

3R – 389

**CLOSURE
REQUEST**

09 / 22 / 2010

BLAGG ENGINEERING, INC.

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

Phone (505) 632-1199 Fax (505) 632-1199

3R 389

RECEIVED OCD

2010 SEP 24 P 1:13

September 22, 2010

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

**RE: REQUEST FOR PERMANENT CLOSURE
BP America Production Company
Groundwater Monitoring Report
GCU # 194, Unit D, Sec. 5, T27N, R12W, NMPM
San Juan County, New Mexico**

NMOCD Administrative/Environmental Order #: 3RP-389-0

Dear Mr. von Gonten:

BP America Production Company (**BP**) has retained Blagg Engineering, Inc. (**BEI**) to conduct environmental monitoring of groundwater at the GCU # 194.

The last formal correspondence to NMOCD was conducted with letter dated, May 1, 2009. BP has followed its NMOCD approved groundwater management plan and is requesting permanent closure for this site.

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

***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

SAMPLE DATE	WELL NAME or No.	D.T.W. (ft)	T.D. (ft)	TDS (mg/L)	COND. umhos	pH	PRODUCT (ft)	BTEX EPA METHOD 8021B (ppb)			
								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

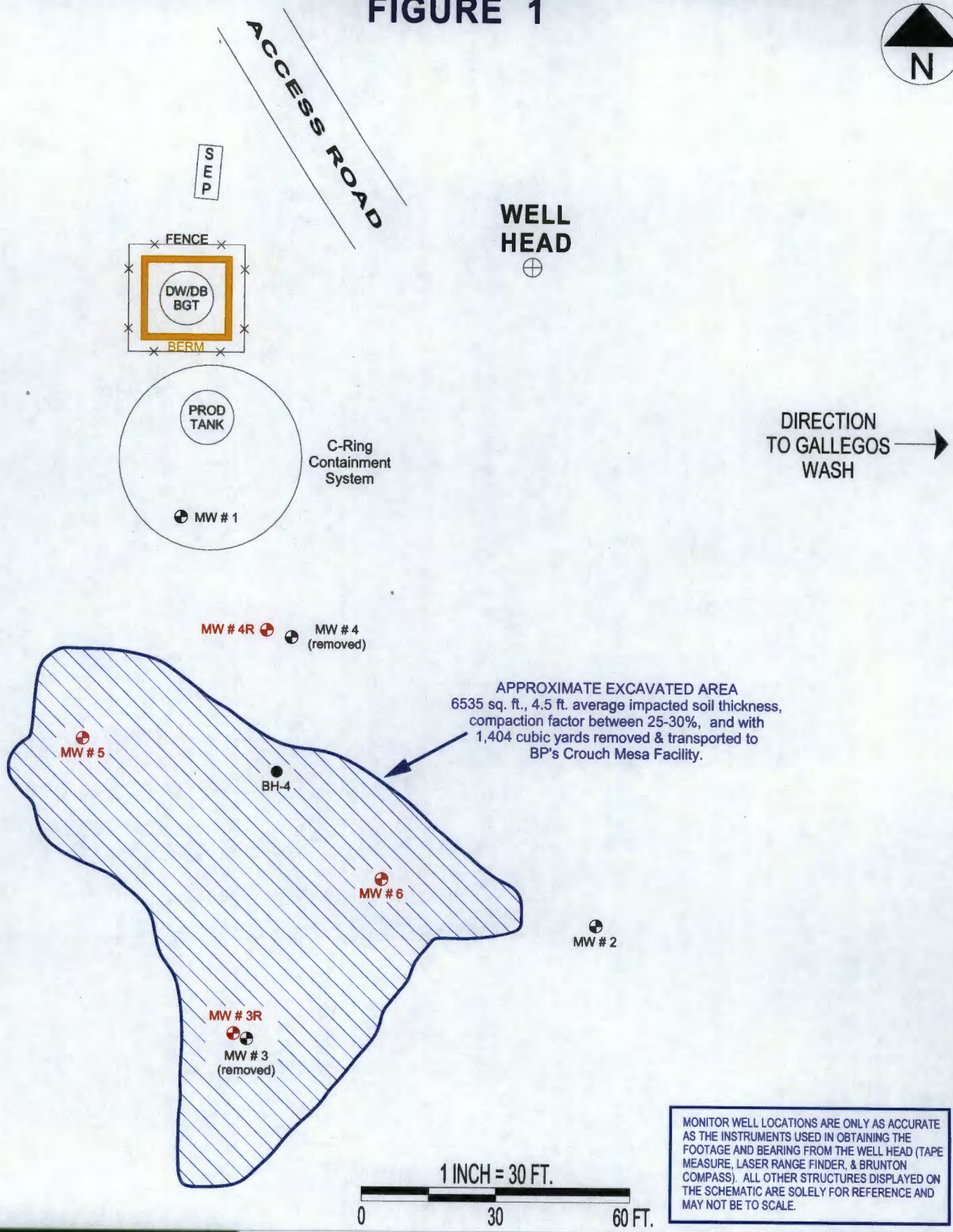
REVISED DATE: July 28, 2010

FILENAME: (194-3Q10.WK4) NJV

SAMPLE DATE	WELL NAME or No.	D.T.W. (ft)	T.D. (ft)	TDS (mg/L)	COND. umhos	pH	PRODUCT (ft)	BTEX EPA METHOD 8021B (ppb)			
								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



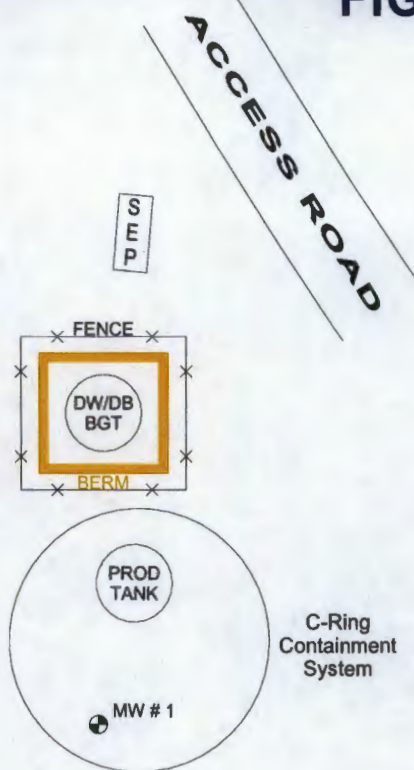
BP AMERICA PRODUCTION COMPANY
GCU # 194
NW/4 NW/4 SEC. 5, T27N, R12W, NMPM
SAN JUAN COUNTY, NEW MEXICO

