3R - 410

ANNUAL MONITORING REPORT

01/28/2008

3R413

BLAGG ENGINEERING, INC.
P.O. Box 87, Bloomfield, New Mexico 87413
Phone: (505)632-1199 Fax: (505)632-3903

January 28, 2008

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

OGRID 41874

Re: BP America Production Company (formerly Amoco Production Co. & BP Amoco)
Groundwater Monitoring Report
Sammons GC F # 1, Unit A, Sec. 18, T29N, R9W, NMPM
San Juan County, New Mexico

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.

BP has followed its NMOCD approved groundwater management plan and continues groundwater monitoring at the site. No permanent closure is requested at this time.

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

Respectfully submitted:
Blagg Engineering, Inc.

Nelson J. Velez
Staff Geologist

Attachment: Groundwater Report (2 copies)

cc: Brandon Powell, Environmental Specialist, NMOCD District III Office, Aztec, NM
Mr. Larry Schlotterback, Environmental Coordinator, BP, Farmington, NM (without lab report)

NJV/njv

Sammons GC F 1 01-28-08 CVL.DOC

3R410

BP AMERICA PRODUCTION CO.

GROUNDWATER REMEDIATION REPORT

2006-2007

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

JANUARY 2008

PREPARED BY:
BLAGG ENGINEERING, INC.

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

BP America Production Co.
Sammons GC F # 1 – Production Tank Pit
Ne/4 Ne/4, Sec. 18, T29N, R9W

Pit Closure Date: **8/17/04 (Documentation Included)**

Monitor Well Installation Date: **11/01/06 (MW #2A), 8/29/07 (MW #1A & #3A)**

Monitor Well Sampling Dates: **11/14/06, 2/26/07, 5/22/07, 8/16/07, 9/19/07, 12/03/07**

Site History:

A potential groundwater impact was identified following closure of a production tank pit in August 2004. Impacted soils were removed from the pit (approximately 25 cubic yards) and the exposed groundwater pumped the day after the excavation was completed. A single groundwater monitoring well was installed in the source area November, 1st, 2006 to test water depth and quality. The water table aquifer is found between two (2) to six (6) feet below grade. The well site is located on a private/fee lease in Blanco, New Mexico. No domestic or municipal receptors have been identified to be at risk. Initial water test results indicated impacts were present, but at levels near or below New Mexico Water Quality Control Commission (NMWQCC) standards. As a result, an initial agency notification of potential impacts was not made due to an administrative oversight. However, quarterly sampling has been ongoing to quantify water quality parameters and additional monitor wells were installed in August, 2007 in order to establish groundwater gradient and delineation of potential impacts.

Groundwater Monitor Well Sampling Procedures:

Groundwater samples were collected from site monitor wells (*Figure 1*) following US EPA: SW-846 protocol. The samples were collected using new disposable bailers and were placed in laboratory supplied containers, stored in an ice chest with ice and express delivered to the laboratory for testing. Samples were analyzed for benzene, toluene, ethylbenzene, and total xylenes (**BTEX**) per US EPA Method 8020 or 8021 and for general water chemistry. The samples were preserved cool and with either mercuric chloride or hydrochloric acid (BTEX samples only) and expressed delivered to a qualified laboratory for testing. Waste generated during monitor well sampling and development was disposed of utilizing the separator tank pit located on the well site.

Water Quality and Gradient Information:

Quarterly monitoring of the source area well has found groundwater impacts with the constituent benzene ranging from just above to below the NMWQCC standard of 10 ug/L. Toluene and ethyl-benzene have consistently tested at values well below standards. Total xylenes levels have also been above NMWQCC standards, but has shown dramatic fluctuation between sample events. The regional groundwater gradient has been recorded in the southwest direction toward MW #3A.

Summary and/or Recommendations:

Groundwater at the former production tank pit is currently being monitored on a quarterly basis. Although benzene and total xylenes have exceeded NMWQCC standards within the source area, delineation in the down gradient direction appears to have been achieved (see MW #3A lab results on following page plus Figures 2, 3, & 4 - Groundwater Contour Maps). It is recommended to conduct a more thorough, but limited, impacted soil removal from the source area. Thereafter, install a replacement monitor well and continue quarterly sampling until a minimum of four (4) consecutive sampling events below NMWQCC standards has been attained.

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-144
June 1, 2004

For drilling and production facilities, submit to appropriate NMOCD District Office.
For downstream facilities, submit to Santa Fe office

Pit or Below-Grade Tank Registration or Closure

Is pit or below-grade tank covered by a "general plan"? Yes ☒ No ☐
Type of action: Registration of a pit or below-grade tank ☐ Closure of a pit or below-grade tank ☒

Operator: BP AMERICA PROD. CO. Telephone: (505)-326-9200 e-mail address:
Address: 200 ENERGY COURT. FARMINGTON. NM 87410
Facility or well name: SAMMONS GC F #1 API #: 30-045- 21020 U/L or Qtr/Qtr A Sec 18 T 29N R 9W
County: SAN JUAN Latitude 36.73039 Longitude 107.81444 NAD: 1927 ☐ 1983 ☒ Surface Owner Federal ☐ State ☐ Private ☒ Indian ☐

Pit	**Below-grade tank**
Type: Drilling ☐ Production ☒ Disposal ☐ PRODUCTION TANK Workover ☐ Emergency ☐ Lined ☒ Unlined ☐ STEEL TANK Liner type: Synthetic ☐ Thickness _____mil Clay ☐ Pit Volume _____bbl	Volume: _____bbl Type of fluid: Construction material: N/A Double-walled, with leak detection? Yes ☐ If not, explain why not.

Depth to ground water (vertical distance from bottom of pit to seasonal high water elevation of ground water.)	Less than 50 feet 50 feet or more, but less than 100 feet 100 feet or more	(20 points) (10 points) (0 points)	20
Wellhead protection area: (Less than 200 feet from a private domestic water source, or less than 1000 feet from all other water sources.)	Yes No	(20 points) (0 points)	0
Distance to surface water: (horizontal distance to all wetlands, playas, irrigation canals, ditches, and perennial and ephemeral watercourses.)	Less than 200 feet 200 feet or more, but less than 1000 feet 1000 feet or more	(20 points) (10 points) (0 points)	20
	Ranking Score (Total Points)		40

If this is a pit closure: (1) attach a diagram of the facility showing the pit's relationship to other equipment and tanks. (2) Indicate disposal location: (check the onsite box if your are burying in place) onsite ☐ offsite ☒ If offsite, name of facility CROUCH MESA FACILITY. (3) Attach a general description of remedial action taken including remediation start date and end date. (4) Groundwater encountered: No ☐ Yes ☒ If yes, show depth below ground surface 3.5 ft. and attach sample results. (5) Attach soil sample results and a diagram of sample locations and excavations.

Additional Comments: PIT LOCATED APPROXIMATELY 160 FT. S37E FROM WELL HEAD.
PIT EXCAVATION: WIDTH 20 ft., LENGTH 20 ft., DEPTH 2 ft. .
PIT REMEDIATION: CLOSE AS IS: ☐, LANDFARM: ☒, COMPOST: ☐, STOCKPILE: ☐, OTHER ☒ (explain) MONITOR WELL REQUIRED.
Cubic yards: 25
GROUNDWATER ENCOUNTERED.

I hereby certify that the information above is true and complete to the best of my knowledge and belief. **I further certify that the above-described pit or below-grade tank has been/will be constructed or closed according to NMOCD guidelines ☒, a general permit ☐, or an alternative OCD-approved plan ☒.**

Date: 08/23/04

PrintedName/Title Jeff Blagg – P.E. # 11607 Signature

Your certification and NMOCD approval of this application/closure does not relieve the operator of liability should the contents of the pit or tank contaminate ground water or otherwise endanger public health or the environment. Nor does it relieve the operator of its responsibility for compliance with any other federal, state, or local laws and/or regulations.

Approval:
Printed Name/Title Signature Date:

CLIENT: BP

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

LOCATION NO:

COCR NO:

5

FIELD REPORT: PIT CLOSURE VERIFICATION

PAGE No: 1 of 1

LOCATION: NAME: SAMMONS GC F WELL #: 1 TYPE: PROD. TANK

QUAD/UNIT: A SEC: 18 TWP: 29N RNG: 9W PM: NM CNTY: SJ ST: NM

QTR/FOOTAGE: 790'N/1070'E NE/NE CONTRACTOR: LDL (BRIAN)

DATE STARTED: 8/17/04

DATE FINISHED:

ENVIRONMENTAL SPECIALIST: NV

EXCAVATION APPROX. 20 FT. x 20 FT. x 2 FT. DEEP. CUBIC YARDAGE: 25 ?

DISPOSAL FACILITY: CROUCH MESA FACILITY REMEDIATION METHOD: LANDFARM ?

LAND USE: RANGE - S.J. RIVER VALLEY LEASE: FEE FORMATION: FT

FIELD NOTES & REMARKS: PIT LOCATED APPROXIMATELY 160 FT. 537E FROM WELLHEAD.

DEPTH TO GROUNDWATER: <50' NEAREST WATER SOURCE: >1000' NEAREST SURFACE WATER: <200'

NMOCD RANKING SCORE: 40 NMOCD TPH CLOSURE STD: 100 PPM

SOIL AND EXCAVATION DESCRIPTION:

OVM CALIB. READ. = 53.8 ppm CHECK
OVM CALIB. GAS = 100 ppm RF = 0.52
TIME: 11:11 am/pm DATE: 8/17/04

SOIL TYPE: (SAND) / SILTY SAND / SILT / SILTY CLAY / CLAY / (GRAVEL) / OTHER IMPORTED ROAD BASE/GRAVEL

SOIL COLOR:

COHESION (ALL OTHERS): NON COHESIVE / SLIGHTLY COHESIVE / COHESIVE / HIGHLY COHESIVE

CONSISTENCY (NON COHESIVE SOILS): LOOSE / FIRM / DENSE / VERY DENSE

PLASTICITY (CLAYS): NON PLASTIC / SLIGHTLY PLASTIC / COHESIVE / MEDIUM PLASTIC / HIGHLY PLASTIC

DENSITY (COHESIVE CLAYS & SILTS): SOFT / FIRM / STIFF / VERY STIFF / HARD

MOISTURE: DRY / SLIGHTLY MOIST / MOIST / WET / SATURATED / SUPER SATURATED

MONITOR WELL INSTALL. REQ.

