3R - 387

AGWMR

AUGUST 2010

3R387

BP AMERICA PRODUCTION CO.

GROUNDWATER REMEDIATION REPORT

GCU # 194
(D) SECTION 5, T27N, R12W, NMPM
SAN JUAN COUNTY, NEW MEXICO

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

AUGUST 2010

PREPARED BY:
BLAGG ENGINEERING, INC.

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

BP AMERICA PRODUCTION COMPANY
GCU # 194 – Unknown Sources
NW/4 NW/4, Sec. 5, T27N, R12W

Remediation via Excavation Date: June-July 2009

Monitor Well Installation Dates: 10/8/09 (MW # 3R, # 4R, # 5, # 6)

Monitor Well Sampling Dates: 11/4/09, 2/23/10, 5/13/10, 7/26/10

Site History:

Groundwater impacts were identified from an unknown source in April 2002. A secondary source of unknown origin was discovered during installation of a groundwater monitor well (MW #3) in December 2002; and thereafter, sampling and testing verified groundwater impacts. During quarterly sampling in March 2004, free phase product was observed within MW #3 and continued until May 2009. Documentation of this work and subsequent groundwater monitoring data for the site have previously been submitted for New Mexico Oil Conservation Division (**NMOCD**) review. Further site delineation and limited excavation of the secondary source area was suggested within the last report. The reporting herein is for work conducted from June 2009 to July 2010.

Groundwater Monitor Well Sampling Procedures:

Each monitor well was developed by hand-bailing, using new disposable bailers after installation. Prior to sample collections, each monitor well was 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 below-grade tank (BGT) located on the well site. The BGT contents were then disposed through approved NMOCD operational procedures for removal of produced fluids.

Soil and Groundwater Abatement:

Commencing in June 2009, excavation of the secondary unknown source area was conducted using a trackhoe (Figure 1 and 1A). Groundwater depth was recorded at approximately six (6) feet below surface grade during the removal of impacted soils. The excavation perimeter was measured at greater than 6,500 square feet with an approximate average depth of seven and a half (7½) feet below grade. Approximately 1,404 cubic yards of soil were removed and transported to BP's Crouch Mesa Facility.

Site monitor wells MW #3R, #4R, #5, #6 were installed on October 8, 2010. Quarterly sampling of these site wells were initiated in November 2009. Boring logs of these wells along with well completion information are contained within this report.

Groundwater Quality & Flow Direction Information:

MW #3R, #4R, #5, and #6 have tested below the New Mexico Water Quality Control Commission (**NMWQCC**) standards for four (4) consecutive sampling events. Down gradient delineation appears to have been achieved, based on test results of MW #1. A summary of BTEX laboratory analytical results is included within the table on the following page. Field data sheets, laboratory reports, and laboratory quality assurance/quality control information are also included.

Groundwater contour maps (Figure 2 through Figure 5) reveal the relative elevations from the site wells have consistently shown an apparent northerly flow direction toward MW #1 and #4R.

Summary and/or Recommendations:

Hydrocarbon impacted soils and groundwater at the site appear to have been remediated via excavation. All site monitor wells tested at non-detectable or below NMWQCC's standards for BTEX for at least four (4) consecutive sampling events; therefore, meeting sections 2.1, 2.3, and 2.7 of BP's Groundwater Management Plan (GMP). Permanent site closure is recommended. Following approval by the NMOCD, site monitor wells will be abandoned pursuant to the approved GMP.

BP AMERICA PROD. CO. GROUNDWATER LAB RESULTS

SUBMITTED BY BLAGG ENGINEERING, INC.

GCU # 194 - SEPARATOR PIT
UNIT D, SEC. 5, T27N, R12W

REVISED DATE: July 28, 2010

FILENAME: (194-3Q10.WK4) NJV

								BTEX EPA METHOD 8021B (ppb)			
SAMPLE DATE	WELL NAME or No.	D.T.W. (ft)	T.D. (ft)	TDS (mg/L)	COND. umhos	pH	PRODUCT (ft)	Benzene	Toluene	Ethyl Benzene	Total Xylene
23-Dec-02	MW #1	8.04	14.50	-	6,100	7.73	-	ND	ND	ND	ND
04-Nov-09		8.64			3,000	7.68		ND	ND	ND	ND
26-Jul-10		8.92			3,100	7.94		ND	ND	ND	ND
23-Dec-02	MW #2	7.84	14.50	-	7,100	7.94	-	6.8	0.5	14	8.0
24-Feb-03		7.72		-	6,900	8.03	-	5.4	ND	9.9	13
29-May-03		7.96			6,100	7.78		5.4	1.0	6.7	11
18-Aug-03		8.58			8,700	7.56		**11**	ND	17	19
18-Nov-03		8.20			7,900	7.66		**2.3**	ND	8.4	5.1
22-Mar-04		7.80			6,800	7.59		**2.1**	ND	5.8	7.6
23-Jun-04		8.43			8,000	7.49		**3.5**	ND	8.5	5.4
22-Dec-04		7.93			N/A	N/A		**ND**	ND	1.9	2.7
28-Mar-05		7.67			6,400	7.58		**ND**	ND	1.5	2.1
26-Jul-10		6.69			5,400	8.31		**ND**	ND	ND	ND
23-Dec-02	MW #3	8.69	14.00	-	8,800	7.80	-	**180**	34	220	**2,130**
29-May-03		8.81			7,700	7.40		**8.6**	7.6	8.5	**17**
18-Aug-03		9.46			9,500	7.25		**13**	ND	2.1	**30**
18-Nov-03		8.97			7,900	7.37		**1,800**	100	**1,300**	**13,000**
22-Mar-04							**0.01**				
23-Jun-04							**0.45**				
22-Dec-04							**0.40**				
28-Mar-05							**0.01**				
27-Jul-06							**0.04**				
25-Jun-07							**0.10**				
17-Sep-07							**0.01**				
14-Nov-07							**0.01**				
14-Apr-08							**0.12**				
09-Jun-08							**0.02**				
26-Aug-08							**0.28**				
19-May-09							**0.02**				
04-Nov-09	MW #3R	7.84		8,790	3,700	7.50		**ND**	**ND**	**ND**	**ND**
23-Feb-10		7.30			4,300	7.88		**ND**	**ND**	**ND**	**ND**
13-May-10		7.42			4,500	7.67		**ND**	**ND**	**ND**	**ND**
26-Jul-10		8.15			6,700	7.81		**ND**	**ND**	**ND**	**ND**
				NMWQCC GROUNDWATER STANDARDS				**10**	**750**	**750**	**620**

BP AMERICA PROD. CO. GROUNDWATER LAB RESULTS

SUBMITTED BY BLAGG ENGINEERING, INC.

GCU # 194 - SEPARATOR PIT
UNIT D, SEC. 5, T27N, R12W

REVISED DATE: July 28, 2010

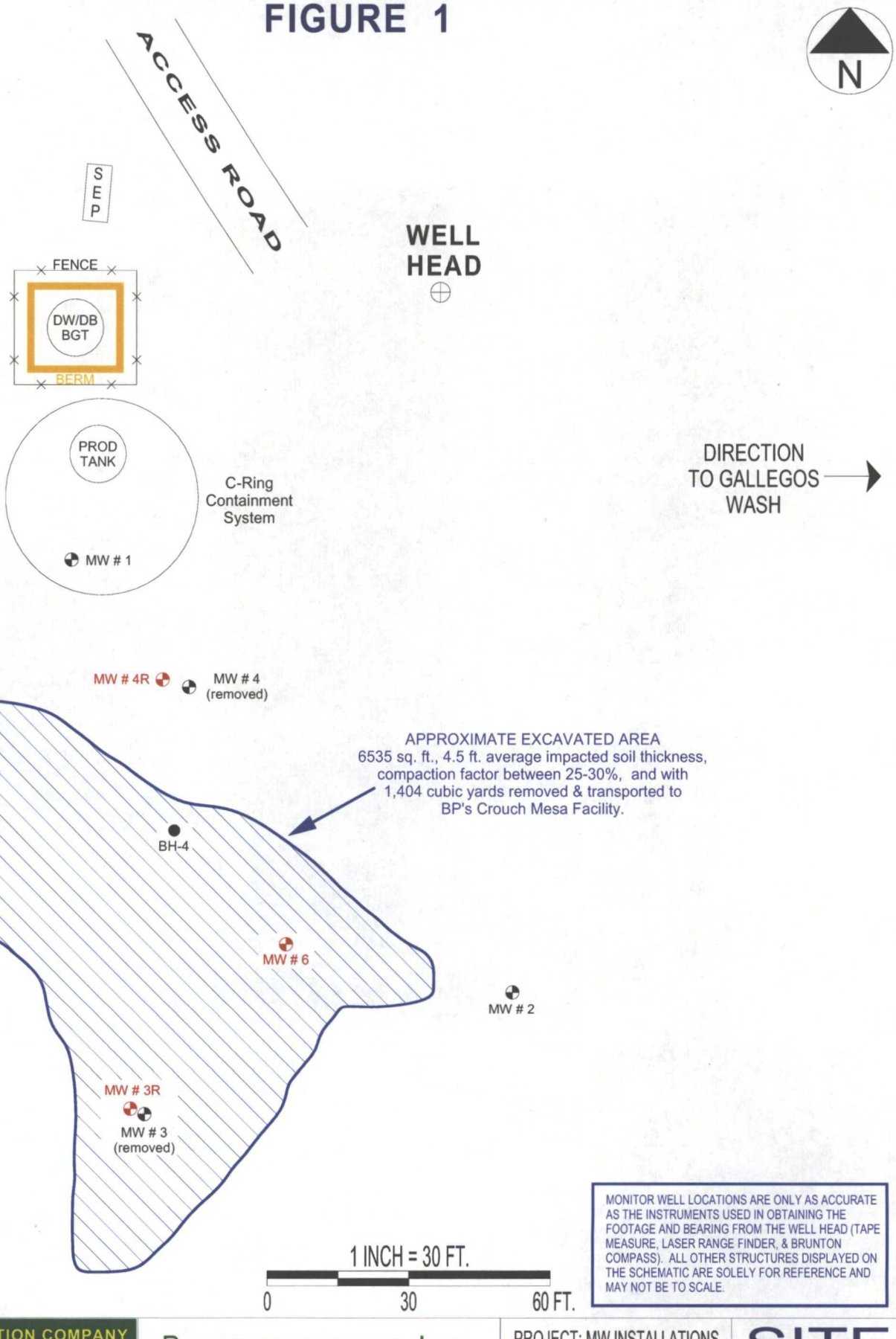
FILENAME: (194-3Q10.WK4) NJV

								BTEX EPA METHOD 8021B (ppb)			
SAMPLE DATE	WELL NAME or No.	D.T.W. (ft)	T.D. (ft)	TDS (mg/L)	COND. umhos	pH	PRODUCT (ft)	Benzene	Toluene	Ethyl Benzene	Total Xylene
03-Aug-06	MW #4	8.82	17.15		800	7.33		**91**	ND	130	ND
25-Jun-07		8.60			4,800	7.44		**ND**	ND	ND	ND
17-Sep-07		8.87			6,500	7.22		**ND**	ND	ND	ND
14-Nov-07		8.43			7,100	7.57		**31**	ND	26	ND
14-Apr-08		7.98			7,400	7.59		**171**	ND	197	ND
"	(dup.)	"			"	"		**180**	ND	216	ND
09-Jun-08		8.38			3,500	7.60		**128**	ND	191	ND
26-Aug-08		8.93			4,700	7.57		**68**	ND	300	ND
19-May-09		8.43			3,600	7.68		**360**	ND	580	ND
04-Nov-09	MW #4R	9.00		11,600	4,300	7.70		**1.5**	ND	16	ND
23-Feb-10		8.49			4,600	8.03		**ND**	ND	1.3	ND
13-May-10		8.60			5,100	7.93		**ND**	ND	5.8	ND
26-Jul-10		9.27			5,400	8.18		**ND**	ND	2.7	ND
04-Nov-09	MW #5	8.12		9,260	3,700	7.56		ND	ND	ND	ND
23-Feb-10		7.60			4,200	7.74		ND	ND	ND	ND
13-May-10		7.71			4,500	7.56		ND	ND	ND	ND
26-Jul-10		8.40			4,800	7.73		ND	ND	ND	ND
04-Nov-09	MW #6	7.91		10,400	4,100	7.70		ND	ND	ND	ND
23-Feb-10		7.39			4,200	7.96		ND	ND	ND	ND
13-May-10		7.50			4,400	7.82		ND	ND	ND	ND
26-Jul-10		8.19			6,400	7.78		ND	ND	ND	ND
				NMWQCC GROUNDWATER STANDARDS				**10**	**750**	**750**	**620**

NOTES :

1) **RESULTS IN BOLD RED TYPE INDICATE EXCEEDING NMWQCC STANDARDS .**
2) **RESULTS IN BOLD BLUE TYPE INDICATE BELOW NMWQCC STANDARDS AFTER PREVIOUS RESULTS IN BOLD RED TYPE EXCEEDED .**
3) **ND INDICATES NOT DETECTED AT THE REPORTING LIMITS (less than regulatory standards of at least a magnitude of 10) .**
4) **NMWQCC INDICATES NEW MEXICO WATER QUALITY CONTROL COMMISSION.**

FIGURE 1



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.

