

3R – 410

**CLOSURE
REQUEST**

09 / 22 / 2010

BLAGG ENGINEERING, INC.

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

Phone: (505) 966-1111 Fax: (505) 966-1112

3R410

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
Sammons GC F # 1, Unit A, Sec. 18, T29N, R9W, NMPM
San Juan County, New Mexico**

NMOCD Administrative/Environmental Order #: 3RP-410-0

Dear Mr. von Gonten:

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

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

***SAMMONS GC F #1
(A) SECTION 18, T29N, R9W, 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
SAMMONS GC F # 1 – Production Tank Pit
NE/4 NE/4, Sec. 18, T29N, R9W**

<u>Remediation via Excavation Date:</u>	5/28/09
<u>Monitor Well Installation Dates:</u>	10/20/09 (MW # 2R)
<u>Monitor Well Sampling Dates:</u>	3/31/09, 5/16/09, 10/26/09, 2/24/10, 5/12/10

Site History:

A groundwater impact was identified following closure of a production tank pit in August 2004. Documentation for this work and subsequent groundwater monitoring data for the site have previously been submitted for New Mexico Oil Conservation Division (**NMOCD**) review. The reporting herein is for site monitoring from March 2009 to May 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:

On May 28, 2009, excavation of the source area was conducted using a trackhoe (Figure 2). Groundwater depth was recorded at approximately five (5) feet below surface grade during the removal of impacted soils. The excavation perimeter was measured at approximately 25 X 28 X 6 feet depth. Approximately 96 cubic yards of soil were removed and transported to BP's Crouch Mesa Facility.

MW #2R was installed on October 20, 2009 and quarterly sampling was initiated thereafter. Boring log of MW #2R along with its well completion information is contained within this report.

Water Quality and Gradient Information:

MW #2R has tested below the New Mexico Water Quality Control Commission (**NMWQCC**) standards for at least four (4) consecutive sampling events. Down gradient delineation appears to have been achieved, based on test results of MW #3A. 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 3 through Figure 7) reveal the relative elevations from the site wells have consistently shown an apparent southeast flow direction toward MW #3A.

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.

**SAMMONS GC F # 1 - PROD. TANK PIT
UNIT A, SEC. 18, T29N, R9W**

REVISED DATE: May 26 2010

FILENAME: (SF1-2Q10.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
19-Sep-07	MW #1A	5.25	15.00		700	6.86		ND	ND	ND	ND
14-Nov-06	MW #2A	6.05	13.00		1,300	6.96		10	ND	14	1,000
26-Feb-07		5.92			1,500	6.91		ND	ND	ND	670
22-May-07		3.86			900	6.78		14	ND	ND	270
16-Aug-07		5.12			1,200	6.73		4.9	ND	7.8	2,300
03-Dec-07		3.83	11.22		1,200	7.12		3.7	3.4	2.1	1,200
04-Apr-08		2.59			1,000	6.90		2.3	ND	1.2	1,100
27-Jun-08		1.31			1,200	6.97		3.8	ND	ND	534
25-Aug-08		2.65			1,100	7.03		3.0	ND	ND	1,700
"	duplicate	"			"	"		3.3	ND	ND	1,700
19-Dec-08		4.09			900	7.30		2.2	ND	ND	740
31-Mar-09		4.45			800	7.22		3.3	1.1	1.4	240
16-May-09		1.99			900	7.05		9.7	2.2	1.5	570
26-Oct-09	MW # 2R	3.72	10.93		1,600	7.25		ND	6.0	16	330
24-Feb-10		2.96			2,900	7.37		1.0	ND	1.2	16
12-May-10		2.63			2,100	7.35		2.6	ND	3.4	9.3
19-Sep-07	MW #3A	3.11	13.50		900	6.74		ND	ND	ND	ND
03-Dec-07		3.49			900	7.11		ND	ND	ND	ND
04-Apr-08		2.15			900	6.88		ND	ND	ND	ND
27-Jun-08		0.94			800	7.02		ND	ND	ND	ND
12-May-10		2.62			900	7.22		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 PROCEEDING RESULTS 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 & BEARING FROM THE WELL HEAD (TAPE MEASURE, LASER RANGE FINDER, & BRUNTON COMPASS). ALL OTHER STRUCTURES DISPLAYED ON THIS MAP ARE SOLELY FOR REFERENCE AND MAY NOT BE TO SCALE.



BP AMERICA PRODUCTION CO.

SAMMONS GC F # 1

NE/4 NE/4 SEC. 18, T29N, R9W

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: GW MONITORING

DRAWN BY: NJV

FILENAME: SAMMONS GC F 1-SM3.SKF

REVISED: 08-03-10

**SITE
MAP**

03/09

FIGURE 2



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

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

BP AMERICA PRODUCTION CO.
 SAMMONS GC F # 1
 NE/4 NE/4 SEC. 18, T29N, R9W
 SAN JUAN COUNTY, NEW MEXICO

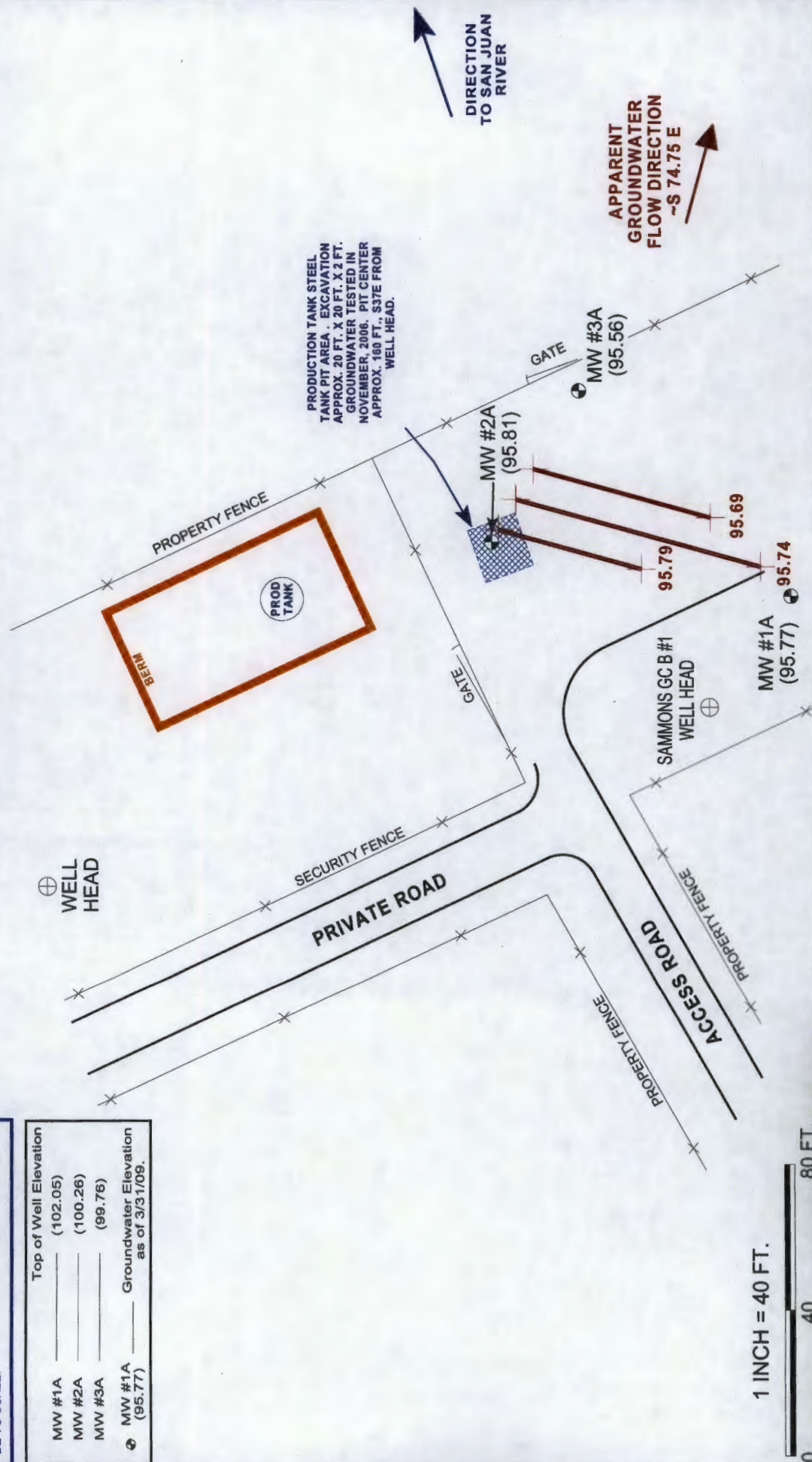
PROJECT: REMEDIATION
DRAWN BY: NJV
FILENAME: SAMMONS GC F 1-RM-1A.SK7
REVISED: 08-07-09