DISCOLORATION/STAINING OBSERVED: (YES) / NO EXPLANATION - BLACK ROAD BASE/GRAVEL

HC ODOR DETECTED: (YES) / NO EXPLANATION - W/IN BLACK ROAD BASE/GRAVEL MATERIAL BELOW GROUNDWATER SURFACE.

SAMPLE TYPE: (GRAB) COMPOSITE - # OF PTS. —

ADDITIONAL COMMENTS: GROUNDWATER ENCOUNTERED @ ~ 3.5' BELOW GRADE, WILL EXCAVATE ~ 20'X20' AREA & PUMPED GROUNDWATER W/ WATER TRUCK (8/18/04 - MORN.).

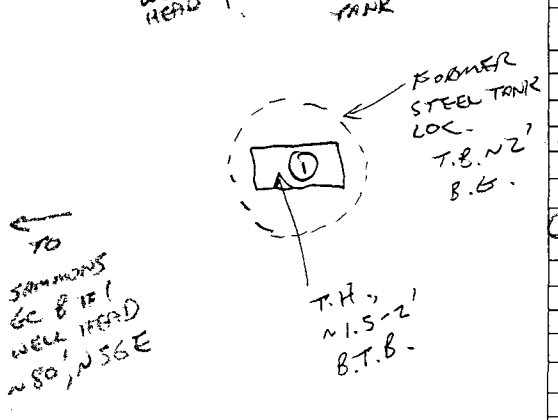
GROUNDWATER IMPACTED

FIELD 418.1 CALCULATIONS

SAMP. TIME	SAMP. ID	LAB NO.	WEIGHT (g)	mL FREON	DILUTION	READING	CALC. (ppm)

SCALE 0 FT

PIT PERIMETER



OVM READING

SAMPLE ID	FIELD HEADSPACE (ppm)
1 @	
2 @	
3 @	
4 @	
5 @	
SOIL SAMPLE DC4 (IGW)	246

IGW = IN GROUNDWATER

LAB SAMPLES

SAMPLE ID	ANALYSIS	TIME

PIT PROFILE

NOT APPLICABLE

P.D. = PIT DEPRESSION; B.G. = BELOW GRADE; B = BELOW
T.H. = TEST HOLE; ~ = APPROX.; T.B. = TANK BOTTOM

TRAVEL NOTES: CALLOUT: 8/16/04 - MORN. ONSITE: 8/17/04 - MORN. & AFTER (SCHED.)

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: December 6, 2007

FILENAME: (SF1-4Q07.WK4) NJV

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

GENERAL WATER QUALITY

BP AMERICA PRODUCTION COMPANY

SAMMONS GC F # 1

Sample Dates : November 14 , 2006 & October 3 , 2007

PARAMETERS	MW # 1A 09/19/07	MW # 2A 11/14/06	MW # 3A 09/19/07	NMWQCC STANDARDS	Units
LAB pH	7.12	7.18	7.02	6 - 9	s. u.
TOTAL DISSOLVED SOLIDS	1,000	904	95	1,000	mg / L
NITROGEN, NITRITE	ND	0.024	ND	10.0	mg / L
NITROGEN , NITRATE	ND	< 0.1	ND	10.0	mg / L
CHLORIDE	5.2	82.0	15	250	mg / L
FLUORIDE	0.42	1.52	1.0	1.6	mg / L
SULFATE	89	21.3	24	600	mg / L
IRON	ND	3.08	0.44	1.0	mg / L

Notes :

1) NMWQCC - New Mexico Water Quality Control Commission .

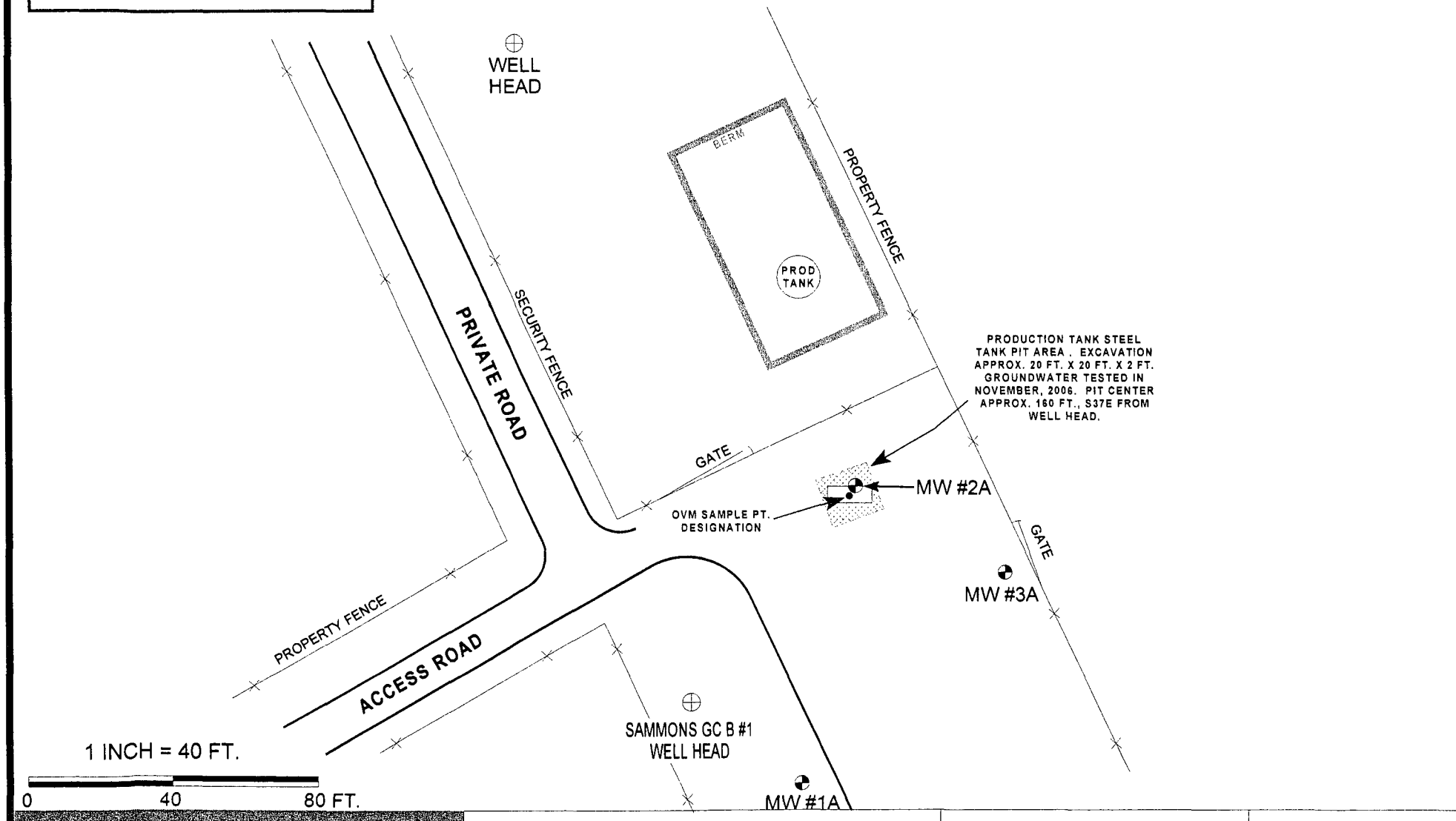
2) s. u. - stanadard unit .

3) mg / L - milligrams per liter or otherwise known as parts per million (ppm) .

4) New Mexico Oil Conservation Division (NMOCD) recognizes the NMWQCC or background levels (statistical equivalence) as the standards for each site specific scenario .

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: MW INSTALLATION

DRAWN BY: NJV

FILENAME: SAMMONS GC F 1-SM2.SKF

REVISED: 08-23-07

SITE MAP

08/07

FIGURE 2
(3rd 1/4, 2007)

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	(102.01)
MW #3A	(99.76)

MW #1A (97.01) ——— Groundwater Elevation as of 08/31/07.

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 INSTALLATION
DRAWN BY: NJV
FILENAME: 08-31-07-GW.SKF
REVISED: 08-31-07