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

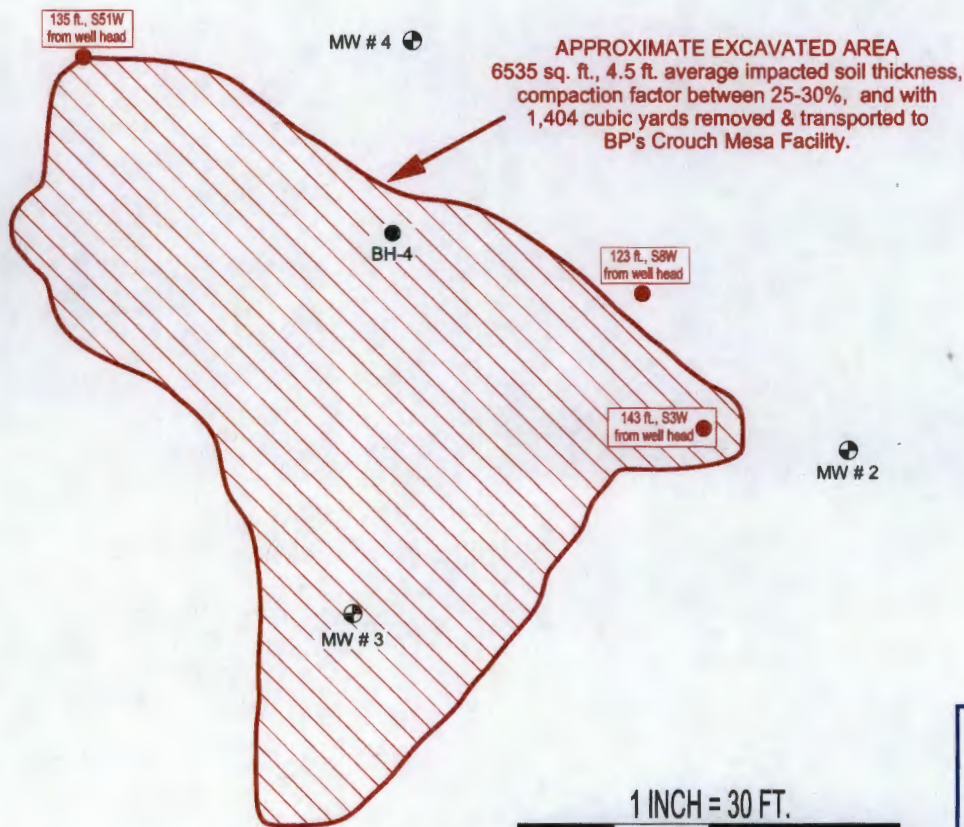


SAMPLE I.D. (designated by red dot)	DATE	TIME	OVM (ppm)	TPH (ppm)	Benzene (ppm)	Tot. BTEX (ppm)
G.S. @ 5.5 ft. (135 ft., S51W)	6/25/09	1354	614	290	ND	1.93
G.S. @ 6.0 ft. (135 ft., S51W)	6/25/09	1347	0.0	ND	ND	ND
G.S. @ 3.5 ft. (143 ft., S3W)	7/1/09	1440	874	371	ND	12.07
G.S. @ 6.0 ft. (123 ft., S8W)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



DIRECTION TO GALLEGOS WASH →

1 INCH = 30 FT.
0 30 60 FT.

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, NMMP
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: REMEDIATION
DRAWN BY: NJV
FILENAME: GCU 194-RM-1A.SKf
REVISED: 08-07-09 NJV

**SOIL/GROUNDWATER
REMEDATION
SCHEMATIC
07/09**

Hall Environmental Analysis Laboratory, Inc.

Date: 10-Jul-09

CLIENT: Blagg Engineering
Lab Order: 0906572
Project: GCU #194-H.R.R.E.
Lab ID: 0906572-01

Client Sample ID: G.S.@5.5'-(135',SS1W)
Collection Date: 6/25/2009 1:54:00 PM
Date Received: 6/26/2009
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
- 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

Hall Environmental Analysis Laboratory, Inc.

Date: 10-Jul-09

CLIENT: Blagg Engineering
Lab Order: 0906572
Project: GCU #194-H.R.R.E.
Lab ID: 0906572-02

Client Sample ID: G.S.@6'-(135', SS1W)
Collection Date: 6/25/2009 1:47:00 PM
Date Received: 6/26/2009
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
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

Hall Environmental Analysis Laboratory, Inc.

Date: 10-Jul-09

CLIENT: Blagg Engineering
Lab Order: 0907050
Project: GCU #194-H.R.R.E
Lab ID: 0907050-01

Client Sample ID: G.S @ 3.5' - (143-53W)
Collection Date: 7/1/2009 2:40:00 PM
Date Received: 7/2/2009
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
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

Hall Environmental Analysis Laboratory, Inc.

Date: 10-Jul-09

CLIENT: Blagg Engineering
Lab Order: 0907050
Project: GCU #194-H.R.R.E
Lab ID: 0907050-02

Client Sample ID: G.S. @ 3.5' (123, 58W)
Collection Date: 7/1/2009 3:10:00 PM
Date Received: 7/2/2009
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
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

Chain-of-Custody Record

Client: CLAGG ENV. / BP AMERICA

Mailing Address: P.O. BOX 87

BLFD., NM 87413

Phone #: 632-1199

email or Fax#: 92

QA/QC Package:

☒ Standard ☐ Level 4 (Full Validation)

☐ Other

☐ EDD (Type) _____

Turn-Around Time:

☒ Standard ☐ Rush

Project Name:

GCM #194-H.R.R.E.

Project #:

Project Manager:

Nelson Velez

Sampler:

Nelson Velez

Container Type and #

Preservative Type

Date

Matrix

Sample Request ID

6/25/09 1354 SOIL G.S.C. 5.5' - (135', SSIW)

6/25/09 1347 SOIL G.S.C. 6' - (135', SSIW)

Date:

Relinquished by:

Received by:

Date

Time

Date:

Relinquished by:

Received by:

Date

Time

Analysis Request

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)
☒	☒	☒	☒	☒	☒	☒	☒	☒	☒

Remarks: H.R.R.E. - HISTORICAL RELEASE REMEDIATION EFFORT
G.S. - GAOB SAMPLE
TPH - GAOB
DRD only

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:		7/8/2009 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:		7/8/2009 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:		7/8/2009 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:

Signature

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 ☐	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 ☒	
Container/Temp Blank temperature?	6.4°	<6° C Acceptable		<2 >12 unless noted below.

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**

Checklist completed by:

Signature

Date

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?