SOIL/GROUNDWATER REMEDIATION SCHEMATIC
 05/09

FIGURE 3 (1st 1/4, 2009)

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

Top of Well Elevation	
MW #1A	(102.05)
MW #2A	(100.26)
MW #3A	(99.76)
⊕ MW #1A	Groundwater Elevation as of 3/31/09.



BP AMERICA PRODUCTION CO.

SAMMONS GC F # 1

NE/4 NE/4 SEC. 18, T29N, R9W

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: 03-31-09-GW.SKF

REVISED: 04-01-09

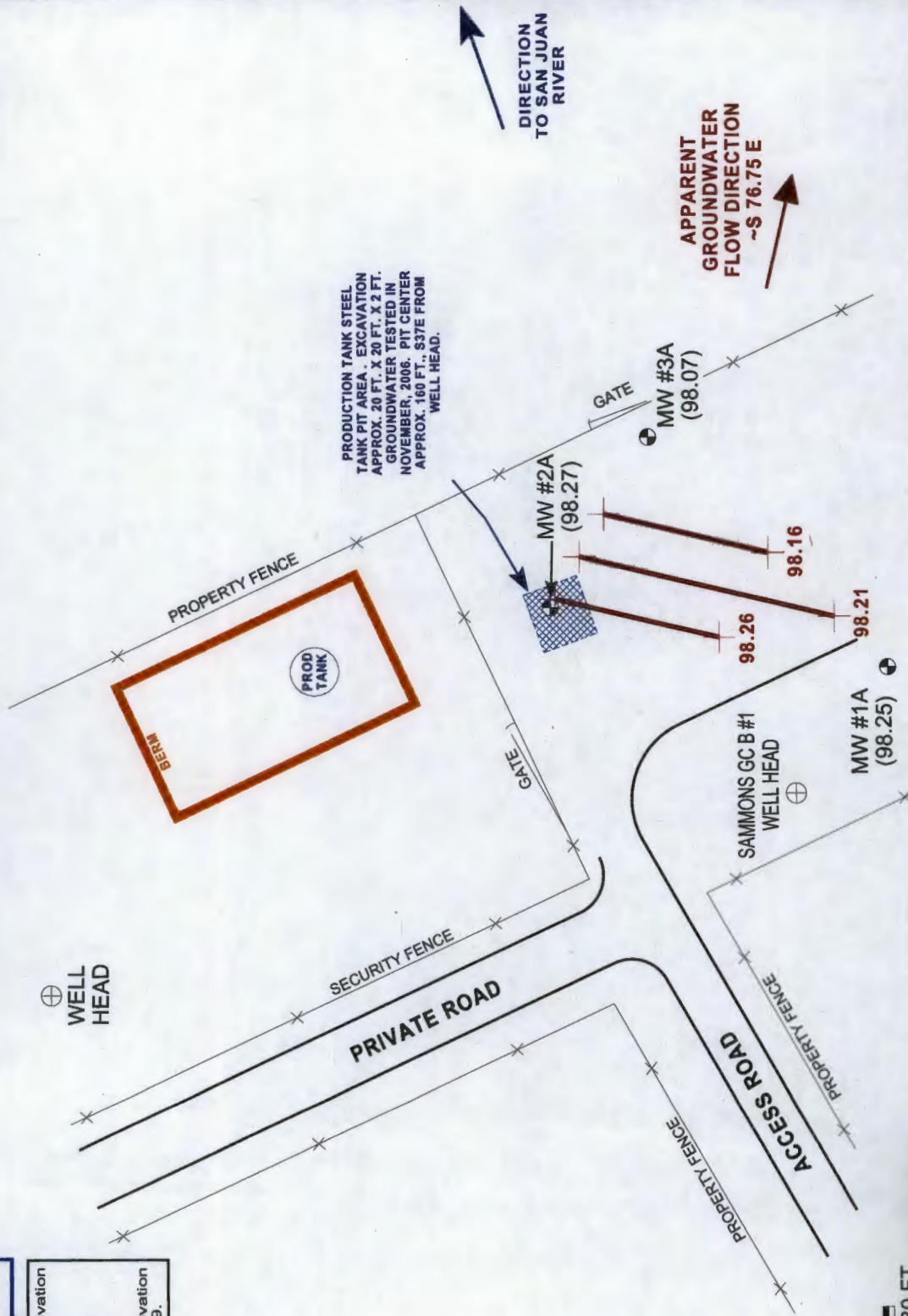
**GROUNDWATER
CONTOUR
MAP**

03/09

FIGURE 4 (2nd 1/4, 2009)

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

Top of Well Elevation	
MW #1A	(102.05)
MW #2A	(100.26)
MW #3A	(99.76)
⊕ MW #1A	Groundwater Elevation as of 5/16/09.



BP AMERICA PRODUCTION CO.