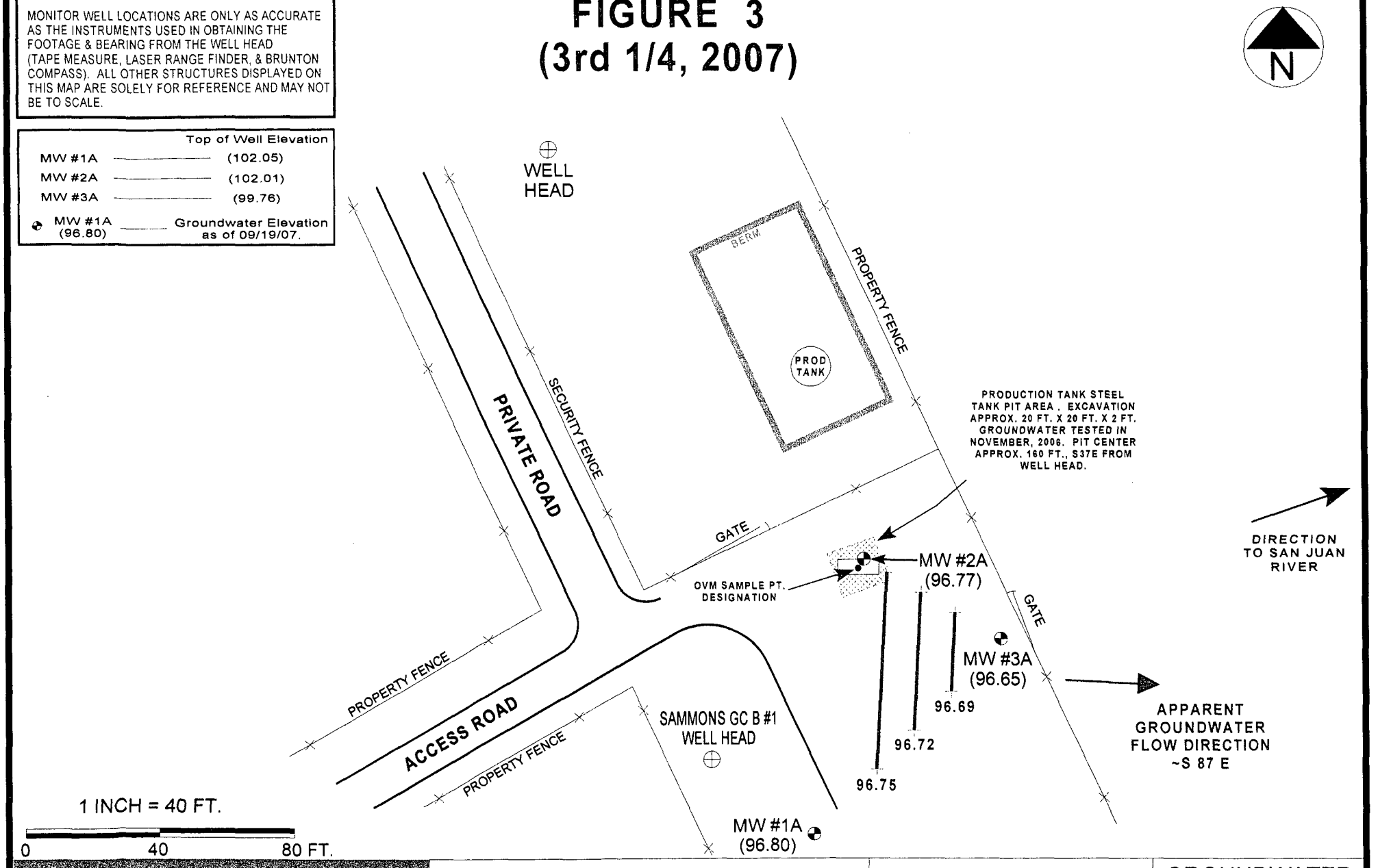
GROUNDWATER CONTOUR MAP
08/07

FIGURE 3
(3rd 1/4, 2007)

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	(102.01)
MW #3A	(99.76)

MW #1A (96.80) — Groundwater Elevation as of 09/19/07.



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: 09-19-07-GW.SKF
REVISED: 09-19-07

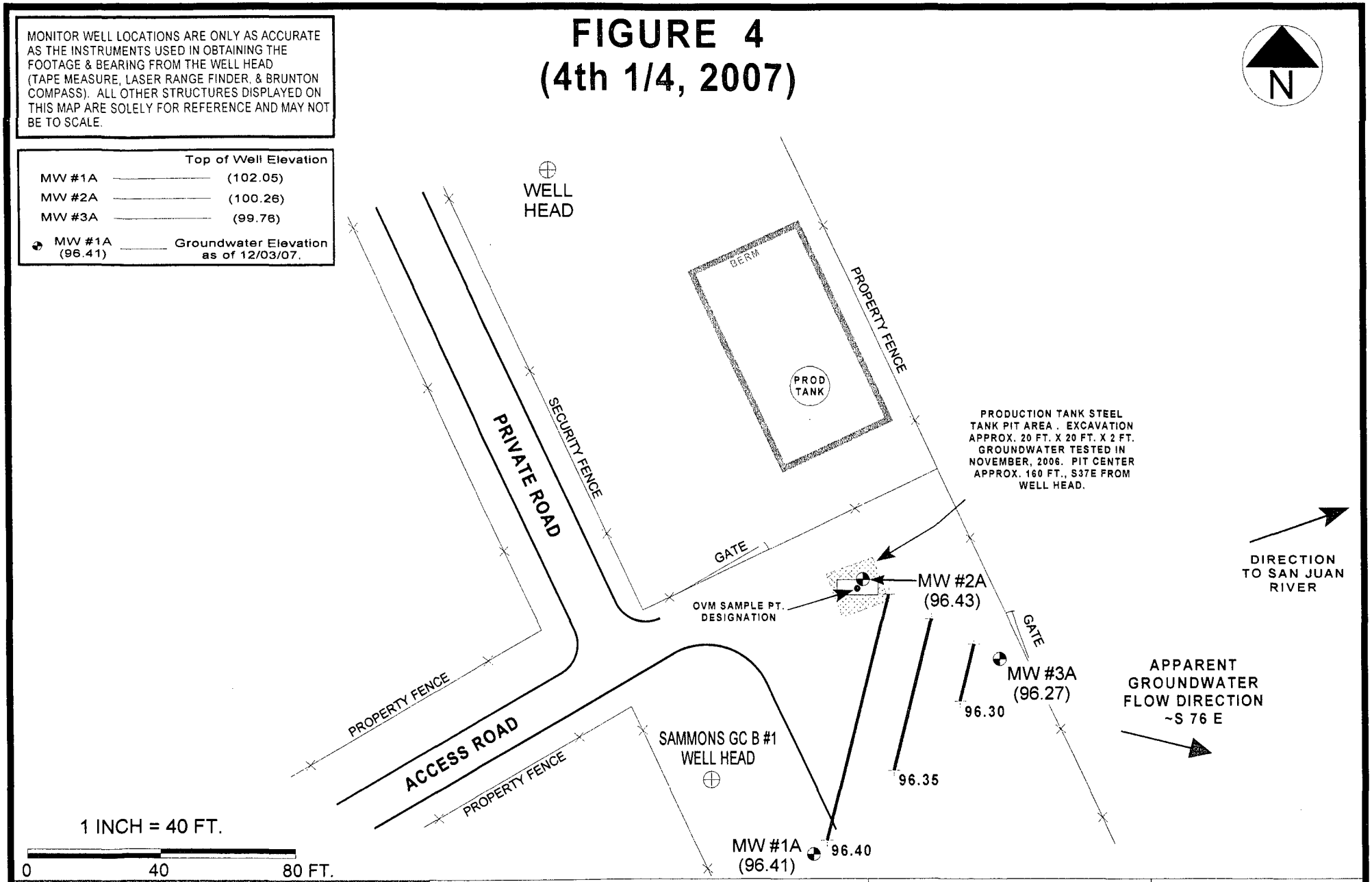
GROUNDWATER CONTOUR MAP
09/07

FIGURE 4
(4th 1/4, 2007)

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 (96.41) ——— Groundwater Elevation as of 12/03/07.



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: 12-03-07-GW.SKF

REVISED: 12-03-07

GROUNDWATER CONTOUR MAP

12/07

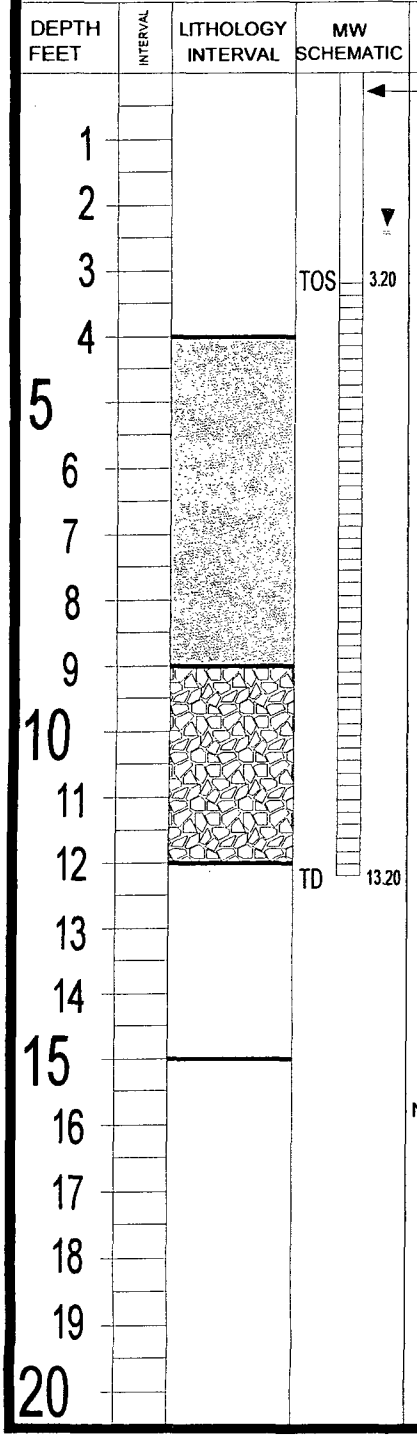
BLAGG ENGINEERING, INC.
P.O. BOX 87
BLOOMFIELD, NM 87413
(505) 632-1199

MW #1A

BORE / TEST HOLE REPORT

BORING #.....	BH-2
MW #.....	1A
PAGE #.....	1
DATE STARTED	8/29/07
DATE FINISHED	8/29/07
OPERATOR.....	DP
PREPARED BY	NJV

CLIENT: BP AMERICA PRODUCTION CO.
LOCATION NAME: SAMMONS GC F #1 UNIT A, SEC. 18, T29N, R9W
CONTRACTOR: BLAGG ENGINEERING, INC. / ENVIROTECH, INC.
EQUIPMENT USED: MOBILE DRILL RIG (CME 75)
BORING LOCATION: 222 FT., S21E FROM WELL HEAD.



FIELD CLASSIFICATION AND REMARKS

GROUND SURFACE

TOP OF CASING APPROX. 2.70 FEET ABOVE GRADE.

PALE YELLOWISH BROWN SAND, NON COHESIVE, SLIGHTLY MOIST, FIRM, NO APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (0.0 - 4.0 FT. BELOW GRADE).

DEPTH TO WATER APPROX. 2.34 FT. FROM GROUND SURFACE MEASURED ON 8/31/07.