BP AMERICA PRODUCTION COMPANY

GCU # 194

NW/4 NW/4 SEC. 5, T27N, R12W, 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 INSTALLATIONS

DRAWN BY: NJV

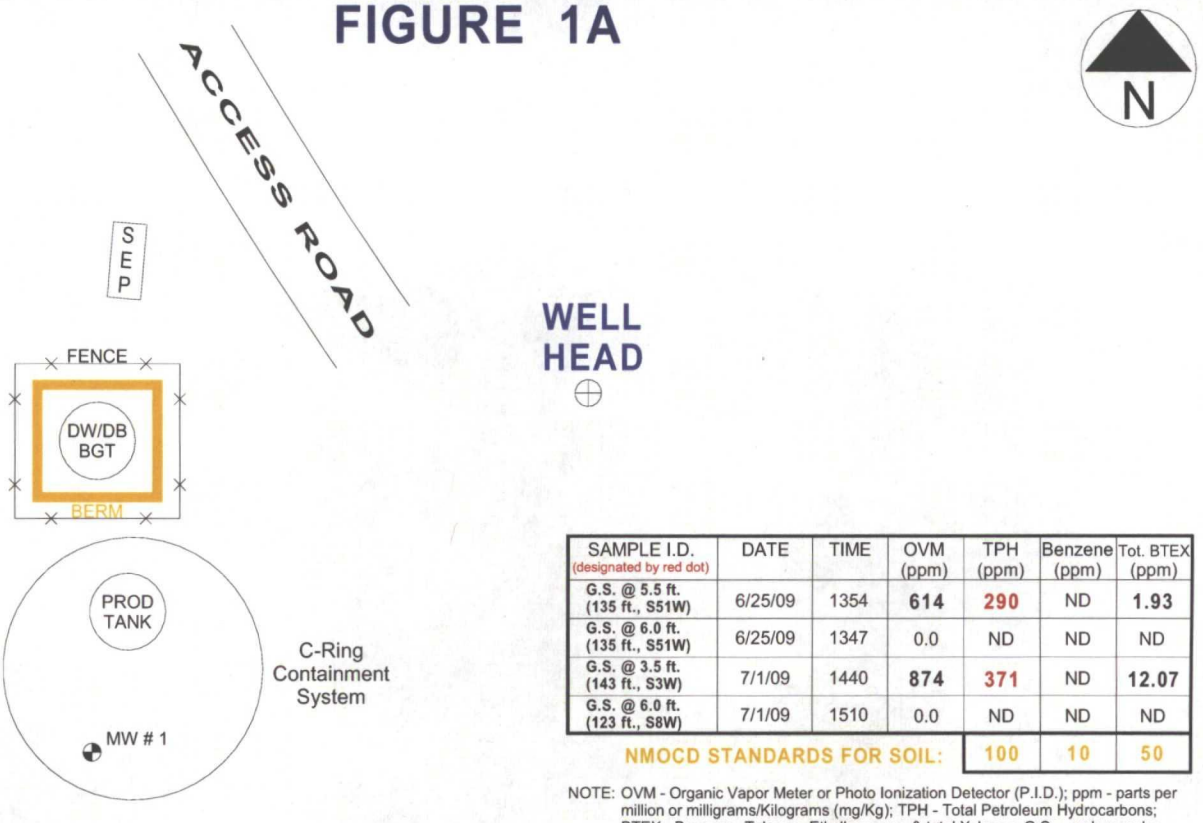
FILENAME: GCU 194-SM.SKF

REVISED: 10-29-09 NJV

SITE MAP

10/09

FIGURE 1A

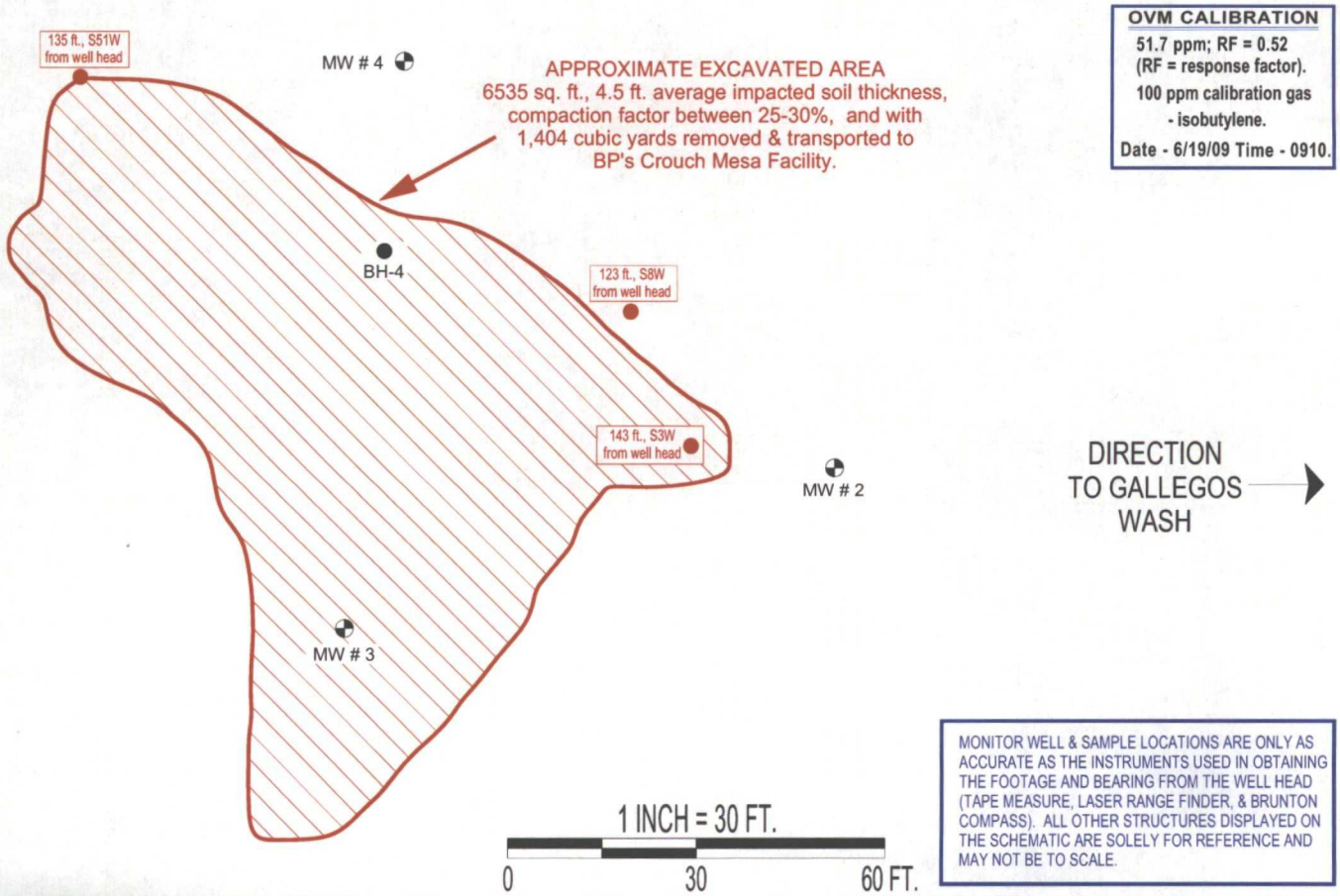


SAMPLE I.D. (designated by red dot)	DATE	TIME	OVM (ppm)	TPH (ppm)	Benzene (ppm)	Tot. BTEX (ppm)
G.S. @ 5.5 ft. (135 ft., S51W)	6/25/09	1354	614	290	ND	1.93
G.S. @ 6.0 ft. (135 ft., S51W)	6/25/09	1347	0.0	ND	ND	ND
G.S. @ 3.5 ft. (143 ft., S3W)	7/1/09	1440	874	371	ND	12.07
G.S. @ 6.0 ft. (123 ft., S8W)	7/1/09	1510	0.0	ND	ND	ND
NMOCD STANDARDS FOR SOIL:				100	10	50

NOTE: OVM - Organic Vapor Meter or Photo Ionization Detector (P.I.D.); ppm - parts per million or milligrams/Kilograms (mg/Kg); TPH - Total Petroleum Hydrocarbons; BTEX - Benzene, Toluene, Ethylbenzene, & total Xylenes; G.S. - grab sample; NMOCD - New Mexico Oil Conservation Division.

OVM CALIBRATION

51.7 ppm; RF = 0.52
(RF = response factor).
100 ppm calibration gas
- isobutylene.
Date - 6/19/09 Time - 0910.



MONITOR WELL & SAMPLE 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.

BP AMERICA PRODUCTION COMPANY
GCU # 194
NW/4 NW/4 SEC. 5, T27N, R12W, NMPM
SAN JUAN COUNTY, NEW MEXICO

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

PROJECT: REMEDIATION
DRAWN BY: NJV
FILENAME: GCU 194-RM-1A.SKF
REVISED: 08-07-09 NJV

SOIL/GROUNDWATER REMEDIATION SCHEMATIC
07/09

Hall Environmental Analysis Laboratory, Inc.

Date: *10-Jul-09*

CLIENT:	Blagg Engineering	**Client Sample ID:**	G.S.@5.5'-(135',SS1W)
Lab Order:	0906572	**Collection Date:**	6/25/2009 1:54:00 PM
Project:	GCU #194-H.R.R.E.	**Date Received:**	6/26/2009
Lab ID:	0906572-01	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: **SCC**
Diesel Range Organics (DRO)	180	10		mg/Kg	1	7/6/2009
Surr: DNOP	85.7	61.7-135		%REC	1	7/6/2009
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	110	50		mg/Kg	10	7/7/2009 3:06:36 PM
Surr: BFB	232	58.8-123	S	%REC	10	7/7/2009 3:06:36 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.50		mg/Kg	10	7/7/2009 3:06:36 PM
Toluene	ND	0.50		mg/Kg	10	7/7/2009 3:06:36 PM
Ethylbenzene	0.83	0.50		mg/Kg	10	7/7/2009 3:06:36 PM
Xylenes, Total	1.1	1.0		mg/Kg	10	7/7/2009 3:06:36 PM
Surr: 4-Bromofluorobenzene	101	66.8-139		%REC	10	7/7/2009 3:06:36 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Estimated value	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	MCL	Maximum Contaminant Level
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *10-Jul-09*

CLIENT:	Blagg Engineering	**Client Sample ID:**	G.S.@6'-(135', SS1W)
Lab Order:	0906572	**Collection Date:**	6/25/2009 1:47:00 PM
Project:	GCU #194-H.R.R.E.	**Date Received:**	6/26/2009
Lab ID:	0906572-02	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: **SCC**
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	7/6/2009
Surr: DNOP	95.9	61.7-135		%REC	1	7/6/2009
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	7/7/2009 4:07:37 PM
Surr: BFB	111	58.8-123		%REC	1	7/7/2009 4:07:37 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.050		mg/Kg	1	7/7/2009 4:07:37 PM
Toluene	ND	0.050		mg/Kg	1	7/7/2009 4:07:37 PM
Ethylbenzene	ND	0.050		mg/Kg	1	7/7/2009 4:07:37 PM
Xylenes, Total	ND	0.10		mg/Kg	1	7/7/2009 4:07:37 PM
Surr: 4-Bromofluorobenzene	95.4	66.8-139		%REC	1	7/7/2009 4:07:37 PM

Qualifiers:				
	*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
	E	Estimated value	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	MCL	Maximum Contaminant Level
	ND	Not Detected at the Reporting Limit	RL	Reporting Limit
	S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *10-Jul-09*

CLIENT:	Blagg Engineering	**Client Sample ID:**	G.S @ 3.5'- (143-53W)
Lab Order:	0907050	**Collection Date:**	7/1/2009 2:40:00 PM
Project:	GCU #194-H.R.R.E	**Date Received:**	7/2/2009
Lab ID:	0907050-01	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: **SCC**
Diesel Range Organics (DRO)	360	10		mg/Kg	1	7/7/2009
Surr: DNOP	126	61.7-135		%REC	1	7/7/2009
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	11	5.0		mg/Kg	1	7/9/2009 3:54:19 PM
Surr: BFB	213	58.8-123	S	%REC	1	7/9/2009 3:54:19 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.050		mg/Kg	1	7/8/2009 7:37:40 PM
Toluene	1.6	0.050		mg/Kg	1	7/8/2009 7:37:40 PM
Ethylbenzene	0.67	0.050		mg/Kg	1	7/8/2009 7:37:40 PM
Xylenes, Total	9.8	0.10		mg/Kg	1	7/8/2009 7:37:40 PM
Surr: 4-Bromofluorobenzene	242	66.8-139	S	%REC	1	7/8/2009 7:37:40 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Estimated value	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	MCL	Maximum Contaminant Level
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *10-Jul-09*

CLIENT:	Blagg Engineering	**Client Sample ID:**	G.S. @ 3.5'- (123, 58W)
Lab Order:	0907050	**Collection Date:**	7/1/2009 3:10:00 PM
Project:	GCU #194-H.R.R.E	**Date Received:**	7/2/2009
Lab ID:	0907050-02	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: **SCC**
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	7/7/2009
Surr: DNOP	93.6	61.7-135		%REC	1	7/7/2009
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	7/9/2009 4:55:14 PM
Surr: BFB	95.5	58.8-123		%REC	1	7/9/2009 4:55:14 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.050		mg/Kg	1	7/9/2009 4:55:14 PM
Toluene	ND	0.050		mg/Kg	1	7/9/2009 4:55:14 PM
Ethylbenzene	ND	0.050		mg/Kg	1	7/9/2009 4:55:14 PM
Xylenes, Total	ND	0.10		mg/Kg	1	7/9/2009 4:55:14 PM
Surr: 4-Bromofluorobenzene	90.8	66.8-139		%REC	1	7/9/2009 4:55:14 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Estimated value	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	MCL	Maximum Contaminant Level
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

Chain-of-Custody Record

Client: BLAGG ENGR. / BP AMERICA

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

Phone #: 632-[redacted]1199

email or Fax#: nv

QA/QC Package:
☒ Standard ☐ Level 4 (Full Validation)
☐ Other
☐ EDD (Type)

Turn-Around Time:
☒ Standard ☐ Rush

Project Name: GCU #194-H.R.R.E.

