

BLAGG ENGINEERING, INC.

P.O. Box 87, Bloomfield, New Mexico 87413

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32004

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2011 FEB -2 P 12:45

February 1, 2011

Mr. Glenn von Gonten, Senior Hydrologist
New Mexico Oil Conservation Division-NMOCD
Environmental Bureau
1220 St. Francis Drive
Santa Fe, New Mexico 87505

**Re: BP America Production Company
Groundwater Monitoring Report
Boyd GC # 1A, Unit A, Sec. 8, T31N, R10W, NMPM
San Juan County, New Mexico**

NMOCD Administrative/Environmental Order #: 3RP-4-0

Dear Mr. von Gonten:

BP America Production Company (**BP**) has retained Blagg Engineering, Inc. (**BEI**) to conduct environmental monitoring of groundwater at the Boyd GC #1A.

The last formal correspondence to NMOCD was conducted with letter dated, May 1, 2009. Since then, BP has followed its NMOCD approved groundwater management plan and continues to monitor the site. No permanent closure is requested at this time.

If you have any questions concerning the enclosed documentation, please contact either myself or Jeffrey C. Blagg at (505) 632-1199. Thank you for your cooperation and assistance.

Respectfully submitted:
Blagg Engineering, Inc.



Nelson J. Velez
Staff Geologist

Attachment: Groundwater Report (2 copies)

cc: Mr. Brandon Powell, Environmental Specialist, NMOCD District III Office, Aztec, NM
Mr. Jeff Peace, Environmental Advisor, BP, Farmington, NM

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 $\frac{1}{4}$ NE $\frac{1}{4}$, 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± 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 METHOD 8021B (ppb)			
SAMPLE DATE	WELL NAME or #	D.T.W. (ft)	T.D. (ft)	TDS (mg/L)	COND. umhos	pH	PRODUCT (ft)	Benzene	Toluene	Ethyl Benzene	Total Xylene
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					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	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			800	7.17		ND	ND	ND	ND
09-Jun-03	MW #4	28.09	34.50		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			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
NMWQCC GROUNDWATER STANDARDS								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

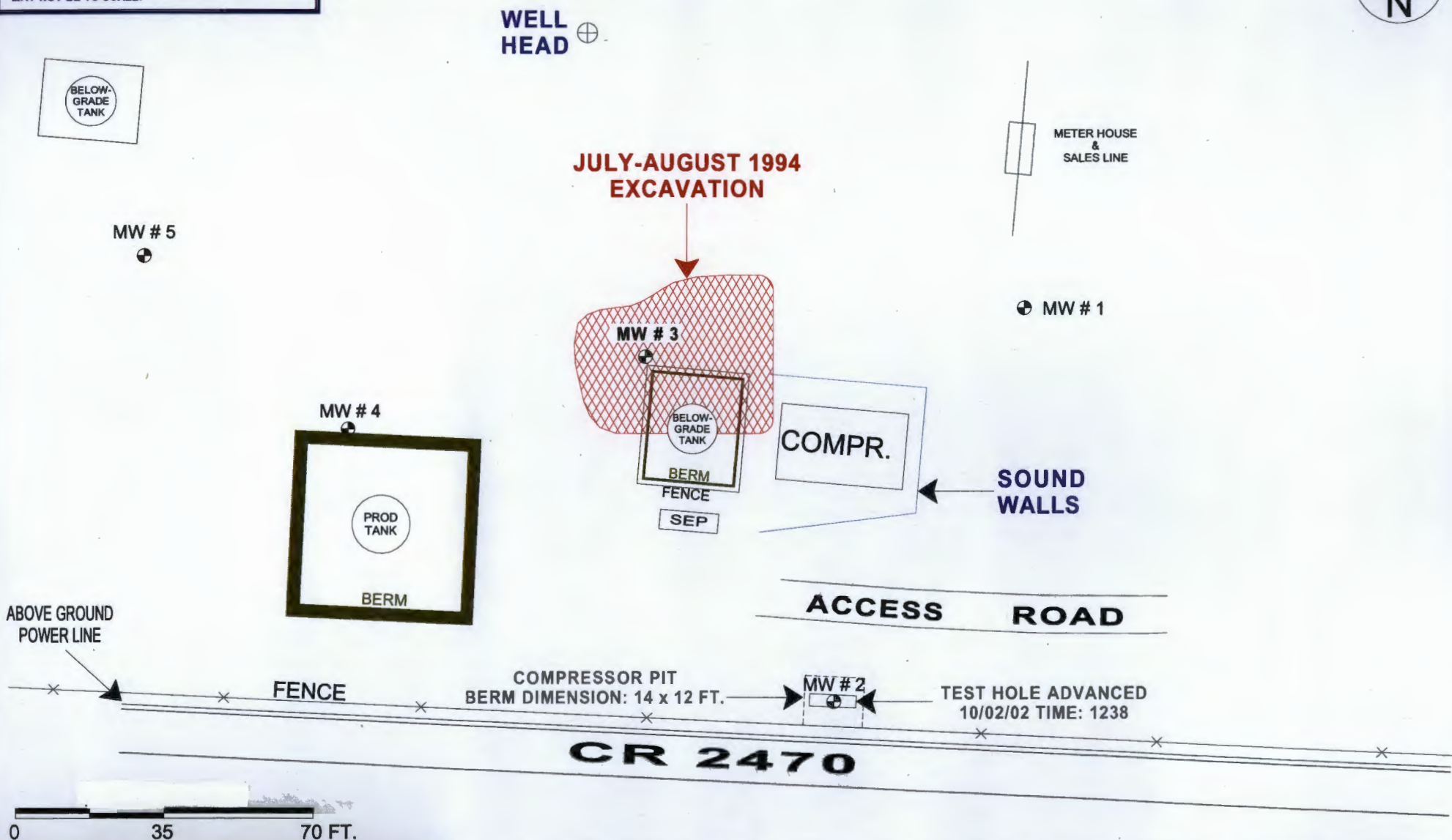
FILENAME: (B1A-4Q10.WK4) NJV

								BTEX EPA METHOD 8021B (ppb)			
SAMPLE DATE	WELL NAME or #	D.T.W. (ft)	T.D. (ft)	TDS (mg/L)	COND. umhos	pH	PRODUCT (ft)	Benzene	Toluene	Ethyl Benzene	Total 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
NMWQCC GROUNDWATER STANDARDS								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 LOCATIONS ARE ONLY AS ACCURATE AS THE INSTRUMENTS USED IN OBTAINING THE FOOTAGE AND BEARING FROM THE WELL HEAD (TAPE MEASURE, LASER RANGE FINDER, & BRUNTON COMPASS). ALL OTHER STRUCTURES DISPLAYED ON THE SCHEMATIC ARE SOLELY FOR REFERENCE AND MAY NOT BE TO SCALE.

