By: JG
Prepared By: JG

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		<1.00	µg/L	1	1.00
Toluene		<1.00	µg/L	1	1.00
Ethylbenzene		<1.00	µg/L	1	1.00
m,p-Xylene		<1.00	µg/L	1	1.00
o-Xylene		<1.00	µg/L	1	1.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Dibromofluoromethane		53.2	µg/L	1	50.0	106	70 - 130
Toluene-d8		48.0	µg/L	1	50.0	96	70 - 130
4-Bromofluorobenzene (4-BFB)		49.2	µg/L	1	50.0	98	70 - 130

Method Blank (1) QC Batch: 13044

Parameter	Flag	Result	Units	RL
1,1-Dichloroethene		<1.00	µg/L	1
Benzene		<1.00	µg/L	1
Trichloroethene (TCE)		<1.00	µg/L	1
Toluene		<1.00	µg/L	1
Chlorobenzene		<1.00	µg/L	1
Ethylbenzene		<1.00	µg/L	1
m,p-Xylene		<1.00	µg/L	1
o-Xylene		<1.00	µg/L	1

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Dibromofluoromethane		52.0	µg/L	1	50.0	104	70 - 130
Toluene-d8		48.4	µg/L	1	50.0	97	70 - 130
4-Bromofluorobenzene (4-BFB)		51.0	µg/L	1	50.0	102	70 - 130

Laboratory Control Spike (LCS-1) QC Batch: 13044

Param	LCS Result	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	RPD	Rec. Limit	RPD Limit
1,1-Dichloroethene	114	112	µg/L	1	100	<0.136	114	2	70 - 130	20
Benzene	99.6	101	µg/L	1	100	<0.146	100	1	70 - 130	20
Trichloroethene (TCE)	102	101	µg/L	1	100	<0.117	102	1	70 - 130	20
Toluene	100	100	µg/L	1	100	<0.0600	100	0	70 - 130	20
Chlorobenzene	94.2	95.1	µg/L	1	100	<0.0540	94	1	70 - 130	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Dibromofluoromethane	51.8	51.2	µg/L	1	50.0	104	102	70 - 130
Toluene-d8	48.0	48.6	µg/L	1	50.0	96	97	70 - 130
4-Bromofluorobenzene (4-BFB)	50.0	51.0	µg/L	1	50.0	100	102	70 - 130

Standard (CCV-1) QC Batch: 13044

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Vinyl Chloride		µg/L	50.0	55.6	111	80 - 120	2004-10-01
1,1-Dichloroethene		µg/L	50.0	56.4	113	80 - 120	2004-10-01
Chloroform		µg/L	50.0	54.2	108	80 - 120	2004-10-01
1,2-Dichloropropane		µg/L	50.0	54.4	109	80 - 120	2004-10-01
Toluene		µg/L	50.0	52.4	105	80 - 120	2004-10-01
Chlorobenzene		µg/L	50.0	49.5	99	80 - 120	2004-10-01
Ethylbenzene		µg/L	50.0	48.9	98	80 - 120	2004-10-01

Trace Analysis, Inc.										6701 Alford Avenue, Ste. 9 Lubbock, Texas 79424 Tel (806) 794-1296 Fax (806) 794-1298 1 (800) 378-1296										155 McCulloch, Suite H El Paso, Texas 79932 Tel (915) 585-3443 Fax (915) 585-4944 1 (800) 386-3443										CHAIN-OF-CUSTODY AND ANALYSIS REQUEST																																																																																																																							
Company Name: BBC INTERNATIONAL Address: (Street, City, Zip) 1324 W. MARLAND 88940 Contact Person: CLIFF BRONSON										Phone #: (505) 397-6388 Fax #: (505) 397-0397										LAB Order ID #: 4092806																																																																																																																																	
Invoice to: WESTGATE Project #: HOBBES NEW MEXICO Project Location: HOBBES NEW MEXICO										Project Name: WESTGATE Sampler Signatures: Roger Hernandez										ANALYSIS REQUEST (Circle or Specify Method No.)																																																																																																																																	
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Tel (915) 585-3443
Fax (915) 585-4944
1 (888) 588-3443

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

LAB Order ID #

4092806

Company Name:

BBC International

Phone #: (505) 397.6388

Address:

Street, City, Zip)

Street, City, Zip) 1324 W. MARLAND 88940 Fax #: (505) 397-0397

Contact Person:

CLIFF BRUNSON

Invoice to:

Invoice to:
(If different from above)

Project #:

Project Name:

Project Location:

Project Location: HOBBS NEW Mexico

Sampler Signature:

re: Royer Hernandez

[illegible]

Belinquished by:

Date: _____ Time: _____

Received by:

Date: _____ Time: _____

LAB USE ONLY

Relinquished by:

Date: _____ Time: _____

Received by:

Date: _____ Time: _____

Relinquished by:

Date: _____ Time: _____

Received at Laboratory by:

Date: _____ Time: _____

Intact

Intact

Headspace Y/N

Temp 40 °C☐ Check If Special Reporting Limits Are Needed

10/450

Submittal of samples constitutes agreement to Terms and Conditions listed on reverse side of C.O.C.

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Carrier # TNMTD 903260-663.8

APPENDIX IV

TRACE ANALYSIS, INC.
Laboratory Results
4th Quarter 2004

Westgate Subdivision
Grimes Battery & Tasker Road

April 2005

Shell Exploration & Production Company
Houston, Texas

Prepared by:
BBC International, Inc.

Summary Report

Cliff Brunson
BBC International
1324 W. Marland
Hobbs, NM 88240

Report Date: December 17, 2004

Work Order: 4120920

Project Location: Hobbs, NM
Project Name: Shell Westgate

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
50098	MW #2	water	2004-12-07	12:50	2004-12-09
50099	MW #10	water	2004-12-07	13:30	2004-12-09
50100	MW #4	water	2004-12-07	14:10	2004-12-09
50101	MW #7	water	2004-12-07	14:45	2004-12-09
50102	MW #8	water	2004-12-07	15:20	2004-12-09
50103	MW #6	water	2004-12-07	15:48	2004-12-09
50104	MW #11	water	2004-12-07	16:02	2004-12-09

Sample: 50098 - MW #2

Param	Flag	Result	Units	RL
Naphthalene		<0.000200	mg/L	0.200
Acenaphthylene		<0.000200	mg/L	0.200
Acenaphthene		<0.000200	mg/L	0.200
Fluorene		<0.000200	mg/L	0.200
Phenanthrene		<0.000200	mg/L	0.200
Anthracene		<0.000200	mg/L	0.200
Fluoranthene		<0.000200	mg/L	0.200
Pyrene		<0.000200	mg/L	0.200
Benzo(a)anthracene		<0.000200	mg/L	0.200
Chrysene		<0.000200	mg/L	0.200
Benzo(b)fluoranthene		<0.000200	mg/L	0.200
Benzo(k)fluoranthene		<0.000200	mg/L	0.200
Benzo(a)pyrene		<0.000200	mg/L	0.200
Indeno(1,2,3-cd)pyrene		<0.000200	mg/L	0.200
Dibenzo(a,h)anthracene		<0.000200	mg/L	0.200
Benzo(g,h,i)perylene		<0.000200	mg/L	0.200
Benzene		<1.00	µg/L	1.00
Toluene		1.73	µg/L	1.00
Ethylbenzene		<1.00	µg/L	1.00
m,p-Xylene		<1.00	µg/L	1.00
o-Xylene		<1.00	µg/L	1.00

Sample: 50099 - MW #10

Param	Flag	Result	Units	RL
Naphthalene		<0.000200	mg/L	0.200
Acenaphthylene		<0.000200	mg/L	0.200
Acenaphthene		<0.000200	mg/L	0.200
Fluorene		<0.000200	mg/L	0.200
Phenanthrene		<0.000200	mg/L	0.200
Anthracene		<0.000200	mg/L	0.200
Fluoranthene		<0.000200	mg/L	0.200
Pyrene		<0.000200	mg/L	0.200
Benzo(a)anthracene		<0.000200	mg/L	0.200
Chrysene		<0.000200	mg/L	0.200
Benzo(b)fluoranthene		<0.000200	mg/L	0.200
Benzo(k)fluoranthene		<0.000200	mg/L	0.200
Benzo(a)pyrene		<0.000200	mg/L	0.200
Indeno(1,2,3-cd)pyrene		<0.000200	mg/L	0.200
Dibenzo(a,h)anthracene		<0.000200	mg/L	0.200
Benzo(g,h,i)perylene		<0.000200	mg/L	0.200
Benzene		<1.00	µg/L	1.00
Toluene		<1.00	µg/L	1.00
Ethylbenzene		<1.00	µg/L	1.00
m,p-Xylene		<1.00	µg/L	1.00
o-Xylene		<1.00	µg/L	1.00

Sample: 50100 - MW #4

Param	Flag	Result	Units	RL
Benzene		<1.00	µg/L	1.00
Toluene		<1.00	µg/L	1.00
Ethylbenzene		<1.00	µg/L	1.00
m,p-Xylene		<1.00	µg/L	1.00
o-Xylene		<1.00	µg/L	1.00

Sample: 50101 - MW #7

Param	Flag	Result	Units	RL
Naphthalene		<0.000200	mg/L	0.200
Acenaphthylene		<0.000200	mg/L	0.200
Acenaphthene		<0.000200	mg/L	0.200
Fluorene		<0.000200	mg/L	0.200
Phenanthrene		<0.000200	mg/L	0.200
Anthracene		<0.000200	mg/L	0.200
Fluoranthene		<0.000200	mg/L	0.200
Pyrene		<0.000200	mg/L	0.200
Benzo(a)anthracene		<0.000200	mg/L	0.200
Chrysene		<0.000200	mg/L	0.200
Benzo(b)fluoranthene		<0.000200	mg/L	0.200
Benzo(k)fluoranthene		<0.000200	mg/L	0.200
Benzo(a)pyrene		<0.000200	mg/L	0.200
Indeno(1,2,3-cd)pyrene		<0.000200	mg/L	0.200
Dibenzo(a,h)anthracene		<0.000200	mg/L	0.200
Benzo(g,h,i)perylene		<0.000200	mg/L	0.200

continued ...

sample 50101 continued ...