5.5°

<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

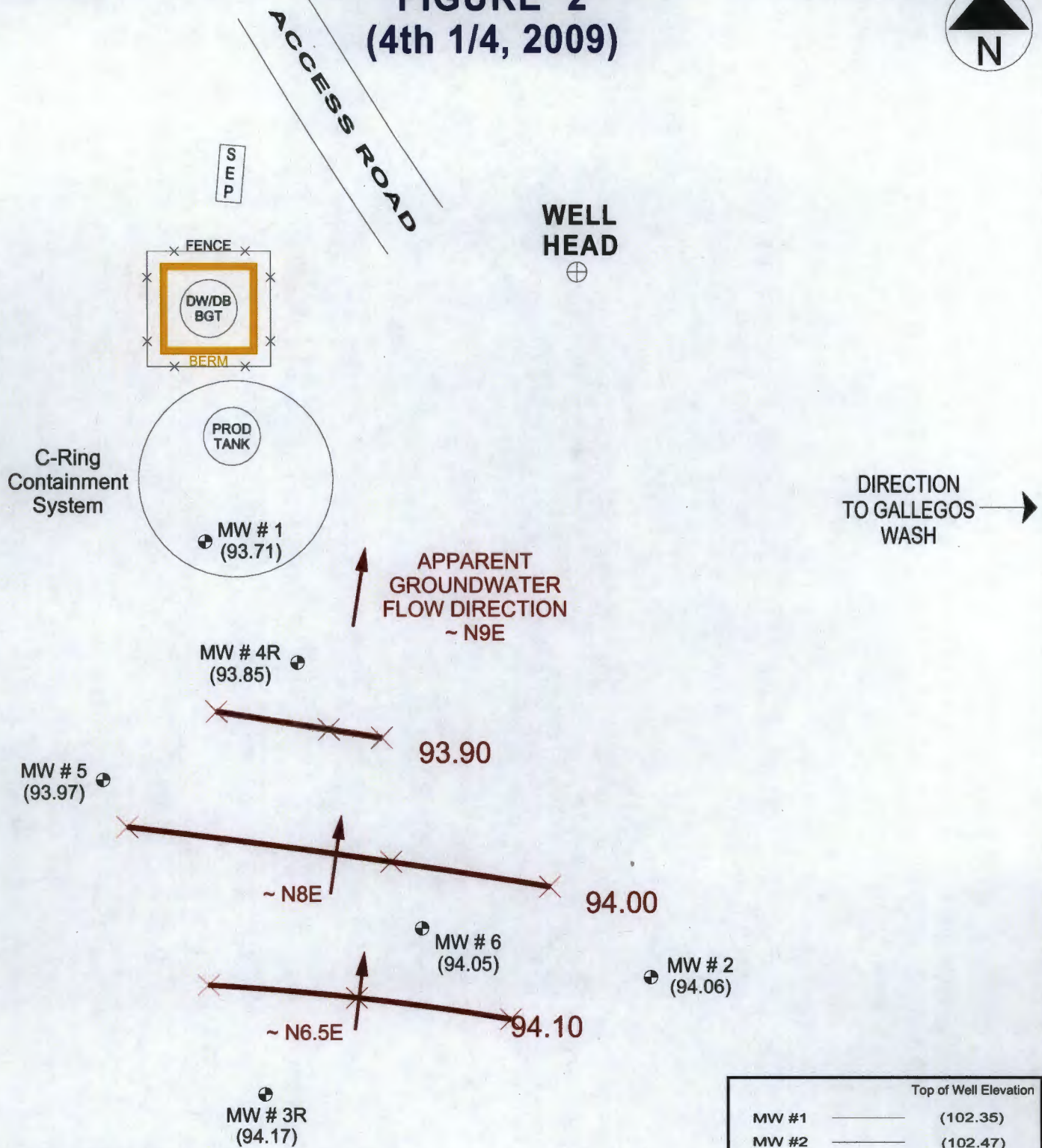
Contacted by:

Regarding:

Comments:

Corrective Action

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.

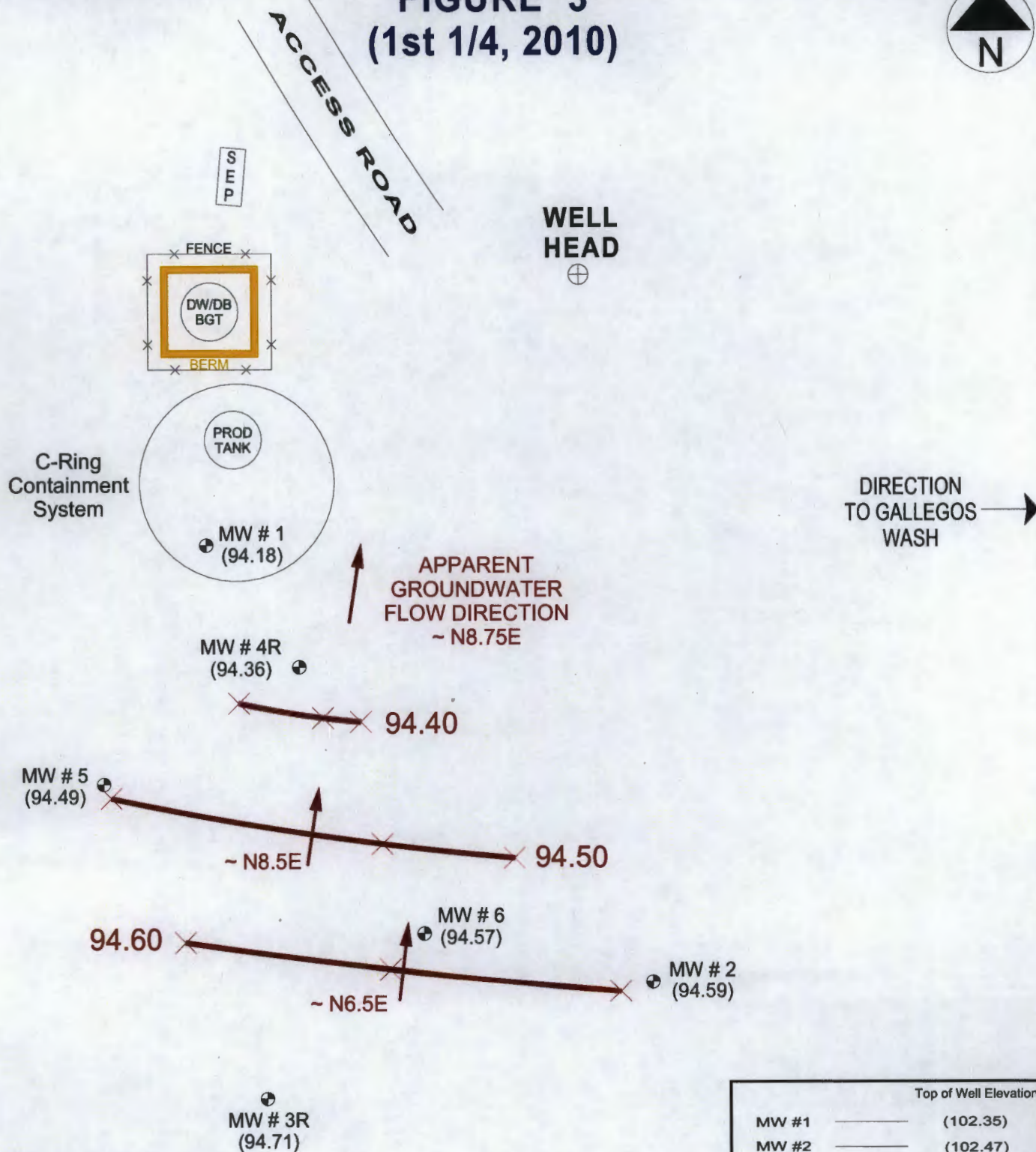
BP AMERICA PRODUCTION COMPANY
GCU # 194
NW/4 NW/4 SEC. 5, T27N, R12W, NMPM
SAN JUAN COUNTY, NEW MEXICO

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)



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.