FIGURE 1



BP AMERICA PRODUCTION COMPANY
BOYD GC # 1A
NE/4 NW/4 SEC. 8, T31N, R10W, NMPM
SAN JUAN COUNTY, NEW MEXICO

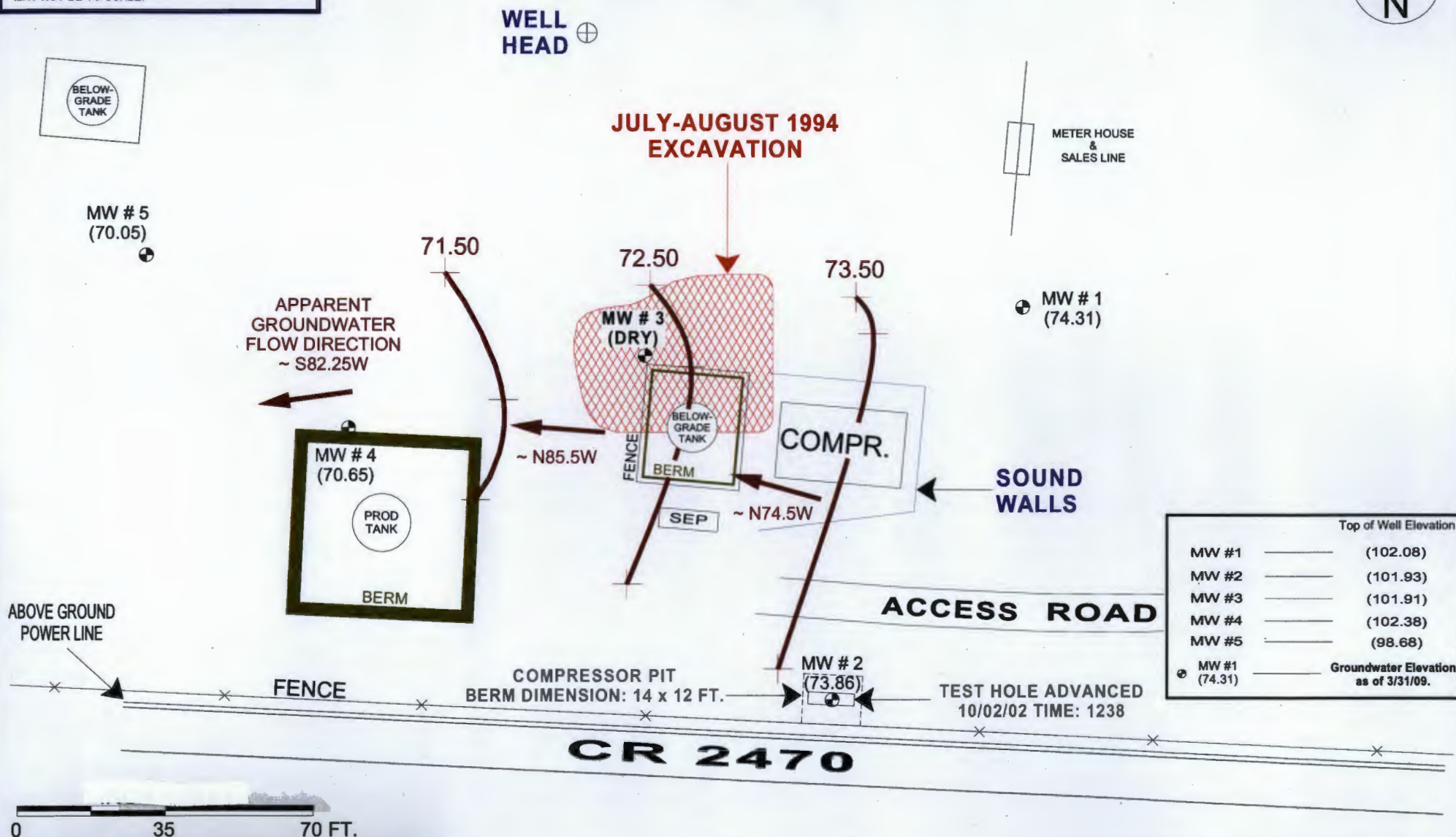
BLAGG ENGINEERING, INC.
CONSULTING PETROLEUM / RECLAMATION SERVICES
P.O. BOX 87
BLOOMFIELD, NEW MEXICO 87413
PHONE: (505) 632-1199

PROJECT: MW SAMPLING
DRAFTED BY: NJV
FILENAME: BOYD GC 1A-SM3.SKF
REVISED: 05-22-09 NJV

**SITE
MAP**
05/09

MONITOR WELL LOCATIONS ARE ONLY AS ACCURATE AS THE INSTRUMENTS USED IN OBTAINING THE FOOTAGE AND BEARING FROM THE WELL HEAD (TAPE MEASURE, LASER RANGE FINDER, & BRUNTON COMPASS). ALL OTHER STRUCTURES DISPLAYED ON THE SCHEMATIC ARE SOLELY FOR REFERENCE AND MAY NOT BE TO SCALE.

FIGURE 2 (1st 1/4, 2009)



BP AMERICA PRODUCTION COMPANY
BOYD GC # 1A
NE/4 NW/4 SEC. 8, T31N, R10W, NMPM
SAN JUAN COUNTY, NEW MEXICO

BLAGG ENGINEERING, INC.
CONSULTING PETROLEUM / RECLAMATION SERVICES
P.O. BOX 87
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PHONE: (505) 632-1199

PROJECT: MW SAMPLING
DRAFTED BY: NJV
FILENAME: 03-31-09-GW.SKF
REVISED: 04-01-09 NJV

**GROUNDWATER
CONTOUR
MAP**
03/09

MONITOR WELL LOCATIONS ARE ONLY AS ACCURATE AS THE INSTRUMENTS USED IN OBTAINING THE FOOTAGE AND BEARING FROM THE WELL HEAD (TAPE MEASURE, LASER RANGE FINDER, & BRUNTON COMPASS). ALL OTHER STRUCTURES DISPLAYED ON THE SCHEMATIC ARE SOLELY FOR REFERENCE AND MAY NOT BE TO SCALE.

FIGURE 3 (2nd 1/4, 2009)



WELL HEAD ⊕

JULY-AUGUST 1994
EXCAVATION

METER HOUSE
&
SALES LINE

MW # 1
(74.73)

SOUND
WALLS

Top of Well Elevation		
MW #1	_____	(102.08)
MW #2	_____	(101.93)
MW #3	_____	(101.91)
MW #4	_____	(102.38)
MW #5	_____	(98.68)
⊕ MW #1 (74.73)	_____	Groundwater Elevation as of 5/16/09.

ACCESS ROAD

TEST HOLE ADVANCED
10/02/02 TIME: 1238

CR 2470

COMPRESSOR PIT
BERM DIMENSION: 14 x 12 FT.

MW # 2
(74.14)

FENCE

APPARENT
GROUNDWATER
FLOW DIRECTION
~ S79.25W

MW # 4
(71.67)

BERM

72.00

73.00

74.00

MW # 3
(DRY)

BELOW-
GRADE
TANK

BERM

FENCE

SEP

COMPR.

~ N88.75W

~ S86.25W

ABOVE GROUND
POWER LINE

0 35 70 FT.

BP AMERICA PRODUCTION COMPANY

BOYD GC # 1A

NE/4 NW/4 SEC. 8, T31N, R10W, NMPM

SAN JUAN COUNTY, NEW MEXICO

BLAGG ENGINEERING, INC.