BLACK GRAY SAND WITH PEBBLE SIZE GRAVEL PHASING INTO LARGER SIZE GRAVEL, NON COHESIVE, MOIST TO WET, FIRM TO LOOSE, APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN INTIAL 2 FEET OF CUTTINGS (4.0 - 9.0 FT. BELOW GRADE).

MEDIUM GRAY SAND & GRAVEL, NON COHESIVE, SATURATED, FIRM TO LOOSE, NO APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (9.0 - 12.0 FT. BELOW GRADE).

MEDIUM GRAY CLAY WITH MINOR AMOUNT OF GRAVEL, COHESIVE, SLIGHTLY MOIST TO WET, DENSE TO VERY DENSE, NO APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (12.0 - 15.0 FT. BELOW GRADE).

NOTES:
- SAND.
- SAND AND GRAVEL.
- CLAY 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 2.70 ft. above grade to 3.20 ft. below grade, 0.010 slotted screen between 3.20 to 13.20 ft. below grade, sand packed annular to 2.0 ft. below grade, bentonite grout between 0.0 to 2.0 ft. below grade. Completed with concreting well protector encompassing above grade casing and secured with padlock.

DRAWING: Sammons GC F 1 MW1A-BH2. SKF | DATE: 8/31/07 | DWN BY: NJV

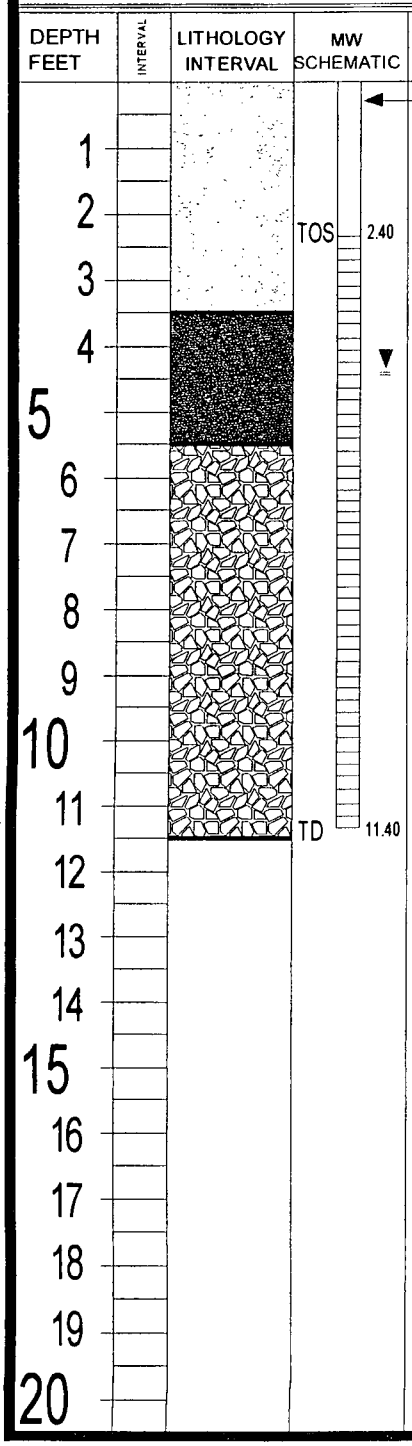
BLAGG ENGINEERING, INC.
P.O. BOX 87
BLOOMFIELD, NM 87413
(505) 632-1199

MW #2A

BORE / TEST HOLE REPORT

BORING #.....	BH-1
MW #.....	2A
PAGE #.....	1
DATE STARTED	11/01/06
DATE FINISHED	11/01/06
OPERATOR.....	DP
PREPARED BY	NJV

CLIENT: BP AMERICA PRODUCTION CO.
LOCATION NAME: SAMMONS GC F #1 UNIT A, SEC. 18, T29N, R9W
CONTRACTOR: BLAGG ENGINEERING, INC. / ENVIROTECH, INC.
EQUIPMENT USED: MOBILE DRILL RIG (CME 75)
BORING LOCATION: 159 FT., S38E FROM WELL HEAD.



FIELD CLASSIFICATION AND REMARKS

GROUND SURFACE

TOP OF CASING APPROX. 1.60 FEET ABOVE GRADE.

PALE YELLOWISH BROWN SAND, NON COHESIVE, SLIGHTLY MOIST, FIRM, NO APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (0.0 - 3.5 FT. BELOW GRADE).

DEPTH TO WATER APPROX. 4.45 FT. FROM GROUND SURFACE MEASURED ON 11/14/06.

BLACK SAND, NON COHESIVE, MOIST TO WET, FIRM TO LOOSE, STRONG APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (3.5 - 5.5 FT. BELOW GRADE).

BLACK TO OLIVE GRAY SAND AND GRAVEL, NON COHESIVE, SATURATED, FIRM, APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (5.5 - 11.5 FT. BELOW GRADE).

AUGER REFUSAL DUE TO LARGE COBBLE(S) - (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 1.60 ft. above grade to 2.40 ft. below grade, 0.010 slotted screen between 2.40 to 11.60 ft. below grade, sand packed annular to 2.0 ft. below grade, bentonite grout between 0.0 to 2.0 ft. below grade. Well protector encompassing above grade casing and secured with padlock.

DRAWING: SAMMONS GC F 1 BH1-MW2A. SKF | DATE: 11/17/06 | DWN BY: NJV

BLAGG ENGINEERING, INC.

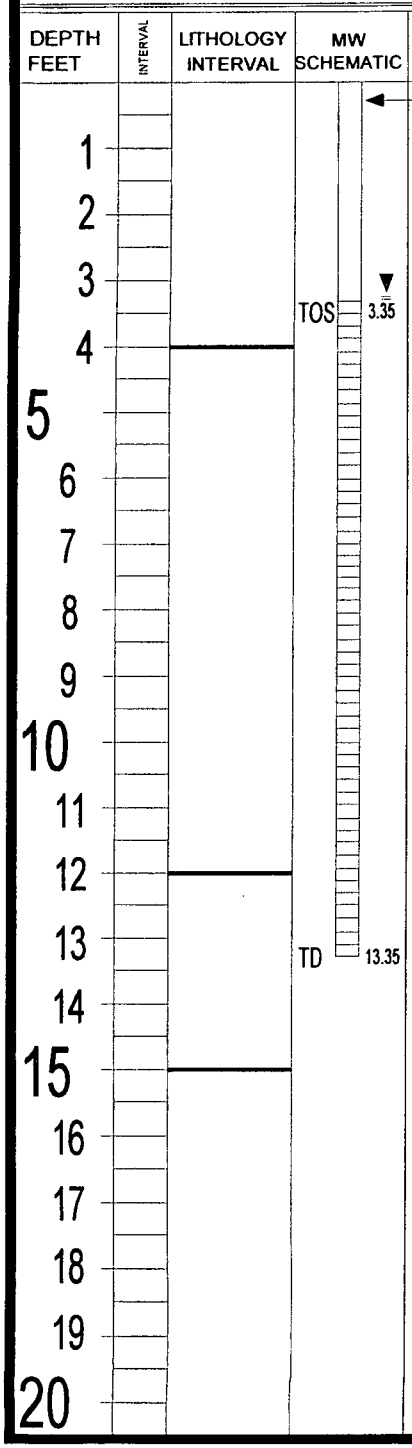
P.O. BOX 87
BLOOMFIELD, NM 87413
(505) 632-1199

MW #3A

BORE / TEST HOLE REPORT

BORING #.....	BH-3
MW #.....	3A
PAGE #.....	3
DATE STARTED	8/29/07
DATE FINISHED	8/29/07
OPERATOR.....	DP
PREPARED BY	NJV

CLIENT: BP AMERICA PRODUCTION CO.
LOCATION NAME: SAMMONS GC F #1 UNIT A, SEC. 18, T29N, R9W
CONTRACTOR: BLAGG ENGINEERING, INC. / ENVIROTECH, INC.
EQUIPMENT USED: MOBILE DRILL RIG (CME 75)
BORING LOCATION: 201 FT., S42.5E FROM WELL HEAD.



FIELD CLASSIFICATION AND REMARKS

GROUND SURFACE

TOP OF CASING APPROX. 0.40 FEET BELOW GRADE.

PALE YELLOWISH BROWN SAND, NON COHESIVE, SLIGHTLY MOIST, FIRM, NO APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (0.0 - 4.0 FT. BELOW GRADE).

DEPTH TO WATER APPROX. 3.27 FT. FROM GROUND SURFACE MEASURED ON 8/31/07.

OLIVE GRAY SAND & GRAVEL, NON COHESIVE, SATURATED, FIRM TO LOOSE, NO APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (4.0 - 12.0 FT. BELOW GRADE).

MEDIUM GRAY CLAY WITH MINOR AMOUNT OF GRAVEL, COHESIVE, SLIGHTLY MOIST TO WET, DENSE TO VERY DENSE, NO APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (12.0 - 15.0 FT. BELOW GRADE).

NOTES:
- SAND.
- SAND AND GRAVEL.
- CLAY 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 0.40 ft. to 3.35 ft. below grade, 0.010 slotted screen between 3.35 to 13.35 ft. below grade, sand packed annular to 2.0 ft. below grade, bentonite grout between 1.0 to 2.0 ft. below grade. Completed with concreting flush mount well protector encompassing 0.4 ft. of below grade casing and secured locking cap with padlock.

DRAWING: Sammons GC F 1 MW3A-BH3. SKF | DATE: 8/31/07 | DWN BY: NJV

BLAGG ENGINEERING, INC.

MONITOR WELL DEVELOPMENT & / OR SAMPLING DATA

CLIENT : BP AMERICA PROD. CO.

