# 3R - 004

# CLOSURE REPORT

# **DECEMBER 2010**

3R004

# **BP AMERICA PRODUCTION CO.**

# **GROUNDWATER REMEDIATION REPORT**

# BOYD GC #1A (A) SECTION 8, T31N, R10W, NMPM SAN JUAN COUNTY, NEW MEXICO

# PREPARED FOR: NEW MEXICO OIL CONSERVATION DIVISION 1220 ST. FRANCIS DRIVE SANTA FE, NEW MEXICO 87504

#### **DECEMBER 2010**

# PREPARED BY: BLAGG ENGINEERING, INC.

Consulting Petroleum / Reclamation Services P.O. Box 87 Bloomfield, New Mexico 87413

# BP AMERICA PRODUCTION COMPANY BOYD GC # 1A NE<sup>1</sup>/<sub>4</sub> NE<sup>1</sup>/<sub>4</sub>, Sec. 8, T31N, R10W

#### Monitor Well Installation Dates:

10/31/2002 (MW #2), 12/13/2002 (MW #1, MW #3), 1/16/2003 (MW #4), 7/24/2006 (MW #5)

Monitor Well Sampling Dates:

3/31/09, 5/16/09, 9/2/09, 12/16/09, 3/3/10, 5/20/10, 7/20/10, 10/12/10

### Pit Closure and Background:

Groundwater was encountered at a depth of approximately 24 feet below surface grade during excavation of impacted soils from an earthen separator/dehydrator (sep/dehy) pit in July/August 1994. Impacted soils discovered at the site's compressor 21 barrel below-grade tank (**BGT**) were encountered during closure activities in October 2002. The origin of the release is unknown; however, the observations noted during the closure activity indicate a historical nature is highly probable. Potential groundwater impact was identified within the compressor BGT source area via installation of a monitor well in November 2002 (MW #2). Documentation for this work and subsequent groundwater monitoring data for the site was previously submitted to the New Mexico Oil Conservation Division (**NMOCD**) for review. Continued annual and/or quarterly sampling and testing pursuant to BP's NMOCD approved Groundwater Management Plan (**GMP**) was recommended within the report. The reporting herein is for site monitoring conducted in 2009 and 2010 only.

# Groundwater Monitor Well Sampling Procedures:

Monitor wells were developed by hand-bailing, using new disposable bailers after installation. Prior to sample collections, the monitor wells were purged approximately three (3) well bore volumes with new disposable bailers. The groundwater samples were collected following US EPA: SW-846 protocol, were placed into laboratory supplied containers with appropriate preservative, and stored in an ice chest for express delivery to an analytical laboratory for testing under strict chain-of-custody procedures. Analytical testing for benzene, toluene, ethylbenzene, and total xylenes (BTEX) by US EPA Method 8021B or 8260 was conducted.

Fluids generated during monitor well development and purging were managed by discarding into the separator BGT located on the well site. The BGT contents are eventually disposed through approved NMOCD operational procedures for removal of produced fluids.

# Water Quality and Gradient Information:

Sampling of the groundwater monitor wells has been ongoing since November, 2002. Test results for MW #1, MW #3, and MW #5 were discussed in the previous annual report. Groundwater at the site of the prior compressor BGT (MW #2) has tested benzene and total xylenes in excess of New Mexico Water Quality Control Commission (**NMWQCC**) standards since 2002. MW #4 has tested benzene levels fluctuating above and below NMWQCC standards since quarterly sampling was initiated in June 2003. A summary of BTEX laboratory analytical results is included within the table on the following pages. Field data sheets, laboratory reports, and laboratory quality assurance/quality control information are also included.

Groundwater contour maps (Figure 2 through Figure 9) reveal the relative elevations from the site wells have shown an apparent west or northwest flow direction. It was noted within the previous annual reports; a significant fluctuation ( $4\pm$  feet) in seasonal depth to water levels was likely due to crop irrigation and ditch flow between April – October.

### Summary and/or Recommendations:

Bi-annual sampling of MW #2 and the continuation of quarterly sampling of MW #4 is proposed unless changes in their analytical data suggest otherwise. This site will continue to have sampling and testing pursuant to BP's GMP. If warranted, alternative remedial actions will be evaluated.

# BP AMERICA PROD. CO. GROUNDWATER LAB RESULTS SUBMITTED BY BLAGG ENGINEERING, INC.

# BOYD GC #1A

# UNIT A, SEC. 8, T31N, R10W

REVISED DATE: October 28, 2010

FILENAME: (B1A-4Q10.WK4) NJV

								BTEX	EPA METH	OD 8021B (	, dqq
SAMPLE	WELL	D.T.W.	T.D.	TDS	COND.	pН	PRODUCT	Benzene	Toluene	Ethyl	Total
DATE	NAME or #	(ft)	(ft)	(mg/L)	umhos		(ft)			Benzene	Xylene
				· (	unnos		(19)			I	
04-Oct-02	GAINES	NA	NA					ND	ND	ND	ND
10-Aug-06		NA	NA					ND	ND	ND	ND
31-Oct-02	HARRIS	NA	NA			ļ,		ND	ND	ND	ND
09-Jun-03	MW #1	23.31	29.50		700	6.96		ND	ND	ND	ND
20-Aug-03		19.00			900	7.21		ND	. ND	ND	ND
11-Nov-03	_	22.84			900	7.17		ND	ND	ND	ND
27-May-04		26.49			900	6.80		ND	• ND	ND	ND
28-Sep-04		19.59			900	7.20		ND .	ND	ND	ND
13-Nov-02	MW #2	23.31	29.50		700	6.84		705	597	60	959
09-Jun-03		23.06			700	6.89		830	110	170	1,800
20-Aug-03		18.11			700	6.94		58	ND	60	800
27-May-04		26.76			1,000	6.67		940	ND	200	1,200
23-Jun-05		22.31			1,100	6.82		1,400	21	490	5,500
28-Jun-06		18.59			800	6.88		75	ND ND	ND	1,600
24-Jun-08		24.04			900	6.98		/ 553	ND	117	1,590
27-Aug-08		22.41			700	6.81		410	ND	170	2,400
16-May-09		27.79			600	6.79		530	ND	140	1,200
20-May-10		26.44			900	6.91		160	18	58	′ 590
09-Jun-03	MW #3	26.46	29.50		600	6.92		ND	ND	ND	ND
20-Aug-03		23.11			900	7.08		ND	ND	ND	ND
11-Nov-03		26.23			900	7.17		ND	ND	ND	ND
28-Sep-04	-	23.17	1		800	7.17		ND .	ND	ND	ND
09-Jun-03	MW #4	28.09	34.50	1	1,000	6.69		15	ND	4.5	0.75
20-Aug-03		25.26			1,000	6.80		460	71	100	88
11-Nov-03		28.08			1,000	7.00		270	ND	310	440
27-May-04		30.52			1,000	6.87		5.1	ND	14	51
28-Sep-04		25.13			700	6.91		140	ND	18	9.1
23-Jun-05		27.81			1,000	6.73		0.68	0.59	2.0	ND
20-Sep-05		27.28			800	6.70		120	3.4	120	130
28-Jun-06		26.96	İ		900	6.80		ND	ND	ND	ND
15-Nov-06		28.74			800	7.08		29	ND	38	200
24-Jan-07		31.17			800	7.14		40	ND	140	1,300
18-Apr-07		32.44			800	6.98		ND	ND	1.6	ND
24-Jul-07		27.82			700	7.01		ND	ND	· ND	ND
23-Oct-07		28.73			1,000	6.93		26	ND	20	120
15-Apr-08		32.09			800	7.11		1.0	ND	50.9	186
24-Jun-08		28.90			800	7.10		ND	ND	3.2	ND
27-Aug-08		27.68			900	7.15		ND	ND -	ND	ND
20-Dec-08		29.54			800	7.21		120	ND	150	570
31-Mar-09		31.73			700	7.34	`	13	ND	210	1,200
16-May-09		30.71			700	7.22		ND	ND	21	72
02-Sep-09		27.09			900	7.38		12	ND	ND	ND
16-Dec-09		30.07			800	7.50		33	ND	140	510
03-Mar-10		31.90			800	7.36		7.5	ND	170	1,100
20-May-10		30.22			900	7.34		ND	ND	7.4	ND
20-Jul-10		28.15			900	7.17		ND	ND	ND	ND
12-Oct-10		28.55			1,000	7.21		16	ND	17	37
			ACC CE	OUNDW	ATED C			10	750	750	620

# BP AMERICA PROD. CO. GROUNDWATER LAB RESULTS SUBMITTED BY BLAGG ENGINEERING, INC.

BOYD GC #1A

UNIT A, SEC. 8, T31N, R10W

REVISED DATE: October 28, 2010 FILENAME: (B1A-4Q10.WK4) NJV

								BTEX EPA METHOD 8021B ( ppb )						
SAMPLE	WELL	D.T.W.	T.D.	TDS	COND.	ρН	PRODUCT	Benzene	Toluene	Ethyl	Total			
DATE	NAME or #	(ft)	(ft)	(mg/L)	umhos		(ft)			Benzene	Xylene			
10-Aug-06	MW #5	23.90	36.30		1,100	6.84		23	ND	11	15			
15-Nov-06		26.20			900	7.05		6.8	ND	2.9	ND			
24-Jan-07		28.35			800	7.13		1.3	ND	ND	ND			
18-Apr-07		29.29			900	6.90		ND	ND	ND	ND			
24-Jul-07		25.25			1,500	6.74		ND	ND	ND	ND			
	CC GF	ARDS	10	750	750	620								

NOTES: 1) GAINES WATER WELL CURRENTLY CATEGORIZED AS UP GRADIENT FROM MW # 2.

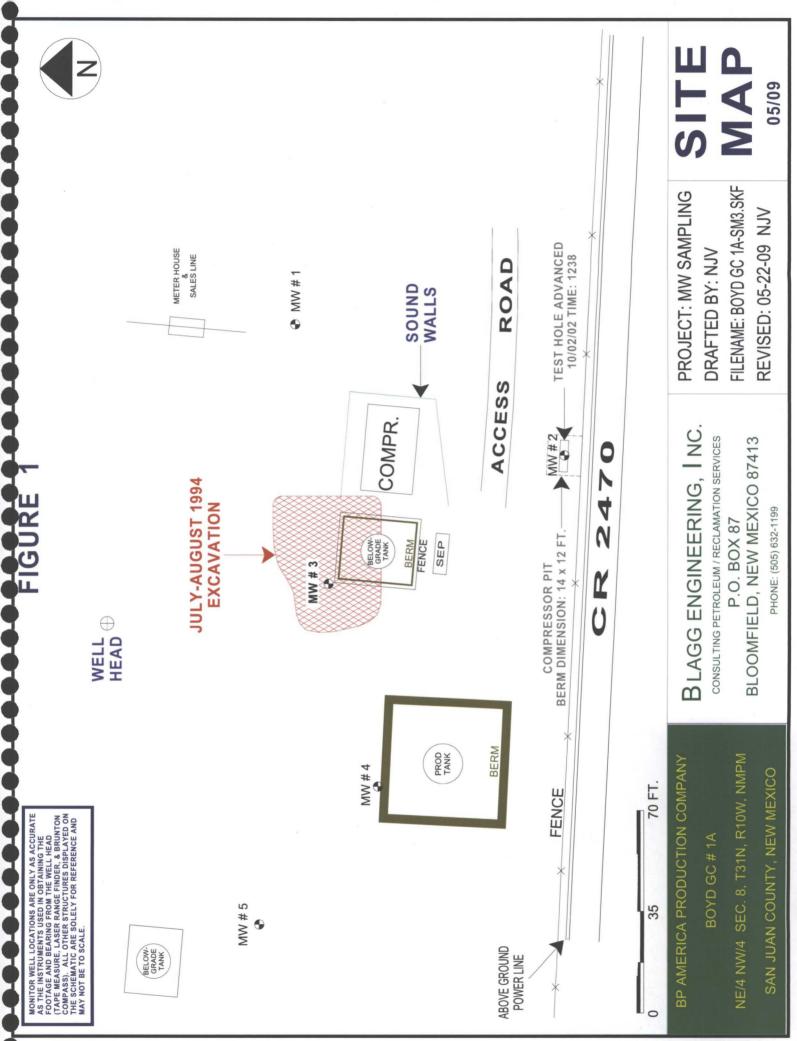
2) HARRIS WATER WELL CURRENTLY CATEGORIZED AS LATERAL GRADIENT FROM MW #2.