CONSULTING PETROLEUM / RECLAMATION SERVICES

P.O. BOX 87

BLOOMFIELD, NEW MEXICO 87413

PHONE: (505) 632-1199

PROJECT: MW SAMPLING

DRAFTED BY: NJV

FILENAME: 05-16-09-GW.SKF

REVISED: 05-22-09 NJV

GROUNDWATER

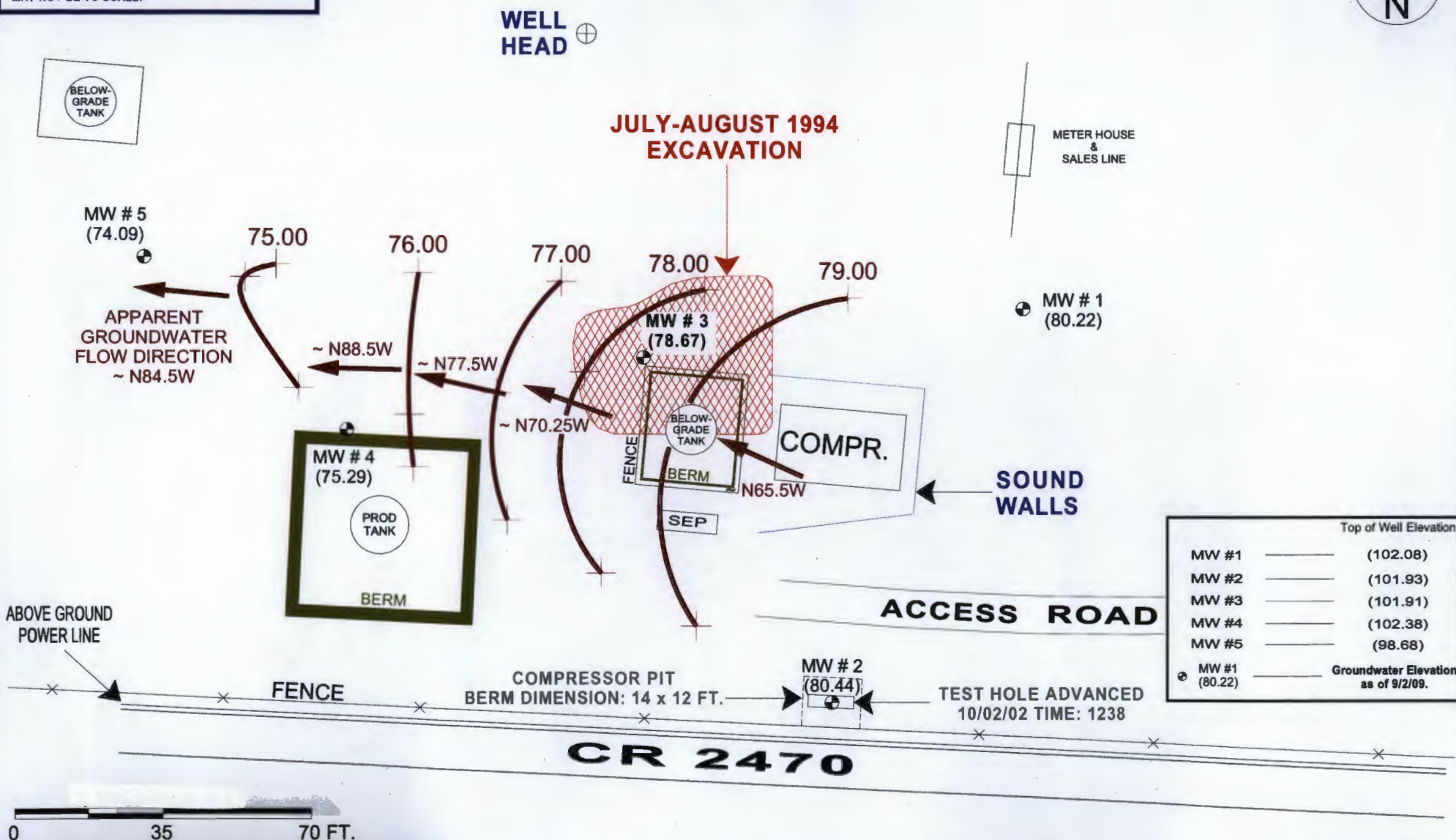
CONTOUR

MAP

05/09

MONITOR WELL LOCATIONS ARE ONLY AS ACCURATE AS THE INSTRUMENTS USED IN OBTAINING THE FOOTAGE AND BEARING FROM THE WELL HEAD (TAPE MEASURE, LASER RANGE FINDER, & BRUNTON COMPASS). ALL OTHER STRUCTURES DISPLAYED ON THE SCHEMATIC ARE SOLELY FOR REFERENCE AND MAY NOT BE TO SCALE.

FIGURE 4
(3rd 1/4, 2009)



BP AMERICA PRODUCTION COMPANY
BOYD GC # 1A
NE/4 NW/4 SEC. 8, T31N, R10W, NMPM
SAN JUAN COUNTY, NEW MEXICO

BLAGG ENGINEERING, INC.
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BLOOMFIELD, NEW MEXICO 87413
PHONE: (505) 632-1199

PROJECT: MW SAMPLING
DRAFTED BY: NJV
FILENAME: 09-02-09-GW.SKF
REVISED: 09-02-09 NJV

GROUNDWATER
CONTOUR
MAP
09/09

MONITOR WELL LOCATIONS ARE ONLY AS ACCURATE AS THE INSTRUMENTS USED IN OBTAINING THE FOOTAGE AND BEARING FROM THE WELL HEAD (TAPE MEASURE, LASER RANGE FINDER, & BRUNTON COMPASS). ALL OTHER STRUCTURES DISPLAYED ON THE SCHEMATIC ARE SOLELY FOR REFERENCE AND MAY NOT BE TO SCALE.

FIGURE 5 (4th 1/4, 2009)



WELL HEAD ⊕

JULY-AUGUST 1994
EXCAVATION

METER HOUSE
&
SALES LINE

MW # 5
(71.38)

APPARENT
GROUNDWATER
FLOW DIRECTION
~ N35.25W

MW # 4
(72.31)

73.00

MW # 3 74.00
(73.17)

75.00

76.00

MW # 1
(76.80)

SOUND
WALLS

~ N46.5W

COMPR.

~ N57.75W

~ N67W

PROD
TANK

BERM

FENCE

SEP

ACCESS ROAD

ABOVE GROUND
POWER LINE

FENCE

COMPRESSOR PIT
BERM DIMENSION: 14 x 12 FT.

MW # 2
(76.46)

TEST HOLE ADVANCED
10/02/02 TIME: 1238

CR 2470

Top of Well Elevation		
MW #1	————	(102.08)
MW #2	————	(101.93)
MW #3	————	(101.91)
MW #4	————	(102.38)
MW #5	————	(98.68)
Groundwater Elevation as of 12/16/09.		
MW #1	————	(76.80)

0 35 70 FT.

BP AMERICA PRODUCTION COMPANY

BOYD GC # 1A

NE/4 NW/4 SEC. 8, T31N, R10W, NMPM

SAN JUAN COUNTY, NEW MEXICO

BLAGG ENGINEERING, INC.

CONSULTING PETROLEUM / RECLAMATION SERVICES

P.O. BOX 87

BLOOMFIELD, NEW MEXICO 87413

PHONE: (505) 632-1199

PROJECT: MW SAMPLING

DRAFTED BY: NJV

FILENAME: 12-16-09-GW.SKF

REVISED: 12-19-09 NJV

GROUNDWATER
CONTOUR
MAP

12/09

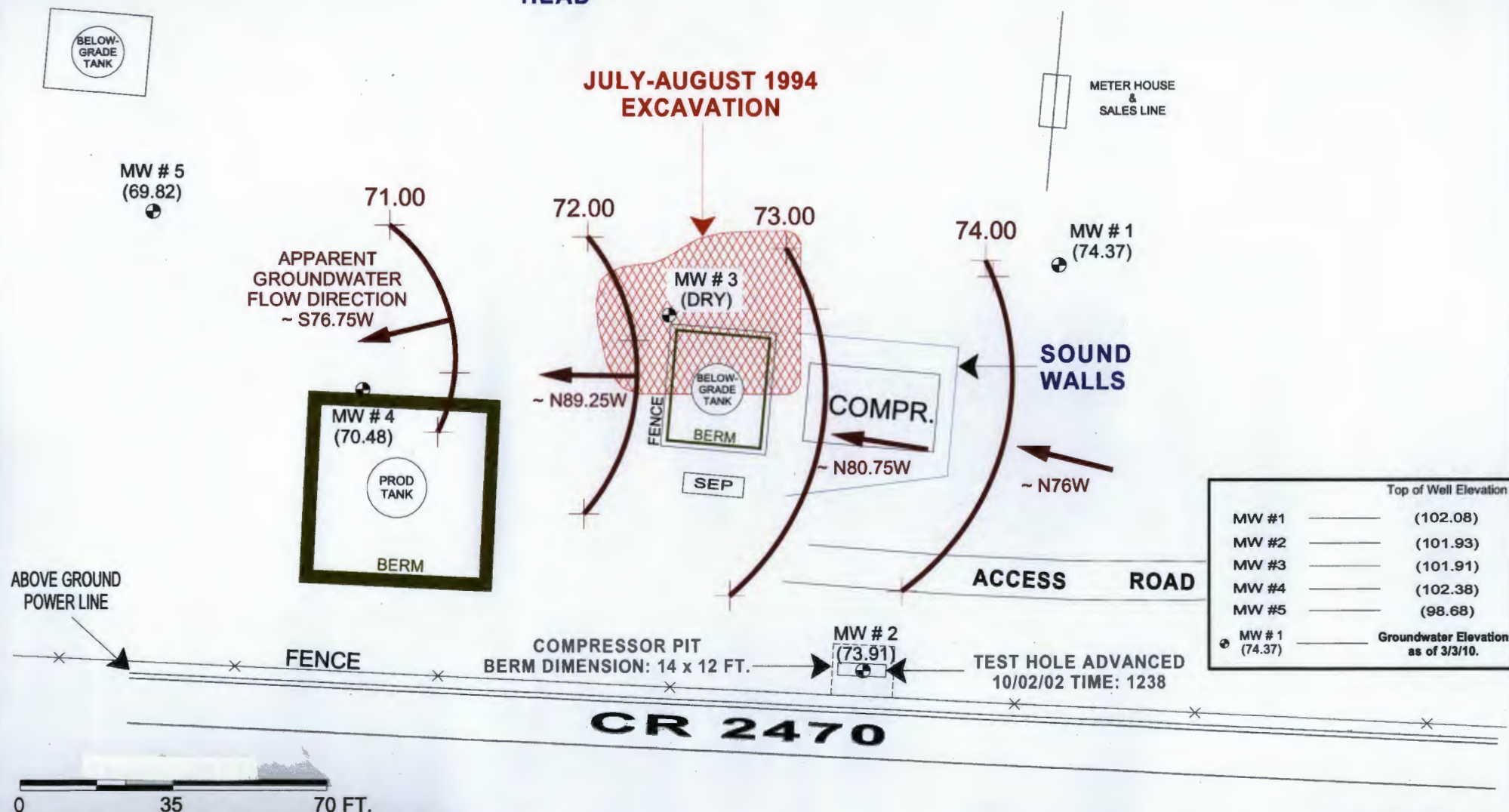
MONITOR WELL LOCATIONS ARE ONLY AS ACCURATE AS THE INSTRUMENTS USED IN OBTAINING THE FOOTAGE AND BEARING FROM THE WELL HEAD (TAPE MEASURE, LASER RANGE FINDER, & BRUNTON COMPASS). ALL OTHER STRUCTURES DISPLAYED ON THE SCHEMATIC ARE SOLELY FOR REFERENCE AND MAY NOT BE TO SCALE.