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.

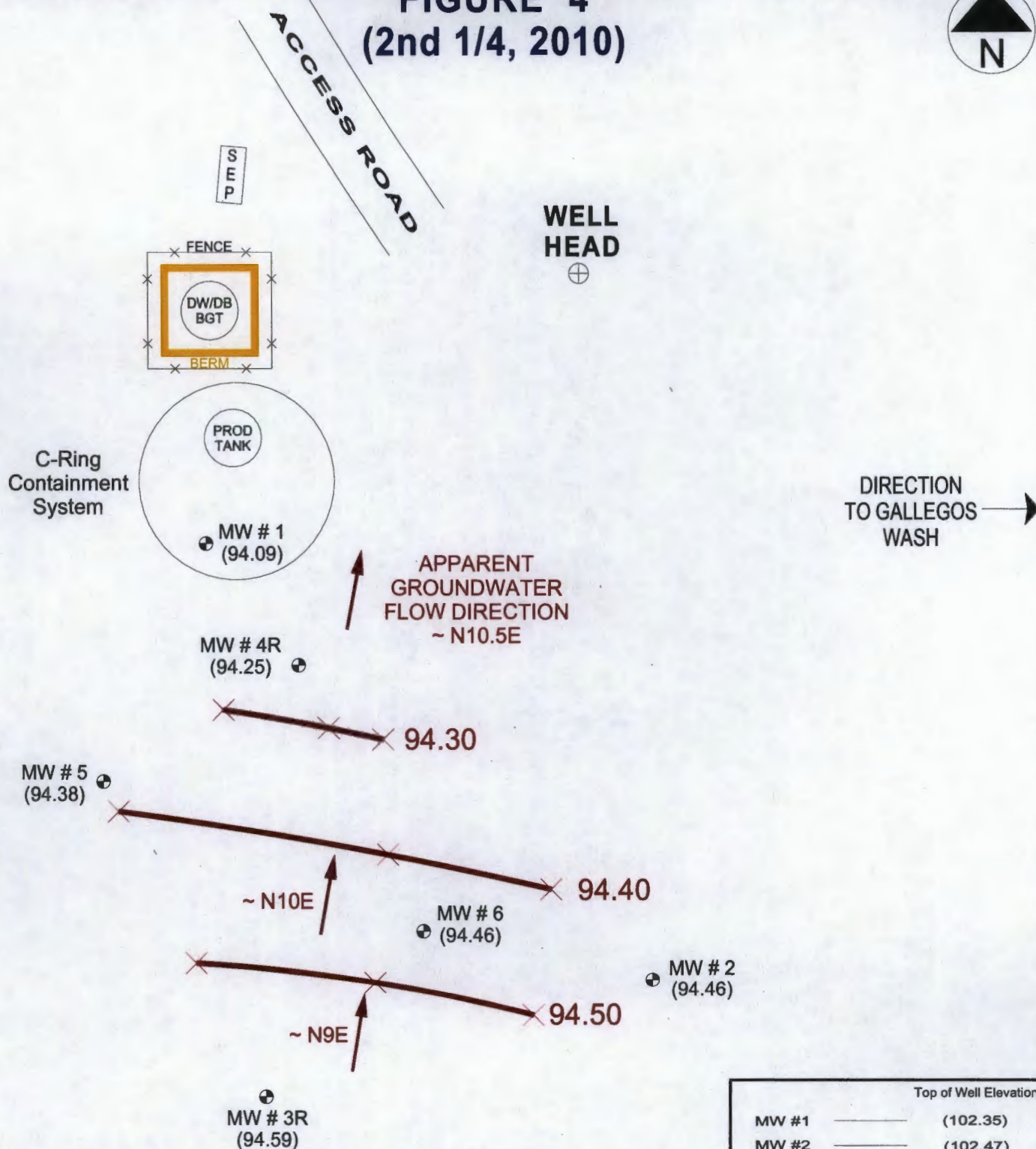
BP AMERICA PRODUCTION COMPANY
GCU # 194
NW/4 NW/4 SEC. 5, T27N, R12W, NMPM
SAN JUAN COUNTY, NEW MEXICO

BLAGG ENGINEERING, I NC.
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)



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 (94.09)	_____	Groundwater Elevation as of 05/13/10.

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.

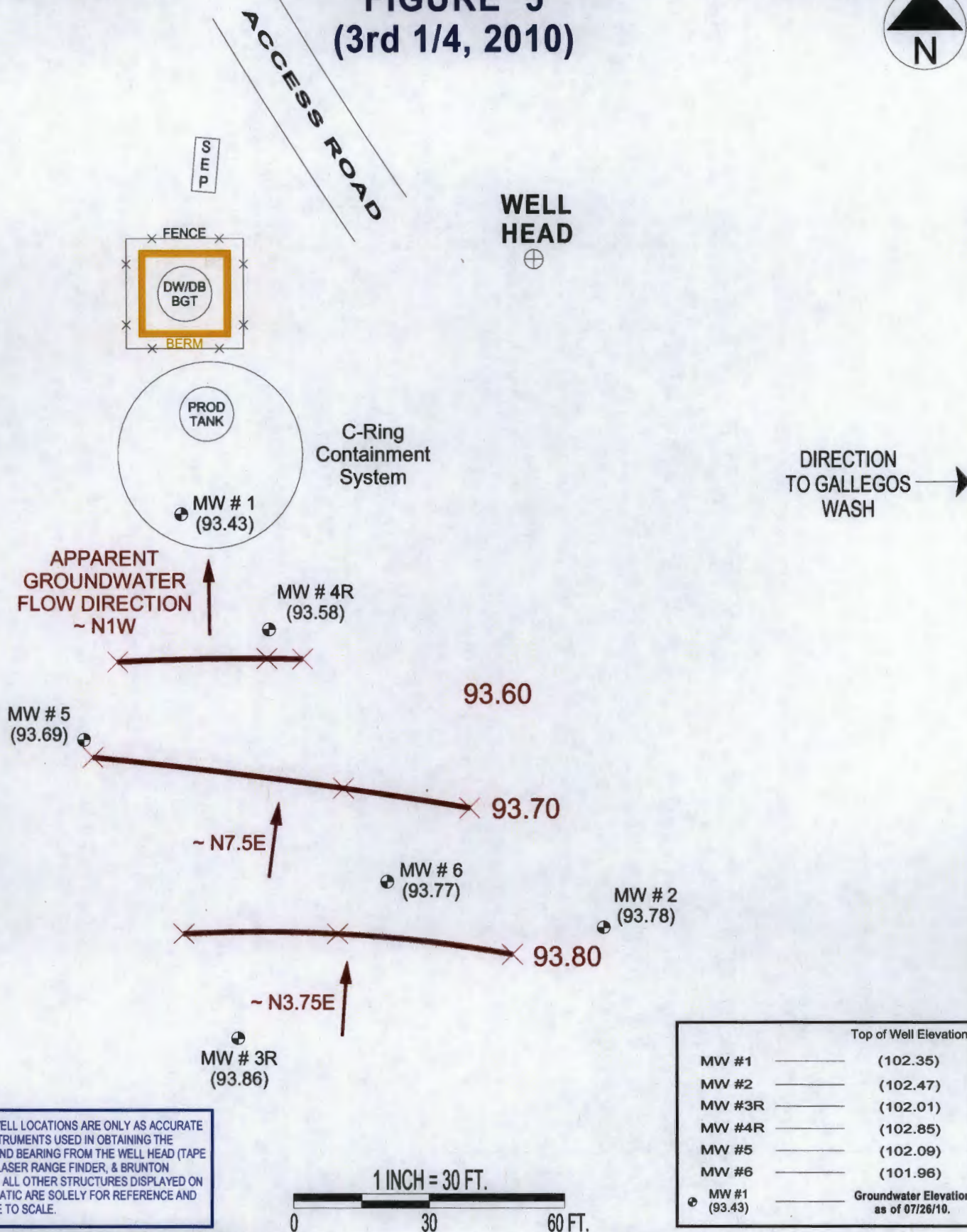
BP AMERICA PRODUCTION COMPANY
GCU # 194
NW/4 NW/4 SEC. 5, T27N, R12W, NMPM
SAN JUAN COUNTY, NEW MEXICO