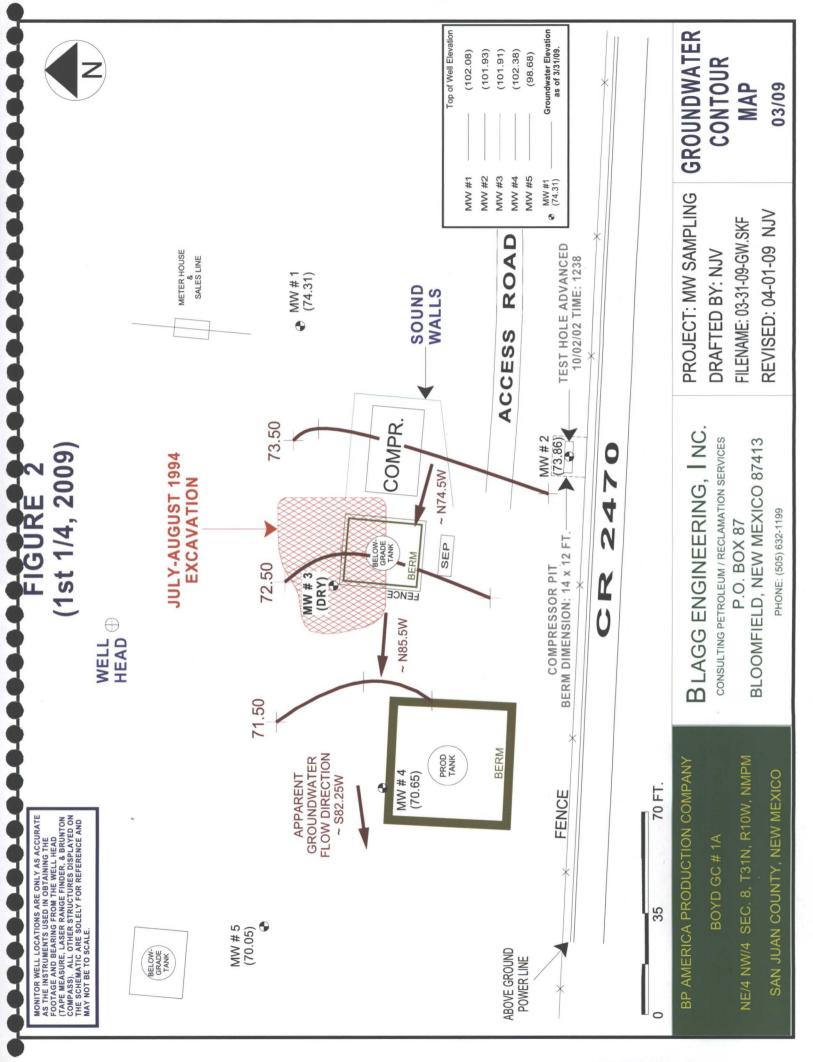
3) MW #2 LOCATED WITHIN COMPRESSOR PIT, IDENTIFIED WITH SOIL HYDROCARBON CONTAMINATION ON 10/2/02.

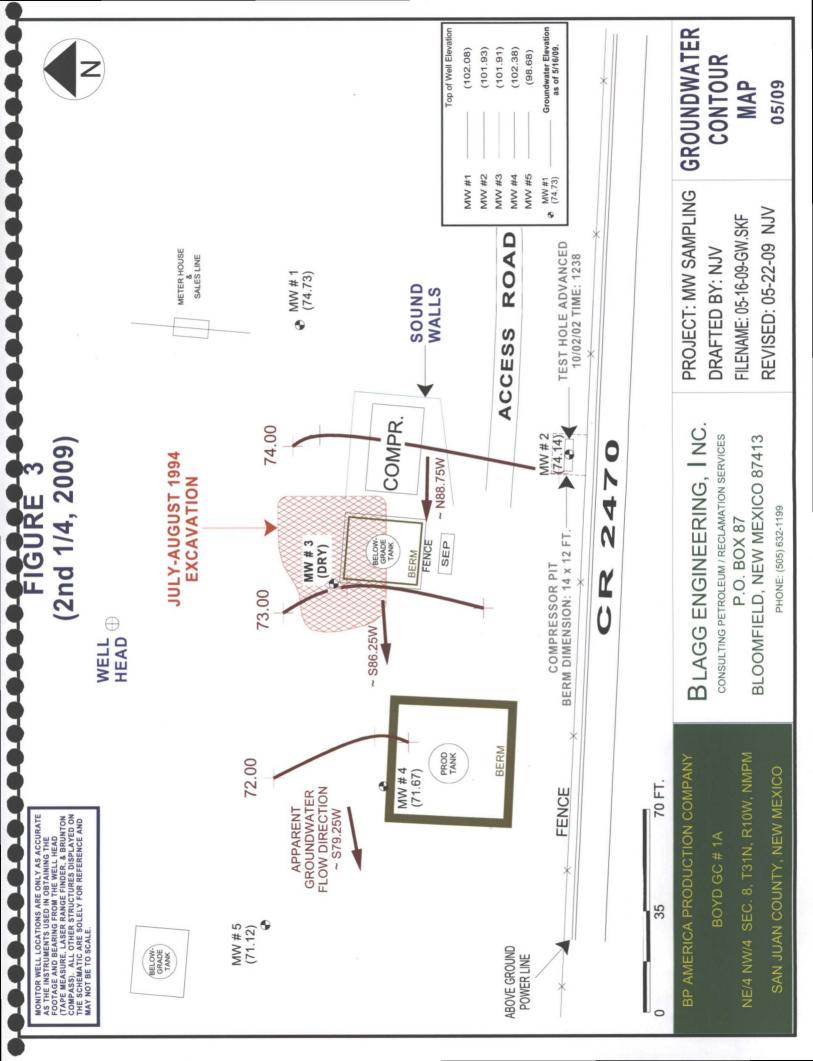
4) RESULTS IN BOLD RED TYPE INDICATE EXCEEDING NMWQCC STANDARDS.

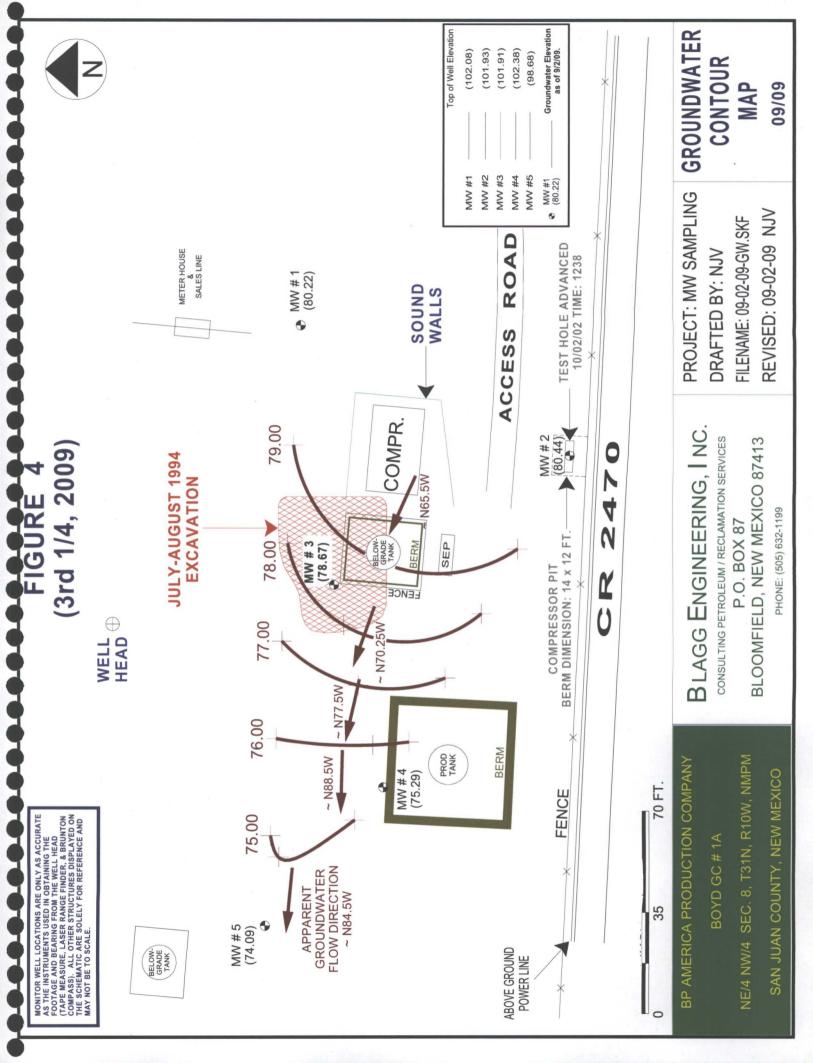
5) RESULTS IN BOLD BLUE TYPE INDICATE BELOW NMWQCC STANDARDS AFTER PREVIOUS RESULTS IN BOLD RED TYPE EXCEEDED.

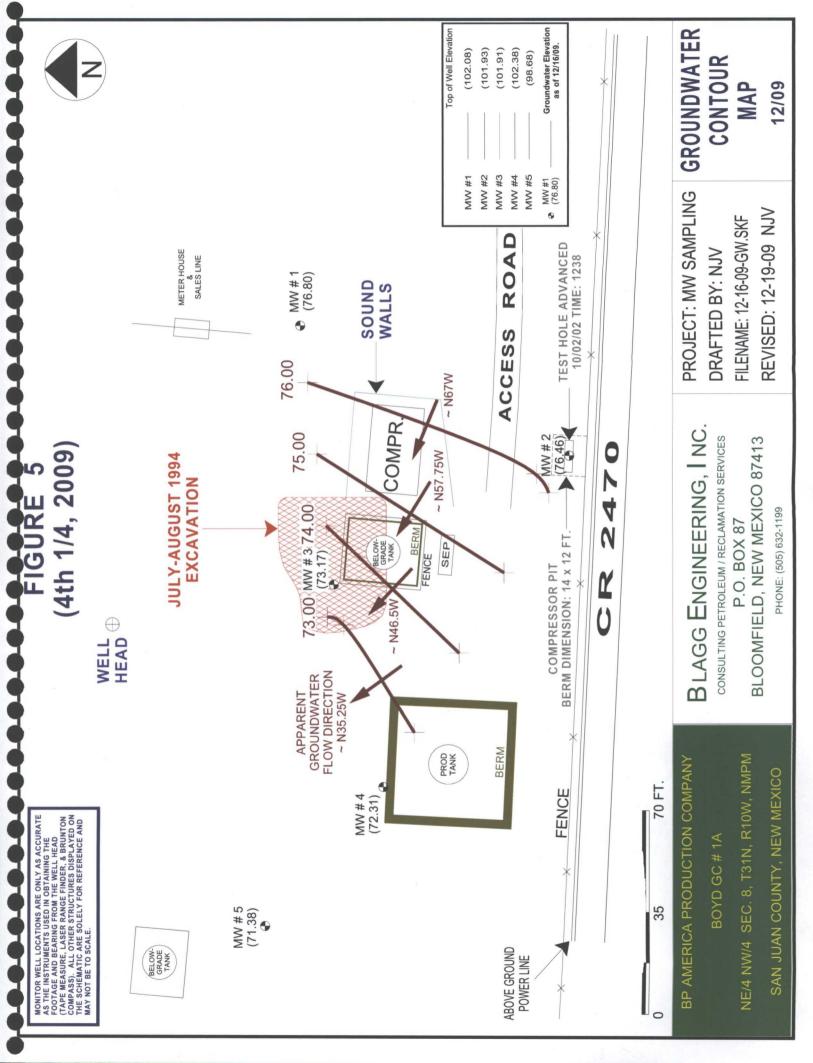
6) ND INDICATES NOT DETECTED AT THE REPORTING LIMITS (less than regulatory standards of at least a magnitude of 10).