FIGURE 6
(1st 1/4, 2010)



WELL HEAD ⊕

JULY-AUGUST 1994 EXCAVATION



BP AMERICA PRODUCTION COMPANY
BOYD GC # 1A
NE/4 NW/4 SEC. 8, T31N, R10W, NMPM
SAN JUAN COUNTY, NEW MEXICO

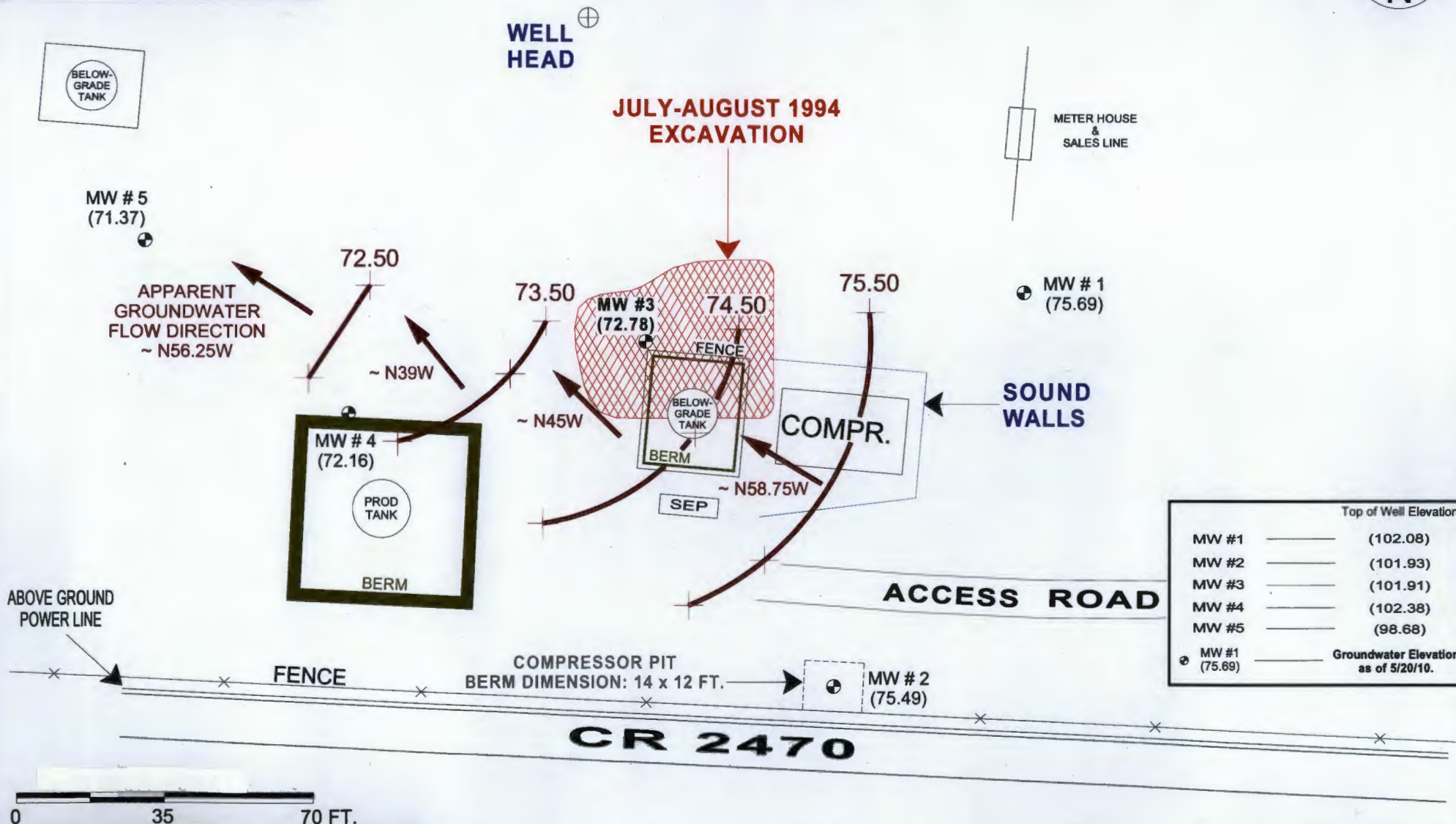
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PHONE: (505) 632-1199

PROJECT: MW SAMPLING
DRAFTED BY: NJV
FILENAME: 03-03-10-GW.SKF
REVISED: 03-03-10 NJV

GROUNDWATER
CONTOUR
MAP
03/10

MONITOR WELL LOCATIONS ARE ONLY AS ACCURATE AS THE INSTRUMENTS USED IN OBTAINING THE FOOTAGE AND BEARING FROM THE WELL HEAD (TAPE MEASURE, LASER RANGE FINDER, & BRUNTON COMPASS). ALL OTHER STRUCTURES DISPLAYED ON THE SCHEMATIC ARE SOLELY FOR REFERENCE AND MAY NOT BE TO SCALE.

FIGURE 7 (2nd 1/4, 2010)



Top of Well Elevation		
MW #1	_____	(102.08)
MW #2	_____	(101.93)
MW #3	_____	(101.91)
MW #4	_____	(102.38)
MW #5	_____	(98.68)
⊕ MW #1 (75.69)	_____	Groundwater Elevation as of 5/20/10.