SAMMONS GC F # 1

NE/4 NE/4 SEC. 18, T29N, R9W

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: 05-16-09-GW.SKF

REVISED: 05-23-09

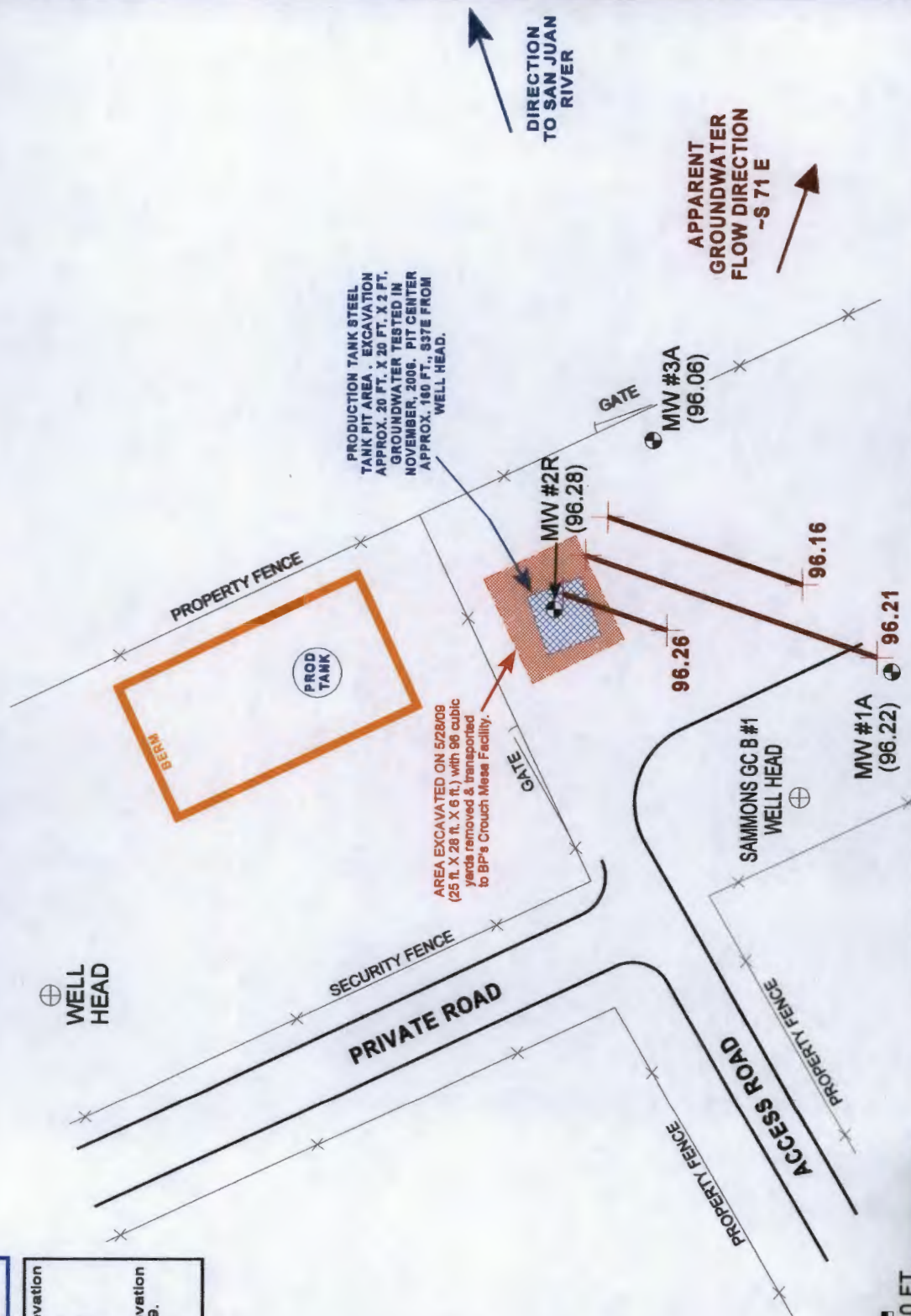
**GROUNDWATER
CONTOUR
MAP**

05/09

FIGURE 5 (4th 1/4, 2009)

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

Top of Well Elevation	
MW #1A	(102.04)
MW #2R	(100.00)
MW #3A	(99.74)
⊕ MW #1A	Groundwater Elevation as of 5/16/09.
Well tops resurveyed on 10/22/09.	



BP AMERICA PRODUCTION CO.