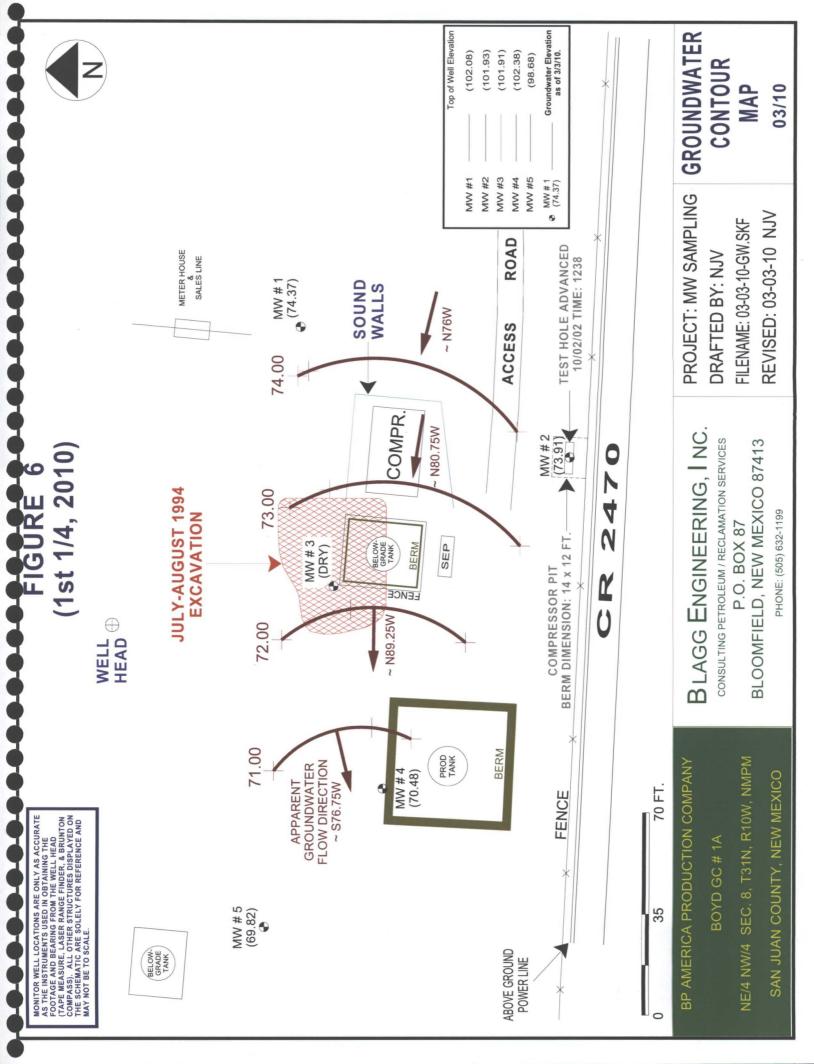


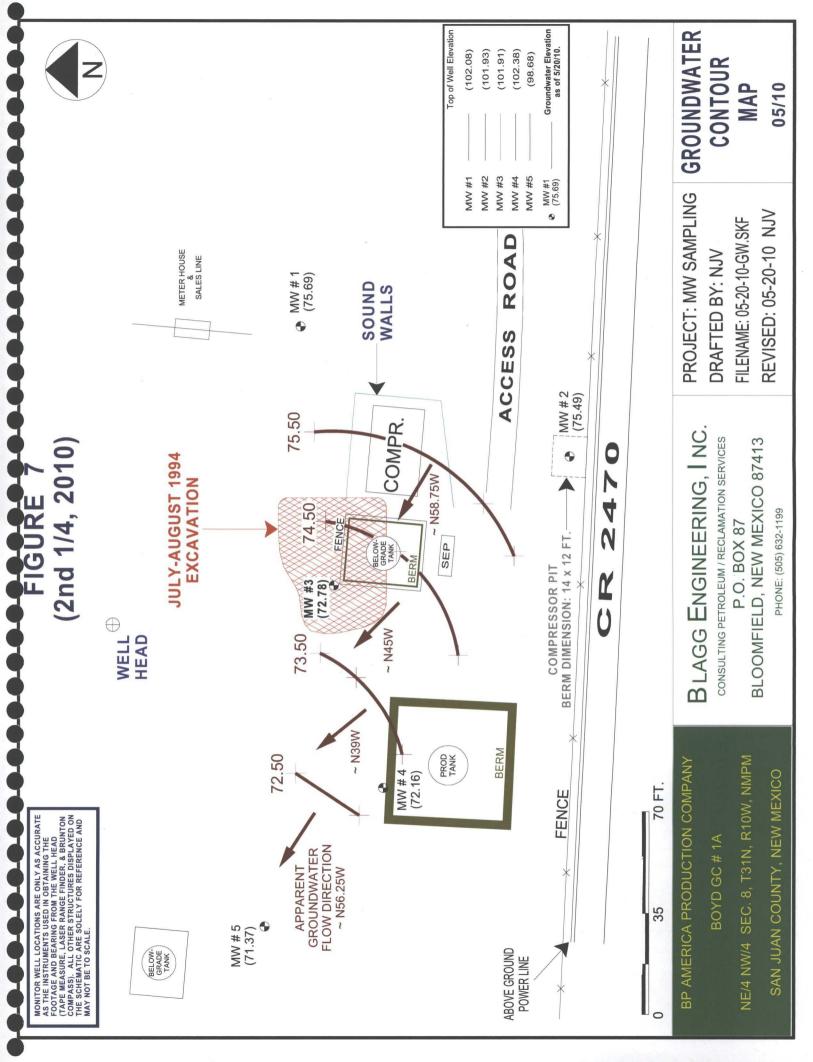


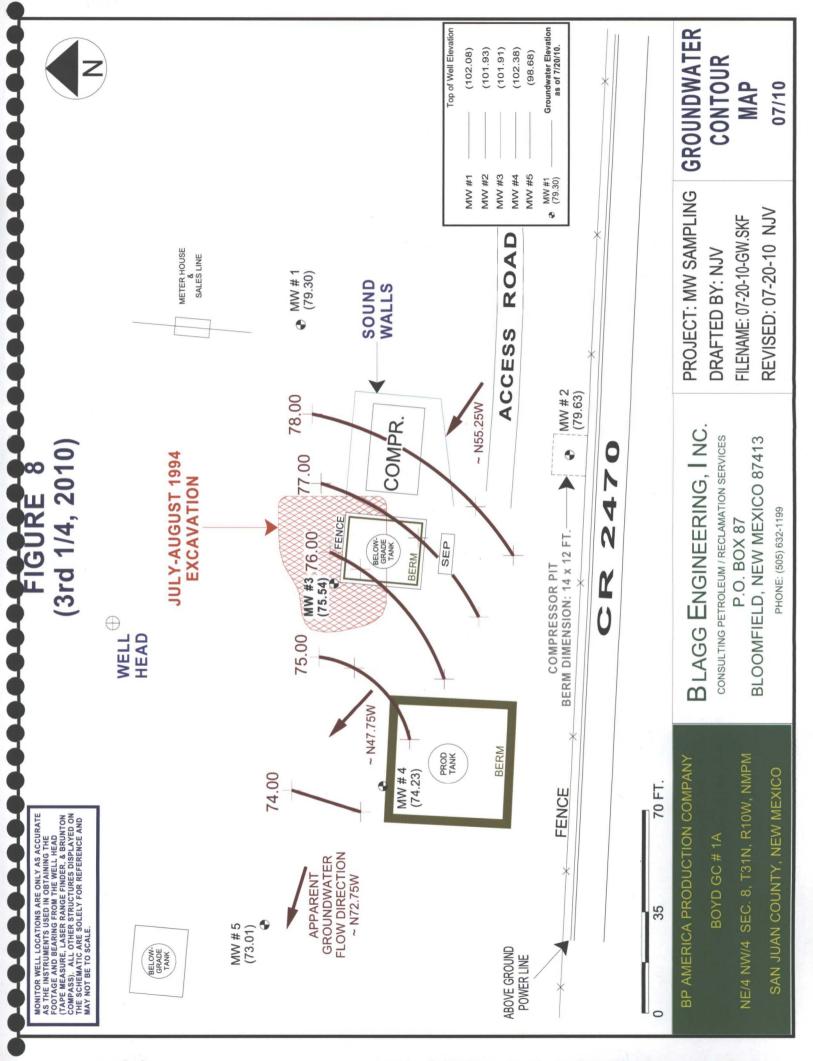


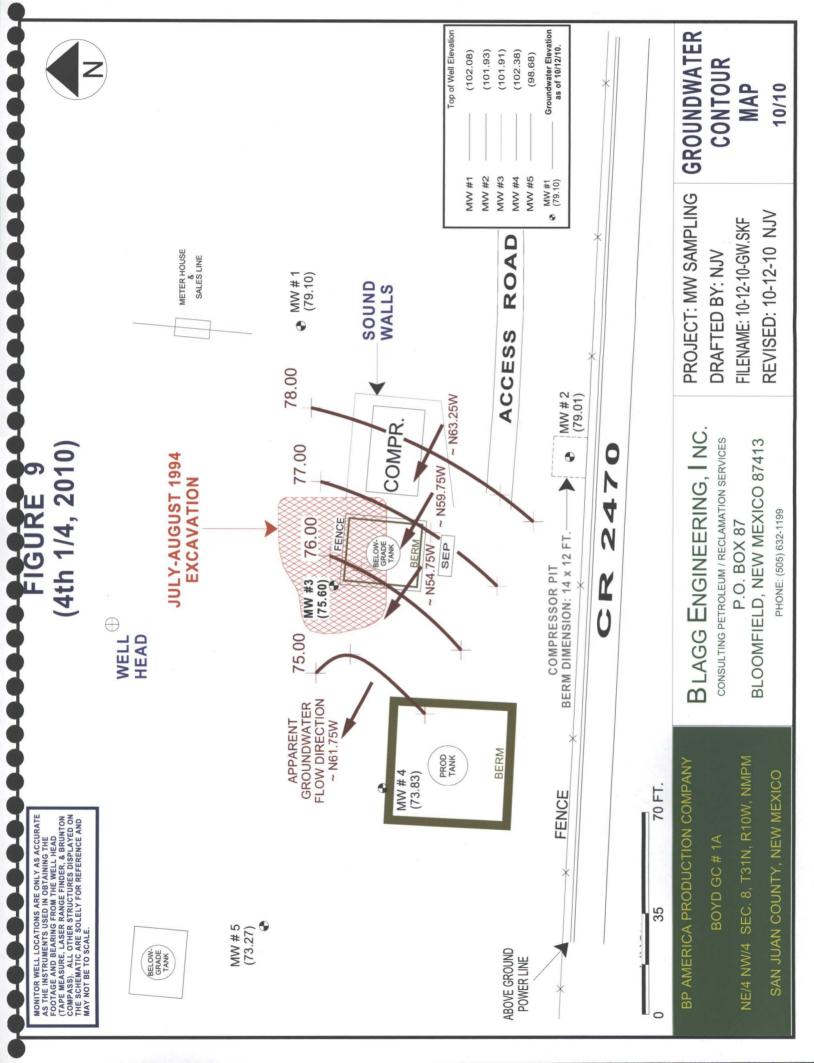












#### MONITOR WELL DEVELOPMENT & / OR SAMPLING DATA

# CLIENT: BP AMERICA PROD. CO.

#### CHAIN-OF-CUSTODY # : N / A

BOYD GC #1A - COMPRESSOR PIT

#### LABORATORY (S) USED : HALL ENVIRONMENTAL

UNIT A, SEC. 8, T31N, R10W

Date : March 31, 2009

Filename : 03-31-09.WK4

SAMPLER : NJV

NJV

PROJECT MANAGER :

WELL	WELL	WATER	DEPTH TO	TOTAL	SAMPLING	pН	CONDUCT	TEMP.	VOLUME
#	ELEV.	ELEV.	WATER	DEPTH	TIME		(umhos)	(celcius)	PURGED
	(ft)	(ft)	(ft)	(ft)					(gal.)
MW - 1	102.08	74.31	27.77	29.50	-	-	-	-	-
MW - 2	101.93	73.86	28.07	29.50	-	-	· -	-	-
MW - 3	101.91	-	DRY	29.50	-	-	-	-	-
MW - 4	102.38	70.65	31.73	34.50	1410	7.34	700	17.7	0.75
MW - 5	98.68	70.05	28.63	36.30	-	-	-	-	-
			INSTRUM	ENT CALIB	RATIONS =	4.01/7.00/10.00	2,800		

DATE & TIME = 03/31/09 0945

NOTES: <u>Volume of water purged from well prior to sampling; V = pi X r2 X h X 7.48 gal./ft3) X 3 (wellbores)</u>.(i.e. 2" MW r = (1/12) ft. h = 1 ft.) (i.e. 4" MW r = (2/12) ft. h = 1 ft.)</u>

Ideally a minimum of three (3) wellbore volumes:

2.00 " well diameter = 0.49 gallons per foot of water.

Comments or note well\_diameter\_if\_not\_standard\_2 ".

Fair / good recovery in MW #4. Collected sample from MW #4 onlyy BTEX analysis.

on-site	1:39	temp	51 F
off-site	2:20	temp	52 F
sky cond.	Mostly	sunny	
wind speed	0-10	direct.	W

, Date: 10-Apr-09

**CLIENT: Blagg Engineering** Client Sample ID: MW #4 Lab Order: 0904020 Collection Date: 3/31/2009 2:10:00 PM **Project:** Boyd GC #1A Date Received: 4/1/2009 Matrix: AQUEOUS Lab ID: 0904020-01 PQL Qual Units Analyses Result DF **Date Analyzed** EPA METHOD 8021B: VOLATILES Analyst: DAM 5 4/7/2009 12:49:54 AM Benzene 13 5.0 µg/L Toluene ND 5.0 µg/L 5 4/7/2009 12:49:54 AM Ethylbenzene 210 5.0 5 4/7/2009 12:49:54 AM µg/L 10 Xylenes, Total 1200 20 4/7/2009 2:43:28 PM µg/L %REC 5 4/7/2009 12:49:54 AM Surr: 4-Bromofluorobenzene 103 65.9-130

### Qualifiers:

\*

Value exceeds Maximum Contaminant Level E Estimated value

- J Analyte detected below quantitation limits
- Not Detected at the Reporting Limit ND
- Spike recovery outside accepted recovery limits S
- В Analyte detected in the associated Method Blank
- Η Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level

RL **Reporting Limit** 

HALL ENVIRONMENTAL ANALYSIS LABORATORY 4901 Hawkins NE, Suite D	Tel. 505.345.3975 Fax 505.345.4107 www.hallenvironmental.com	ANALYSIS REQUEST	Ĩ	sel) 50,1 50,1 50,1 50,1 50,1 50,1 50,1 50,1	ilioze5 eiO\ze 3 4,09 2 4,09 2 808) 5	ьсв. и0 <sup>5</sup> ы1) н) в1) н) н) н)	ciqea / ' <sup>2</sup> 0N '	HMetho Metho Metho Meth Meth SMe SMe SMe SMe SMe SMe SMe SMe Sem (YO	<ul> <li>BTEX</li> <li>BTEX</li> <li>BTEX</li> <li>BTEX</li> <li>BTPH (</li> <li>TPH (</li> <li>B08 (</li> <li></li></ul>							Remarks:
0A/ QC Package: Std Dat Level 4 D Other:	Project Name: <i>Bつソリ モ</i> モ オ / A	Project #:	166	Project Manager:	NEWSON VEVEZ	Sampler: NELSON VELEZ	Sample Temperature:	Preservative	NULINGERY VOLUME HIGCI, HNO. HEAL NO. HEAL NO.	2-40m/ / 1						Received By: (Signature)
	Client: BUJGG ENGR. / BP AMERICA PT	Address: P.O. BOX 87				Phone #: 632-1199 Se		Comolo I D No		3/31/09 14/0 WARER MW # 4 2						 Uptor lime: Relingueshed By: (Signaptore) 4/1/09 0830 //// Date: Time: Relinquished By: (Signature)