BP AMERICA PRODUCTION COMPANY
BOYD GC # 1A
NE/4 NW/4 SEC. 8, T31N, R10W, NMPM
SAN JUAN COUNTY, NEW MEXICO

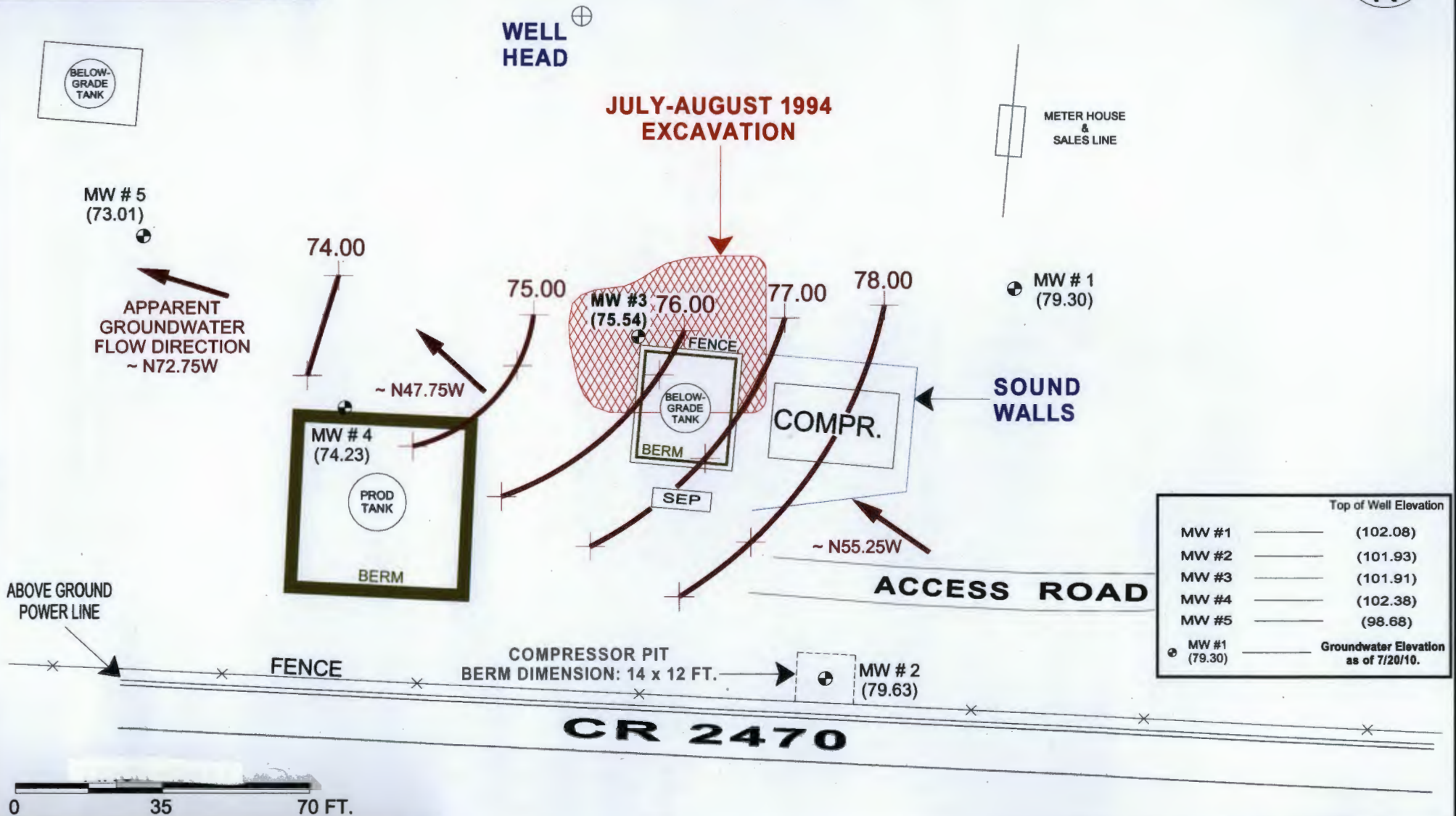
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P.O. BOX 87
BLOOMFIELD, NEW MEXICO 87413
PHONE: (505) 632-1199

PROJECT: MW SAMPLING
DRAFTED BY: NJV
FILENAME: 05-20-10-GW.SKF
REVISED: 05-20-10 NJV

**GROUNDWATER
CONTOUR
MAP**
05/10

MONITOR WELL LOCATIONS ARE ONLY AS ACCURATE AS THE INSTRUMENTS USED IN OBTAINING THE FOOTAGE AND BEARING FROM THE WELL HEAD (TAPE MEASURE, LASER RANGE FINDER, & BRUNTON COMPASS). ALL OTHER STRUCTURES DISPLAYED ON THE SCHEMATIC ARE SOLELY FOR REFERENCE AND MAY NOT BE TO SCALE.

FIGURE 8 (3rd 1/4, 2010)



BP AMERICA PRODUCTION COMPANY
BOYD GC # 1A
NE/4 NW/4 SEC. 8, T31N, R10W, NMPM
SAN JUAN COUNTY, NEW MEXICO

BLAGG ENGINEERING, INC.
CONSULTING PETROLEUM / RECLAMATION SERVICES
P.O. BOX 87
BLOOMFIELD, NEW MEXICO 87413
PHONE: (505) 632-1199

PROJECT: MW SAMPLING
DRAFTED BY: NJV
FILENAME: 07-20-10-GW.SKF
REVISED: 07-20-10 NJV

**GROUNDWATER
CONTOUR
MAP**
07/10

MONITOR WELL LOCATIONS ARE ONLY AS ACCURATE AS THE INSTRUMENTS USED IN OBTAINING THE FOOTAGE AND BEARING FROM THE WELL HEAD (TAPE MEASURE, LASER RANGE FINDER, & BRUNTON COMPASS). ALL OTHER STRUCTURES DISPLAYED ON THE SCHEMATIC ARE SOLELY FOR REFERENCE AND MAY NOT BE TO SCALE.

FIGURE 9 (4th 1/4, 2010)



WELL HEAD

JULY-AUGUST 1994
EXCAVATION

METER HOUSE
&
SALES LINE

MW # 5
(73.27)

APPARENT
GROUNDWATER
FLOW DIRECTION
~ N61.75W

75.00

MW #3
(75.60)

76.00

77.00

78.00

MW #1
(79.10)

SOUND
WALLS

MW #4
(73.83)

PROD
TANK

BERM

FENCE

BELOW-
GRADE
TANK

BERM

SEP

COMPR.

~ N54.75W

~ N59.75W

~ N63.25W

ACCESS ROAD

ABOVE GROUND
POWER LINE

FENCE

COMPRESSOR PIT
BERM DIMENSION: 14 x 12 FT.

MW #2
(79.01)

CR 2470

Top of Well Elevation		
MW #1	_____	(102.08)
MW #2	_____	(101.93)
MW #3	_____	(101.91)
MW #4	_____	(102.38)
MW #5	_____	(98.68)
MW #1	_____	Groundwater Elevation as of 10/12/10.

0 35 70 FT.

BP AMERICA PRODUCTION COMPANY

BOYD GC # 1A

NE/4 NW/4 SEC. 8, T31N, R10W, NMPM

SAN JUAN COUNTY, NEW MEXICO

BLAGG ENGINEERING, INC.

CONSULTING PETROLEUM / RECLAMATION SERVICES

P.O. BOX 87

BLOOMFIELD, NEW MEXICO 87413

PHONE: (505) 632-1199

PROJECT: MW SAMPLING

DRAFTED BY: NJV

FILENAME: 10-12-10-GW.SKF

REVISED: 10-12-10 NJV

GROUNDWATER
CONTOUR
MAP

10/10

BLAGG ENGINEERING, INC.

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

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

Date : **March 31, 2009**

SAMPLER : **NJV**

Filename : **03-31-09.WK4**

PROJECT MANAGER : **NJV**

WELL #	WELL ELEV. (ft)	WATER ELEV. (ft)	DEPTH TO WATER (ft)	TOTAL DEPTH (ft)	SAMPLING TIME	pH	CONDUCT (umhos)	TEMP. (celcius)	VOLUME PURGED (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	-	-	-	-	-

INSTRUMENT CALIBRATIONS = 4.01/7.00/10.00 2,800
DATE & TIME = 03/31/09 0945

NOTES : Volume of water purged from well prior to sampling: $V = \pi \times r^2 \times h \times 7.48 \text{ gal./ft}^3 \times 3 \text{ (wellbores)}$.
(i.e. 2" MW $r = (1/12) \text{ ft}$. $h = 1 \text{ ft}$.) (i.e. 4" MW $r = (2/12) \text{ ft}$. $h = 1 \text{ ft}$.)

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 sample from MW #4 only BTEX analysis.

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

Hall Environmental Analysis Laboratory, Inc.

Date: 10-Apr-09

CLIENT: Blagg Engineering
Lab Order: 0904020
Project: Boyd GC #1A
Lab ID: 0904020-01

Client Sample ID: MW #4
Collection Date: 3/31/2009 2:10:00 PM
Date Received: 4/1/2009
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: DAM
Benzene	13	5.0		µg/L	5	4/7/2009 12:49:54 AM
Toluene	ND	5.0		µg/L	5	4/7/2009 12:49:54 AM
Ethylbenzene	210	5.0		µg/L	5	4/7/2009 12:49:54 AM
Xylenes, Total	1200	20		µg/L	10	4/7/2009 2:43:28 PM
Surr: 4-Bromofluorobenzene	103	65.9-130		%REC	5	4/7/2009 12:49:54 AM

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

QA/QC SUMMARY REPORT

Client: Blagg Engineering
Project: Boyd GC #1A

Work Order: 0904020

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
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Method: EPA Method 8021B: Volatiles

Sample ID: 5ML RB

MBLK

Batch ID: R33112 Analysis Date: 4/6/2009 10:05:03 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: R33112 Analysis Date: 4/6/2009 8:13:23 PM

Benzene	21.79	µg/L	1.0	109	85.9	113
Toluene	22.74	µg/L	1.0	114	86.4	113
Ethylbenzene	21.76	µg/L	1.0	109	83.5	118
Xylenes, Total	64.38	µg/L	2.0	107	83.4	122

S

Qualifiers:

E	Estimated value	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
R	RPD outside accepted recovery limits	S	Spike recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Sample Receipt Checklist

Client Name **BLAGG**

Date Received:

4/1/2009

Work Order Number **0904020**

Received by: **AT**

Checklist completed by:

Signature

Sample ID labels checked by:

Initials

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 ☒
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 ☐	
Water - VOA vials have zero headspace?	No VOA vials submitted ☐	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?	2°	<6° C Acceptable If given sufficient time to cool.	