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: 05-13-10-GW.SKF
REVISED: 05-13-10 NJV

**GROUNDWATER
CONTOUR
MAP
05/10**

FIGURE 5
(3rd 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: 07-26-10-GW.SKF
REVISED: 07-26-10 NJV

**GROUNDWATER
CONTOUR
MAP
07/10**

BLAGG ENGINEERING, Inc.

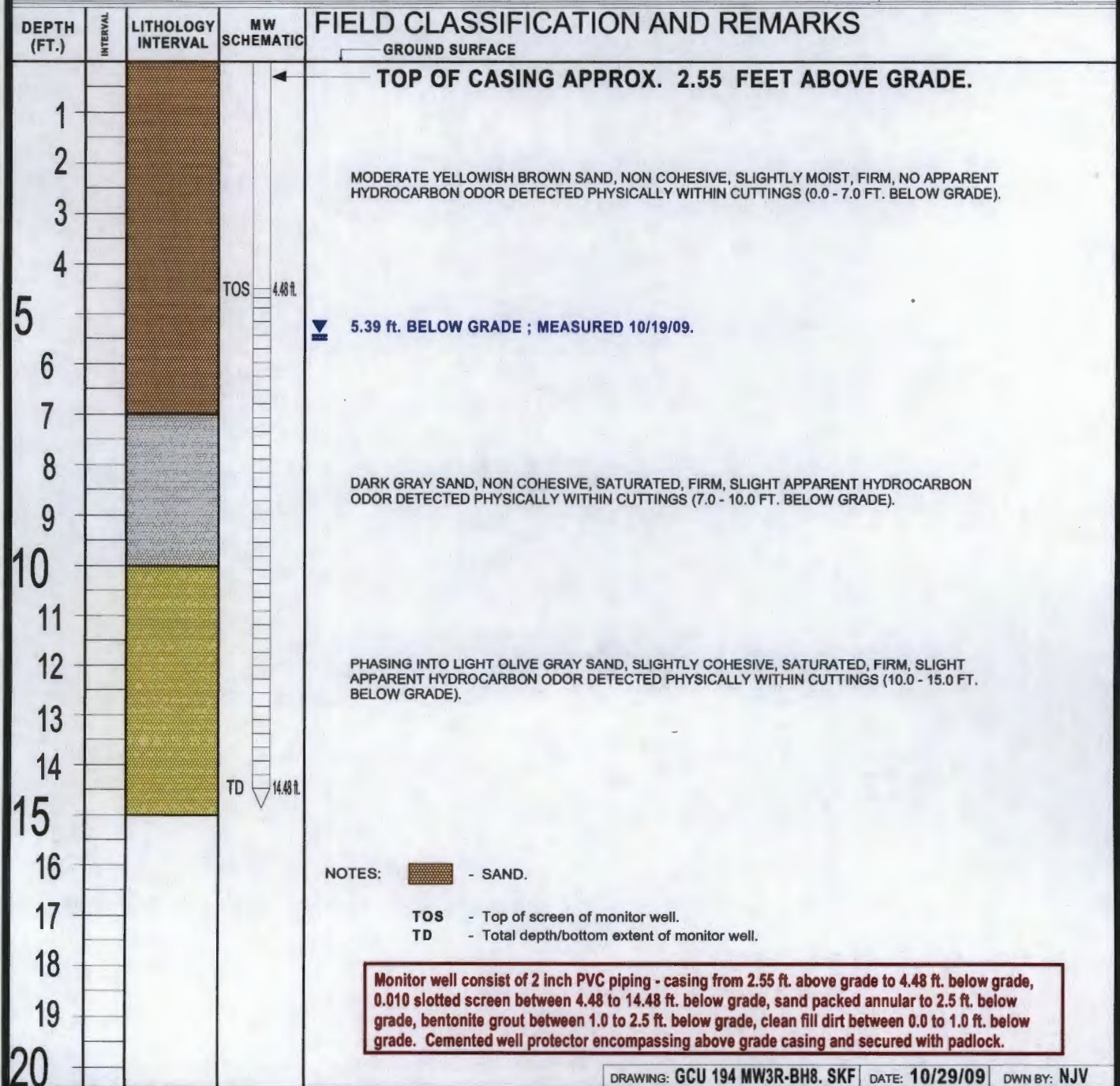
P.O. BOX 87
BLOOMFIELD, NM 87413
(505) 632-1199

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**



BLAGG ENGINEERING, Inc.