# **QA/QC SUMMARY REPORT**

**Client: Blagg Engineering Project:** Boyd GC #1A Work Order: 0904020 Analyte Result Units PQL %Rec LowLimit HighLimit %RPD **RPDLimit Qual** Method: EPA Method 8021B: Volatiles Analysis Date: 4/6/2009 10:05:03 AM Sample ID: 5ML RB MBLK Batch ID: R33112 Benzene ND µg/L 1.0 Toluene ND 1.0 µg/L Ethylbenzene ND 1.0 µg/L Xylenes, Total ND µg/L 2.0 Batch ID: R33112 Analysis Date: 4/6/2009 8:13:23 PM Sample ID: 100NG BTEX LCS LCS 85.9 113 Benzene 21.79 µg/L 1.0 109 Toluene 86.4 113 S 22.74 µg/L 1.0 114 Ethylbenzene 83.5 118 21.76 µg/L 1.0 109 Xylenes, Total 64.38 µg/L 2.0 107 83.4 122

#### Qualifiers:

J

R

E Estimated value

Analyte detected below quantitation limits

RPD outside accepted recovery limits

- Н
- H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

S Spike recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.			• • •			
Sample	Rec	eipt Cl	necklist			
Client Name BLAGG			Date Receiv	/ed:	4/1/2009	
Work Order Number 0904020			Received	by: AT	$\Lambda$	
Checklist completed by:		4/1 Pete	Sample ID しらら	labels checked by: 	Initials	
Matrix: Carrier name:	Grey	hound		•		
Shipping container/cooler in good condition?	Yes		No 🗌	Not Present		
Custody seals intact on shipping container/cooler?	Yes		No 🗌	Not Present	Not Shipped	
Custody seals intact on sample bottles?	Yes		No 🗔	N/A 🗹		
Chain of custody present?	Yes		No 🗌			
Chain of custody signed when relinquished and received?	Yes		No 🗌			
Chain of custody agrees with sample labels?	Yes	V	No 🗔			
Samples in proper container/bottle?	Yes		No 🗌	•		
Sample containers intact?	Yes	$\checkmark$	No 🗖			
Sufficient sample volume for indicated test?	Yes		No 🗆		-	
All samples received within holding time?	Yes		No 🗖			
Water - VOA vials have zero headspace? No VOA vials subr	nitted		Yes 🗹	No 🗔		
Water - Preservation labels on bottle and cap match?	Yes		No 🗖	N/A 🗹		
Water - pH acceptable upon receipt?	Yes		No 🗆	N/A 🗹	•	
Container/Temp Blank temperature? COMMENTS:		<b>2°</b>	<6° C Accepte If given sufficie	able Int time to cool.	-	
Client contacted Date contacted:			Pe	rson contacted		<u> </u>
Contacted by: Regarding:						<i>i</i>
Comments:						
	1. same					
				· · · · · ·		· · · · · · · · · · · · · · · · · · ·
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Corrective Action		<u>-</u>		· · · · · · · · · · · · · · · · · · ·	, <u></u>	
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#### MONITOR WELL DEVELOPMENT & / OR SAMPLING DATA

#### CLIENT: BP AMERICA PROD. CO.

#### CHAIN-OF-CUSTODY # : N/A

BOYD GC #1A - COMPRESSOR PIT

LABORATORY (S) USED : HALL ENVIRONMENTAL

SAMPLER: NJV

UNIT A, SEC. 8, T31N, R10W Date : May 16, 2009

Filename : 05-16-09.WK4

PROJECT MANAGER : N J V

0810

NT	IV	
	1 V	

WELL #	WELL ELEV. (ft)	WATER ELEV. (ft)	DEPTH TO WATER	TOTAL DEPTH	SAMPLING TIME	рН	CONDUCT (umhos)	TEMP.	VOLUME
#				DEPTH	TIME		(umboo)	(a a laissa)	
	(ft)	(ft)	(4)				(unnos)	(celcius)	PURGED
		·,	(ft)	(ft)					(gal.)
MW - 1	102.08	74.73	27.35	29.50	-	-	•	-	-
MW - 2	101.93	74.14	27.79	29.50	1315	6.79	600	21.9	0.50
MW - 3	101.91	-	DRY	29.50	-	-		-	-
MW - 4	102.38	71.67	30.71	34.50	1225	7.22	700	20.4	1.50
MW - 5	98.68	71.12	27.56	36.30	-	-	-	- ,	-
			INSTRUM	INSTRUMENT CALIBRATIONS =					

DATE & TIME = 05/16/09

NOTES: Volume\_of\_water\_purged\_from\_well\_prior\_to\_sampling; V = pi X r2 X h X 7.48 gal./ft3) X 3 (wellbores). (i.e. 2" MW r = (1/12) ft. h = 1 ft.) (i.e. 4" MW r = (2/12) ft. h = 1 ft.)

Ideally a minimum of three (3) wellbore volumes:

2.00 " well diameter = 0.49 gallons per foot of water.

Comments or note well diameter if not standard 2 ".

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Fair / good recovery in MW #4, very poor recovery in MW #2. Collected samples for BTEX per US EPA Method 8021B from MW #2 & MW #4.

on-site	11:39	temp	76 F
off-site	1:25	temp	80 F
sky cond.	Partly c	loudy	
wind speed	0 - 5	direct.	S

Date: 29-May-09

CLIENT: Project:	Blagg Engineering Boyd GC #1A		•		L	ab Orde	r: 0905362
Lab ID:	0905362-01			С	collection Date	: 5/16/20	009 1:15:00 PM
Client Sample	ID: MW #2				Matrix	: AQUE	OUS
Analyses		Result	PQL	Qual	Units	DF .	Date Analyzed
EPA METHOD	8021B: VOLATILES						Analyst: DAM
Benzene		530	10		µg/L	10	5/29/2009 12:26:54 AM
Toluene		ND	10		µg/L	10	5/29/2009 12:26:54 AM
Ethylbenzene		1 <b>40</b>	10		µg/L	10	5/29/2009 12:26:54 AM
Xylenes, Total		1200	. 20		µg/L	10	5/29/2009 12:26:54 AM
Surr: 4-Brom	ofluorobenzene	109	65.9-130		%REC	10	5/29/2009 12:26:54 AM
Lab ID:	0905362-02			C	ollection Date	: 5/16/20	009 12:25:00 PM
Client Sample	ID: MW #4				Matrix	: AQUE	OUS
Analyses		Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD	8021B: VOLATILES	· · · · · ·	,			• • •	Analyst: DAM
Benzene		ND	1.0		µg/L	1	5/29/2009 1:27:34 AM
Toluene	· · · · · ·	ND	1.0		µg/L	- 1	5/29/2009 1:27:34 AM
Ethylbenzene		21	1.0		µg/L	1	5/29/2009 1:27:34 AM
Xylenes, Total		72	2.0		µg/L	1	5/29/2009 1:27:34 AM

65.9-130

%REC

97.8

**Qualifiers:** 

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Surr: 4-Bromofluorobenzene

Value exceeds Maximum Contaminant Level Ε Estimated value

- ,J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits
- Analyte detected in the associated Method Blank B
- Holding times for preparation or analysis exceeded Η

MCL Maximum Contaminant Level

RL **Reporting Limit**  5/29/2009 1:27:34 AM

HALL ENVIRONMENTAL ANALYSIS LABORATORY 4901 Hawkins NE, Suite D Albuquerque, New Mexico 87109 Tel. 505.345.345.4107 www.hallenvironmental.com	ANALYSIS REQUEST	y <del>*s</del> (8021 <b>8)</b> (Gasoline Only) (Sasoline Only) (Sasoline Conly) (Sasoline Conly)	HPH + 38 4 80158 (G 0 504.1) 0 504.1) 1, NO <sub>3</sub> , NO <sub>2</sub> tals tals tals (MO <sub>2</sub> , NO <sub>2</sub> tals (MO <sub>2</sub> , NO <sub>2</sub> tals (MO <sub>2</sub> , NO <sub>2</sub> tals (MO <sub>2</sub> )	M + XЭТВ трн Месьо трн (Месьо водо (Месьо водо (РИА водо  водо (РИА водо (РИА водо (РИА водо) водо  (РИА водо) водо (РИА водо) водоо (РИА водо) водо (РИА						Remarks:
Std X Level 4 Other: Project Name: 80 Y/D GC # IA	Project #:	Project Manager: NELSEN VELEZ	Sampler: バビンシー ドモン Sample Temperature: 3.R.	Number/Volume HgCl <sub>2</sub> HNO <sub>3</sub> HCl 090530	2-40ml / 1	2-40m V z				Received By: (Signature) S220/EQ Received By (Signature)
CHAIN-OF-CUSTODY RECORD	XOX	8270, NM 87413	Phone #: 632-1199 Fax #:	Date Time Matrix Sample I.D. No.	5/16/09 1315 WRTER MW # 2	5/16/09/1225 WATER MW # 4				Date: Time: Relinquished By (Signature) 5/19/09/1425 Allow (Mark U Date: Time: Relinquished By: (Signature)

# **QA/QC SUMMARY REPORT**

Client: Project:	Blagg Engineering Boyd GC #1A			·.			W	ork (	Drder: 0905362
Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPD	Limit Qual
Method: EPA	Method 8021B: Volatiles	· ·		,					
Sample ID: 5ML	. RB	MBLK	-		Batch	ID: R33871	Analysis Dat	e:	5/28/2009 8:39:43 AM
Benzene	ND	µg/L	1.0						
Toluene	ND	µg/L	1.0	. ·					
Ethylbenzene	ND	µg/L	1.0						
Xylenes, Total	ND	µg/L	2.0						
Sample ID: 100	NG BTEX LCS	LCS			Batch	ID: <b>R33871</b>	Analysis Dat	<b>e</b> :	5/29/2009 3:29:31 AM
Benzene	20.76	µg/L	1.0	104	85.9	113			
Toluene	20.87	µg/L	1.0	102	86.4	113			
Ethylbenzene	21.00	µg/L	1.0	104	83.5	118	,		
Xylenes, Total	63.28	µg/L	2.0	105	83.4	122			
Sample ID: 100	NG BTEX LCSD	LCSD			Batch	ID: <b>R33871</b>	Analysis Dat	e:	5/29/2009 4:00:07 AM
Benzene	20.80	µg/L	1.0	104	85.9	113	0.183	27	
Toluene	20.71	µg/L	1.0	101	86.4	113	0.750	19	
Ethylbenzene	20.97	µg/L	1.0	104	83.5	118	0.152	10	•
Xylenes, Totai	62.85	µg/L	2.0	105	83.4	122	0.685	13	

Qualifiers:

Е

Estimated value

Analyte detected below quantitation limits

RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

S Spike recovery outside accepted recovery limits

· .	Sample	Recei	pt Ch	ecklist		
Client Name BLAGG				Date Receive	id:	5/20/2009
Work Order Number 0905362				Received by	r: TLS	<i><i>A</i>,</i>
10		6	12.	Sample ID I	abels checked by:	<u></u>
Checklist completed by:	•••		Date	yw _		Initials .
$\sim$		- ·				
Matrix:	Carrier name:	<u>Greyh</u>	ound	•		
Shipping container/cooler in good condition?		Yes		No 🗔	Not Present	¢
Custody seals intact on shipping container/coo	ler?	Yes		No 🗌	Not Present	Not Shipped
Custody seals intact on sample bottles?		Yes [		No 🗌	N/A	
Chain of custody present?		Yes [		No 🗌		
Chain of custody signed when relinquished and	d received?	· Yes		No 🗌		
Chain of custody agrees with sample labels?		Yes 🛛				·
Samples in proper container/bottle?	•	Yes 🛛		No 🗌		
Sample containers intact?		Yes 🛛		No		
Sufficient sample volume for indicated test?		Yes	$\mathbf{V}$	No 🗌		
All samples received within holding time?		Yes 🛙		. No 🗆		Number of preserved
Water - VOA vials have zero headspace?	No VOA vials subr			Yes 🗹	No 🗆	bottles checked for pH:
Water - Preservation labels on bottle and cap	match?	Yes [		Νο	N/A 🗹	
Water - pH acceptable upon receipt?		Yes [			N/A 🗹	<2 >12 unless noted below.
Container/Temp Blank temperature?		3.8	0	<6° C Acceptab		<i></i>
COMMENTS:				If given sufficien	t time to cool.	
				· .		
					•	
				$\overline{\gamma}$		
						· · · · · · · · · · · · · · · · · · ·
Client contacted	Date contacted:				son contacted	/
Client contacted	Date contacted:	- -			son contacted	
Contacted by:	_				son contacted	
······	_				son contacted	/
Contacted by:	_				son contacted	/
Contacted by:	_				son contacted	/
Contacted by:	_				son contacted	
Contacted by:	_				son contacted	
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Contacted by:	_				son contacted	
Contacted by:	_				son contacted	