COMMENTS:

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding: _____

Comments: _____

Corrective Action _____

BLAGG ENGINEERING, INC.

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

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

Date : **May 16, 2009**

SAMPLER : **N J V**

Filename : **05-16-09.WK4**

PROJECT MANAGER : **N J V**

WELL #	WELL ELEV. (ft)	WATER ELEV. (ft)	DEPTH TO WATER (ft)	TOTAL DEPTH (ft)	SAMPLING TIME	pH	CONDUCT (umhos)	TEMP. (celcius)	VOLUME PURGED (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	-	-	-	-	-

INSTRUMENT CALIBRATIONS =

4.01/7.00/10.00	2,800
DATE & TIME = 05/16/09	0810

NOTES : Volume of water purged from well prior to sampling: $V = \pi \times r^2 \times h \times 7.48 \text{ gal./ft}^3 \times 3 \text{ (wellbores)}$.
(i.e. 2" MW $r = (1/12) \text{ ft}$. $h = 1 \text{ ft}$.) (i.e. 4" MW $r = (2/12) \text{ ft}$. $h = 1 \text{ ft}$.)

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, very poor recovery in MW #2. Collected samples for BTEX per USEPA Method 8021B from MW #2 & MW #4.

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

Hall Environmental Analysis Laboratory, Inc.

Date: 29-May-09

CLIENT: Blagg Engineering
Project: Boyd GC #1A**Lab Order:** 0905362**Lab ID:** 0905362-01**Collection Date:** 5/16/2009 1:15:00 PM**Client Sample ID:** MW #2**Matrix:** AQUEOUS

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	140	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-Bromofluorobenzene	109	65.9-130		%REC	10	5/29/2009 12:26:54 AM

Lab ID: 0905362-02**Collection Date:** 5/16/2009 12:25:00 PM**Client Sample ID:** MW #4**Matrix:** AQUEOUS

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
Surr: 4-Bromofluorobenzene	97.8	65.9-130		%REC	1	5/29/2009 1:27:34 AM

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- E Estimated value
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit

Client: BLAZE ENGR. / BP AMERICA

Address: P.O. BOX 87
BLFD, NM 87413

Phone #: 632-1199

Fax #:	Sample Temperature: 38
--------	------------------------

GA/UC Package.
Std ☒ Level 4 ☐

Other: _____

Project Name: BOYD GC #1A

Project #:

Project Manager:
NELSON VELEZ

Sampler: NELSON VELEZ

Sample Temperature: 3.8

4901 Hawkins NE, Suite D
Albuquerque, New Mexico 87109
Tel. 505.345.3975 Fax 505.345.4107
www.hallenvironmental.com

✓	✓	BTEX + MTBE + TMB's (8021B)
		BTEX + MTBE + TPH (Gasoline Only)
		TPH Method 8015B (Gas/Diesel)
		TPH (Method 418.1)
		EDB (Method 504.1)
		EDC (Method 8021)
		8310 (PNA or PAH)
		RCRA 8 Metals
		Anions (F, Cl, NO ₃ , NO ₂ , PO ₄ , SO ₄)
		8081 Pesticides / PCB's (8082)
		8260B (VOA)
		8270 (Semi-VOA)
		Air Bubbles or Headspace (Y or N)

[illegible]

Date: 5/19/09	Time: 1425	Relinquished By: (Signature) <i>[Signature]</i>
Date:	Time:	Relinquished By: (Signature)

Received By: (Signature)	850
Received By: (Signature)	5/20/09

Remarks:

QA/QC SUMMARY REPORT

Client: Blagg Engineering
Project: Boyd GC #1A

Work Order: 0905362

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
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Method: EPA Method 8021B: Volatiles

Sample ID: 5ML RB

MBLK

Batch ID: R33871 Analysis Date: 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: 100NG BTEX LCS

LCS

Batch ID: R33871 Analysis Date: 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: 100NG BTEX LCSD

LCSD

Batch ID: R33871 Analysis Date: 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, Total	62.85	µg/L	2.0	105	83.4	122	0.685	13

Qualifiers:

E Estimated value
J Analyte detected below quantitation limits
R 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

Hall Environmental Analysis Laboratory, Inc.

Sample Receipt Checklist

Client Name **BLAGG**

Date Received:

5/20/2009

Work Order Number **0905362**

Received by: **TLS**

Checklist completed by:

Signature

Date

Sample ID labels checked by:

Initials

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 ☒

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 ☐

Water - VOA vials have zero headspace?

No VOA vials submitted ☐

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?

3.8°

<6° C Acceptable

If given sufficient time to cool.

Number of preserved
bottles checked for
pH:

<2 >12 unless noted
below.

COMMENTS:

Client contacted

Date contacted:

Person contacted

Contacted by:

Regarding:

Comments:

Corrective Action

BLAGG ENGINEERING, INC.

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**

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

Date : **September 2, 2009**

SAMPLER : **N J V**

Filename : **09-02-09.WK4**

PROJECT MANAGER : **N J V**

WELL #	WELL ELEV. (ft)	WATER ELEV. (ft)	DEPTH TO WATER (ft)	TOTAL DEPTH (ft)	SAMPLING TIME	pH	CONDUCT (umhos)	TEMP. (celcius)	VOLUME PURGED (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	-	-	-	-	-

INSTRUMENT CALIBRATIONS = 4.01/7.00/10.00 2,800
DATE & TIME = 09/02/09 0815

NOTES : Volume of water purged from well prior to sampling: $V = \pi \times r^2 \times h \times 7.48 \text{ gal./ft}^3 \times 3 \text{ (wellbores)}$.
(i.e. 2" MW $r = (1/12) \text{ ft}$. $h = 1 \text{ ft}$.) (i.e. 4" MW $r = (2/12) \text{ ft}$. $h = 1 \text{ ft}$.)

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.

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

Hall Environmental Analysis Laboratory, Inc.

Date: 09-Sep-09

CLIENT: Blagg Engineering
Lab Order: 0909076
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	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
- 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

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

QA/QC SUMMARY REPORT

Client: Blagg Engineering
 Project: Boyd GC #1A

Work Order: 0909076

Analyte	Result	Units	PQL	SPK Va	SPK ref	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
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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

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:

E	Estimated value	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
R	RPD outside accepted recovery limits	S	Spike recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Sample Receipt Checklist

Client Name **BLAGG**

Date Received:

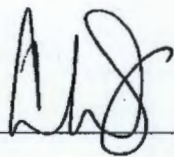
8/3/2009

Work Order Number **0909076**

Received by: **ARS**

Checklist completed by:

Signature



9/3/09
Date

Sample ID labels checked by:

Initials



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 ☒	
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 ☐		
Water - VOA vials have zero headspace?	No VOA vials submitted ☐	Yes ☒	No ☐	Number of preserved 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?	4.1°	<6° C Acceptable If given sufficient time to cool.		

COMMENTS:

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding: _____

Comments: _____

Corrective Action _____

BLAGG ENGINEERING, INC.

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

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

Date : **December 16, 2009**

SAMPLER : **N J V**

Filename : **12-16-09.WK4**

PROJECT MANAGER : **N J V**

WELL #	WELL ELEV. (ft)	WATER ELEV. (ft)	DEPTH TO WATER (ft)	TOTAL DEPTH (ft)	SAMPLING TIME	pH	CONDUCT (umhos)	TEMP. (celcius)	VOLUME PURGED (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	-	-	-	-	-

INSTRUMENT CALIBRATIONS = 4.01/7.00/10.00 2,800
DATE & TIME = 12/16/09 0835

NOTES : Volume of water purged from well prior to sampling: $V = \pi \times r^2 \times h \times 7.48 \text{ gal./ft}^3 \times 3 \text{ (wellbores)}$.
(i.e. 2" MW $r = (1/12) \text{ ft.}$ $h = 1 \text{ ft.}$) (i.e. 4" MW $r = (2/12) \text{ ft.}$ $h = 1 \text{ ft.}$)

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

Hall Environmental Analysis Laboratory, Inc.