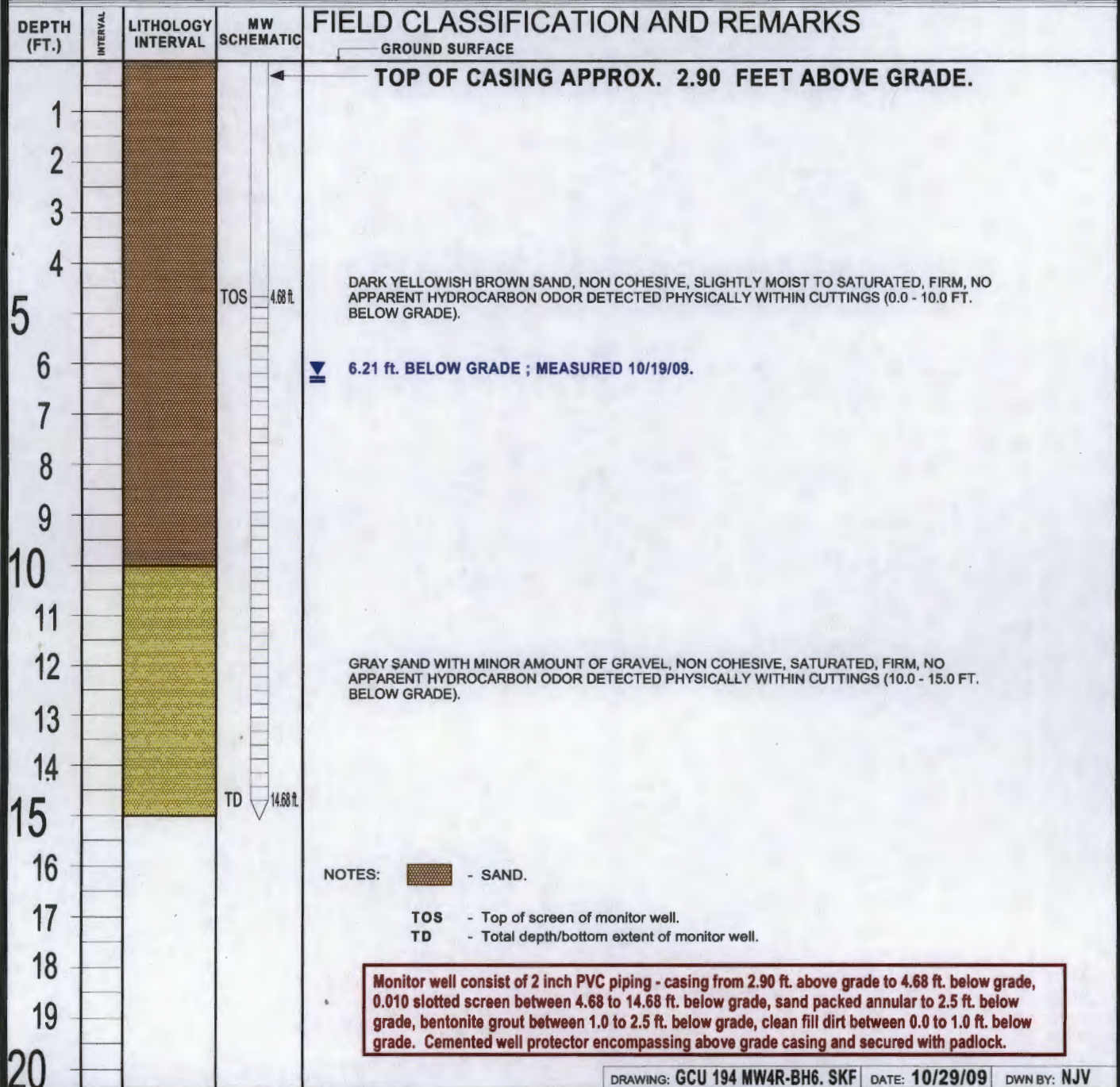
P.O. BOX 87
BLOOMFIELD, NM 87413
(505) 632-1199

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**



BLAGG ENGINEERING, Inc.

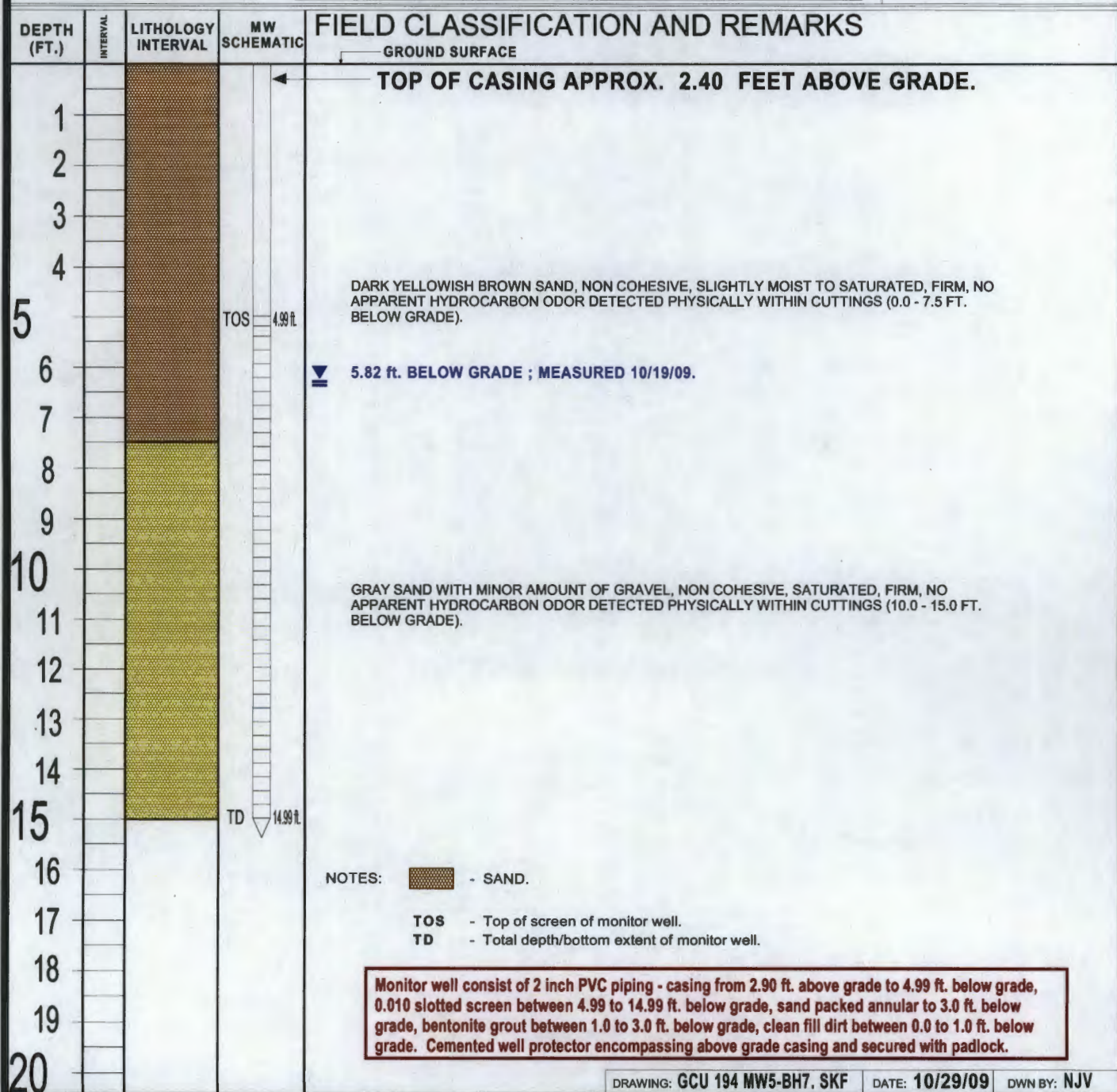
P.O. BOX 87
BLOOMFIELD, NM 87413
(505) 632-1199

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**



BLAGG ENGINEERING, Inc.