Param	Flag	Result	Units	RL
Benzene		<1.00	µg/L	1.00
Toluene		<1.00	µg/L	1.00
Ethylbenzene		<1.00	µg/L	1.00
m,p-Xylene		<1.00	µg/L	1.00
o-Xylene		<1.00	µg/L	1.00

Sample: 50102 - MW #8

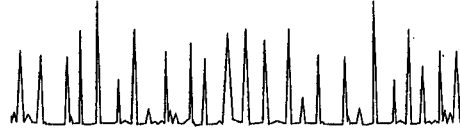
Param	Flag	Result	Units	RL
Naphthalene		<0.000200	mg/L	0.200
Acenaphthylene		<0.000200	mg/L	0.200
Acenaphthene		<0.000200	mg/L	0.200
Fluorene		0.000780	mg/L	0.200
Phenanthrene		0.000570	mg/L	0.200
Anthracene		<0.000200	mg/L	0.200
Fluoranthene		<0.000200	mg/L	0.200
Pyrene		<0.000200	mg/L	0.200
Benzo(a)anthracene		<0.000200	mg/L	0.200
Chrysene		<0.000200	mg/L	0.200
Benzo(b)fluoranthene		<0.000200	mg/L	0.200
Benzo(k)fluoranthene		<0.000200	mg/L	0.200
Benzo(a)pyrene		<0.000200	mg/L	0.200
Indeno(1,2,3-cd)pyrene		<0.000200	mg/L	0.200
Dibenzo(a,h)anthracene		<0.000200	mg/L	0.200
Benzo(g,h,i)perylene		<0.000200	mg/L	0.200
Benzene		<1.00	µg/L	1.00
Toluene		<1.00	µg/L	1.00
Ethylbenzene		<1.00	µg/L	1.00
m,p-Xylene		<1.00	µg/L	1.00
o-Xylene		<1.00	µg/L	1.00

Sample: 50103 - MW #6

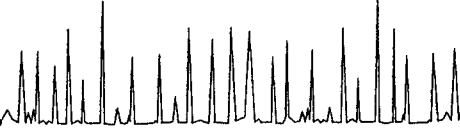
Param	Flag	Result	Units	RL
Benzene		<1.00	µg/L	1.00
Toluene		<1.00	µg/L	1.00
Ethylbenzene		<1.00	µg/L	1.00
m,p-Xylene		<1.00	µg/L	1.00
o-Xylene		<1.00	µg/L	1.00

Sample: 50104 - MW #11

Param	Flag	Result	Units	RL
Benzene		<1.00	µg/L	1.00
Toluene		<1.00	µg/L	1.00
Ethylbenzene		<1.00	µg/L	1.00
m,p-Xylene		<1.00	µg/L	1.00
o-Xylene		<1.00	µg/L	1.00



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Analytical and Quality Control Report

Cliff Brunson
BBC International
1324 W. Marland
Hobbs, NM.88240

Report Date: December 17, 2004

Work Order: 4120920

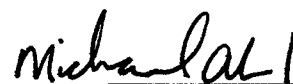
Project Location: Hobbs, NM
Project Name: Shell Westgate
Project Number: Shell Westgate

Enclosed are the Analytical Report and Quality Control Report for the following sample(s) submitted to TraceAnalysis, Inc.

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
50098	MW #2	water	2004-12-07	12:50	2004-12-09
50099	MW #10	water	2004-12-07	13:30	2004-12-09
50100	MW #4	water	2004-12-07	14:10	2004-12-09
50101	MW #7	water	2004-12-07	14:45	2004-12-09
50102	MW #8	water	2004-12-07	15:20	2004-12-09
50103	MW #6	water	2004-12-07	15:48	2004-12-09
50104	MW #11	water	2004-12-07	16:02	2004-12-09

These results represent only the samples received in the laboratory. The Quality Control Report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed.

This report consists of a total of 14 pages and shall not be reproduced except in its entirety, without written approval of TraceAnalysis, Inc.



Dr. Blair Leftwich, Director

Analytical Report

Sample: 50098 - MW #2

Analysis: PAH
QC Batch: 14590
Prep Batch: 12885

Analytical Method: S 8270C
Date Analyzed: 2004-12-12
Date Prepared: 2004-12-09

Prep Method: S 3510C
Analyzed By: RC
Prepared By: RC

Parameter	Flag	RL Result	Units	Dilution	RL
Naphthalene		<0.000200	mg/L	0.001	0.200
Acenaphthylene		<0.000200	mg/L	0.001	0.200
Acenaphthene		<0.000200	mg/L	0.001	0.200
Fluorene		<0.000200	mg/L	0.001	0.200
Phenanthrene		<0.000200	mg/L	0.001	0.200
Anthracene		<0.000200	mg/L	0.001	0.200
Fluoranthene		<0.000200	mg/L	0.001	0.200
Pyrene		<0.000200	mg/L	0.001	0.200
Benzo(a)anthracene		<0.000200	mg/L	0.001	0.200
Chrysene		<0.000200	mg/L	0.001	0.200
Benzo(b)fluoranthene		<0.000200	mg/L	0.001	0.200
Benzo(k)fluoranthene		<0.000200	mg/L	0.001	0.200
Benzo(a)pyrene		<0.000200	mg/L	0.001	0.200
Indeno(1,2,3-cd)pyrene		<0.000200	mg/L	0.001	0.200
Dibenzo(a,h)anthracene		<0.000200	mg/L	0.001	0.200
Benzo(g,h,i)perylene		<0.000200	mg/L	0.001	0.200

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Nitrobenzene-d5		0.0329	mg/L	0.001	80.0	41	0 - 128
2-Fluorobiphenyl		0.0352	mg/L	0.001	80.0	44	0 - 140
Terphenyl-d14		0.0392	mg/L	0.001	80.0	49	0 - 165

Sample: 50098 - MW #2

Analysis: Volatiles
QC Batch: 14694
Prep Batch: 12990

Analytical Method: S 8260B
Date Analyzed: 2004-12-16
Date Prepared: 2004-12-16

Prep Method: S 5030B
Analyzed By: JG
Prepared By: JG

Comment: Btex Only

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		<1.00	µg/L	1	1.00
Toluene		1.73	µg/L	1	1.00
Ethylbenzene		<1.00	µg/L	1	1.00
m,p-Xylene		<1.00	µg/L	1	1.00
o-Xylene		<1.00	µg/L	1	1.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Dibromofluoromethane		53.3	µg/L	1	50.0	107	70 - 130
Toluene-d8		47.0	µg/L	1	50.0	94	70 - 130
4-Bromofluorobenzene (4-BFB)		42.6	µg/L	1	50.0	85	70 - 130

Sample: 50099 - MW #10

Analysis: PAH
QC Batch: 14590
Prep Batch: 12885

Analytical Method: S 8270C
Date Analyzed: 2004-12-12
Date Prepared: 2004-12-09

Prep Method: S 3510C
Analyzed By: RC
Prepared By: RC

Parameter	Flag	RL Result	Units	Dilution	RL
Naphthalene		<0.000200	mg/L	0.001	0.200
Acenaphthylene		<0.000200	mg/L	0.001	0.200
Acenaphthene		<0.000200	mg/L	0.001	0.200
Fluorene		<0.000200	mg/L	0.001	0.200
Phenanthrene		<0.000200	mg/L	0.001	0.200
Anthracene		<0.000200	mg/L	0.001	0.200
Fluoranthene		<0.000200	mg/L	0.001	0.200
Pyrene		<0.000200	mg/L	0.001	0.200
Benzo(a)anthracene		<0.000200	mg/L	0.001	0.200
Chrysene		<0.000200	mg/L	0.001	0.200
Benzo(b)fluoranthene		<0.000200	mg/L	0.001	0.200
Benzo(k)fluoranthene		<0.000200	mg/L	0.001	0.200
Benzo(a)pyrene		<0.000200	mg/L	0.001	0.200
Indeno(1,2,3-cd)pyrene		<0.000200	mg/L	0.001	0.200
Dibenzo(a,h)anthracene		<0.000200	mg/L	0.001	0.200
Benzo(g,h,i)perylene		<0.000200	mg/L	0.001	0.200

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Nitrobenzene-d5		0.0470	mg/L	0.001	80.0	59	0 - 128
2-Fluorobiphenyl		0.0540	mg/L	0.001	80.0	68	0 - 140
Terphenyl-d14		0.0691	mg/L	0.001	80.0	86	0 - 165

Sample: 50099 - MW #10

Analysis: Volatiles
QC Batch: 14667
Prep Batch: 12952

Analytical Method: S 8260B
Date Analyzed: 2004-12-15
Date Prepared: 2004-12-15

Prep Method: S 5030B
Analyzed By: JG
Prepared By: JG

Comment: Btex Only

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		<1.00	µg/L	1	1.00
Toluene		<1.00	µg/L	1	1.00
Ethylbenzene		<1.00	µg/L	1	1.00
m,p-Xylene		<1.00	µg/L	1	1.00
o-Xylene		<1.00	µg/L	1	1.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Dibromofluoromethane		50.6	µg/L	1	50.0	101	70 - 130
Toluene-d8		47.2	µg/L	1	50.0	94	70 - 130
4-Bromofluorobenzene (4-BFB)		44.8	µg/L	1	50.0	90	70 - 130

Sample: 50100 - MW #4

Analysis: Volatiles
QC Batch: 14667
Prep Batch: 12952

Analytical Method: S 8260B
Date Analyzed: 2004-12-15
Date Prepared: 2004-12-15

Prep Method: S 5030B
Analyzed By: JG
Prepared By: JG

Comment: Btex Only

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		<1.00	µg/L	1	1.00
Toluene		<1.00	µg/L	1	1.00
Ethylbenzene		<1.00	µg/L	1	1.00
m,p-Xylene		<1.00	µg/L	1	1.00
o-Xylene		<1.00	µg/L	1	1.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Dibromofluoromethane		50.6	µg/L	1	50.0	101	70 - 130
Toluene-d8		47.4	µg/L	1	50.0	95	70 - 130
4-Bromofluorobenzene (4-BFB)		45.2	µg/L	1	50.0	90	70 - 130

Sample: 50101 - MW #7

Analysis: PAH
QC Batch: 14590
Prep Batch: 12885

Analytical Method: S 8270C
Date Analyzed: 2004-12-12
Date Prepared: 2004-12-09

Prep Method: S 3510C
Analyzed By: RC
Prepared By: RC

Parameter	Flag	RL Result	Units	Dilution	RL
Naphthalene		<0.000200	mg/L	0.001	0.200
Acenaphthylene		<0.000200	mg/L	0.001	0.200
Acenaphthene		<0.000200	mg/L	0.001	0.200
Fluorene		<0.000200	mg/L	0.001	0.200
Phenanthrene		<0.000200	mg/L	0.001	0.200
Anthracene		<0.000200	mg/L	0.001	0.200
Fluoranthene		<0.000200	mg/L	0.001	0.200
Pyrene		<0.000200	mg/L	0.001	0.200
Benzo(a)anthracene		<0.000200	mg/L	0.001	0.200
Chrysene		<0.000200	mg/L	0.001	0.200
Benzo(b)fluoranthene		<0.000200	mg/L	0.001	0.200
Benzo(k)fluoranthene		<0.000200	mg/L	0.001	0.200
Benzo(a)pyrene		<0.000200	mg/L	0.001	0.200
Indeno(1,2,3-cd)pyrene		<0.000200	mg/L	0.001	0.200
Dibenzo(a,h)anthracene		<0.000200	mg/L	0.001	0.200
Benzo(g,h,i)perylene		<0.000200	mg/L	0.001	0.200

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Nitrobenzene-d5		0.0726	mg/L	0.001	80.0	91	0 - 128
2-Fluorobiphenyl		0.0783	mg/L	0.001	80.0	98	0 - 140
Terphenyl-d14		0.0785	mg/L	0.001	80.0	98	0 - 165

Sample: 50101 - MW #7

Analysis: Volatiles
QC Batch: 14667
Prep Batch: 12952
Comment: Btex Only

Analytical Method: S 8260B
Date Analyzed: 2004-12-15
Date Prepared: 2004-12-15

Prep Method: S 5030B
Analyzed By: JG
Prepared By: JG

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		<1.00	µg/L	1	1.00
Toluene		<1.00	µg/L	1	1.00
Ethylbenzene		<1.00	µg/L	1	1.00
m,p-Xylene		<1.00	µg/L	1	1.00
o-Xylene		<1.00	µg/L	1	1.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Dibromofluoromethane		51.5	µg/L	1	50.0	103	70 - 130
Toluene-d8		47.2	µg/L	1	50.0	94	70 - 130
4-Bromofluorobenzene (4-BFB)		44.3	µg/L	1	50.0	89	70 - 130