Project #:

Project Manager: NELSON VELEZ nv

Sampler: NELSON VELEZ

On Ice: ☑ Yes ☐ No

Sample Temperature: 6.4

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 0906512	BTEX + MTBE + TMB's (8021b)	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,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)					Air Bubbles (Y or N)
6/25/09	1354	SOIL	G.S.@5.5' - (135', SSIW)	1-4oz.	COOL	1	✓	✓ nv	✓													
6/25/09	1347	SOIL	G.S.@6' - (135', SSIW)	1-4oz.	COOL	2	✓ nv	✓ nv	✓													

Date:	Time:	Relinquished by:	Received by:	Date	Time
6/25/09	1605 ~~1400~~	Nelson Velez			
Date:	Time:	Relinquished by:	Received by:	Date	Time
				6/26/09	14:00

Remarks: H.R.R.E. - HISTORICAL RELEASE REMEDIATION EFFORT
G.S. - GRAB SAMPLE
TPH - GRO & DRO ONLY nv

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.

Chain-of-Custody Record

Client: BLAGG ENGR. / BP AMERICA

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

Phone #: 632-1199

email or Fax#:

QA/QC Package:
☒ Standard ☐ Level 4 (Full Validation)
☐ Other
☐ EDD (Type)

Turn-Around Time:
☒ Standard ☐ Rush

Project Name: GCU #194-H.R.R.E.

Project #:

Project Manager: NELSON VELEZ

Sampler: NELSON VELEZ

On Ice: ☒ Yes ☐ No

Sample Temperature: 5.3

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 0907050	BTEX + MTBE + TMB's (8021B)	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,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Air Bubbles (Y or N)
7/1/09	1440	SOIL	G.S. @ 3.5' (143', 53W)	1-4oz.	COOL	1	✓		✓									
7/1/09	1510	SOIL	G.S. @ 3.5' (123', 58W)	1-4oz.	COOL	2	✓		✓									

Analysis Request

Date:	Time:	Relinquished by:	Received by:	Date	Time
7/1/09	1610			7/2/09	900
Date:	Time:	Relinquished by:	Received by:	Date	Time

Remarks:
GRO & DRO ONLY ON TPH
H.R.R.E. - HISTORICAL RELEASE REMEDIATION EFFORT
G.S. - GRAB SAMPLE

QA/QC SUMMARY REPORT

Client: Blagg Engineering
Project: GCU #194-H.R.R.E. **Work Order:** 0906572

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: EPA Method 8015B: Diesel Range Organics									
Sample ID: MB-19509		*MBLK*			Batch ID:	**19509**	Analysis Date:		7/2/2009
Diesel Range Organics (DRO)	ND	mg/Kg	10						
Sample ID: LCS-19509		*LCS*			Batch ID:	**19509**	Analysis Date:		7/2/2009
Diesel Range Organics (DRO)	54.78	mg/Kg	10	110	64.6	116			
Sample ID: LCSD-19509		*LCSD*			Batch ID:	**19509**	Analysis Date:		7/2/2009
Diesel Range Organics (DRO)	56.89	mg/Kg	10	114	64.6	116	3.77	17.4	
Method: EPA Method 8015B: Gasoline Range									
Sample ID: MB-19506		*MBLK*			Batch ID:	**19506**	Analysis Date:		7/7/2009 9:42:47 PM
Gasoline Range Organics (GRO)	ND	mg/Kg	5.0						
Sample ID: LCS-19506		*LCS*			Batch ID:	**19506**	Analysis Date:		7/7/2009 8:41:51 PM
Gasoline Range Organics (GRO)	25.77	mg/Kg	5.0	91.3	64.4	133			
Sample ID: LCSD-19506		*LCSD*			Batch ID:	**19506**	Analysis Date:		7/7/2009 9:12:18 PM
Gasoline Range Organics (GRO)	28.77	mg/Kg	5.0	103	69.5	120	11.0	11.6	
Method: EPA Method 8021B: Volatiles									
Sample ID: MB-19506		*MBLK*			Batch ID:	**19506**	Analysis Date:		7/6/2009 7:08:00 PM
Benzene	ND	mg/Kg	0.050						
Toluene	ND	mg/Kg	0.050						
Ethylbenzene	ND	mg/Kg	0.050						
Xylenes, Total	ND	mg/Kg	0.10						
Sample ID: LCS-19506		*LCS*			Batch ID:	**19506**	Analysis Date:		7/6/2009 6:07:04 PM
Benzene	0.8697	mg/Kg	0.050	85.3	78.8	132			
Toluene	0.8987	mg/Kg	0.050	89.9	78.9	112			
Ethylbenzene	0.9764	mg/Kg	0.050	97.6	69.3	125			
Xylenes, Total	2.908	mg/Kg	0.10	96.9	73	128			
Sample ID: LCSD-19506		*LCSD*			Batch ID:	**19506**	Analysis Date:		7/6/2009 6:37:31 PM
Benzene	0.9850	mg/Kg	0.050	96.9	78.8	132	12.4	27	
Toluene	0.9929	mg/Kg	0.050	99.3	78.9	112	9.96	19	
Ethylbenzene	1.082	mg/Kg	0.050	108	69.3	125	10.2	10	R
Xylenes, Total	3.232	mg/Kg	0.10	108	73	128	10.6	13	

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

QA/QC SUMMARY REPORT

Client: Blagg Engineering
Project: GCU #194-H.R.R.E **Work Order:** 0907050

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: EPA Method 8015B: Diesel Range Organics									
Sample ID: MB-19538		*MBLK*			Batch ID:	**19538**	Analysis Date:		7/7/2009
Diesel Range Organics (DRO)	ND	mg/Kg	10						
Sample ID: LCS-19538		*LCS*			Batch ID:	**19538**	Analysis Date:		7/7/2009
Diesel Range Organics (DRO)	43.46	mg/Kg	10	86.9	64.6	116			
Sample ID: LCSD-19538		*LCSD*			Batch ID:	**19538**	Analysis Date:		7/7/2009
Diesel Range Organics (DRO)	45.51	mg/Kg	10	91.0	64.6	116	4.60	17.4	
Method: EPA Method 8015B: Gasoline Range									
Sample ID: MB-19536		*MBLK*			Batch ID:	**19536**	Analysis Date:		7/9/2009 2:16:02 AM
Gasoline Range Organics (GRO)	ND	mg/Kg	5.0						
Sample ID: LCS-19536		*LCS*			Batch ID:	**19536**	Analysis Date:		7/9/2009 12:14:44 AM
Gasoline Range Organics (GRO)	27.31	mg/Kg	5.0	101	64.4	133			
Sample ID: LCSD-19536		*LCSD*			Batch ID:	**19536**	Analysis Date:		7/9/2009 12:45:12 AM
Gasoline Range Organics (GRO)	27.60	mg/Kg	5.0	102	69.5	120	1.06	11.6	
Method: EPA Method 8021B: Volatiles									
Sample ID: MB-19536		*MBLK*			Batch ID:	**19536**	Analysis Date:		7/9/2009 2:16:02 AM
Benzene	ND	mg/Kg	0.050						
Toluene	ND	mg/Kg	0.050						
Ethylbenzene	ND	mg/Kg	0.050						
Xylenes, Total	ND	mg/Kg	0.10						
Sample ID: LCS-19536		*LCS*			Batch ID:	**19536**	Analysis Date:		7/9/2009 1:15:35 AM
Benzene	0.9958	mg/Kg	0.050	98.3	78.8	132			
Toluene	1.033	mg/Kg	0.050	103	78.9	112			
Ethylbenzene	1.065	mg/Kg	0.050	106	69.3	125			
Xylenes, Total	3.197	mg/Kg	0.10	107	73	128			
Sample ID: LCSD-19536		*LCSD*			Batch ID:	**19536**	Analysis Date:		7/9/2009 1:45:47 AM
Benzene	0.9743	mg/Kg	0.050	96.2	78.8	132	2.18	27	
Toluene	0.9914	mg/Kg	0.050	99.1	78.9	112	4.10	19	
Ethylbenzene	1.023	mg/Kg	0.050	102	69.3	125	4.00	10	
Xylenes, Total	3.071	mg/Kg	0.10	102	73	128	4.02	13	

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: 6/26/2009

Work Order Number 0906572 | Received by: ARS

Checklist completed by: _____ 6/26/09 | Sample ID labels checked by: _____

Signature | Date | 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 ☐		Number of preserved bottles checked for pH:
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 ☑	<2 >12 unless noted below.
Container/Temp Blank temperature?	6.4°	<6° C Acceptable If given sufficient time to cool.		

COMMENTS:

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding: _____

Comments: _____

Corrective Action _____

Hall Environmental Analysis Laboratory, Inc.

Sample Receipt Checklist

Client Name BLAGG | Date Received: 7/2/2009

Work Order Number 0907050 | Received by: TLS

Sample ID labels checked by: _____ (initials)

Checklist completed by: _____ (Signature) 7/2/09 (Date)

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 ☐		Number of preserved bottles checked for pH:
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 ☑	*<2 >12 unless noted below.*
Container/Temp Blank temperature?	5.5°	*<6° C Acceptable* If given sufficient time to cool.		

COMMENTS:

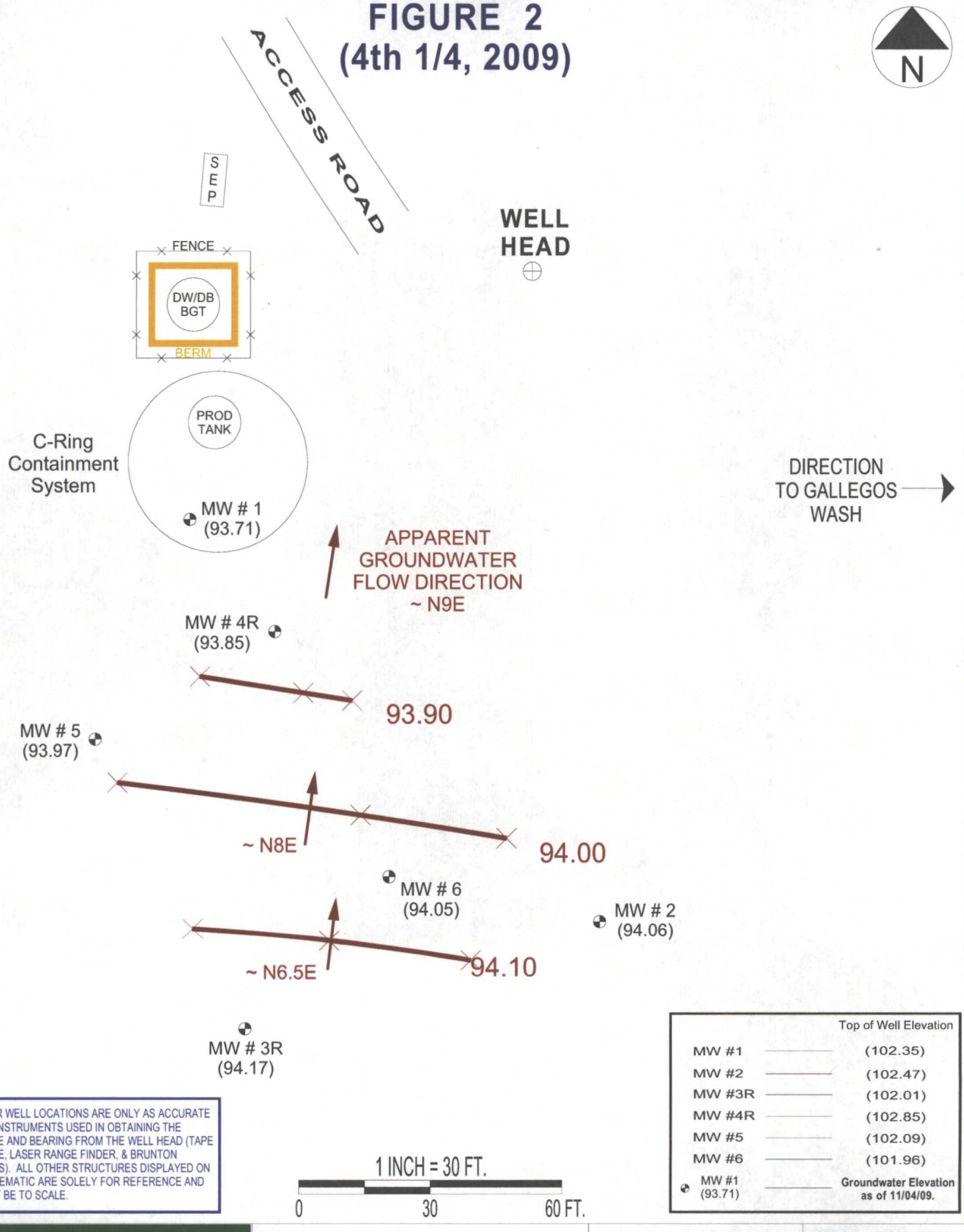
Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding: _____

Comments: _____

Corrective Action _____

FIGURE 2
(4th 1/4, 2009)



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.