#### MONITOR WELL DEVELOPMENT & / OR SAMPLING DATA

#### CLIENT: BP AMERICA PROD. CO.

#### CHAIN-OF-CUSTODY # : N / A

BOYD GC #1A - COMPRESSOR PIT

UNIT A, SEC. 8, T31N, R10W

Date : September 2, 2009

*Filename* : 09-02-09.WK4

LABORATORY (S) USED : HALL ENVIRONMENTAL

SAMPLER :\_\_\_\_\_ PROJECT MANAGER :

NJV

NJV

WELL	WELL	WATER	DEPTH TO	TOTAL SAMPLING		рΗ	CONDUCT	TEMP.	VOLUME
#	ELEV.	ELEV.	WATER	DEPTH TIME			(umhos)	(celcius)	PURGED
	(ft)	(ft)	(ft)	(ft)	· .				(gal.)
MW - 1	102.08	80.22	21.86	29.50	· -	-	-	-	-
MW - 2	101.93	80.44	21.49	29.50	-	-	-	• -	-
MW - 3	101.91	80.67	21.24	29.50	-	-	-	-	-
MW - 4	102.38	75.29	27.09	34.50	0820	7.38	900	16.6	3.75
MW - 5	98.68	74.09	24.59	36.30	-	-	-	-	-
			INSTRUM	4.01/7.00/10.00	2,800				

DATE & TIME = 09/02/09 0815

NOTES : <u>Volume\_of\_water\_purged\_from\_well\_prior\_to\_sampling; V = pi X r2 X h\_ X 7.48 gal./ft3) X 3 (wellbores).</u> (i.e. 2" MW r = (1/12) ft. h = 1 ft.) (i.e. 4" MW r = (2/12) ft. h = 1 ft.)

Ideally a minimum of three (3) wellbore volumes:

2.00 " well diameter = 0.49 gallons per foot of water.

Comments or note well diameter if not standard 2 ".

Fair / good recovery in MW #4. Collected samples for BTEX per US EPA Method 8021B from MW #4 only.

on-site	7:49	temp	65 F
off-site	8:35	temp	67 F
sky cond.	Mostly	sunny	
wind speed	0 - 5	direct.	NE

Date: 09-Sep-09

**CLIENT: Blagg Engineering** 0909076 Lab Order: **Project:** Boyd GC #1A Lab ID: 0909076-01

Client Sample ID: MW #4 Collection Date: 9/2/2009 8:20:00 AM Date Received: 9/3/2009 Matrix: AQUEOUS

Analyses	Result	PQL	Qual Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES					Analyst: NSB
Benzene	12	1.0	µg/L	1	9/8/2009 5:49:52 PM
Toluene	ND	1.0	µg/L	1	9/8/2009 5:49:52 PM
Ethylbenzene	ND	1.0	µg/L	1	9/8/2009 5:49:52 PM
Xylenes, Total	ND	2.0	μg/L	<sup>•</sup> 1	9/8/2009 5:49:52 PM
Surr: 4-Bromofluorobenzene	107	65.9-130	%REC	1 .	9/8/2009 5:49:52 PM

Qualifiers:

\*

Value exceeds Maximum Contaminant Level Estimated value Е

- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- Spike recovery outside accepted recovery limits S
- в Analyte detected in the associated Method Blank
- Н Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level

RL **Reporting Limit** 

HALL ENVIRONMENTAL ANALYSIS LABORATORY www.hallenvironmental.com cins NE - Albuquerque, NM 87109				N 10 Y	Air Bubbles (			· ·							eport.
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	505-345-4107 Request		082 PCB'	)8 \ səb	sost Pesticio								1		y notat
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□ Rus € C		iger:	NEUSON W		Preservative Type	#C1 f								9:45	contraction of the second
X Standard Project Name: BOXD	Project #:	Project Manager:	$N_{z}$ Sampler: $\overline{M}$	Condice: The second sec	Container Type and #	2-40m			i					Reference	Received by? Intracted to other ac
Bigger ENER, BP ANERICA Address: P.O. BOX 87	-1199 -113		Level 4 (Full Validation)		Sample Request ID	MW #4								Hon Ver	I me: Reunquished by: Date Time Date Time I reveal by: Date Time I reveal by: Received by: Date Time I reveased by: Received by: Receiv
Client: Bigger ENER.	BURD.				Matrix	MATER								Relinquished by	Keiinquisnea by: samples submitted t
Client: Ringer	*	r Fax#:	QA/QC Package: Standard Other	□ EDD (Type)	Time	028063							/		nime:
Client: Mailing	Phone #:	email or Fax#	QA/QC Packa		Date	801-16					ļ			0	

# **QA/QC SUMMARY REPORT**

Client:

Project: '

Blagg Engineering Boyd GC #1A

Work Order: 0909076

Analyte	Result	Units	PQL	SPK Va	SPK ref	%Rec L	owLimit Hig	ghLimit %RPD	RPDLimit Qual
Method: EPA Method 8021B: \	volatiles								
Sample ID: 5ML RB		MBLK				Batch ID:	R35219	Analysis Date:	9/8/2009 9:20:48 AM
Benzene	ND	µg/L	1.0						
Toluene	ND	µg/L	1.0				•		•
Ethylbenzene	ND	µg/L	1.0						
Xylenes, Total	ND	µg/L	2.0			<i>i</i>			
Sample ID: 100NG BTEX LCS		LCS				Batch ID:	R35219	Analysis Date:	9/9/2009 2:55:15 AM
Benzene	21.17	µg/L	1.0	20	0	106	85.9	113	
Toluene	21.76	µg/L	1.0	20	0	109	86.4	113	
Ethylbenzene	21.04	µg/L	1.0	20	0.134	105	83.5	118	
Xylenes, Total	62.33	µg/L	2.0	60	0	104	83.4	122	,

#### Qualifiers:

Ε

J

R

Estimated value

Analyte detected below quantitation limits

RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

S Spike recovery outside accepted recovery limits

	Sample Receipt Ch	ecklist		
Client Name BLAGG		Date Receive	ed:	9/3/2009
Work Order Number 0909076	<i></i>	Received b	y: ARS	Λ
		Sample ID	abels checked by:	<u> </u>
Checklist completed by:		91	-	Initials
Matrix: C	arrier name: <u>Greyhound</u>		· .	
Shipping container/cooler in good condition?	Yes 🗹	No 🗌	Not Present	
Custody seals intact on shipping container/cooler?	Yes 🔽	No 🗔	Not Present	Not Shipped
Custody seals intact on sample bottles?	Yes 🗋	No 🗌	N/A	
Chain of custody present?	Yes 🗹	No 🗌		
Chain of custody signed when relinquished and received	? Yes 🗹	No 🗌		
Chain of custody agrees with sample labels?	Yes 🗹	No 🗌		
Samples in proper container/bottle?	Yes 🔽	^ No 🗔		
Sample containers intact?	Yes 🗹	No 🗌		
Sufficient sample volume for indicated test?	Yes 🗹	No 🗌		
All samples received within holding time?	Yes 🗹	No 🗌		Number of preserved bottles checked for
Water - VOA vials have zero headspace? No VC	DA vials submitted	Yes 🗹	No 🗔	pH:
Water - Preservation labels on bottle and cap match?	Yes 🗌	No 🗌	N/A 🗹	
Water - pH acceptable upon receipt?	Yes 🗌	Ňo 🗌	N/A 🗹	<2 >12 unless noted below.
Container/Temp Blank temperature?	<b>4.1</b> °	<6° C Acceptal		2000
COMMENTS:		If given sufficien		
	, ·			
: •				· .
			•	
Client contacted Date cor	ntacted	Por	son contacted	
· · · · · · · · · · · · · · · · · · ·				
Contacted by: Regardin	ng:			
Comments:				
	14-11-14-14-14-14-14-14-14-14-14-14-14-1			
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-				
Corrective Action				·
·				· · · · · · · · · · · · · · · · · · ·

#### MONITOR WELL DEVELOPMENT & / OR SAMPLING DATA

CLIENT: BP AMERICA PROD. CO.

CHAIN-OF-CUSTODY # : N / A

BOYD GC #1A - COMPRESSOR PIT

UNIT A, SEC. 8, T31N, R10W

*Date :* December 16, 2009

*Filename* : 12-16-09.WK4

LABORATORY (S) USED : HALL ENVIRONMENTAL

..\_....

SAMPLER : N J V

NJV

PROJECT MANAGER :

WELL #	WELL ELEV.	WATER ELEV.	DEPTH TO WATER	TOTAL DEPTH	SAMPLING TIME	рН	CONDUCT (umhos)	TEMP. (celcius)	VOLUME PURGED
	<u>(ft)</u>	(ft)	(ft) '	(ft)					(gal.)
MW - 1	102.08	76.80	25.28	29.50	-	-	-	-	-
MW - 2	101.93	76.46	25.47	29.50	-		-		-
MW - 3	101.91	73.17	28.74	29.50	-		-	-	-
MW - 4	102.38	72.31	. 30.07	34.50	0840	7.50	800	10.0	1.50
MW - 5	98.68	71.38	27.30	36.30	-	-		<u> </u>	-
INSTRUMENT CALIBRATIONS =							2,800		

DATE & TIME = 12/16/09 0835

NOTES: <u>Volume of water purged from well prior to sampling; V = pi X r2 X h X 7.48 gal./ft3) X 3 (wellbores)</u>.(i.e. 2" MW r = (1/12) ft. h = 1 ft.) (i.e. 4" MW r = (2/12) ft. h = 1 ft.)</u>

Ideally a minimum of three (3) wellbore volumes:

2.00 " well diameter = 0.49 gallons per foot of water.

Comments or note well diameter if not standard 2 ".

Fair / good recovery in MW #4. Collected sample for BTEX per US EPA Method 8021B from MW #4 only.

on-site	8:00	temp.	19 F
off-site	8:45	temp.	22 F
sky cond.	Mostly	sunny	
wind speed	0 - 5	direct.	SE

Date: 30-Dec-09

**CLIENT: Blagg Engineering** Client Sample ID: MW #4 Lab Order: 0912423 Collection Date: 12/16/2009 8:40:00 AM **Project:** Boyd GC #1A Date Received: 12/18/2009 Matrix: AQUEOUS Lab ID: 0912423-01 Analyses Result **POL** Oual Units DF **Date Analyzed** 

Analyses	Kesult		ual Units	DI	Date Analyzeu
EPA METHOD 8021B: VOLATILES					Analyst: DAM
Benzene	33	1.0	µg/L	1	12/24/2009 11:44:35 PM
Toluene	ND	1.0	µg/L	1	12/24/2009 11:44:35 PM
Ethylbenzene	140	· 10	µg/L	10	12/28/2009 4:00:53 PM
Xylenes, Total	510	20	µg/L	10	12/28/2009 4:00:53 PM
Surr: 4-Bromofluorobenzene	111	65.9-130	%REC	1	12/24/2009 11:44:35 PM

Qualifiers:

Value exceeds Maximum Contaminant Level
 E Estimated value

J > Analyte detected below quantitation limits

ND Not Detected at the Reporting Limit

- S Spike recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank

H Holding times for preparation or analysis exceeded

MCL Maximum Contaminant Level

RL Reporting Limit

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ENVIRONMENTAL VSIS LAROBATODY	.com	Albuquerque, NM 87109	505-345-4107	est			•	(A		AOV) 80828 -ime2) 0728												
	www.hallenvironmental.com	rque,	505-3	Analysis Request		PCB's	280	)8 / 9		1011 Pestici	<u> </u>	<u> </u>			$\vdash$	-	 ╂──		$\left  \right $	<u> </u>	-	
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Lim Andula X Standard	Project Name:		Project #: -		Project Manager:	Nerson	Sampler:	Outce 2 70 Ye	Sample set	Container Type and #	1mok-x		-								Received by:	Received by
・ Chain-G-Custody Record - um Amulua Time. lient: んんんど むとん、 BP Amizhich X Standard 「		1 8 X02 .0.4	5	<u>632 - 1199</u>		Level 4 (Full Validation)				Sample Request ID	h# MW										by Man (21)	Time: Relinquished by:
Client: SLAGE ENER.		2.0.2		505)6		U				Matrix	WIFE										Relinquished by	Relinquished by:
11.96	Address				Fax#:	backage: dard		(Type)_		Time											Time: 1515	Time:
Client:	Mailing	р 		Phone #:	email or Fax#	QA/QC Package:	□ Other	□ EDD (Type)		Date	12/16/09 0840										1	Date:

# **QA/QC SUMMARY REPORT**

) Client:	