Sample: 50102 - MW #8

Analysis: PAH
QC Batch: 14590
Prep Batch: 12885

Analytical Method: S 8270C
Date Analyzed: 2004-12-12
Date Prepared: 2004-12-09

Prep Method: S 3510C
Analyzed By: RC
Prepared By: RC

Parameter	Flag	RL Result	Units	Dilution	RL
Naphthalene		<0.000200	mg/L	0.001	0.200
Acenaphthylene		<0.000200	mg/L	0.001	0.200
Acenaphthene		<0.000200	mg/L	0.001	0.200
Fluorene		0.000780	mg/L	0.001	0.200
Phenanthrene		0.000570	mg/L	0.001	0.200
Anthracene		<0.000200	mg/L	0.001	0.200
Fluoranthene		<0.000200	mg/L	0.001	0.200
Pyrene		<0.000200	mg/L	0.001	0.200
Benzo(a)anthracene		<0.000200	mg/L	0.001	0.200
Chrysene		<0.000200	mg/L	0.001	0.200
Benzo(b)fluoranthene		<0.000200	mg/L	0.001	0.200
Benzo(k)fluoranthene		<0.000200	mg/L	0.001	0.200
Benzo(a)pyrene		<0.000200	mg/L	0.001	0.200
Indeno(1,2,3-cd)pyrene		<0.000200	mg/L	0.001	0.200
Dibenzo(a,h)anthracene		<0.000200	mg/L	0.001	0.200
Benzo(g,h,i)perylene		<0.000200	mg/L	0.001	0.200

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Nitrobenzene-d5		0.0603	mg/L	0.001	80.0	75	0 - 128
2-Fluorobiphenyl		0.0673	mg/L	0.001	80.0	84	0 - 140
Terphenyl-d14		0.0724	mg/L	0.001	80.0	90	0 - 165

Sample: 50102 - MW #8

Analysis: Volatiles
QC Batch: 14694
Prep Batch: 12990
Comment: Btex Only

Analytical Method: S 8260B
Date Analyzed: 2004-12-16
Date Prepared: 2004-12-16

Prep Method: S 5030B
Analyzed By: JG
Prepared By: JG

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		<1.00	µg/L	1	1.00
Toluene		<1.00	µg/L	1	1.00
Ethylbenzene		<1.00	µg/L	1	1.00
m,p-Xylene		<1.00	µg/L	1	1.00
o-Xylene		<1.00	µg/L	1	1.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Dibromofluoromethane		53.2	µg/L	1	50.0	106	70 - 130
Toluene-d8		46.7	µg/L	1	50.0	93	70 - 130
4-Bromofluorobenzene (4-BFB)		43.0	µg/L	1	50.0	86	70 - 130

Sample: 50103 - MW #6

Analysis: Volatiles
QC Batch: 14667
Prep Batch: 12952
Comment: Btex Only

Analytical Method: S 8260B
Date Analyzed: 2004-12-15
Date Prepared: 2004-12-15

Prep Method: S 5030B
Analyzed By: JG
Prepared By: JG

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		<1.00	µg/L	1	1.00
Toluene		<1.00	µg/L	1	1.00
Ethylbenzene		<1.00	µg/L	1	1.00
m,p-Xylene		<1.00	µg/L	1	1.00
o-Xylene		<1.00	µg/L	1	1.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Dibromofluoromethane		51.6	µg/L	1	50.0	103	70 - 130
Toluene-d8		47.5	µg/L	1	50.0	95	70 - 130
4-Bromofluorobenzene (4-BFB)		45.0	µg/L	1	50.0	90	70 - 130

Sample: 50104 - MW #11

Analysis: Volatiles
QC Batch: 14667
Prep Batch: 12952
Comment: Btex Only

Analytical Method: S 8260B
Date Analyzed: 2004-12-15
Date Prepared: 2004-12-15

Prep Method: S 5030B
Analyzed By: JG
Prepared By: JG

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		<1.00	µg/L	1	1.00
Toluene		<1.00	µg/L	1	1.00
Ethylbenzene		<1.00	µg/L	1	1.00
m,p-Xylene		<1.00	µg/L	1	1.00
o-Xylene		<1.00	µg/L	1	1.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Dibromofluoromethane		52.0	µg/L	1	50.0	104	70 - 130
Toluene-d8		47.2	µg/L	1	50.0	94	70 - 130
4-Bromofluorobenzene (4-BFB)		44.7	µg/L	1	50.0	89	70 - 130

Method Blank (1) QC Batch: 14590

Parameter	Flag	Result	Units	RL
Naphthalene		<0.000200	mg/L	0.2
Acenaphthylene		<0.000200	mg/L	0.2
Acenaphthene		<0.000200	mg/L	0.2
Fluorene		<0.000200	mg/L	0.2
Phenanthrene		<0.000200	mg/L	0.2
Anthracene		<0.000200	mg/L	0.2
Fluoranthene		<0.000200	mg/L	0.2
Pyrene		<0.000200	mg/L	0.2
Benzo(a)anthracene		<0.000200	mg/L	0.2
Chrysene		<0.000200	mg/L	0.2
Benzo(b)fluoranthene		<0.000200	mg/L	0.2
Benzo(k)fluoranthene		<0.000200	mg/L	0.2
Benzo(a)pyrene		<0.000200	mg/L	0.2
Indeno(1,2,3-cd)pyrene		<0.000200	mg/L	0.2
Dibenzo(a,h)anthracene		<0.000200	mg/L	0.2
Benzo(g,h,i)perylene		<0.000200	mg/L	0.2

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Nitrobenzene-d5		0.0747	mg/L	0.001	80.0	93	0 - 128
2-Fluorobiphenyl		0.0806	mg/L	0.001	80.0	101	0 - 140
Terphenyl-d14		0.0818	mg/L	0.001	80.0	102	0 - 165

Method Blank (1) QC Batch: 14667

Parameter	Flag	Result	Units	RL
Bromochloromethane		<1.00	µg/L	1
Dichlorodifluoromethane		<1.00	µg/L	1
Chloromethane (methyl chloride)		<1.00	µg/L	1
Vinyl Chloride		<1.00	µg/L	1
Bromomethane (methyl bromide)		<5.00	µg/L	5
Chloroethane		<1.00	µg/L	1
Trichlorofluoromethane		<1.00	µg/L	1

continued ...

method blank continued ...

Parameter	Flag	Result	Units	RL
Acetone		<10.0	µg/L	10
Iodomethane (methyl iodide)		<5.00	µg/L	5
Carbon Disulfide		<1.00	µg/L	1
Acrylonitrile		<1.00	µg/L	1
2-Butanone (MEK)		<5.00	µg/L	5
4-Methyl-2-pentanone (MIBK)		<5.00	µg/L	5
2-Hexanone		<5.00	µg/L	5
trans 1,4-Dichloro-2-butene		<10.0	µg/L	10
1,1-Dichloroethene		<1.00	µg/L	1
Methylene chloride		<5.00	µg/L	5
MTBE		<1.00	µg/L	1
trans-1,2-Dichloroethene		<1.00	µg/L	1
1,1-Dichloroethane		<1.00	µg/L	1
cis-1,2-Dichloroethene		<1.00	µg/L	1
2,2-Dichloropropane		<1.00	µg/L	1
1,2-Dichloroethane (EDC)		<1.00	µg/L	1
Chloroform		<1.00	µg/L	1
1,1,1-Trichloroethane		<1.00	µg/L	1
1,1-Dichloropropene		<1.00	µg/L	1
Benzene		<1.00	µg/L	1
Carbon Tetrachloride		<1.00	µg/L	1
1,2-Dichloropropane		<1.00	µg/L	1
Trichloroethene (TCE)		<1.00	µg/L	1
Dibromomethane (methylene bromide)		<1.00	µg/L	1
Bromodichloromethane		<1.00	µg/L	1
2-Chloroethyl vinyl ether		<5.00	µg/L	5
cis-1,3-Dichloropropene		<1.00	µg/L	1
trans-1,3-Dichloropropene		<1.00	µg/L	1
Toluene		<1.00	µg/L	1
1,1,2-Trichloroethane		<1.00	µg/L	1
1,3-Dichloropropane		<1.00	µg/L	1
Dibromochloromethane		<1.00	µg/L	1
1,2-Dibromoethane (EDB)		<1.00	µg/L	1
Tetrachloroethene (PCE)		<1.00	µg/L	1
Chlorobenzene		<1.00	µg/L	1
1,1,1,2-Tetrachloroethane		<1.00	µg/L	1
Ethylbenzene		<1.00	µg/L	1
m,p-Xylene		<1.00	µg/L	1
Bromoform		<1.00	µg/L	1
Styrene		<1.00	µg/L	1
o-Xylene		<1.00	µg/L	1
1,1,2,2-Tetrachloroethane		<1.00	µg/L	1
2-Chlorotoluene		<1.00	µg/L	1
1,2,3-Trichloropropane		<1.00	µg/L	1
Isopropylbenzene		<1.00	µg/L	1
Bromobenzene		<1.00	µg/L	1
n-Propylbenzene		<1.00	µg/L	1
1,3,5-Trimethylbenzene		<1.00	µg/L	1
tert-Butylbenzene		<1.00	µg/L	1
1,2,4-Trimethylbenzene		<1.00	µg/L	1
1,4-Dichlorobenzene (para)		<1.00	µg/L	1
sec-Butylbenzene		<1.00	µg/L	1

continued ...

method blank continued ...

Parameter	Flag	Result	Units	RL
1,3-Dichlorobenzene (meta)		<1.00	µg/L	1
p-Isopropyltoluene		<1.00	µg/L	1
4-Chlorotoluene		<1.00	µg/L	1
1,2-Dichlorobenzene (ortho)		<1.00	µg/L	1
n-Butylbenzene		<1.00	µg/L	1
1,2-Dibromo-3-chloropropane		<5.00	µg/L	5
1,2,3-Trichlorobenzene		<5.00	µg/L	5
1,2,4-Trichlorobenzene		<5.00	µg/L	5
Naphthalene		<5.00	µg/L	5
Hexachlorobutadiene		<5.00	µg/L	5

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Dibromofluoromethane		49.4	µg/L	1	50.0	99	70 - 130
Toluene-d8		47.4	µg/L	1	50.0	95	70 - 130
4-Bromofluorobenzene (4-BFB)		44.6	µg/L	1	50.0	89	70 - 130

Method Blank (1) QC Batch: 14694

Parameter	Flag	Result	Units	RL
Bromochloromethane		<1.00	µg/L	1
Dichlorodifluoromethane		<1.00	µg/L	1
Chloromethane (methyl chloride)		<1.00	µg/L	1
Vinyl Chloride		<1.00	µg/L	1
Bromomethane (methyl bromide)		<5.00	µg/L	5
Chloroethane		<1.00	µg/L	1
Trichlorofluoromethane		<1.00	µg/L	1
Acetone		<10.0	µg/L	10
Iodomethane (methyl iodide)		<5.00	µg/L	5
Carbon Disulfide		<1.00	µg/L	1
Acrylonitrile		<1.00	µg/L	1
2-Butanone (MEK)		<5.00	µg/L	5
4-Methyl-2-pentanone (MIBK)		<5.00	µg/L	5
2-Hexanone		<5.00	µg/L	5
trans 1,4-Dichloro-2-butene		<10.0	µg/L	10
1,1-Dichloroethene		<1.00	µg/L	1
Methylene chloride		<5.00	µg/L	5
MTBE		<1.00	µg/L	1
trans-1,2-Dichloroethene		<1.00	µg/L	1
1,1-Dichloroethane		<1.00	µg/L	1
cis-1,2-Dichloroethene		<1.00	µg/L	1
2,2-Dichloropropane		<1.00	µg/L	1
1,2-Dichloroethane (EDC)		<1.00	µg/L	1
Chloroform		<1.00	µg/L	1
1,1,1-Trichloroethane		<1.00	µg/L	1
1,1-Dichloropropene		<1.00	µg/L	1
Benzene		<1.00	µg/L	1
Carbon Tetrachloride		<1.00	µg/L	1
1,2-Dichloropropane		<1.00	µg/L	1

continued ...

method blank continued ...