BP AMERICA PRODUCTION COMPANY

GCU # 194

NW/4 NW/4 SEC. 5, T27N, R12W, 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

DRAWN BY: NJV

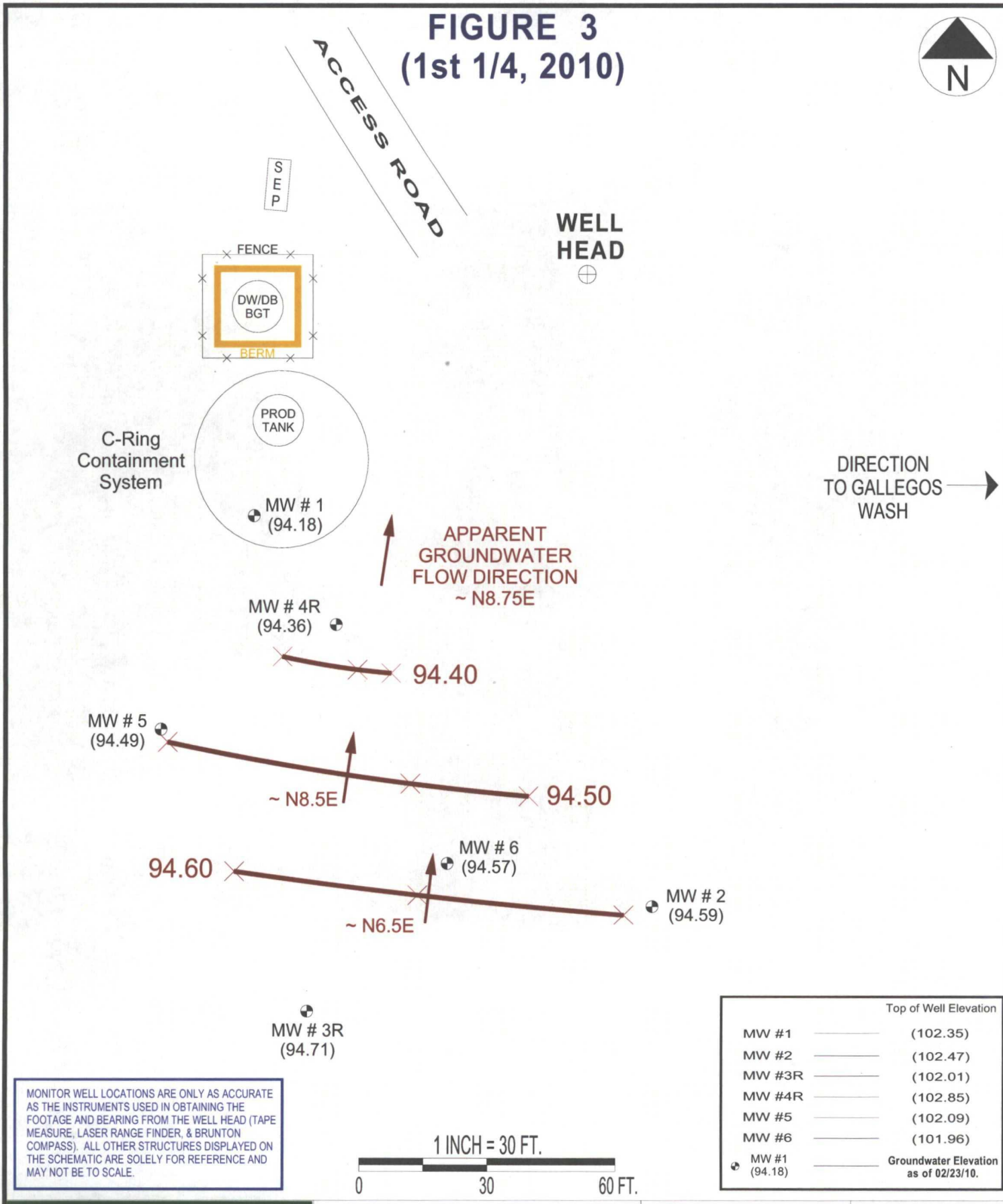
FILENAME: 11-04-09-GW.SKF

REVISED: 11-05-09 NJV

GROUNDWATER CONTOUR MAP

11/09

FIGURE 3
(1st 1/4, 2010)



	Top of Well Elevation
MW #1	(102.35)
MW #2	(102.47)
MW #3R	(102.01)
MW #4R	(102.85)
MW #5	(102.09)
MW #6	(101.96)
MW #1 (94.18)	Groundwater Elevation as of 02/23/10.

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.

1 INCH = 30 FT.

0 30 60 FT.

BP AMERICA PRODUCTION COMPANY

GCU # 194

NW/4 NW/4 SEC. 5, T27N, R12W, 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

DRAWN BY: NJV

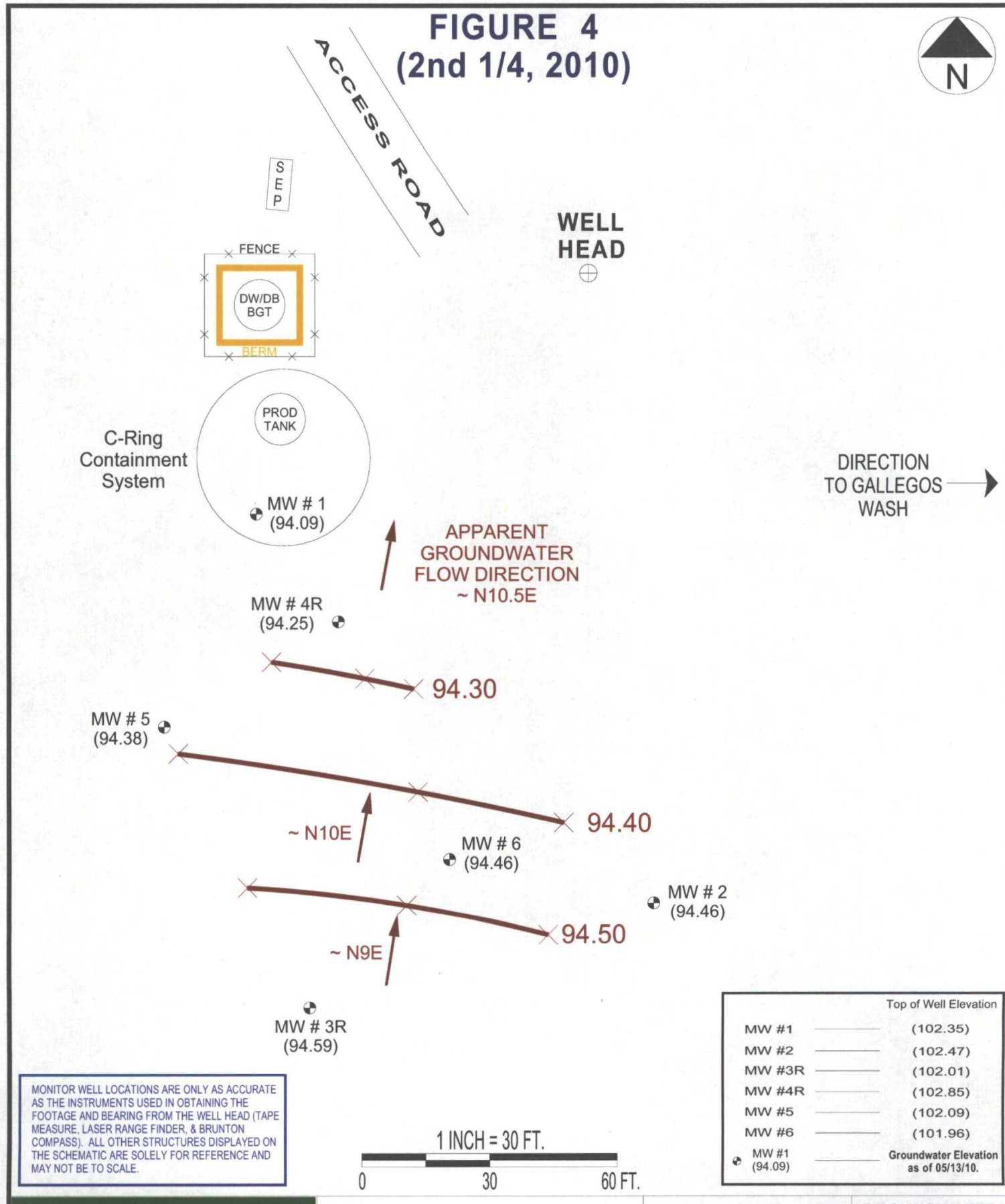
FILENAME: 02-23-10-GW.SKF

REVISED: 02-23-10 NJV

GROUNDWATER CONTOUR MAP

02/10

FIGURE 4
(2nd 1/4, 2010)



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.

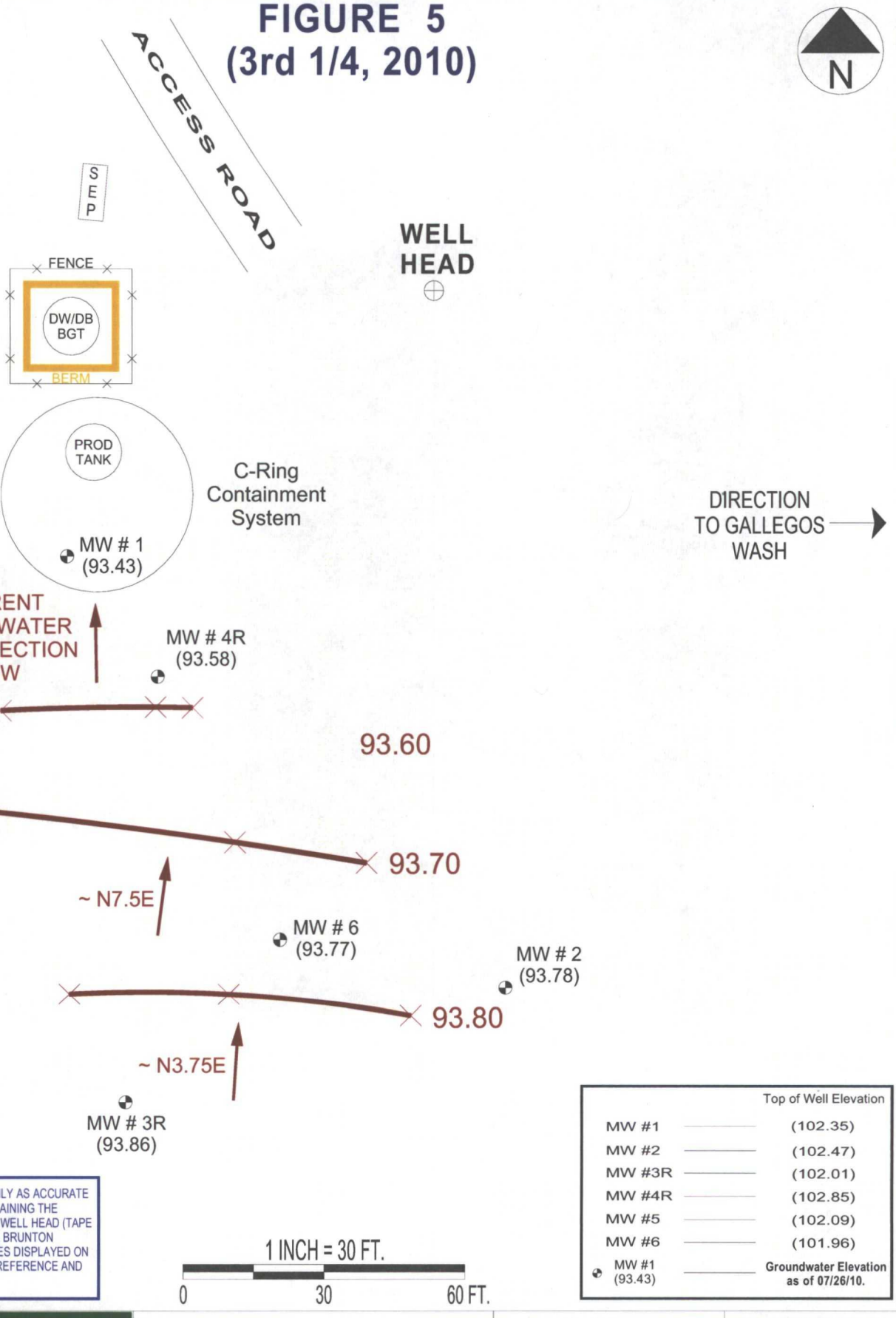
BP AMERICA PRODUCTION COMPANY
GCU # 194
NW/4 NW/4 SEC. 5, T27N, R12W, NMPM
SAN JUAN COUNTY, NEW MEXICO

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

PROJECT: MW SAMPLING
DRAWN BY: NJV
FILENAME: 05-13-10-GW.SKF
REVISED: 05-13-10 NJV

GROUNDWATER CONTOUR MAP
05/10

FIGURE 5
(3rd 1/4, 2010)



	Top of Well Elevation
MW #1	(102.35)
MW #2	(102.47)
MW #3R	(102.01)
MW #4R	(102.85)
MW #5	(102.09)
MW #6	(101.96)
MW #1 (93.43)	Groundwater Elevation as of 07/26/10.