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Blagg Engineering

Project: Boyd GC #	1A							Wor	k Order: 0912423
Analyte	Result	Units	PQL	SPK Va	SPK ref	%Rec L	owLimit Hi	ghLimit %RPI	D RPDLimit Qual
Method: EPA Method 8021B:	Volatiles								· · · · ·
Sample ID: 5ML RB	•	MBLK				Batch ID:	R36711	Analysis Date:	12/24/2009 10:04:25 AM
Benzene	ND	µg/L	1.0					2	
Toluene	ND	µg/L	1.0						
Ethylbenzene	ND	µg/L	1.0						
Xylenes, Total	ND	µg/L	2.0						
Sample ID: 5ML RB		MBLK		4		Batch ID:	R36728	Analysis Date:	12/28/2009 9:33:12 AM
Benzene	ND	µg/L	1.0						
Toluene	ND	µg/L	1.0						
Ethylbenzene	ND	µg/L	1.0						
Xylenes, Total	ND	µg/L	2.0						
Sample ID: 100NG BTEX LCS		LCS				Batch ID:	R36711	Analysis Date:	12/24/2009 6:11:13 PM
Benzene	20.55	µg/L	1.0	20	0	103	85.9	113	
Toluene	20.53	µg/L	1.0	20	0	103	86.4	113	
Ethylbenzene	20.09	µg/L	1.0	20 -	0.066	100	83.5	118	
Xylenes, Total	61.73	µg/L	2.0	60	0	103	83.4	122	1
Sample ID: 100NG BTEX LCS		LCS				Batch ID:	R36728	Analysis Date:	12/28/2009 7:33:50 PM
Benzene	19.19	µg/L	1.0	20	0	96.0	85.9	113	
Toluene	· 19.21	µg/L	1.0	20	0	96.0	86.4	113	
Ethylbenzene	19.09	μg/L	1.0	20	٥	95.5	83.5	118	
Xylenes, Total	57.94	µg/L	2.0	60	0	96.6	83.4	122	

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Estimated value

Analyte detected below quantitation limits

RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

S Spike recovery outside accepted recovery limits

Date: 30-Dec-09

Page 1

	Sample	Rece	eipt Ch	ecklist							
Client Name BLAGG	-			Date Red	ceived:			12/18/200	09		
Work Order Number 0912423				Receive	ed by:	TLS		$\Delta \mathbf{r}$			
		1	Ja	Sample	ID lab	els checked	by:	WD Initials			
Checklist completed by:	<u></u>	-10	Date	alon -				maas			
<b>)</b>		.'									
Matrix:	Carrier name:	<u>UPS</u>									
Shipping container/cooler in good condition?		Yes		No 🗔	I	Not Present				•	'
Custody seals intact on shipping container/coole	r?	Yes		No 🗌	ļ	Not Present		Not Shi	pped		
Custody seals intact on sample bottles?		Yes		. No 🗔	I	N/A					
Chain of custody present?	•	Yes		No 🗔							
Chain of custody signed when relinquished and r	eceived?	Yes		No 🗋		-					
Chain of custody agrees with sample labels?		Yes		No 🗔							
Samples in proper container/bottle?		Yes		No 🗔		÷					
Sample containers intact?		: Yes		No 🗌				,			
Sufficient sample volume for indicated test?		Yes		No 🗌							
All samples received within holding time?				No 🗔				Nun	nber of	preserv	/ed
Water - VOA vials have zero headspace?	No VOA vials subm			Yes 🗹	-	No 🗌		bott pH:	les che	cked fo	٢
Water - Preservation labels on bottle and cap ma		Yes		No 🗋		N/A 🗹		·			
Water - pH acceptable upon receipt?		Yes		No 🗌		N/A 🗹		-		ess note	d
Container/Temp Blank temperature?		0.0	₿°	<6° C Acce	eptable			below			
COMMENTS:				If given suff	icient ti	me to cool.					
	. ,										
Client contacted	Date contacted:				Person	contacted					_
Contacted by:	Regarding:						,				
<u>_</u>	``` <u>`</u> ``									-	_
Comments:						<u> </u>			_		-
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	, 					- <u></u>					_
Corrective Action		•									_
		<b>.</b>									
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I									•		

#### MONITOR WELL DEVELOPMENT & / OR SAMPLING DATA

## CLIENT: BP AMERICA PROD. CO.

#### CHAIN-OF-CUSTODY # : N / A

BOYD GC #1A - COMPRESSOR PIT

LABORATORY (S) USED : HALL ENVIRONMENTAL

SAMPLER :

1215

PROJECT MANAGER :

NJV

NJV

*Date* : March 3, 2010

UNIT A, SEC. 8, T31N, R10W

Filename : 03-03-10.WK4

WELL	WELL	WATER	DEPTH TO	TOTAL	SAMPLING	pН	CONDUCT	TEMP.	VOLUME
#	ELEV.	ELEV. '	WATER	DEPTH	TIME		(umhos)	(celcius)	PURGED
	(ft)	(ft)	(ft)	(ft)					(gal.)
MW - 1	102.08	74.37	27.71	29.50		-		-	-
MW - 2	101.93	73.91	28.02	29.50	-	-	-	-	-
MW - 3	101.91	101.91	DRY	29.50	-	-	-	-	-
MW - 4	102.38	70.48	31.90	34.50	1135	7.36	800	17.8	0.75
MW - 5	98.68	69.82	28.86	36.30	-	-	-	-	-
			INSTRUM	ENT CALIB	RATIONS =	4.01/7.00/10.00	2,800		

DATE & TIME = 03/01/10

NOTES: <u>Volume of water purged from well prior to sampling; V = pi X r2 X h X 7.48 gal./ft3) X 3 (wellbores)</u>.(i.e. 2" MW r = (1/12) ft. h = 1 ft.) (i.e. 4" MW r = (2/12) ft. h = 1 ft.)</u>

Ideally a minimum of three (3) wellbore volumes:

2.00 " well diameter = 0.49 gallons per foot of water.

Comments or note well diameter if not standard 2".

Fair / good recovery in MW #4. Collected sample for BTEX per US EPA Method 8021B from MW #4 only.

on-site	11:00	temp.	48 F
off-site	11:46	temp.	51 F
sky cond.	Sunny		
wind speed	0 - 5	direct.	Е

Hall Envi	ronmental Analys	sis Labor	atory, I	nc.	<b>D</b>	ate: 09-M	ar-10			
CLIENT:	Blagg Engineering	Client Sample ID: MW #4								
Lab Order:	1003178		Collection Date: 3/3/2010 11:35:00 AM							
Project:	Boyd GC #1A			Da	te Received	ceived: 3/8/2010				
Lab ID:	1003178-01		Matrix: AQUEOUS							
Analyses		Result	PQL	Qual	Units	DF	Date Analyzed			
EPA METHOD	8021B: VOLATILES				<u> </u>		Analyst: NSB			
Benzene		7.5	1.0		µg/L	1	3/9/2010 3:32:34 AM			
Toluene		ND	1.0		µg/L	1	3/9/2010 3:32:34 AM			
Ethylbenzene		170	10		µg/L	<sup>-</sup> 10	3/9/2010 3:02:16 AM			
Xylenes, Total		1100	20		µg/L	10	3/9/2010 3:02:16 AM			
Surr 4-Brom	ofluorobenzene	125	65 9-130		%REC	1	3/9/2010 3:32:34 AM			

Qualifiers:

s: \* Value exceeds Maximum Contaminant Level

- E Estimated value
- J Analyte detected below quantitation limits
- NC Non-Chlorinated
- PQL Practical Quantitation Limit

- B Analyte detected in the associated Method BlankH Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits

	Air Bubbles (Y or N)			· · · · · · · · · · · · · · · · · · ·					
HALL ENVIRONMENTAL ANALYSIS LABORATORY www.hallenvironmental.com kins NE - Albuquerque, NM 87109 45-3975 Fax 505-345-4107 Analysis Request	-								
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ME 100	·								
<b>TIRONN</b> <b>S LABO</b> mental.com erque, NM 87 505-345-4107 Request	(AOV-im92) 0728								
<b>TIRO</b> <b>Pintal.</b> Internal.or Prequest	(AOV) 80858								
<b>ENVIRONME</b> YSIS LABOR environmental.com Albuquerque, NM 87109 Fax 505-345-4107 nalysis Request	8081 Pesticides / 8082 PCB's								
SI SI Vironi buqu Fax Ysis	Anions (F,CI,NO <sub>3</sub> ,NO <sub>2</sub> ,PO <sub>4</sub> ,SO <sub>4</sub> )								
HALL ENVIRONNALYSIS LABNALYSIS LABwww.hallenvironmental.comins NE - Albuquerque, NM 8I5-3975Fax 505-345-41Analysis Request	RCRA 8 Metals								
	(HA9 or PAH) 0168								
HALL ANAL www.ha Hawkins NE 505-345-3975	EDB (Method 504.1)			-					
1awk 05-3	(1.814 botheM) H9T		ľ						
	(IeseiOlase) 8315B (Gas/Diesel)								
	BTEX + MTBE + TPH (Gas only)								Remarks:
	(81EX)+ <del>MT8E++TMB's</del> (8021 <b>8</b> )								Ren
	No. 1								
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#14		.							Date Date
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Rush C C		42							<u>06: CI</u>
		5 A A							
		HC)							
Project $\#$	Manager: NE LSO, ME LSO, Menelest tiner Press	<i>m</i> (						$\square$	
Project $\mathcal{R}$	e an	40,							d peak
Project Na	Project Manager:	2-40m			1			ŀŀ	Received by: Received by:
		-   ·					1		
BP America BP America NX 87 Im 87413 Im 87413	<ul> <li>Level 4 (Full Validation)</li> <li>Sample Request ID</li> </ul>								
S B Co	que	2							
Ama 199	Re La La	17	-						
0000	1 4 (	MM							K
	Sam								
6. (BP Ameron . 80X 87 0. NM 87413				_		$\square$	 _	┝╍┝	Relinquished by Relinquished by
	Matrix	配							quish
AGE EN	ž –	WATER							Relinquished by
		//35			T	Ī			
BLAGE ENCR. 9 Address: P.O. B BLFD.	Ti Fai								Time: 14/5 Time:
Client: RAGE ENC Mailing Address: P.O BLデU Phone #: 「 50 5 ]	email or Fax#: QA/QC Package: X Standard Dother Date Time	01/				Ī			
5    ≊   6		<u> </u>			ł				3 Date: Date:

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Client:	
Project:	

Blagg Engineering Boyd GC #1A

Work Order: 1003178

Analyte	Result	Units	PQL	SPK Va SF	PK ref	%Rec L	owLimit Hi	ghLimit %RPD	RPDLimit Qual
Method: EPA Method 8021B:	Volatiles								•
Sample ID: b 5		MBLK				Batch ID:	R37677	Analysis Date:	3/8/2010 11:21:44 AM
Benzene	ND	µg/L	1.0						
Foluene	ND	µg/Ŀ	1.0						
Ethylbenzene	ND	µg/L	1.0						
Xylenes, Total	ND	µg/L	2.0		•				
Bample ID: 100NG BTEX LCS		LCS	-			Batch ID:	R37677	Analysis Date:	3/8/2010 8:58:22 PM
Benzene	21.82	µg/L	1.0	20	0	109	85.9	113	
Toluene	21.28	µg/L	1.0	20	0	106	86.4	113	
Ethylbenzene	20.95	µg/L	1.0	20	0	105	83.5	118	
Vienes, Total	62.35	µg/L	2.0	60	0	104	83.4	122	

#### Qualifiers:

- Estimated value
  - Analyte detected below quantitation limits
  - Not Detected at the Reporting Limit

- H Holding times for preparation or analysis exceeded
- NC Non-Chlorinated
- R RPD outside accepted recovery limits

Hall Environmental	Analysis Laboratory, Inc.

	Sample	Receipt Cl	necklist		
Client Name BLAGG			Date Receive	ed:	3/8/2010
Work Order Number 1003178		. ,	Received by	/: ARS	Δισ
Checklist completed by:		3/8	Sample ID I	abels checked by:	Initiats
Signature	<u>}</u>	Date			Thrides
Matrix:	Carrier name:	Grevhound			
Shipping container/cooler in good condition?		Yes 🖌	No 🗔	Not Present	
Custody seals intact on shipping container/coo	oler?	Yes 🗹	No 🗌	Not Present	Not Shipped
Custody seals intact on sample bottles?		Yes 🔲	No 🗔	N/A	
Chain of custody present?		Yes 🗹	No 🗔		·
Chain of custody signed when relinquished and	d received?	Yes 🗹	No 🗔		
Chain of custody agrees with sample labels?		Yes 🗹	. No 🗆		
Samples in proper container/bottle?		Yes 🗹	No 🗌		· .
Sample containers intact?		Yes 🗹	No 🗌	•	
Sufficient sample volume for indicated test?		Yes 🗹	No 🗔		•
All samples received within holding time?	<b>`</b>	Yes 🗹	No 🗌	,	Number of preserved
Water - VOA vials have zero headspace?	No VOA vials subr	nitted 🗌	Yes 🔽	No 🗌	bottles checked for pH:
Water - Preservation labels on bottle and cap r	natch?	Yes 🗌	No 🗌	N/A 🗹	
Water - pH acceptable upon receipt?		Yes 🗌	No 🗌	N/A 🗹	<2 >12 unless noted
Container/Temp Blank temperature?		<b>3.8°</b>	<6° C Acceptab		below.
COMMENTS:			If given sufficien	t time to cool.	
					• •
,			· ·		
Client contacted	Date contacted:		Pers	on contacted	
Contacted by:	Regarding:				
Comments:					
	<u>.</u>				
) 					· · · · · · · · · · · · · · · · · · ·
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				· · · · · · · · · · · · · · · · · · ·	
Corrective Action					
Corrective Action	· · · · · · · · · · · · · · · · · · ·				
Corrective Action					

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### BLAGG ENGINEERING, INC.