Parameter	Flag	Result	Units	RL
Trichloroethene (TCE)		<1.00	µg/L	1
Dibromomethane (methylene bromide)		<1.00	µg/L	1
Bromodichloromethane		<1.00	µg/L	1
2-Chloroethyl vinyl ether		<5.00	µg/L	5
cis-1,3-Dichloropropene		<1.00	µg/L	1
trans-1,3-Dichloropropene		<1.00	µg/L	1
Toluene		<1.00	µg/L	1
1,1,2-Trichloroethane		<1.00	µg/L	1
1,3-Dichloropropane		<1.00	µg/L	1
Dibromochloromethane		<1.00	µg/L	1
1,2-Dibromoethane (EDB)		<1.00	µg/L	1
Tetrachloroethene (PCE)		<1.00	µg/L	1
Chlorobenzene		<1.00	µg/L	1
1,1,1,2-Tetrachloroethane		<1.00	µg/L	1
Ethylbenzene		<1.00	µg/L	1
m,p-Xylene		<1.00	µg/L	1
Bromoform		<1.00	µg/L	1
Styrene		<1.00	µg/L	1
o-Xylene		<1.00	µg/L	1
1,1,2,2-Tetrachloroethane		<1.00	µg/L	1
2-Chlorotoluene		<1.00	µg/L	1
1,2,3-Trichloropropane		<1.00	µg/L	1
Isopropylbenzene		<1.00	µg/L	1
Bromobenzene		<1.00	µg/L	1
n-Propylbenzene		<1.00	µg/L	1
1,3,5-Trimethylbenzene		<1.00	µg/L	1
tert-Butylbenzene		<1.00	µg/L	1
1,2,4-Trimethylbenzene		<1.00	µg/L	1
1,4-Dichlorobenzene (para)		<1.00	µg/L	1
sec-Butylbenzene		<1.00	µg/L	1
1,3-Dichlorobenzene (meta)		<1.00	µg/L	1
p-Isopropyltoluene		<1.00	µg/L	1
4-Chlorotoluene		<1.00	µg/L	1
1,2-Dichlorobenzene (ortho)		<1.00	µg/L	1
n-Butylbenzene		<1.00	µg/L	1
1,2-Dibromo-3-chloropropane		<5.00	µg/L	5
1,2,3-Trichlorobenzene		<5.00	µg/L	5
1,2,4-Trichlorobenzene		<5.00	µg/L	5
Naphthalene		<5.00	µg/L	5
Hexachlorobutadiene		<5.00	µg/L	5

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Dibromofluoromethane		49.4	µg/L	1	50.0	99	70 - 130
Toluene-d8		47.4	µg/L	1	50.0	95	70 - 130
4-Bromofluorobenzene (4-BFB)		43.2	µg/L	1	50.0	86	70 - 130

Laboratory Control Spike (LCS-1) QC Batch: 14590

Param	LCS Result	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	RPD	Rec. Limit	RPD Limit
Naphthalene	0.0647	0.0655	mg/L	0.001	80.0	<0.0000445	81	1	22.5 - 119	20
Acenaphthylene	0.0941	0.0944	mg/L	0.001	80.0	<0.0000383	118	0	42.3 - 127	20
Acenaphthene	0.0746	0.0749	mg/L	0.001	80.0	<0.0000421	93	0	38 - 125	20
Fluorene	0.0790	0.0796	mg/L	0.001	80.0	<0.0000655	99	1	36.6 - 130	20
Phenanthrene	0.0901	0.0893	mg/L	0.001	80.0	<0.0000383	113	1	40.3 - 131	20
Anthracene	0.0969	0.0971	mg/L	0.001	80.0	<0.0000468	121	0	36.7 - 135	20
Fluoranthene	0.104	0.102	mg/L	0.001	80.0	<0.0000550	130	2	43.2 - 133	20
Pyrene	0.103	0.102	mg/L	0.001	80.0	<0.0000904	129	1	48.8 - 157	20
Benzo(a)anthracene	0.105	0.104	mg/L	0.001	80.0	<0.0000993	131	1	40.2 - 138	20
Chrysene	0.0794	0.0786	mg/L	0.001	80.0	<0.000121	99	1	5.5 - 179	20
Benzo(b)fluoranthene	0.0944	0.0977	mg/L	0.001	80.0	<0.000171	118	3	16.4 - 156	20
Benzo(k)fluoranthene	0.0958	0.0978	mg/L	0.001	80.0	<0.0000951	120	2	40.9 - 150	20
Benzo(a)pyrene	0.105	0.108	mg/L	0.001	80.0	<0.000135	131	3	38.7 - 149	20
Indeno(1,2,3-cd)pyrene	0.105	0.105	mg/L	0.001	80.0	<0.000176	131	0	32 - 153	20
Dibenzo(a,h)anthracene	0.0658	0.0673	mg/L	0.001	80.0	<0.000184	82	2	0 - 202	20
Benzo(g,h,i)perylene	0.105	0.105	mg/L	0.001	80.0	<0.000134	131	0	39.1 - 144	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Nitrobenzene-d5	0.0578	0.0601	mg/L	0.001	80.0	72	75	0 - 128
2-Fluorobiphenyl	0.0649	0.0657	mg/L	0.001	80.0	81	82	0 - 140
Terphenyl-d14	0.0971	0.0958	mg/L	0.001	80.0	121	120	0 - 165

Laboratory Control Spike (LCS-1) QC Batch: 14667

Param	LCS Result	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	RPD	Rec. Limit	RPD Limit
1,1-Dichloroethene	86.4	88.0	µg/L	1	100	<0.136	86	2	70 - 130	20
Benzene	85.0	85.8	µg/L	1	100	<0.146	85	1	70 - 130	20
Trichloroethene (TCE)	93.3	95.2	µg/L	1	100	<0.117	93	2	70 - 130	20
Toluene	94.4	96.9	µg/L	1	100	<0.0600	94	3	70 - 130	20
Chlorobenzene	92.4	93.5	µg/L	1	100	<0.0540	92	1	70 - 130	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Dibromofluoromethane	48.9	49.4	µg/L	1	50.0	98	99	70 - 130
Toluene-d8	47.6	47.9	µg/L	1	50.0	95	96	70 - 130
4-Bromofluorobenzene (4-BFB)	45.7	45.4	µg/L	1	50.0	91	91	70 - 130

Laboratory Control Spike (LCS-1) QC Batch: 14694

Param	LCS Result	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	RPD	Rec. Limit	RPD Limit
1,1-Dichloroethene	88.2	88.3	µg/L	1	100	<0.136	88	0	70 - 130	20
Benzene	86.3	86.7	µg/L	1	100	<0.146	86	0	70 - 130	20
Trichloroethene (TCE)	95.6	95.7	µg/L	1	100	<0.117	96	0	70 - 130	20
Toluene	96.8	97.8	µg/L	1	100	<0.0600	97	1	70 - 130	20

continued ...

control spikes continued ...

Param	LCS Result	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	RPD	Rec. Limit	RPD Limit
Chlorobenzene	94.4	94.0	µg/L	1	100	<0.0540	94	0	70 - 130	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Dibromofluoromethane	49.2	49.5	µg/L	1	50.0	98	99	70 - 130
Toluene-d8	48.0	47.2	µg/L	1	50.0	96	94	70 - 130
4-Bromofluorobenzene (4-BFB)	44.2	43.2	µg/L	1	50.0	88	86	70 - 130

Standard (CCV-1) QC Batch: 14590

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Naphthalene		mg/L	60.0	60.5	101	80 - 120	2004-12-12
Acenaphthylene		mg/L	60.0	60.7	101	80 - 120	2004-12-12
Acenaphthene		mg/L	60.0	60.4	101	80 - 120	2004-12-12
Fluorene		mg/L	60.0	61.0	102	80 - 120	2004-12-12
Phenanthrene		mg/L	60.0	60.8	101	80 - 120	2004-12-12
Anthracene		mg/L	60.0	60.6	101	80 - 120	2004-12-12
Fluoranthene		mg/L	60.0	59.2	99	80 - 120	2004-12-12
Pyrene		mg/L	60.0	59.0	98	80 - 120	2004-12-12
Benzo(a)anthracene		mg/L	60.0	60.9	102	80 - 120	2004-12-12
Chrysene		mg/L	60.0	60.1	100	80 - 120	2004-12-12
Benzo(b)fluoranthene		mg/L	60.0	63.8	106	80 - 120	2004-12-12
Benzo(k)fluoranthene		mg/L	60.0	59.1	98	80 - 120	2004-12-12
Benzo(a)pyrene		mg/L	60.0	60.2	100	80 - 120	2004-12-12
Indeno(1,2,3-cd)pyrene		mg/L	60.0	61.6	103	80 - 120	2004-12-12
Dibenzo(a,h)anthracene		mg/L	60.0	60.9	102	80 - 120	2004-12-12
Benzo(g,h,i)perylene		mg/L	60.0	61.6	103	80 - 120	2004-12-12

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limit
Nitrobenzene-d5		60.9	mg/L	1	60.0	102	80 - 120
2-Fluorobiphenyl		61.2	mg/L	1	60.0	102	80 - 120
Terphenyl-d14		59.2	mg/L	1	60.0	99	80 - 120

Standard (CCV-1) QC Batch: 14667

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Vinyl Chloride		µg/L	50.0	51.7	103	80 - 120	2004-12-15
1,1-Dichloroethene		µg/L	50.0	50.1	100	80 - 120	2004-12-15
Chloroform		µg/L	50.0	46.4	93	80 - 120	2004-12-15
1,2-Dichloropropane		µg/L	50.0	47.4	95	80 - 120	2004-12-15
Toluene		µg/L	50.0	53.6	107	80 - 120	2004-12-15
Chlorobenzene		µg/L	50.0	52.1	104	80 - 120	2004-12-15
Ethylbenzene		µg/L	50.0	53.8	108	80 - 120	2004-12-15

Standard (CCV-1) QC Batch: 14694

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Vinyl Chloride		µg/L	50.0	53.0	106	80 - 120	2004-12-16
1,1-Dichloroethene		µg/L	50.0	51.4	103	80 - 120	2004-12-16
Chloroform		µg/L	50.0	47.0	94	80 - 120	2004-12-16
1,2-Dichloropropane		µg/L	50.0	48.0	96	80 - 120	2004-12-16
Toluene		µg/L	50.0	53.6	107	80 - 120	2004-12-16
Chlorobenzene		µg/L	50.0	51.2	102	80 - 120	2004-12-16
Ethylbenzene		µg/L	50.0	53.5	107	80 - 120	2004-12-16