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.

1 INCH = 30 FT.

0 30 60 FT.

BP AMERICA PRODUCTION COMPANY

GCU # 194

NW/4 NW/4 SEC. 5, T27N, R12W, 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

DRAWN BY: NJV

FILENAME: 07-26-10-GW.SKF

REVISED: 07-26-10 NJV

GROUNDWATER CONTOUR MAP

07/10

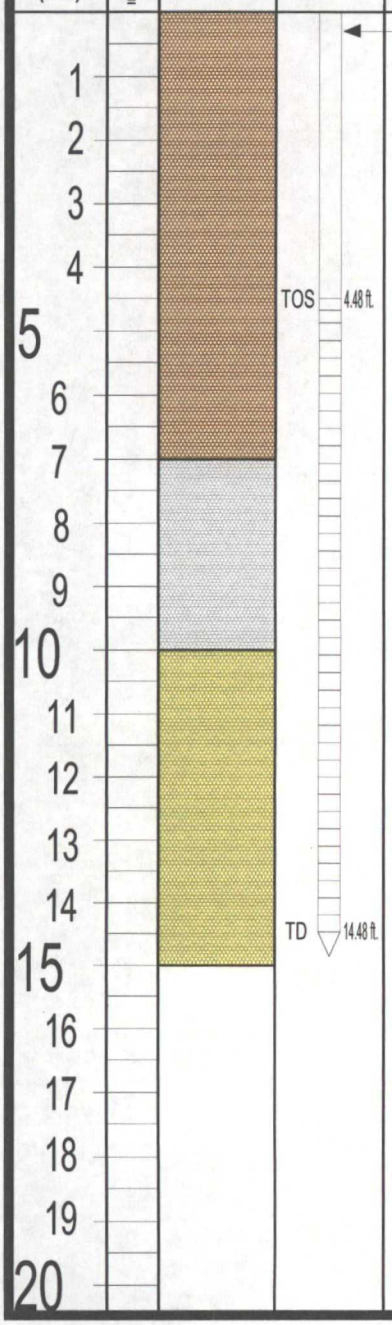
BLAGG ENGINEERING, Inc.
P.O. BOX 87
BLOOMFIELD, NM 87413
(505) 632-1199

MW #3R

BORE / TEST HOLE REPORT

CLIENT:	BP AMERICA PRODUCTION CO.
LOCATION NAME:	GCU # 194 UNIT D, SEC. 5, T27N, R12W
CONTRACTOR:	BLAGG ENGINEERING, INC. / KYVEK ENERGY SERVICES, INC.
EQUIPMENT USED:	MOBILE DRILL RIG (CME 75)
BORING LOCATION:	183 FEET, S21W FROM WELL HEAD.

BORING #.....	BH - 8
MW #.....	3R
PAGE #.....	8
DATE STARTED	10/8/09
DATE FINISHED	10/8/09
OPERATOR.....	KP
PREPARED BY	NJV



FIELD CLASSIFICATION AND REMARKS

GROUND SURFACE

TOP OF CASING APPROX. 2.55 FEET ABOVE GRADE.

MODERATE YELLOWISH BROWN SAND, NON COHESIVE, SLIGHTLY MOIST, FIRM, NO APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (0.0 - 7.0 FT. BELOW GRADE).

5.39 ft. BELOW GRADE ; MEASURED 10/19/09.

DARK GRAY SAND, NON COHESIVE, SATURATED, FIRM, SLIGHT APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (7.0 - 10.0 FT. BELOW GRADE).

PHASING INTO LIGHT OLIVE GRAY SAND, SLIGHTLY COHESIVE, SATURATED, FIRM, SLIGHT APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (10.0 - 15.0 FT. BELOW GRADE).

NOTES: - SAND.

TOS - Top of screen of monitor well.
TD - Total depth/bottom extent of monitor well.

Monitor well consist of 2 inch PVC piping - casing from 2.55 ft. above grade to 4.48 ft. below grade, 0.010 slotted screen between 4.48 to 14.48 ft. below grade, sand packed annular to 2.5 ft. below grade, bentonite grout between 1.0 to 2.5 ft. below grade, clean fill dirt between 0.0 to 1.0 ft. below grade. Cemented well protector encompassing above grade casing and secured with padlock.

DRAWING: GCU 194 MW3R-BH8. SKF | DATE: 10/29/09 | DWN BY: NJV

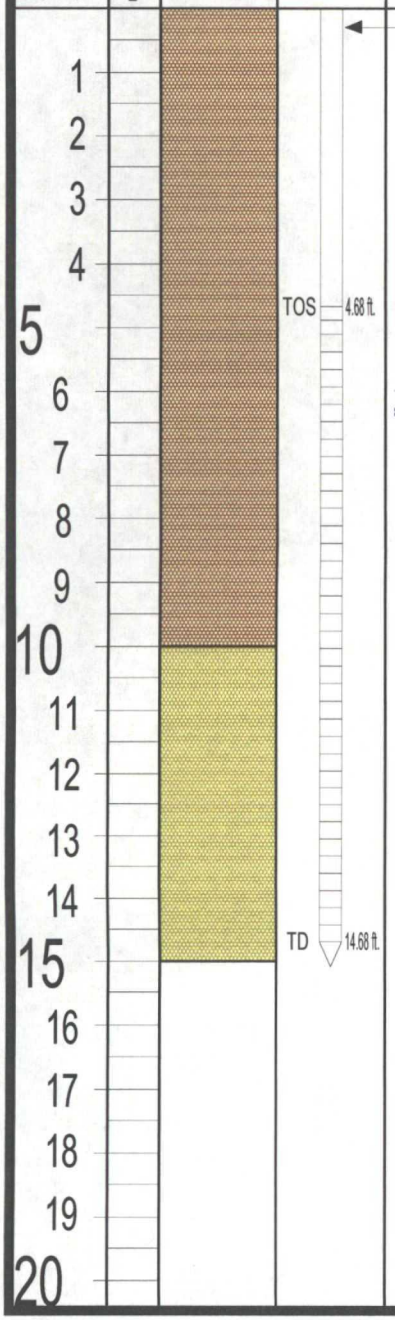
BLAGG ENGINEERING, Inc.
P.O. BOX 87
BLOOMFIELD, NM 87413
(505) 632-1199

MW #4R

BORE / TEST HOLE REPORT

CLIENT:	BP AMERICA PRODUCTION CO.
LOCATION NAME:	GCU # 194 UNIT D, SEC. 5, T27N, R12W
CONTRACTOR:	BLAGG ENGINEERING, INC. / KYVEK ENERGY SERVICES, INC.
EQUIPMENT USED:	MOBILE DRILL RIG (CME 75)
BORING LOCATION:	100 FEET, S36W FROM WELL HEAD.

BORING #.....	BH - 6
MW #.....	4R
PAGE #.....	6
DATE STARTED	10/8/09
DATE FINISHED	10/8/09
OPERATOR.....	KP
PREPARED BY	NJV



FIELD CLASSIFICATION AND REMARKS

GROUND SURFACE

TOP OF CASING APPROX. 2.90 FEET ABOVE GRADE.

DARK YELLOWISH BROWN SAND, NON COHESIVE, SLIGHTLY MOIST TO SATURATED, FIRM, NO APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (0.0 - 10.0 FT. BELOW GRADE).

6.21 ft. BELOW GRADE ; MEASURED 10/19/09.

GRAY SAND WITH MINOR AMOUNT OF GRAVEL, NON COHESIVE, SATURATED, FIRM, NO APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (10.0 - 15.0 FT. BELOW GRADE).

NOTES: - SAND.

TOS - Top of screen of monitor well.
TD - Total depth/bottom extent of monitor well.

Monitor well consist of 2 inch PVC piping - casing from 2.90 ft. above grade to 4.68 ft. below grade, 0.010 slotted screen between 4.68 to 14.68 ft. below grade, sand packed annular to 2.5 ft. below grade, bentonite grout between 1.0 to 2.5 ft. below grade, clean fill dirt between 0.0 to 1.0 ft. below grade. Cemented well protector encompassing above grade casing and secured with padlock.

DRAWING: **GCU 194 MW4R-BH6. SKF** | DATE: **10/29/09** | DWN BY: **NJV**

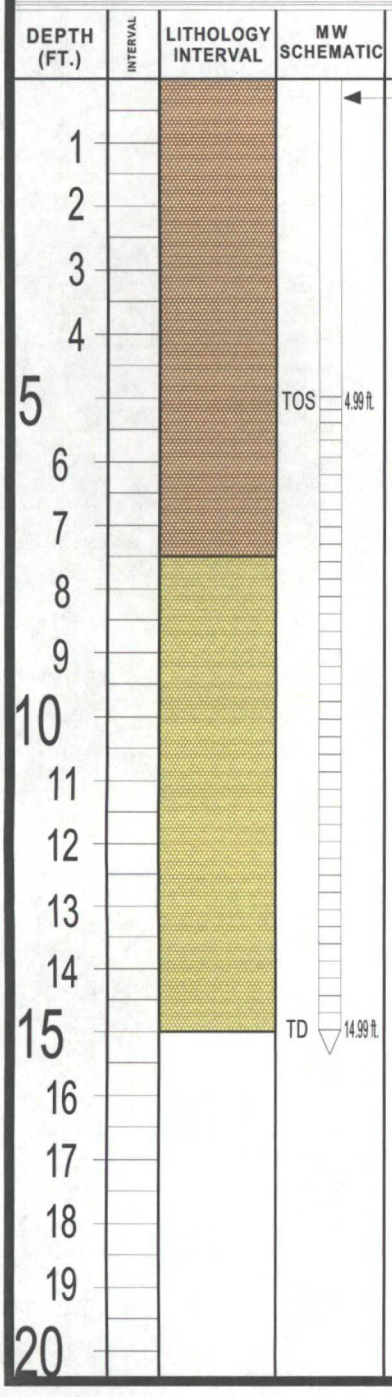
BLAGG ENGINEERING, Inc.
P.O. BOX 87
BLOOMFIELD, NM 87413
(505) 632-1199

MW #5

BORE / TEST HOLE REPORT

CLIENT:	BP AMERICA PRODUCTION CO.
LOCATION NAME:	GCU # 194 UNIT D, SEC. 5, T27N, R12W
CONTRACTOR:	BLAGG ENGINEERING, INC. / KYVEK ENERGY SERVICES, INC.
EQUIPMENT USED:	MOBILE DRILL RIG (CME 75)
BORING LOCATION:	145 FEET, S43.5W FROM WELL HEAD.

BORING #.....	BH - 7
MW #.....	5
PAGE #.....	7
DATE STARTED	10/8/09
DATE FINISHED	10/8/09
OPERATOR.....	KP
PREPARED BY	NJV



FIELD CLASSIFICATION AND REMARKS

GROUND SURFACE

TOP OF CASING APPROX. 2.40 FEET ABOVE GRADE.

DARK YELLOWISH BROWN SAND, NON COHESIVE, SLIGHTLY MOIST TO SATURATED, FIRM, NO APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (0.0 - 7.5 FT. BELOW GRADE).

5.82 ft. BELOW GRADE ; MEASURED 10/19/09.

GRAY SAND WITH MINOR AMOUNT OF GRAVEL, NON COHESIVE, SATURATED, FIRM, NO APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (10.0 - 15.0 FT. BELOW GRADE).

NOTES: - SAND.

TOS - Top of screen of monitor well.
TD - Total depth/bottom extent of monitor well.

Monitor well consist of 2 inch PVC piping - casing from 2.90 ft. above grade to 4.99 ft. below grade, 0.010 slotted screen between 4.99 to 14.99 ft. below grade, sand packed annular to 3.0 ft. below grade, bentonite grout between 1.0 to 3.0 ft. below grade, clean fill dirt between 0.0 to 1.0 ft. below grade. Cemented well protector encompassing above grade casing and secured with padlock.