SAMMONS GC F # 1

NE/4 NE/4 SEC. 18, T29N, R9W

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: 10-26-09-GW.SKF

REVISED: 10-26-09

GROUNDWATER
CONTOUR
MAP

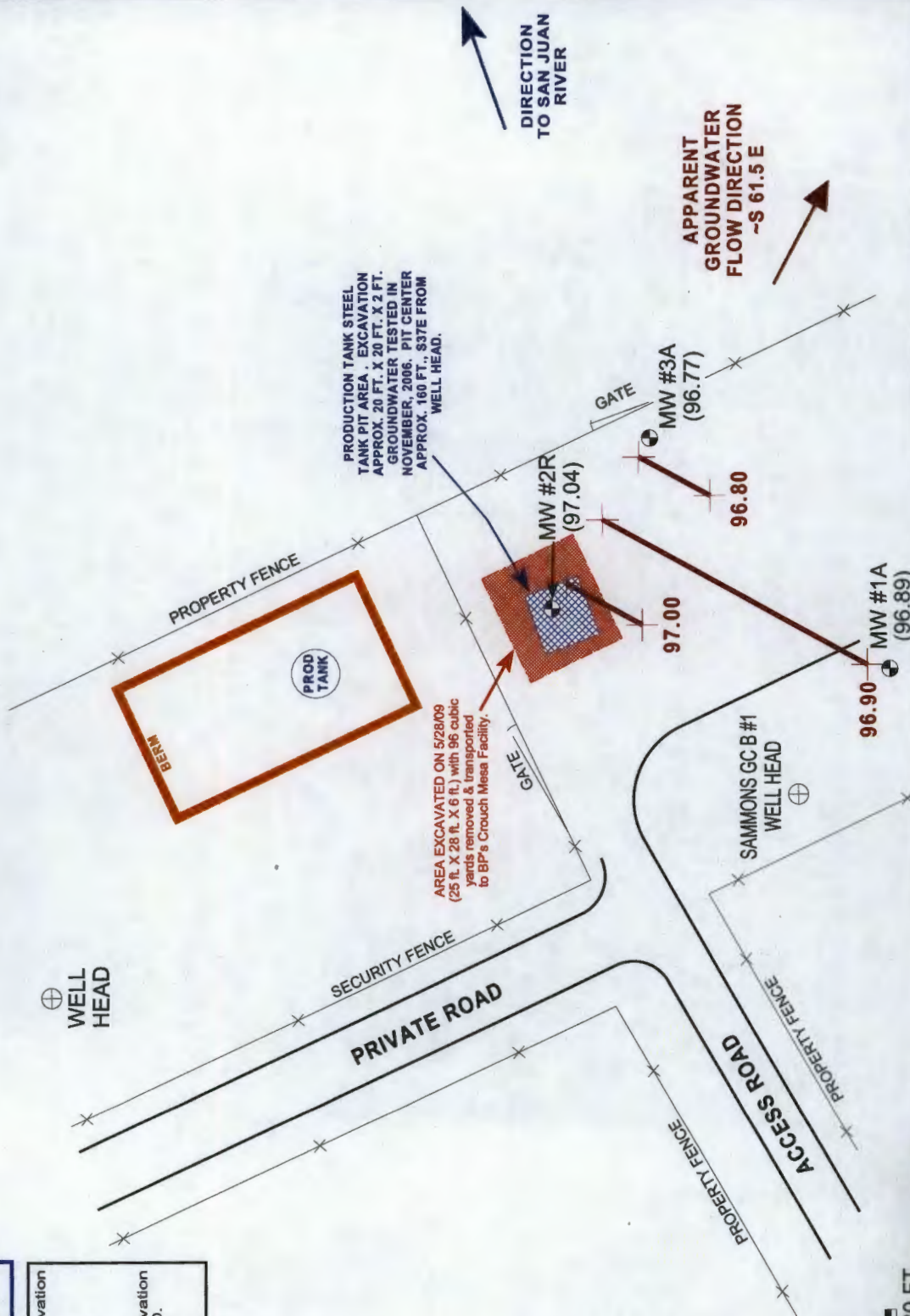
10/09

FIGURE 6

(1st 1/4, 2010)

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

Top of Well Elevation	
MW #1A	(102.04)
MW #2R	(100.00)
MW #3A	(99.74)
⊕ MW #1A	Groundwater Elevation as of 2/24/10.
Well tops resurveyed on 10/22/09.	



**GROUNDWATER
CONTOUR
MAP**
02/10

PROJECT: MW SAMPLING
DRAWN BY: NJV
FILENAME: 02-24-10-GW.SKF
REVISED: 02-24-10

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

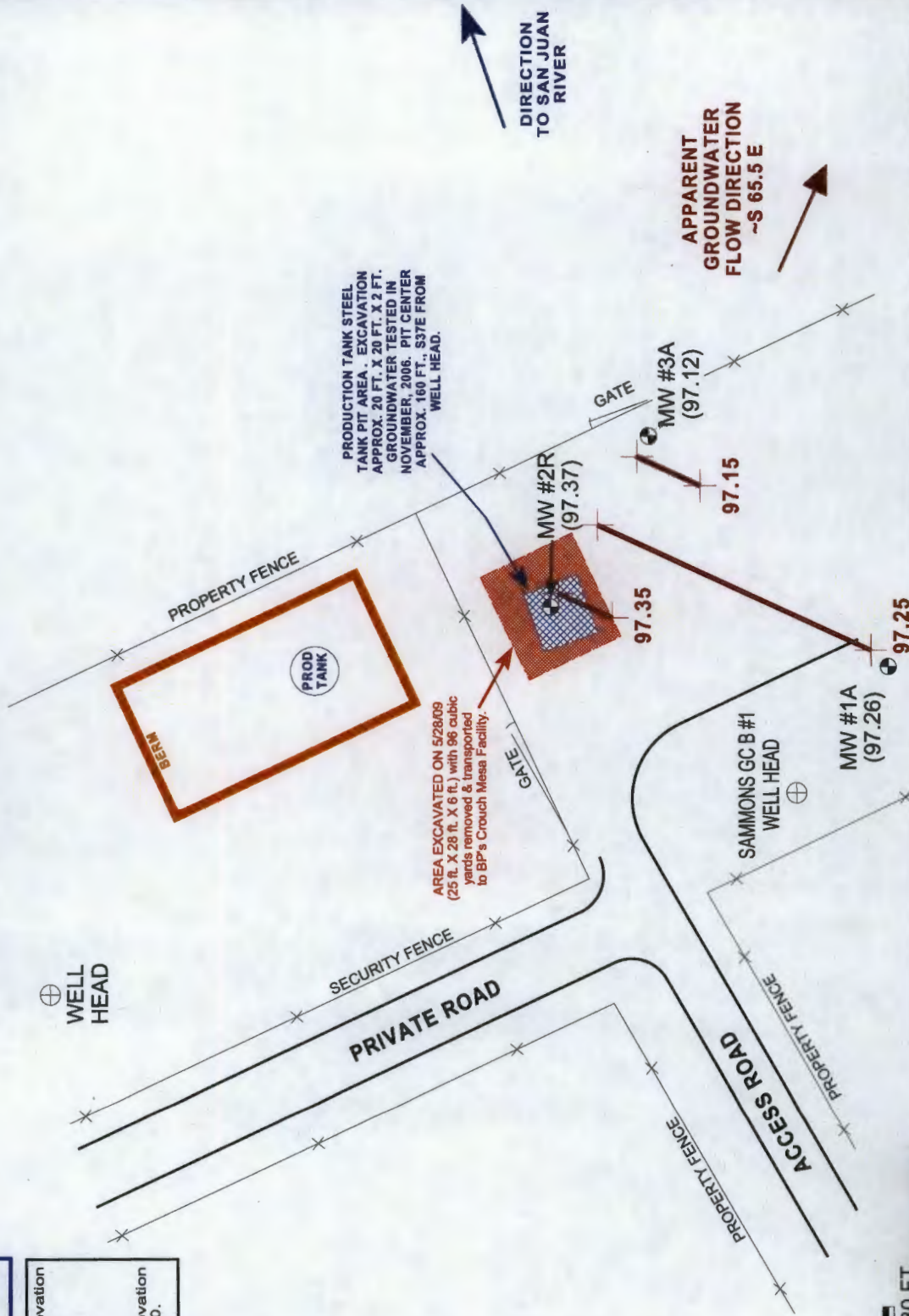
BP AMERICA PRODUCTION CO.
SAMMONS GC B # 1
NE/4 NE/4 SEC. 18, T29N, R9W
SAN JUAN COUNTY, NEW MEXICO

FIGURE 7

(2nd 1/4, 2010)

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

Top of Well Elevation	
MW #1A	(102.04)
MW #2R	(100.00)
MW #3A	(99.74)
MW #1A (97.26)	Groundwater Elevation as of 5/12/10.



GROUNDWATER CONTOUR MAP

05/10

PROJECT: MW SAMPLING

DRAWN BY: NJV

FILENAME: 05-12-10-GW.SKF

REVISED: 05-12-10

BLAGG ENGINEERING, INC.

CONSULTING PETROLEUM / RECLAMATION SERVICES

P.O. BOX 87

BLOOMFIELD, NEW MEXICO 87413

PHONE: (505) 632-1199

BP AMERICA PRODUCTION CO.

SAMMONS GC F # 1

NE/4 NE/4 SEC. 18, T29N, R9W

SAN JUAN COUNTY, NEW MEXICO

BLAGG ENGINEERING, INC.