CHAIN-OF-CUSTODY # : N / A & 14716

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

LABORATORY (S) USED : HALL ENVIRONMENTAL
ENVIROTECH

Date : November 14, 2006

SAMPLER : N J V

Filename : 11-14-06.WK4

PROJECT MANAGER : N J V

WELL #	WELL ELEV. (ft)	WATER ELEV. (ft)	DEPTH TO WATER (ft)	TOTAL DEPTH (ft)	SAMPLING TIME	pH	CONDUCT (umhos)	TEMP. (celcius)	VOLUME PURGED (gal.)
MW - 2A	-	-	6.05	13.00	1355	6.96	1,300	12.4	1.75
					INSTRUMENT CALIBRATIONS =	7.00	2,800		
					DATE & TIME =	11/14/06	0945		

NOTES : Volume of water purged from well prior to sampling: V = pi X r2 X h X 7.48 gal./ft3) X 3 (wellbores).
(i.e. 2" MW r = (1/12) ft. h = 1 ft.) (i.e. 4" MW r = (2/12) ft. h = 1 ft.)
Ideally a minimum of three (3) wellbore volumes:
2.00 " well diameter = 0.49 gallons per foot of water.

Comments or note well diameter if not standard 2 ".

Poor / fair recovery . Black in appearance with strong hydrocarbon odor detected physically in purged water . Collected samples for BTEX and major anions / cations analyses .

Top of casing MW # 2 ~ 1.60 ft. above grade .

Hall Environmental Analysis Laboratory, Inc.

Date: *21-Nov-06*

CLIENT:	Blagg Engineering	**Client Sample ID:**	MW-2A
Lab Order:	0611182	**Collection Date:**	11/14/2006 1:55:00 PM
Project:	Sammons GC F#1	**Date Received:**	11/15/2006
Lab ID:	0611182-01	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	10	10		µg/L	10	11/20/2006 3:55:33 PM
Toluene	ND	10		µg/L	10	11/20/2006 3:55:33 PM
Ethylbenzene	14	10		µg/L	10	11/20/2006 3:55:33 PM
Xylenes, Total	1000	30		µg/L	10	11/20/2006 3:55:33 PM
Surr: 4-Bromofluorobenzene	104	70.2-105		%REC	10	11/20/2006 3:55:33 PM

Qualifiers:

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

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

CATION / ANION ANALYSIS

Client:	Blagg / BP	Project #:	94034-010
Sample ID:	MW #2A	Date Reported:	11-17-06
Laboratory Number:	39152	Date Sampled:	11-14-06
Chain of Custody:	14716	Date Received:	11-14-06
Sample Matrix:	Water	Date Extracted:	N/A
Preservative:	Cool	Date Analyzed:	11-15-06
Condition:	Cool & Intact		

Parameter	Analytical Result	Units		
pH	**7.18**	s.u.		
Conductivity @ 25° C	**1,280**	umhos/cm		
Total Dissolved Solids @ 180C	**904**	mg/L		
Total Dissolved Solids (Calc)	**901**	mg/L		
SAR	**2.2**	ratio		
Total Alkalinity as CaCO3	**800**	mg/L		
Total Hardness as CaCO3	**537**	mg/L		
Bicarbonate as HCO3	**800**	mg/L	13.11	meq/L
Carbonate as CO3	**<0.1**	mg/L	0.00	meq/L
Hydroxide as OH	**<0.1**	mg/L	0.00	meq/L
Nitrate Nitrogen	**0.4**	mg/L	0.01	meq/L
Nitrite Nitrogen	**0.024**	mg/L	0.00	meq/L
Chloride	**82.0**	mg/L	2.31	meq/L
Fluoride	**1.52**	mg/L	0.08	meq/L
Phosphate	**0.9**	mg/L	0.03	meq/L
Sulfate	**21.3**	mg/L	0.44	meq/L
Iron	**3.08**	mg/L	0.11	meq/L
Calcium	**146**	mg/L	7.29	meq/L
Magnesium	**41.9**	mg/L	3.45	meq/L
Potassium	**2.49**	mg/L	0.06	meq/L
Sodium	**119**	mg/L	5.18	meq/L
Cations			15.97	meq/L
Anions			15.98	meq/L
Cation/Anion Difference			**0.07%**	

Reference: U.S.E.P.A., 600/4-79-020, "Methods for Chemical Analysis of Water and Wastes", 1983.
Standard Methods For The Examination of Water And Waste Water", 18th ed., 1992.

Comments: **Sammons GC F #1 Grab Sample.**

Analyst

Review

5796 U.S. Highway 64 • Farmington, NM 87401 • Tel 505 • 632 • 0615 • Fax 505 • 632 • 1865

CHAIN-OF-CUSTODY RECORD

QA / QC Package:
Std ☐ Level 4 ☐
Other: _____

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

Client: BLAGG ENER./BP AMERICA
Address: P.O. BOX 87 BLFD., NM 87413
Phone #: 632-1199
Fax #:

Project Name: SAMMONS GC F #1
Project #: 91V
Project Manager: NV
Sampler: NV
Sample Temperature: 1°

ANALYSIS REQUEST

Date	Time	Matrix	Sample I.D. No.	Number/Volume	Preservative $HgCl_2$	Preservative HNO_3	Preservative	HEAL No.
								0611182
11/14/06	1355	WATER	MW # 2A	2-40 ml	✓			1

BTEX + MTBE + TMB's (8021B)	BTEX + MTBE + TPH (Gasoline Only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	EDC (Method 8021)	8310 (PNA or PAH)	RCRA 8 Metals	Anions ($F, Cl, NO_3, NO_2, PO_4, SO_4$)	8081 Pesticides / PCB's (8082)	8260B (VOA)	8270 (Semi-VOA)					Air Bubbles or Headspace (Y or N)
✓																

Date	Time	Relinquished By: (Signature)	Received By: (Signature)	
11/14/06	1700			11/15/06
Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)	931

Remarks:

CHAIN OF CUSTODY RECORD

14716

Client / Project Name	Project Location	ANALYSIS / PARAMETERS
BLAGG / BP	SAMMONS GC F #1	
Sampler: NV	Client No. 94034-010	

Sample No./ Identification	Sample Date	Sample Time	Lab Number	Sample Matrix	No. of Containers	MAJOR ANIONS/ CATIONS						Remarks
												PRESERVED COOL
MW #2A	11/14/06	1355	39152	WATER	1	✓						GRAB SAMPLE

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
	11/14/06	1445		11/14/06	1445
Relinquished by: (Signature)			Received by: (Signature)		
Relinquished by: (Signature)			Received by: (Signature)		

ENVIROTECH INC.
5796 U.S. Highway 64
Farmington, New Mexico 87401
(505) 632-0615

Sample Receipt	Y	N	N/A
Received Intact	✓		
Cool - Ice/Blue Ice	✓		

QA/QC SUMMARY REPORT

Client: Blagg Engineering
Project: Sammons GC F#1 **Work Order:** 0611182

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: SW8021									
Sample ID: 5ML RB		*MBLK*			Batch ID: **R21507**		Analysis Date:	11/20/2006 9:02:19 AM	
Benzene	ND	µg/L	1.0						
Toluene	ND	µg/L	1.0						
Ethylbenzene	ND	µg/L	1.0						
Xylenes, Total	ND	µg/L	3.0						
Sample ID: 100NG BTEX LCS		*LCS*			Batch ID: **R21507**		Analysis Date:	11/20/2006 9:00:08 PM	
Benzene	19.19	µg/L	1.0	96.0	85.9	113			
Toluene	19.47	µg/L	1.0	97.4	86.4	113			
Ethylbenzene	19.22	µg/L	1.0	96.1	83.5	118			
Xylenes, Total	39.98	µg/L	3.0	100	83.4	122			

Qualifiers:

- E Value above quantitation range
- 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 2 / 3 recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Sample Receipt Checklist

Client Name BLAGG | Date and Time Received: 11/15/2006

Work Order Number 0611182 | Received by TLS

Checklist completed by Signature Nov 15, 06 Date

Matrix | Carrier name Courier

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 - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☑	

Container/Temp Blank temperature? **1°** *4° C ± 2 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 : February 26, 2007

SAMPLER : N J V

Filename : 02-26-07.WK4

PROJECT MANAGER : N J V

WELL #	WELL ELEV. (ft)	WATER ELEV. (ft)	DEPTH TO WATER (ft)	TOTAL DEPTH (ft)	SAMPLING TIME	pH	CONDUCT (umhos)	TEMP. (celcius)	VOLUME PURGED (gal.)
MW - 2A	-	-	5.92	13.00	1155	6.91	1,500	11.9	1.75
					INSTRUMENT CALIBRATIONS =	7.00	2,800		
					DATE & TIME =	02/21/07	0845		

NOTES : Volume of water purged from well prior to sampling; V = pi X r2 X h X 7.48 gal./ft3) X 3 (wellbores).
(i.e. 2" MW r = (1/12) ft. h = 1 ft.) (i.e. 4" MW r = (2/12) ft. h = 1 ft.)
Ideally a minimum of three (3) wellbore volumes:
2.00 " well diameter = 0.49 gallons per foot of water.

Comments or note well diameter if not standard 2 ".

Poor / fair recovery . Black in appearance with strong hydrocarbon odor detected physically in purged water . Collected sample for BTEX analysis .

Top of casing MW # 2 ~ 1.60 ft. above grade .

Hall Environmental Analysis Laboratory, Inc.