DRAWING: GCU 194 MW5-BH7. SKF | DATE: 10/29/09 | DWN BY: NJV

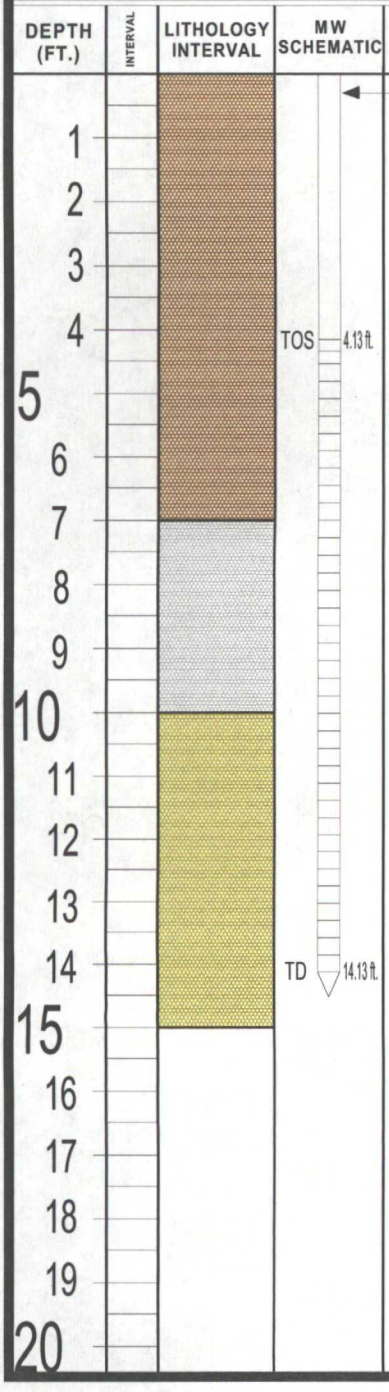
BLAGG ENGINEERING, Inc.
P.O. BOX 87
BLOOMFIELD, NM 87413
(505) 632-1199

MW #6

BORE / TEST HOLE REPORT

CLIENT:	BP AMERICA PRODUCTION CO.
LOCATION NAME:	GCU # 194 UNIT D, SEC. 5, T27N, R12W
CONTRACTOR:	BLAGG ENGINEERING, INC. / KYVEK ENERGY SERVICES, INC.
EQUIPMENT USED:	MOBILE DRILL RIG (CME 75)
BORING LOCATION:	140 FEET, S13.5W FROM WELL HEAD.

BORING #.....	BH - 9
MW #.....	6
PAGE #.....	9
DATE STARTED	10/8/09
DATE FINISHED	10/8/09
OPERATOR.....	KP
PREPARED BY	NJV



FIELD CLASSIFICATION AND REMARKS

GROUND SURFACE

TOP OF CASING APPROX. 2.45 FEET ABOVE GRADE.

MODERATE YELLOWISH BROWN SAND, NON COHESIVE, SLIGHTLY MOIST, FIRM, NO APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (0.0 - 7.0 FT. BELOW GRADE).

5.58 ft. BELOW GRADE ; MEASURED 10/19/09.

DARK GRAY SAND, NON COHESIVE, SATURATED, FIRM, NO TO SLIGHT APPARENT HYDRO - CARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (7.0 - 10.0 FT. BELOW GRADE).

PHASING INTO LIGHT OLIVE GRAY SAND, SLIGHTLY COHESIVE, SATURATED, FIRM, SLIGHT APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (10.0 - 15.0 FT. BELOW GRADE).

NOTES: - SAND.

TOS - Top of screen of monitor well.
TD - Total depth/bottom extent of monitor well.

Monitor well consist of 2 inch PVC piping - casing from 2.45 ft. above grade to 4.13 ft. below grade, 0.010 slotted screen between 4.13 to 14.13 ft. below grade, sand packed annular to 2.0 ft. below grade, bentonite grout between 0.5 to 2.0 ft. below grade, clean fill dirt between 0.0 to 0.5 ft. below grade. Cemented well protector encompassing above grade casing and secured with padlock.

DRAWING: GCU 194 MW6-BH9. SKF | DATE: 10/29/09 | DWN BY: NJV

BLAGG ENGINEERING, INC.

MONITOR WELL DEVELOPMENT & / OR SAMPLING DATA

CLIENT : BP AMERICA PROD. CO.

CHAIN-OF-CUSTODY # : N / A

GCU # 194 - SEPARATOR PIT
UNIT D, SEC. 5, T27N, R12W

LABORATORY (S) USED : HALL ENVIRONMENTAL

Date : **November 4, 2009**

DEVELOPER / SAMPLER : N J V

Filename : **11-04-09.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.)
1	102.35	93.71	8.64	14.50	1010	7.68	3,000	14.3	3.00
2	100.47	94.06	6.41	12.50	-	-	-	-	-
3R	102.01	94.17	7.84	17.03	1220	7.50	3,700	18.2	4.50
4R	102.85	93.85	9.00	17.58	1030	7.70	4,300	16.3	4.25
5	102.09	93.97	8.12	17.39	1100	7.56	3,700	17.6	4.50
6	101.96	94.05	7.91	16.68	1150	7.70	4,100	18.6	4.25

INSTRUMENT CALIBRATIONS =	4.01/7.00/10.00	2,800
DATE & TIME =	11/04/09	1000

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 ".

Excellent recovery in all MW 's sampled . Collected BTEX sample from MW # 1 , collected samples for BTEX , TDS., chloride , fluoride , nitrate , sulfate , & iron from MW # 3R , # 4R , # 5 , & # 6 .

Top of casing MW # 1 ~ 2.40 ft., MW # 2 ~ 1.05 ft., MW # 3R ~ 2.55 ft., MW # 4R ~ 2.90 ft., MW # 5 ~ 2.40 ft., MW # 6 ~ 2.45 ft. above grade .

on-site	8:58	temp	54
off-site	12:30	temp	65
sky cond.	sunny		
wind speed	0 - 5	direct.	E - SE

Hall Environmental Analysis Laboratory, Inc.

Date: *23-Nov-09*

CLIENT:	Blagg Engineering	**Client Sample ID:**	MW #1
Lab Order:	0911093	**Collection Date:**	11/4/2009 10:10:00 AM
Project:	GCU #194	**Date Received:**	11/5/2009
Lab ID:	0911093-01	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	1.0		µg/L	1	11/12/2009 2:18:03 PM
Toluene	ND	1.0		µg/L	1	11/12/2009 2:18:03 PM
Ethylbenzene	ND	1.0		µg/L	1	11/12/2009 2:18:03 PM
Xylenes, Total	ND	2.0		µg/L	1	11/12/2009 2:18:03 PM
Surr: 4-Bromofluorobenzene	87.2	65.9-130		%REC	1	11/12/2009 2:18:03 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Estimated value	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	MCL	Maximum Contaminant Level
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *23-Nov-09*

CLIENT:	Blagg Engineering	**Client Sample ID:**	MW #3R
Lab Order:	0911093	**Collection Date:**	11/4/2009 12:20:00 PM
Project:	GCU #194	**Date Received:**	11/5/2009
Lab ID:	0911093-02	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	1.0		µg/L	1	11/12/2009 2:48:25 PM
Toluene	ND	1.0		µg/L	1	11/12/2009 2:48:25 PM
Ethylbenzene	ND	1.0		µg/L	1	11/12/2009 2:48:25 PM
Xylenes, Total	ND	2.0		µg/L	1	11/12/2009 2:48:25 PM
Surr: 4-Bromofluorobenzene	82.4	65.9-130		%REC	1	11/12/2009 2:48:25 PM
EPA METHOD 300.0: ANIONS						Analyst: **LJB**
Fluoride	3.1	0.10		mg/L	1	11/5/2009 2:52:07 PM
Chloride	120	2.0		mg/L	20	11/5/2009 3:09:31 PM
Nitrogen, Nitrate (As N)	ND	0.10		mg/L	1	11/5/2009 2:52:07 PM
Sulfate	5700	100		mg/L	200	11/19/2009 5:20:26 PM
EPA METHOD 6010B: DISSOLVED METALS						Analyst: **RAGS**
Iron	1.9	0.10		mg/L	5	11/13/2009 4:44:21 PM
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **MMS**
Total Dissolved Solids	8790	20.0		mg/L	1	11/10/2009 2:16:00 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Estimated value	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	MCL	Maximum Contaminant Level
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *23-Nov-09*

CLIENT:	Blagg Engineering	**Client Sample ID:**	MW #4R
Lab Order:	0911093	**Collection Date:**	11/4/2009 10:30:00 AM
Project:	GCU #194	**Date Received:**	11/5/2009
Lab ID:	0911093-03	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	1.5	1.0		µg/L	1	11/12/2009 3:18:50 PM
Toluene	ND	1.0		µg/L	1	11/12/2009 3:18:50 PM
Ethylbenzene	16	1.0		µg/L	1	11/12/2009 3:18:50 PM
Xylenes, Total	ND	2.0		µg/L	1	11/12/2009 3:18:50 PM
Surr: 4-Bromofluorobenzene	85.4	65.9-130		%REC	1	11/12/2009 3:18:50 PM
EPA METHOD 300.0: ANIONS						Analyst: **LJB**
Fluoride	5.3	2.0		mg/L	20	11/5/2009 3:44:20 PM
Chloride	220	2.0		mg/L	20	11/5/2009 3:44:20 PM
Nitrogen, Nitrate (As N)	ND	0.10		mg/L	1	11/5/2009 3:26:56 PM
Sulfate	7300	250		mg/L	500	11/19/2009 5:37:50 PM
EPA METHOD 6010B: DISSOLVED METALS						Analyst: **RAGS**
Iron	ND	0.020		mg/L	1	11/13/2009 4:48:25 PM
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **MMS**
Total Dissolved Solids	11600	20.0		mg/L	1	11/10/2009 2:16:00 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Estimated value	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	MCL	Maximum Contaminant Level
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *23-Nov-09*

CLIENT:	Blagg Engineering	**Client Sample ID:**	MW #5
Lab Order:	0911093	**Collection Date:**	11/4/2009 11:00:00 AM
Project:	GCU #194	**Date Received:**	11/5/2009
Lab ID:	0911093-04	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	1.0		µg/L	1	11/12/2009 3:49:12 PM
Toluene	ND	1.0		µg/L	1	11/12/2009 3:49:12 PM
Ethylbenzene	ND	1.0		µg/L	1	11/12/2009 3:49:12 PM
Xylenes, Total	ND	2.0		µg/L	1	11/12/2009 3:49:12 PM
Surr: 4-Bromofluorobenzene	82.0	65.9-130		%REC	1	11/12/2009 3:49:12 PM
EPA METHOD 300.0: ANIONS						Analyst: **LJB**
Fluoride	3.2	0.10		mg/L	1	11/5/2009 4:01:45 PM
Chloride	130	2.0		mg/L	20	11/5/2009 4:19:10 PM
Nitrogen, Nitrate (As N)	ND	0.10		mg/L	1	11/5/2009 4:01:45 PM
Sulfate	6100	100		mg/L	200	11/19/2009 7:04:54 PM
EPA METHOD 6010B: DISSOLVED METALS						Analyst: **RAGS**
Iron	0.31	0.020		mg/L	1	11/13/2009 4:52:25 PM
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **MMS**
Total Dissolved Solids	9260	20.0		mg/L	1	11/10/2009 2:16:00 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Estimated value	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	MCL	Maximum Contaminant Level
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *23-Nov-09*

CLIENT:	Blagg Engineering	**Client Sample ID:**	MW #6
Lab Order:	0911093	**Collection Date:**	11/4/2009 11:50:00 AM
Project:	GCU #194	**Date Received:**	11/5/2009
Lab ID:	0911093-05	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	1.0		µg/L	1	11/12/2009 4:19:46 PM
Toluene	ND	1.0		µg/L	1	11/12/2009 4:19:46 PM
Ethylbenzene	ND	1.0		µg/L	1	11/12/2009 4:19:46 PM
Xylenes, Total	ND	2.0		µg/L	1	11/12/2009 4:19:46 PM
Surr: 4-Bromofluorobenzene	77.6	65.9-130		%REC	1	11/12/2009 4:19:46 PM
EPA METHOD 300.0: ANIONS						Analyst: **LJB**
Fluoride	3.6	0.10		mg/L	1	11/5/2009 4:36:34 PM
Chloride	160	2.0		mg/L	20	11/5/2009 4:53:59 PM
Nitrogen, Nitrate (As N)	ND	0.10		mg/L	1	11/5/2009 4:36:34 PM
Sulfate	6900	250		mg/L	500	11/19/2009 7:22:18 PM
EPA METHOD 6010B: DISSOLVED METALS						Analyst: **RAGS**
Iron	0.22	0.020		mg/L	1	11/13/2009 4:58:03 PM
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **MMS**
Total Dissolved Solids	10400	20.0		mg/L	1	11/10/2009 2:16:00 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Estimated value	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	MCL	Maximum Contaminant Level
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

Chain-of-Custody Record

Client: BLAGG ENGR. / BP AMERICA

Mailing Address: P.O. BOX 37
BLFD., NM 87413

Phone #: 632-1199

email or Fax#:

QA/QC Package:
☒ Standard ☐ Level 4 (Full Validation)
☐ Other
☐ EDD (Type)

Turn-Around Time:
☒ Standard ☐ Rush

Project Name: GCU #194

Project #:

Project Manager: NELSON VELEZ

Sampler: NELSON VELEZ

On Ice: Yes No

Sample Temperature: 0.4

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 0911093	BTEX + MTBE + TMB's (8021B)	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 (VOA)	8270 (Semi-VOA)	IRON, FERROUS (FIELD)	TDS	NITRATE-N/NITRITE-N	no ## 11/19/09	Air Bubbles (Y or N)
11/4/09	1010	WATER	MW #1	40ml-2	HCl + COOL	1	✓															
11/4/09	1220	WATER	MW #3R	40ml-2	HCl + COOL	2	✓											✓				
"	"	"	"	125ml-1	H_2SO_4 + COOL	2														✓		
"	"	"	"	250ml-1	COOL	2								✓					✓			
11/4/09	1030	WATER	MW #4R	40ml-2	HCl + COOL	3	✓											✓				
"	"	"	~~MW #4R~~ "	125ml-1	H_2SO_4 + COOL	3														✓		
"	"	"	"	250ml-1	COOL	3								✓					✓			
11/4/09	1100	WATER	MW #5	40ml-2	HCl + COOL	4	✓											✓				
"	"	"	"	125ml-1	H_2SO_4 + COOL	4														✓		
"	"	"	"	250ml-1	COOL	4								✓					✓			
11/4/09	1150	WATER	MW #6	40ml-2	HCl + COOL	5	✓											✓				
"	"	"	"	125ml-1	H_2SO_4 + COOL	5														✓		
"	"	"	"	250ml-1	COOL	5								✓					✓			

Date: 11/4/09 Time: 1600 Relinquished by: NELSON VELEZ

Date: Time: Relinquished by:

Received by: Date 11/5/09 Time 940

Received by: Date Time

Remarks:
IF ANION NO_3 CAN NOT BE ANALYZED WITHIN 48 HRS., THEN RUN NITRATE-N/NITRITE-N.

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: GCU #194 **Work Order:** 0911093

Analyte	Result	Units	PQL	SPK Va	SPK ref	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: EPA Method 300.0: Anions											
Sample ID: MB		*MBLK*				Batch ID:	**R36055**	Analysis Date:	11/5/2009 11:23:13 AM		
Fluoride	ND	mg/L	0.10								
Chloride	ND	mg/L	0.10								
Nitrogen, Nitrate (As N)	ND	mg/L	0.10								
Sulfate	ND	mg/L	0.50								
Sample ID: MB		*MBLK*				Batch ID:	**R36259**	Analysis Date:	11/19/2009 11:32:13 AM		
Fluoride	ND	mg/L	0.10								
Chloride	ND	mg/L	0.10								
Nitrogen, Nitrate (As N)	ND	mg/L	0.10								
Sulfate	ND	mg/L	0.50								
Sample ID: LCS		*LCS*				Batch ID:	**R36055**	Analysis Date:	11/5/2009 11:40:38 AM		
Fluoride	0.5280	mg/L	0.10	0.5	0	106	90	110			
Chloride	5.001	mg/L	0.10	5	0	100	90	110			
Nitrogen, Nitrate (As N)	2.556	mg/L	0.10	2.5	0	102	90	110			
Sulfate	10.06	mg/L	0.50	10	0	101	90	110			
Sample ID: LCS		*LCS*				Batch ID:	**R36259**	Analysis Date:	11/19/2009 11:49:38 AM		
Fluoride	0.5145	mg/L	0.10	0.5	0	103	90	110			
Chloride	5.008	mg/L	0.10	5	0	100	90	110			
Nitrogen, Nitrate (As N)	2.523	mg/L	0.10	2.5	0	101	90	110			
Sulfate	10.02	mg/L	0.50	10	0	100	90	110			
Method: EPA Method 8021B: Volatiles											
Sample ID: 5ML RB		*MBLK*				Batch ID:	**R36161**	Analysis Date:	11/12/2009 10:10:54 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:	**R36161**	Analysis Date:	11/13/2009 5:28:07 AM		
Benzene	18.02	µg/L	1.0	20	0	90.1	85.9	113			
Toluene	18.41	µg/L	1.0	20	0	92.0	86.4	113			
Ethylbenzene	18.37	µg/L	1.0	20	0	91.8	83.5	118			
Xylenes, Total	55.04	µg/L	2.0	60	0	91.7	83.4	122			
Method: EPA Method 6010B: Dissolved Metals											
Sample ID: MB		*MBLK*				Batch ID:	**R36178**	Analysis Date:	11/13/2009 4:29:03 PM		
Iron	ND	mg/L	0.020								
Sample ID: LCS		*LCS*				Batch ID:	**R36178**	Analysis Date:	11/13/2009 4:31:51 PM		
Iron	0.5285	mg/L	0.020	0.5	0	106	80	120			
Method: SM2540C MOD: Total Dissolved Solids											
Sample ID: MBLK-20561		*MBLK*				Batch ID:	**20561**	Analysis Date:	11/10/2009 2:16:00 PM		
Total Dissolved Solids	ND	mg/L	20.0								
Sample ID: LCS1-20561		*LCS*				Batch ID:	**20561**	Analysis Date:	11/10/2009 2:16:00 PM		
Total Dissolved Solids	1040	mg/L	20.0	1000	0	104	80	120			

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

BLAGG ENGINEERING, INC.

MONITOR WELL DEVELOPMENT & / OR SAMPLING DATA

CLIENT : BP AMERICA PROD. CO.

CHAIN-OF-CUSTODY # : N / A

GCU # 194 - SEPARATOR PIT
UNIT D, SEC. 5, T27N, R12W

LABORATORY (S) USED : HALL ENVIRONMENTAL

Date : February 23, 2010

DEVELOPER / SAMPLER : N J V

Filename : 02-23-10.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.)
1	102.35	94.18	8.17	14.50	-	-	-	-	-
2	100.47	94.59	5.88	12.50	-	-	-	-	-
3R	102.01	94.71	7.30	17.03	1015	7.88	4,300	9.2	4.75
4R	102.85	94.36	8.49	17.58	1125	8.03	4,600	9.4	4.50
5	102.09	94.49	7.60	17.39	1210	7.74	4,200	8.8	4.75
6	101.96	94.57	7.39	16.68	1050	7.96	4,200	9.4	4.50

INSTRUMENT CALIBRATIONS =	4.01/7.00/10.00	2,800
DATE & TIME =	02/23/10	1000

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 ".

Excellent recovery in all MW 's sampled . Collected BTEX sample from MW # 3R , # 4R , # 5 , & # 6 . All wells sampled contained brownish tint appearance .

Top of casing MW # 1 ~ 2.40 ft. , MW # 2 ~ 1.05 ft. , MW # 3R ~ 2.55 ft. , MW # 4R ~ 2.90 ft. , MW # 5 ~ 2.40 ft. , MW # 6 ~ 2.45 ft. above grade .

on-site	9:30	temp	22 F
off-site	12:15	temp	29 F
sky cond.	Sunny		
wind speed	0 - 10	direct.	W

Hall Environmental Analysis Laboratory, Inc.

Date: *01-Mar-10*

CLIENT: Blagg Engineering
Project: GCU #194
Lab Order: 1002461

Lab ID: 1002461-01 **Collection Date:** 2/23/2010 10:15:00 AM
Client Sample ID: MW #3R **Matrix:** AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	1.0		µg/L	1	2/27/2010 9:24:57 AM
Toluene	ND	1.0		µg/L	1	2/27/2010 9:24:57 AM
Ethylbenzene	ND	1.0		µg/L	1	2/27/2010 9:24:57 AM
Xylenes, Total	ND	2.0		µg/L	1	2/27/2010 9:24:57 AM
Surr: 4-Bromofluorobenzene	97.3	65.9-130		%REC	1	2/27/2010 9:24:57 AM

Lab ID: 1002461-02 **Collection Date:** 2/23/2010 11:25:00 AM
Client Sample ID: MW #4R **Matrix:** AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	1.0		µg/L	1	2/27/2010 9:55:07 AM
Toluene	ND	1.0		µg/L	1	2/27/2010 9:55:07 AM
Ethylbenzene	1.3	1.0		µg/L	1	2/27/2010 9:55:07 AM
Xylenes, Total	ND	2.0		µg/L	1	2/27/2010 9:55:07 AM
Surr: 4-Bromofluorobenzene	95.3	65.9-130		%REC	1	2/27/2010 9:55:07 AM

Lab ID: 1002461-03 **Collection Date:** 2/23/2010 12:10:00 PM
Client Sample ID: MW #5 **Matrix:** AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	1.0		µg/L	1	2/27/2010 10:25:19 AM
Toluene	ND	1.0		µg/L	1	2/27/2010 10:25:19 AM
Ethylbenzene	ND	1.0		µg/L	1	2/27/2010 10:25:19 AM
Xylenes, Total	ND	2.0		µg/L	1	2/27/2010 10:25:19 AM
Surr: 4-Bromofluorobenzene	99.0	65.9-130		%REC	1	2/27/2010 10:25:19 AM

Lab ID: 1002461-04 **Collection Date:** 2/23/2010 10:50:00 AM
Client Sample ID: MW #6 **Matrix:** AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	1.0		µg/L	1	2/27/2010 10:55:30 AM
Toluene	ND	1.0		µg/L	1	2/27/2010 10:55:30 AM
Ethylbenzene	ND	1.0		µg/L	1	2/27/2010 10:55:30 AM
Xylenes, Total	ND	2.0		µg/L	1	2/27/2010 10:55:30 AM
Surr: 4-Bromofluorobenzene	92.8	65.9-130		%REC	1	2/27/2010 10:55:30 AM

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Estimated value	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	MCL	Maximum Contaminant Level
NC	Non-Chlorinated	ND	Not Detected at the Reporting Limit
PQL	Practical Quantitation Limit	S	Spike recovery outside accepted recovery limits

Chain-of-Custody Record

Client: BLAGG ENGR. / BP AMERICA

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

Phone #: (505) 632-1199

email or Fax#:

QA/QC Package:
☒ Standard ☐ Level 4 (Full Validation)
☐ Other
☐ EDD (Type)

Turn-Around Time:
☒ Standard ☐ Rush

Project Name: GCU #194

Project #:

Project Manager: NELSON VELEZ

Sampler: NELSON VELEZ

On Ice: ☒ Yes ☐ No

Sample Temperature: 3°

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1002161	BTEX + MTBE + TMB's (8021B)	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,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)					Air Bubbles (Y or N)
2/23/10	1015	WATER	MW #3R	2-40ml	HCl & cool	1	✓															
2/23/10	1125	WATER	MW #4R	2-40ml	HCl & cool	2	✓															
2/23/10	1210	WATER	MW #5	2-40ml	HCl & cool	3	✓															
2/23/10	1050	WATER	MW #6	2-40ml	HCl & cool	4	✓															

Date	Time	Relinquished by:	Received by:	Date	Time
2/23/10	1615			2/24/10	755
Date:	Time:	Relinquished by:	Received by:	Date	Time

Remarks:

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: GCU #194 **Work Order:** 1002461

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: **R37547**		Analysis Date:	2/26/2010 9:10:28 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: **R37547**		Analysis Date:	2/26/2010 8:48:12 PM		
Benzene	22.46	µg/L	1.0	20	0	112	85.9	113			
Toluene	22.01	µg/L	1.0	20	0	110	86.4	113			
Ethylbenzene	22.18	µg/L	1.0	20	0	111	83.5	118			
Xylenes, Total	66.34	µg/L	2.0	60	0	111	83.4	122			

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: **2/24/2010**

Work Order Number **1002461** Received by: TLS

Sample ID labels checked by: TS (Initials)

Checklist completed by: _____ 2/24/10 (Signature / Date)

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 ☐		Number of preserved bottles checked for pH:
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 ☑	*<2 >12 unless noted below.*
Container/Temp Blank temperature?	**3.4°**	*<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

GCU # 194 - SEPARATOR PIT
UNIT D, SEC. 5, T27N, R12W

LABORATORY (S) USED : HALL ENVIRONMENTAL

Date : May 13, 2010

DEVELOPER / SAMPLER : N J V

Filename : 05-13-10.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.)
1	102.35	94.09	8.26	14.50	-	-	-	-	-
2	100.47	94.46	6.01	12.50	-	-	-	-	-
3R	102.01	94.59	7.42	17.03	0845	7.67	4,500	14.2	4.75
4R	102.85	94.25	8.60	17.58	1000	7.93	5,100	14.6	4.50
5	102.09	94.38	7.71	17.39	1035	7.56	4,500	14.8	4.75
6	101.96	94.46	7.50	16.68	0940	7.82	4,400	14.5	4.50

INSTRUMENT CALIBRATIONS =	4.01/7.00/10.00	2,800
DATE & TIME =	05/10/10	0915

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 ".

Excellent recovery in all MW 's sampled . Collected BTEX sample from MW # 3R , # 4R , # 5 , & # 6 . All wells sampled contained brownish tint appearance .