Page 1 of 1

TraceAnalysis, Inc. 6701 Aberdeen Avenue, Suite 9 Lubbock, Texas 79424 Tel (806) 794-1286 Fax (806) 794-1298 1 (800) 378-1286 email: lab@traceanalysis.com		155 McCutcheon, Suite H El Paso, Texas 79932 Tel (915) 585-3443 Fax (915) 585-4944 1 (888) 588-3443											
Company Name: BBC International Address: 1324 W. MANLAND HOBBS, NM 88240 Contact Person: WILL P. BEANSON Invoice to: Shell E&P Company Attn: Wayne Hamilton Project #: Westgate Project Location: HOBBS New Mexico		Phone #: (505) 397-6388 Fax #: (505) 397-0397 e-mail: 88240 Project Name: Westgate Sampler Signature: <i>[Signature]</i>											
LAB # (LAB USE ONLY)	FIELD CODE	# CONTAINERS	VOLUME/AMOUNT	MATRIX	PRESERVATIVE METHOD						DATE	SAMPLING TIME	
					WATER	SOIL	AIR	SLUDGE	HCl	HNO ₃			H ₂ SO ₄
5098	MW#2	VOA 2	2	✓	✓	✓	✓	✓	✓	✓	✓	12-07 12:50	
0	MW#2	1140 1	1	✓	✓	✓	✓	✓	✓	✓	✓	12-07 12:50	
099	MW#10	VOA 2	2	✓	✓	✓	✓	✓	✓	✓	✓	12-07 1:30	
	MW#10	1140 1	1	✓	✓	✓	✓	✓	✓	✓	✓	12-07 1:30	
50100	MW#4	VOA 2	2	✓	✓	✓	✓	✓	✓	✓	✓	12-07 1:10	
101	MW#7	VOA 2	2	✓	✓	✓	✓	✓	✓	✓	✓	12-07 2:45	
	MW#7	1140 1	1	✓	✓	✓	✓	✓	✓	✓	✓	12-07 2:45	
102	MW#8	VOA 2	2	✓	✓	✓	✓	✓	✓	✓	✓	12-07 3:10	
	MW#8	1140 1	1	✓	✓	✓	✓	✓	✓	✓	✓	12-07 3:20	
103	MW#16	VOA 2	2	✓	✓	✓	✓	✓	✓	✓	✓	12-07 3:48	
104	MW#11	VOA 2	2	✓	✓	✓	✓	✓	✓	✓	✓	12-07 4:10	
Relinquished by: <i>[Signature]</i>		Date: 12-08-04 10:00		Received by:		Date:		Time:		Date:		Time:	
Relinquished by:		Date:		Received by:		Date:		Time:		Date:		Time:	
Relinquished by:		Date:		Received by: <i>[Signature]</i>		Date: 12/9/04		Time: 12:11		Date:		Time:	

Submittal of samples constitutes agreement to Terms and Conditions listed on reverse side of C.O.C.

ORIGINAL COPY

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST LAB Order ID # 4120920	
ANALYSIS REQUEST (Circle or Specify Method No.)	
TX 1005 Extended (C35) TPH 418 1/TK1005 BTEX 80218/602 PAH 8270C Total Metals Ag As Ba Cd Cr Pb Se Hg 6010B/200 7 TCLP Metals Ag As Ba Cd Cr Pb Se Hg TCLP Volatiles TCLP Semiv Volatiles TCLP Pesticides RCI GC/MS Vol 8260B/602 GC/MS Semi Vol 8270C/602 PCB's 8082/608 Pesticides 8081A/608 BOD TSS pH Moisture Content Turn Around Time if different from standard	BTEX ONLY PAH RCI GC/MS Vol 8260B/602 GC/MS Semi Vol 8270C/602 PCB's 8082/608 Pesticides 8081A/608 BOD TSS pH Moisture Content Turn Around Time if different from standard
REMARKS: LAB USE ONLY Inlet: ☒ Y ☐ N Headspace: ☒ Y ☐ N Temp: <i>4°C</i> Log-in Review: <i>90</i> Carrier # <i>TNMRD 903-2-61-326-0</i>	

6701 Aberdeen Avenue, Ste. 9
Lubbock, Texas 79424
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TraceAnalysis, Inc.

Company Name: BBC International Phone #: (505) 397-6388

Address: (Street, City, Zip)
1334 111. MANLAND HARRIS NM
Fax #: (505) 397-0397
e-mail:

Contact Person: *Niff P. Benson* 782-40

Invoice to:
(If different from above)

Project #:	West 432
Project Name:	Westgate

Project Location: ABRCS New Mexico

Sampler Signature: [Signature]

SAMPLING	PRESERVATIVE METHOD		MATRIX	UNIT

LAB # (LAB USE ONLY)	FIELD CODE	# CONTAINER	Volume/Amount	WATER	SOIL	AIR	SLUDGE	HCl	HNO ₃	H ₂ SO ₄	NaOH	ICE	NONE	DATE	TIME
50098	MW # 2	VDA	2	✓				✓				✓		12-07	12:57
0	MW # 2	LEAD	1	✓								✓		12-07	12:50
099	MW # 10	VDA	2	✓				✓				✓		12-07	1:30
	MW # 10	LEAD	1	✓								✓		12-07	1:30
50100	MW # 4	VDA	2	✓				✓				✓		12-07	2:10
101	MW # 7	VDA	2	✓				✓				✓		12-07	2:45
	MW # 7	LEAD	1	✓								✓		12-07	2:45
102	MW # 8	VDA	2	✓				✓				✓		12-07	3:20
	MW # 8	LEAD	1	✓								✓		12-07	3:20
103	MW # 10	VDA	2	✓				✓				✓		12-07	3:48
104	MW # 11	VDA	2	✓				✓				✓		12-07	4:10

Relinquished by:	Date:	Time:
<i>Dana Hernandez</i>	<i>12-06-04</i>	<i>10:00</i>
Received by:	Date:	Time:

Relinquished by:	Date:	Time:	Received by:	Date:	Time:
<i>[Signature]</i>					

Requisitioned by	Date	Time	Received at Laboratory by	Date	Time
------------------	------	------	---------------------------	------	------

Requisitioned by.	Date:	Name:	Address at Laboratory of:	Date:
			<i>Brenda Ward</i>	<i>12/9/04 12:11</i>

Submittal of samples constitutes agreement to Terms and Conditions listed on reverse side of C.O.C.

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CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

LAB Order ID #

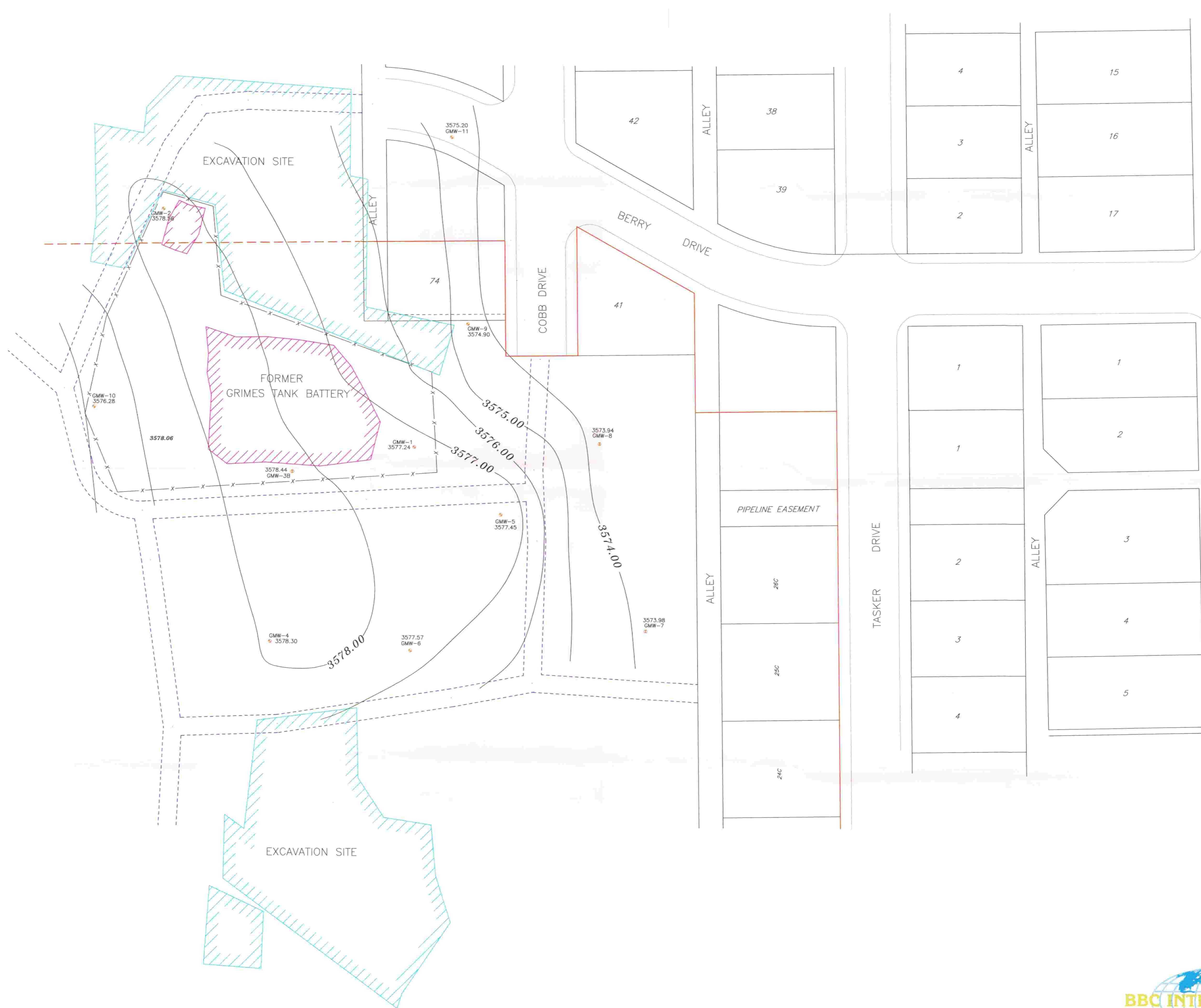
ANALYSIS REQUEST
(Circle or Specify Method No.)

	MTBE 8021B/602	
	BTEX 8021B/602	
	TPH 418.1/TX1005	
	TX 1005 Extended (C35)	
	PAH 8270C	
	Total Metals Ag As Ba Cd Cr Pb Se Hg 6010B/200.7	
	TCLP Metals Ag As Ba Cd Cr Pb Se Hg	
	TCLP Volatiles	
	TCLP Semi Volatiles	
	TCLP Pesticides	
	RCl	
	GC/MS Vol. 8260B/ 600	<
	GC/MS Semi. Vol. 8270C/ 600	<.
	PCBs 8082/608	.
	Pesticides 9081A/608	.
	BOD, TSS, pH	
	Moisture Content	
	Turn Around Time if different from standard	
	Hold	

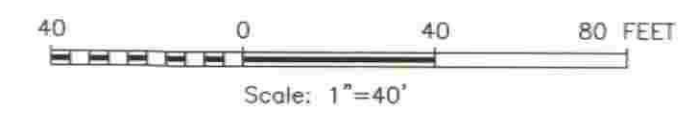
LAB USE ONLY

Infect (Y) N
 Headspace Y / N
 Temp 4°C
 On-In Review sp

Carrier # TNMRD 903-261-326-0



- LEGEND
- DENOTES EXCAVATED AREA
 - DENOTES PROPOSED PARK CURVE-OUT
 - DENOTES EXISTING RESIDENCE
 - DENOTES DIRT LEASE ROAD
 - DENOTES NEW EXCAVATION SITE
 - GMW - DENOTES GRIMES MONITOR WELL
 - NS=NOT SAMPLED



BBC INTERNATIONAL, INC.