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

MW #2R

BORE / TEST HOLE REPORT

CLIENT: **BP AMERICA PRODUCTION CO.**
LOCATION NAME: **SAMMONS GC F #1** UNIT A, SEC. 18, T29N, R9W
CONTRACTOR: **BLAGG ENGINEERING, INC. / KYVEK ENERGY SERVICES, INC.**
EQUIPMENT USED: **MOBILE DRILL RIG (CME 75)**
BORING LOCATION: **156 FT., S37.5E FROM WELL HEAD.**

BORING #..... **BH - 4**
MW #..... **2R**
PAGE #..... **4**
DATE STARTED **10/20/09**
DATE FINISHED **10/20/09**
OPERATOR..... **KP**
PREPARED BY **NJV**

DEPTH
FEET

INTERVAL

LITHOLOGY
INTERVAL

MW
SCHEMATIC

FIELD CLASSIFICATION AND REMARKS

GROUND SURFACE

TOP OF CASING APPROX. 0.50 FEET BELOW GRADE.


DARK YELLOWISH BROWN SAND AND GRAVEL (FILL MATERIAL), NON COHESIVE, SLIGHTLY MOIST TO SATURATED, FIRM, NO APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (0.0 - 5.5 FT. BELOW GRADE).


DEPTH TO WATER APPROX. 3.22 FT. FROM GROUND SURFACE MEASURED ON 10/26/09.

DARK GRAY TO GRAYISH BLACK SAND AND GRAVEL, NON COHESIVE, SATURATED, FIRM, APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (5.5 - 6.5 FT. BELOW GRADE).

SAME AS ABOVE EXCEPT GRAYISH TO OLIVE BLACK AND WITH NO APPARENT HYDRO - CARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (6.5 - 11.5 FT. BELOW GRADE).

NOTES:

 - SAND.

 - SAND AND GRAVEL.

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 0.50 ft. to 1.43 ft. below grade, 0.010 slotted screen between 1.43 to 11.43 ft. below grade, sand packed annular to 1.0 ft. below grade. Completed with concreting flush mount well cover encompassing 0.4 ft. of casing below grade casing and secured with locking cap and padlock.

BLAGG ENGINEERING, INC.
MONITOR WELL DEVELOPMENT & /OR SAMPLING DATA

CLIENT: BP AMERICA PROD. CO.

CHAIN-OF-CUSTODY #: N / A

SAMMONS GC F #1 - PROD. TANK PIT
UNIT A, SEC. 18, T29N, R9W

LABORATORY (S) USED: HALL ENVIRONMENTAL

Date: March 31, 2009

SAMPLER: N J V

Filename: 03-31-09.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.)
1A	102.05	95.77	6.28	15.00	-	-	-	-	-
2A	100.26	95.81	4.45	11.22	1110	7.22	800	11.6	1.75
3A	99.76	95.56	4.20	13.50	-	-	-	-	-

INSTRUMENT CALIBRATIONS = 4.01/7.00/10.00 2,800

DATE & TIME = 03/31/09 0945

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

Ideally a minimum of three (3) wellbore volumes:

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

Comments or note well diameter if not standard 2".

Fair recovery in MW #2A. Collected sample from MW #2A only for BTEX analysis.

Top of casing MW #1A ~ 2.40 ft. , MW #2A ~ 0.20 ft. below grade , MW #3A ~ 0.35 ft. below grade .

on-site	10:24	temp	45 F
off-site	11:20	temp	48 F
sky cond.	Sunny		
wind speed	0-10	direct.	W

Hall Environmental Analysis Laboratory, Inc.

Date: 10-Apr-09

CLIENT: Blagg Engineering
Lab Order: 0904021
Project: Sammons GC F #1
Lab ID: 0904021-01

Client Sample ID: MW #2A
Collection Date: 3/31/2009 11:10:00 AM
Date Received: 4/1/2009
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: DAM
Benzene	3.3	1.0		µg/L	1	4/7/2009 3:13:54 PM
Toluene	1.1	1.0		µg/L	1	4/7/2009 3:13:54 PM
Ethylbenzene	1.4	1.0		µg/L	1	4/7/2009 3:13:54 PM
Xylenes, Total	240	20		µg/L	10	4/8/2009 2:35:48 PM
Surr: 4-Bromofluorobenzene	105	65.9-130		%REC	1	4/7/2009 3:13:54 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

4901 Hawkins NE, Suite D
Albuquerque, New Mexico 87109
Tel. 505.345.3975 Fax 505.345.4
www.hallenvironmental.com

Client: BILLY EVR. / BP AMERICA

Address: P.O. Box 87

62FD, N.M. 87413

Phone #: 632-1199

Fax #:

Date _____

Time

Matrix

Sample I.D. No.

Number/Volume

[illegible]

HEAL No.

15/5/8

on

0.000000

3A

2-40m1

>

T

Date: _____

Time:

Relinquished By: (Signature) /

25.

Received By: [Signature]

Date:

Time:

Relinquished By: (Signature)

EX

Received by: (Signature)

QA/QC SUMMARY REPORT

Client: Blagg Engineering
Project: Sammons GC F #1

Work Order: 0904021

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: EPA Method 8021B: Volatiles									
Sample ID: 5ML RB		MBLK							
					Batch ID: R33112		Analysis Date:		4/6/2009 10:05:03 AM
Benzene	ND	µg/L	1.0						
Toluene	ND	µg/L	1.0						
Ethylbenzene	ND	µg/L	1.0						
Xylenes, Total	ND	µg/L	2.0						
Sample ID: 5ML RB		MBLK							
					Batch ID: R33137		Analysis Date:		4/7/2009 9:38:13 AM
Benzene	ND	µg/L	1.0						
Toluene	ND	µg/L	1.0						
Ethylbenzene	ND	µg/L	1.0						
Xylenes, Total	ND	µg/L	2.0						
Sample ID: 100NG BTEX LCS		LCS							
					Batch ID: R33112		Analysis Date:		4/6/2009 8:13:23 PM
Benzene	21.79	µg/L	1.0	109	85.9	113			
Toluene	22.74	µg/L	1.0	114	86.4	113			S
Ethylbenzene	21.76	µg/L	1.0	109	83.5	118			
Xylenes, Total	64.38	µg/L	2.0	107	83.4	122			
Sample ID: 100NG BTEX LCS		LCS							
					Batch ID: R33137		Analysis Date:		4/7/2009 8:19:01 PM
Benzene	21.36	µg/L	1.0	107	85.9	113			
Toluene	22.01	µg/L	1.0	110	86.4	113			
Ethylbenzene	21.38	µg/L	1.0	107	83.5	118			
Xylenes, Total	63.41	µg/L	2.0	106	83.4	122			
Sample ID: 100NG BTEX LCSD		LCSD							
					Batch ID: R33137		Analysis Date:		4/7/2009 8:49:21 PM
Benzene	20.65	µg/L	1.0	103	85.9	113	3.39	27	
Toluene	20.87	µg/L	1.0	104	86.4	113	5.31	19	
Ethylbenzene	20.36	µg/L	1.0	102	83.5	118	4.86	10	
Xylenes, Total	60.47	µg/L	2.0	101	83.4	122	4.75	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:

4/1/2009

Work Order Number **0904021**

Received by: **AT**

Checklist completed by:

Signature

[Signature]

Date

4/1/09

Sample ID labels checked by:

Initials

[Signature]

Matrix:

Carrier name: Greyhound

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on shipping container/cooler?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/> Not Shipped <input type="checkbox"/>
Custody seals intact on sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Water - VOA vials have zero headspace?	No VOA vials submitted <input type="checkbox"/>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Water - Preservation labels on bottle and cap match?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>

Container/Temp Blank temperature?