#### MONITOR WELL DEVELOPMENT & / OR SAMPLING DATA

### CLIENT: BP AMERICA PROD. CO.

CHAIN-OF-CUSTODY # : N / A

LABORATORY (S) USED : HALL ENVIRONMENTAL

BOYD GC #1A - COMPRESSOR PIT

UNIT A, SEC. 8, T31N, R10W

Date : May 20, 2010

SAMPLER :\_\_\_\_\_ PROJECT MANAGER :

NJV

NJV

Filename :	05-20-10.WK4
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				· •			-		
WELL	WELL	WATER	DEPTH TO	TOTAL	SAMPLING	pН	CONDUCT	TEMP.	VOLUME
#	ELEV.	ELEV.	WATER	DEPTH	TIME		(umhos)	(celcius)	PURGED
· · · · · · · · · · · · · · · · · · ·	<u>(ft)</u>	(ft)	(ft)	(ft)					(gal.)
MW - 1	<sup>•</sup> 102.08	75.69	26.39	29.50	-	-	-	-	-
MW - 2	101.93	75.49	26.44	29.50	1000	6.91	900	16.5	0.75
MW - 3	101.91	72.78	29.13	29.50	-	-	-	-	
MW - 4	102.38	72.16	30.22	34.50	0930	7.34	900	16.6	1.25
MW - 5	98.68	71.37	27.31	36.30	-	-	-	-	-
			INSTRUM	4.01/7.00/10.00	2,800				

DATE & TIME = 05/19/10 1035

NOTES: <u>Volume of water purged from well prior to sampling;  $V = pi X r^2 X h X 7.48 gal./ft3) X 3$  (wellbores).</u> (i.e. 2" MW r = (1/12) ft. h = 1 ft.) (i.e. 4" MW r = (2/12) ft. h = 1 ft.)

Ideally a minimum of three (3) wellbore volumes:

2.00 " well diameter = 0.49 gallons per foot of water.

Comments or note well diameter if not standard 2 ".

Poor recovery in MW #2, poor/fair recovery in MW #4. Collected samples for BTEX per US EPA Method 8021B from MW #2 & #4 only.

Top of casing MW #1 ~ 2.20 ft., MW #2 ~ 2.50 ft., MW #3 ~ 2.00 ft., MW #4 ~ 3.05 ft., MW #5 ~ 2.20 ft. above grade.

on-site	9:00	temp.	55 F
off-site	10:23	temp.	65 F
sky cond.	Sunny	_	
wind speed	0 - 5	direct.	ESE - S

Date: 26-May-10

	Blagg Engineering Boyd GC #1A				Lab Order	: 1005608
Lab ID;	1005608-01			Collection	Date: 5/20/201	0 10:00:00 AM
<b>Client Sample ID:</b>	MW #2			N	latrix: AQUEC	US
Analyses		Result	PQL	Qual Units	DF	Date Analyzed
EPA METHOD 802	1B: VOLATILES					Analyst: NSE
Benzene		160	10	μg/L	10	5/26/2010 2:03:24 AM
Toluene		18	10	μg/L	10	5/26/2010 2:03:24 AM
Ethylbenzene		58	10	hð/r	10	5/26/2010 2:03:24 AM
Xylenes, Total	· · · .	590	20	μg/L	10	5/26/2010 2:03:24 AM
Surr: 4-Bromofluc	probenzene	107	65.9-130	%REC	10	5/26/2010 2:03:24 AM
Lab ID:	1005608-02			Collection	Date: 5/20/201	0 9:30:00 AM
Client Sample ID:	MW #4			Ň	Iatrix: AQUEO	US
Analyzan		Result	PQL	Qual Units	DF	Date Analyzed
Analyses						Analyst: NSB
	1B: VOLATILES					
	1B: VOLATILES	ND	1.0	μg/L	1	5/26/2010 3:03:56 AM
EPA METHOD 802	1B: VOLATILES	ND ND	1.0 1.0	μg/L μg/L	<b>1</b> _ 1	
EPA METHOD 802 Benzene	1B: VOLATILES					5/26/2010 3:03:56 AM
Toluene	1B: VOLATILES	ND	1.0	µg/L	<u>,</u> 1	5/26/2010 3:03:56 AM 5/26/2010 3:03:56 AM

Qualifiers:

- Value exceeds Maximum Contaminant Level \*
- E Estimated value
- J Analyte detected below quantitation limits
- NC Non-Chlorinated
- Practical Quantitation Limit PQL

- В Analyte detected in the associated Method Blank
- Н Holding times for preparation or analysis exceeded

Maximum Contaminant Level MCL

Not Detected at the Reporting Limit ND

Spike recovery outside accepted recovery limits S

		4901 Hawkins NF - Albuduerdue NM 87109	10	Analysis	(۴ <u>ر)</u> (۱۹) (آم)	no seĐ) seiŪ\se	17PH ( 58 (G 4.1) / 8082 / 8082 / 1) / 102,1 /	√O√ ) ) 100 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	TEX + MTE TEX + MTE TEX + MTE TEX + MTE TEH Method TPH Method TPH (Method TPH	3 3 3 3 3 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4						e Time Remarks: 0,00	e Tine
BP Artes CA Astronomentation Contraction Contraction CA Artes CA Astronomentation Careford CA Astronomentation Contraction Con	Project Name:	87 8040 60 #H	874/3 Project #:	-1/99	Project Manager:	□ Level 4 (Full Validation)	Sampler: NEWSON VERTS	State Carlot Car	Sample Request ID Container Preservative Type	14W # 2 2-40m/ Helon	min I Y d-yumi 'ease						f- 1
Client: BLAGG ENER / BP ANTER CA	<b>-</b>	Mailing Address: P.O. 80X 87	Eit-D. Nm	Phone #: (505) 632-	email or Fax#:	QA/QC Package:	Accreditation	🗆 EDD (Type)	Date Time Matrix Samp	5/20/10 1000 WATER MU	 Tallo 0130 melek				(	 Stop 16 00 Flinguished by:	Date: Time: Relinquished by:

be clearly notated on the analytical report. uns possionity. A -

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Client:	
Project:	

Blagg Engineering Boyd GC #1A

Work Order: 1005608

Analyte	Result	Units	PQL	SPK Va	SPK ref	%Rec L	.owLimit Hi	ghLimit %RPD	RPDLimit Qual
Method: EPA Method 8021B: 1	Volatiles								
Sample ID: 5ML RB		MBLK				Batch ID:	R38920	Analysis Date:	5/25/2010 9:21:20 AM
Benzene	ND	µg/L	1.0			,			
Toluene	ND	µg/L	1.0						
Ethylbenzene	ND	µg/L	1.0						<b>`</b>
Xylenes, Total	ND	µg/L	2.0						· ·
Sample ID: 100NG BTEX LCS		LCS				Batch ID:	R38920	Analysis Date:	5/25/2010 6:58:36 PM
Benzene	22.78	µg/L	1.0	20	0	114	87.9	121	
Toluene	23.15	μg/L	1.0	20	0	1 <b>16</b>	83	124	Υ
Ethylbenzene	22.55	µg/L	1.0	20	0.138	112	81.7	122	
Kylenes, Total	68.50	µg/L	2.0	60	0	114	85.6	121	

#### Qualifiers:

- E Estimated value
  - Analyte detected below quantitation limits
  - Not Detected at the Reporting Limit

- H Holding times for preparation or analysis exceeded
- NC Non-Chlorinated
- R RPD outside accepted recovery limits

#### Hall 56 sia Lab Inc

Sample	Receipt C	hecklist		
Client Name BLAGG	•	Date Receiv	ed:	5/21/2010
Work Order Number 1005608		Received	y: TLS	
Checklist completed by:	5/2 Date	1/10	labels checked by -	r:
Matrix: Carrier name:	Greyhound	, ,		· .
Shipping container/cooler in good condition?	Yes 🗹	No 🗌	Not Present	
Custody seals intact on shipping container/cooler?	Yes 🗹	No 🗌	Not Present	Not Shipped
Custody seals intact on sample bottles?	Yes 🗌	No 🗌	N/A	2
Chain of custody present?	Yes 🗹	No 🗌		
Chain of custody signed when relinquished and received?	Yes 🗹	No 🗌		
Chain of custody agrees with sample labels?	Yes 🗹	No 🗍		
Samples in proper container/bottle?	Yes 🗹	No 🗌		
Sample containers intact?	Yes 🗹	No 🗔		
Sufficient sample volume for indicated test?	Yes 🗹	No 🗔		· · ·
All samples received within holding time?	Yes 🗹	No 🗌		Number of preserved
Water - VOA vials have zero headspace? No VOA vials sub	mitted 🔲	Yes 🗹	No 🗌	bottles checked for pH:
Water - Preservation labels on bottle and cap match?	Yes 🗌	No 🗌	N/A 🗹	, 
Water - pH acceptable upon receipt?	Yes 🗌	No 🗔	N/A 🗹	<2 >12 unless noted below.
Container/Temp Blank temperature?	-0.6°	<6° C Accepta		Delow.
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	- <u> </u>	:		
	,			
	,			
•	i.			
Client contacted Date contacted:		Per	son contacted	
Contacted by: Regarding:				
Comments:				
		<u></u>	,	
	· ·			
	·			
Corrective Action				
Corrective Action	× • • •	· · · ·		· · · · · ·
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### BLAGG ENGINEERING, INC.

#### MONITOR WELL DEVELOPMENT & / OR SAMPLING DATA

CLIENT: BP AMERICA PROD. CO.

CHAIN-OF-CUSTODY # : N / A

LABORATORY (S) USED : HALL ENVIRONMENTAL

\_\_\_\_\_

BOYD GC #1A - COMPRESSOR PIT

UNIT A, SEC. 8, T31N, R10W

Date : July 20, 2010

*Filename* : 07-20-10.WK4

SAMPLER :

NJV

Pł	RO	JE	СТ	MA	NA	GEF	र :	

Ν	J	V	

WELL	WELL	WATER	DEPTH TO	TOTAL	SAMPLING	рН	CONDUCT	TEMP.	VOLUME
#	ELEV.	ELEV.	WATER	DEPTH	TIME		(umhos)	(celcius)	PURGED
	(ft)	(ft)	(ft)	(ft)					(gal.)
MW - 1	102.08	79.30	22.78	29.50	_ `-	-	-	-	-
MW - 2	101.93	79.63	22.30	29.50	-	-	-	-	
MW - 3	101.91	75 <u>.</u> 54	26.37	29.50	-	-	-		-
MW - 4	102.38	74.23	28.15	34.50	0925	7.17	900	22.0	3.00
MW - 5	98.68	73.01	25.67	36.30	-	-	-	-	-
			INSTRUM	4.01/7.00/10.00	2,800				

DATE & TIME = 07/20/10 0800

NOTES : <u>Volume of water purged from well prior to sampling; V = pi X r 2 X h X 7.48 gal./ft3) X 3 (wellbores)</u>.(i.e. 2" MW r = (1/12) ft. h = 1 ft.) (i.e. 4" MW r = (2/12) ft. h = 1 ft.)</u>

Ideally a minimum of three (3) wellbore volumes:

2.00 " well diameter = 0.49 gallons per foot of water.

Comments or note well diameter if not standard 2".

Fair / good recovery in MW #4. Collected sample for BTEX per US EPA Method 8021B from MW #4 only.