GRIMES BATTERY & TASKER ROAD
GROUND WATER ELEVATION/GRADIENT
1st Quarter 2004
MEASURED 3/10/04

CONTOURS DEPICTED ON THIS DRAWING BASED ON INTERPRETATION BY S. HALL

SURVEYED BY: LAWLESS	DRAWN BY: LA	REV. DATE: 4/11/05	E-3081
DATE BEGIN: 5/11/98	DATE: 8/13/98	FILE NAME: FIGURE Q1	
DATE END: 9/1/98	CHECKED BY:	SHEET 1 OF 1	
PROJECT #: 02.13.0368	DISK #: 4	Scale: 1"=40'	

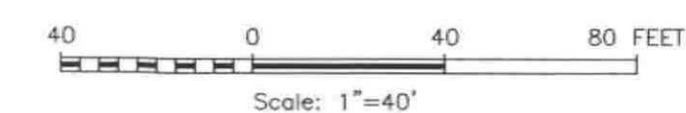
FIGURE Q1

JOHN WEST SURVEYING COMPANY
HOBBS, NEW MEXICO





- LEGEND
- DENOTES EXCAVATED AREA
 - DENOTES PROPOSED PARK CURVE-OUT
 - DENOTES EXISTING RESIDENCE
 - DENOTES DIRT LEASE ROAD
 - DENOTES NEW EXCAVATION SITE
 - GMW - DENOTES GRIMES MONITOR WELL



BBC INTERNATIONAL, INC.

GRIMES BATTERY & TASKER ROAD
 LNPAL THICKNESS
 1st Quarter 2004
 MEASURED 3/10/04

CONTOURS DEPICTED ON THIS DRAWING BASED ON INTERPRETATION BY S. HALL

SURVEYED BY: LAWLESS	DRAWN BY: LA	REV. DATE: 4/11/05
DATE BEGIN: 5/11/98	DATE: 8/13/98	FILE NAME: FIGUREQ1
DATE END: 8/1/98	CHECKED BY:	SHEET 1 OF 1
PROJECT #: 02.13.0368	DISK #: 4	Scale: 1"=40'

E-3081
 FIGURE Q2



JOHN WEST SURVEYING COMPANY
 HOBBS, NEW MEXICO



JOHN WEST SURVEYING COMPANY
HOBBS, NEW MEXICO

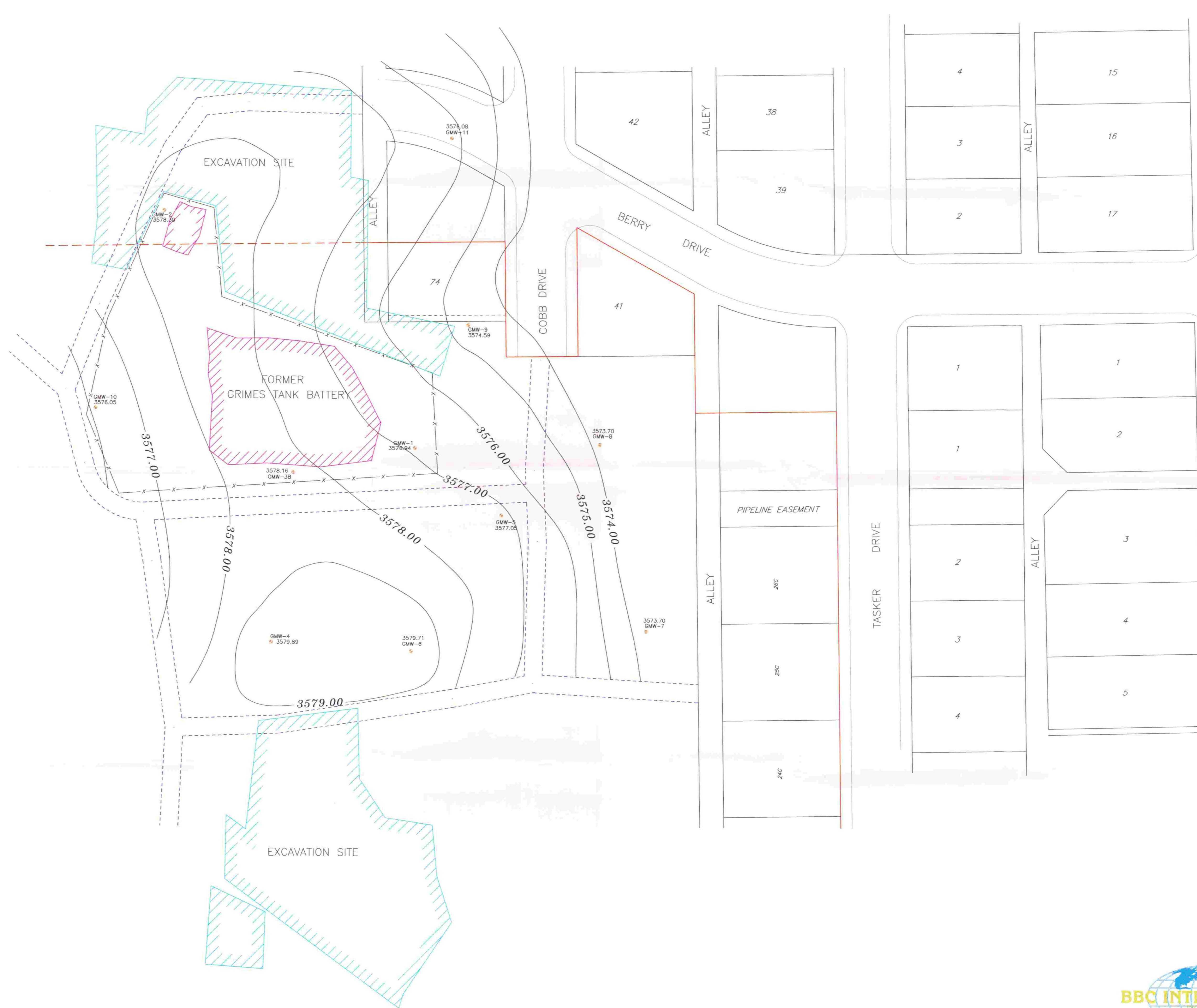
BBC INTERNATIONAL, INC.

GRIMES BATTERY & TASKER ROAD
TOTAL BTEX
1st Quarter 2004
MEASURED 3/10/04

CONTOURS DEPICTED ON THIS DRAWING BASED ON INTERPRETATION BY S. HALL

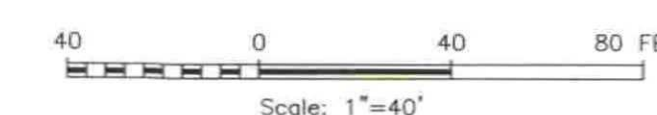
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DATE BEGIN: 5/11/98	DATE: 8/13/98	FILE NAME: FIGURE01
DATE END: 9/11/98	CHECKED BY:	SHEET 1 OF 1
PROJECT #: 0213.0368	DISK #: 4	Scale: 1"=40'

E-3081
FIGURE Q3



LEGEND

-  DENOTES EXCAVATED AREA
 DENOTES PROPOSED PARK CURVE-OUT
 DENOTES EXISTING RESIDENCE
 DENOTES DIRT LEASE ROAD
 DENOTES NEW EXCAVATION SITE
 GMM - DENOTES GRIMES MONITOR WELL
 NS= NOT SAMPLED



BBC INTERNATIONAL, INC.

GRIMES BATTERY & TASKER ROAD
GROUND WATER ELEVATION/GRADIENT
2nd Quarter 2004
MEASURED 6/18/04

CONTOURS DEPICTED ON THIS DRAWING BASED ON INTERPRETATION BY S. HALL

SURVEYED BY: LAWLESS	DRAWN BY: LA	REV. DATE: 4/11/05
DATE BEGIN: 5/11/98	DATE: 8/13/98	FILE NAME: FIGUREQ1
DATE END: 9/1/98	CHECKED BY:	SHEET 1 OF 1
PROJECT #: 02.13.0368	DISK #: 4	Scale: 1"=40'

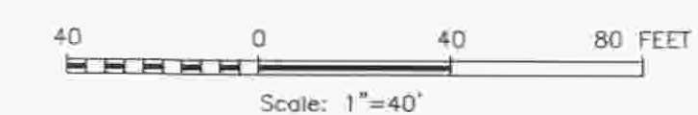
FIGURE Q4

JOHN WEST SURVEYING COMPANY
HOBBS, NEW MEXICO





- LEGEND**
- //// DENOTES EXCAVATED AREA
 - DENOTES PROPOSED PARK CURVE-OUT
 - DENOTES EXISTING RESIDENCE
 - - - - DENOTES DIRT LEASE ROAD
 - DENOTES NEW EXCAVATION SITE
 - GMW — DENOTES GRIMES MONITOR WELL



BBC INTERNATIONAL, INC.