Date: *02-Mar-07*

CLIENT:	Blagg Engineering	**Client Sample ID:**	MW #2A
Lab Order:	0702364	**Collection Date:**	2/26/2007 11:55:00 AM
Project:	Sammons GC F #1	**Date Received:**	2/28/2007
Lab ID:	0702364-01	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	10		µg/L	10	3/1/2007 1:58:27 PM
Toluene	ND	10		µg/L	10	3/1/2007 1:58:27 PM
Ethylbenzene	ND	10		µg/L	10	3/1/2007 1:58:27 PM
Xylenes, Total	670	20		µg/L	10	3/1/2007 1:58:27 PM
Surr: 4-Bromofluorobenzene	93.4	70.2-105		%REC	10	3/1/2007 1:58:27 PM

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

CHAIN-OF-CUSTODY RECORD

QA / QC Package:
Std ☐ Level 4 ☐
Other: _____

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

Client: BLAGG ENGR / BP AMERICA
Project Name: SAMMONS GC F #1
Address: P.O. BOX 87 BLFD., NM 87413
Project #: nv
Project Manager: NV
Phone #: 632-1199
Sampler: NV
Fax #:
Sample Temperature: 3°

Date	Time	Matrix	Sample I.D. No.	Number/Volume	Preservative $HgCl_2$	Preservative HNO_3	Preservative	HEAL No.
								07023604
2/24/07	1155	WATER	MW #2A	2-40ml	✓			1

ANALYSIS REQUEST

BTEX + ~~MTBE + TMB's~~ (8021B)	BTEX + MTBE + TPH (Gasoline Only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	EDC (Method 8021)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F, Cl, NO_3, NO_2, PO_4, SO_4)	8081 Pesticides / PCB's (8082)	8260B (VOA)	8270 (Semi-VOA)					Air Bubbles or Headspace (Y or N)
✓																

Date	Time	Relinquished By: (Signature)	Received By: (Signature)	
2/27/07	0700			2/28/07 900
Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)	

Remarks:

QA/QC SUMMARY REPORT

Client: Blagg Engineering
Project: Sammons GC F #1 **Work Order:** 0702364

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: SW8021									
Sample ID: RB-II		*MBLK*			Batch ID:	**R22664**	Analysis Date:	3/2/2007 2:07:52 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-II		*LCS*			Batch ID:	**R22664**	Analysis Date:	3/2/2007 2:37:53 AM	
Benzene	20.24	µg/L	1.0	101	85.9	113			
Toluene	20.31	µg/L	1.0	102	86.4	113			
Ethylbenzene	20.41	µg/L	1.0	102	83.5	118			
Xylenes, *Total*	62.18	µg/L	2.0	104	83.4	122			

Qualifiers:

E	Value above quantitation range	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 and Time Received: 2/28/2007

Work Order Number 0702364 | Received by TLS

Checklist completed by _____ Signature _____ Feb 28, 07 Date

Matrix | Carrier name Greyhound

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐	
Custody seals intact on shipping container/cooler?	Yes ☑	No ☐	Not Present ☐	Not Shipped ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	N/A ☑	
Chain of custody present?	Yes ☑	No ☐		
Chain of custody signed when relinquished and received?	Yes ☑	No ☐		
Chain of custody agrees with sample labels?	Yes ☑	No ☐		
Samples in proper container/bottle?	Yes ☑	No ☐		
Sample containers intact?	Yes ☑	No ☐		
Sufficient sample volume for indicated test?	Yes ☑	No ☐		
All samples received within holding time?	Yes ☑	No ☐		
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°	*4° C ± 2 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 22, 2007

SAMPLER : N J V

Filename : 05-22-07.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.)
2A	-	-	3.86	13.00	1115	6.78	900	20.3	4.50
					INSTRUMENT CALIBRATIONS =	7.00	2,800		
					DATE & TIME =	05/08/07	0740		

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

Ideally a minimum of three (3) wellbore volumes:

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

Comments or note well diameter if not standard 2 ".

Excellent recovery . Light blackish tint in appearance with slight hydrocarbon odor detected physically in purged water . Collected sample for BTEX analysis .

Top of casing MW # 2 ~ 1.60 ft. above grade .

Hall Environmental Analysis Laboratory, Inc.

Date: *31-May-07*

CLIENT:	Blagg Engineering	**Client Sample ID:**	MW #2A
Lab Order:	0705357	**Collection Date:**	5/22/2007 11:15:00 PM
Project:	Sammons GC F #1	**Date Received:**	5/23/2007
Lab ID:	0705357-01	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	14	1.0		µg/L	1	5/30/2007 3:01:19 PM
Toluene	ND	1.0		µg/L	1	5/30/2007 3:01:19 PM
Ethylbenzene	ND	1.0		µg/L	1	5/30/2007 3:01:19 PM
Xylenes, Total	270	10		µg/L	5	5/30/2007 2:31:08 PM
Surr: 4-Bromofluorobenzene	94.0	70.2-105		%REC	1	5/30/2007 3:01:19 PM

Qualifiers:

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

CHAIN-OF-CUSTODY RECORD

QA / QC Package:
Std ☐ Level 4 ☐
Other: _____

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

Client: BLAGG ENGR. / BP AMERICA

Project Name: SAMMONS GC F #1

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

Project #: 7N

Project Manager: NV

Phone #: 632-1199

Sampler: NV

Fax #:

Sample Temperature: 5°

Date	Time	Matrix	Sample I.D. No.	Number/Volume	Preservative $HgCl_2$	Preservative HNO_3	Preservative	HEAL No.
								0705357
5/22/07	1115	WATER	MW #2A	2-40ml				1

ANALYSIS REQUEST

(BTEX) + MTBE + TMB's (8021B)	BTEX + MTBE + TPH (Gasoline Only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	EDC (Method 8021)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F, Cl, NO_3, NO_2, PO_4, SO_4)	8081 Pesticides / PCB's (8082)	8260B (VOA)	8270 (Semi-VOA)					Air Bubbles or Headspace (Y or N)
✓																

Date	Time	Relinquished By: (Signature)	Received By: (Signature)	
5/22/07	1415			5/23/07
Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)	850

Remarks:

QA/QC SUMMARY REPORT

Client: Blagg Engineering
Project: Sammons GC F #1
Work Order: 0705357

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: SW8021									
Sample ID: 5ML REAGENT BLA		*MBLK*			Batch ID:	**R23774**	Analysis Date:	5/29/2007 8:19:53 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 REAGENT BLA		*MBLK*			Batch ID:	**R23777**	Analysis Date:	5/30/2007 8:56:15 AM	
Benzene	ND	µg/L	1.0						
Toluene	ND	µg/L	1.0						
Ethylbenzene	ND	µg/L	1.0						
Xylenes, Total	ND	µg/L	2.0						
Sample ID: 100NG BTEX LCS		*LCS*			Batch ID:	**R23774**	Analysis Date:	5/29/2007 9:40:18 PM	
Benzene	19.41	µg/L	1.0	97.1	85.9	113			
Toluene	19.59	µg/L	1.0	97.9	86.4	113			
Ethylbenzene	19.63	µg/L	1.0	98.2	83.5	118			
Xylenes, Total	58.61	µg/L	2.0	97.7	83.4	122			
Sample ID: 100NG BTEX LCS		*LCS*			Batch ID:	**R23777**	Analysis Date:	5/30/2007 4:01:34 PM	
Benzene	20.06	µg/L	1.0	100	85.9	113			
Toluene	20.41	µg/L	1.0	102	86.4	113			
Ethylbenzene	20.36	µg/L	1.0	102	83.5	118			
Xylenes, Total	61.34	µg/L	2.0	102	83.4	122			

Qualifiers:

E	Value above quantitation range	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 and Time Received: 5/23/2007

Work Order Number 0705357 | Received by TLS

Checklist completed by _____ 5/23/07
Signature Date

Matrix | Carrier name UPS

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐	
Custody seals intact on shipping container/cooler?	Yes ☑	No ☐	Not Present ☐	Not Shipped ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	N/A ☑	
Chain of custody present?	Yes ☑	No ☐		
Chain of custody signed when relinquished and received?	Yes ☑	No ☐		
Chain of custody agrees with sample labels?	Yes ☑	No ☐		
Samples in proper container/bottle?	Yes ☑	No ☐		
Sample containers intact?	Yes ☑	No ☐		
Sufficient sample volume for indicated test?	Yes ☑	No ☐		
All samples received within holding time?	Yes ☑	No ☐		
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°	*4° C ± 2 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 : August 16, 2007

SAMPLER : N J V

Filename : 08-16-07.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.)
2A	-	-	5.12	13.00	1150	6.73	1,200	28.2	2.50
				INSTRUMENT CALIBRATIONS =		7.00	2,800		
				DATE & TIME =		08/15/07	0900		

NOTES : Volume of water purged from well prior to sampling: V = pi X r2 X h X 7.48 gal./ft3) X 3 (wellbores).
(i.e. 2" MW r = (1/12) ft. h = 1 ft.) (i.e. 4" MW r = (2/12) ft. h = 1 ft.)
Ideally a minimum of three (3) wellbore volumes:

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

Comments or note well diameter if not standard 2 ".

Fair recovery . Light blackish tint in appearance with slight hydrocarbon odor detected physically in purged water . Collected sample for BTEX analysis .

Top of casing MW # 2 ~ 1.60 ft. above grade .

Hall Environmental Analysis Laboratory, Inc.