Top of casing MW #1 ~ 2.20 ft., MW #2 ~ 2.50 ft., MW #3 ~ 2.00 ft., MW #4 ~ 3.05 ft., MW #5 ~ 2.20 ft. above grade.

on-site	8:43	temp.	80 F
off-site	9:35	temp.	82 F
sky cond.	Partly	cloudy	
wind speed	0 - 5	direct.	Ε

Date: 28-Jul-10

Lab ID:	1007841-01		Matrix:	AQUEOU	8
Project:	Boyd GC #1A		Date Received:		
Lab Order:	1007841		<b>Collection Date:</b>	7/20/2010	9:25:00 AM
CLIENT:	Blagg Engineering	•••	Client Sample ID:	MW #4	

Analyses	A COULT			Dr	Date Analyzeu
EPA METHOD 8021B: VOLATILES	· ·	· · ·			Analyst: NSB
Benzene	ND	1.0	µg/L⊺	1	7/27/2010 3:00:11 AM
Toluene	ND	1.0	µg/L	1	7/27/2010 3:00:11 AM
Ethylbenzene	ND	1.0	µg/L	1	7/27/2010 3:00:11 AM
Xylenes, Total	ND	2.0	µg/L´	1	7/27/2010 3:00:11 AM
Surr: 4-Bromofluorobenzene	125	65.9-130	%REC	1	7/27/2010 3:00:11 AM

#### Qualificrs:

- \* Value exceeds Maximum Contaminant Level
- E Estimated value
- J Analyte detected below quantitation limits
- NC Non-Chlorinated
- PQL Practical Quantitation Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- ND Not Detected at the Reporting Limit

S Spike recovery outside accepted recovery limits

Time: Relinquishe	Date: Time: Relinquished by:						7/20/10 0925 WARR MW #4	Date Time Matrix Sample Request ID	EDD (Type)	Accreditation	과 Standard	email or Fax#:	Phone #: (505) 632 - 1199	BUFD. NM 87413	SoX 0		Client: BLATEG ENER / BP AMERICA	0
	Received by:						2-40ml Hat	C Salation	Sampe lemente a Correction	Sampler: NELSON KELEZ	/VELSON VELEZ	Project Manager:		Project #:	DUJU GC THA		X Standard C Rush	Turn-Around Time:
	Remarks:							BTEX + MT BTEX + MT TPH Method TPH (Method EDB (Method 8310 (PNA d RCRA 8 Me Anions (F,C 8081 Pestic 8260B (VOA 8270 (Semi-	BE d 80 d 4 d 5 or P tals I,NC des	+ TPH 15B (0 18.1) 04.1) AH) 0 <sub>3</sub> ,NO <sub>2</sub> 4/8082 A)	(Gas d Gas/Di	only) esel)	Anal	сл О	4901 Hawkins NE - Albuquerque, NM 87109	Ψ		

lient: **Blagg Engineering** roject:

Boyd GC #1A

Work Order: 1007841

Analyte	Result	Units	PQL	SPK Va SPK	ref	%Rec. LowLimit HighLimit			%RPD	RPDLimit Qual
ethod: EPA Method 8021B:	Volatiles								• •	
ample ID: 5ML RB		MBLK				Batch ID:	R40035	Analys	is Date:	7/26/2010 9:47:15
Benzene	ND	µg/L	1.0							
Toluene	ND	µg/L	1.0							
hylbenzene	ND	µg/L	1.0							
Vienes, Total	ND	µg/L	2.0							
Sample ID: 100NG BTEX LCS		LCS				Batch ID:	R40035	Analys	is Date:	7/26/2010 12:19:12
enzene	19.22	μg/L	1.0	20	0	96.1	87.9	121		
pluene	20.45	µg/L	1.0	20	0	102	83	124		
Ethylbenzene	20.00	µg/L	1.0	20	0	100	81.7	122		
kylenes, Total	60.28	μg/L	2.0	60	0	100	85.6	121		

Qualifiers: Е

J

ND

Estimated value

Analyte detected below quantitation limits

Not Detected at the Reporting Limit

Н Holding times for preparation or analysis exceeded

NC Non-Chlorinated

RPD outside accepted recovery limits R

Page 1

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·			
le Receipt Cl	hecklist		
		id:	7/23/2010
\$	Received by	: TLS	-B.
The	Sample ID I	abels checked by:	
- 7/4 Date	<u> </u>	•	Initials
1			·
e: <u>Greyhound</u>			
Yes 🗹	No	Not Present	]
Yes 🗹	No 🗔	Not Present	Not Shipped
Yes 🗋	No 🗔	N/A	}
Yes 🗹	No 🗔		
Yes 🗹	No 🗌		
Yes 🗹	No 🗔		
Yes 🗹	No 🗔	,	
Yes 🗹	No 🗌		
Yes 🗹	No 🗌		
Yes 🗹	No 🗔		Number of preserve bottles checked for
Ibmitted	Yes 🗹	No 🗌	pH:
Yes 🗋	No 🗌	N/A 🔽	<u> </u>
Yes 🗌	No 🗌	N/A 🗹	<2 >12 unless noted below.
<b>0.7°</b>	•		
	n given suncien		
			· .
· · ·			
	Per	son contacted	
<u>-</u>			·····
·			
	۰ 		
		·	
	e: Greyhound Yes Yes Yes Yes Yes Yes Yes Yes	Ite Receipt Checklist         Date Receive         Received by         J_J_J_J_S         Ite Received by         J_J_J_J_S         e: Greyhound         Yes       No         O.7°       <6° C Acceptable	Ite Receipt Checklist         Date Received:         Received by:       TLS         J_J_J_Date       Sample ID labels checked by:         J_Date       No         Pres       No         Yes       No         No       <

### BLAGG ENGINEERING, INC.

### MONITOR WELL DEVELOPMENT & / OR SAMPLING DATA

CLIENT :	<u>BP</u>	AMERICA	PROD.	<u> </u>
----------	-----------	---------	-------	----------

79.01

75.60

73.83

73.27

CHAIN-OF-CUSTODY # : N/A

BOYD GC #1A - COMPRESSOR PIT

UNIT A, SEC. 8, T31N, R10W

101.93

101.91

102.38

98.68

Date : October 12, 2010

Filename : 10-12-10.WK4

WELL

#

**MW - 1** 

MW - 2

MW - 3

MW - 4

MW - 5

LABORATORY (S) USED : HALL ENVIRONMENTAL

SAMPLER : **PROJECT MANAGER:** 

\_

1,000

2,800

0900

NJV

\_

16.3

-

NJV

VOLUME

PURGED

(gal.)

-

\_

2.25

-

		•						
WELL	WATER	DEPTH TO	TOTAL	SAMPLING	рН	CONDUCT	TEMP.	
ELEV.	ELEV.	WATER	DEPTH	TIME		(umhos)	(celcius)	
(ft)	(ft)	(ft) .	(ft)	· .				
102.08	79.10	22.98	29.50	-	-	-	-	T

1035

-

DATE & TIME =

7.21

4.01/7.00/10.00

10/12/10

NOTES: Volume of water purged from well prior to sampling; V = pi X r2 X h X 7.48 gal./ft3) X 3 (wellbores	<u>s).</u>
(i.e. 2" MW $r = (1/12)$ ft. $h = 1$ ft.) (i.e. 4" MW $r = (2/12)$ ft. $h = 1$ ft.)	

Ideally a minimum of three (3) wellbore volumes:

22.92

26.31

28.55

25.41

2.00 " well diameter = 0.49 gallons per foot of water.

29.50

29.50

34.50

36.30

**INSTRUMENT CALIBRATIONS =** 

Comments or note well\_diameter if not\_standard\_2 ".

Fair / good recovery in MW #4. Collected sample for BTEX per US EPA Method 8021B from MW #4 only.

Top of casing MW #1 ~ 2.20 ft., MW #2 ~ 2.50 ft., MW #3 ~ 2.00 ft., MW #4 ~ 3.05 ft., MW #5 ~ 2.20 ft. above grade.

on-site	9:45	temp.	55 F
off-site	10:45	temp.	61 F
sky cond.	Sunny		
wind speed	0 - 5	direct.	calm

Surr: 4-Bromofluorobenzene

Date: 25-Oct-10

10/19/2010 2:23:05 AM

CLIENT:	Blagg Engineering	-	(	Client Sample I	D: MW #4	
Lab Order:	1010601			<b>Collection Dat</b>	e: 10/12/201	0 10:35:00 AM
Project:	Boyd GC #1A			Date Receive	d: 10/13/201	0
Lab ID:	1010601-01		·	Matri	x: AQUEOU	JS
Analyses		Result	PQL Q	ual Units	DF	Date Analyzed
EPA METHOD	8021B: VOLATILES	••••••••••••••••••••••••••••••••••••••				Analyst: NSB
Benzene		16	1.0	µg/L	1	10/19/2010 2:23:05 AM
Toluene		ND	1.0	µg/L	1	10/19/2010 2:23:05 AM
Ethylbenzene		· 17	1.0	µg/L	1	10/19/2010 2:23:05 AM
Xylenes, Total		37	2.0	μg/L	. 1	10/19/2010 2:23:05 AM

81.3-151

95.3

%REC

#### Qualifiers:

- \* Value exceeds Maximum Contaminant Level
- E Estimated value
- J Analyte detected below quantitation limits
- NC Non-Chlorinated
- PQL Practical Quantitation Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded

Ļ

- MCL Maximum Contaminant Level
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits

	AALL ENVIKONMEN JAL ANAI YSTS I ARODATODY		Albuquerque. NM 87109	505-345-4107	lest		· · · · · · · · · · · · · · · · · · ·			AOV	AOV) 8082 /-ime2) 072 / seldubles	8				· · · · · · · · · · · · · · · · · · ·							
	IALL ENVIF	www.hallenvironmental.com			Analysis				<sup>3°</sup> NO <sup>5</sup>	NO Sis	DB (Method 310 (PNA o 310 (FNA 8 Met 70, 70, 70, 70, 70, 70, 70, 70, 70, 70,	8 되 적					1						
			4901 Hawkins NE	Tel. 505-345-3975		(Áji	io se	ອ)	58 (С	804 + ⊒۱	PH (Method PH Method TEX + MTE	E E									 Remarks:		
			、花竹			P.V-	Letz.		Verez E		E E				•						Date Time	Date Time	
d Time:	d 🗆 Rush		40 BC			lager:	<u>د</u> ر ۲		NELSON	nperature	Preservative ≠ Type	Acl &									ht N.		
Turn-Àround	<b>X</b> Standard	Project Name:	1 2 2 2 2	Project #:	1	Project Manager:	Net Net		Sampler:	Sample Temperatur	Container Type and #	Homl-2								-	Received by:	Received by:	
Chain-of-Custody Record	(BP AMERICA		P.O. BOX 87	2, NM 87413	611-0			Level 4 (Full Validation)			Sample Request ID	MW #4						¢			A. S.	lby: U	W monoconsi namelan a healtan ta
1-of-Cus	BURGE ENOR.			BLFO.	(202) 6						e Matrix	5 WATER	· · · · · · · · · · · · · · · · · · ·						 		S Relinquished by	Relinquished by	
● Chaii	Client: BUR		Mailing Address:		Phone #: <	email or Fax#:	QA/QC Package:	X Standard	Accreditation	🗆 EDD (Type)	Date Time	5801 01/21/0		·							2	Date: Time:	H noncerar

,

ient:	Blagg Engineering
oject:	Boyd GC #1A

#### Work Order: 1010601

alyte	Result	Units	PQL	SPK Val S	SPK ref	%Rec L	owLimit Hig	ghLimit %RPD	RPDLimit Qual
hod: EPA Method 8021B:	Volatiles	······································					<u> </u>		
nple ID: 5ML RB		MBLK				Batch ID:	R41614	Analysis Date:	10/18/2010 9:37:01 AM
ргеле	ND	µg/L	1.0						
nuene	ND	µg/L	1.0						
/lbenzene	ND	µg/L	1.0						
enes, Total	ND	μ <b>g/L</b>	2.0						
Imple ID: 100NG BTEX LCS		LCS				Batch ID:	R41614	Analysis Date:	10/18/2010 1:10:34 PM
izene	19.57	µg/L	1.0	20	0.16	97.1	84.7	118	
iene ,	19.27	µg/L	1,0	20	0.196	95.4	82	123	
hvibenzene	19.30	µg/L	1.0	20	0.276	95.1	83	118	
enes, Total	58.89	µg/L	2.0	60	0	98.2	85.4	119	-

alifiers:

Estimated value Analyte detected below quantitation limits Not Detected at the Reporting Limit

- H Holding times for preparation or analysis exceeded
- NC Non-Chlorinated
- R RPD outside accepted recovery limits

Page 1

	mple Receipt Ch			
lient Name BLAGG		Date Recei	ived:	10/13/2010
Vork Order Number 1010601	•	Received	by: MLW	
	10/12/	Sample II	D labels checked by:	Initials
hecklist completed by Signature	Date		_	
) Batrix: Carrier n	name: Priority US N	Anit		· · ·
	lame. <u>Filolity US N</u>			
hipping container/cooler in good condition?	Yes 🗹	No 🗔	Not Present	
ustody seals intact on shipping container/cooler?	Yes 🗹	No 🗔	Not Present	Not Shipped
ustody seals intact on sample bottles?	Yes 🗍	No 🗋	N/A 🗹	
hain of custody present?	Yes 🗹	No 🗋		
hain of custody signed when relinquished and received?	Yes 🗹	No 🗖		
hain of custody agrees with sample labels?	Yes 🗹	No 🗔		
amples in proper container/bottle?	Yes 🔽	No 🗔		
ample containers intact?	Yes 🗹	No 🗔		
ufficient sample volume for indicated test?	Yes 🗹	No 🗔		· .
Il samples received within holding time?	Yes 🗹	No 🗔		Number of preserved
/ater - VOA vials have zero headspace? No VOA vials	s submitted	Yes 🗹	No 🗔	bottles checked for pH:
ater - Preservation labels on bottle and cap match?	Yes 🗖	No 🗔	N/A 🗹	·
/ater - pH acceptable upon receipt?	Yes 🗔	No 🗔	N/A 🗹	<2 >12 unless noted below.
ontainer/Temp Blank temperature?	2.1°	<6° C Accept		Delow.
OMMENTS:	·	If given suffici	ent time to cool.	
2				
	•			
lient contacted Date contacted	l:	Pe	erson contacted	
ontacted by: Regarding:		<b>n</b>		
omments:				
	····	·····		
			·	
Corrective Action			· · · · · · · · · · · · · · · · · · ·	
				· · · · · · · · · · · · · · · · · · ·
	······································	······································		

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