2°

<6° C Acceptable

If given sufficient time to cool.

COMMENTS:

Client contacted

Date contacted:

Person contacted

Contacted by:

Regarding:

Comments:

Corrective Action

BLAGG ENGINEERING, INC.
MONITOR WELL DEVELOPMENT & / OR SAMPLING DATA

CLIENT : BP AMERICA PROD. CO.

CHAIN-OF-CUSTODY # : N / A

SAMMONS GC F # 1 - PROD. TANK PIT
 UNIT A, SEC. 18, T29N, R9W

LABORATORY (S) USED : HALL ENVIRONMENTAL

Date : May 16, 2009

SAMPLER : N J V

Filename : 05-16-09.WK4

PROJECT MANAGER : N J V

WELL #	WELL ELEV. (ft)	WATER ELEV. (ft)	DEPTH TO WATER (ft)	TOTAL DEPTH (ft)	SAMPLING TIME	pH	CONDUCT (umhos)	TEMP. (celcius)	VOLUME PURGED (gal.)
1A	102.05	98.25	3.80	15.00	-	-	-	-	-
2A	100.26	98.27	1.99	11.22	1050	7.05	900	21.6	4.50
3A	99.76	98.07	1.69	13.50	-	-	-	-	-

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

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

Ideally a minimum of three (3) wellbore volumes:

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

Comments or note well diameter if not standard 2".

Excellent recovery in MW #2A . Collected sample for BTEX per US EPA Method 8021B from MW # 2A only.

Top of casing MW #1A ~ 2.40 ft. , MW #2A ~ 0.20 ft. below grade , MW #3A ~ 0.35 ft. below grade .

on-site	10:15	temp	72 F
off-site	11:08	temp	77 F
sky cond.	Mostly sunny		
wind speed	0 - 5	direct.	W

Hall Environmental Analysis Laboratory, Inc.

Date: 02-Jun-09

CLIENT: Blagg Engineering
Lab Order: 0905357
Project: Sammons GC F #1
Lab ID: 0905357-01

Client Sample ID: MW #2A
Collection Date: 5/16/2009 10:50:00 AM
Date Received: 5/20/2009
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: DAM
Benzene	9.7	1.0		µg/L	1	5/29/2009 12:08:45 PM
Toluene	2.2	1.0		µg/L	1	5/29/2009 12:08:45 PM
Ethylbenzene	1.5	1.0		µg/L	1	5/29/2009 12:08:45 PM
Xylenes, Total	570	20		µg/L	10	5/28/2009 11:25:55 PM
Surr: 4-Bromofluorobenzene	110	65.9-130		%REC	1	5/29/2009 12:08:45 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: BLADE EXPL. BP AMERICA

Address: P.O. BOX 87

87FD, NM 87413

Phone #: 632-1199

Fax #:

Date Time Matrix Sample I.D. No.

5/16/09 1050 WATER MW #2A

Number/Volume

2-40ml

Preservative

HgCl₂ HNO₃ HCl

HEAL No.

0905357

QA/QC Package:

Std ☒ Level 4 ☐

Other:

Project Name:

SAMMONS GC F #1

Project #:

Project Manager:

Nelson Velez

Sampler:

Nelson Velez

Sample Temperature:

3.8

ANALYSIS REQUEST

BTEX + MTBE + TPH (Gasoline Only)

(BTEX + MTBE + TPH) (80218)

TPH Method 8015B (Gas/Diesel)

TPH (Method 418.1)

EDB (Method 504.1)

EDC (Method 8021)

8310 (PMA or PAH)

RCRA 8 Metals

Anions (F, Cl, NO₂, NO₃, PO₄, SO₄)

8081 Pesticides / PCB's (8082)

8260B (VOA)

8270 (Semi-VOA)

Air Bubbles or Headspace (Y or N)

Remarks:

850

Received By (Signature)

5/20/05

Relinquished By: (Signature)

5/19/09 1425

Date:

Relinquished By: (Signature)

Date:

QA/QC SUMMARY REPORT

Client: Blagg Engineering
 Project: Sammons GC F #1

Work Order: 0905357

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

Method: EPA Method 8021B: Volatiles

Sample ID: 5ML RB

MBLK

Batch ID: R33871 Analysis Date: 5/28/2009 8:39:43 AM

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

Sample ID: 100NG BTEX LCS

LCS

Batch ID: R33871 Analysis Date: 5/29/2009 3:29:31 AM

Benzene	20.76	µg/L	1.0	104	85.9	113
Toluene	20.87	µg/L	1.0	102	86.4	113
Ethylbenzene	21.00	µg/L	1.0	104	83.5	118
Xylenes, Total	63.28	µg/L	2.0	105	83.4	122

Sample ID: 100NG BTEX LCSD

LCSD

Batch ID: R33871 Analysis Date: 5/29/2009 4:00:07 AM

Benzene	20.80	µg/L	1.0	104	85.9	113	0.183	27
Toluene	20.71	µg/L	1.0	101	86.4	113	0.750	19
Ethylbenzene	20.97	µg/L	1.0	104	83.5	118	0.152	10
Xylenes, Total	62.85	µg/L	2.0	105	83.4	122	0.685	13

Qualifiers:

E	Estimated value	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:

5/20/2009

Work Order Number **0905357**

Received by: **TLS**

Checklist completed by:

Signature

Date

Sample ID labels checked by:

Initials

Matrix:

Carrier name: Greyhound

Shipping container/cooler in good condition?

Yes ☒

No ☐

Not Present ☐

Custody seals intact on shipping container/cooler?

Yes ☒

No ☐

Not Present ☐

Not Shipped ☐

Custody seals intact on sample bottles?

Yes ☐

No ☐

N/A ☒

Chain of custody present?

Yes ☒

No ☐

Chain of custody signed when relinquished and received?

Yes ☒

No ☐

Chain of custody agrees with sample labels?

Yes ☒

No ☐

Samples in proper container/bottle?

Yes ☒

No ☐

Sample containers intact?

Yes ☒

No ☐

Sufficient sample volume for indicated test?