Date: 30-Dec-09

CLIENT: Blagg Engineering
Lab Order: 0912423
Project: Boyd GC #1A
Lab ID: 0912423-01

Client Sample ID: MW #4
Collection Date: 12/16/2009 8:40:00 AM
Date Received: 12/18/2009
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
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	85.9-130		%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

Analysis Request

QA/QC SUMMARY REPORT

Client: Blagg Engineering
Project: Boyd GC #1A

Work Order: 0912423

Analyte	Result	Units	PQL	SPK Va	SPK ref	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: EPA Method 8021B: Volatiles											
Sample ID: 5ML RB		MBLK									
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: 5ML RB		MBLK									
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									
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			
Sample ID: 100NG BTEX LCS		LCS									
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	0	95.5	83.5	118			
Xylenes, Total	57.94	µg/L	2.0	60	0	96.6	83.4	122			

Qualifiers:

E	Estimated value	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
R	RPD outside accepted recovery limits	S	Spike recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Sample Receipt Checklist

Client Name **BLAGG**

Date Received:

12/18/2009

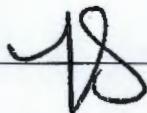
Work Order Number **0912423**

Received by:

TLS

Checklist completed by:

Signature



Date

12/18/09

Sample ID labels checked by:

Initials



Matrix:

Carrier name: **UPS**

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 ☐

Water - VOA vials have zero headspace?

No VOA vials submitted ☐

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?

0.8°

<6° C Acceptable

If given sufficient time to cool.

Number of preserved
bottles checked for
pH:

<2 >12 unless noted
below.

COMMENTS:

Client contacted

Date contacted:

Person contacted

Contacted by:

Regarding:

Comments:

Corrective Action

BLAGG ENGINEERING, INC.

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

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

Date : **March 3, 2010**

SAMPLER : **NJV**

Filename : **03-03-10.WK4**

PROJECT MANAGER : **NJV**

WELL #	WELL ELEV. (ft)	WATER ELEV. (ft)	DEPTH TO WATER (ft)	TOTAL DEPTH (ft)	SAMPLING TIME	pH	CONDUCT (umhos)	TEMP. (celcius)	VOLUME PURGED (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	-	-	-	-	-

INSTRUMENT CALIBRATIONS =

4.01/7.00/10.00	2,800
03/01/10	1215

DATE & TIME =

NOTES : Volume of water purged from well prior to sampling: $V = \pi \times r^2 \times h \times 7.48 \text{ gal./ft}^3 \times 3 \text{ (wellbores)}$.
(i.e. 2" MW $r = (1/12) \text{ ft}$. $h = 1 \text{ ft}$.) (i.e. 4" MW $r = (2/12) \text{ ft}$. $h = 1 \text{ ft}$.)

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

Hall Environmental Analysis Laboratory, Inc.

Date: 09-Mar-10

CLIENT: Blagg Engineering
Lab Order: 1003178
Project: Boyd GC #1A
Lab ID: 1003178-01

Client Sample ID: MW #4
Collection Date: 3/3/2010 11:35:00 AM
Date Received: 3/8/2010
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						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	10	3/9/2010 3:02:16 AM
Xylenes, Total	1100	20		µg/L	10	3/9/2010 3:02:16 AM
Surr: 4-Bromofluorobenzene	125	65.9-130		%REC	1	3/9/2010 3:32:34 AM

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

QA/QC SUMMARY REPORT

Client: Blagg Engineering
Project: Boyd GC #1A

Work Order: 1003178

Analyte	Result	Units	PQL	SPK Va	SPK ref	%Rec	LowLimit	HighLimit	%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								
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: 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			
Xylenes, Total	62.35	µg/L	2.0	60	0	104	83.4	122			

Qualifiers:

E Estimated value
J Analyte detected below quantitation limits
ND 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 Checklist

Client Name **BLAGG**

Date Received:

3/8/2010

Work Order Number **1003178**

Received by: **ARS**

Checklist completed by:

Signature

Date

Sample ID labels checked by:

Initials

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 ☒

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 ☐

Water - VOA vials have zero headspace?

No VOA vials submitted ☐

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?

3.8°

<6° C Acceptable

If given sufficient time to cool.

Number of preserved
bottles checked for
pH:

<2 >12 unless noted
below.

COMMENTS:

Client contacted

Date contacted:

Person contacted

Contacted by:

Regarding:

Comments:

Corrective Action

BLAGG ENGINEERING, INC.

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

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

Date : **May 20, 2010**

SAMPLER : **N J V**

Filename : **05-20-10.WK4**

PROJECT MANAGER : **N J V**

WELL #	WELL ELEV. (ft)	WATER ELEV. (ft)	DEPTH TO WATER (ft)	TOTAL DEPTH (ft)	SAMPLING TIME	pH	CONDUCT (umhos)	TEMP. (celcius)	VOLUME PURGED (gal.)
MW - 1	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	-	-	-	-	-

INSTRUMENT CALIBRATIONS =	4.01/7.00/10.00	2,800
DATE & TIME =	05/19/10	1035

NOTES : Volume of water purged from well prior to sampling: $V = \pi \times r^2 \times h \times 7.48 \text{ gal./ft}^3 \times 3$ (wellbores).
(i.e. 2" MW $r = (1/12) \text{ ft.}$ $h = 1 \text{ ft.}$) (i.e. 4" MW $r = (2/12) \text{ ft.}$ $h = 1 \text{ ft.}$)

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

Hall Environmental Analysis Laboratory, Inc.

Date: 26-May-10

CLIENT: Blagg Engineering
Project: Boyd GC #1A**Lab Order:** 1005608**Lab ID:** 1005608-01**Collection Date:** 5/20/2010 10:00:00 AM**Client Sample ID:** MW #2**Matrix:** AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: NSB
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		µg/L	10	5/26/2010 2:03:24 AM
Xylenes, Total	590	20		µg/L	10	5/26/2010 2:03:24 AM
Surr: 4-Bromofluorobenzene	107	65.9-130		%REC	10	5/26/2010 2:03:24 AM

Lab ID: 1005608-02**Collection Date:** 5/20/2010 9:30:00 AM**Client Sample ID:** MW #4**Matrix:** AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	1.0		µg/L	1	5/26/2010 3:03:56 AM
Toluene	ND	1.0		µg/L	1	5/26/2010 3:03:56 AM
Ethylbenzene	7.4	1.0		µg/L	1	5/26/2010 3:03:56 AM
Xylenes, Total	ND	2.0		µg/L	1	5/26/2010 3:03:56 AM
Surr: 4-Bromofluorobenzene	97.1	65.9-130		%REC	1	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

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

Analysis Request

QA/QC SUMMARY REPORT

Client: Blagg Engineering
Project: Boyd GC #1A

Work Order: 1005608

Analyte	Result	Units	PQL	SPK Va	SPK ref	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
---------	--------	-------	-----	--------	---------	------	----------	-----------	------	----------	------

Method: EPA Method 8021B: 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								
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	116	83	124			
Ethylbenzene	22.55	µg/L	1.0	20	0.138	112	81.7	122			
Xylenes, Total	68.50	µg/L	2.0	60	0	114	85.6	121			

Qualifiers:

E Estimated value
J Analyte detected below quantitation limits
ND 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 Checklist

Client Name **BLAGG**

Date Received:

5/21/2010

Work Order Number **1005608**

Received by: **TLS**

Checklist completed by:

Signature

Date

Sample ID labels checked by:

Initials

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 ☒	
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 ☐		
Water - VOA vials have zero headspace?	No VOA vials submitted ☐	Yes ☒	No ☐	Number of preserved 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 Acceptable		
If given sufficient time to cool.				

COMMENTS:

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding: _____

Comments: _____

Corrective Action _____

BLAGG ENGINEERING, INC.