Date: *27-Aug-07*

CLIENT:	Blagg Engineering	**Client Sample ID:**	MW #2A
Lab Order:	0708246	**Collection Date:**	8/16/2007 11:50:00 AM
Project:	Sammons GC F #1	**Date Received:**	8/17/2007
Lab ID:	0708246-01	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **SMP**
Benzene	4.9	1.0		µg/L	1	8/23/2007 10:53:39 PM
Toluene	ND	1.0		µg/L	1	8/23/2007 10:53:39 PM
Ethylbenzene	7.8	1.0		µg/L	1	8/23/2007 10:53:39 PM
Xylenes, Total	2300	40		µg/L	20	8/24/2007 1:34:20 PM
Surr: 4-Bromofluorobenzene	98.1	70.2-105		%REC	20	8/24/2007 1:34:20 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level
E	Value above quantitation range
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

QA / QC Package:
Std ☐ Level 4 ☐
Other:

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

Client: BLAGG ENER. / BP AMERICA

Project Name: SAMMONS GC F #1

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

Project #:

Project Manager: NV

Phone #: 632-1199

Sampler: NV

Fax #:

Sample Temperature: 1°

Date	Time	Matrix	Sample I.D. No.	Number/Volume	Preservative $HgCl_2$	Preservative HNO_3	Preservative	HEAL No.
8/16/07 AS								0708246
~~8/17/07~~	1150	WATER	MW #2A	2-40ml	✓			1

ANALYSIS REQUEST

(BTEX) + MTBE + TMB's (8021B)	BTEX + MTBE + TPH (Gasoline Only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	EDC (Method 8021)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F, Cl, NO_3, NO_2, PO_4, SO_4)	8081 Pesticides / PCB's (8082)	8260B (VOA)	8270 (Semi-VOA)					Air Bubbles or Headspace (Y or N)
✓																

Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)	
8/16/07	1545			8/20/07
Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)	1416

Remarks:

QA/QC SUMMARY REPORT

Client: Blagg Engineering
Project: Sammons GC F #1
Work Order: 0708246

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: SW8021									
Sample ID: 5ML RB		*MBLK*			Batch ID:	**R24885**	Analysis Date:	8/23/2007 9:10:07 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:	**R24905**	Analysis Date:	8/24/2007 10:01:20 AM	
Benzene	ND	µg/L	1.0						
Toluene	ND	µg/L	1.0						
Ethylbenzene	ND	µg/L	1.0						
Xylenes, Total	ND	µg/L	2.0						
Sample ID: B		*MBLK*			Batch ID:	**R24905**	Analysis Date:	8/24/2007 6:25:38 PM	
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:	**R24885**	Analysis Date:	8/23/2007 2:37:33 PM	
Benzene	17.77	µg/L	1.0	88.9	85.9	113			
Toluene	17.37	µg/L	1.0	86.9	86.4	113			
Ethylbenzene	18.05	µg/L	1.0	90.2	83.5	118			
Xylenes, Total	54.72	µg/L	2.0	90.9	83.4	122			
Sample ID: 100NG BTEX LCS		*LCS*			Batch ID:	**R24905**	Analysis Date:	8/24/2007 11:31:32 AM	
Benzene	17.89	µg/L	1.0	89.4	85.9	113			
Toluene	17.92	µg/L	1.0	89.6	86.4	113			
Ethylbenzene	18.15	µg/L	1.0	90.3	83.5	118			
Xylenes, Total	54.67	µg/L	2.0	90.5	83.4	122			
Sample ID: 100NG BTEX LCS B		*LCS*			Batch ID:	**R24905**	Analysis Date:	8/25/2007 11:02:46 PM	
Benzene	18.86	µg/L	1.0	94.3	85.9	113			
Toluene	19.72	µg/L	1.0	98.6	86.4	113			
Ethylbenzene	20.17	µg/L	1.0	100	83.5	118			
Xylenes, Total	62.26	µg/L	2.0	102	83.4	122			
Sample ID: 100NG BTEX LCSD		*LCSD*			Batch ID:	**R24885**	Analysis Date:	8/23/2007 3:07:41 PM	
Benzene	18.32	µg/L	1.0	91.6	85.9	113	3.04	27	
Toluene	18.12	µg/L	1.0	90.6	86.4	113	4.23	19	
Ethylbenzene	18.75	µg/L	1.0	93.7	83.5	118	3.81	10	
Xylenes, Total	56.41	µg/L	2.0	93.7	83.4	122	3.04	13	

Qualifiers:

- E Value above quantitation range
- 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 and Time Received: 8/17/2007

Work Order Number 0708246 | Received by TLS

Checklist completed by  8/17/07
Signature Date

Matrix | Carrier name UPS

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐	
Custody seals intact on shipping container/cooler?	Yes ☑	No ☐	Not Present ☐	Not Shipped ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	N/A ☑	
Chain of custody present?	Yes ☑	No ☐		
Chain of custody signed when relinquished and received?	Yes ☑	No ☐		
Chain of custody agrees with sample labels?	Yes ☑	No ☐		
Samples in proper container/bottle?	Yes ☑	No ☐		
Sample containers intact?	Yes ☑	No ☐		
Sufficient sample volume for indicated test?	Yes ☑	No ☐		
All samples received within holding time?	Yes ☑	No ☐		
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°	*4° C ± 2 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 : September 19, 2007

SAMPLER : N J V

Filename : 09-19-07.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	96.80	5.25	15.00	1230	6.86	700	27.2	4.75
2A	102.01	96.77	5.24	13.00	-	-	-	-	-
3A	99.76	96.65	3.11	13.50	1300	6.74	900	27.6	5.00
					INSTRUMENT CALIBRATIONS =	7.00	2,800		
					DATE & TIME =	09/17/07	0945		

NOTES : Volume of water purged from well prior to sampling; V = pi X r2 X h X 7.48 gal./ft3) X 3 (wellbores).
(i.e. 2" MW r = (1/12) ft. h = 1 ft.) (i.e. 4" MW r = (2/12) ft. h = 1 ft.)
Ideally a minimum of three (3) wellbore volumes:
2.00 " well diameter = 0.49 gallons per foot of water.

Comments or note well diameter if not standard 2 ".

Excellent recovery in MW # 1A , # 3A , both murky brown in appearance , hydrocarbon odor detected physically in MW # 1A *only* , *collected* BTEX , *anions* , iron , pH , TDS samples from MW # 1A , & # 3A .

Top of casing MW # 1A ~ 2.40 ft. , MW # 2A ~ 1.60 ft. above grade , MW # 3A ~ 0.35 ft. below grade .

Hall Environmental Analysis Laboratory, Inc.

Date: *10-Oct-07*

CLIENT:	Blagg Engineering	**Client Sample ID:**	MW #1A
Lab Order:	0709294	**Collection Date:**	9/19/2007 12:30:00 PM
Project:	Sammons GC F #1	**Date Received:**	9/21/2007
Lab ID:	0709294-01	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	1.0		µg/L	1	9/28/2007 9:57:16 PM
Toluene	ND	1.0		µg/L	1	9/28/2007 9:57:16 PM
Ethylbenzene	ND	1.0		µg/L	1	9/28/2007 9:57:16 PM
Xylenes, Total	ND	2.0		µg/L	1	9/28/2007 9:57:16 PM
Surr: 4-Bromofluorobenzene	94.7	70.2-105		%REC	1	9/28/2007 9:57:16 PM
EPA METHOD 300.0: ANIONS						Analyst: **KS**
Fluoride	0.42	0.10		mg/L	1	10/9/2007 6:02:59 PM
Chloride	5.2	0.10		mg/L	1	10/9/2007 6:02:59 PM
Nitrogen, Nitrite (As N)	ND	0.10	H	mg/L	1	10/9/2007 6:02:59 PM
Bromide	ND	0.10		mg/L	1	10/9/2007 6:02:59 PM
Nitrogen, Nitrate (As N)	ND	0.10	H	mg/L	1	10/9/2007 6:02:59 PM
Phosphorus, Orthophosphate (As P)	ND	0.50	H	mg/L	1	10/9/2007 6:02:59 PM
Sulfate	89	5.0		mg/L	10	10/9/2007 6:20:24 PM
FERROUS IRON						Analyst: **KS**
Ferrous Iron	ND	0.10		mg/L	1	10/1/2007
SM4500-H+B: PH						Analyst: **SMP**
pH	7.12	0.1		pH units	1	9/24/2007
SM 2540C: TDS						Analyst: **TAF**
Total Dissolved Solids	1000	400		mg/L	1	9/21/2007

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

Hall Environmental Analysis Laboratory, Inc.

Date: *10-Oct-07*

CLIENT:	Blagg Engineering	**Client Sample ID:**	MW #3A
Lab Order:	0709294	**Collection Date:**	9/19/2007 1:00:00 PM
Project:	Sammons GC F #1	**Date Received:**	9/21/2007
Lab ID:	0709294-02	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	1.0		µg/L	1	9/28/2007 10:27:09 PM
Toluene	ND	1.0		µg/L	1	9/28/2007 10:27:09 PM
Ethylbenzene	ND	1.0		µg/L	1	9/28/2007 10:27:09 PM
Xylenes, Total	ND	2.0		µg/L	1	9/28/2007 10:27:09 PM
Surr: 4-Bromofluorobenzene	85.7	70.2-105		%REC	1	9/28/2007 10:27:09 PM
EPA METHOD 300.0: ANIONS						Analyst: **KS**
Fluoride	1.0	0.10		mg/L	1	10/9/2007 6:37:48 PM
Chloride	15	0.10		mg/L	1	10/9/2007 6:37:48 PM
Nitrogen, Nitrite (As N)	ND	0.10	H	mg/L	1	10/9/2007 6:37:48 PM
Bromide	0.14	0.10		mg/L	1	10/9/2007 6:37:48 PM
Nitrogen, Nitrate (As N)	ND	0.10	H	mg/L	1	10/9/2007 6:37:48 PM
Phosphorus, Orthophosphate (As P)	ND	0.50	H	mg/L	1	10/9/2007 6:37:48 PM
Sulfate	24	0.50		mg/L	1	10/9/2007 6:37:48 PM
FERROUS IRON						Analyst: **KS**
Ferrous Iron	0.44	0.10		mg/L	1	10/1/2007
SM4500-H+B: PH						Analyst: **SMP**
pH	7.02	0.1		pH units	1	9/24/2007
SM 2540C: TDS						Analyst: **TAF**
Total Dissolved Solids	95	20		mg/L	1	9/21/2007

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

CHAIN-OF-CUSTODY RECORD

QA / QC Package:
Std ☐ Level 4 ☐
Other:

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

Client: BLAGG ENER. / BP AMERICA
Address: P.O. BOX 87 BLFD, NM 87413
Phone #: 632-1199
Fax #:

Project Name: SAMMONS GC F #1
Project #: NV
Project Manager: NV
Sampler: NV
Sample Temperature: 2.3°

ANALYSIS REQUEST

Date	Time	Matrix	Sample I.D. No.	Number/Volume	Preservative			HEAL No.
					$HgCl_2$	HNO_3	HCl	0709294
9/19/07	1230	WATER	MW #1A	2-40ml	✓			-1
"	"	"	"	1-125ml			✓	-1
"	"	"	"	1-500ml				-1
9/19/07	1300	WATER	MW #3A	2-40ml	✓			-2
"	"	"	"	1-125ml			✓	-2
"	"	"	"	1-500ml				-2