GRIMES BATTERY & TASKER ROAD
 LNPAL THICKNESS
 2nd Quarter 2004
 MEASURED 6/18/04

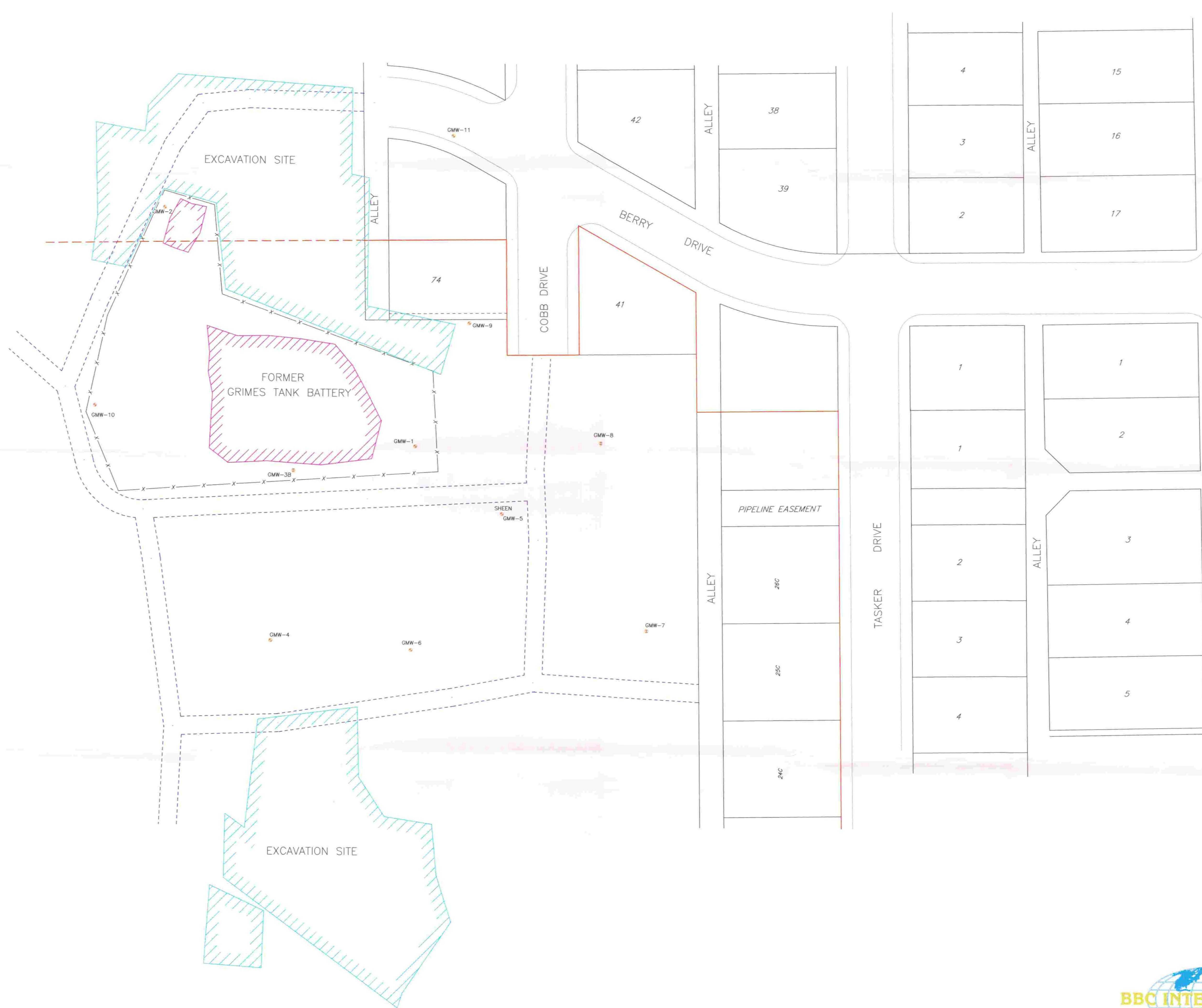


JOHN WEST SURVEYING COMPANY
 HOBBS, NEW MEXICO

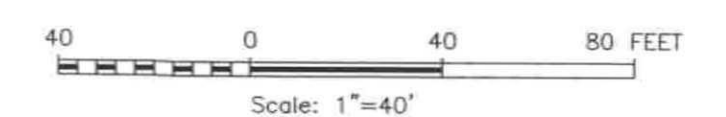
CONTOURS DEPICTED ON THIS DRAWING BASED ON INTERPRETATION BY S. HALL

SURVEYED BY: LAWLESS	DRAWN BY: LA	REV. DATE: 4/11/05
DATE BEGIN: 5/11/98	DATE: 8/13/98	FILE NAME: FIGURE01
DATE END: 9/1/98	CHECKED BY:	SHEET 1 OF 1
PROJECT #: 02.13.0368	DISK #: 4	Scale: 1"=40'

FIGURE Q5



- LEGEND**
- //// DENOTES EXCAVATED AREA
 - DENOTES PROPOSED PARK CURVE-OUT
 - DENOTES EXISTING RESIDENCE
 - DENOTES DIRT LEASE ROAD
 - DENOTES NEW EXCAVATION SITE
 - GMW - DENOTES GRIMES MONITOR WELL



BBC INTERNATIONAL, INC.

GRIMES BATTERY & TASKER ROAD
LNPAL THICKNESS
3rd Quarter 2004
MEASURED 9/24/04

CONTOURS DEPICTED ON THIS DRAWING BASED ON INTERPRETATION BY S. HALL

SURVEYED BY: LAWLESS	DRAWN BY: LA	REV. DATE: 4/11/05
DATE BEGIN: 5/11/98	DATE: 8/13/98	FILE NAME: FIGURE Q1
DATE END: 9/11/98	CHECKED BY:	SHEET 1 OF 1
PROJECT #: 02.13.0368	DISK #: 4	Scale: 1"=40'

E-3081
FIGURE Q8



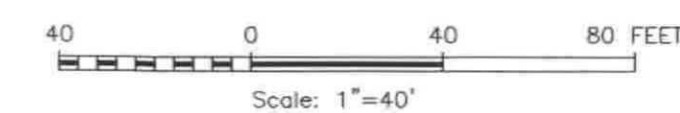
JOHN WEST SURVEYING COMPANY
HOBBS, NEW MEXICO



- LEGEND
- DENOTES EXCAVATED AREA
 - DENOTES PROPOSED PARK CURVE-OUT
 - DENOTES EXISTING RESIDENCE
 - DENOTES DIRT LEASE ROAD
 - DENOTES NEW EXCAVATION SITE
 - GMW - DENOTES GRIMES MONITOR WELL
 - NS=NOT SAMPLED

THIRD QUARTER - 2004

GRIMES MONITOR WELL #	UG/L	BENZENE	TOLUENE	ETHYLBENZENE	M. P. XYLENE	O-XYLENE
GMW-2	RESULT	<1.00	<1.00	<1.00	<1.00	<1.00
	DETECTION LIMIT	1	1	1	1	1
GMW-7	RESULT	<1.00	<1.00	<1.00	<1.00	<1.00
	DETECTION LIMIT	1	1	1	1	1
GMW-8	RESULT	<1.00	<1.00	<1.00	<1.00	<1.00
	DETECTION LIMIT	1	1	1	1	1
GMW-10	RESULT	<1.00	<1.00	<1.00	<1.00	<1.00
	DETECTION LIMIT	1	1	1	1	1



BBC INTERNATIONAL, INC.

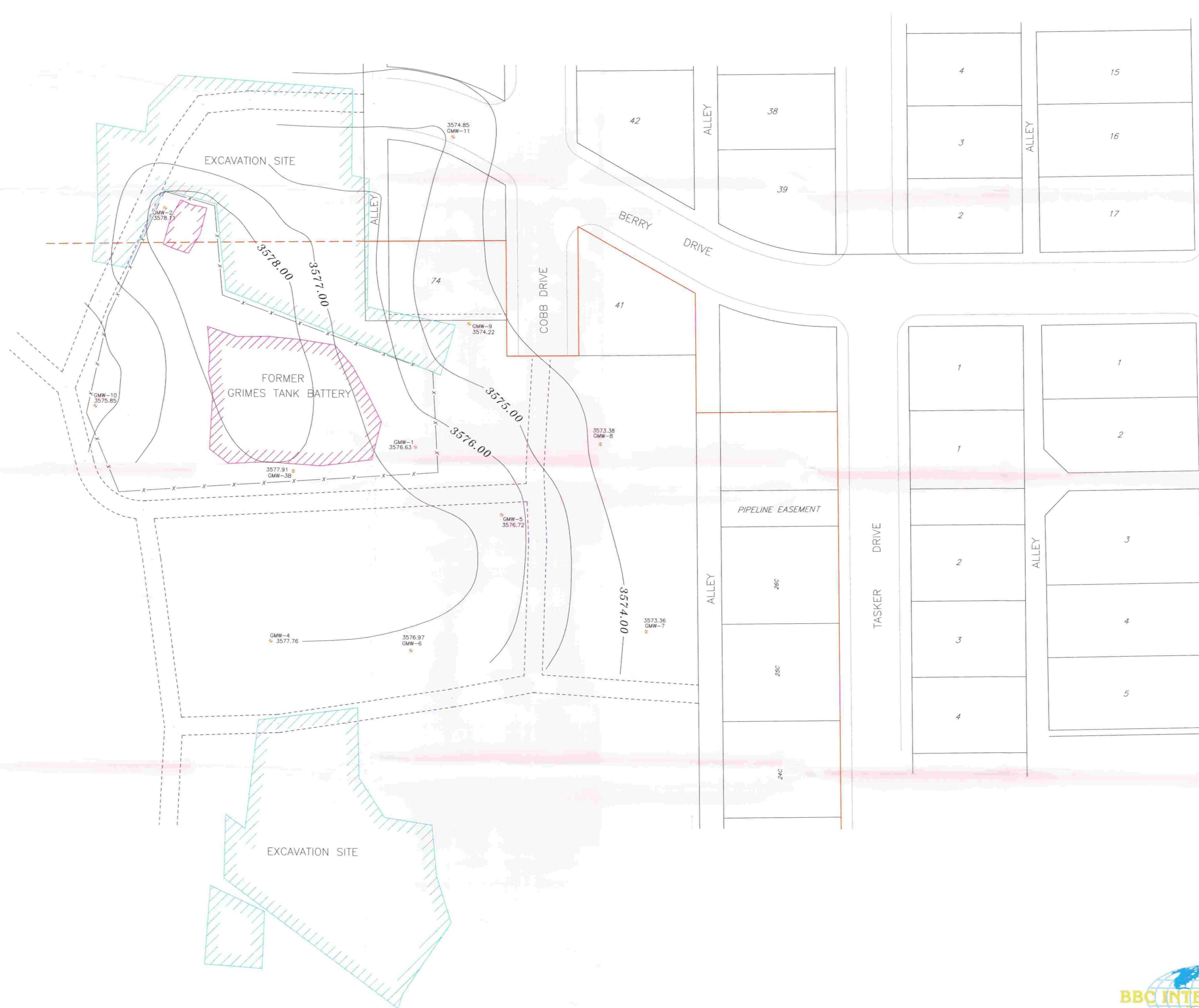
GRIMES BATTERY & TASKER ROAD
TOTAL BTEX
3rd Quarter 2004
MEASURED 9/24/2004



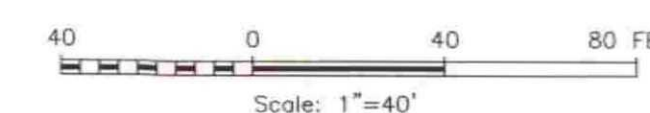
JOHN WEST SURVEYING COMPANY
HOBBS, NEW MEXICO

CONTOURS DEPICTED ON THIS DRAWING BASED ON INTERPRETATION BY S. HALL

SURVEYED BY: LAWLESS	DRAWN BY: LA	REV. DATE: 4/11/05	E-3081
DATE BEGN: 5/11/98	DATE: 8/13/98	FILE NAME: FIGURE01	
DATE END: 9/1/98	CHECKED BY:	SHEET 1 OF 1	FIGURE Q9
PROJECT #: 02.13.0368	DISK #: 4	Scale: 1"=40'	



- LEGEND**
- //// DENOTES EXCAVATED AREA
 - DENOTES PROPOSED PARK CURVE-OUT
 - DENOTES EXISTING RESIDENCE
 - DENOTES DIRT LEASE ROAD
 - DENOTES NEW EXCAVATION SITE
 - GMW - DENOTES GRIMES MONITOR WELL
 - NS - NOT SAMPLED



BBC INTERNATIONAL, INC.