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

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

Date : **July 20, 2010**

SAMPLER : **N J V**

Filename : **07-20-10.WK4**

PROJECT MANAGER : **N J V**

WELL #	WELL ELEV. (ft)	WATER ELEV. (ft)	DEPTH TO WATER (ft)	TOTAL DEPTH (ft)	SAMPLING TIME	pH	CONDUCT (umhos)	TEMP. (celcius)	VOLUME PURGED (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	75.54	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	-	-	-	-	-

INSTRUMENT CALIBRATIONS = 4.01/7.00/10.00 2,800
DATE & TIME = 07/20/10 0800

NOTES : Volume of water purged from well prior to sampling: $V = \pi \times r^2 \times h \times 7.48 \text{ gal./ft}^3 \times 3 \text{ (wellbores)}$.
(i.e. 2" MW $r = (1/12) \text{ ft}$. $h = 1 \text{ ft}$.) (i.e. 4" MW $r = (2/12) \text{ ft}$. $h = 1 \text{ ft}$.)

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 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.	E

Hall Environmental Analysis Laboratory, Inc.**Date:** 28-Jul-10

CLIENT: Blagg Engineering
Lab Order: 1007841
Project: Boyd GC #1A
Lab ID: 1007841-01

Client Sample ID: MW #4
Collection Date: 7/20/2010 9:25:00 AM
Date Received: 7/23/2010
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
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

Qualifiers:

* Value exceeds Maximum Contaminant Level
E Estimated value
J Analyte detected below quantitation limits
NC Non-Chlorinated

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

Client: BLAZG ENGR. / BP AMERICA

Mailing Address: P.O. BOX 87
BLVD., Nm 87413

Phone #: (505) 632-1199

email or Fax#:

QA/QC Package:

☒ Standard ☐ Level 4 (Full Validation)

Accreditation

☐ NELAP ☐ Other☐ EDD (Type) _____

Turn-Around Time:

☒ **Standard** ☐ **Rush**

Project Name:

Boyd GE #1A

Project #:

Project Manager:

Nelson Velez

Sampler: NELSON KEZ

On Ice ☒ On Dry ☐ No ☐

Sample Temperature: °C

Date	Time	Matrix	Sample Request ID
------	------	--------	-------------------

Date	Time	Matrix	Sample Request ID	Container Type and #
------	------	--------	-------------------	----------------------

Preservative
Type

7/20/10	0925	WATER	MW #4	2-40ml	HCl f cool
---------	------	-------	-------	--------	---------------

Date:	Time:	Relinquished by:
7/22/00	1530	John VJ
Date:	Time:	Relinquished by:

Date:	Time:	Relinquished by:
-------	-------	------------------

Received by:	Date	Time
	7/23/10	735
Received by:	Date	Time

Received by:	Date	Time
--------------	------	------

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

~~BTEX~~ + MTBE + TMBs (8021R)

BTEX + MTBE + TPH (Gas only)

TPH Method 8015B (Gas/Diesel)

TPH (Method 418.1)

EDB (Method 504.1)

8310 (PNA or PAH)

RCRA 8 Metals

Anions (F, Cl, NO₃, NO₂, PO₄, SO₄)

8081 Pesticides / 8082 PCB's

8260B (VDA)

9270 (Semi-Vol)

QA/QC SUMMARY REPORT

Client: Blagg Engineering
Project: Boyd GC #1A

Work Order: 1007841

Analyte	Result	Units	PQL	SPK Va	SPK ref	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: EPA Method 8021B: Volatiles											
Sample ID: 5ML RB		MBLK	Batch ID: R40035 Analysis Date: 7/26/2010 9:47:15 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: R40035 Analysis Date: 7/26/2010 12:19:12 PM								
Benzene	19.22	µg/L	1.0	20	0	96.1	87.9	121			
Toluene	20.45	µg/L	1.0	20	0	102	83	124			
Ethylbenzene	20.00	µg/L	1.0	20	0	100	81.7	122			
Xylenes, Total	60.28	µg/L	2.0	60	0	100	85.6	121			

Qualifiers:

E	Estimated value	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	NC	Non-Chlorinated
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Sample Receipt Checklist

Client Name **BLAGG**

Date Received:

7/23/2010

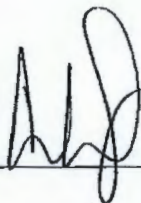
Work Order Number **1007841**

Received by: **TLS**



Checklist completed by:

Signature



Date

7/23/10

Sample ID labels checked by:

Initials

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 ☒

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 ☐

Water - VOA vials have zero headspace?

No VOA vials submitted ☐

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?

0.7°

<6° C Acceptable

If given sufficient time to cool.

Number of preserved
bottles checked for
pH:

<2 >12 unless noted
below.

COMMENTS:

Client contacted

Date contacted:

Person contacted

Contacted by:

Regarding:

Comments:

Corrective Action

BLAGG ENGINEERING, INC.

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

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

Date : **October 12, 2010**

SAMPLER : **NJV**

Filename : **10-12-10.WK4**

PROJECT MANAGER : **NJV**

WELL #	WELL ELEV. (ft)	WATER ELEV. (ft)	DEPTH TO WATER (ft)	TOTAL DEPTH (ft)	SAMPLING TIME	pH	CONDUCT (umhos)	TEMP. (celcius)	VOLUME PURGED (gal.)
MW - 1	102.08	79.10	22.98	29.50	-	-	-	-	-
MW - 2	101.93	79.01	22.92	29.50	-	-	-	-	-
MW - 3	101.91	75.60	26.31	29.50	-	-	-	-	-
MW - 4	102.38	73.83	28.55	34.50	1035	7.21	1,000	16.3	2.25
MW - 5	98.68	73.27	25.41	36.30	-	-	-	-	-

INSTRUMENT CALIBRATIONS =

4.01/7.00/10.00	2,800
10/12/10	0900

DATE & TIME =

NOTES : Volume of water purged from well prior to sampling: $V = \pi \times r^2 \times h \times 7.48 \text{ gal./ft}^3 \times 3 \text{ (wellbores)}$.
(i.e. 2" MW $r = (1/12) \text{ ft}$. $h = 1 \text{ ft}$.) (i.e. 4" MW $r = (2/12) \text{ ft}$. $h = 1 \text{ ft}$.)

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 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

Hall Environmental Analysis Laboratory, Inc.

Date: 25-Oct-10

CLIENT: Blagg Engineering
Lab Order: 1010601
Project: Boyd GC #1A
Lab ID: 1010601-01

Client Sample ID: MW #4
Collection Date: 10/12/2010 10:35:00 AM
Date Received: 10/13/2010
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	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
Surr: 4-Bromofluorobenzene	95.3	81.3-151		%REC	1	10/19/2010 2:23:05 AM

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

QA/QC SUMMARY REPORT

Client: Blagg Engineering
Project: Boyd GC #1A

Work Order: 1010601

Analyte	Result	Units	PQL	SPK Val	SPK ref	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
---------	--------	-------	-----	---------	---------	------	----------	-----------	------	----------	------

Method: EPA Method 8021B: Volatiles

Sample ID: 5ML RB

MBLK

Batch ID: R41614 Analysis Date: 10/18/2010 9:37:01 AM

Benzene	ND	µg/L	1.0								
Toluene	ND	µg/L	1.0								
Ethylbenzene	ND	µg/L	1.0								
Aromatics, Total	ND	µg/L	2.0								

Sample ID: 100NG BTEX LCS

LCS

Batch ID: R41614 Analysis Date: 10/18/2010 1:10:34 PM

Benzene	19.57	µg/L	1.0	20	0.16	97.1	84.7	118			
Toluene	19.27	µg/L	1.0	20	0.196	95.4	82	123			
Ethylbenzene	19.30	µg/L	1.0	20	0.276	95.1	83	118			
Aromatics, Total	58.89	µg/L	2.0	60	0	98.2	85.4	119			

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 Checklist

Client Name **BLAGG**

Date Received:

10/13/2010

Work Order Number 1010601

Received by: **MLW**

Checklist completed by:

Signature

10/13/10
Date

Sample ID labels checked by:

Initials

MA

Matrix:

Carrier name: Priority US Mail

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 ☐

Water - VOA vials have zero headspace?

No VOA vials submitted ☐

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?

2.1°

<6° C Acceptable

If given sufficient time to cool.

Number of preserved
bottles checked for
pH:

<2 >12 unless noted
below.

COMMENTS:

Client contacted

Date contacted:

Person contacted

Contacted by:

Regarding:

Comments:

Corrective Action