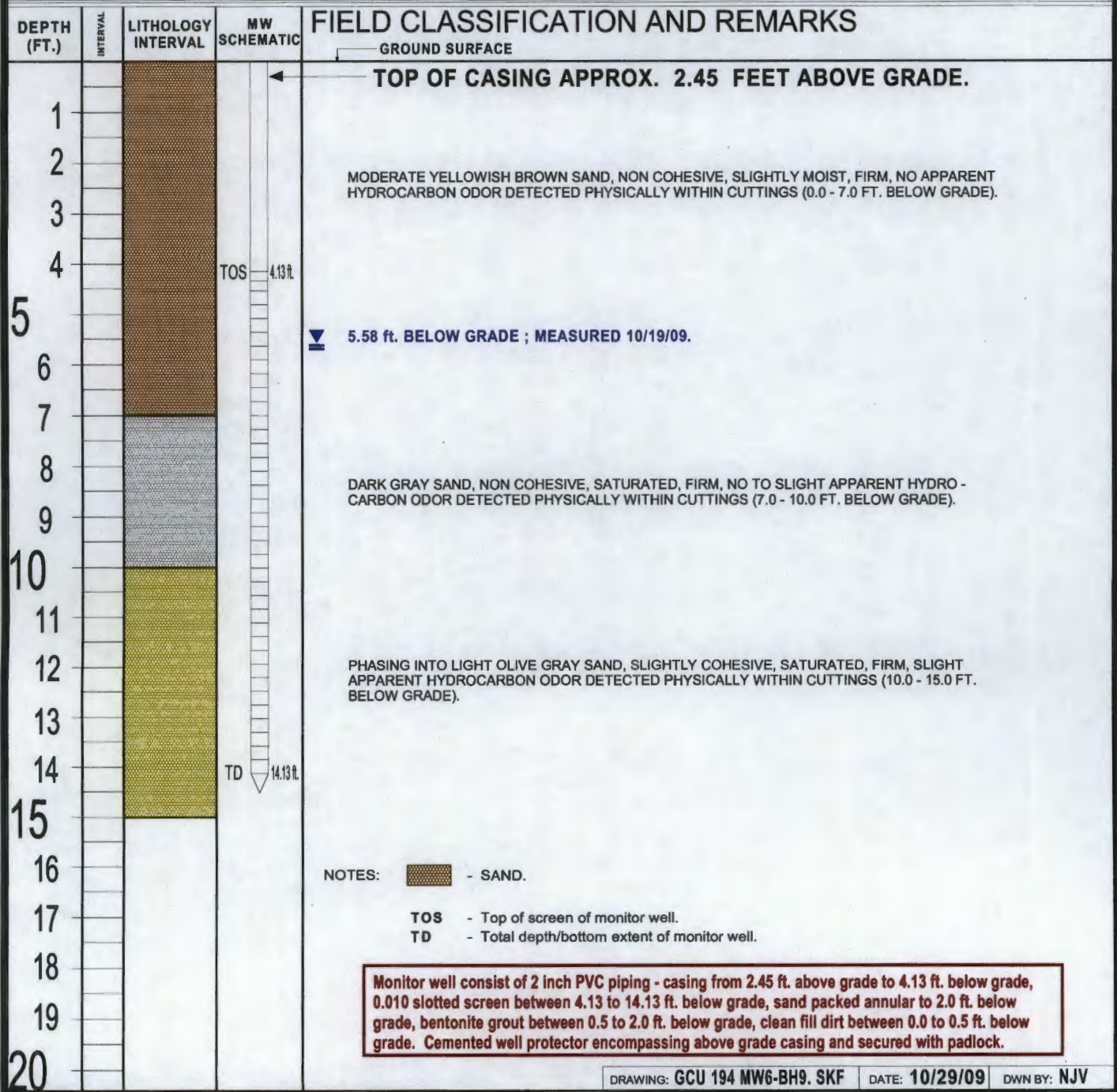
P.O. BOX 87
BLOOMFIELD, NM 87413
(505) 632-1199

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**



BLAGG ENGINEERING, INC.

MONITOR WELL DEVELOPMENT & / OR SAMPLING DATA

CLIENT: BP AMERICA PROD. CO.

CHAIN-OF-CUSTODY #: N / A

GCU # 194 - SEPARATOR PIT

LABORATORY (S) USED: HALL ENVIRONMENTAL

UNIT D, SEC. 5, T27N, R12W

Date: November 4, 2009

DEVELOPER / SAMPLER: NJV

Filename: 11-04-09.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.)
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: $V = \pi \times r^2 \times h \times 7.48 \text{ gal./ft}^3 \times 3 \text{ (wellbores)}$.
(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".

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
Lab Order: 0911093
Project: GCU #194
Lab ID: 0911093-01

Client Sample ID: MW #1
Collection Date: 11/4/2009 10:10:00 AM
Date Received: 11/5/2009
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
- 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

Hall Environmental Analysis Laboratory, Inc.

Date: 23-Nov-09

CLIENT: Blagg Engineering
Lab Order: 0911093
Project: GCU #194
Lab ID: 0911093-02

Client Sample ID: MW #3R
Collection Date: 11/4/2009 12:20:00 PM
Date Received: 11/5/2009
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 3:08:31 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
- 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

Hall Environmental Analysis Laboratory, Inc.

Date: 23-Nov-09

CLIENT: Blagg Engineering
Lab Order: 0911093
Project: GCU #194
Lab ID: 0911093-03

Client Sample ID: MW #4R
Collection Date: 11/4/2009 10:30:00 AM
Date Received: 11/5/2009
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
- 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

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
- 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

Hall Environmental Analysis Laboratory, Inc.

Date: 23-Nov-09

CLIENT: Blagg Engineering
Lab Order: 0911093
Project: GCU #194
Lab ID: 0911093-05

Client Sample ID: MW #6
Collection Date: 11/4/2009 11:50:00 AM
Date Received: 11/5/2009
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
- 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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

Turn-Around Time:

☒ Standard ☐ Rush

Project Name:

659 #1924

Project #:

Phone #: 632-1199

email or Fax#:

QA/QC Package:

☐ Level 4 (Full Validation)☐ Other☐ EDD (Type)

Project Manager:

Nelson Veer

Sampler: NELSON VELEZ

Date	Time	Matrix	Sample Request ID
11/4/09	1010	WATER	MW #1
11/4/09	1220	WATER	MW #3R
"	"	"	"
"	"	"	"
11/4/09	1030	WATER	MW #4R
"	"	"	MW #4R "
"	"	"	"
11/4/09	1100	WATER	MW #5
"	"	"	"
"	"	"	"
11/4/09	1150	WATER	MW #6
"	"	"	"
"	"	"	"

Relinquished by:

Date _____ Time _____

0071

Requiescat in

Relinquished 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:	R36065	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:	R36065	Analysis Date:	11/5/2009 11:40:38 AM								
Fluoride	0.5280	mg/L	0.10	0.5	0	108	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 8010B: 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

LABORATORY (S) USED : HALL ENVIRONMENTAL

UNIT D, SEC. 5, T27N, R12W

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: $V = \pi \times r^2 \times h \times 7.48 \text{ gal./ft}^3 \times 3 \text{ (wellbores)}$.
(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".