Yes ☒

No ☐

All samples received within holding time?

Yes ☒

No ☐

Water - VOA vials have zero headspace?

No VOA vials submitted ☐

Yes ☒

No ☐

Water - Preservation labels on bottle and cap match?

Yes ☐

No ☐

N/A ☒

Water - pH acceptable upon receipt?

Yes ☐

No ☐

N/A ☒

Container/Temp Blank temperature?

3.8°

<6° C Acceptable

If given sufficient time to cool.

Number of preserved
bottles checked for
pH:

<2 >12 unless noted
below.

COMMENTS:

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding: _____

Comments: _____

Corrective Action _____

BLAGG ENGINEERING, INC.
MONITOR WELL DEVELOPMENT & / OR SAMPLING DATA

CLIENT : BP AMERICA PROD. CO.

CHAIN-OF-CUSTODY # : N / A

SAMMONS GC F # 1 - PROD. TANK PIT
 UNIT A, SEC. 18, T29N, R9W

LABORATORY (S) USED : HALL ENVIRONMENTAL

Date : October 26, 2009

DEVELOPER / SAMPLER : N J V

Filename : 10-26-09.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.)
1A	102.04	96.22	5.82	15.00	-	-	-	-	-
2R	100.00	96.28	3.72	10.93	1325	7.25	1,600	17.2	3.50
3A	99.74	96.06	3.68	13.50	-	-	-	-	-

INSTRUMENT CALIBRATIONS =	4.01/7.00/10.00	2,800
DATE & TIME =	10/26/09	1030

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".

MW # 2R - excellent recovery , dark yellowish orange color in appearance . Collected sample
 from MW # 2R and analyzed for BTEX per US EPA Method 8021B .

Monitor well top elevations surveyed on 10 / 22 / 09 .

Top of casing MW # 1A ~ 2.40 ft. , MW # 2R ~ 0.50 ft. below grade , MW # 3A ~ 0.35 ft. below grade .

on-site	12:50	temp	48 F
off-site	1:40	temp	50 F
sky cond.	mostly sunny		
wind speed	0 - 5	direct.	SE

Hall Environmental Analysis Laboratory, Inc.

Date: 04-Nov-09

CLIENT: Blagg Engineering
Lab Order: 0910478
Project: Sammons GC F #1
Lab ID: 0910478-01

Client Sample ID: MW #2R
Collection Date: 10/26/2009 1:25:00 PM
Date Received: 10/27/2009
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: DAM
Benzene	ND	5.0		µg/L	5	10/30/2009 11:07:21 AM
Toluene	6.0	5.0		µg/L	5	10/30/2009 11:07:21 AM
Ethylbenzene	16	5.0		µg/L	5	10/30/2009 11:07:21 AM
Xylenes, Total	330	10		µg/L	5	10/30/2009 11:07:21 AM
Surr: 4-Bromofluorobenzene	99.3	65.9-130		%REC	5	10/30/2009 11:07:21 AM

Qualifiers:

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

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

QA/QC SUMMARY REPORT

Client: Blagg Engineering
Project: Sammons GC F #1

Work Order: 0910478

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: R35953 Analysis Date: 10/29/2009 8:23:38 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: 5ML RB

MBLK

Batch ID: R35973 Analysis Date: 10/30/2009 8:35:09 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: b 5

MBLK

Batch ID: R35973 Analysis Date: 10/30/2009 10:36:51 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: R35953 Analysis Date: 10/30/2009 3:36:59 AM

Benzene	18.39	µg/L	1.0	20	0	91.9	85.9	113
Toluene	18.18	µg/L	1.0	20	0	90.9	86.4	113
Ethylbenzene	17.96	µg/L	1.0	20	0	89.8	83.5	118
Xylenes, Total	52.51	µg/L	2.0	60	0	87.5	83.4	122

Sample ID: 100NG BTEX LCS

LCS

Batch ID: R35973 Analysis Date: 10/30/2009 5:41:56 PM

Benzene	18.93	µg/L	1.0	20	0	94.7	85.9	113
Toluene	19.83	µg/L	1.0	20	0	99.2	86.4	113
Ethylbenzene	19.82	µg/L	1.0	20	0	99.1	83.5	118
Xylenes, Total	58.39	µg/L	2.0	60	0	97.3	83.4	122

Sample ID: 100NG BTEX LCS-II

LCS

Batch ID: R35973 Analysis Date: 10/31/2009 10:53:36 AM

Benzene	19.07	µg/L	1.0	20	0	95.3	85.9	113
Toluene	18.74	µg/L	1.0	20	0.23	92.6	86.4	113
Ethylbenzene	18.26	µg/L	1.0	20	0	91.3	83.5	118
Xylenes, Total	54.21	µg/L	2.0	60	0	90.3	83.4	122

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: 04-Nov-09

CLIENT: Blagg Engineering
Project: Sammons GC F #1
Lab Order: 0910478

CASE NARRATIVE

Analytical Comments for METHOD 8021BTEX_W, SAMPLE 0910478-01A: necessary dilution due to late eluting hydrocarbons

Hall Environmental Analysis Laboratory, Inc.

Sample Receipt Checklist

Client Name **BLAGG**

Date Received:

10/27/2009

Work Order Number **0910478**

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?

1.9°

<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

SAMMONS GC F # 1 - PROD. TANK PIT
UNIT A, SEC. 18, T29N, R9W

LABORATORY (S) USED : HALL ENVIRONMENTAL

Date : February 24, 2010

DEVELOPER / SAMPLER : N J V

Filename : 02-24-10.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.)
1A	102.04	96.89	5.15	15.00	-	-	-	-	-
2R	100.00	97.04	2.96	10.93	1145	7.37	2,900	9.4	4.00
3A	99.74	96.77	2.97	13.50	-	-	-	-	-

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".

MW # 2R - excellent recovery , light gray color in appearance . Collected sample from MW # 2R
and analyzed for BTEX per US EPA Method 8021B .

Top of casing MW # 1A ~ 2.40 ft. , MW # 2R ~ 0.50 ft. below grade , MW # 3A ~ 0.35 ft. below grade .

on-site	10:58	temp	32 F
off-site	11:57	temp	35 F
sky cond.	Partly cloudy		
wind speed	0 - 5	direct.	E

Hall Environmental Analysis Laboratory, Inc.