(BTEX + ~~MTBE + TMB's~~ (8021B))	BTEX + MTBE + TPH (Gasoline Only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	EDC (Method 8021)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F, Cl, NO_3, NO_2, PO_4, SO_4)	8081 Pesticides / PCB's (8082)	8260B (VOA)	8270 (Semi-VOA)	Fe	TDS	pH		Air Bubbles or Headspace (Y or N)
✓																
												✓				
								✓					✓	✓		
✓																
												✓				
								✓					✓	✓		

Remarks:

Date	Time	Relinquished By: (Signature)	Received By: (Signature)
9/19/07	1545		
Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)
			9/21/07 1415

QA/QC SUMMARY REPOR

Client: Blagg Engineering
Project: Sammons GC F #1 **Work Order:** 0709294

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: E300									
Sample ID: MBLK 100907A		*MBLK*			Batch ID: **R25489**		Analysis Date:	10/9/2007 9:55:33 AM	
Fluoride	ND	mg/L	0.10						
Chloride	ND	mg/L	0.10						
Nitrogen, Nitrite (As N)	ND	mg/L	0.10						
Bromide	ND	mg/L	0.10						
Nitrogen, Nitrate (As N)	ND	mg/L	0.10						
Phosphorus, Orthophosphate (As P)	ND	mg/L	0.50						
Sulfate	ND	mg/L	0.50						
Sample ID: LCS ST300-07058 1		*LCS*			Batch ID: **R25489**		Analysis Date:	10/9/2007 10:12:57 AM	
Fluoride	0.5249	mg/L	0.10	105	90	110			
Chloride	4.961	mg/L	0.10	99.2	90	110			
Nitrogen, Nitrite (As N)	0.9548	mg/L	0.10	95.5	90	110			
Bromide	2.585	mg/L	0.10	103	90	110			
Nitrogen, Nitrate (As N)	2.549	mg/L	0.10	102	90	110			
Phosphorus, Orthophosphate (As P)	5.320	mg/L	0.50	106	90	110			
Sulfate	10.35	mg/L	0.50	103	90	110			
Method: SW8021									
Sample ID: 5ML RB		*MBLK*			Batch ID: **R25381**		Analysis Date:	9/28/2007 8:53:47 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: **R25381**		Analysis Date:	9/28/2007 10:54:15 AM	
Benzene	20.62	µg/L	1.0	103	85.9	113			
Toluene	20.93	µg/L	1.0	104	86.4	113			
Ethylbenzene	20.92	µg/L	1.0	105	83.5	118			
Xylenes, Total	63.02	µg/L	2.0	105	83.4	122			
Method: E160.1									
Sample ID: MB-13906		*MBLK*			Batch ID: **13906**		Analysis Date:	9/21/2007	
Total Dissolved Solids	ND	mg/L	20						
Sample ID: LCS-13906		*LCS*			Batch ID: **13906**		Analysis Date:	9/21/2007	
Total Dissolved Solids	1018	mg/L	20	100	80	120			

Qualifiers:

E	Value above quantitation range	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 and Time Received: 9/21/2007

Work Order Number 0709294 | Received by AT

Checklist completed by _____ 9/21/07
Signature | Date

Matrix | Carrier name UPS

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐	
Custody seals intact on shipping container/cooler?	Yes ☑	No ☐	Not Present ☐	Not Shipped ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	N/A ☑	
Chain of custody present?	Yes ☑	No ☐		
Chain of custody signed when relinquished and received?	Yes ☑	No ☐		
Chain of custody agrees with sample labels?	Yes ☑	No ☐		
Samples in proper container/bottle?	Yes ☑	No ☐		
Sample containers intact?	Yes ☑	No ☐		
Sufficient sample volume for indicated test?	Yes ☑	No ☐		
All samples received within holding time?	Yes ☑	No ☐		
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?	**23°**	*4° C ± 2 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 : December 3, 2007

SAMPLER : N J V

Filename : 12-06-07.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	96.41	5.64	15.00	-	-	-	-	-
2A	100.26	96.43	3.83	11.22	1030	7.12	1,200	11.2	2.00
3A	99.76	96.27	3.49	13.50	1015	7.11	900	8.9	5.00
					INSTRUMENT CALIBRATIONS =	7.00	2,800		
					DATE & TIME =	11/28/07	1410		

NOTES : Volume of water purged from well prior to sampling; V = pi X r2 X h X 7.48 gal./ft3) X 3 (wellbores).
(i.e. 2" MW r = (1/12) ft. h = 1 ft.) (i.e. 4" MW r = (2/12) ft. h = 1 ft.)
Ideally a minimum of three (3) wellbore volumes:
2.00 " well diameter = 0.49 gallons per foot of water.

Comments or note well diameter if not standard 2 ".

MW # 2A casing and protector found damaged on 11/ 29 / 07 . Repaired casing and cleaned out MW # 2A on 11 / 30 / 07 using air compressor . Installed flush mounted well cover . MW tops resurveyed on 12 / 3 / 07. Excellent recovery in MW # 3A , fair recovery in MW # 2A . Collected samples from MW # 2A & # 3A for BTEX analysis only .

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

Hall Environmental Analysis Laboratory, Inc.

Date: *06-Dec-07*

CLIENT: Blagg Engineering
Project: Sammons GC F #1

Lab Order: 0712027

Lab ID: 0712027-01 **Collection Date:** 12/3/2007 10:30:00 AM
Client Sample ID: MW #2A **Matrix:** AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	3.7	1.0		µg/L	1	12/5/2007 7:42:27 PM
Toluene	3.4	1.0		µg/L	1	12/5/2007 7:42:27 PM
Ethylbenzene	2.1	1.0		µg/L	1	12/5/2007 7:42:27 PM
Xylenes, Total	1200	40		µg/L	20	12/5/2007 7:12:18 PM
Surr: 4-Bromofluorobenzene	97.2	70.2-105		%REC	20	12/5/2007 7:12:18 PM

Lab ID: 0712027-02 **Collection Date:** 12/3/2007 10:15:00 AM
Client Sample ID: MW #3A **Matrix:** AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	1.0		µg/L	1	12/5/2007 9:14:03 PM
Toluene	ND	1.0		µg/L	1	12/5/2007 9:14:03 PM
Ethylbenzene	ND	1.0		µg/L	1	12/5/2007 9:14:03 PM
Xylenes, Total	ND	2.0		µg/L	1	12/5/2007 9:14:03 PM
Surr: 4-Bromofluorobenzene	90.1	70.2-105		%REC	1	12/5/2007 9:14:03 PM

Qualifiers:

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

CHAIN-OF-CUSTODY RECORD

QA / QC Package:
Std ☐ Level 4 ☐
Other:

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

Client: BLAGG ENGR. / BP AMERICA
Address: P.O. BOX 87
BLFD., NM 87413
Phone #: 632-1199
Fax #:

Project Name: SAMMONS GC F #1
Project #:
Project Manager: NV
Sampler: NV
Sample Temperature: 1°

ANALYSIS REQUEST

Date	Time	Matrix	Sample I.D. No.	Number/Volume	Preservative $HgCl_2$	Preservative HNO_3	Preservative	HEAL No.	BTEX + MTBE + TMB's (8021B)	BTEX + MTBE + TPH (Gasoline Only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	EDC (Method 8021)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F, Cl, NO_3, NO_2, PO_4, SO_4)	8081 Pesticides / PCB's (8082)	8260B (VOA)	8270 (Semi-VOA)				Air Bubbles or Headspace (Y or N)
12/03/07	1030	WATER	MW #2A	2-40ml	✓			071027-1	✓															
12/03/07	1015	WATER	MW #3A	2-40ml	✓			-2	✓															

Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)
12/03/07	1630		12/4/07 1330
Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)

Remarks:

QA/QC SUMMARY REPORT

Client: Blagg Engineering
Project: Sammons GC F #1 **Work Order:** 0712027

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: EPA Method 8021B: Volatiles									
Sample ID: 5ML RB		*MBLK*			Batch ID: **R26381**		Analysis Date:	12/5/2007 8:29:31 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: **R26381**		Analysis Date:	12/5/2007 11:44:35 PM	
Benzene	19.64	µg/L	1.0	98.2	85.9	113			
Toluene	19.43	µg/L	1.0	96.6	86.4	113			
Ethylbenzene	19.64	µg/L	1.0	98.2	83.5	118			
Xylenes, Total	59.27	µg/L	2.0	98.8	83.4	122			
Sample ID: 100NG BTEX LCSD		*LCSD*			Batch ID: **R26381**		Analysis Date:	12/6/2007 12:14:45 AM	
Benzene	20.41	µg/L	1.0	102	85.9	113	3.85	27	
Toluene	20.15	µg/L	1.0	100	86.4	113	3.66	19	
Ethylbenzene	20.53	µg/L	1.0	103	83.5	118	4.42	10	
Xylenes, Total	61.86	µg/L	2.0	103	83.4	122	4.28	13	

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Sample Receipt Checklist

Client Name BLAGG | Date Received: 12/4/2007

Work Order Number 0712027 | Received by: AT

Sample ID labels checked by TS (Initials)

Checklist completed by: Tanya Shamin (Signature) 12/4/07 (Date)

Matrix | Carrier name UPS

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐	
Custody seals intact on shipping container/cooler?	Yes ☑	No ☐	Not Present ☐	Not Shipped ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	N/A ☑	
Chain of custody present?	Yes ☑	No ☐		
Chain of custody signed when relinquished and received?	Yes ☑	No ☐		
Chain of custody agrees with sample labels?	Yes ☑	No ☐		
Samples in proper container/bottle?	Yes ☑	No ☐		
Sample containers intact?	Yes ☑	No ☐		
Sufficient sample volume for indicated test?	Yes ☑	No ☐		
All samples received within holding time?	Yes ☑	No ☐		
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°	*<6° C Acceptable* If given sufficient time to cool.		

COMMENTS:

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding _____

Comments: _____

Corrective Action _____