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

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

Chain-of-Custody Record																																			
Client: <u>BLAGE ENGR. / BP AMERICA</u>																																			
Mailing Address: <u>P.O. BOX 87</u> <u>BUFFO, NM 87413</u>																																			
Phone #: <u>(505) 632-1199</u>																																			
email or Fax#: _____																																			
QA/QC Package: ☒ Standard ☐ Level 4 (Full Validation)																																			
☐ Other _____ ☐ EDD (Type) _____																																			
Turn-Around Time: ☒ Standard ☐ Rush																																			
Project Name: <u>GCN # 194</u>																																			
Project #: _____																																			
Project Manager: <u>Nelson Velez</u>																																			
Sampler: <u>Nelson Velez</u>																																			
On Ice: ☒ YES ☐ NO																																			
Sample Temperature: _____																																			
<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 15%;">Date</th> <th style="width: 15%;">Time</th> <th style="width: 20%;">Matrix</th> <th style="width: 20%;">Sample Request ID</th> </tr> </thead> <tbody> <tr> <td>7/23/10</td> <td>1015</td> <td>WATER</td> <td>MW #3R</td> </tr> <tr> <td>7/23/10</td> <td>1125</td> <td>WATER</td> <td>MW #4R</td> </tr> <tr> <td>7/23/10</td> <td>1210</td> <td>WATER</td> <td>MW #5</td> </tr> <tr> <td>7/23/10</td> <td>1050</td> <td>WATER</td> <td>MW #6</td> </tr> </tbody> </table> <table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 20%;">Container Type and #</th> <th style="width: 20%;">Preservative Type</th> </tr> </thead> <tbody> <tr> <td>2-40ml</td> <td>HCl + COOL</td> </tr> <tr> <td>2-40ml</td> <td>HCl + COOL</td> </tr> <tr> <td>2-40ml</td> <td>HCl + COOL</td> </tr> <tr> <td>2-40ml</td> <td>HCl + COOL</td> </tr> </tbody> </table> <table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 10%;">Sealing</th> </tr> </thead> <tbody> <tr> <td>100256</td> </tr> </tbody> </table>				Date	Time	Matrix	Sample Request ID	7/23/10	1015	WATER	MW #3R	7/23/10	1125	WATER	MW #4R	7/23/10	1210	WATER	MW #5	7/23/10	1050	WATER	MW #6	Container Type and #	Preservative Type	2-40ml	HCl + COOL	2-40ml	HCl + COOL	2-40ml	HCl + COOL	2-40ml	HCl + COOL	Sealing	100256
Date	Time	Matrix	Sample Request ID																																
7/23/10	1015	WATER	MW #3R																																
7/23/10	1125	WATER	MW #4R																																
7/23/10	1210	WATER	MW #5																																
7/23/10	1050	WATER	MW #6																																
Container Type and #	Preservative Type																																		
2-40ml	HCl + COOL																																		
2-40ml	HCl + COOL																																		
2-40ml	HCl + COOL																																		
2-40ml	HCl + COOL																																		
Sealing																																			
100256																																			
Received by: <u>[Signature]</u> Date: <u>8/25/10</u> Time: <u>155</u>																																			
Relinquished by: <u>[Signature]</u> Date: <u>7/23/10</u> Time: <u>1615</u>																																			
Relinquished by: _____ Date: _____ Time: _____																																			

4901 Hawkins NE - Albuquerque, NM 87109
Tel: 505-345-3975 Fax 505-345-4107
www.hallenvironmental.com

[illegible]

Any sub-contracted data will be clearly notated on the analytical report. Any sub-contracted data may be sub-contracted to other accredited laboratories. This serves as notice of this possibility.

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**

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 ☒

Number of preserved
bottles checked for
pH:

<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: NJV

Filename: 05-13-10.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.)
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: $V = \pi \times r^2 \times h \times 7.48 \text{ gal./ft}^3 \times 3 \text{ (wellbores)}$
 (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 ".

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
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

Chain-of-Custody Record

Client: BAE ENR. / BP AMERICA

Mailing Address: P.O. BOX 87

Phone #: 505 632-1199

email or Fax#: BLVD, NM 87413

QA/QC Package: ☐ Level 4 (Full Validation)

☒ Standard ☐ Other

Accreditation ☐ NELAP ☐ Other

☐ EDD (Type)

Project Manager: Nelson Velez

Sampler: Nelson Velez

Container Type and #

Preservative Type

Sample Request ID

Date

Time

Matrix

Sample Request ID

Date

Time

Matrix

Sample Request ID

Date

Time

Matrix

Sample Request ID

Date

Time

Matrix

Sample Request ID

Turn-Around Time:

☒ Standard ☐ Rush

Project Name:

GCU #194

Project #:

Project Manager:

Nelson Velez

Sampler:

Nelson Velez

Container Type and #

Preservative Type

Sample Request ID

Date

Time

Matrix

Sample Request ID

Date

Time

Matrix

Sample Request ID

Date

Time

Matrix

Sample Request ID

Date

Time

Matrix

Sample Request ID

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

TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PMA 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)
BTEX + MTBE + TPH (Gas only)									
BTEX + MTBE + TMBs (8021B)									

✓									
✓									
✓									
✓									

Remarks:

Date:	Time:	Relinquished by:	Received by:	Date:	Time:
5/13/10	1530	<u>John VG</u>	<u>[Signature]</u>	5/14/10	9:00
Date:	Time:	Relinquished by:	Received by:	Date:	Time:

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:

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?	2.6°	<6° C Acceptable		
COMMENTS:	If given sufficient time to cool.			

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: $V = \pi \times r^2 \times h \times 7.48 \text{ gal./ft}^3 \times 3 \text{ (wellbores)}$
(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".

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

Collection Date: 7/26/2010 11:55:00 AM

Client Sample ID: MW #1

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

Collection Date: 7/26/2010 2:45:00 PM

Client Sample ID: MW #2

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

Collection Date: 7/26/2010 1:40:00 PM

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	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

Collection Date: 7/26/2010 2:10:00 PM

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	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
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

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
- 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

**HALL ENVIRONMENTAL
ANALYSIS LABORATORY**

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

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

Analysis Request

				(٧٠)				(١٥)	(٢٤)
--	--	--	--	------	--	--	--	------	------

(Ga) as/PO₄ PO₄

0821021

+	TH	15E	18.1	04.1	(AH)	O_3, N_2	8 / 8	(A)
---	----	-----	------	------	------	--------------------------	-------	-----

BE - 180 d 4 d 50 or P tals I, NC /des (v) VO

MTT
thoc
etho
etho
NA d
Me
F, Cl
stic
/O/A
emi-

(See
B (V
Pos
ns (I
A 8
(PN
(Me
(Me
Met

TEK	PH	PH	DB	310	CRA	minor	081	260	270
-----	----	----	----	-----	-----	-------	-----	-----	-----

B	T	T	E	83	R	A	80	83	83
---	---	---	---	----	---	---	----	----	----

[illegible]

[illegible][illegible][illegible][illegible][illegible][illegible][illegible][illegible]

[illegible][illegible][illegible]

marks:

1. The first step is to identify the problem or question that needs to be answered. This involves understanding the context and the specific requirements of the task.

ility. Any sub-contracted data will be clearly rotated on the analytical

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

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:

7/29/2010

Work Order Number **1007A23**

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?

-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