Date: 03-Mar-10

CLIENT: Blagg Engineering
Lab Order: 1002518
Project: Sammons GC F #1
Lab ID: 1002518-01

Client Sample ID: MW #2R
Collection Date: 2/24/2010 11:45:00 AM
Date Received: 2/26/2010
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	1.0	1.0		µg/L	1	3/2/2010 1:41:51 PM
Toluene	ND	1.0		µg/L	1	3/2/2010 1:41:51 PM
Ethylbenzene	1.2	1.0		µg/L	1	3/2/2010 1:41:51 PM
Xylenes, Total	16	2.0		µg/L	1	3/2/2010 1:41:51 PM
Surr: 4-Bromofluorobenzene	106	65.9-130		%REC	1	3/2/2010 1:41:51 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

QA/QC SUMMARY REPORT

Client: Blagg Engineering

Project: Sammons GC F #1

Work Order: 1002518

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: R37565		Analysis Date: 3/1/2010 9:25:06 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: 5ML RB		MBLK		Batch ID: R37588		Analysis Date: 3/2/2010 9:39:39 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: R37565		Analysis Date: 3/2/2010 6:07:50 AM					
Benzene	22.44	µg/L	1.0	20	0	112	85.9	113			
Toluene	22.13	µg/L	1.0	20	0	111	86.4	113			
Ethylbenzene	21.98	µg/L	1.0	20	0.148	109	83.5	118			
Xylenes, Total	65.70	µg/L	2.0	60	0	110	83.4	122			
Sample ID: 100NG BTEX LCS		LCS		Batch ID: R37588		Analysis Date: 3/2/2010 9:17:15 PM					
Benzene	21.05	µg/L	1.0	20	0	105	85.9	113			
Toluene	20.63	µg/L	1.0	20	0	103	86.4	113			
Ethylbenzene	20.52	µg/L	1.0	20	0	103	83.5	118			
Xylenes, Total	61.99	µg/L	2.0	60	0	103	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:

2/28/2010

Work Order Number **1002518**

Received by: **TLS**

Checklist completed by:

Signature

Date

Sample ID labels checked by:

Initials

Matrix:

Carrier name **Greyhound**

Shipping container/cooler in good condition?

Yes ☒

No ☐

Not Present ☐

Custody seals intact on shipping container/cooler?

Yes ☒

No ☐

Not Present ☐

Not Shipped ☐

Custody seals intact on sample bottles?

Yes ☐

No ☐

N/A ☒

Chain of custody present?

Yes ☒

No ☐

Chain of custody signed when relinquished and received?

Yes ☒

No ☐

Chain of custody agrees with sample labels?

Yes ☒

No ☐

Samples in proper container/bottle?

Yes ☒

No ☐

Sample containers intact?

Yes ☒

No ☐

Sufficient sample volume for indicated test?

Yes ☒

No ☐

All samples received within holding time?

Yes ☒

No ☐

Water - VOA vials have zero headspace?

No VOA vials submitted ☐

Yes ☒

No ☐

Water - Preservation labels on bottle and cap match?

Yes ☐

No ☐

N/A ☒

Water - pH acceptable upon receipt?

Yes ☐

No ☐

N/A ☒

Container/Temp Blank temperature?

3.7°

<6° C Acceptable

If given sufficient time to cool.

Number of preserved bottles checked for pH:

<2 >12 unless noted below.

COMMENTS:

Client contacted

Date contacted:

Person contacted

Contacted by:

Regarding:

Comments:

Corrective Action

BLAGG ENGINEERING, INC.
MONITOR WELL DEVELOPMENT & / OR SAMPLING DATA

CLIENT: BP AMERICA PROD. CO.

CHAIN-OF-CUSTODY #: N / A

SAMMONS GC F #1 - PROD. TANK PIT
UNIT A, SEC. 18, T29N, R9W

LABORATORY (S) USED: HALL ENVIRONMENTAL

Date: May 12, 2010

DEVELOPER / SAMPLER: N J V

Filename: 05-12-10.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.)
1A	102.04	97.26	4.78	15.00	-	-	-	-	-
2R	100.00	97.37	2.63	10.93	1610	7.35	2,100	16.2	4.00
3A	99.74	97.12	2.62	13.50	1535	7.22	900	16.3	5.25

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 both MW #2R & #3A. Collected samples from MW #2R & #3A for BTEX analysis per US EPA Method 8021B.

Top of casing MW #1A ~ 2.40 ft., MW #2R ~ 0.50 ft. below grade, MW #3A ~ 0.35 ft. below grade.

on-site	3:03	temp	61 F
off-site	4:15	temp	61 F
sky cond.	Sunny		
wind speed	5 - 15 G-20	direct.	W - NW

Hall Environmental Analysis Laboratory, Inc.

Date: 25-May-10

CLIENT: Blagg Engineering
Project: Sammons GC F #1**Lab Order:** 1005383**Lab ID:** 1005383-01**Collection Date:** 5/12/2010 4:10:00 PM**Client Sample ID:** MW #2R**Matrix:** AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: BDH
Benzene	2.6	1.0		µg/L	1	5/24/2010 8:27:06 PM
Toluene	ND	1.0		µg/L	1	5/24/2010 8:27:06 PM
Ethylbenzene	3.4	1.0		µg/L	1	5/24/2010 8:27:06 PM
Xylenes, Total	9.3	2.0		µg/L	1	5/24/2010 8:27:06 PM
Surr: 4-Bromofluorobenzene	103	60.1-133		%REC	1	5/24/2010 8:27:06 PM

Lab ID: 1005383-02**Collection Date:** 5/12/2010 3:35:00 PM**Client Sample ID:** MW #3A**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 8:55:09 PM
Toluene	ND	1.0		µg/L	1	5/24/2010 8:55:09 PM
Ethylbenzene	ND	1.0		µg/L	1	5/24/2010 8:55:09 PM
Xylenes, Total	ND	2.0		µg/L	1	5/24/2010 8:55:09 PM
Surr: 4-Bromofluorobenzene	99.3	60.1-133		%REC	1	5/24/2010 8:55:09 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

QA/QC SUMMARY REPORT

Client: Blagg Engineering
Project: Sammons GC F #1

Work Order: 1005383

Analyte	Result	Units	PQL	SPK Va	SPK ref	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
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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 **1005383**

Received by:

ARS

Checklist completed by:

Signature

Date

Sample ID labels checked by:

Initials

Matrix:

Carrier name: Greyhound

Shipping container/cooler in good condition?

Yes ☒

No ☐

Not Present ☐

Custody seals intact on shipping container/cooler?

Yes ☒

No ☐

Not Present ☐

Not Shipped ☐

Custody seals intact on sample bottles?

Yes ☐

No ☐

N/A ☒

Chain of custody present?

Yes ☒

No ☐

Chain of custody signed when relinquished and received?

Yes ☒

No ☐

Chain of custody agrees with sample labels?

Yes ☒

No ☐

Samples in proper container/bottle?

Yes ☒

No ☐

Sample containers intact?

Yes ☒

No ☐

Sufficient sample volume for indicated test?

Yes ☒

No ☐

All samples received within holding time?

Yes ☒

No ☐

Water - VOA vials have zero headspace?

No VOA vials submitted ☐

Yes ☒

No ☐

Water - Preservation labels on bottle and cap match?

Yes ☐

No ☐

N/A ☒

Water - pH acceptable upon receipt?

Yes ☐

No ☐

N/A ☒

Container/Temp Blank temperature?

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