Top of casing MW # 1 ~ 2.40 ft. , MW # 2 ~ 1.05 ft. , MW # 3R ~ 2.55 ft. , MW # 4R ~ 2.90 ft. , MW # 5 ~ 2.40 ft. , MW # 6 ~ 2.45 ft. above grade .

on-site	8:18	temp	47 F
off-site	10:45	temp	55 F
sky cond.	Partly cloudy		
wind speed	0 - 5	direct.	E - SE

Hall Environmental Analysis Laboratory, Inc.

Date: *25-May-10*

CLIENT: Blagg Engineering
Project: GCU #194
Lab Order: 1005385

Lab ID: 1005385-01 **Collection Date:** 5/13/2010 8:45:00 AM
Client Sample ID: MW #3R **Matrix:** AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **BDH**
Benzene	ND	1.0		µg/L	1	5/24/2010 9:51:12 PM
Toluene	ND	1.0		µg/L	1	5/24/2010 9:51:12 PM
Ethylbenzene	ND	1.0		µg/L	1	5/24/2010 9:51:12 PM
Xylenes, Total	ND	2.0		µg/L	1	5/24/2010 9:51:12 PM
Surr: 4-Bromofluorobenzene	104	60.1-133		%REC	1	5/24/2010 9:51:12 PM

Lab ID: 1005385-02 **Collection Date:** 5/13/2010 10:00:00 AM
Client Sample ID: MW #4R **Matrix:** AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **BDH**
Benzene	ND	1.0		µg/L	1	5/24/2010 10:19:15 PM
Toluene	ND	1.0		µg/L	1	5/24/2010 10:19:15 PM
Ethylbenzene	5.8	1.0		µg/L	1	5/24/2010 10:19:15 PM
Xylenes, Total	ND	2.0		µg/L	1	5/24/2010 10:19:15 PM
Surr: 4-Bromofluorobenzene	94.1	60.1-133		%REC	1	5/24/2010 10:19:15 PM

Lab ID: 1005385-03 **Collection Date:** 5/13/2010 10:35:00 AM
Client Sample ID: MW #5 **Matrix:** AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **BDH**
Benzene	ND	1.0		µg/L	1	5/24/2010 10:47:18 PM
Toluene	ND	1.0		µg/L	1	5/24/2010 10:47:18 PM
Ethylbenzene	ND	1.0		µg/L	1	5/24/2010 10:47:18 PM
Xylenes, Total	ND	2.0		µg/L	1	5/24/2010 10:47:18 PM
Surr: 4-Bromofluorobenzene	99.4	60.1-133		%REC	1	5/24/2010 10:47:18 PM

Lab ID: 1005385-04 **Collection Date:** 5/13/2010 9:40:00 AM
Client Sample ID: MW #6 **Matrix:** AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **BDH**
Benzene	ND	1.0		µg/L	1	5/24/2010 11:15:21 PM
Toluene	ND	1.0		µg/L	1	5/24/2010 11:15:21 PM
Ethylbenzene	ND	1.0		µg/L	1	5/24/2010 11:15:21 PM
Xylenes, Total	ND	2.0		µg/L	1	5/24/2010 11:15:21 PM
Surr: 4-Bromofluorobenzene	100	60.1-133		%REC	1	5/24/2010 11:15:21 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Estimated value	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	MCL	Maximum Contaminant Level
NC	Non-Chlorinated	ND	Not Detected at the Reporting Limit
PQL	Practical Quantitation Limit	S	Spike recovery outside accepted recovery limits

Chain-of-Custody Record

Client: BLAGG ENGR. / BP AMERICA

Mailing Address: P.O. BOX 87
BLFD., 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: GCU #194

Project #:

Project Manager: NELSON VELEZ

Sampler: NELSON VELEZ

On Ice: ☒ Yes ☐ No

Sample Temperature: 2.0

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1005355
5/13/10	0845	WATER	MW #3R	2-40ml	HCl & COOL	1
5/13/10	1000	WATER	MW #4R	2-40ml	HCl & COOL	2
5/13/10	1035	WATER	MW #5	2-40ml	HCl & COOL	3
5/13/10	0940	WATER	MW #6	2-40ml	HCl & COOL	4

Analysis Request

BTEX + MTBE + TMB's (8021B)	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,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)					Air Bubbles (Y or N)
✓															
✓															
✓															
✓															

Date:	Time:	Relinquished by:	Received by:	Date	Time
5/13/10	1530				
Date:	Time:	Relinquished by:	Received by:	5/14/10	9:00

Remarks:

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: GCU #194 **Work Order:** 1005385

Analyte	Result	Units	PQL	SPK Va	SPK ref	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: EPA Method 8260: Volatiles Short List											
Sample ID: 5mL rb		*MBLK*				Batch ID: **R38881**		Analysis Date: 5/24/2010 11:59:38 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 lcs		*LCS*				Batch ID: **R38881**		Analysis Date: 5/24/2010 12:56:02 PM			
Benzene	21.58	µg/L	1.0	20	0	108	82.4	116			
Toluene	23.39	µg/L	1.0	20	0	117	89.5	123			

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: **5/14/2010**

Work Order Number **1005385** Received by: ARS

Checklist completed by: _____ 5/14/10 Sample ID labels checked by: _____
Signature Date 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°**	*<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

GCU # 194 - SEPARATOR PIT
UNIT D, SEC. 5, T27N, R12W

LABORATORY (S) USED : HALL ENVIRONMENTAL

Date : **July 26, 2010**

DEVELOPER / SAMPLER : N J V

Filename : **07-26-10.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.)
1	102.35	93.43	8.92	14.50	1155	7.94	3,100	22.4	2.75
2	100.47	93.78	6.69	12.50	1445	8.31	5,400	21.6	4.25
3R	102.01	93.86	8.15	17.03	1340	7.81	6,700	21.9	4.25
4R	102.85	93.58	9.27	17.58	1410	8.18	5,400	22.0	4.00
5	102.09	93.69	8.40	17.39	1230	7.73	4,800	22.0	4.50
6	101.96	93.77	8.19	16.68	1305	7.78	6,400	22.6	4.25

INSTRUMENT CALIBRATIONS =	4.01/7.00/10.00	2,800
DATE & TIME =	07/26/10	1145

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".

Excellent recovery in all MW 's sampled . Collected samples for BTEX per US EPA Method 8021B from all MW ' s .

Top of casing MW # 1 ~ 2.40 ft. , MW # 2 ~ 1.05 ft. , MW # 3R ~ 2.55 ft. , MW # 4R ~ 2.90 ft. , MW # 5 ~ 2.40 ft. , MW # 6 ~ 2.45 ft. above grade .

on-site	**11:14**	temp	**76 F**
off-site	**3:00**	temp	**84 F**
sky cond.	**Mostly sunny**		
wind speed	**0 - 5**	direct.	**SW - W**

Hall Environmental Analysis Laboratory, Inc.

Date: *04-Aug-10*

CLIENT: Blagg Engineering
Project: GCU #194
Lab Order: 1007A23

Lab ID: 1007A23-01
Client Sample ID: MW #1
Collection Date: 7/26/2010 11:55:00 AM
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	1.0		µg/L	1	8/2/2010 1:13:16 PM
Toluene	ND	1.0		µg/L	1	8/2/2010 1:13:16 PM
Ethylbenzene	ND	1.0		µg/L	1	8/2/2010 1:13:16 PM
Xylenes, Total	ND	2.0		µg/L	1	8/2/2010 1:13:16 PM
Surr: 4-Bromofluorobenzene	101	65.9-130		%REC	1	8/2/2010 1:13:16 PM

Lab ID: 1007A23-02
Client Sample ID: MW #2
Collection Date: 7/26/2010 2:45:00 PM
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	1.0		µg/L	1	8/2/2010 1:43:28 PM
Toluene	ND	1.0		µg/L	1	8/2/2010 1:43:28 PM
Ethylbenzene	ND	1.0		µg/L	1	8/2/2010 1:43:28 PM
Xylenes, Total	ND	2.0		µg/L	1	8/2/2010 1:43:28 PM
Surr: 4-Bromofluorobenzene	103	65.9-130		%REC	1	8/2/2010 1:43:28 PM

Lab ID: 1007A23-03
Client Sample ID: MW #3R
Collection Date: 7/26/2010 1:40:00 PM
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	1.0		µg/L	1	7/31/2010 2:26:10 AM
Toluene	ND	1.0		µg/L	1	7/31/2010 2:26:10 AM
Ethylbenzene	ND	1.0		µg/L	1	7/31/2010 2:26:10 AM
Xylenes, Total	ND	2.0		µg/L	1	7/31/2010 2:26:10 AM
Surr: 4-Bromofluorobenzene	109	65.9-130		%REC	1	7/31/2010 2:26:10 AM

Lab ID: 1007A23-04
Client Sample ID: MW #4R
Collection Date: 7/26/2010 2:10:00 PM
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	1.0		µg/L	1	7/31/2010 2:56:36 AM
Toluene	ND	1.0		µg/L	1	7/31/2010 2:56:36 AM
Ethylbenzene	2.7	1.0		µg/L	1	7/31/2010 2:56:36 AM
Xylenes, Total	ND	2.0		µg/L	1	7/31/2010 2:56:36 AM
Surr: 4-Bromofluorobenzene	109	65.9-130		%REC	1	7/31/2010 2:56:36 AM

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Estimated value	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	MCL	Maximum Contaminant Level
NC	Non-Chlorinated	ND	Not Detected at the Reporting Limit
PQL	Practical Quantitation Limit	S	Spike recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Date: *04-Aug-10*

CLIENT: Blagg Engineering
Project: GCU #194
Lab Order: 1007A23

Lab ID: 1007A23-05
Collection Date: 7/26/2010 12:30:00 PM
Client Sample ID: MW #5
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	1.0		µg/L	1	7/31/2010 3:26:48 AM
Toluene	ND	1.0		µg/L	1	7/31/2010 3:26:48 AM
Ethylbenzene	ND	1.0		µg/L	1	7/31/2010 3:26:48 AM
Xylenes, Total	ND	2.0		µg/L	1	7/31/2010 3:26:48 AM
Surr: 4-Bromofluorobenzene	108	65.9-130		%REC	1	7/31/2010 3:26:48 AM

Lab ID: 1007A23-06
Collection Date: 7/26/2010 1:05:00 PM
Client Sample ID: MW #6
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	1.0		µg/L	1	7/31/2010 3:57:03 AM
Toluene	ND	1.0		µg/L	1	7/31/2010 3:57:03 AM
Ethylbenzene	ND	1.0		µg/L	1	7/31/2010 3:57:03 AM
Xylenes, Total	ND	2.0		µg/L	1	7/31/2010 3:57:03 AM
Surr: 4-Bromofluorobenzene	107	65.9-130		%REC	1	7/31/2010 3:57:03 AM

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Estimated value	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	MCL	Maximum Contaminant Level
NC	Non-Chlorinated	ND	Not Detected at the Reporting Limit
PQL	Practical Quantitation Limit	S	Spike recovery outside accepted recovery limits

Chain-of-Custody Record

Client: BLAGG ENER./ BP AMERICA

Mailing Address: P.O. BOX 87
BLFD., 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: GCU #194

Project #:

Project Manager: NELSON VELEZ NV

Sampler: NELSON VELEZ

On Ice: ☒ Yes ☐ No

Sample Temperature: 4.2 <

HALL ENVIRONMENTAL ANALYSIS LABORATORY
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4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1007A23
7/26/10	1155	WATER	MW #1	40ml-2	HCl & cool	1
7/26/10	1445	WATER	MW #2	40ml-2	HCl & cool	2
7/26/10	1340	WATER	MW #3R	40ml-2	HCl & cool	3
7/26/10	1410	WATER	MW #4R	40ml-2	HCl & cool	4
7/26/10	1230	WATER	MW #5	40ml-2	HCl & cool	5
7/26/10	1305	WATER	MW #6	40ml-2	HCl & cool	6

Analysis Request

BTEX + ~~MTBE + TMB's~~ (8021B)	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 ($F, Cl, NO_3, NO_2, PO_4, SO_4$)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)					Air Bubbles (Y or N)
✓															
✓															
✓															
✓															
✓															
✓															

Date:	Time:	Relinquished by:	Received by:	Date	Time
7/28/10	1530			7/29/10	1000
Date:	Time:	Relinquished by:	Received by:	Date	Time

Remarks:

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: GCU #194 **Work Order:** 1007A23

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:	**R40133**	Analysis Date:	7/30/2010 9:20:23 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:	**R40133**	Analysis Date:	7/30/2010 7:50:21 PM		
Benzene	18.83	µg/L	1.0	20	0	94.2	87.9	121			
Toluene	18.38	µg/L	1.0	20	0	91.9	83	124			
Ethylbenzene	18.23	µg/L	1.0	20	0	91.2	81.7	122			
Xylenes, Total	55.63	µg/L	2.0	60	0	92.7	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: 7/29/2010

Work Order Number 1007A23 | Received by: TLS

Checklist completed by: _____ Signature | 7/29/10 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?	-1.2°	<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 _____