GRIMES BATTERY & TASKER ROAD
GROUND WATER ELEVATION/GRADIENT
4th Quarter 2004
MEASURED 12/7/04

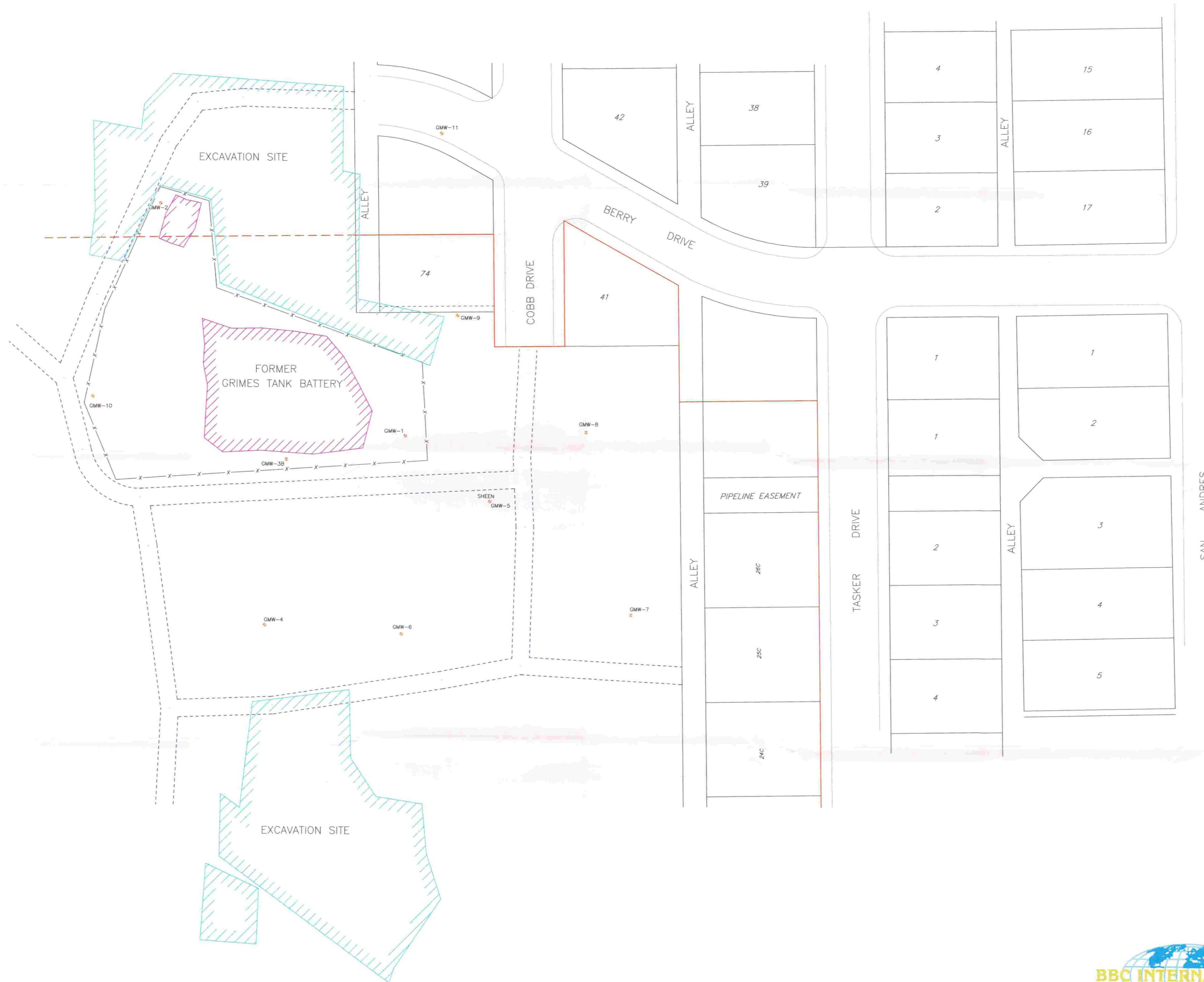
CONTOURS DEPICTED ON THIS DRAWING BASED ON INTERPRETATION BY S. HALL

SURVEYED BY: LAWLESS	DRAWN BY: LA	REV. DATE: 4/11/05
DATE BEGN: 5/11/98	DATE: 8/13/98	FILE NAME: FIGURE Q1
DATE END: 9/1/98	CHECKED BY:	SHEET 1 OF 1
PROJECT #: 02.13.0368	DISK #: 4	Scale: 1"=40'

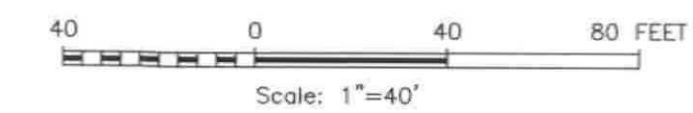
E-3081
FIGURE Q10



JOHN WEST SURVEYING COMPANY
HOBBBS, NEW MEXICO



- LEGEND
- DENOTES EXCAVATED AREA
 - DENOTES PROPOSED PARK CURVE-OUT
 - DENOTES EXISTING RESIDENCE
 - DENOTES DIRT LEASE ROAD
 - DENOTES NEW EXCAVATION SITE
 - GMW - DENOTES GRIMES MONITOR WELL



BBC INTERNATIONAL, INC.

GRIMES BATTERY & TASKER ROAD
 LNPAL THICKNESS
 4th Quarter 2004
 MEASURED 12/7/04

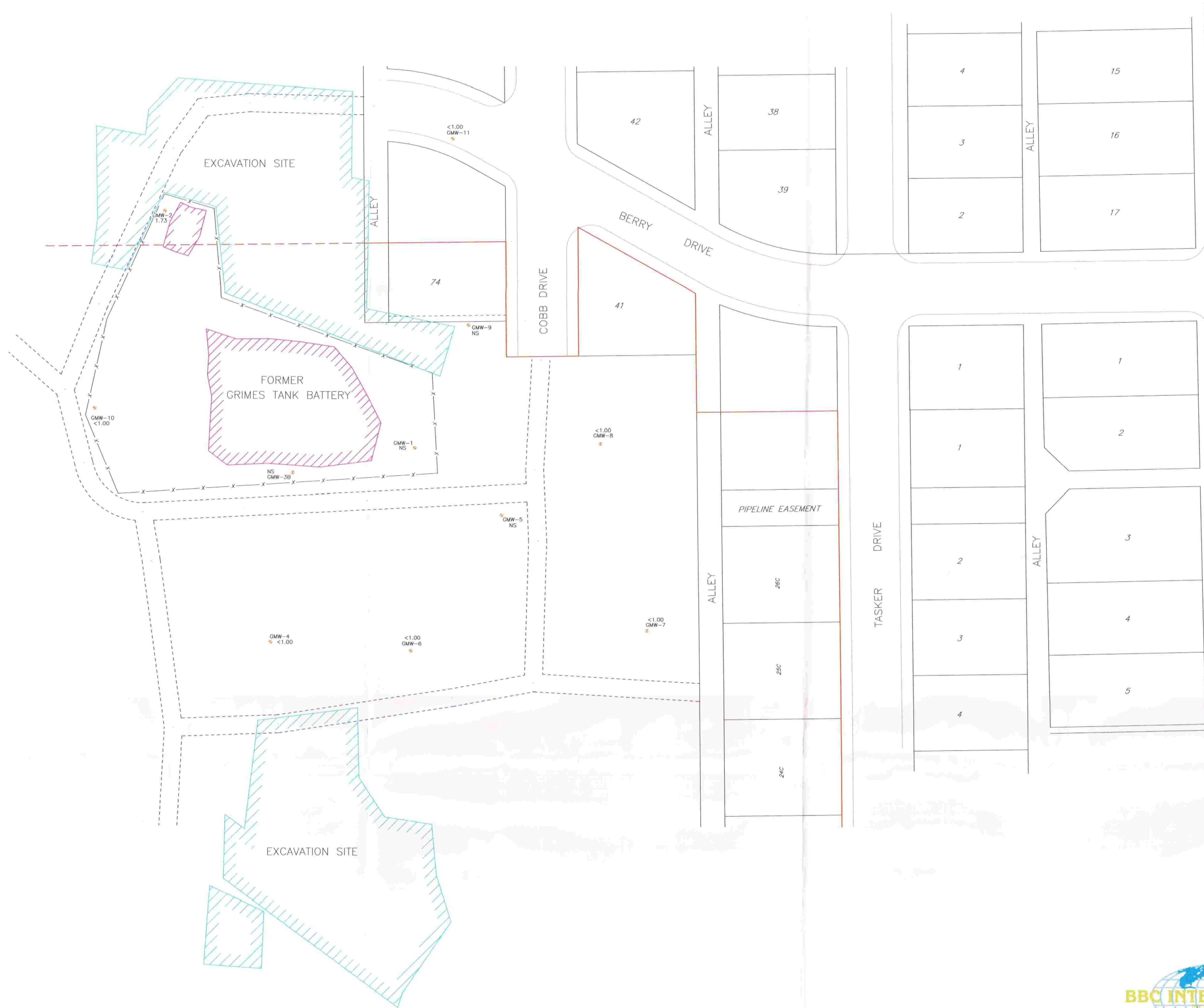


JOHN WEST SURVEYING COMPANY
 HOBBS, NEW MEXICO

CONTOURS DEPICTED ON THIS DRAWING BASED ON INTERPRETATION BY S. HALL

SURVEYED BY: LAWLESS	DRAWN BY: LA	REV. DATE: 4/11/05
DATE BEGIN: 5/11/98	DATE: 8/13/98	FILE NAME: FIGUREQ1
DATE END: 9/1/98	CHECKED BY:	SHEET 1 OF 1
PROJECT #: 02.13.0368	DISK #: 4	Scale: 1"=40'

E-3081
 FIGURE Q11

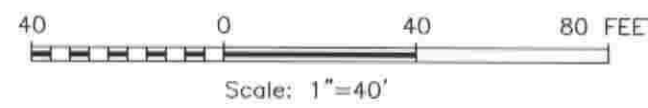


LEGEND

- /// DENOTES EXCAVATED AREA
- DENOTES PROPOSED PARK CARVE-OUT
- DENOTES EXISTING RESIDENCE
- - - DENOTES DIRT LEASE ROAD
- DENOTES NEW EXCAVATION SITE
- GMW - DENOTES GRIMES MONITOR WELL
- NS=NOT SAMPLED

FOURTH QUARTER - 2004

GRIMES MONITOR WELL #	UG/L	BENZENE	TOLUENE	ETHYLBENZENE	M. P-XYLENE	O-XYLENE
GMW-2	RESULT	<1.00	1.73	<1.00	<1.00	<1.00
	DETECTION LIMIT	1	1	1	1	1
GMW-4	RESULT	<1.00	<1.00	<1.00	<1.00	<1.00
	DETECTION LIMIT	1	1	1	1	1
GMW-7	RESULT	<1.00	<1.00	<1.00	<1.00	<1.00
	DETECTION LIMIT	1	1	1	1	1
GMW-9	RESULT	<1.00	<1.00	<1.00	<1.00	<1.00
	DETECTION LIMIT	1	1	1	1	1
GMW-10	RESULT	<1.00	<1.00	<1.00	<1.00	<1.00
	DETECTION LIMIT	1	1	1	1	1



BBC INTERNATIONAL, INC.

GRIMES BATTERY & TASKER ROAD
TOTAL BTEX
4th Quarter 2004
MEASURED 12/7/04

CONTOURS DEPICTED ON THIS DRAWING BASED ON INTERPRETATION BY S. HALL

SURVEYED BY: LAWLESS	DRAWN BY: LA	REV. DATE: 4/11/05	E-3081
DATE BEGUN: 5/11/98	DATE: 8/13/98	FILE NAME: FIGURE Q1	FIGURE Q12
DATE END: 9/1/98	CHECKED BY:	SHEET 1 OF 1	
PROJECT #: 02.13.0368	DISK #: 4	Scale: 1"=40'	

JOHN WEST SURVEYING COMPANY
HOBBS, NEW MEXICO



WORLD-WIDE ENVIRONMENTAL SERVICES